[MS-OI29500]:

Office Implementation Information for ISO/IEC 29500 Standards Support

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Table of Contents

1 Introduction 45
1.1 Glossary 45
1.2 References 45
1.2.1 Normative References 45
1.2.2 Informative References 47
1.3 Microsoft Implementations 47

2 Conformance Statements 49
2.1 Normative Variations 49
2.1.1 Part 1 Section 2.2, Application Conformance 49
2.1.2 Part 1 Section 8.6, PresentationML 49
2.1.3 Part 1 Section 9, Packages 49
2.1.4 Part 1 Section 11, WordprocessingML 49
2.1.5 Part 1 Section 11.3, Part Summary 49
2.1.6 Part 1 Section 12.3, Part Summary 50
2.1.7 Part 1 Section 12.3.2, Chartsheet Part 50
2.1.8 Part 1 Section 12.3.6, Custom XML Mappings Part 51
2.1.9 Part 1 Section 12.3.7, Dialogsheet Part 51
2.1.10 Part 1 Section 12.3.19, Single Cell Table Definitions Part 51
2.1.11 Part 1 Section 12.3.20, Styles Part 51
2.1.12 Part 1 Section 12.3.24, Worksheet Part 51
2.1.13 Part 1 Section 12.4, External Workbooks 52
2.1.13.1 Part 1 Selection 12.4.1, External Workbooks With Long Path 53
2.1.14 Part 1 Section 13.3, Part Summary 53
2.1.15 Part 1 Section 13.3.3, Handout Master Part 54
2.1.16 Part 1 Section 13.3.4, Notes Master Part 54
2.1.17 Part 1 Section 13.3.5, Notes Slide Part 55
2.1.18 Part 1 Section 13.3.6, Presentation Part 56
2.1.19 Part 1 Section 13.3.7, Presentation Properties Part 57
2.1.20 Part 1 Section 13.3.8, Slide Part 57
2.1.21 Part 1 Section 13.3.9, Slide Layout Part 57
2.1.22 Part 1 Section 13.3.10, Slide Master Part 58
2.1.23 Part 1 Section 14.2.1, Chart Part 58
2.1.24 Part 1 Section 14.2.2, Chart Drawing Part 59
2.1.25 Part 1 Section 14.2.3, Diagram Colors Part 59
2.1.26 Part 1 Section 14.2.4, Diagram Data Part 59
2.1.27 Part 1 Section 15.2, Part Summary 59
2.1.28 Part 1 Section 15.2.5, Custom XML Data Storage Part 59
2.1.29 Part 1 Section 15.2.9, Embedded Control Persistence Part 60
2.1.30 Part 1 Section 15.2.12.1, Core File Properties Part 60
2.1.31 Part 1 Section 15.2.12.2, Custom File Properties Part 60
2.1.32 Part 1 Section 15.2.13, Font Part 60
2.1.33 Part 1 Section 15.2.14, Image Part 61
2.1.34 Part 1 Section 15.2.15, Printer Settings Part 61
2.1.35 Part 1 Section 17.2.1, background (Document Background) 61
2.1.36 Part 1 Section 17.2.2, body (Document Body) 62
2.1.37 Part 1 Section 17.2.3, document (Document) 62
2.1.38 Part 1 Section 17.3.1.4, bar (Paragraph Border Between Facing Pages) 62
2.1.39 Part 1 Section 17.3.1.5, between (Paragraph Border Between Identical Paragraphs) 62
2.1.40 Part 1 Section 17.3.1.7, bottom (Paragraph Border Below Identical Paragraphs) 62
2.1.41 Part 1 Section 17.3.1.8, cnfStyle (Paragraph Conditional Formatting) 62
2.1.42 Part 1 Section 17.3.1.10, divId (Associated HTML div ID) 62
2.1.43 Part 1 Section 17.3.1.11, framePr (Text Frame Properties) 63
2.1.44 Part 1 Section 17.3.1.12, ind (Paragraph Indentation) 63

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2.1.45 Part 1 Section 17.3.1.13, jc (Paragraph Alignment) 63
2.1.46 Part 1 Section 17.3.1.14, keepLines (Keep All Lines On One Page)..... 64
2.1.47 Part 1 Section 17.3.1.16, kinsoku (Use East Asian Typography Rules for First and Last Character per Line) 64
2.1.48 Part 1 Section 17.3.1.17, left (Left Paragraph Border) 64
2.1.49 Part 1 Section 17.3.1.18, mirrorIndents (Use Left/Right Indents as Inside/Outside Indents) 64
2.1.50 Part 1 Section 17.3.1.19, numPr (Numbering Definition Instance Reference)..... 64
2.1.51 Part 1 Section 17.3.1.20, outlineLvl (Associated Outline Level) 64
2.1.52 Part 1 Section 17.3.1.21, overflowPunct (Allow Punctuation to Extend Past Text Extents) 65
2.1.53 Part 1 Section 17.3.1.22, p (Paragraph) 65
2.1.54 Part 1 Section 17.3.1.25, pPr (Previous Paragraph Properties)..... 65
2.1.55 Part 1 Section 17.3.1.27, pStyle (Referenced Paragraph Style)..... 65
2.1.56 Part 1 Section 17.3.1.28, right (Right Paragraph Border) 65
2.1.57 Part 1 Section 17.3.1.29, rPr (Run Properties for the Paragraph Mark) 65
2.1.58 Part 1 Section 17.3.1.30, rPr (Previous Run Properties for the Paragraph Mark).. 66
2.1.59 Part 1 Section 17.3.1.31, shd (Paragraph Shading) 66
2.1.60 Part 1 Section 17.3.1.33, spacing (Spacing Between Lines and Above/Below Paragraph) 66
2.1.61 Part 1 Section 17.3.1.37, tab (Custom Tab Stop)..... 66
2.1.62 Part 1 Section 17.3.1.40, textboxTightWrap (Allow Surrounding Paragraphs to Tight Wrap to Text Box Contents) 66
2.1.63 Part 1 Section 17.3.1.41, textDirection (Paragraph Text Flow Direction) 66
2.1.64 Part 1 Section 17.3.1.42, top (Paragraph Border Above Identical Paragraphs).... 66
2.1.65 Part 1 Section 17.3.1.43, topLinePunct (Compress Punctuation at Start of a Line)67
2.1.66 Part 1 Section 17.3.1.44, widowControl (Allow First/Last Line to Display on a Separate Page) 67
2.1.67 Part 1 Section 17.3.1.45, wordWrap (Allow Line Breaking At Character Level).... 67
2.1.68 Part 1 Section 17.3.2.1, b (Bold) 67
2.1.69 Part 1 Section 17.3.2.2, bCs (Complex Script Bold)..... 67
2.1.70 Part 1 Section 17.3.2.3, bdo (Bidirectional Override)..... 67
2.1.71 Part 1 Section 17.3.2.4, bdr (Text Border) 67
2.1.72 Part 1 Section 17.3.2.6, color (Run Content Color)..... 68
2.1.73 Part 1 Section 17.3.2.7, cs (Use Complex Script Formatting on Run)..... 69
2.1.74 Part 1 Section 17.3.2.8, dir (Bidirectional Embedding Level) 69
2.1.75 Part 1 Section 17.3.2.10, eastAsianLayout (East Asian Typography Settings) 69
2.1.76 Part 1 Section 17.3.2.11, effect (Animated Text Effect) 70
2.1.77 Part 1 Section 17.3.2.13, emboss (Embossing)..... 70
2.1.78 Part 1 Section 17.3.2.14, fitText (Manual Run Width) 70
2.1.79 Part 1 Section 17.3.2.15, highlight (Text Highlighting) 71
2.1.80 Part 1 Section 17.3.2.16, i (Italics) 71
2.1.81 Part 1 Section 17.3.2.17, iCs (Complex Script Italics)..... 71
2.1.82 Part 1 Section 17.3.2.18, imprint (Imprinting)..... 71
2.1.83 Part 1 Section 17.3.2.19, kern (Font Kerning) 71
2.1.84 Part 1 Section 17.3.2.20, lang (Languages for Run Content) 71
2.1.85 Part 1 Section 17.3.2.21, noProof (Do Not Check Spelling or Grammar) 71
2.1.86 Part 1 Section 17.3.2.22, oMath (Office Open XML Math)..... 72
2.1.87 Part 1 Section 17.3.2.25, r (Text Run)..... 72
2.1.88 Part 1 Section 17.3.2.26, rFonts (Run Fonts) 72
2.1.89 Part 1 Section 17.3.2.27, rPr (Previous Run Properties) 76
2.1.90 Part 1 Section 17.3.2.28, rPr (Run Properties)..... 76
2.1.91 Part 1 Section 17.3.2.29, rStyle (Referenced Character Style)..... 76
2.1.92 Part 1 Section 17.3.2.30, rtl (Right To Left Text) 76
2.1.93 Part 1 Section 17.3.2.31, shadow (Shadow)..... 77
2.1.94 Part 1 Section 17.3.2.32, shd (Run Shading)..... 77
2.1.95 Part 1 Section 17.3.2.33, smallCaps (Small Caps)..... 77
2.1.96 Part 1 Section 17.3.2.35, spacing (Character Spacing Adjustment) 77

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2.1.97 Part 1 Section 17.3.2.36, specVanish (Paragraph Mark Is Always Hidden) 77
2.1.98 Part 1 Section 17.3.2.38, sz (Non-Complex Script Font Size) 77
2.1.99 Part 1 Section 17.3.2.39, szCs (Complex Script Font Size) 77
2.1.100 Part 1 Section 17.3.2.40, u (Underline) 78
2.1.101 Part 1 Section 17.3.2.44, webHidden (Web Hidden Text) 78
2.1.102 Part 1 Section 17.3.3.2, contentPart (Content Part) 78
2.1.103 Part 1 Section 17.3.3.3, control (Embedded Control) 78
2.1.104 Part 1 Section 17.3.3.9, drawing (DrawingML Object) 78
2.1.105 Part 1 Section 17.3.3.12, hpsRaise (Distance Between Phonetic Guide Text and Phonetic Guide Base Text) 79
2.1.106 Part 1 Section 17.3.3.13, lastRenderedPageBreak (Position of Last Calculated Page Break) 79
2.1.107 Part 1 Section 17.3.3.14, lid (Language ID for Phonetic Guide) 79
2.1.108 Part 1 Section 17.3.3.17, movie (Embedded Video) 79
2.1.109 Part 1 Section 17.3.3.19, object (Embedded Object) 79
2.1.110 Part 1 Section 17.3.3.20, objectEmbed (Embedded Object Properties) 79
2.1.111 Part 1 Section 17.3.3.21, objectLink (Linked Object Properties) 80
2.1.112 Part 1 Section 17.3.3.24, rt (Phonetic Guide Text) 80
2.1.113 Part 1 Section 17.3.3.27, rubyBase (Phonetic Guide Base Text) 80
2.1.114 Part 1 Section 17.3.3.30, sym (Symbol Character) 80
2.1.115 Part 1 Section 17.4.1, bidiVisual (Visually Right to Left Table) 80
2.1.116 Part 1 Section 17.4.2, bottom (Table Cell Bottom Margin Exception) 81
2.1.117 Part 1 Section 17.4.3, bottom (Table Cell Bottom Border) 81
2.1.118 Part 1 Section 17.4.4, bottom (Table Bottom Border) 81
2.1.119 Part 1 Section 17.4.5, bottom (Table Cell Bottom Margin Default) 81
2.1.120 Part 1 Section 17.4.6, cantSplit (Table Row Cannot Break Across Pages) 81
2.1.121 Part 1 Section 17.4.7, cnfStyle (Table Row Conditional Formatting) 81
2.1.122 Part 1 Section 17.4.8, cnfStyle (Table Cell Conditional Formatting) 81
2.1.123 Part 1 Section 17.4.9, divId (Associated HTML div ID) 81
2.1.124 Part 1 Section 17.4.10, end (Table Cell Trailing Margin Exception) 81
2.1.125 Part 1 Section 17.4.11, end (Table Cell Trailing Margin Default) 82
2.1.126 Part 1 Section 17.4.12, end (Table Cell Trailing Edge Border) 82
2.1.127 Part 1 Section 17.4.13, end (Table Trailing Edge Border) 82
2.1.128 Part 1 Section 17.4.14, gridAfter (Grid Columns After Last Cell) 82
2.1.129 Part 1 Section 17.4.15, gridBefore (Grid Columns Before First Cell) 82
2.1.130 Part 1 Section 17.4.17, gridSpan (Grid Columns Spanned by Current Table Cell) 82
2.1.131 Part 1 Section 17.4.18, header (Header Cell Reference) 83
2.1.132 Part 1 Section 17.4.19, headers (Header Cells Associated With Table Cell) 83
2.1.133 Part 1 Section 17.4.20, hidden (Hidden Table Row Marker) 83
2.1.134 Part 1 Section 17.4.21, hideMark (Ignore End Of Cell Marker In Row Height Calculation) 83
2.1.135 Part 1 Section 17.4.22, insideH (Table Inside Horizontal Edges Border) 83
2.1.136 Part 1 Section 17.4.23, insideH (Table Cell Inside Horizontal Edges Border) 83
2.1.137 Part 1 Section 17.4.24, insideV (Table Inside Vertical Edges Border) 83
2.1.138 Part 1 Section 17.4.25, insideV (Table Cell Inside Vertical Edges Border) 83
2.1.139 Part 1 Section 17.4.26, jc (Table Alignment Exception) 84
2.1.140 Part 1 Section 17.4.27, jc (Table Row Alignment) 84
2.1.141 Part 1 Section 17.4.28, jc (Table Alignment) 84
2.1.142 Part 1 Section 17.4.30, shd (Table Shading Exception) 84
2.1.143 Part 1 Section 17.4.31, shd (Table Shading) 84
2.1.144 Part 1 Section 17.4.32, shd (Table Cell Shading) 84
2.1.145 Part 1 Section 17.4.33, start (Table Cell Leading Edge Border) 85
2.1.146 Part 1 Section 17.4.34, start (Table Cell Leading Margin Default) 85
2.1.147 Part 1 Section 17.4.35, start (Table Cell Leading Margin Exception) 85
2.1.148 Part 1 Section 17.4.36, start (Table Leading Edge Border) 85
2.1.149 Part 1 Section 17.4.37, tbl (Table) 85
2.1.150 Part 1 Section 17.4.38, tblBorders (Table Borders) 85
2.1.151 Part 1 Section 17.4.39, tblBorders (Table Borders Exceptions) 86

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2.1.152 Part 1 Section 17.4.43, tblCellSpacing (Table Row Cell Spacing) 86
2.1.153 Part 1 Section 17.4.44, tblCellSpacing (Table Cell Spacing Exception) 86
2.1.154 Part 1 Section 17.4.45, tblCellSpacing (Table Cell Spacing Default)..... 86
2.1.155 Part 1 Section 17.4.50, tblInd (Table Indent from Leading Margin) 86
2.1.156 Part 1 Section 17.4.51, tblInd (Table Indent from Leading Margin Exception)..... 86
2.1.157 Part 1 Section 17.4.52, tblLayout (Table Layout) 87
2.1.158 Part 1 Section 17.4.53, tblLayout (Table Layout Exception)..... 87
2.1.159 Part 1 Section 17.4.54, tblLook (Table Style Conditional Formatting Settings Exception) 87
2.1.160 Part 1 Section 17.4.55, tblLook (Table Style Conditional Formatting Settings) 87
2.1.161 Part 1 Section 17.4.56, tblOverlap (Floating Table Allows Other Tables to Overlap) 88
2.1.162 Part 1 Section 17.4.57, tblpPr (Floating Table Positioning) 88
2.1.163 Part 1 Section 17.4.58, tblPr (Previous Table Properties) 88
2.1.164 Part 1 Section 17.4.59, tblPr (Table Properties) 89
2.1.165 Part 1 Section 17.4.62, tblStyle (Referenced Table Style) 89
2.1.166 Part 1 Section 17.4.63, tblW (Preferred Table Width) 89
2.1.167 Part 1 Section 17.4.64, tblW (Preferred Table Width Exception)..... 89
2.1.168 Part 1 Section 17.4.65, tc (Table Cell)..... 89
2.1.169 Part 1 Section 17.4.66, tcBorders (Table Cell Borders) 90
2.1.170 Part 1 Section 17.4.67, tcFitText (Fit Text Within Cell) 92
2.1.171 Part 1 Section 17.4.71, tcW (Preferred Table Cell Width) 92
2.1.172 Part 1 Section 17.4.72, textDirection (Table Cell Text Flow Direction)..... 93
2.1.173 Part 1 Section 17.4.73, tl2br (Table Cell Top Left to Bottom Right Diagonal Border) 93
2.1.174 Part 1 Section 17.4.74, top (Table Cell Top Border) 93
2.1.175 Part 1 Section 17.4.75, top (Table Cell Top Margin Default) 93
2.1.176 Part 1 Section 17.4.76, top (Table Top Border)..... 93
2.1.177 Part 1 Section 17.4.77, top (Table Cell Top Margin Exception)..... 93
2.1.178 Part 1 Section 17.4.78, tr (Table Row) 93
2.1.179 Part 1 Section 17.4.79, tr2bl (Table Cell Top Right to Bottom Left Diagonal Border) 94
2.1.180 Part 1 Section 17.4.80, trHeight (Table Row Height) 94
2.1.181 Part 1 Section 17.4.83, vAlign (Table Cell Vertical Alignment) 94
2.1.182 Part 1 Section 17.4.84, vMerge (Vertically Merged Cell)..... 94
2.1.183 Part 1 Section 17.4.85, wAfter (Preferred Width After Table Row)..... 95
2.1.184 Part 1 Section 17.4.86, wBefore (Preferred Width Before Table Row) 95
2.1.185 Part 1 Section 17.4.87, Table Measurement (CT_TblWidth)..... 95
2.1.186 Part 1 Section 17.5.1.1, attr (Custom XML Attribute) 95
2.1.187 Part 1 Section 17.5.1.2, attr (Smart Tag Property) 96
2.1.188 Part 1 Section 17.5.1.3, customXml (Inline-Level Custom XML Element) 96
2.1.189 Part 1 Section 17.5.1.4, customXml (Cell-Level Custom XML Element) 96
2.1.190 Part 1 Section 17.5.1.5, customXml (Row-Level Custom XML Element) 96
2.1.191 Part 1 Section 17.5.1.6, customXml (Block-Level Custom XML Element)..... 96
2.1.192 Part 1 Section 17.5.1.9, smartTag (Inline-Level Smart Tag)..... 97
2.1.193 Part 1 Section 17.5.2.6, dataBinding (XML Mapping)..... 97
2.1.194 Part 1 Section 17.5.2.7, date (Date Structured Document Tag) 97
2.1.195 Part 1 Section 17.5.2.9, docPart (Document Part Reference)..... 97
2.1.196 Part 1 Section 17.5.2.18, id (Unique ID)..... 97
2.1.197 Part 1 Section 17.5.2.19, label (Structured Document Tag Label) 97
2.1.198 Part 1 Section 17.5.2.20, lid (Date Picker Language ID) 98
2.1.199 Part 1 Section 17.5.2.25, placeholder (Structured Document Tag Placeholder Text) 98
2.1.200 Part 1 Section 17.5.2.27, rPr (Run Properties For Structured Document Tag Contents) 98
2.1.201 Part 1 Section 17.5.2.28, rPr (Structured Document Tag End Character Run Properties)..... 98
2.1.202 Part 1 Section 17.5.2.30, sdt (Row-Level Structured Document Tag) 98

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2.1.203 Part 1 Section 17.5.2.31, sdt (Inline-Level Structured Document Tag)..... 99
2.1.204 Part 1 Section 17.5.2.32, sdt (Cell-Level Structured Document Tag) 99
2.1.205 Part 1 Section 17.5.2.33, sdtContent (Cell-Level Structured Document Tag Content) 100
2.1.206 Part 1 Section 17.5.2.34, sdtContent (Block-Level Structured Document Tag Content).....100
2.1.207 Part 1 Section 17.5.2.35, sdtContent (Row-Level Structured Document Tag Content).....100
2.1.208 Part 1 Section 17.5.2.36, sdtContent (Inline-Level Structured Document Tag Content).....100
2.1.209 Part 1 Section 17.5.2.41, tabIndex (Structured Document Tag Navigation Order Index).....101
2.1.210 Part 1 Section 17.5.2.43, temporary (Remove Structured Document Tag When Contents Are Edited).....101
2.1.211 Part 1 Section 17.6.2, bottom (Bottom Border) 101
2.1.212 Part 1 Section 17.6.3, col (Single Column Definition) 101
2.1.213 Part 1 Section 17.6.4, cols (Column Definitions) 101
2.1.214 Part 1 Section 17.6.7, left (Left Border).....101
2.1.215 Part 1 Section 17.6.8, lnNumType (Line Numbering Settings) 102
2.1.216 Part 1 Section 17.6.9, paperSrc (Paper Source Information) 102
2.1.217 Part 1 Section 17.6.10, pgBorders (Page Borders) 102
2.1.218 Part 1 Section 17.6.11, pgMar (Page Margins).....102
2.1.219 Part 1 Section 17.6.12, pgNumType (Page Numbering Settings).....102
2.1.220 Part 1 Section 17.6.13, pgSz (Page Size).....103
2.1.221 Part 1 Section 17.6.14, printerSettings (Reference to Printer Settings Data) 103
2.1.222 Part 1 Section 17.6.15, right (Right Border).....103
2.1.223 Part 1 Section 17.6.17, sectPr (Document Final Section Properties) 103
2.1.224 Part 1 Section 17.6.18, sectPr (Section Properties) 103
2.1.225 Part 1 Section 17.6.19, sectPr (Previous Section Properties) 104
2.1.226 Part 1 Section 17.6.21, top (Top Border).....104
2.1.227 Part 1 Section 17.6.22, type (Section Type).....104
2.1.228 Part 1 Section 17.7.1, Style Inheritance 104
2.1.229 Part 1 Section 17.7.2, Style Hierarchy.....104
2.1.230 Part 1 Section 17.7.3, Toggle Properties.....105
2.1.231 Part 1 Section 17.7.4.1, aliases (Alternate Style Names) 105
2.1.232 Part 1 Section 17.7.4.2, autoRedefine (Automatically Merge User Formatting Into Style Definition) 105
2.1.233 Part 1 Section 17.7.4.3, basedOn (Parent Style ID) 105
2.1.234 Part 1 Section 17.7.4.5, latentStyles (Latent Style Information) 106
2.1.235 Part 1 Section 17.7.4.6, link (Linked Style Reference) 106
2.1.236 Part 1 Section 17.7.4.8, lsdException (Latent Style Exception) 106
2.1.237 Part 1 Section 17.7.4.9, name (Primary Style Name) 106
2.1.238 Part 1 Section 17.7.4.10, next (Style For Next Paragraph).....115
2.1.239 Part 1 Section 17.7.4.11, personal (E-Mail Message Text Style).....115
2.1.240 Part 1 Section 17.7.4.12, personalCompose (E-Mail Message Composition Style)115
2.1.241 Part 1 Section 17.7.4.13, personalReply (E-Mail Message Reply Style) 116
2.1.242 Part 1 Section 17.7.4.17, style (Style Definition) 116
2.1.243 Part 1 Section 17.7.4.19, uiPriority (Optional User Interface Sorting Order) 116
2.1.244 Part 1 Section 17.7.5.2, pPr (Paragraph Properties) 116
2.1.245 Part 1 Section 17.7.5.4, rPr (Run Properties) 116
2.1.246 Part 1 Section 17.7.6, Table Styles 116
2.1.247 Part 1 Section 17.7.6.1, pPr (Table Style Conditional Formatting Paragraph Properties).....117
2.1.248 Part 1 Section 17.7.6.2, rPr (Table Style Conditional Formatting Run Properties)117
2.1.249 Part 1 Section 17.7.6.3, tblPr (Table Style Conditional Formatting Table Properties) 117
2.1.250 Part 1 Section 17.7.6.4, tblPr (Style Table Properties).....117

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2.1.251 Part 1 Section 17.7.6.5, tblStyleColBandSize (Number of Columns in Column Band) 118
2.1.252 Part 1 Section 17.7.6.6, tblStylePr (Style Conditional Table Formatting Properties) 118
2.1.253 Part 1 Section 17.7.6.7, tblStyleRowBandSize (Number of Rows in Row Band) ..118
2.1.254 Part 1 Section 17.7.6.8, tcPr (Table Style Conditional Formatting Table Cell Properties).....119
2.1.255 Part 1 Section 17.7.6.9, tcPr (Style Table Cell Properties).....119
2.1.256 Part 1 Section 17.7.6.10, trPr (Table Style Conditional Formatting Table Row Properties).....119
2.1.257 Part 1 Section 17.7.6.11, trPr (Style Table Row Properties).....119
2.1.258 Part 1 Section 17.7.8, Paragraph Styles.....119
2.1.259 Part 1 Section 17.7.8.2, pPr (Style Paragraph Properties) 120
2.1.260 Part 1 Section 17.7.9.1, rPr (Run Properties) 120
2.1.261 Part 1 Section 17.8, Fonts 120
2.1.262 Part 1 Section 17.8.3.1, altName (Alternate Names for Font) 120
2.1.263 Part 1 Section 17.8.3.2, charset (Character Set Supported By Font) 121
2.1.264 Part 1 Section 17.8.3.3, embedBold (Bold Style Font Style Embedding).....121
2.1.265 Part 1 Section 17.8.3.4, embedBoldItalic (Bold Italic Font Style Embedding).....121
2.1.266 Part 1 Section 17.8.3.5, embedItalic (Italic Font Style Embedding) 121
2.1.267 Part 1 Section 17.8.3.6, embedRegular (Regular Font Style Embedding) 121
2.1.268 Part 1 Section 17.8.3.8, embedTrueTypeFonts (Embed TrueType Fonts).....121
2.1.269 Part 1 Section 17.8.3.9, family (Font Family) 121
2.1.270 Part 1 Section 17.8.3.10, font (Properties for a Single Font).....122
2.1.271 Part 1 Section 17.8.3.12, notTrueType (Raster or Vector Font).....122
2.1.272 Part 1 Section 17.8.3.13, panose1 (Panose-1 Typeface Classification Number)..122
2.1.273 Part 1 Section 17.8.3.14, pitch (Font Pitch).....122
2.1.274 Part 1 Section 17.8.3.16, sig (Supported Unicode Subranges and Code Pages)..122
2.1.275 Part 1 Section 17.9.1, abstractNum (Abstract Numbering Definition).....123
2.1.276 Part 1 Section 17.9.2, abstractNumId (Abstract Numbering Definition Reference) 123
2.1.277 Part 1 Section 17.9.3, ilvl (Numbering Level Reference) 123
2.1.278 Part 1 Section 17.9.4, isLgl (Display All Levels Using Arabic Numerals).....123
2.1.279 Part 1 Section 17.9.5, lvl (Numbering Level Override Definition).....123
2.1.280 Part 1 Section 17.9.6, lvl (Numbering Level Definition).....123
2.1.281 Part 1 Section 17.9.7, lvlJc (Justification) 123
2.1.282 Part 1 Section 17.9.10, lvlRestart (Restart Numbering Level Symbol).....123
2.1.283 Part 1 Section 17.9.11, lvlText (Numbering Level Text) 124
2.1.284 Part 1 Section 17.9.13, name (Abstract Numbering Definition Name).....124
2.1.285 Part 1 Section 17.9.15, num (Numbering Definition Instance) 124
2.1.286 Part 1 Section 17.9.17, numFmt (Numbering Format) 124
2.1.287 Part 1 Section 17.9.18, numId (Numbering Definition Instance Reference) 125
2.1.288 Part 1 Section 17.9.21, numStyleLink (Numbering Style Reference).....125
2.1.289 Part 1 Section 17.9.22, pPr (Numbering Level Associated Paragraph Properties) 125
2.1.290 Part 1 Section 17.9.23, pStyle (Paragraph Style's Associated Numbering Level) 125
2.1.291 Part 1 Section 17.9.24, rPr (Numbering Symbol Run Properties).....125
2.1.292 Part 1 Section 17.9.25, start (Starting Value).....125
2.1.293 Part 1 Section 17.9.27, styleLink (Numbering Style Definition) 126
2.1.294 Part 1 Section 17.10.1, evenAndOddHeaders (Different Even/Odd Page Headers and Footers) 126
2.1.295 Part 1 Section 17.10.2, footerReference (Footer Reference) 126
2.1.296 Part 1 Section 17.10.3, ftr (Footer).....126
2.1.297 Part 1 Section 17.10.4, hdr (Header) 126
2.1.298 Part 1 Section 17.10.5, headerReference (Header Reference).....126
2.1.299 Part 1 Section 17.10.6, titlePg (Different First Page Headers and Footers) 127
2.1.300 Part 1 Section 17.11.2, endnote (Endnote Content) 127
2.1.301 Part 1 Section 17.11.3, endnote (Special Endnote List) 127
2.1.302 Part 1 Section 17.11.7, endnoteReference (Endnote Reference) 127

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2.1.303 Part 1 Section 17.11.9, footnote (Special Footnote List) 128
2.1.304 Part 1 Section 17.11.10, footnote (Footnote Content) 128
2.1.305 Part 1 Section 17.11.14, footnoteReference (Footnote Reference)....128
2.1.306 Part 1 Section 17.11.17, numFmt (Endnote Numbering Format) 128
2.1.307 Part 1 Section 17.11.18, numFmt (Footnote Numbering Format) 128
2.1.308 Part 1 Section 17.11.20, numStart (Footnote and Endnote Numbering Starting Value) 128
2.1.309 Part 1 Section 17.11.21, pos (Footnote Placement)....129
2.1.310 Part 1 Section 17.12.6, docPartBody (Contents of Glossary Document Entry)....129
2.1.311 Part 1 Section 17.12.7, docPartPr (Glossary Document Entry Properties)....129
2.1.312 Part 1 Section 17.12.8, docParts (List of Glossary Document Entries)....129
2.1.313 Part 1 Section 17.13.4.2, comment (Comment Content)....129
2.1.314 Part 1 Section 17.13.4.3, commentRangeEnd (Comment Anchor Range End) 131
2.1.315 Part 1 Section 17.13.4.4, commentRangeStart (Comment Anchor Range Start).131
2.1.316 Part 1 Section 17.13.4.5, commentReference (Comment Content Reference Mark) 132
2.1.317 Part 1 Section 17.13.5.1, cellDel (Table Cell Deletion) 132
2.1.318 Part 1 Section 17.13.5.2, cellIns (Table Cell Insertion) 132
2.1.319 Part 1 Section 17.13.5.3, cellMerge (Vertically Merged/Split Table Cells) 132
2.1.320 Part 1 Section 17.13.5.4, customXmlDelRangeEnd (Custom XML Markup Deletion End) 132
2.1.321 Part 1 Section 17.13.5.5, customXmlDelRangeStart (Custom XML Markup Deletion Start)....132
2.1.322 Part 1 Section 17.13.5.6, customXmlInsRangeEnd (Custom XML Markup Insertion End) 133
2.1.323 Part 1 Section 17.13.5.7, customXmlInsRangeStart (Custom XML Markup Insertion Start)....133
2.1.324 Part 1 Section 17.13.5.8, customXmlMoveFromRangeEnd (Custom XML Markup Move Source End)....133
2.1.325 Part 1 Section 17.13.5.9, customXmlMoveFromRangeStart (Custom XML Markup Move Source Start)....134
2.1.326 Part 1 Section 17.13.5.10, customXmlMoveToRangeEnd (Custom XML Markup Move Destination Location End) 134
2.1.327 Part 1 Section 17.13.5.11, customXmlMoveToRangeStart (Custom XML Markup Move Destination Location Start) 134
2.1.328 Part 1 Section 17.13.5.12, del (Deleted Table Row) 135
2.1.329 Part 1 Section 17.13.5.13, del (Deleted Math Control Character) 135
2.1.330 Part 1 Section 17.13.5.14, del (Deleted Run Content) 135
2.1.331 Part 1 Section 17.13.5.15, del (Deleted Paragraph) 135
2.1.332 Part 1 Section 17.13.5.16, ins (Inserted Math Control Character) 136
2.1.333 Part 1 Section 17.13.5.17, ins (Inserted Table Row) 136
2.1.334 Part 1 Section 17.13.5.18, ins (Inserted Run Content) 136
2.1.335 Part 1 Section 17.13.5.19, ins (Inserted Numbering Properties) 136
2.1.336 Part 1 Section 17.13.5.20, ins (Inserted Paragraph)....136
2.1.337 Part 1 Section 17.13.5.21, moveFrom (Move Source Paragraph) 136
2.1.338 Part 1 Section 17.13.5.22, moveFrom (Move Source Run Content) 137
2.1.339 Part 1 Section 17.13.5.23, moveFromRangeEnd (Move Source Location Container - End) 137
2.1.340 Part 1 Section 17.13.5.24, moveFromRangeStart (Move Source Location Container - Start)....137
2.1.341 Part 1 Section 17.13.5.25, moveTo (Move Destination Run Content)....137
2.1.342 Part 1 Section 17.13.5.26, moveTo (Move Destination Paragraph) 137
2.1.343 Part 1 Section 17.13.5.27, moveToRangeEnd (Move Destination Location Container - End) 138
2.1.344 Part 1 Section 17.13.5.28, moveToRangeStart (Move Destination Location Container - Start) 138
2.1.345 Part 1 Section 17.13.5.29, pPrChange (Revision Information for Paragraph Properties)....138

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2.1.346 Part 1 Section 17.13.5.30, rPrChange (Revision Information for Run Properties on the Paragraph Mark) 138
2.1.347 Part 1 Section 17.13.5.31, rPrChange (Revision Information for Run Properties)138
2.1.348 Part 1 Section 17.13.5.32, sectPrChange (Revision Information for Section Properties)....138
2.1.349 Part 1 Section 17.13.5.33, tblGridChange (Revision Information for Table Grid Column Definitions) 139
2.1.350 Part 1 Section 17.13.5.34, tblPrChange (Revision Information for Table Properties) 139
2.1.351 Part 1 Section 17.13.5.35, tblPrExChange (Revision Information for Table-Level Property Exceptions) 139
2.1.352 Part 1 Section 17.13.5.36, tcPrChange (Revision Information for Table Cell Properties)....139
2.1.353 Part 1 Section 17.13.5.37, trPrChange (Revision Information for Table Row Properties)....139
2.1.354 Part 1 Section 17.13.6, Bookmarks 139
2.1.355 Part 1 Section 17.13.6.1, bookmarkEnd (Bookmark End)....139
2.1.356 Part 1 Section 17.13.6.2, bookmarkStart (Bookmark Start) 140
2.1.357 Part 1 Section 17.13.7.1, permEnd (Range Permission End)....140
2.1.358 Part 1 Section 17.13.7.2, permStart (Range Permission Start) 140
2.1.359 Part 1 Section 17.14, Mail Merge 141
2.1.360 Part 1 Section 17.14.2, activeRecord (Record Currently Displayed In Merged Document) 141
2.1.361 Part 1 Section 17.14.4, checkErrors (Mail Merge Error Reporting Setting) 141
2.1.362 Part 1 Section 17.14.5, colDelim (Column Delimiter for Data Source)....141
2.1.363 Part 1 Section 17.14.6, column (Index of Column Being Mapped) 141
2.1.364 Part 1 Section 17.14.7, column (Index of Column Containing Unique Values for Record) 142
2.1.365 Part 1 Section 17.14.9, dataSource (Data Source File Path) 142
2.1.366 Part 1 Section 17.14.12, doNotSuppressBlankLines (Remove Blank Lines from Merged Documents)....142
2.1.367 Part 1 Section 17.14.13, dynamicAddress (Use Country-Based Address Field Ordering)....142
2.1.368 Part 1 Section 17.14.14, fHdr (First Row of Data Source Contains Column Names) 142
2.1.369 Part 1 Section 17.14.15, fieldMapData (External Data Source to Merge Field Mapping) 142
2.1.370 Part 1 Section 17.14.16, headerSource (Header Definition File Path)....143
2.1.371 Part 1 Section 17.14.17, lid (Merge Field Name Language ID) 144
2.1.372 Part 1 Section 17.14.18, linkToQuery (Query Contains Link to External Query File) 144
2.1.373 Part 1 Section 17.14.20, mailMerge (Mail Merge Settings) 144
2.1.374 Part 1 Section 17.14.23, mappedName (Predefined Merge Field Name) 144
2.1.375 Part 1 Section 17.14.24, name (Data Source Name for Column)....144
2.1.376 Part 1 Section 17.14.25, odso (Office Data Source Object Settings) 144
2.1.377 Part 1 Section 17.14.26, query (Query For Data Source Records To Merge) 145
2.1.378 Part 1 Section 17.14.28, recipientData (Reference to Inclusion/Exclusion Data for Data Source)....145
2.1.379 Part 1 Section 17.14.30, src (ODSO Data Source File Path)....145
2.1.380 Part 1 Section 17.14.31, table (Data Source Table Name)....145
2.1.381 Part 1 Section 17.14.34, udl (UDL Connection String) 145
2.1.382 Part 1 Section 17.14.35, uniqueTag (Unique Value for Record)....145
2.1.383 Part 1 Section 17.15.1.1, activeWritingStyle (Grammar Checking Settings)....147
2.1.384 Part 1 Section 17.15.1.3, alwaysMergeEmptyNamespace (Do Not Mark Custom XML Elements With No Namespace As Invalid) 147
2.1.385 Part 1 Section 17.15.1.6, attachedTemplate (Attached Document Template)....147
2.1.386 Part 1 Section 17.15.1.7, autoCaption (Single Automatic Captioning Setting)....148
2.1.387 Part 1 Section 17.15.1.8, autoCaptions (Automatic Captioning Settings)....148

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2.1.388 Part 1 Section 17.15.1.9, autoFormatOverride (Allow Automatic Formatting to Override Formatting Protection Settings) 148
2.1.389 Part 1 Section 17.15.1.11, bookFoldPrinting (Book Fold Printing) 148
2.1.390 Part 1 Section 17.15.1.12, bookFoldPrintingSheets (Number of Pages Per Booklet) 148
2.1.391 Part 1 Section 17.15.1.13, bookFoldRevPrinting (Reverse Book Fold Printing) ... 149
2.1.392 Part 1 Section 17.15.1.16, caption (Single Caption Type Definition) 149
2.1.393 Part 1 Section 17.15.1.17, captions (Caption Settings) 149
2.1.394 Part 1 Section 17.15.1.19, clickAndTypeStyle (Paragraph Style Applied to Automatically Generated Paragraphs) 150
2.1.395 Part 1 Section 17.15.1.20, clrSchemeMapping (Theme Color Mappings) 150
2.1.396 Part 1 Section 17.15.1.22, consecutiveHyphenLimit (Maximum Number of Consecutively Hyphenated Lines) 150
2.1.397 Part 1 Section 17.15.1.23, decimalSymbol (Radix Point for Field Code Evaluation) 150
2.1.398 Part 1 Section 17.15.1.24, defaultTableStyle (Default Table Style for Newly Inserted Tables) 150
2.1.399 Part 1 Section 17.15.1.25, defaultTabStop (Distance Between Automatic Tab Stops) 151
2.1.400 Part 1 Section 17.15.1.27, displayHorizontalDrawingGridEvery (Distance between Horizontal Gridlines) 151
2.1.401 Part 1 Section 17.15.1.28, displayVerticalDrawingGridEvery (Distance between Vertical Gridlines) 151
2.1.402 Part 1 Section 17.15.1.29, documentProtection (Document Editing Restrictions) 151
2.1.403 Part 1 Section 17.15.1.31, docVar (Single Document Variable) 153
2.1.404 Part 1 Section 17.15.1.42, doNotUseMarginsForDrawingGridOrigin (Do Not Use Margins for Drawing Grid Origin) 154
2.1.405 Part 1 Section 17.15.1.44, drawingGridHorizontalOrigin (Drawing Grid Horizontal Origin Point) 154
2.1.406 Part 1 Section 17.15.1.46, drawingGridVerticalOrigin (Drawing Grid Vertical Origin Point) 154
2.1.407 Part 1 Section 17.15.1.53, hyphenationZone (Hyphenation Zone) 154
2.1.408 Part 1 Section 17.15.1.56, listSeparator (List Separator for Field Code Evaluation) 154
2.1.409 Part 1 Section 17.15.1.58, noLineBreaksAfter (Custom Set of Characters Which Cannot End a Line) 154
2.1.410 Part 1 Section 17.15.1.59, noLineBreaksBefore (Custom Set Of Characters Which Cannot Begin A Line) 155
2.1.411 Part 1 Section 17.15.1.60, noPunctuationKerning (Never Kern Punctuation Characters) 155
2.1.412 Part 1 Section 17.15.1.62, printFractionalCharacterWidth (Print Fractional Character Widths) 155
2.1.413 Part 1 Section 17.15.1.63, printPostScriptOverText (Print PostScript Codes With Document Text) 155
2.1.414 Part 1 Section 17.15.1.69, revisionView (Visibility of Annotation Types) 155
2.1.415 Part 1 Section 17.15.1.70, rsid (Single Session Revision Save ID) 156
2.1.416 Part 1 Section 17.15.1.74, saveInvalidXml (Allow Saving Document As XML File When Custom XML Markup Is Invalid) 156
2.1.417 Part 1 Section 17.15.1.76, saveThroughXslt (Custom XSL Transform To Use When Saving As XML File) 156
2.1.418 Part 1 Section 17.15.1.80, showXMLTags (Show Visual Indicators for Custom XML Markup Start/End Locations) 156
2.1.419 Part 1 Section 17.15.1.81, smartTagType (Supplementary Smart Tag Information) 156
2.1.420 Part 1 Section 17.15.1.82, strictFirstAndLastChars (Use Strict Kinsoku Rules for Japanese Text) 156
2.1.421 Part 1 Section 17.15.1.85, stylePaneFormatFilter (Suggested Filtering for List of Document Styles) 157

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2.1.422 Part 1 Section 17.15.1.87, summaryLength (Percentage of Document to Use When Generating Summary) 157
2.1.423 Part 1 Section 17.15.1.88, themeFontLang (Theme Font Languages) 157
2.1.424 Part 1 Section 17.15.1.90, updateFields (Automatically Recalculate Fields on Open) 157
2.1.425 Part 1 Section 17.15.1.92, view (Document View Setting) 158
2.1.426 Part 1 Section 17.15.1.93, writeProtection (Write Protection) 158
2.1.427 Part 1 Section 17.15.1.94, zoom (Magnification Setting) 160
2.1.428 Part 1 Section 17.15.2.1, allowPNG (Allow PNG as Graphic Format) 160
2.1.429 Part 1 Section 17.15.2.2, blockQuote (Data for HTML blockquote Element) 160
2.1.430 Part 1 Section 17.15.2.3, bodyDiv (Data for HTML body Element) 160
2.1.431 Part 1 Section 17.15.2.4, bottom (Bottom Border for HTML div) 160
2.1.432 Part 1 Section 17.15.2.5, color (Frameset Splitter Color) 160
2.1.433 Part 1 Section 17.15.2.6, div (Information About Single HTML div Element) 161
2.1.434 Part 1 Section 17.15.2.10, doNotOrganizeInFolder (Do Not Place Supporting Files in Subdirectory) 161
2.1.435 Part 1 Section 17.15.2.14, encoding (Output Encoding When Saving as Web Page) 161
2.1.436 Part 1 Section 17.15.2.17, frameLayout (Frameset Layout) 161
2.1.437 Part 1 Section 17.15.2.18, frameset (Nested Frameset Definition) 161
2.1.438 Part 1 Section 17.15.2.19, frameset (Root Frameset Definition) 161
2.1.439 Part 1 Section 17.15.2.21, left (Left Border for HTML div) 162
2.1.440 Part 1 Section 17.15.2.23, longDesc (Frame Long Description) 162
2.1.441 Part 1 Section 17.15.2.30, name (Frame Name) 162
2.1.442 Part 1 Section 17.15.2.33, optimizeForBrowser (Disable Features Not Supported by Target Web Profile) 162
2.1.443 Part 1 Section 17.15.2.34, pixelsPerInch (Pixels per Inch for Graphics/Images) 162
2.1.444 Part 1 Section 17.15.2.35, right (Right Border for HTML div) 162
2.1.445 Part 1 Section 17.15.2.38, sourceFileName (Source File for Frame) 162
2.1.446 Part 1 Section 17.15.2.39, sz (Frame Size) 162
2.1.447 Part 1 Section 17.15.2.40, sz (Nested Frameset Size) 163
2.1.448 Part 1 Section 17.15.2.41, targetScreenSz (Target Screen Size for Web Page) 163
2.1.449 Part 1 Section 17.15.2.42, title (Frame or Frameset Title) 163
2.1.450 Part 1 Section 17.15.2.43, top (Top Border for HTML div) 163
2.1.451 Part 1 Section 17.15.3.2, applyBreakingRules (Use Legacy Ethiopic and Amharic Line Breaking Rules) 163
2.1.452 Part 1 Section 17.15.3.6, doNotLeaveBackslashAlone (Display Backslash As Yen Sign) 164
2.1.453 Part 1 Section 17.16.1, Syntax 164
2.1.454 Part 1 Section 17.16.2, XML representation 164
2.1.455 Part 1 Section 17.16.3.2, Bookmarks 165
2.1.456 Part 1 Section 17.16.3.3, Operators 165
2.1.457 Part 1 Section 17.16.3.5, Table cell references 165
2.1.458 Part 1 Section 17.16.4.1, Date and time formatting 165
2.1.459 Part 1 Section 17.16.4.3, General formatting 165
2.1.460 Part 1 Section 17.16.5.1, ADDRESSBLOCK 166
2.1.461 Part 1 Section 17.16.5.2, ADVANCE 184
2.1.462 Part 1 Section 17.16.5.4, AUTHOR 184
2.1.463 Part 1 Section 17.16.5.7, BIBLIOGRAPHY 184
2.1.464 Part 1 Section 17.16.5.8, CITATION 185
2.1.465 Part 1 Section 17.16.5.9, COMMENTS 185
2.1.466 Part 1 Section 17.16.5.10, COMPARE 185
2.1.467 Part 1 Section 17.16.5.11, CREATEDATE 185
2.1.468 Part 1 Section 17.16.5.12, DATABASE 185
2.1.469 Part 1 Section 17.16.5.13, DATE 213
2.1.470 Part 1 Section 17.16.5.14, DOCPROPERTY 213
2.1.471 Part 1 Section 17.16.5.17, FILENAME 213
2.1.472 Part 1 Section 17.16.5.18, FILESIZE 213

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2.1.473 Part 1 Section 17.16.5.20, FORMCHECKBOX 213
2.1.474 Part 1 Section 17.16.5.21, FORMDROPDOWN 213
2.1.475 Part 1 Section 17.16.5.23, GOTOBUTTON 213
2.1.476 Part 1 Section 17.16.5.24, GREETINGLINE 214
2.1.477 Part 1 Section 17.16.5.25, HYPERLINK 215
2.1.478 Part 1 Section 17.16.5.26, IF 215
2.1.479 Part 1 Section 17.16.5.28, INCLUDETEXT 215
2.1.480 Part 1 Section 17.16.5.29, INDEX 216
2.1.481 Part 1 Section 17.16.5.30, KEYWORDS 216
2.1.482 Part 1 Section 17.16.5.31, LASTSAVEDBY 216
2.1.483 Part 1 Section 17.16.5.32, LINK 216
2.1.484 Part 1 Section 17.16.5.33, LISTNUM 217
2.1.485 Part 1 Section 17.16.5.34, MACROBUTTON 217
2.1.486 Part 1 Section 17.16.5.35, MERGEFIELD 217
2.1.487 Part 1 Section 17.16.5.39, NEXTIF 217
2.1.488 Part 1 Section 17.16.5.40, NOTEREF 218
2.1.489 Part 1 Section 17.16.5.42 NUMPAGES 218
2.1.490 Part 1 Section 17.16.5.45, PAGEREF 218
2.1.491 Part 1 Section 17.16.5.46, PRINT 218
2.1.492 Part 1 Section 17.16.5.47, PRINTDATE 219
2.1.493 Part 1 Section 17.16.5.49, QUOTE 219
2.1.494 Part 1 Section 17.16.5.50, RD 219
2.1.495 Part 1 Section 17.16.5.51, REF 219
2.1.496 Part 1 Section 17.16.5.52, REVNUM 221
2.1.497 Part 1 Section 17.16.5.53, SAVEDATE 221
2.1.498 Part 1 Section 17.16.5.54, SECTION 221
2.1.499 Part 1 Section 17.16.5.55, SECTIONPAGES 221
2.1.500 Part 1 Section 17.16.5.56, SEQ 221
2.1.501 Part 1 Section 17.16.5.58, SKIPIF 221
2.1.502 Part 1 Section 17.16.5.59, STYLEREF 222
2.1.503 Part 1 Section 17.16.5.60, SUBJECT 222
2.1.504 Part 1 Section 17.16.5.61, SYMBOL 223
2.1.505 Part 1 Section 17.16.5.62, TA 223
2.1.506 Part 1 Section 17.16.5.64, TEMPLATE 223
2.1.507 Part 1 Section 17.16.5.66, TITLE 223
2.1.508 Part 1 Section 17.16.5.67, TOA 223
2.1.509 Part 1 Section 17.16.5.68, TOC 223
2.1.510 Part 1 Section 17.16.5.69, USERADDRESS 224
2.1.511 Part 1 Section 17.16.5.70, USERINITIALS 224
2.1.512 Part 1 Section 17.16.5.71, USERNAME 224
2.1.513 Part 1 Section 17.16.5.72, XE 224
2.1.514 Part 1 Section 17.16.9, ddList (Drop-Down List Form Field Properties) 224
2.1.515 Part 1 Section 17.16.10, default (Default Text Box Form Field String) 224
2.1.516 Part 1 Section 17.16.11, default (Default Drop-Down List Item Index) 224
2.1.517 Part 1 Section 17.16.12, default (Default Checkbox Form Field State) 225
2.1.518 Part 1 Section 17.16.17, ffData (Form Field Properties) 225
2.1.519 Part 1 Section 17.16.19, fldSimple (Simple Field) 225
2.1.520 Part 1 Section 17.16.20, format (Text Box Form Field Formatting) 225
2.1.521 Part 1 Section 17.16.22, hyperlink (Hyperlink) 225
2.1.522 Part 1 Section 17.16.24, label (Form Field Label) 226
2.1.523 Part 1 Section 17.16.25, listEntry (Drop-Down List Entry) 226
2.1.524 Part 1 Section 17.16.26, maxLength (Text Box Form Field Maximum Length) 226
2.1.525 Part 1 Section 17.16.32, tabIndex (Form Field Navigation Order Index) 226
2.1.526 Part 1 Section 17.17.1.1, subDoc (Anchor for Subdocument Location) 226
2.1.527 Part 1 Section 17.17.2.1, altChunk (Anchor for Imported External Content) 226
2.1.528 Part 1 Section 17.18.2, ST_Border (Border Styles) 227
2.1.529 Part 1 Section 17.18.3, ST_BrClear (Line Break Text Wrapping Restart Location) 227
2.1.530 Part 1 Section 17.18.5, ST_CaptionPos (Automatic Caption Positioning Values) .227

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2.1.531 Part 1 Section 17.18.7, ST_CharacterSpacing (Character-Level Whitespace Compression Settings) 227
2.1.532 Part 1 Section 17.18.10, ST_DecimalNumber (Decimal Number Value)....227
2.1.533 Part 1 Section 17.18.13, ST_DisplacedByCustomXml (Location of Custom XML Markup Displacing an Annotation)....228
2.1.534 Part 1 Section 17.18.14, ST_DocGrid (Document Grid Types)....228
2.1.535 Part 1 Section 17.18.15, ST_DocPartBehavior (Insertion Behavior Types)....228
2.1.536 Part 1 Section 17.18.24, ST_Em (Emphasis Mark Type)....228
2.1.537 Part 1 Section 17.18.25, ST_FFHelpTextVal (Help Text Value)....229
2.1.538 Part 1 Section 17.18.26, ST_FFName (Form Field Name Value)....229
2.1.539 Part 1 Section 17.18.27, ST_FFStatusTextVal (Status Text Value)....229
2.1.540 Part 1 Section 17.18.31, ST_FrameLayout (Frameset Layout Order)....229
2.1.541 Part 1 Section 17.18.34, ST_FtnPos (Footnote Positioning Location)....229
2.1.542 Part 1 Section 17.18.36, ST_HdrFtr (Header or Footer Type)....229
2.1.543 Part 1 Section 17.18.41, ST_Hint (Font Type Hint)....230
2.1.544 Part 1 Section 17.18.42, ST_HpsMeasure (Measurement in Half-Points)....230
2.1.545 Part 1 Section 17.18.44, ST_Jc (Horizontal Alignment Type)....230
2.1.546 Part 1 Section 17.18.52, ST_MailMergeDataType (Mail Merge Data Source Type Values)....230
2.1.547 Part 1 Section 17.18.57, ST_Merge (Merged Cell Type)....230
2.1.548 Part 1 Section 17.18.59, ST_NumberFormat (Numbering Format)....230
2.1.549 Part 1 Section 17.18.62, ST_PageBorderDisplay (Page Border Display Options)....233
2.1.550 Part 1 Section 17.18.68, ST_PointMeasure (Measurement in Points)....233
2.1.551 Part 1 Section 17.18.70, ST_ProofErr (Proofing Error Type)....233
2.1.552 Part 1 Section 17.18.75, ST_RubyAlign (Phonetic Guide Text Alignment)....233
2.1.553 Part 1 Section 17.18.78, ST_Shd (Shading Patterns)....234
2.1.554 Part 1 Section 17.18.80, ST_SignedHpsMeasure (Signed Measurement in Half-Points)....234
2.1.555 Part 1 Section 17.18.81, ST_SignedTwipsMeasure (Signed Measurement in Twentieths of a Point)....234
2.1.556 Part 1 Section 17.18.84, ST_TabJc (Custom Tab Stop Type)....234
2.1.557 Part 1 Section 17.18.89, ST_TblStyleOverrideType (Conditional Table Style Formatting Types)....234
2.1.558 Part 1 Section 17.18.93, ST_TextDirection (Text Flow Direction)....235
2.1.559 Part 1 Section 17.18.94, ST_TextEffect (Animated Text Effects)....236
2.1.560 Part 1 Section 17.18.95, ST_TextScale (Text Expansion/Compression Percentage) 236
2.1.561 Part 1 Section 17.18.101, ST_VerticalJc (Vertical Alignment Type)....236
2.1.562 Part 1 Section 17.18.102, ST_View (Document View Values)....236
2.1.563 Part 1 Section 17.18.104, ST_Wrap (Text Wrapping around Text Frame Type)..236
2.1.564 Part 1 Section 18.2.1, bookViews (Workbook Views)....237
2.1.565 Part 1 Section 18.2.2, calcPr (Calculation Properties)....237
2.1.566 Part 1 Section 18.2.3, customWorkbookView (Custom Workbook View)....237
2.1.567 Part 1 Section 18.2.4, customWorkbookViews (Custom Workbook Views)....238
2.1.568 Part 1 Section 18.2.5, definedName (Defined Name)....238
2.1.569 Part 1 Section 18.2.6, definedNames (Defined Names)....239
2.1.570 Part 1 Section 18.2.7, ext (Extension)....239
2.1.571 Part 1 Section 18.2.9, externalReferences (External References)....239
2.1.572 Part 1 Section 18.2.11, fileRecoveryPr (File Recovery Properties)....240
2.1.573 Part 1 Section 18.2.12, fileSharing (File Sharing)....240
2.1.574 Part 1 Section 18.2.13, fileVersion (File Version)....242
2.1.575 Part 1 Section 18.2.14, functionGroup (Function Group)....242
2.1.576 Part 1 Section 18.2.15, functionGroups (Function Groups)....243
2.1.577 Part 1 Section 18.2.16, oleSize (Embedded Object Size)....243
2.1.578 Part 1 Section 18.2.19, sheet (Sheet Information)....243
2.1.579 Part 1 Section 18.2.20, sheets (Sheets)....243
2.1.580 Part 1 Section 18.2.22, smartTagType (Smart Tag Type)....243
2.1.581 Part 1 Section 18.2.23, smartTagTypes (Smart Tag Types)....244

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2.1.582 Part 1 Section 18.2.24, webPublishing (Web Publishing Properties) 244
2.1.583 Part 1 Section 18.2.25, webPublishObject (Web Publishing Object) 244
2.1.584 Part 1 Section 18.2.27, workbook (Workbook) 245
2.1.585 Part 1 Section 18.2.28, workbookPr (Workbook Properties) 245
2.1.586 Part 1 Section 18.2.29, workbookProtection (Workbook Protection) 246
2.1.587 Part 1 Section 18.2.30, workbookView (Workbook View) 250
2.1.588 Part 1 Section 18.3.1.1, anchor (Object Cell Anchor) 250
2.1.589 Part 1 Section 18.3.1.3, brk (Break) 250
2.1.590 Part 1 Section 18.3.1.4, c (Cell) 251
2.1.591 Part 1 Section 18.3.1.5, cellSmartTag (Cell Smart Tag) 251
2.1.592 Part 1 Section 18.3.1.6, cellSmartTagPr (Smart Tag Properties) 251
2.1.593 Part 1 Section 18.3.1.7, cellSmartTags (Cell Smart Tags) 252
2.1.594 Part 1 Section 18.3.1.8, cellWatch (Cell Watch Item) 252
2.1.595 Part 1 Section 18.3.1.10, cfRule (Conditional Formatting Rule) 252
2.1.596 Part 1 Section 18.3.1.11, cfvo (Conditional Format Value Object) 252
2.1.597 Part 1 Section 18.3.1.12, chartsheet (Chart Sheet) 252
2.1.598 Part 1 Section 18.3.1.13, col (Column Width & Formatting) 253
2.1.599 Part 1 Section 18.3.1.14, colBreaks (Vertical Page Breaks) 253
2.1.600 Part 1 Section 18.3.1.15, color (Data Bar Color) 253
2.1.601 Part 1 Section 18.3.1.16, colorScale (Color Scale) 254
2.1.602 Part 1 Section 18.3.1.18, conditionalFormatting (Conditional Formatting) 254
2.1.603 Part 1 Section 18.3.1.19, control (Embedded Control) 254
2.1.604 Part 1 Section 18.3.1.20, controlPr (Embedded Control Properties) 254
2.1.605 Part 1 Section 18.3.1.21, controls (Embedded Controls) 255
2.1.606 Part 1 Section 18.3.1.22, customPr (Custom Property) 255
2.1.607 Part 1 Section 18.3.1.24, customSheetView (Custom Chart Sheet View) 255
2.1.608 Part 1 Section 18.3.1.25, customSheetView (Custom Sheet View) 255
2.1.609 Part 1 Section 18.3.1.26, customSheetViews (Custom Chart Sheet Views) 255
2.1.610 Part 1 Section 18.3.1.27, customSheetViews (Custom Sheet Views) 256
2.1.611 Part 1 Section 18.3.1.28, dataBar (Data Bar) 256
2.1.612 Part 1 Section 18.3.1.29, dataConsolidate (Data Consolidate) 256
2.1.613 Part 1 Section 18.3.1.32, dataValidation (Data Validation) 256
2.1.614 Part 1 Section 18.3.1.33, dataValidations (Data Validations) 256
2.1.615 Part 1 Section 18.3.1.34, dialogsheet (Dialog Sheet) 257
2.1.616 Part 1 Section 18.3.1.36, drawing (Drawing) 257
2.1.617 Part 1 Section 18.3.1.37, drawingHF (Drawing Reference in Header Footer) 257
2.1.618 Part 1 Section 18.3.1.38, evenFooter (Even Page Footer) 257
2.1.619 Part 1 Section 18.3.1.39, evenHeader (Even Page Header) 258
2.1.620 Part 1 Section 18.3.1.40, f (Formula) 260
2.1.621 Part 1 Section 18.3.1.41, firstFooter (First Page Footer) 262
2.1.622 Part 1 Section 18.3.1.42, firstHeader (First Page Header) 262
2.1.623 Part 1 Section 18.3.1.43, formula (Formula) 262
2.1.624 Part 1 Section 18.3.1.44, formula1 (Formula 1) 262
2.1.625 Part 1 Section 18.3.1.45, formula2 (Formula 2) 263
2.1.626 Part 1 Section 18.3.1.47, hyperlink (Hyperlink) 263
2.1.627 Part 1 Section 18.3.1.50, ignoredError (Ignored Error) 263
2.1.628 Part 1 Section 18.3.1.51, ignoredErrors (Ignored Errors) 263
2.1.629 Part 1 Section 18.3.1.52, inputCells (Input Cells) 263
2.1.630 Part 1 Section 18.3.1.53, is (Rich Text Inline) 264
2.1.631 Part 1 Section 18.3.1.55, mergeCells (Merge Cells) 264
2.1.632 Part 1 Section 18.3.1.56, objectPr (Embedded Object Properties) 264
2.1.633 Part 1 Section 18.3.1.57, oddFooter (Odd Page Footer) 264
2.1.634 Part 1 Section 18.3.1.58, oddHeader (Odd Header) 264
2.1.635 Part 1 Section 18.3.1.59, oleObject (Embedded Object) 264
2.1.636 Part 1 Section 18.3.1.60, oleObjects (Embedded Objects) 265
2.1.637 Part 1 Section 18.3.1.62, pageMargins (Page Margins) 265
2.1.638 Part 1 Section 18.3.1.63, pageSetup (Page Setup Settings) 266
2.1.639 Part 1 Section 18.3.1.64, pageSetup (Chart Sheet Page Setup) 270

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2.1.640 Part 1 Section 18.3.1.66, pane (View Pane) 275
2.1.641 Part 1 Section 18.3.1.68, pivotArea (Pivot Area)....275
2.1.642 Part 1 Section 18.3.1.69, pivotSelection (PivotTable Selection)....276
2.1.643 Part 1 Section 18.3.1.71, protectedRange (Protected Range) 277
2.1.644 Part 1 Section 18.3.1.73, row (Row) 279
2.1.645 Part 1 Section 18.3.1.74, rowBreaks (Horizontal Page Breaks (Row)) 279
2.1.646 Part 1 Section 18.3.1.75, scenario (Scenario)....280
2.1.647 Part 1 Section 18.3.1.76, scenarios (Scenarios)....280
2.1.648 Part 1 Section 18.3.1.77, securityDescriptor (Security Descriptor) 280
2.1.649 Part 1 Section 18.3.1.78, selection (Selection) 281
2.1.650 Part 1 Section 18.3.1.81, sheetFormatPr (Sheet Format Properties)....281
2.1.651 Part 1 Section 18.3.1.82, sheetPr (Sheet Properties)....281
2.1.652 Part 1 Section 18.3.1.83, sheetPr (Chart Sheet Properties) 281
2.1.653 Part 1 Section 18.3.1.84, sheetProtection (Chart Sheet Protection) 281
2.1.654 Part 1 Section 18.3.1.85, sheetProtection (Sheet Protection Options) 283
2.1.655 Part 1 Section 18.3.1.87, sheetView (Worksheet View)....285
2.1.656 Part 1 Section 18.3.1.88, sheetViews (Sheet Views)....285
2.1.657 Part 1 Section 18.3.1.89, sheetViews (Chart Sheet Views) 285
2.1.658 Part 1 Section 18.3.1.91, sortCondition (Sort Condition)....286
2.1.659 Part 1 Section 18.3.1.93, tabColor (Sheet Tab Color) 286
2.1.660 Part 1 Section 18.3.1.96, v (Cell Value)....286
2.1.661 Part 1 Section 18.3.1.97, webPublishItem (Web Publishing Item) 287
2.1.662 Part 1 Section 18.3.1.99, worksheet (Worksheet) 287
2.1.663 Part 1 Section 18.3.2.1, colorFilter (Color Filter Criteria)....287
2.1.664 Part 1 Section 18.3.2.4, dateGroupItem (Date Grouping) 287
2.1.665 Part 1 Section 18.3.2.5, dynamicFilter (Dynamic Filter) 288
2.1.666 Part 1 Section 18.3.2.6, filter (Filter)....288
2.1.667 Part 1 Section 18.3.2.7, filterColumn (AutoFilter Column) 288
2.1.668 Part 1 Section 18.3.2.8, filters (Filter Criteria) 288
2.1.669 Part 1 Section 18.3.2.9, iconFilter (Icon Filter) 289
2.1.670 Part 1 Section 18.3.2.10, top10 (Top 10)....289
2.1.671 Part 1 Section 18.4.3, phoneticPr (Phonetic Properties) 289
2.1.672 Part 1 Section 18.4.5, rFont (Font) 289
2.1.673 Part 1 Section 18.4.6, rPh (Phonetic Run) 289
2.1.674 Part 1 Section 18.4.7, rPr (Run Properties) 289
2.1.675 Part 1 Section 18.4.8, si (String Item)....289
2.1.676 Part 1 Section 18.4.9, sst (Shared String Table) 290
2.1.677 Part 1 Section 18.4.11, sz (Font Size) 290
2.1.678 Part 1 Section 18.4.12, t (Text)....290
2.1.679 Part 1 Section 18.5.1.1, calculatedColumnFormula (Calculated Column Formula)290
2.1.680 Part 1 Section 18.5.1.2, table (Table)....291
2.1.681 Part 1 Section 18.5.1.3, tableColumn (Table Column) 291
2.1.682 Part 1 Section 18.5.1.5, tableStyleInfo (Table Style) 293
2.1.683 Part 1 Section 18.5.1.6, totalsRowFormula (Totals Row Formula) 293
2.1.684 Part 1 Section 18.5.1.7, xmlColumnPr (XML Column Properties) 293
2.1.685 Part 1 Section 18.5.2.1, singleXmlCell (Table Properties) 293
2.1.686 Part 1 Section 18.5.2.3, xmlCellPr (Cell Properties) 293
2.1.687 Part 1 Section 18.5.2.4, xmlPr (Column XML Properties)....294
2.1.688 Part 1 Section 18.6.1, c (Cell) 294
2.1.689 Part 1 Section 18.7.1, author (Author) 295
2.1.690 Part 1 Section 18.7.3, comment (Comment) 295
2.1.691 Part 1 Section 18.7.5, commentPr (Comment Properties) 295
2.1.692 Part 1 Section 18.7.7, text (Comment Text)....295
2.1.693 Part 1 Section 18.8.1, alignment (Alignment)....295
2.1.694 Part 1 Section 18.8.3, bgColor (Background Color) 296
2.1.695 Part 1 Section 18.8.4, border (Border) 296
2.1.696 Part 1 Section 18.8.5, borders (Borders) 296
2.1.697 Part 1 Section 18.8.7, cellStyle (Cell Style) 296

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2.1.698 Part 1 Section 18.8.8, cellStyles (Cell Styles) 297
2.1.699 Part 1 Section 18.8.9, cellStyleXfs (Formatting Records) 297
2.1.700 Part 1 Section 18.8.10, cellXfs (Cell Formats)....297
2.1.701 Part 1 Section 18.8.15, dxfs (Formats)....298
2.1.702 Part 1 Section 18.8.16, end (Trailing Edge Border) 298
2.1.703 Part 1 Section 18.8.18, family (Font Family) 298
2.1.704 Part 1 Section 18.8.19, fgColor (Foreground Color)....298
2.1.705 Part 1 Section 18.8.21, fills (Fills)....298
2.1.706 Part 1 Section 18.8.22, font (Font) 299
2.1.707 Part 1 Section 18.8.23, fonts (Fonts) 299
2.1.708 Part 1 Section 18.8.24, gradientFill (Gradient)....299
2.1.709 Part 1 Section 18.8.27, indexedColors (Color Indexes) 299
2.1.710 Part 1 Section 18.8.28, mruColors (MRU Colors)....299
2.1.711 Part 1 Section 18.8.29, name (Font Name) 299
2.1.712 Part 1 Section 18.8.30, numFmt (Number Format) 299
2.1.713 Part 1 Section 18.8.31, numFmts (Number Formats) 310
2.1.714 Part 1 Section 18.8.33, protection (Protection Properties)....310
2.1.715 Part 1 Section 18.8.37, start (Leading Edge Border) 310
2.1.716 Part 1 Section 18.8.38, stop (Gradient Stop)....311
2.1.717 Part 1 Section 18.8.39, styleSheet (Style Sheet) 311
2.1.718 Part 1 Section 18.8.40, tableStyle (Table Style) 311
2.1.719 Part 1 Section 18.8.41, tableStyleElement (Table Style) 311
2.1.720 Part 1 Section 18.8.42, tableStyles (Table Styles)....311
2.1.721 Part 1 Section 18.8.45, xf (Format) 311
2.1.722 Part 1 Section 18.9.1, bk (Metadata Block) 313
2.1.723 Part 1 Section 18.9.3, cellMetadata (Cell Metadata) 313
2.1.724 Part 1 Section 18.9.4, futureMetadata (Future Metadata) 313
2.1.725 Part 1 Section 18.9.5, k (KPI MDX Metadata) 313
2.1.726 Part 1 Section 18.9.6, mdx (MDX Metadata Record)....314
2.1.727 Part 1 Section 18.9.7, mdxMetadata (MDX Metadata Information) 314
2.1.728 Part 1 Section 18.9.9, metadataStrings (Metadata String Store)....314
2.1.729 Part 1 Section 18.9.10, metadataType (Metadata Type Information) 314
2.1.730 Part 1 Section 18.9.11, metadataTypes (Metadata Types Collection) 318
2.1.731 Part 1 Section 18.9.12, ms (Set MDX Metadata) 318
2.1.732 Part 1 Section 18.9.13, n (Member Unique Name Index) 318
2.1.733 Part 1 Section 18.9.14, p (Member Property MDX Metadata) 318
2.1.734 Part 1 Section 18.9.15, rc (Metadata Record) 318
2.1.735 Part 1 Section 18.9.16, t (Tuple MDX Metadata) 318
2.1.736 Part 1 Section 18.9.17, valueMetadata (Value Metadata) 325
2.1.737 Part 1 Section 18.10.1.1, autoSortScope (AutoSort Scope) 326
2.1.738 Part 1 Section 18.10.1.2, b (Boolean) 326
2.1.739 Part 1 Section 18.10.1.3, cacheField (PivotCache Field) 326
2.1.740 Part 1 Section 18.10.1.4, cacheFields (PivotCache Fields) 327
2.1.741 Part 1 Section 18.10.1.5, cacheHierarchies (PivotCache Hierarchies)....327
2.1.742 Part 1 Section 18.10.1.6, cacheHierarchy (PivotCache Hierarchy) 328
2.1.743 Part 1 Section 18.10.1.7, cacheSource (PivotCache Source Description) 329
2.1.744 Part 1 Section 18.10.1.8, calculatedItem (Calculated Item)....329
2.1.745 Part 1 Section 18.10.1.10, calculatedMember (Calculated Member) 330
2.1.746 Part 1 Section 18.10.1.12, chartFormat (PivotChart Format) 330
2.1.747 Part 1 Section 18.10.1.15, colHierarchiesUsage (Column OLAP Hierarchy References) 331
2.1.748 Part 1 Section 18.10.1.16, colHierarchyUsage (Column OLAP Hierarchies) 331
2.1.749 Part 1 Section 18.10.1.17, colItems (Column Items) 331
2.1.750 Part 1 Section 18.10.1.18, conditionalFormat (Conditional Formatting)....331
2.1.751 Part 1 Section 18.10.1.21, d (Date Time) 331
2.1.752 Part 1 Section 18.10.1.22, dataField (Data Field Item) 332
2.1.753 Part 1 Section 18.10.1.24, dimension (OLAP Dimension) 332
2.1.754 Part 1 Section 18.10.1.26, discretePr (Discrete Grouping Properties) 333

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2.1.755 Part 1 Section 18.10.1.27, e (Error Value) 333
2.1.756 Part 1 Section 18.10.1.29, field (Field) 334
2.1.757 Part 1 Section 18.10.1.30, fieldGroup (Field Group Properties) 334
2.1.758 Part 1 Section 18.10.1.31, fieldsUsage (Fields Usage) 334
2.1.759 Part 1 Section 18.10.1.32, fieldUsage (PivotCache Field Id) 335
2.1.760 Part 1 Section 18.10.1.33, filter (PivotTable Advanced Filter) 335
2.1.761 Part 1 Section 18.10.1.35, format (PivotTable Format) 335
2.1.762 Part 1 Section 18.10.1.37, group (OLAP Group) 335
2.1.763 Part 1 Section 18.10.1.38, groupItems (OLAP Group Items) 336
2.1.764 Part 1 Section 18.10.1.39, groupLevel (OLAP Grouping Levels) 336
2.1.765 Part 1 Section 18.10.1.41, groupMember (OLAP Group Member) 336
2.1.766 Part 1 Section 18.10.1.44, i (Row Items) 336
2.1.767 Part 1 Section 18.10.1.45, item (PivotTable Field Item) 337
2.1.768 Part 1 Section 18.10.1.46, items (Field Items) 338
2.1.769 Part 1 Section 18.10.1.47, kpi (OLAP KPI) 338
2.1.770 Part 1 Section 18.10.1.49, location (PivotTable Location) 340
2.1.771 Part 1 Section 18.10.1.50, m (No Value) 340
2.1.772 Part 1 Section 18.10.1.51, map (OLAP Measure Group) 341
2.1.773 Part 1 Section 18.10.1.53, measureGroup (OLAP Measure Group) 341
2.1.774 Part 1 Section 18.10.1.55, member (Member) 341
2.1.775 Part 1 Section 18.10.1.56, members (Members) 342
2.1.776 Part 1 Section 18.10.1.57, mp (OLAP Member Property) 342
2.1.777 Part 1 Section 18.10.1.58, mpMap (Member Properties Map) 343
2.1.778 Part 1 Section 18.10.1.60, n (Numeric) 343
2.1.779 Part 1 Section 18.10.1.62, pageField (Page Field) 344
2.1.780 Part 1 Section 18.10.1.63, pageFields (Page Field Items) 345
2.1.781 Part 1 Section 18.10.1.64, pageItem (Page Item) 345
2.1.782 Part 1 Section 18.10.1.67, pivotCacheDefinition (PivotCache Definition) 345
2.1.783 Part 1 Section 18.10.1.69, pivotField (PivotTable Field) 346
2.1.784 Part 1 Section 18.10.1.70, pivotFields (PivotTable Fields) 350
2.1.785 Part 1 Section 18.10.1.71, pivotHierarchies (PivotTable OLAP Hierarchies) 350
2.1.786 Part 1 Section 18.10.1.72, pivotHierarchy (OLAP Hierarchy) 350
2.1.787 Part 1 Section 18.10.1.73, pivotTableDefinition (PivotTable Definition) 351
2.1.788 Part 1 Section 18.10.1.74, pivotTableStyleInfo (PivotTable Style) 353
2.1.789 Part 1 Section 18.10.1.75, query (Query) 354
2.1.790 Part 1 Section 18.10.1.77, r (PivotCache Record) 354
2.1.791 Part 1 Section 18.10.1.78, rangePr (Range Grouping Properties) 354
2.1.792 Part 1 Section 18.10.1.79, rangeSet (Range Set) 355
2.1.793 Part 1 Section 18.10.1.83, rowHierarchyUsage (Row OLAP Hierarchies) 356
2.1.794 Part 1 Section 18.10.1.85, s (Character Value) 356
2.1.795 Part 1 Section 18.10.1.86, serverFormat (Server Format) 357
2.1.796 Part 1 Section 18.10.1.88, set (OLAP Set) 364
2.1.797 Part 1 Section 18.10.1.90, sharedItems (Shared Items) 364
2.1.798 Part 1 Section 18.10.1.91, sortByTuple (Sort By Tuple) 366
2.1.799 Part 1 Section 18.10.1.92, tpl (Tuple) 366
2.1.800 Part 1 Section 18.10.1.95, worksheetSource (Worksheet PivotCache Source) 366
2.1.801 Part 1 Section 18.10.1.96, x (Member Property Index) 367
2.1.802 Part 1 Section 18.10.1.97, x (Shared Items Index) 367
2.1.803 Part 1 Section 18.10.2.1, reference (Reference) 367
2.1.804 Part 1 Section 18.11.1.1, header (Header) 368
2.1.805 Part 1 Section 18.11.1.2, headers (Revision Headers) 368
2.1.806 Part 1 Section 18.11.1.3, nc (New Cell Data) 369
2.1.807 Part 1 Section 18.11.1.5, oc (Old Cell Data) 369
2.1.808 Part 1 Section 18.11.1.7, oldFormula (Old Formula) 369
2.1.809 Part 1 Section 18.11.1.8, raf (Revision AutoFormat) 370
2.1.810 Part 1 Section 18.11.1.9, rcc (Revision Cell Change) 370
2.1.811 Part 1 Section 18.11.1.10, rcft (Revision Merge Conflict) 370
2.1.812 Part 1 Section 18.11.1.11, rcmt (Revision Cell Comment) 370

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2.1.813 Part 1 Section 18.11.1.13, rdn (Revision Defined Name) 371
2.1.814 Part 1 Section 18.11.1.14, reviewed (Reviewed)....372
2.1.815 Part 1 Section 18.11.1.17, rfmt (Revision Format) 372
2.1.816 Part 1 Section 18.11.1.18, ris (Revision Insert Sheet) 372
2.1.817 Part 1 Section 18.11.1.19, rm (Revision Cell Move)....372
2.1.818 Part 1 Section 18.11.1.20, rqt (Revision Query Table) 373
2.1.819 Part 1 Section 18.11.1.21, rrc (Revision Row Column Insert Delete) 373
2.1.820 Part 1 Section 18.11.1.22, rsnm (Revision Sheet Name)....373
2.1.821 Part 1 Section 18.11.1.23, sheetId (Sheet Id) 373
2.1.822 Part 1 Section 18.11.1.24, sheetIdMap (Sheet Id Map)....373
2.1.823 Part 1 Section 18.11.1.25, undo (Undo) 374
2.1.824 Part 1 Section 18.11.2.2, users (User List)....374
2.1.825 Part 1 Section 18.12.1, deletedField (Deleted Field) 374
2.1.826 Part 1 Section 18.12.2, queryTable (Query Table)....374
2.1.827 Part 1 Section 18.12.4, queryTableField (QueryTable Field)....375
2.1.828 Part 1 Section 18.12.6, queryTableRefresh (QueryTable Refresh Information) ...375
2.1.829 Part 1 Section 18.13.1, connection (Connection) 376
2.1.830 Part 1 Section 18.13.3, dbPr (Database Properties)....377
2.1.831 Part 1 Section 18.13.5, olapPr (OLAP Properties) 377
2.1.832 Part 1 Section 18.13.6, parameter (Parameter Properties) 377
2.1.833 Part 1 Section 18.13.8, s (Character Value) 378
2.1.834 Part 1 Section 18.13.10, textField (Text Import Field Settings)....378
2.1.835 Part 1 Section 18.13.11, textFields (Fields)....378
2.1.836 Part 1 Section 18.13.12, textPr (Text Import Settings)....378
2.1.837 Part 1 Section 18.13.13, webPr (Web Query Properties) 379
2.1.838 Part 1 Section 18.14.1, cell (External Cell Data) 379
2.1.839 Part 1 Section 18.14.2, ddeItem (DDE Item definition)....380
2.1.840 Part 1 Section 18.14.4, ddeLink (DDE Connection)....380
2.1.841 Part 1 Section 18.14.5, definedName (Defined Name)....380
2.1.842 Part 1 Section 18.14.8, externalLink (External Reference) 381
2.1.843 Part 1 Section 18.14.9, oleItem (Object Link Item) 381
2.1.844 Part 1 Section 18.14.11, oleLink (Generic Object Link Connection)....381
2.1.845 Part 1 Section 18.14.12, row (Row) 381
2.1.846 Part 1 Section 18.14.13, sheetData (External Sheet Data Set) 381
2.1.847 Part 1 Section 18.14.15, sheetName (Sheet Name) 382
2.1.848 Part 1 Section 18.14.16, sheetNames (Supporting Workbook Sheet Names) 382
2.1.849 Part 1 Section 18.14.17, val (DDE Link Value)....382
2.1.850 Part 1 Section 18.14.18, value (Value) 382
2.1.851 Part 1 Section 18.14.19, values (DDE Name Values) 382
2.1.852 Part 1 Section 18.15.1, main (Main)....382
2.1.853 Part 1 Section 18.15.2, stp (Strings in Subtopic) 382
2.1.854 Part 1 Section 18.15.3, tp (Topic)....383
2.1.855 Part 1 Section 18.15.4, tr (References) 383
2.1.856 Part 1 Section 18.16.1, DataBinding (XML Mapping)....383
2.1.857 Part 1 Section 18.16.2, Map (XML Mapping Properties)....384
2.1.858 Part 1 Section 18.16.4, Schema (XML Schema) 384
2.1.859 Part 1 Section 18.17, Formulas 385
2.1.860 Part 1 Section 18.17.2, Syntax....386
2.1.861 Part 1 Section 18.17.2.1, Constants....390
2.1.862 Part 1 Section 18.17.2.2, Operators....391
2.1.863 Part 1 Section 18.17.2.3, Cell References 392
2.1.864 Part 1 Section 18.17.2.3.1, A1-Style Cell References....393
2.1.865 Part 1 Section 18.17.2.3.2, R1C1-Style Cell Reference 393
2.1.866 Part 1 Section 18.17.2.4, Functions 394
2.1.867 Part 1 Section 18.17.2.5, Names 394
2.1.868 Part 1 Section 18.17.2.6, Types and Values 395
2.1.869 Part 1 Section 18.17.3, Error values....395
2.1.870 Part 1 Section 18.17.5.2, Precision 395

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2.1.871 Part 1 Section 18.17.5.4, Interpretation 395
2.1.872 Part 1 Section 18.17.6.3, Array Formulas 396
2.1.873 Part 1 Section 18.17.6.5, Name Representation....396
2.1.874 Part 1 Section 18.17.7.2, ACCRINT 396
2.1.875 Part 1 Section 18.17.7.3, ACCRINTM....397
2.1.876 Part 1 Section 18.17.7.4, ACOS....398
2.1.877 Part 1 Section 18.17.7.6, ADDRESS 398
2.1.878 Part 1 Section 18.17.7.7, AMORDEGRC 398
2.1.879 Part 1 Section 18.17.7.8, AMORLINC....399
2.1.880 Part 1 Section 18.17.7.10, AREAS....400
2.1.881 Part 1 Section 18.17.7.12, ASIN 400
2.1.882 Part 1 Section 18.17.7.13, ASINH 400
2.1.883 Part 1 Section 18.17.7.14, ATAN 400
2.1.884 Part 1 Section 18.17.7.15, ATAN2....400
2.1.885 Part 1 Section 18.17.7.17, AVEDEV....401
2.1.886 Part 1 Section 18.17.7.19, AVERAGEA....401
2.1.887 Part 1 Section 18.17.7.20, AVERAGEIF 401
2.1.888 Part 1 Section 18.17.7.21, AVERAGEIFS 401
2.1.889 Part 1 Section 18.17.7.23, BESSELI 401
2.1.890 Part 1 Section 18.17.7.24, BESSELJ 401
2.1.891 Part 1 Section 18.17.7.25, BESSELK 402
2.1.892 Part 1 Section 18.17.7.26, BESSELY 402
2.1.893 Part 1 Section 18.17.7.28, BETAINV....402
2.1.894 Part 1 Section 18.17.7.29, BIN2DEC 402
2.1.895 Part 1 Section 18.17.7.33, CEILING 402
2.1.896 Part 1 Section 18.17.7.34, CELL 402
2.1.897 Part 1 Section 18.17.7.37, CHIINV....407
2.1.898 Part 1 Section 18.17.7.40, CLEAN....407
2.1.899 Part 1 Section 18.17.7.45, COMPLEX....408
2.1.900 Part 1 Section 18.17.7.47, CONFIDENCE 408
2.1.901 Part 1 Section 18.17.7.48, CONVERT 408
2.1.902 Part 1 Section 18.17.7.49, CORREL....408
2.1.903 Part 1 Section 18.17.7.50, COS....408
2.1.904 Part 1 Section 18.17.7.52, COUNT 408
2.1.905 Part 1 Section 18.17.7.53, COUNTA 409
2.1.906 Part 1 Section 18.17.7.56, COUNTIFS 409
2.1.907 Part 1 Section 18.17.7.57, COUPDAYBS....409
2.1.908 Part 1 Section 18.17.7.58, COUPDAYS 410
2.1.909 Part 1 Section 18.17.7.59, COUPDAYSNC 410
2.1.910 Part 1 Section 18.17.7.60, COUPNCD 411
2.1.911 Part 1 Section 18.17.7.61, COUPNUM....412
2.1.912 Part 1 Section 18.17.7.62, COUPPCD 413
2.1.913 Part 1 Section 18.17.7.64, CRITBINOM....414
2.1.914 Part 1 Section 18.17.7.65, CUBEKPIMEMBER....414
2.1.915 Part 1 Section 18.17.7.69, CUBESET 414
2.1.916 Part 1 Section 18.17.7.70, CUBESETCOUNT 414
2.1.917 Part 1 Section 18.17.7.72, CUMIPMT....414
2.1.918 Part 1 Section 18.17.7.73, CUMPRINC....415
2.1.919 Part 1 Section 18.17.7.74, DATE 415
2.1.920 Part 1 Section 18.17.7.76, DATEVALUE 415
2.1.921 Part 1 Section 18.17.7.77, DAVERAGE....416
2.1.922 Part 1 Section 18.17.7.78, DAY 416
2.1.923 Part 1 Section 18.17.7.79, DAYS360 416
2.1.924 Part 1 Section 18.17.7.80, DB....416
2.1.925 Part 1 Section 18.17.7.81, DCOUNT....416
2.1.926 Part 1 Section 18.17.7.82, DCOUNTA....416
2.1.927 Part 1 Section 18.17.7.83, DDB....417
2.1.928 Part 1 Section 18.17.7.84, DEC2BIN 417

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2.1.929 Part 1 Section 18.17.7.85, DEC2HEX 417
2.1.930 Part 1 Section 18.17.7.86, DEC2OCT 417
2.1.931 Part 1 Section 18.17.7.89, DEVSQ 417
2.1.932 Part 1 Section 18.17.7.90, DGET 417
2.1.933 Part 1 Section 18.17.7.91, DISC 417
2.1.934 Part 1 Section 18.17.7.92, DMAX 418
2.1.935 Part 1 Section 18.17.7.93, DMIN 418
2.1.936 Part 1 Section 18.17.7.94, DOLLAR 419
2.1.937 Part 1 Section 18.17.7.95, DOLLARDE 419
2.1.938 Part 1 Section 18.17.7.96, DOLLARFR 419
2.1.939 Part 1 Section 18.17.7.97, DPRODUCT 419
2.1.940 Part 1 Section 18.17.7.98, DSTDEV 419
2.1.941 Part 1 Section 18.17.7.99, DSTDEVP 419
2.1.942 Part 1 Section 18.17.7.100, DSUM 420
2.1.943 Part 1 Section 18.17.7.101, DURATION 420
2.1.944 Part 1 Section 18.17.7.102, DVAR 421
2.1.945 Part 1 Section 18.17.7.103, DVARP 421
2.1.946 Part 1 Section 18.17.7.105, EDATE 421
2.1.947 Part 1 Section 18.17.7.108, ERF 421
2.1.948 Part 1 Section 18.17.7.109, ERFC 421
2.1.949 Part 1 Section 18.17.7.110, ERROR.TYPE 421
2.1.950 Part 1 Section 18.17.7.119, FIND 421
2.1.951 Part 1 Section 18.17.7.120, FINDB 422
2.1.952 Part 1 Section 18.17.7.121, FINV 422
2.1.953 Part 1 Section 18.17.7.124, FIXED 422
2.1.954 Part 1 Section 18.17.7.125, FLOOR 422
2.1.955 Part 1 Section 18.17.7.126, FORECAST 422
2.1.956 Part 1 Section 18.17.7.129, FV 423
2.1.957 Part 1 Section 18.17.7.132, GAMMAINV 423
2.1.958 Part 1 Section 18.17.7.135, GEOMEAN 423
2.1.959 Part 1 Section 18.17.7.137, GETPIVOTDATA 423
2.1.960 Part 1 Section 18.17.7.139, HARMEAN 423
2.1.961 Part 1 Section 18.17.7.143, HLOOKUP 423
2.1.962 Part 1 Section 18.17.7.144, HOUR 423
2.1.963 Part 1 Section 18.17.7.147, IF 424
2.1.964 Part 1 Section 18.17.7.148, IFERROR 424
2.1.965 Part 1 Section 18.17.7.151, IMARGUMENT 424
2.1.966 Part 1 Section 18.17.7.154, IMDIV 424
2.1.967 Part 1 Section 18.17.7.156, IMLN 424
2.1.968 Part 1 Section 18.17.7.157, IMLOG10 424
2.1.969 Part 1 Section 18.17.7.158, IMLOG2 425
2.1.970 Part 1 Section 18.17.7.159, IMPOWER 425
2.1.971 Part 1 Section 18.17.7.162, IMSIN 425
2.1.972 Part 1 Section 18.17.7.163, IMSQRT 425
2.1.973 Part 1 Section 18.17.7.166, INDEX 425
2.1.974 Part 1 Section 18.17.7.167, INDIRECT 425
2.1.975 Part 1 Section 18.17.7.168, INFO 426
2.1.976 Part 1 Section 18.17.7.170, INTERCEPT 426
2.1.977 Part 1 Section 18.17.7.171, INTRATE 426
2.1.978 Part 1 Section 18.17.7.172, IPMT 427
2.1.979 Part 1 Section 18.17.7.173, IRR 428
2.1.980 Part 1 Section 18.17.7.184, ISPMT 428
2.1.981 Part 1 Section 18.17.7.191, LEFT 428
2.1.982 Part 1 Section 18.17.7.192, LEFTB 428
2.1.983 Part 1 Section 18.17.7.193, LEN 428
2.1.984 Part 1 Section 18.17.7.194, LENB 429
2.1.985 Part 1 Section 18.17.7.195, LINEST 429
2.1.986 Part 1 Section 18.17.7.197, LOG 429

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2.1.987 Part 1 Section 18.17.7.199, LOGEST 430
2.1.988 Part 1 Section 18.17.7.200, LOGINV 430
2.1.989 Part 1 Section 18.17.7.201, LOGNORMDIST 430
2.1.990 Part 1 Section 18.17.7.204, MATCH 430
2.1.991 Part 1 Section 18.17.7.208, MDURATION 430
2.1.992 Part 1 Section 18.17.7.210, MID 431
2.1.993 Part 1 Section 18.17.7.211, MIDB 432
2.1.994 Part 1 Section 18.17.7.212, MIN 432
2.1.995 Part 1 Section 18.17.7.213, MINA 432
2.1.996 Part 1 Section 18.17.7.215, MINVERSE 433
2.1.997 Part 1 Section 18.17.7.222, MULTINOMIAL 433
2.1.998 Part 1 Section 18.17.7.223, N 433
2.1.999 Part 1 Section 18.17.7.225, NEGBINOMDIST 433
2.1.1000 Part 1 Section 18.17.7.226, NETWORKDAYS 433
2.1.1001 Part 1 Section 18.17.7.230, NORMINV 433
2.1.1002 Part 1 Section 18.17.7.231, NORMSDIST 434
2.1.1003 Part 1 Section 18.17.7.232, NORMSINV 434
2.1.1004 Part 1 Section 18.17.7.235, NPER 434
2.1.1005 Part 1 Section 18.17.7.236, NPV 434
2.1.1006 Part 1 Section 18.17.7.237, OCT2BIN 435
2.1.1007 Part 1 Section 18.17.7.238, OCT2DEC 435
2.1.1008 Part 1 Section 18.17.7.241, ODDFPRICE 435
2.1.1009 Part 1 Section 18.17.7.242, ODDFYIELD 436
2.1.1010 Part 1 Section 18.17.7.243, ODDLPRICE 437
2.1.1011 Part 1 Section 18.17.7.244, ODDLYIELD 437
2.1.1012 Part 1 Section 18.17.7.245, OFFSET 438
2.1.1013 Part 1 Section 18.17.7.247, PEARSON 438
2.1.1014 Part 1 Section 18.17.7.248, PERCENTILE 439
2.1.1015 Part 1 Section 18.17.7.249, PERCENTRANK 439
2.1.1016 Part 1 Section 18.17.7.253, PMT 439
2.1.1017 Part 1 Section 18.17.7.254, POISSON 439
2.1.1018 Part 1 Section 18.17.7.255, POWER 439
2.1.1019 Part 1 Section 18.17.7.256, PPMT 439
2.1.1020 Part 1 Section 18.17.7.257, PRICE 440
2.1.1021 Part 1 Section 18.17.7.258, PRICEDISC 441
2.1.1022 Part 1 Section 18.17.7.259, PRICEMAT 441
2.1.1023 Part 1 Section 18.17.7.260, PROB 442
2.1.1024 Part 1 Section 18.17.7.261, PRODUCT 442
2.1.1025 Part 1 Section 18.17.7.263, PV 443
2.1.1026 Part 1 Section 18.17.7.269, RANK 443
2.1.1027 Part 1 Section 18.17.7.270, RATE 443
2.1.1028 Part 1 Section 18.17.7.271, RECEIVED 443
2.1.1029 Part 1 Section 18.17.7.272, REPLACE 444
2.1.1030 Part 1 Section 18.17.7.273, REPLACEB 444
2.1.1031 Part 1 Section 18.17.7.275, RIGHT 445
2.1.1032 Part 1 Section 18.17.7.276, RIGHTB 445
2.1.1033 Part 1 Section 18.17.7.277, ROMAN 445
2.1.1034 Part 1 Section 18.17.7.278, ROUND 445
2.1.1035 Part 1 Section 18.17.7.282, ROWS 445
2.1.1036 Part 1 Section 18.17.7.284, RTD 445
2.1.1037 Part 1 Section 18.17.7.285, SEARCH 446
2.1.1038 Part 1 Section 18.17.7.286, SEARCHB 446
2.1.1039 Part 1 Section 18.17.7.288, SERIESSUM 446
2.1.1040 Part 1 Section 18.17.7.290, SIN 447
2.1.1041 Part 1 Section 18.17.7.294, SLOPE 447
2.1.1042 Part 1 Section 18.17.7.299, STDEV 447
2.1.1043 Part 1 Section 18.17.7.300, STDEVA 447
2.1.1044 Part 1 Section 18.17.7.301, STDEVP 447

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2.1.1045 Part 1 Section 18.17.7.302, STDEVPA 447
2.1.1046 Part 1 Section 18.17.7.304, SUBSTITUTE 448
2.1.1047 Part 1 Section 18.17.7.306, SUM 448
2.1.1048 Part 1 Section 18.17.7.308, SUMIFS 448
2.1.1049 Part 1 Section 18.17.7.309, SUMPRODUCT 448
2.1.1050 Part 1 Section 18.17.7.310, SUMSQ 448
2.1.1051 Part 1 Section 18.17.7.316, TAN 448
2.1.1052 Part 1 Section 18.17.7.319, TBILLPRICE 448
2.1.1053 Part 1 Section 18.17.7.320, TBILLYIELD 449
2.1.1054 Part 1 Section 18.17.7.323, TIME 449
2.1.1055 Part 1 Section 18.17.7.324, TIMEVALUE 449
2.1.1056 Part 1 Section 18.17.7.330, TRIMMEAN 449
2.1.1057 Part 1 Section 18.17.7.332, TRUNC 449
2.1.1058 Part 1 Section 18.17.7.333, TTEST 449
2.1.1059 Part 1 Section 18.17.7.334, TYPE 449
2.1.1060 Part 1 Section 18.17.7.336, USDOLLAR 449
2.1.1061 Part 1 Section 18.17.7.337, VALUE 450
2.1.1062 Part 1 Section 18.17.7.338, VAR 450
2.1.1063 Part 1 Section 18.17.7.339, VARA 450
2.1.1064 Part 1 Section 18.17.7.340, VARP 450
2.1.1065 Part 1 Section 18.17.7.341, VARPA 450
2.1.1066 Part 1 Section 18.17.7.342, VDB 451
2.1.1067 Part 1 Section 18.17.7.343, VLOOKUP 451
2.1.1068 Part 1 Section 18.17.7.346, WEIBULL 451
2.1.1069 Part 1 Section 18.17.7.347, WORKDAY 451
2.1.1070 Part 1 Section 18.17.7.349, XIRR 451
2.1.1071 Part 1 Section 18.17.7.350, XNPV 452
2.1.1072 Part 1 Section 18.17.7.352, YEARFRAC 452
2.1.1073 Part 1 Section 18.17.7.353, YIELD 453
2.1.1074 Part 1 Section 18.17.7.354, YIELDDISC 453
2.1.1075 Part 1 Section 18.17.7.355, YIELDMAT 454
2.1.1076 Part 1 Section 18.17.7.356, ZTEST 455
2.1.1077 Part 1 Section 18.18.2, ST_BorderId (Border Id) 455
2.1.1078 Part 1 Section 18.18.6, ST_CellFormulaType (Formula Type) 455
2.1.1079 Part 1 Section 18.18.7, ST_CellRef (Cell Reference) 455
2.1.1080 Part 1 Section 18.18.8, ST_CellSpan (Cell Span Type) 456
2.1.1081 Part 1 Section 18.18.16, ST_CredMethod (Credentials Method) 456
2.1.1082 Part 1 Section 18.18.25, ST_DxfId (Format Id) 457
2.1.1083 Part 1 Section 18.18.29, ST_FileType (File Type) 457
2.1.1084 Part 1 Section 18.18.30, ST_FillId (Fill Id) 457
2.1.1085 Part 1 Section 18.18.35, ST_Formula (Formula) 457
2.1.1086 Part 1 Section 18.18.42, ST_IconSetType (Icon Set Type) 457
2.1.1087 Part 1 Section 18.18.47, ST_NumFmtId (Number Format Id) 457
2.1.1088 Part 1 Section 18.18.57, ST_PhoneticType (Phonetic Type) 458
2.1.1089 Part 1 Section 18.18.59, ST_PivotFilterType (Pivot Filter Types) 458
2.1.1090 Part 1 Section 18.18.62, ST_Ref (Cell References) 458
2.1.1091 Part 1 Section 18.18.63, ST_RefA (Single Cell Reference) 458
2.1.1092 Part 1 Section 18.18.76, ST_Sqref (Reference Sequence) 458
2.1.1093 Part 1 Section 18.18.77, ST_TableStyleType (Table Style Type) 459
2.1.1094 Part 1 Section 18.18.83, ST_TotalsRowFunction (Totals Row Function Types) 459
2.1.1095 Part 1 Section 18.18.87, ST_UpdateLinks (Update Links Behavior Types) 459
2.1.1096 Part 1 Section 18.18.89, ST_Visibility (Visibility Types) 460
2.1.1097 Part 1 Section 18.18.92, ST_WebSourceType (Web Source Type) 460
2.1.1098 Part 1 Section 19.2.1.5, custShow (Custom Show) 460
2.1.1099 Part 1 Section 19.2.1.6, custShow (Custom Show) 460
2.1.1100 Part 1 Section 19.2.1.10, embeddedFontLst (Embedded Font List) 460
2.1.1101 Part 1 Section 19.2.1.11, ext (Extension) 460
2.1.1102 Part 1 Section 19.2.1.13, font (Embedded Font Name) 460

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2.1.1103 Part 1 Section 19.2.1.17, kinsoku (Kinsoku Settings) 461
2.1.1104 Part 1 Section 19.2.1.19, modifyVerifier (Modification Verifier) 461
2.1.1105 Part 1 Section 19.2.1.22, notesSz (Notes Slide Size) 463
2.1.1106 Part 1 Section 19.2.1.24, photoAlbum (Photo Album Information) 464
2.1.1107 Part 1 Section 19.2.1.25, present (Presenter Slide Show Mode) 464
2.1.1108 Part 1 Section 19.2.1.26, presentation (Presentation) 464
2.1.1109 Part 1 Section 19.2.1.38, sldRg (Slide Range) 465
2.1.1110 Part 1 Section 19.2.1.39, sldSz (Presentation Slide Size) 465
2.1.1111 Part 1 Section 19.2.1.40, smartTags (Smart Tags) 465
2.1.1112 Part 1 Section 19.2.2.4, guide (A Guide) 466
2.1.1113 Part 1 Section 19.2.2.6, normalViewPr (Normal View Properties) 466
2.1.1114 Part 1 Section 19.2.2.9, origin (View Origin) 466
2.1.1115 Part 1 Section 19.2.2.11, restoredLeft (Normal View Restored Left Properties) ..466
2.1.1116 Part 1 Section 19.2.2.12, restoredTop (Normal View Restored Top Properties) ..466
2.1.1117 Part 1 Section 19.2.2.13, scale (View Scale) 467
2.1.1118 Part 1 Section 19.3.1.1, bg (Slide Background) 467
2.1.1119 Part 1 Section 19.3.1.2, bgPr (Background Properties) 467
2.1.1120 Part 1 Section 19.3.1.4, blipFill (Picture Fill) 467
2.1.1121 Part 1 Section 19.3.1.16, cSld (Common Slide Data) 467
2.1.1122 Part 1 Section 19.3.1.17, custData (Customer Data) 467
2.1.1123 Part 1 Section 19.3.1.23, grpSpPr (Group Shape Properties) 467
2.1.1124 Part 1 Section 19.3.1.27, notesMaster (Notes Master) 468
2.1.1125 Part 1 Section 19.3.1.28, notesStyle (Notes Text Style) 468
2.1.1126 Part 1 Section 19.3.1.33, nvPr (Non-Visual Properties) 468
2.1.1127 Part 1 Section 19.3.1.36, ph (Placeholder Shape) 468
2.1.1128 Part 1 Section 19.3.1.38, sld (Presentation Slide) 468
2.1.1129 Part 1 Section 19.3.1.44, spPr (Shape Properties) 469
2.1.1130 Part 1 Section 19.3.1.53, xfrm (2D Transform for Graphic Frame) 469
2.1.1131 Part 1 Section 19.3.2.1, control (Embedded Control) 469
2.1.1132 Part 1 Section 19.3.2.2, embed (Embedded Object or Control) 469
2.1.1133 Part 1 Section 19.3.2.3, link (Linked Object or Control) 469
2.1.1134 Part 1 Section 19.3.2.4, oleObj (Global Element for Embedded objects and Controls) 469
2.1.1135 Part 1 Section 19.3.3.1, tag (Programmable Extensibility Tag) 470
2.1.1136 Part 1 Section 19.4.1, cm (Comment) 470
2.1.1137 Part 1 Section 19.4.5, pos (Comment Position) 471
2.1.1138 Part 1 Section 19.5.1, anim (Animate) 471
2.1.1139 Part 1 Section 19.5.2, animClr (Animate Color Behavior) 472
2.1.1140 Part 1 Section 19.5.3, animEffect (Animate Effect) 472
2.1.1141 Part 1 Section 19.5.4, animMotion (Animate Motion) 473
2.1.1142 Part 1 Section 19.5.5, animRot (Animate Rotation) 474
2.1.1143 Part 1 Section 19.5.6, animScale (Animate Scale) 475
2.1.1144 Part 1 Section 19.5.7, attrName (Attribute Name) 475
2.1.1145 Part 1 Section 19.5.9, audio (Audio) 476
2.1.1146 Part 1 Section 19.5.12, bldDgm (Build Diagram) 477
2.1.1147 Part 1 Section 19.5.13, bldGraphic (Build Graphics) 477
2.1.1148 Part 1 Section 19.5.15, bldOleChart (Build Embedded Chart) 477
2.1.1149 Part 1 Section 19.5.16, bldP (Build Paragraph) 478
2.1.1150 Part 1 Section 19.5.17, bldSub (Build Sub Elements) 478
2.1.1151 Part 1 Section 19.5.21, by (By) 478
2.1.1152 Part 1 Section 19.5.22, cBhvr (Common Behavior) 479
2.1.1153 Part 1 Section 19.5.23, charRg (Character Range) 480
2.1.1154 Part 1 Section 19.5.28, cmd (Command) 480
2.1.1155 Part 1 Section 19.5.29, cMediaNode (Common Media Node Properties) 481
2.1.1156 Part 1 Section 19.5.31, cond (Condition) 481
2.1.1157 Part 1 Section 19.5.33, cTn (Common Time Node Properties) 481
2.1.1158 Part 1 Section 19.5.39, endSync (EndSync) 482
2.1.1159 Part 1 Section 19.5.40, excl (Exclusive) 482

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2.1.1160 Part 1 Section 19.5.43, from (From) 482
2.1.1161 Part 1 Section 19.5.44, from (From) 483
2.1.1162 Part 1 Section 19.5.45, graphicEl (Graphic Element) 483
2.1.1163 Part 1 Section 19.5.46, hsl (HSL) 483
2.1.1164 Part 1 Section 19.5.47, inkTgt (Ink Target)....483
2.1.1165 Part 1 Section 19.5.49, iterate (Iterate) 484
2.1.1166 Part 1 Section 19.5.51, nextCondLst (Next Conditions List)....484
2.1.1167 Part 1 Section 19.5.52, oleChartEl (Embedded Chart Element) 484
2.1.1168 Part 1 Section 19.5.55, prevCondLst (Previous Conditions List) 484
2.1.1169 Part 1 Section 19.5.56, pRg (Paragraph Text Range)....484
2.1.1170 Part 1 Section 19.5.57, progress (Progress) 484
2.1.1171 Part 1 Section 19.5.62, rCtr (Rotation Center)....485
2.1.1172 Part 1 Section 19.5.63, rgb (RGB) 485
2.1.1173 Part 1 Section 19.5.65, seq (Sequence Time Node)....485
2.1.1174 Part 1 Section 19.5.66, set (Set Time Node Behavior) 485
2.1.1175 Part 1 Section 19.5.67, sldTgt (Slide Target)....485
2.1.1176 Part 1 Section 19.5.72, spTgt (Shape Target)....485
2.1.1177 Part 1 Section 19.5.77, subSp (Subshape)....486
2.1.1178 Part 1 Section 19.5.78, subTnLst (Sub-TimeNodes List)....486
2.1.1179 Part 1 Section 19.5.84, tmpl (Template Effects) 486
2.1.1180 Part 1 Section 19.5.85, tmplLst (Template effects) 486
2.1.1181 Part 1 Section 19.5.87, tnLst (Time Node List) 487
2.1.1182 Part 1 Section 19.5.88, to (To)....487
2.1.1183 Part 1 Section 19.5.89, to (To)....487
2.1.1184 Part 1 Section 19.5.90, to (To)....490
2.1.1185 Part 1 Section 19.5.93, video (Video)....490
2.1.1186 Part 1 Section 19.5.95, wheel (Wheel Slide Transition)....490
2.1.1187 Part 1 Section 19.7.7, ST_PhotoAlbumFrameShape (Photo Album Shape for Photo Mask)....491
2.1.1188 Part 1 Section 19.7.24, ST_TLAnimateEffectTransition (Time List Animate Effect Transition)....493
2.1.1189 Part 1 Section 19.7.25, ST_TLAnimateMotionBehaviorOrigin (Time List Animate Motion Behavior Origin)....493
2.1.1190 Part 1 Section 19.7.28, ST_TLBehaviorAdditiveType (Behavior Additive Type)...493
2.1.1191 Part 1 Section 19.7.30, ST_TLBehaviorTransformType (Behavior Transform Type) 493
2.1.1192 Part 1 Section 19.7.38, ST_TLTime (Time)....493
2.1.1193 Part 1 Section 19.7.41, ST_TLTimeNodeFillType (Time Node Fill Type) 493
2.1.1194 Part 1 Section 19.7.43, ST_TLTimeNodeMasterRelation (Time Node Master Relation) 494
2.1.1195 Part 1 Section 19.7.45, ST_TLTimeNodeRestartType (Time Node Restart Type) .494
2.1.1196 Part 1 Section 19.7.48, ST_TLTriggerEvent (Trigger Event)....494
2.1.1197 Part 1 Section 19.7.55, ST_ViewType (List of View Types) 495
2.1.1198 Part 1 Section 20.1.2.2.1, bldChart (Build Chart)....495
2.1.1199 Part 1 Section 20.1.2.2.2, bldDgm (Build Diagram)....495
2.1.1200 Part 1 Section 20.1.2.2.4, cNvCxnSpPr (Non-Visual Connector Shape Drawing Properties)....495
2.1.1201 Part 1 Section 20.1.2.2.5, cNvGraphicFramePr (Non-Visual Graphic Frame Drawing Properties)....495
2.1.1202 Part 1 Section 20.1.2.2.6, cNvGrpSpPr (Non-Visual Group Shape Drawing Properties)....495
2.1.1203 Part 1 Section 20.1.2.2.11, cxnSpLocks (Connection Shape Locks) 495
2.1.1204 Part 1 Section 20.1.2.2.12, dgm (Diagram to Animate) 496
2.1.1205 Part 1 Section 20.1.2.2.13, endCxn (Connection End) 496
2.1.1206 Part 1 Section 20.1.2.2.14, ext (Extension) 496
2.1.1207 Part 1 Section 20.1.2.2.17, graphicData (Graphic Object Data) 496
2.1.1208 Part 1 Section 20.1.2.2.19, graphicFrameLocks (Graphic Frame Locks) 497
2.1.1209 Part 1 Section 20.1.2.2.21, grpSpLocks (Group Shape Locks) 497

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2.1.1210 Part 1 Section 20.1.2.2.22, grpSpPr (Visual Group Shape Properties) 497
2.1.1211 Part 1 Section 20.1.2.2.23, hlinkHover (Hyperlink for Hover) 497
2.1.1212 Part 1 Section 20.1.2.2.24, ln (Outline) 497
2.1.1213 Part 1 Section 20.1.2.2.31, picLocks (Picture Locks) 498
2.1.1214 Part 1 Section 20.1.2.2.34, spLocks (Shape Locks) 498
2.1.1215 Part 1 Section 20.1.2.2.35, spPr (Shape Properties) 498
2.1.1216 Part 1 Section 20.1.2.2.36, stCxn (Connection Start) 498
2.1.1217 Part 1 Section 20.1.2.2.37, style (Shape Style) 498
2.1.1218 Part 1 Section 20.1.2.3.1, alpha (Alpha) 499
2.1.1219 Part 1 Section 20.1.2.3.2, alphaMod (Alpha Modulation) 499
2.1.1220 Part 1 Section 20.1.2.3.3, alphaOff (Alpha Offset) 499
2.1.1221 Part 1 Section 20.1.2.3.4, blue (Blue) 499
2.1.1222 Part 1 Section 20.1.2.3.5, blueMod (Blue Modification) 500
2.1.1223 Part 1 Section 20.1.2.3.6, blueOff (Blue Offset) 500
2.1.1224 Part 1 Section 20.1.2.3.10, green (Green) 500
2.1.1225 Part 1 Section 20.1.2.3.11, greenMod (Green Modification) 500
2.1.1226 Part 1 Section 20.1.2.3.12, greenOff (Green Offset) 500
2.1.1227 Part 1 Section 20.1.2.3.13, hslClr (Hue, Saturation, Luminance Color Model) 501
2.1.1228 Part 1 Section 20.1.2.3.14, hue (Hue) 501
2.1.1229 Part 1 Section 20.1.2.3.15, hueMod (Hue Modulate) 501
2.1.1230 Part 1 Section 20.1.2.3.16, hueOff (Hue Offset) 501
2.1.1231 Part 1 Section 20.1.2.3.19, lum (Luminance) 501
2.1.1232 Part 1 Section 20.1.2.3.20, lumMod (Luminance Modulation) 502
2.1.1233 Part 1 Section 20.1.2.3.21, lumOff (Luminance Offset) 502
2.1.1234 Part 1 Section 20.1.2.3.22, prstClr (Preset Color) 502
2.1.1235 Part 1 Section 20.1.2.3.23, red (Red) 502
2.1.1236 Part 1 Section 20.1.2.3.24, redMod (Red Modulation) 502
2.1.1237 Part 1 Section 20.1.2.3.25, redOff (Red Offset) 503
2.1.1238 Part 1 Section 20.1.2.3.26, sat (Saturation) 503
2.1.1239 Part 1 Section 20.1.2.3.27, satMod (Saturation Modulation) 503
2.1.1240 Part 1 Section 20.1.2.3.28, satOff (Saturation Offset) 503
2.1.1241 Part 1 Section 20.1.2.3.31, shade (Shade) 504
2.1.1242 Part 1 Section 20.1.2.3.33, sysClr (System Color) 504
2.1.1243 Part 1 Section 20.1.2.3.34, tint (Tint) 504
2.1.1244 Part 1 Section 20.1.3.2, audioFile (Audio from File) 504
2.1.1245 Part 1 Section 20.1.3.3, end (Audio End Time) 504
2.1.1246 Part 1 Section 20.1.3.5, st (Audio Start Time) 504
2.1.1247 Part 1 Section 20.1.3.6, videoFile (Video from File) 505
2.1.1248 Part 1 Section 20.1.4.1.1, accent1 (Accent 1) 505
2.1.1249 Part 1 Section 20.1.4.1.2, accent2 (Accent 2) 505
2.1.1250 Part 1 Section 20.1.4.1.3, accent3 (Accent 3) 505
2.1.1251 Part 1 Section 20.1.4.1.4, accent4 (Accent 4) 505
2.1.1252 Part 1 Section 20.1.4.1.5, accent5 (Accent 5) 505
2.1.1253 Part 1 Section 20.1.4.1.6, accent6 (Accent 6) 505
2.1.1254 Part 1 Section 20.1.4.1.9, dk1 (Dark 1) 505
2.1.1255 Part 1 Section 20.1.4.1.10, dk2 (Dark 2) 505
2.1.1256 Part 1 Section 20.1.4.1.15, folHlink (Followed Hyperlink) 506
2.1.1257 Part 1 Section 20.1.4.1.17, fontRef (Font Reference) 506
2.1.1258 Part 1 Section 20.1.4.1.19, hlink (Hyperlink) 506
2.1.1259 Part 1 Section 20.1.4.1.22, lt1 (Light 1) 506
2.1.1260 Part 1 Section 20.1.4.1.23, lt2 (Light 2) 506
2.1.1261 Part 1 Section 20.1.4.2.2, band1V (Band 1 Vertical) 506
2.1.1262 Part 1 Section 20.1.4.2.4, band2V (Band 2 Vertical) 506
2.1.1263 Part 1 Section 20.1.4.2.9, fill (Fill) 506
2.1.1264 Part 1 Section 20.1.4.2.19, lnRef (Line Reference) 507
2.1.1265 Part 1 Section 20.1.4.2.26, tblStyle (Table Style) 507
2.1.1266 Part 1 Section 20.1.5.1, anchor (Anchor Point) 507
2.1.1267 Part 1 Section 20.1.5.2, backdrop (Backdrop Plane) 507

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2.1.1268 Part 1 Section 20.1.5.3, bevelB (Bottom Bevel) 507
2.1.1269 Part 1 Section 20.1.5.4, bevelT (Top Bevel) 507
2.1.1270 Part 1 Section 20.1.5.5, camera (Camera) 508
2.1.1271 Part 1 Section 20.1.5.6, contourClr (Contour Color) 508
2.1.1272 Part 1 Section 20.1.5.7, extrusionClr (Extrusion Color) 508
2.1.1273 Part 1 Section 20.1.5.8, flatTx (No text in 3D scene) 508
2.1.1274 Part 1 Section 20.1.5.9, lightRig (Light Rig) 508
2.1.1275 Part 1 Section 20.1.5.10, norm (Normal) 511
2.1.1276 Part 1 Section 20.1.5.12, sp3d (Apply 3D shape properties) 511
2.1.1277 Part 1 Section 20.1.5.13, up (Up Vector) 511
2.1.1278 Part 1 Section 20.1.7.1, chExt (Child Extents) 512
2.1.1279 Part 1 Section 20.1.7.2, chOff (Child Offset) 512
2.1.1280 Part 1 Section 20.1.7.3, ext (Extents) 512
2.1.1281 Part 1 Section 20.1.7.4, off (Offset) 512
2.1.1282 Part 1 Section 20.1.7.5, xfrm (2D Transform for Grouped Objects) 512
2.1.1283 Part 1 Section 20.1.7.6, xfrm (2D Transform for Individual Objects) 513
2.1.1284 Part 1 Section 20.1.8, Shape, Fills, Effects and Line Properties 513
2.1.1285 Part 1 Section 20.1.8.4, alphaInv (Alpha Inverse Effect) 514
2.1.1286 Part 1 Section 20.1.8.5, alphaMod (Alpha Modulate Effect) 515
2.1.1287 Part 1 Section 20.1.8.6, alphaModFix (Alpha Modulate Fixed Effect) 515
2.1.1288 Part 1 Section 20.1.8.14, blipFill (Picture Fill) 515
2.1.1289 Part 1 Section 20.1.8.15, blur (Blur Effect) 515
2.1.1290 Part 1 Section 20.1.8.16, clrChange (Color Change Effect) 515
2.1.1291 Part 1 Section 20.1.8.20, cont (Effect Container) 515
2.1.1292 Part 1 Section 20.1.8.22, ds (Dash Stop) 515
2.1.1293 Part 1 Section 20.1.8.23, duotone (Duotone Effect) 516
2.1.1294 Part 1 Section 20.1.8.24, effect (Effect) 516
2.1.1295 Part 1 Section 20.1.8.25, effectDag (Effect Container) 516
2.1.1296 Part 1 Section 20.1.8.31, fillToRect (Fill To Rectangle) 516
2.1.1297 Part 1 Section 20.1.8.33, gradFill (Gradient Fill) 516
2.1.1298 Part 1 Section 20.1.8.35, grpFill (Group Fill) 517
2.1.1299 Part 1 Section 20.1.8.39, hsl (Hue Saturation Luminance Effect) 518
2.1.1300 Part 1 Section 20.1.8.40, innerShdw (Inner Shadow Effect) 518
2.1.1301 Part 1 Section 20.1.8.42, lum (Luminance Effect) 518
2.1.1302 Part 1 Section 20.1.8.43, miter (Miter Line Join) 518
2.1.1303 Part 1 Section 20.1.8.45, outerShdw (Outer Shadow Effect) 518
2.1.1304 Part 1 Section 20.1.8.50, reflection (Reflection Effect) 518
2.1.1305 Part 1 Section 20.1.8.52, round (Round Line Join) 519
2.1.1306 Part 1 Section 20.1.8.53, softEdge (Soft Edge Effect) 519
2.1.1307 Part 1 Section 20.1.8.55, srcRect (Source Rectangle) 519
2.1.1308 Part 1 Section 20.1.8.59, tileRect (Tile Rectangle) 519
2.1.1309 Part 1 Section 20.1.9.2, ahPolar (PolarAdjustHandle) 519
2.1.1310 Part 1 Section 20.1.9.3, ahXY (XYAdjustHandle) 519
2.1.1311 Part 1 Section 20.1.9.11, gd (Shape Guide) 519
2.1.1312 Part 1 Section 20.1.9.15, path (Shape Path) 520
2.1.1313 Part 1 Section 20.1.9.17, pos (Shape Position Coordinate) 520
2.1.1314 Part 1 Section 20.1.9.20, pt (Shape Path Point) 520
2.1.1315 Part 1 Section 20.1.9.22, Rect (Shape Text Rectangle) 520
2.1.1316 Part 1 Section 20.1.10.9, ST_BevelPresetType (Bevel Presets) 520
2.1.1317 Part 1 Section 20.1.10.12, ST_BlipCompression (Blip Compression Type) 522
2.1.1318 Part 1 Section 20.1.10.15, ST_CompoundLine (Compound Line Type) 522
2.1.1319 Part 1 Section 20.1.10.16, ST_Coordinate (Coordinate) 522
2.1.1320 Part 1 Section 20.1.10.17, ST_Coordinate32 (Coordinate Point) 522
2.1.1321 Part 1 Section 20.1.10.21, ST_DrawingElementId (Drawing Element ID) 523
2.1.1322 Part 1 Section 20.1.10.24, ST_FixedPercentage (Fixed Percentage) 523
2.1.1323 Part 1 Section 20.1.10.29, ST_LightRigDirection (Light Rig Direction) 523
2.1.1324 Part 1 Section 20.1.10.30, ST_LightRigType (Light Rig Type) 523
2.1.1325 Part 1 Section 20.1.10.32, ST_LineEndLength (Line End Length) 524

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2.1.1326 Part 1 Section 20.1.10.35, ST_LineWidth (Line Width) 524
2.1.1327 Part 1 Section 20.1.10.37, ST_PathFillMode (Path Fill Mode) 524
2.1.1328 Part 1 Section 20.1.10.39, ST_PenAlignment (Alignment Type) 525
2.1.1329 Part 1 Section 20.1.10.40, ST_Percentage (Percentage) 525
2.1.1330 Part 1 Section 20.1.10.42, ST_PositiveCoordinate (Positive Coordinate) 525
2.1.1331 Part 1 Section 20.1.10.45 ST_PositiveFixedPercentage (Positive Fixed Percentage) 525
2.1.1332 Part 1 Section 20.1.10.46, ST_PositivePercentage (Positive Percentage).....525
2.1.1333 Part 1 Section 20.1.10.48, ST_PresetColorVal (Preset Color Value) 526
2.1.1334 Part 1 Section 20.1.10.50, ST_PresetMaterialType (Preset Material Type) 526
2.1.1335 Part 1 Section 20.1.10.55, ST_ShapeID (Shape ID) 528
2.1.1336 Part 1 Section 20.1.10.56, ST_ShapeType (Preset Shape Types) 528
2.1.1337 Part 1 Section 20.1.10.60, ST_TextAnchoringType (Text Anchoring Types) 528
2.1.1338 Part 1 Section 20.1.10.61, ST_TextAutonumberScheme (Text Auto-number Schemes) 529
2.1.1339 Part 1 Section 20.1.10.64, ST_TextCapsType (Text Cap Types).....529
2.1.1340 Part 1 Section 20.1.10.67, ST_TextFontScalePercentOrPercentString (Text Font Scale Percentage).....529
2.1.1341 Part 1 Section 20.1.10.73, ST_TextNonNegativePoint (Text Non-Negative Point)529
2.1.1342 Part 1 Section 20.1.10.74, ST_TextPoint (Text Point) 529
2.1.1343 Part 1 Section 20.1.10.76, ST_TextShapeType (Preset Text Shape Types).....530
2.1.1344 Part 1 Section 20.1.10.77, ST_TextSpacingPercentOrPercentString (Text Spacing Percent) 530
2.1.1345 Part 1 Section 20.1.10.78, ST_TextSpacingPoint (Text Spacing Point) 530
2.1.1346 Part 1 Section 20.1.10.82, ST_TextUnderlineType (Text Underline Types) 531
2.1.1347 Part 1 Section 20.1.10.85, ST_TextWrappingType (Text Wrapping Types) 531
2.1.1348 Part 1 Section 20.2.2.1, blipFill (Picture Fill).....531
2.1.1349 Part 1 Section 20.2.2.6, spPr (Shape Properties) 531
2.1.1350 Part 1 Section 20.4.2.3, anchor (Anchor for Floating DrawingML Object) 531
2.1.1351 Part 1 Section 20.4.2.5, docPr (Drawing Object Non-Visual Properties).....531
2.1.1352 Part 1 Section 20.4.2.6, effectExtent (Object Extents Including Effects) 531
2.1.1353 Part 1 Section 20.4.2.7, extent (Drawing Object Size).....532
2.1.1354 Part 1 Section 20.4.2.9, lineTo (Wrapping Polygon Line End Position).....532
2.1.1355 Part 1 Section 20.4.2.11, positionV (Vertical Positioning).....532
2.1.1356 Part 1 Section 20.4.2.13, simplePos (Simple Positioning Coordinates) 532
2.1.1357 Part 1 Section 20.4.2.14, start (Wrapping Polygon Start).....532
2.1.1358 Part 1 Section 20.5.2.2, blipFill (Picture Fill).....532
2.1.1359 Part 1 Section 20.5.2.8, cNvPr (Non-Visual Drawing Properties) 532
2.1.1360 Part 1 Section 20.5.2.9, cNvSpPr (Connection Non-Visual Shape Properties).....532
2.1.1361 Part 1 Section 20.5.2.10, col (Column)) 532
2.1.1362 Part 1 Section 20.5.2.11, colOff (Column Offset) 533
2.1.1363 Part 1 Section 20.5.2.13, cxnSp (Connection Shape).....533
2.1.1364 Part 1 Section 20.5.2.14, ext (Shape Extent) 533
2.1.1365 Part 1 Section 20.5.2.15, from (Starting Anchor Point).....533
2.1.1366 Part 1 Section 20.5.2.16, graphicFrame (Graphic Frame).....533
2.1.1367 Part 1 Section 20.5.2.18, grpSpPr (Group Shape Properties).....533
2.1.1368 Part 1 Section 20.5.2.25, pic (Picture).....534
2.1.1369 Part 1 Section 20.5.2.26, pos (Position).....534
2.1.1370 Part 1 Section 20.5.2.27, row (Row) 534
2.1.1371 Part 1 Section 20.5.2.28, rowOff (Row Offset).....534
2.1.1372 Part 1 Section 20.5.2.29, sp (Shape) 534
2.1.1373 Part 1 Section 20.5.2.30, spPr (Shape Properties) 534
2.1.1374 Part 1 Section 20.5.2.31, style (Shape Style).....535
2.1.1375 Part 1 Section 20.5.2.32, to (Ending Anchor Point) 535
2.1.1376 Part 1 Section 20.5.2.34, txBody (Shape Text Body).....535
2.1.1377 Part 1 Section 20.5.2.36, xfrm (2D Transform for Graphic Frames).....535
2.1.1378 Part 1 Section 21.1.2.1, Body Formatting 535
2.1.1379 Part 1 Section 21.1.2.1.1, bodyPr (Body Properties).....536

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2.1.1380 Part 1 Section 21.1.2.1.2, noAutofit (No AutoFit) 536
2.1.1381 Part 1 Section 21.1.2.1.3, normAutofit (Normal AutoFit) 536
2.1.1382 Part 1 Section 21.1.2.1.4, spAutoFit (Shape AutoFit) 537
2.1.1383 Part 1 Section 21.1.2.2.2, defPPr (Default Paragraph Style) 537
2.1.1384 Part 1 Section 21.1.2.2.3, endParaRPr (End Paragraph Run Properties) 537
2.1.1385 Part 1 Section 21.1.2.2.4, fld (Text Field) 537
2.1.1386 Part 1 Section 21.1.2.2.5, lnSpc (Line Spacing) 539
2.1.1387 Part 1 Section 21.1.2.2.6, p (Text Paragraphs) 540
2.1.1388 Part 1 Section 21.1.2.2.7, pPr (Text Paragraph Properties) 540
2.1.1389 Part 1 Section 21.1.2.2.9, spcAft (Space After) 540
2.1.1390 Part 1 Section 21.1.2.2.10, spcBef (Space Before) 540
2.1.1391 Part 1 Section 21.1.2.2.11, spcPct (Spacing Percent) 540
2.1.1392 Part 1 Section 21.1.2.3.1, cs (Complex Script Font) 541
2.1.1393 Part 1 Section 21.1.2.3.2, defRPr (Default Text Run Properties) 541
2.1.1394 Part 1 Section 21.1.2.3.3, ea (East Asian Font) 541
2.1.1395 Part 1 Section 21.1.2.3.5, hlinkClick (Click Hyperlink) 541
2.1.1396 Part 1 Section 21.1.2.3.6, hlinkMouseOver (Mouse-Over Hyperlink) 542
2.1.1397 Part 1 Section 21.1.2.3.7, latin (Latin Font) 542
2.1.1398 Part 1 Section 21.1.2.3.8, r (Text Run) 544
2.1.1399 Part 1 Section 21.1.2.3.9, rPr (Text Run Properties) 544
2.1.1400 Part 1 Section 21.1.2.3.10, sym (Symbol Font) 545
2.1.1401 Part 1 Section 21.1.2.3.13, uFillTx (Underline Fill Properties Follow Text) 546
2.1.1402 Part 1 Section 21.1.2.3.14, uLn (Underline Stroke) 546
2.1.1403 Part 1 Section 21.1.2.4.6, buFont (Specified) 546
2.1.1404 Part 1 Section 21.1.2.4.9, buSzPct (Bullet Size Percentage) 546
2.1.1405 Part 1 Section 21.1.2.4.10, buSzPts (Bullet Size Points) 546
2.1.1406 Part 1 Section 21.1.2.4.13, lvl1pPr (List Level 1 Text Style) 546
2.1.1407 Part 1 Section 21.1.2.4.14, lvl2pPr (List Level 2 Text Style) 547
2.1.1408 Part 1 Section 21.1.2.4.15, lvl3pPr (List Level 3 Text Style) 547
2.1.1409 Part 1 Section 21.1.2.4.16, lvl4pPr (List Level 4 Text Style) 547
2.1.1410 Part 1 Section 21.1.2.4.17, lvl5pPr (List Level 5 Text Style) 547
2.1.1411 Part 1 Section 21.1.2.4.18, lvl6pPr (List Level 6 Text Style) 547
2.1.1412 Part 1 Section 21.1.2.4.19, lvl7pPr (List Level 7 Text Style) 547
2.1.1413 Part 1 Section 21.1.2.4.20, lvl8pPr (List Level 8 Text Style) 548
2.1.1414 Part 1 Section 21.1.2.4.21, lvl9pPr (List Level 9 Text Style) 548
2.1.1415 Part 1 Section 21.1.3.1, cell3D (Cell 3-D) 548
2.1.1416 Part 1 Section 21.1.3.2, gridCol (Table Grid Column) 548
2.1.1417 Part 1 Section 21.1.3.5, lnB (Bottom Border Line Properties) 548
2.1.1418 Part 1 Section 21.1.3.6, lnBlToTr (Bottom-Left to Top-Right Border Line Properties) 548
2.1.1419 Part 1 Section 21.1.3.7, lnL (Left Border Line Properties) 548
2.1.1420 Part 1 Section 21.1.3.8, lnR (Right Border Line Properties) 548
2.1.1421 Part 1 Section 21.1.3.9, lnT (Top Border Line Properties) 548
2.1.1422 Part 1 Section 21.1.3.10, lnTlToBr (Top-Left to Bottom-Right Border Line Properties) 549
2.1.1423 Part 1 Section 21.1.3.12, tableStyleId (Table Style ID) 549
2.1.1424 Part 1 Section 21.1.3.13, tbl (Table) 549
2.1.1425 Part 1 Section 21.1.3.14, tblGrid (Table Grid) 550
2.1.1426 Part 1 Section 21.1.3.16, tc (Table Cell) 550
2.1.1427 Part 1 Section 21.1.3.18, tr (Table Row) 550
2.1.1428 Part 1 Section 21.2.2.2, applyToFront (Apply To Front) 550
2.1.1429 Part 1 Section 21.2.2.3, applyToSides (Apply To Sides) 551
2.1.1430 Part 1 Section 21.2.2.5, areaChart (Area Charts) 551
2.1.1431 Part 1 Section 21.2.2.7, autoTitleDeleted (Auto Title Is Deleted) 551
2.1.1432 Part 1 Section 21.2.2.9, axId (Axis ID) 551
2.1.1433 Part 1 Section 21.2.2.10, axPos (Axis Position) 551
2.1.1434 Part 1 Section 21.2.2.11, backWall (Back Wall) 551
2.1.1435 Part 1 Section 21.2.2.12, backward (Backward) 551

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2.1.1436 Part 1 Section 21.2.2.14, bandFmts (Band Formats) 552
2.1.1437 Part 1 Section 21.2.2.15, bar3DChart (3D Bar Charts) 552
2.1.1438 Part 1 Section 21.2.2.16, barChart (Bar Charts) 552
2.1.1439 Part 1 Section 21.2.2.17, barDir (Bar Direction) 552
2.1.1440 Part 1 Section 21.2.2.19, bubble3D (3D Bubble)....552
2.1.1441 Part 1 Section 21.2.2.20, bubbleChart (Bubble Charts)....552
2.1.1442 Part 1 Section 21.2.2.23, builtInUnit (Built in Display Unit Value) 552
2.1.1443 Part 1 Section 21.2.2.24, cat (Category Axis Data) 553
2.1.1444 Part 1 Section 21.2.2.25, catAx (Category Axis Data)....553
2.1.1445 Part 1 Section 21.2.2.28, chartObject (Chart Object) 553
2.1.1446 Part 1 Section 21.2.2.31, crossAx (Crossing Axis ID)....553
2.1.1447 Part 1 Section 21.2.2.34, crossesAt (Crossing Value) 553
2.1.1448 Part 1 Section 21.2.2.36, custUnit (Custom Display Unit) 554
2.1.1449 Part 1 Section 21.2.2.37, data (Data Cannot Be Changed)....554
2.1.1450 Part 1 Section 21.2.2.39, dateAx (Date Axis) 554
2.1.1451 Part 1 Section 21.2.2.41, depthPercent (Depth Percent)....554
2.1.1452 Part 1 Section 21.2.2.42, dispBlanksAs (Display Blanks As) 554
2.1.1453 Part 1 Section 21.2.2.43, dispEq (Display Equation)....555
2.1.1454 Part 1 Section 21.2.2.44, dispRSqr (Display R Squared Value) 555
2.1.1455 Part 1 Section 21.2.2.47, dLbl (Data Label)....556
2.1.1456 Part 1 Section 21.2.2.48, dLblPos (Data Label Position) 556
2.1.1457 Part 1 Section 21.2.2.49, dLbls (Data Labels)....557
2.1.1458 Part 1 Section 21.2.2.50, doughnutChart (Doughnut Charts)....557
2.1.1459 Part 1 Section 21.2.2.55, errBars (Error Bars) 557
2.1.1460 Part 1 Section 21.2.2.56, errBarType (Error Bar Type) 557
2.1.1461 Part 1 Section 21.2.2.57, errDir (Error Bar Direction) 557
2.1.1462 Part 1 Section 21.2.2.58, errValType (Error Bar Value Type) 557
2.1.1463 Part 1 Section 21.2.2.59, evenFooter (Even Footer) 558
2.1.1464 Part 1 Section 21.2.2.60, evenHeader (Even Header)....558
2.1.1465 Part 1 Section 21.2.2.61, explosion (Explosion)....558
2.1.1466 Part 1 Section 21.2.2.63, externalData (External Data Relationship) 558
2.1.1467 Part 1 Section 21.2.2.65, f (Formula)....558
2.1.1468 Part 1 Section 21.2.2.66, firstFooter (First Footer)....558
2.1.1469 Part 1 Section 21.2.2.67, firstHeader (First Header)....559
2.1.1470 Part 1 Section 21.2.2.69, floor (Floor) 559
2.1.1471 Part 1 Section 21.2.2.70, fmtId (Format ID) 559
2.1.1472 Part 1 Section 21.2.2.72, formatting (Formatting) 559
2.1.1473 Part 1 Section 21.2.2.73, forward (Forward) 559
2.1.1474 Part 1 Section 21.2.2.74, gapDepth (Gap Depth)....559
2.1.1475 Part 1 Section 21.2.2.75, gapWidth (Gap Width) 559
2.1.1476 Part 1 Section 21.2.2.76, grouping (Grouping) 560
2.1.1477 Part 1 Section 21.2.2.78, h (Height) 560
2.1.1478 Part 1 Section 21.2.2.79, headerFooter (Header and Footer)....560
2.1.1479 Part 1 Section 21.2.2.81, hMode (Height Mode)....560
2.1.1480 Part 1 Section 21.2.2.82, holeSize (Hole Size)....560
2.1.1481 Part 1 Section 21.2.2.83, hPercent (Height Percent) 561
2.1.1482 Part 1 Section 21.2.2.84, idx (Index) 561
2.1.1483 Part 1 Section 21.2.2.85, intercept (Intercept) 561
2.1.1484 Part 1 Section 21.2.2.86, invertIfNegative (Invert if Negative) 561
2.1.1485 Part 1 Section 21.2.2.88, layout (Layout) 561
2.1.1486 Part 1 Section 21.2.2.89, layoutTarget (Layout Target) 562
2.1.1487 Part 1 Section 21.2.2.92, leaderLines (Leader Lines)....562
2.1.1488 Part 1 Section 21.2.2.95, legendPos (Legend Position) 562
2.1.1489 Part 1 Section 21.2.2.96, line3DChart (3D Line Charts) 562
2.1.1490 Part 1 Section 21.2.2.97, lineChart (Line Charts)....562
2.1.1491 Part 1 Section 21.2.2.99, lvl (Level)....562
2.1.1492 Part 1 Section 21.2.2.101, majorTickMark (Major Tick Mark)....562
2.1.1493 Part 1 Section 21.2.2.103, majorUnit (Major Unit) 563

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2.1.1494 Part 1 Section 21.2.2.104, manualLayout (Manual Layout) 563
2.1.1495 Part 1 Section 21.2.2.105, marker (Show Marker) 563
2.1.1496 Part 1 Section 21.2.2.106, marker (Marker) 563
2.1.1497 Part 1 Section 21.2.2.107, max (Maximum) 563
2.1.1498 Part 1 Section 21.2.2.108, min (Minimum) 563
2.1.1499 Part 1 Section 21.2.2.112, minorUnit (Minor Unit) 563
2.1.1500 Part 1 Section 21.2.2.113, minus (Minus) 563
2.1.1501 Part 1 Section 21.2.2.114, multiLvlStrCache (Multi Level String Cache) 563
2.1.1502 Part 1 Section 21.2.2.115, multiLvlStrRef (Multi Level String Reference) 564
2.1.1503 Part 1 Section 21.2.2.117, name (Pivot Name) 564
2.1.1504 Part 1 Section 21.2.2.121, numFmt (Number Format) 564
2.1.1505 Part 1 Section 21.2.2.124, oddFooter (Odd Footer) 564
2.1.1506 Part 1 Section 21.2.2.125, oddHeader (Odd Header) 564
2.1.1507 Part 1 Section 21.2.2.126, ofPieChart (Pie of Pie or Bar of Pie Charts) 565
2.1.1508 Part 1 Section 21.2.2.127, ofPieType (Pie of Pie or Bar of Pie Type) 565
2.1.1509 Part 1 Section 21.2.2.128, order (Order) 565
2.1.1510 Part 1 Section 21.2.2.129, order (Polynomial Trendline Order) 565
2.1.1511 Part 1 Section 21.2.2.130, orientation (Axis Orientation) 565
2.1.1512 Part 1 Section 21.2.2.131, overlap (Overlap) 565
2.1.1513 Part 1 Section 21.2.2.133, pageMargins (Page Margins) 566
2.1.1514 Part 1 Section 21.2.2.134, pageSetup (Page Setup) 566
2.1.1515 Part 1 Section 21.2.2.135, period (Period) 570
2.1.1516 Part 1 Section 21.2.2.136, perspective (Perspective) 571
2.1.1517 Part 1 Section 21.2.2.138, pictureOptions (Picture Options) 571
2.1.1518 Part 1 Section 21.2.2.140, pie3DChart (3D Pie Charts) 571
2.1.1519 Part 1 Section 21.2.2.141, pieChart (Pie Charts) 571
2.1.1520 Part 1 Section 21.2.2.142, pivotFmt (Pivot Format) 572
2.1.1521 Part 1 Section 21.2.2.143, pivotFmts (Pivot Formats) 572
2.1.1522 Part 1 Section 21.2.2.144, pivotSource (Pivot Source) 572
2.1.1523 Part 1 Section 21.2.2.145, plotArea (Plot Area) 572
2.1.1524 Part 1 Section 21.2.2.147, plus (Plus) 572
2.1.1525 Part 1 Section 21.2.2.148, printSettings (Print Settings) 572
2.1.1526 Part 1 Section 21.2.2.149, protection (Protection) 572
2.1.1527 Part 1 Section 21.2.2.150, pt (Numeric Point) 573
2.1.1528 Part 1 Section 21.2.2.151, pt (String Point) 573
2.1.1529 Part 1 Section 21.2.2.152, ptCount (Point Count) 573
2.1.1530 Part 1 Section 21.2.2.153, radarChart (Radar Charts) 573
2.1.1531 Part 1 Section 21.2.2.154, radarStyle (Radar Style) 573
2.1.1532 Part 1 Section 21.2.2.155, rAngAx (Right Angle Axes) 573
2.1.1533 Part 1 Section 21.2.2.156, rich (Rich Text) 574
2.1.1534 Part 1 Section 21.2.2.161, scatterChart (Scatter Charts) 574
2.1.1535 Part 1 Section 21.2.2.163, secondPiePt (Second Pie Point) 574
2.1.1536 Part 1 Section 21.2.2.166, separator (Separator) 574
2.1.1537 Part 1 Section 21.2.2.167, ser (Scatter Chart Series) 574
2.1.1538 Part 1 Section 21.2.2.168, ser (Area Chart Series) 574
2.1.1539 Part 1 Section 21.2.2.169, ser (Radar Chart Series) 575
2.1.1540 Part 1 Section 21.2.2.170, ser (Bar Chart Series) 575
2.1.1541 Part 1 Section 21.2.2.171, ser (Line Chart Series) 575
2.1.1542 Part 1 Section 21.2.2.172, ser (Pie Chart Series) 575
2.1.1543 Part 1 Section 21.2.2.174, ser (Bubble Chart Series) 575
2.1.1544 Part 1 Section 21.2.2.175, serAx (Series Axis) 575
2.1.1545 Part 1 Section 21.2.2.176, serLines (Series Lines) 576
2.1.1546 Part 1 Section 21.2.2.177, shape (Shape) 576
2.1.1547 Part 1 Section 21.2.2.178, showBubbleSize (Show Bubble Size) 576
2.1.1548 Part 1 Section 21.2.2.180, showDLblsOverMax (Show Data Labels over Maximum) 576
2.1.1549 Part 1 Section 21.2.2.183, showLeaderLines (Show Leader Lines) 576
2.1.1550 Part 1 Section 21.2.2.184, showLegendKey (Show Legend Key) 577

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2.1.1551 Part 1 Section 21.2.2.187, showPercent (Show Percent) 577
2.1.1552 Part 1 Section 21.2.2.191, sideWall (Side Wall) 577
2.1.1553 Part 1 Section 21.2.2.195, splitPos (Split Position) 577
2.1.1554 Part 1 Section 21.2.2.196, splitType (Split Type) 577
2.1.1555 Part 1 Section 21.2.2.197, spPr (Shape Properties) 578
2.1.1556 Part 1 Section 21.2.2.203, surface3DChart (3D Surface Charts) 578
2.1.1557 Part 1 Section 21.2.2.204, surfaceChart (Surface Charts) 578
2.1.1558 Part 1 Section 21.2.2.206, thickness (Thickness) 578
2.1.1559 Part 1 Section 21.2.2.208, tickLblSkip (Tick Label Skip) 579
2.1.1560 Part 1 Section 21.2.2.209, tickMarkSkip (Tick Mark Skip) 579
2.1.1561 Part 1 Section 21.2.2.210, title (Title) 579
2.1.1562 Part 1 Section 21.2.2.211, trendline (Trendlines) 579
2.1.1563 Part 1 Section 21.2.2.212, trendlineLbl (Trendline Label) 579
2.1.1564 Part 1 Section 21.2.2.213, trendlineType (Trendline Type) 580
2.1.1565 Part 1 Section 21.2.2.215, tx (Series Text) 580
2.1.1566 Part 1 Section 21.2.2.216, txPr (Text Properties) 580
2.1.1567 Part 1 Section 21.2.2.219, userInterface (User Interface) 580
2.1.1568 Part 1 Section 21.2.2.222, v (Numeric Value) 580
2.1.1569 Part 1 Section 21.2.2.225, val (Error Bar Value) 580
2.1.1570 Part 1 Section 21.2.2.226, valAx (Value Axis) 580
2.1.1571 Part 1 Section 21.2.2.227, varyColors (Vary Colors by Point) 581
2.1.1572 Part 1 Section 21.2.2.228, view3D (View In 3D) 581
2.1.1573 Part 1 Section 21.2.2.229, w (Width) 581
2.1.1574 Part 1 Section 21.2.2.231, wMode (Width Mode) 581
2.1.1575 Part 1 Section 21.2.2.232, x (Left) 582
2.1.1576 Part 1 Section 21.2.2.233, xMode (Left Mode) 582
2.1.1577 Part 1 Section 21.2.2.235, y (Top) 582
2.1.1578 Part 1 Section 21.2.2.236, yMode (Top Mode) 583
2.1.1579 Part 1 Section 21.2.3.1, ST_AxisUnit (Axis Unit) 583
2.1.1580 Part 1 Section 21.2.3.3, ST_BarDir (Bar Direction) 583
2.1.1581 Part 1 Section 21.2.3.4, ST_BarGrouping (Bar Grouping) 583
2.1.1582 Part 1 Section 21.2.3.6, ST_BuiltInUnit (Built-In Unit) 583
2.1.1583 Part 1 Section 21.2.3.8, ST_Crosses (Crosses) 583
2.1.1584 Part 1 Section 21.2.3.14, ST_ErrValType (Error Value Type) 584
2.1.1585 Part 1 Section 21.2.3.17, ST_Grouping (Grouping) 584
2.1.1586 Part 1 Section 21.2.3.18, ST_HoleSize (Hole Size) 584
2.1.1587 Part 1 Section 21.2.3.20, ST_LayoutMode (Layout Mode) 584
2.1.1588 Part 1 Section 21.2.3.27, ST_MarkerStyle (Marker Style) 584
2.1.1589 Part 1 Section 21.2.3.30, ST_Orientation (Orientation) 585
2.1.1590 Part 1 Section 21.2.3.33, ST_Period (Period) 585
2.1.1591 Part 1 Section 21.2.3.34, ST_Perspective (Perspective) 585
2.1.1592 Part 1 Section 21.2.3.35, ST_PictureFormat (Picture Format) 585
2.1.1593 Part 1 Section 21.2.3.37, ST_RadarStyle (Radar Style) 585
2.1.1594 Part 1 Section 21.2.3.40, ST_ScatterStyle (Scatter Style) 585
2.1.1595 Part 1 Section 21.2.3.42, ST_Shape (Shape) 586
2.1.1596 Part 1 Section 21.2.3.44, ST_Skip (Skip) 586
2.1.1597 Part 1 Section 21.2.3.45, ST_SplitType (Split Type) 586
2.1.1598 Part 1 Section 21.2.3.46, ST_Style (Style) 586
2.1.1599 Part 1 Section 21.2.3.50, ST_TrendlineType (Trendline Type) 586
2.1.1600 Part 1 Section 21.3.2.1, absSizeAnchor (Absolute Anchor Shape Size) 587
2.1.1601 Part 1 Section 21.3.2.2, blipFill (Picture Fill) 587
2.1.1602 Part 1 Section 21.3.2.7, cNvPr (Non-Visual Drawing Properties) 587
2.1.1603 Part 1 Section 21.3.2.9, cxnSp (Connection Shape) 587
2.1.1604 Part 1 Section 21.3.2.10, ext (Shape Extent) 587
2.1.1605 Part 1 Section 21.3.2.12, graphicFrame (Graphic Frame) 587
2.1.1606 Part 1 Section 21.3.2.14, grpSpPr (Group Shape Properties) 588
2.1.1607 Part 1 Section 21.3.2.20, pic (Picture) 588
2.1.1608 Part 1 Section 21.3.2.21, relSizeAnchor (Relative Anchor Shape Size) 588

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2.1.1609 Part 1 Section 21.3.2.22, sp (Shape) 588
2.1.1610 Part 1 Section 21.3.2.23, spPr (Shape Properties) 589
2.1.1611 Part 1 Section 21.3.2.24, style (Shape Style) 589
2.1.1612 Part 1 Section 21.3.2.25, to (Ending Anchor Point) 589
2.1.1613 Part 1 Section 21.3.2.26, txBody (Shape Text Body) 589
2.1.1614 Part 1 Section 21.3.2.28, xfrm (Graphic Frame Transform) 590
2.1.1615 Part 1 Section 21.4.2.1, adj (Shape Adjust) 590
2.1.1616 Part 1 Section 21.4.2.7, clrData (Color Transform Sample Data) 590
2.1.1617 Part 1 Section 21.4.2.13, extLst (Extension List) 590
2.1.1618 Part 1 Section 21.4.2.14, forEach (For Each) 590
2.1.1619 Part 1 Section 21.4.2.20, param (Parameter) 590
2.1.1620 Part 1 Section 21.4.2.26, sampData (Sample Data) 591
2.1.1621 Part 1 Section 21.4.2.27, shape (Shape) 591
2.1.1622 Part 1 Section 21.4.2.29, styleData (Style Data) 591
2.1.1623 Part 1 Section 21.4.3.2, cxn (Connection) 591
2.1.1624 Part 1 Section 21.4.3.4, prSet (Property Set) 591
2.1.1625 Part 1 Section 21.4.3.5, pt (Point) 591
2.1.1626 Part 1 Section 21.4.3.7, spPr (Shape Properties) 592
2.1.1627 Part 1 Section 21.4.3.8, t (Text Body) 592
2.1.1628 Part 1 Section 21.4.4.3, colorsDef (Color Transform Definitions) 592
2.1.1629 Part 1 Section 21.4.4.7, effectClrLst (Effect Color List) 592
2.1.1630 Part 1 Section 21.4.4.8, fillClrLst (Fill Color List) 592
2.1.1631 Part 1 Section 21.4.4.9, linClrLst (Line Color List) 592
2.1.1632 Part 1 Section 21.4.4.12, txEffectClrLst (Text Effect Color List) 593
2.1.1633 Part 1 Section 21.4.4.13, txFillClrLst (Text Fill Color List) 593
2.1.1634 Part 1 Section 21.4.4.14, txLinClrLst (Text Line Color List) 593
2.1.1635 Part 1 Section 21.4.5.6, sp3d (3-D Shape Properties) 593
2.1.1636 Part 1 Section 21.4.5.10, styleLbl (Style Label) 593
2.1.1637 Part 1 Section 21.4.7.3, ST_AnimOneStr (One by One Animation Value Definition) 593
2.1.1638 Part 1 Section 21.4.7.6, ST_AxisType (Axis Type) 593
2.1.1639 Part 1 Section 21.4.7.49, ST_ParameterId (Parameter Identifier) 593
2.1.1640 Part 1 Section 21.4.7.56, ST_SecondaryChildAlignment (Secondary Child Alignment) 600
2.1.1641 Part 1 Section 21.4.7.57, ST_SecondaryLinearDirection (Secondary Linear Direction) 600
2.1.1642 Part 1 Section 22.1, Math 600
2.1.1643 Part 1 Section 22.1.2.1, acc (Accent) 600
2.1.1644 Part 1 Section 22.1.2.3, aln (Alignment) 601
2.1.1645 Part 1 Section 22.1.2.7, bar (Bar) 601
2.1.1646 Part 1 Section 22.1.2.8, barPr (Bar Properties) 601
2.1.1647 Part 1 Section 22.1.2.9, baseJc (Matrix Base Justification) 601
2.1.1648 Part 1 Section 22.1.2.11, borderBox (Border-Box Object) 601
2.1.1649 Part 1 Section 22.1.2.13, box (Box Object) 601
2.1.1650 Part 1 Section 22.1.2.15, brk (Break) 601
2.1.1651 Part 1 Section 22.1.2.18, cGp (Matrix Column Gap) 602
2.1.1652 Part 1 Section 22.1.2.19, cGpRule (Matrix Column Gap Rule) 602
2.1.1653 Part 1 Section 22.1.2.21, count (Matrix Column Count) 602
2.1.1654 Part 1 Section 22.1.2.22, cSp (Minimum Matrix Column Width) 602
2.1.1655 Part 1 Section 22.1.2.23, ctrlPr (Control Properties) 602
2.1.1656 Part 1 Section 22.1.2.24, d (Delimiter Object) 602
2.1.1657 Part 1 Section 22.1.2.25, defJc (Default Justification) 602
2.1.1658 Part 1 Section 22.1.2.26, deg (Degree) 603
2.1.1659 Part 1 Section 22.1.2.27, degHide (Hide Degree) 603
2.1.1660 Part 1 Section 22.1.2.28, den (Denominator) 603
2.1.1661 Part 1 Section 22.1.2.30, dispDef (Use Display Math Defaults) 603
2.1.1662 Part 1 Section 22.1.2.32, e (Element (Argument)) 603
2.1.1663 Part 1 Section 22.1.2.34, eqArr (Array Object) 603

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2.1.1664 Part 1 Section 22.1.2.36, f (Fraction Object) 603
2.1.1665 Part 1 Section 22.1.2.37, fName (Function Name) 603
2.1.1666 Part 1 Section 22.1.2.39, func (Function Apply Object) 603
2.1.1667 Part 1 Section 22.1.2.41, groupChr (Group-Character Object) 604
2.1.1668 Part 1 Section 22.1.2.43, grow (n-ary Grow) 604
2.1.1669 Part 1 Section 22.1.2.48, interSp (Inter-Equation Spacing) 604
2.1.1670 Part 1 Section 22.1.2.49, intLim (Integral Limit Locations) 604
2.1.1671 Part 1 Section 22.1.2.50, intraSp (Intra-Equation Spacing) 604
2.1.1672 Part 1 Section 22.1.2.51, jc (Justification) 604
2.1.1673 Part 1 Section 22.1.2.52, lim (Limit) 604
2.1.1674 Part 1 Section 22.1.2.54, limLow (Lower-Limit Object) 605
2.1.1675 Part 1 Section 22.1.2.56, limUpp (Upper-Limit Object) 605
2.1.1676 Part 1 Section 22.1.2.60, m (Matrix Object) 605
2.1.1677 Part 1 Section 22.1.2.61, mathFont (Math Font) 605
2.1.1678 Part 1 Section 22.1.2.63, maxDist (Maximum Distribution) 605
2.1.1679 Part 1 Section 22.1.2.64, mc (Matrix Column) 605
2.1.1680 Part 1 Section 22.1.2.67, mcs (Matrix Columns) 605
2.1.1681 Part 1 Section 22.1.2.69, mr (Matrix Row) 606
2.1.1682 Part 1 Section 22.1.2.70, nary (n-ary Operator Object) 606
2.1.1683 Part 1 Section 22.1.2.71, naryLim (n-ary Limit Location) 606
2.1.1684 Part 1 Section 22.1.2.73, noBreak (No Break) 606
2.1.1685 Part 1 Section 22.1.2.75, num (Numerator) 606
2.1.1686 Part 1 Section 22.1.2.76, objDist (Object Distribution) 606
2.1.1687 Part 1 Section 22.1.2.77, oMath (Office Math) 606
2.1.1688 Part 1 Section 22.1.2.78, oMathPara (Office Math Paragraph) 607
2.1.1689 Part 1 Section 22.1.2.80, opEmu (Operator Emulator) 607
2.1.1690 Part 1 Section 22.1.2.81, phant (Phantom Object) 607
2.1.1691 Part 1 Section 22.1.2.84, pos (Position) 607
2.1.1692 Part 1 Section 22.1.2.85, postSp (Post-Paragraph Spacing) 608
2.1.1693 Part 1 Section 22.1.2.86, preSp (Pre-Paragraph Spacing) 608
2.1.1694 Part 1 Section 22.1.2.87, r (Run) 608
2.1.1695 Part 1 Section 22.1.2.88, rad (Radical Object) 608
2.1.1696 Part 1 Section 22.1.2.92, rSp (Row Spacing (Array)) 608
2.1.1697 Part 1 Section 22.1.2.93, rSpRule (Row Spacing Rule) 609
2.1.1698 Part 1 Section 22.1.2.94, scr (Script) 609
2.1.1699 Part 1 Section 22.1.2.97, shp (Shape (Delimiters)) 609
2.1.1700 Part 1 Section 22.1.2.98, smallFrac (Small Fraction) 609
2.1.1701 Part 1 Section 22.1.2.99, sPre (Pre-Sub-Superscript Object) 610
2.1.1702 Part 1 Section 22.1.2.101, sSub (Subscript Object) 610
2.1.1703 Part 1 Section 22.1.2.103, sSubSup (Sub-Superscript Object) 610
2.1.1704 Part 1 Section 22.1.2.105, sSup (Superscript Object) 610
2.1.1705 Part 1 Section 22.1.2.111, sty (style) 610
2.1.1706 Part 1 Section 22.1.2.112, sub (Subscript (Pre-Sub-Superscript)) 610
2.1.1707 Part 1 Section 22.1.2.113, subHide (Hide Subscript (n-ary)) 610
2.1.1708 Part 1 Section 22.1.2.114, sup (Superscript (Superscript object)) 611
2.1.1709 Part 1 Section 22.1.2.115, supHide (Hide Superscript (n-ary)) 611
2.1.1710 Part 1 Section 22.1.2.116, t (Text) 611
2.1.1711 Part 1 Section 22.1.2.117, transp (Transparent (Phantom)) 611
2.1.1712 Part 1 Section 22.1.3.1, ST_BreakBin (Break Binary Operators) 611
2.1.1713 Part 1 Section 22.1.3.7, ST_Jc (Justification) 612
2.1.1714 Part 1 Section 22.1.3.10, ST_Shp (Shape (Delimiters)) 612
2.1.1715 Part 1 Section 22.1.3.13, ST_TopBot (Top-Bottom) 612
2.1.1716 Part 1 Section 22.1.3.14, ST_UnSignedInteger (Unsigned integer.) 612
2.1.1717 Part 1 Section 22.2.2.2, AppVersion (Application Version) 612
2.1.1718 Part 1 Section 22.2.2.6, DigSig (Digital Signature) 612
2.1.1719 Part 1 Section 22.2.2.7, DocSecurity (Document Security) 613
2.1.1720 Part 1 Section 22.2.2.8, HeadingPairs (Heading Pairs) 613
2.1.1721 Part 1 Section 22.2.2.10, HLinks (Hyperlink List) 613

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2.1.1722 Part 1 Section 22.2.2.26, TitlesOfParts (Part Titles) 614
2.1.1723 Part 1 Section 22.2.2.27, TotalTime (Total Edit Time Metadata Element) 615
2.1.1724 Part 1 Section 22.3.2.2, property (Custom File Property) 615
2.1.1725 Part 1 Section 22.4.2.1, array (Array) 617
2.1.1726 Part 1 Section 22.4.2.5, clsid (Class ID) 618
2.1.1727 Part 1 Section 22.4.2.7, date (Date and Time) 618
2.1.1728 Part 1 Section 22.4.2.11, filetime (File Time) 618
2.1.1729 Part 1 Section 22.4.2.19, null (Null) 618
2.1.1730 Part 1 Section 22.4.2.21, ostorage (Binary Storage Object) 618
2.1.1731 Part 1 Section 22.4.2.25, storage (Binary Storage) 618
2.1.1732 Part 1 Section 22.4.2.34, vstream (Binary Versioned Stream) 618
2.1.1733 Part 1 Section 22.4.3.3, ST_Error (Error Status Code Simple Type) 618
2.1.1734 Part 1 Section 22.6.2.4, Author (Contributors List) 619
2.1.1735 Part 1 Section 22.6.2.30, Guid (GUID) 619
2.1.1736 Part 1 Section 22.6.2.39, LCID (Locale ID) 619
2.1.1737 Part 1 Section 22.6.2.50, Person (Person) 619
2.1.1738 Part 1 Section 22.6.2.59, Source (Source) 619
2.1.1739 Part 1 Section 22.6.2.65, Tag (Tag) 619
2.1.1740 Part 1 Section 22.6.2.76, YearAccessed (Year Accessed) 619
2.1.1741 Part 1 Section 22.8.2.1, ST_RelationshipId (Explicit Relationship ID) 619
2.1.1742 Part 1 Section 22.9.2.1, ST_CalendarType (Calendar Types) 620
2.1.1743 Part 1 Section 22.9.2.6, ST_Lang (Language Reference) 620
2.1.1744 Part 1 Section 22.9.2.7, ST_OnOff (On/Off Value) 627
2.1.1745 Part 1 Section 22.9.2.14, ST_TwipsMeasure (Measurement in Twentieths of a Point) 627
2.1.1746 Part 1 Section 22.9.2.16, ST_UnsignedDecimalNumber (Unsigned Decimal Number Value) 628
2.1.1747 Part 1 Section 22.9.2.19, ST_Xstring (Escaped String) 628
2.1.1748 Part 1 Section 23.2.1, schema (Custom XML Schema Reference) 628
2.1.1749 Part 2 Section 6.2.2.2, Syntax 628
2.1.1750 Part 2 Section 7.3.6, ZIP package limitations 629
2.1.1751 Part 2 Section 8, Core Properties 629
2.1.1752 Part 2 Section 10.6, Relationships transform algorithm 629
2.1.1753 Part 3 Section 7, MCE Elements and Attributes 629
2.1.1754 Part 4 Section 8.2, VML Drawing Part 629
2.1.1755 Part 4 Section 14.3.1.1, Additional attribute for cnfStyle element (Part 1, 17.3.1.8) 629
2.1.1756 Part 4 Section 14.3.2.1, control (Floating Embedded Control) 629
2.1.1757 Part 4 Section 14.3.2.2, pict (VML Object) 630
2.1.1758 Part 4 Section 14.4.1, left (Table Cell Leading Edge Border) 630
2.1.1759 Part 4 Section 14.4.2, left (Table Leading Edge Border) 630
2.1.1760 Part 4 Section 14.4.3, left (Table Cell Leading Margin Exception) 630
2.1.1761 Part 4 Section 14.4.4, left (Table Cell Leading Margin Default) 630
2.1.1762 Part 4 Section 14.4.5, right (Table Cell Trailing Edge Border) 630
2.1.1763 Part 4 Section 14.4.6, right (Table Trailing Edge Border) 631
2.1.1764 Part 4 Section 14.4.7, right (Table Cell Trailing Margin Default) 631
2.1.1765 Part 4 Section 14.4.8, right (Table Cell Trailing Margin Exception) 631
2.1.1766 Part 4 Section 14.4.9, Additional attribute for cnfStyle element (Part 1, 17.4.7) 631
2.1.1767 Part 4 Section 14.4.10, Additional attribute for cnfStyle element (Part 1, 17.4.8) 631
2.1.1768 Part 4 Section 14.4.13, hMerge (Horizontally Merged Cell) 631
2.1.1769 Part 4 Section 14.6.1, pict (Picture Numbering Symbol Properties) 631
2.1.1770 Part 4 Section 14.6.2, legacy (Legacy Numbering Level Properties) 632
2.1.1771 Part 4 Section 14.7.1.1, numberingChange (Previous Numbering Field Properties) 632
2.1.1772 Part 4 Section 14.7.1.2, numberingChange (Previous Paragraph Numbering Properties) 632
2.1.1773 Part 4 Section 14.8.2.1, hdrShapeDefaults (Default Properties for VML Objects in Header and Footer) 635

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2.1.1774 Part 4 Section 14.8.2.2, shapeDefaults (Default Properties for VML Objects in Main Document) 635
2.1.1775 Part 4 Section 14.8.2.5, Additional attributes for writeProtection element (Part 1, 17.15.1.93) 635
2.1.1776 Part 4 Section 14.8.3.6, convMailMergeEsc (Treat Backslash Quotation Delimiter as Two Quotation Marks) 635
2.1.1777 Part 4 Section 14.8.3.8, doNotAutofitConstrainedTables (Do Not AutoFit Tables To Fit Next To Wrapped Objects) 635
2.1.1778 Part 4 Section 14.8.3.13, doNotSuppressParagraphBorders (Do Not Suppress Paragraph Borders Next To Frames) 636
2.1.1779 Part 4 Section 14.9.1.1, txbxContent (Rich Text Box Content Container) 636
2.1.1780 Part 4 Section 14.10.4.1, AUTONUM 636
2.1.1781 Part 4 Section 14.10.4.2, AUTONUMLGL 636
2.1.1782 Part 4 Section 14.10.4.3, AUTONUMOUT 636
2.1.1783 Part 4 Section 14.10.4.4, BARCODE 637
2.1.1784 Part 4 Section 14.10.4.5, BIDIOUTLINE 637
2.1.1785 Part 4 Section 14.10.4.6, EQ 637
2.1.1786 Part 4 Section 14.11.5, Additional enumeration values for ST_StyleSort (Part 1, 17.18.82) 638
2.1.1787 Part 4 Section 17.2.2.10, ST_TextFontScalePercent (Text Font Scale Percentage) 638
2.1.1788 Part 4 Section 17.2.2.11, ST_TextSpacingPercent (Text Spacing Percent) 638
2.1.1789 Part 4 Section 19.1, VML 638
2.1.1790 Part 4 Section 19.1.2.1, arc (Arc Segment) 639
2.1.1791 Part 4 Section 19.1.2.2, background (Document Background) 647
2.1.1792 Part 4 Section 19.1.2.3, curve (Bezier Curve) 647
2.1.1793 Part 4 Section 19.1.2.4, f (Single Formula) 648
2.1.1794 Part 4 Section 19.1.2.5, fill (Shape Fill Properties) 648
2.1.1795 Part 4 Section 19.1.2.6, formulas (Set of Formulas) 650
2.1.1796 Part 4 Section 19.1.2.7, group (Shape Group) 650
2.1.1797 Part 4 Section 19.1.2.8, h (Shape Handle) 650
2.1.1798 Part 4 Section 19.1.2.9, handles (Set of Handles) 651
2.1.1799 Part 4 Section 19.1.2.10, image (Image File) 651
2.1.1800 Part 4 Section 19.1.2.11, imagedata (Image Data) 652
2.1.1801 Part 4 Section 19.1.2.12, line (Line) 653
2.1.1802 Part 4 Section 19.1.2.13, oval (Oval) 654
2.1.1803 Part 4 Section 19.1.2.14, path (Shape Path) 654
2.1.1804 Part 4 Section 19.1.2.15, polyline (Multiple Path Line) 657
2.1.1805 Part 4 Section 19.1.2.16, rect (Rectangle) 657
2.1.1806 Part 4 Section 19.1.2.17, roundrect (Rounded Rectangle) 658
2.1.1807 Part 4 Section 19.1.2.18, shadow (Shadow Effect) 658
2.1.1808 Part 4 Section 19.1.2.19, shape (Shape Definition) 659
2.1.1809 Part 4 Section 19.1.2.20, shapetype (Shape Template) 661
2.1.1810 Part 4 Section 19.1.2.21, stroke (Line Stroke Settings) 661
2.1.1811 Part 4 Section 19.1.2.22, textbox (Text Box) 662
2.1.1812 Part 4 Section 19.1.2.23, textpath (Text Layout Path) 664
2.1.1813 Part 4 Section 19.1.3.2, ST_Ext (VML Extension Handling Behaviors) 665
2.1.1814 Part 4 Section 19.1.3.3, ST_FillMethod (Gradient Fill Computation Type) 666
2.1.1815 Part 4 Section 19.1.3.4, ST_FillType (Shape Fill Type) 666
2.1.1816 Part 4 Section 19.1.3.6, ST_ShadowType (Shadow Type) 666
2.1.1817 Part 4 Section 19.2.2.1, bottom (Text Box Bottom Stroke) 666
2.1.1818 Part 4 Section 19.2.2.2, callout (Callout) 668
2.1.1819 Part 4 Section 19.2.2.3, clippath (Shape Clipping Path) 670
2.1.1820 Part 4 Section 19.2.2.4, colormenu (UI Default Colors) 670
2.1.1821 Part 4 Section 19.2.2.5, colormru (Most Recently Used Colors) 670
2.1.1822 Part 4 Section 19.2.2.6, column (Text Box Interior Stroke) 671
2.1.1823 Part 4 Section 19.2.2.7, complex (Complex) 671
2.1.1824 Part 4 Section 19.2.2.8, diagram (VML Diagram) 671

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2.1.1825 Part 4 Section 19.2.2.11, extrusion (3D Extrusion) 672
2.1.1826 Part 4 Section 19.2.2.12, FieldCodes (WordprocessingML Field Switches) 674
2.1.1827 Part 4 Section 19.2.2.13, fill (Shape Fill Extended Properties) 674
2.1.1828 Part 4 Section 19.2.2.14, idmap (Shape ID Map) 675
2.1.1829 Part 4 Section 19.2.2.15, ink (Ink) 675
2.1.1830 Part 4 Section 19.2.2.16, left (Text Box Left Stroke) 675
2.1.1831 Part 4 Section 19.2.2.17, LinkType (Embedded Object Alternate Image Request)676
2.1.1832 Part 4 Section 19.2.2.18, lock (Shape Protections).....676
2.1.1833 Part 4 Section 19.2.2.19, LockedField (Embedded Object Cannot Be Refreshed) 676
2.1.1834 Part 4 Section 19.2.2.20, OLEObject (Embedded OLE Object) 677
2.1.1835 Part 4 Section 19.2.2.21, proxy (Shape Reference).....677
2.1.1836 Part 4 Section 19.2.2.22, r (Rule) 678
2.1.1837 Part 4 Section 19.2.2.24, rel (Diagram Relationship).....678
2.1.1838 Part 4 Section 19.2.2.26, right (Text Box Right Stroke) 678
2.1.1839 Part 4 Section 19.2.2.28, shapedefaults (New Shape Defaults).....679
2.1.1840 Part 4 Section 19.2.2.29, shapelayout (Shape Layout Properties) 679
2.1.1841 Part 4 Section 19.2.2.30, signatureline (Digital Signature Line) 679
2.1.1842 Part 4 Section 19.2.2.31, skew (Skew Transform) 680
2.1.1843 Part 4 Section 19.2.2.32, top (Text Box Top Stroke) 680
2.1.1844 Part 4 Section 19.2.3.3, ST_BWMode (Black And White Modes).....681
2.1.1845 Part 4 Section 19.2.3.4, ST_CalloutDrop (Callout Drop Location) 681
2.1.1846 Part 4 Section 19.2.3.14, ST_FillType (Shape Fill Type) 681
2.1.1847 Part 4 Section 19.2.3.19, ST_OLELinkType (Embedded Object Alternate Image Request Types) 681
2.1.1848 Part 4 Section 19.3.2.2, borderbottom (Bottom Border) 682
2.1.1849 Part 4 Section 19.3.2.3, borderleft (Left Border).....682
2.1.1850 Part 4 Section 19.3.2.4, borderright (Right Border).....682
2.1.1851 Part 4 Section 19.3.2.5, bordertop (Top Border).....682
2.1.1852 Part 4 Section 19.3.2.6, wrap (Text Wrapping).....682
2.1.1853 Part 4 Section 19.3.3.3, ST_HorizontalAnchor (Horizontal Anchor Type) 682
2.1.1854 Part 4 Section 19.3.3.4, ST_VerticalAnchor (Vertical Anchor Type).....682
2.1.1855 Part 4 Section 19.4.2.1, Accel (Primary Keyboard Accelerator) 682
2.1.1856 Part 4 Section 19.4.2.2, Accel2 (Secondary Keyboard Accelerator) 682
2.1.1857 Part 4 Section 19.4.2.3, Anchor (Anchor).....683
2.1.1858 Part 4 Section 19.4.2.4, AutoFill (AutoFill) 683
2.1.1859 Part 4 Section 19.4.2.5, AutoLine (AutoLine).....683
2.1.1860 Part 4 Section 19.4.2.7, AutoScale (Font AutoScale) 683
2.1.1861 Part 4 Section 19.4.2.8, Camera (Camera Tool).....683
2.1.1862 Part 4 Section 19.4.2.10, CF (Clipboard Format).....684
2.1.1863 Part 4 Section 19.4.2.12, ClientData (Attached Object Data).....684
2.1.1864 Part 4 Section 19.4.2.13, ColHidden (Comment's Column is Hidden).....684
2.1.1865 Part 4 Section 19.4.2.14, Colored (Dropdown Color Toggle).....684
2.1.1866 Part 4 Section 19.4.2.16, DDE (Dynamic Data Exchange) 684
2.1.1867 Part 4 Section 19.4.2.18, DefaultSize (Default Size Toggle) 684
2.1.1868 Part 4 Section 19.4.2.21, DropLines (Dropdown Maximum Lines) 684
2.1.1869 Part 4 Section 19.4.2.22, DropStyle (Dropdown Style) 684
2.1.1870 Part 4 Section 19.4.2.23, Dx (Scroll Bar Width) 685
2.1.1871 Part 4 Section 19.4.2.25, FmlaGroup (Linked Formula - Group Box).....685
2.1.1872 Part 4 Section 19.4.2.27, FmlaMacro (Reference to Custom Function) 685
2.1.1873 Part 4 Section 19.4.2.29, FmlaRange (List Items Source Range).....685
2.1.1874 Part 4 Section 19.4.2.30, FmlaTxbx (Text Formula) 685
2.1.1875 Part 4 Section 19.4.2.32, Horiz (Scroll Bar Orientation) 685
2.1.1876 Part 4 Section 19.4.2.33, Inc (Scroll Bar Increment) 685
2.1.1877 Part 4 Section 19.4.2.35, LCT (Callback Type).....686
2.1.1878 Part 4 Section 19.4.2.36, ListItem (Non-linked List Item) 686
2.1.1879 Part 4 Section 19.4.2.40, Max (Scroll Bar Maximum).....686
2.1.1880 Part 4 Section 19.4.2.41, Min (Scroll Bar Minimum) 686
2.1.1881 Part 4 Section 19.4.2.42, MoveWithCells (Move with Cells) 686

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2.1.1882 Part 4 Section 19.4.2.45, NoThreeD (Disable 3D) 686
2.1.1883 Part 4 Section 19.4.2.47, Page (Scroll Bar Page Increment) 686
2.1.1884 Part 4 Section 19.4.2.49, RecalcAlways (Recalculation Toggle) 686
2.1.1885 Part 4 Section 19.4.2.51, RowHidden (Comment's Row is Hidden) 687
2.1.1886 Part 4 Section 19.4.2.59, SizeWithCells (Resize with Cells) 687
2.1.1887 Part 4 Section 19.4.2.61, TextVAlign (Vertical Text Alignment) 687
2.1.1888 Part 4 Section 19.4.2.62, UIObj (UI Object Toggle) 687
2.1.1889 Part 4 Section 19.4.2.63, Val (Scroll bar position) 687
2.1.1890 Part 4 Section 19.4.2.64, ValidIds (Valid ID) 687
2.1.1891 Part 4 Section 19.4.2.68, WidthMin (Minimum Width) 687
2.1.1892 Part 4 Section 19.5.2.2, textdata (VML Diagram Text) 687
2.1.1893 Part 4 Section 20.1.2.3, ST_ColorType (Color Type) 688
2.1.1894 Part 4 Section 20.1.2.6, ST_TrueFalseBlank (Boolean Value with Blank [False] State) 693

3 Appendix A: Additional Information 694
3.1 Word 694
3.1.1 Additional Parts 694
3.1.1.1 Word Attached Toolbars Part 694
3.1.1.2 Customizations Part 694
3.1.1.3 Mail Merge Recipient Data Part 695
3.1.2 Word Schema 697
3.1.2.1 Keyboard and Toolbar Customizations 697
3.1.2.1.1 Elements 697
3.1.2.1.1.1 acd (Allocated Command) 697
3.1.2.1.1.2 acd (Allocated Command Keyboard Customization Action) 698
3.1.2.1.1.3 acdEntry (Allocated Command Manifest Entry) 699
3.1.2.1.1.4 acdManifest (Allocated Command Manifest) 699
3.1.2.1.1.5 acds (Allocated Commands) 700
3.1.2.1.1.6 active (Record Is Included in Mail Merge) 701
3.1.2.1.1.7 fci (Fixed Command Keyboard Customization Action) 702
3.1.2.1.1.8 keymap (Key Map Entry) 703
3.1.2.1.1.9 keymaps (Key Map Customizations) 706
3.1.2.1.1.10 keymapsBad (Key Map Customizations for Mismatched Keyboards) 707
3.1.2.1.1.11 macro (Macro Keyboard Customization Action) 708
3.1.2.1.1.12 tcg (Keyboard and Toolbar Customizations) 708
3.1.2.1.1.13 toolbarData (Toolbar data) 709
3.1.2.1.1.14 toolbars (Legacy Toolbar Customizations) 710
3.1.2.1.1.15 wch (Character Insertion Keyboard Customization Action) 710
3.1.2.1.1.16 wll (WLL Macro Keyboard Customization Action) 711
3.1.2.1.2 Fixed Commands 712
3.1.2.1.3 Statements 772
3.1.2.2 Mail Merge 787
3.1.2.2.1 Elements 787
3.1.2.2.1.1 hash (Hash Code for Record) 787
3.1.2.2.1.2 recipientData (Data About Single Data Source Record) 789
3.1.2.2.1.3 recipients (Inclusion/Exclusion Data for Data Source) 790
3.1.2.3 Simple Types 791
3.1.2.3.1 ST_DecimalNumber (Decimal Number Value) 791
3.1.2.3.2 ST_LongHexNumber (Four Digit Hexadecimal Number Value) 792
3.1.2.3.3 ST_OnOff (On/Off Value) 792
3.1.2.3.4 ST_ShortHexNumber (Two Digit Hexadecimal Number Value) 793
3.1.2.3.5 ST_String (String) 794
3.1.3 Additional WordprocessingML Schema 795
3.1.3.1 Additional Elements 795
3.1.3.1.1 customXml (Ruby Inline-Level Custom XML Element) 795
3.1.3.1.2 fldSimple (Ruby Simple Field) 799
3.1.3.1.3 hyperlink (Ruby Hyperlink) 803

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3.1.3.1.4 moveFrom (Move Source Math Control Character) 810
3.1.3.1.5 moveTo (Move Destination Math Control Character) 812
3.1.3.1.6 sdt (Ruby Inline-Level Structured Document Tag) 813
3.1.3.1.7 sdtContent (Ruby Inline-Level Structured Document Tag Content) 815
3.1.3.2 Additional Fields 819
3.1.3.2.1 DDE 819
3.1.3.2.2 DDEAUTO 820
3.1.3.2.3 GLOSSARY 821
3.1.3.2.4 IMPORT 822
3.1.3.2.5 INCLUDE 822
3.1.3.2.6 SHAPE 823
3.1.3.2.7 DISPLAYBARCODE 823
3.1.3.2.8 MERGEBARCODE 825
3.1.3.3 Simple Types 828
3.1.3.3.1 ST_CustomXmlURI (URI for Custom XML) 828
3.1.3.3.2 ST_DateTime (Standard Date and Time Storage Format) 828
3.1.3.3.3 ST_MarkupId (Annotation Identifier) 829
3.1.3.3.4 ST_NcName255 (Non-colonized Name) 829
3.1.3.3.5 ST_NonNegativeDecimalNumber (Non-Negative Decimal Number Value) 829
3.1.3.3.6 ST_OnOff (On/Off Value) 830
3.1.3.3.7 ST_SignedDecimalNumberMax-2 (Decimal Number Value Max -2) 831
3.1.3.3.8 ST_String (String) 831
3.1.3.3.9 ST_String255 (String) 832
3.1.3.3.10 ST_String260 (String) 832
3.1.4 DrawingML Persistence Part 833
3.1.4.1 DrawingML Persistence Parts 833
3.1.4.1.1 Graphic Frame Doc 833
3.1.4.1.2 Downrev Storage 834
3.1.4.2 Additional DrawingML - Main Schema 835
3.1.4.2.1 Additional Elements 835
3.1.4.2.1.1 bounds (Bounds) 835
3.1.4.2.1.2 downRevStg (DownRev Storage) 836
3.1.4.2.2 Simple Types 837
3.1.4.2.2.1 ST_CoordinateUnqualified (Coordinate) 837
3.1.4.3 Additional DrawingML - WordprocessingML Schema 837
3.1.4.3.1 Additional Elements 837
3.1.4.3.1.1 e2oholder (E2o Holder) 838
3.1.4.3.1.2 effectOffset (Effect Offset) 838
3.2 Excel 839
3.2.1 Additional Parts 839
3.2.1.1 Excel Attached Toolbars Part 839
3.2.1.2 Worksheet Sort Map Part 840
3.2.2 Microsoft Office Excel Sortmap 841
3.2.2.1 Sortmap Elements 841
3.2.2.1.1 col (Column) 842
3.2.2.1.2 colSortMap (Column Sort Map) 843
3.2.2.1.3 row (Row) 844
3.2.2.1.4 rowSortMap (Row Sort Map) 844
3.2.2.1.5 worksheetSortMap (Worksheet Sort Map) 845
3.2.2.2 Simple Types 846
3.2.2.2.1 ST_SortMapCount (Sort Map Count) 846
3.2.3 Additional SpreadsheetML Schema 846
3.2.3.1 Formulas 846
3.2.3.1.1 Structure References 846
3.2.3.1.2 Conditional Formatting Formulas 848
3.2.3.1.3 Data Validation Formulas 849
3.2.3.1.4 Name Formulas 849
3.2.3.1.5 External Name Formulas 849

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3.2.3.1.6 Chart formulas 850
3.2.3.1.7 R1C1 formulas 850
3.2.3.1.8 Pivot Formulas 850
3.2.3.1.8.1 Calculated Field Formulas 851
3.2.3.1.8.2 Calculated Item Formulas 851
3.2.3.1.9 OLE Link Formulas 852
3.3 PowerPoint 853
3.3.1 Additional Parts 853
3.3.1.1 Legacy Diagram Text part 853
3.3.1.2 Legacy Diagram Text Info part 853
3.3.1.3 SmartTags part 854
3.4 Shared 854
3.4.1 Additional Parts 854
3.4.1.1 Embedded Control Persistence Binary Data Part 854
3.4.1.2 Quick Access Toolbar Customizations Part 855
3.4.1.3 CustomUI Part 856
3.4.1.4 CustomUI2 Part 857
3.4.1.5 Sensitivity Label Information Part 858
3.5 Office Well Defined Custom XML Parts 859
3.5.1 Cover Page Properties 860
3.5.1.1 Cover Page Properties Schema 860
3.5.1.1.1 Elements 860
3.5.1.1.1.1 Abstract (Document Abstract) 860
3.5.1.1.1.2 CompanyAddress (Company Address) 860
3.5.1.1.1.3 CompanyEmail (Company Email Address) 860
3.5.1.1.1.4 CompanyFax (Company Fax Number) 860
3.5.1.1.1.5 CompanyPhone (Company Phone Number) 861
3.5.1.1.1.6 CoverPageProperties (Cover Page Properties) 861
3.5.1.1.1.7 PublishDate (Document Publish Date) 861
3.5.1.1.2 Simple Types 862
3.5.1.1.2.1 ST_PublishDate (Publish Date Value) 862
3.5.2 Content Type Schemas 862
3.5.2.1 Content Type Schemas Schema 863
3.5.2.1.1 Elements 863
3.5.2.1.1.1 contentTypeSchema (Schema for Content Type) 863
3.5.2.2 Metadata Attributes 866
3.5.2.2.1 Shared Attributes (Content Type Schemas) 866
3.5.2.2.2 Simple Types 873
3.5.2.2.2.1 ST_ContentTypeId (Content Type ID) 873
3.5.2.2.2.2 ST_IntNonNegative (Non-Negative Integer) 873
3.5.2.2.2.3 ST_TrueOnly (True Only) 874
3.5.2.2.2.4 ST_UniqueIdentifier () 874
3.5.2.2.2.5 ST_UniqueIdentifierWithoutBraces (Unique Identifier without Braces) 875
3.5.3 Custom Document Information Panel 875
3.5.3.1 Custom Document Information Panel Schema 875
3.5.3.1.1 Elements 876
3.5.3.1.1.1 customPropertyEditor (Custom Property Editor) 876
3.5.3.1.1.2 customPropertyEditors (Custom Property Editors List) 876
3.5.3.1.1.3 defaultPropertyEditorNamespace (Default Namespace) 877
3.5.3.1.1.4 showOnOpen (Show On Open) 877
3.5.3.1.1.5 XMLNamespace (Namespace for Property Editor) 877
3.5.3.1.1.6 XSNLocation (Location of XSN File) 877
3.5.4 Custom XSN 878
3.5.4.1 Custom XSN Schema 878
3.5.4.1.1 Elements 878
3.5.4.1.1.1 cached (Cached View) 878
3.5.4.1.1.2 customXsn (Custom XSN) 878

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3.5.4.1.1.3 openByDefault (Open By Default) 879
3.5.4.1.1.4 xsnLocation (XSN Location) 879
3.5.4.1.1.5 xsnScope (Scope) 879
3.5.5 Long Properties 879
3.5.5.1 Long Properties Schema 879
3.5.5.1.1 Elements 880
3.5.5.1.1.1 LongProp (Custom XML Server Property - Long Property) 880
3.5.5.1.1.2 LongProperties (Custom XML Server Properties - Long Properties) ..880
3.5.6 SharePoint Premium High Value Content Solution 881
3.5.6.1 SharePoint Premium High Value Content Solution Schema 881
3.5.6.1.1 Elements 881
3.5.6.1.1.1 Agreements 881
3.5.6.1.1.2 SyntexCAMode 881
3.5.6.1.1.3 SourceTemplateUrl 881
3.5.6.1.1.4 CAAEPlaceholderMetaDataCustomPropertyName 881
3.5.6.1.1.5 SyntexAgreementStates 881
3.5.6.1.1.6 SyntexCustomWorkflowsConfigured 881
3.5.6.1.1.7 SyntexDocMandatoryApprovalReq 882
3.5.6.1.1.8 SyntexFieldAnswers 882
3.5.6.1.1.9 SyntexSnippetMetadata 882
3.5.6.1.1.10 SyntexDocumentApprovalConfig 882
3.5.6.1.1.11 SyntexSnippetApprovalConfig 882
3.5.6.1.1.12 SyntexTemplateApprovalConfig 882
3.6 Office ActiveX Supplemental Information 882
3.6.1 Elements 882
3.6.1.1 font (Standard COM Font Object) 882
3.6.1.2 ocx (ActiveX Control Data) 884
3.6.1.3 ocxPr (Object Property) 885
3.6.1.4 picture (Standard COM Picture Object) 886
3.6.2 Simple Types 887
3.6.2.1 ST_Persistence (Control Persistence Attribute Contents) 887
3.6.2.2 ST_String (String Type) 888
3.7 Office Digital Signature 889
3.7.1 Elements 889
3.7.1.1 ApplicationVersion (Application Version) 889
3.7.1.2 ColorDepth (Color Depth) 889
3.7.1.3 DelegateSuggestedSigner (Delegate Suggested Signer) 890
3.7.1.4 DelegateSuggestedSigner2 (Delegate Suggested Signer) 890
3.7.1.5 DelegateSuggestedSignerEmail (Delegate Suggested Signer E-mail Address) 890
3.7.1.6 HorizontalResolution (Horizontal Resolution) 890
3.7.1.7 ManifestHashAlgorithm (Manifest Hash Algorithm) 891
3.7.1.8 Monitors (Monitor Count) 891
3.7.1.9 OfficeVersion (Office Version) 891
3.7.1.10 SetupID (Setup ID) 892
3.7.1.11 SignatureComments (Signature Comments) 892
3.7.1.12 SignatureImage (Signature Image) 892
3.7.1.13 SignatureInfoV1 (Office Digital Signature V1 Info) 893
3.7.1.14 SignatureProviderDetails (Signature Provider Details) 894
3.7.1.15 SignatureProviderId (Signature Provider ID) 894
3.7.1.16 SignatureProviderUrl (Signature Provider URL) 894
3.7.1.17 SignatureText (Signature Text) 895
3.7.1.18 SignatureType (Signature Type) 895
3.7.1.19 VerticalResolution (Vertical Resolution) 896
3.7.1.20 WindowsVersion (Windows Version) 896
3.7.2 Simple Types 896
3.7.2.1 ST_PositiveInteger (Positive Integer) 897
3.7.2.2 ST_SignatureComments (Signature Comments) 897
3.7.2.3 ST_SignatureProviderUrl (Signature Provider URL) 897

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3.7.2.4 ST_SignatureText (Signature Text) 898
3.7.2.5 ST_SignatureType (Signature Type) 898
3.7.2.6 ST_UniqueIdentifierWithBraces (Unique Identifier with Braces) 899
3.7.2.7 ST_Version (Version) 899
3.8 Equation XML 900
3.8.1 Introduction 900
3.8.2 Basic Format 900
3.8.3 Reading the equationXml attribute 901
3.8.4 Word 2003 XML elements which can contain Office Open XML Math elements 902
3.8.4.1 Containment of the oMathPara element 902
3.8.4.2 Containment of Math runs and Math functions and objects 902
3.8.5 Office Open XML Math elements which can contain Word 2003 XML elements 902
3.8.5.1 Control Properties 902
3.8.5.2 oMath and Math Arguments 902
3.8.5.3 Math Run 903
3.8.6 Limitations in Word 903
3.9 Simple Types 903
3.9.1 ST_Fraction (Fraction Type) 903
3.9.2 ST_Macro (Custom Function Name Type) 904
3.9.3 ST_ObjID (Object ID) 904
3.9.4 ST_ObjIDRef (Object ID Reference) 905
3.9.5 ST_ShapeType (Shape Type) 905
3.9.6 ST_SpId (Shape ID Type) 910
3.10 Activating embedded packages in Office (Part 1 Section L.7.2 Embeddings) 910
3.11 Reserved Custom File Properties 912
3.11.1 Shared Reserved Properties 912
3.11.2 Sensitivity Label Properties 912
4 Change Tracking 918
5 Index 919

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1 Introduction

In creating an interoperable implementation, it may be helpful to understand specific implementation choices made by other products implementing the same standard. For example, portions of the standard may provide only general guidance, leaving specific implementation choices up to the application implementer; in some circumstances, it may be helpful for other implementers to understand those choices. In addition, products often vary from or extend standards either because of application deviations or to allow for use scenarios not originally envisioned by the specifications. Documentation of those variations and/or extensions may also be helpful to other implementers.

The implementer notes contained in this document provide information about how Office implements ISO/IEC-29500 Office Open XML File Formats [ISO/IEC-29500-1], including areas where additional detail may be of benefit to other implementers and areas where the product is known to vary from or extend the specification.

1.1 Glossary

This document uses the following terms:

Information Rights Management (IRM): A technology that provides persistent protection to digital data by using encryption, certificates, and authentication. Authorized recipients or users acquire a license to gain access to the protected files according to the rights or business rules that are set by the content owner.

sensitivity label metadata: Information specific to a particular instance of one or more sensitivity labels as applied to content.

stream: An element of a compound file, as described in [MS-CFB]. A stream contains a sequence of bytes that can be read from or written to by an application, and they can exist only in storages.

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as defined in [RFC2119]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the Errata.

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information.

[AIM-BC1-1995-Code39] AIM, "Information technology Automatic identification and data capture techniques Code 39 bar code symbology specification", https://www.iso.org/standard/77799.html

Note There is a charge to download this specification.

[AIM-BC3-1995-Codabar] AIM, "AIM BC3-1995 - USS - Codabar", https://web.aimglobal.org/atlas/ecommerce/item/42

Note There is a charge to download this specification.

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[AIM-BC4-1995-Code128] AIM, "ISO/IEC 15417:2007-Information technology Automatic identification and data capture techniques Code 128 bar code symbology specification", https://www.iso.org/standard/43896.html

Note There is a charge to download this specification.

[CSS-LEVEL2] Bos, B., Celik, T., Hickson, I., and Lie, H., "Cascading Style Sheets Level 2 Revision 1 (CSS2.1) Specification: W3C Candidate Recommendation", July 2007, http://www.w3.org/TR/2007/CR-CSS21-20070719/

[DEVMODE] Microsoft Corporation, "DEVMODE structure", http://msdn.microsoft.com/en-us/library/dd183565(VS.85).aspx

[Embed-Open-Type-Format] Nelson, P., "Embedded OpenType (EOT) File Format", W3C Member Submission, March 2008, http://www.w3.org/Submission/2008/SUBM-EOT-20080305/

[GS1-BARCODE] GS1, "Bar Code Types", http://www.gs1.org/barcodes/technical/bar_code_types

[ISO-8601] International Organization for Standardization, "Data Elements and Interchange Formats - Information Interchange - Representation of Dates and Times", ISO/IEC 8601:2004, December 2004, http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=40874&ICS1=1&ICS2=140&ICS3=30

Note There is a charge to download the specification.

[ISO/IEC-14496-22] International Organization for Standardization, "Information technology -- Coding of audio-visual objects -- Part 22: Open Font Format", 2007, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=43466

[ISO/IEC-29500-1] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference", ISO/IEC 29500-1:2016, https://www.iso.org/standard/71691.html

[ISO/IEC-29500-2] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 2: Open Packaging Conventions", ISO/IEC 29500-2:2021, https://www.iso.org/standard/77818.html

[ISO/IEC-29500-3] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 3: Markup Compatibility and Extensibility", ISO/IEC 29500-3:2015, https://www.iso.org/standard/65533.html

[ISO/IEC-29500-4] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 4: Transitional Migration Features", ISO/IEC 29500-4:2016, https://www.iso.org/standard/71692.html

[ISO/IEC18004:2006] ISO/IEC, "Information technology -- Automatic identification and data capture techniques -- QR Code 2005 bar code symbology specification", http://www.iso.org/iso/catalogue_detail?csnumber=43655

Note There is a charge to download this specification.

[MC-ISF] Microsoft Corporation, "Ink Serialized Format (ISF) Specification", 2007, http://download.microsoft.com/download/0/B/E/0BE8BDD7-E5E8-422A-ABFD-4342ED7AD886/InkSerializedFormat(ISF)Specification.pdf

[Micro-Type-Exp-Format] Martin, S., Ristow, A., Martin, S., Levantovsky, V., and Chapman, C., "MicroType Express (MTX) Font Format", W3C Member Submission, March 2008, http://www.w3.org/Submission/2008/SUBM-MTX-20080305/

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[MS-CFB] Microsoft Corporation, "Compound File Binary File Format".

[MS-CUSTOMUI2] Microsoft Corporation, "Custom UI XML Markup Version 2 Specification".

[MS-CUSTOMUI] Microsoft Corporation, "Custom UI XML Markup Specification".

[MS-DOC] Microsoft Corporation, "Word (.doc) Binary File Format".

[MS-EMFPLUS] Microsoft Corporation, "Enhanced Metafile Format Plus Extensions".

[MS-EMF] Microsoft Corporation, "Enhanced Metafile Format".

[MS-IPFF] Microsoft Corporation, "InfoPath Form Template Format".

[MS-LCID] Microsoft Corporation, "Windows Language Code Identifier (LCID) Reference".

[MS-LISTSWS] Microsoft Corporation, "Lists Web Service Protocol".

[MS-ODRAWXML] Microsoft Corporation, "Office Drawing Extensions to Office Open XML Structure".

[MS-OFFCRYPTO] Microsoft Corporation, "Office Document Cryptography Structure".

[MS-OFORMS] Microsoft Corporation, "Office Forms Binary File Formats".

[MS-OSHARED] Microsoft Corporation, "Office Common Data Types and Objects Structures".

[MS-PPT] Microsoft Corporation, "PowerPoint (.ppt) Binary File Format".

[MS-WMF] Microsoft Corporation, "Windows Metafile Format".

[MS-WSSCAML] Microsoft Corporation, "Collaborative Application Markup Language (CAML) Structure".

[MS-XLS] Microsoft Corporation, "Excel Binary File Format (.xls) Structure".

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, https://www.rfc-editor.org/info/rfc2119

1.2.2 Informative References

[MS-XLSX] Microsoft Corporation, "Excel (.xlsx) Extensions to the Office Open XML SpreadsheetML File Format".

[MSFT-MIPSDK] Microsoft Corporation, "Microsoft Information Protection SDK documentation", https://learn.microsoft.com/en-us/information-protection/develop/

1.3 Microsoft Implementations

Microsoft Excel 2010

Microsoft Excel 2013

Microsoft Excel 2016

Microsoft Excel 2019

Microsoft Excel 2021

Microsoft Excel LTSC 2024

Microsoft PowerPoint 2010

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Microsoft PowerPoint 2013

Microsoft PowerPoint 2016

Microsoft PowerPoint 2019

Microsoft PowerPoint 2021

Microsoft PowerPoint LTSC 2024

Microsoft Word 2010

Microsoft Word 2013

Microsoft Word 2016

Microsoft Word 2019

Microsoft Word 2021

Microsoft Word LTSC 2024

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2 Conformance Statements

This section contains implementation information about how Microsoft Excel 2010, Microsoft PowerPoint 2010, Microsoft Word 2010 and later versions implement ISO-IEC 29500 Office Open XML File Formats ([ISO/IEC-29500-1], [ISO/IEC-29500-2], [ISO/IEC-29500-3], [ISO/IEC-29500-4]). Unless otherwise specified, implementation information in this document pertains to both Client and Server as well as Strict and Transitional implementations of Microsoft Office 2010 suites and later versions of the Microsoft Excel, Word and PowerPoint products. The Office Implementation Information section follows the organization of the Office Open XML File Formats.

2.1 Normative Variations

2.1.1 Part 1 Section 2.2, Application Conformance

a. *The standard specifies that white space content in strings representing atomic data must be normalized as part of processing.*

   Office will only accept XML in which atomic content of attributes and elements is represented with white space content already normalized.

b. *The standard allows INF, NaN, and -INF as legal representations for double and float XML Schema types.*

   Office does not accept INF, NaN, and -INF as valid representations for double and float data.

2.1.2 Part 1 Section 8.6, PresentationML

a. *The standard states that all comment authors in a document are stored in one comment-authors part while each slide has its own part.*

   Office interprets comments to mean comment authors in this context.

2.1.3 Part 1 Section 9, Packages

a. *The standard does not define idOfficeObject digital signature.*

   Office reserves the object ID of idOfficeObject (§3.7, Office Digital Signature) for its digital signature.

2.1.4 Part 1 Section 11, WordprocessingML

a. *The standard defines a document setting as "A reusable element in a template."*

   Office defines a document setting to be "A document-level property that affects the handling of a given document, and influences the appearance and behavior of the current document, as well as the stored document-level state."

2.1.5 Part 1 Section 11.3, Part Summary

a. *The standard does not document a Customizations part for key mapping and toolbar customizations.*

   Word defines a Customizations part (§3.1.1.2, Customizations Part) for key mapping and toolbar customizations.

b. *The standard does not include documentation for the Attachedtoolbars part.*

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Word defines an Attachedtoolbars part (§3.1.1.1, Word Attached Toolbars Part), which supports the storage of custom toolbars created by the user.

c. *The standard does not document a Mail Merge Recipient Data part for storage of mail merge recipient data.*

Word defines a Mail Merge Recipient Data part (§3.1.1.3, Mail Merge Recipient Data Part) for storage of mail merge recipient data.

2.1.6 Part 1 Section 12.3, Part Summary

a. *The standard does not include documentation for the Attachedtoolbars part.*

Office defines an Attachedtoolbars part (§3.2.1.1, Excel Attached Toolbars Part), which supports the storage of custom toolbars created by the user.

b. *The standard lists the Comment part as a relationship target of the Chartsheet part and the Dialogsheet part.*

Office does not allow the Comment part as a valid relationship target of the Chartsheet part or the Dialogsheet part.

c. *The standard states that the Custom Property part is a relationship target of the Workbook part.*

Office requires that the Custom Property part is a relationship target of the Worksheet part.

d. *The standard states that the Single Cell Table Definitions part is a valid relationship target of the Dialogsheet part.*

Office does not allow the Single Cell Table Definitions part as a relationship target of the Dialogsheet part.

e. *The standard states that the Table Definition part is a valid relationship target of the Dialogsheet part.*

Office does not allow the Table Definition part as a relationship target of the Dialogsheet part.

f. *The standard specifies the Root Element of the Dialogsheet part as dialogSheet.*

Office requires the Root Element to be dialogsheet.

g. *The standard specifies the Root Element of the External Workbook References part as externalReference.*

Office requires the Root Element to be externalLink.

h. *The standard does not include documentation for the Worksheet Sort Map part.*

Office defines a Worksheet Sort Map part (§3.2.2, Microsoft Office Excel Sortmap) to reconcile different sort operations on the worksheet in a shared workbook.

i. *The standard does not list the Query Table part as a relationship target of the Table Definition part.*

Office allows the Query Table part as a valid relationship target of the Table Definition part.

2.1.7 Part 1 Section 12.3.2, Chartsheet Part

a. *The standard does not allow the Chartsheet part to have an explicit relationship with the VML Drawing part.*

Office allows the Chartsheet part to have an explicit relationship with the VML Drawing part.

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b. *The standard does not allow the Chartsheet part to have an explicit relationship with the Images part.*

Office allows the Chartsheet part to have an explicit relationship with the Images part.

2.1.8 Part 1 Section 12.3.6, Custom XML Mappings Part

a. *The standard specifies the Root Element of the Custom XML Mapping part as mapInfo.*

Office requires the Root Element to be MapInfo.

2.1.9 Part 1 Section 12.3.7, Dialogsheet Part

a. *The standard states that a Dialogsheet part is permitted to have an explicit relationship with the Embedded Control Persistence part.*

Office does not allow a Dialogsheet part to have an explicit relationship to the Embedded Control Persistence part.

b. *The standard does not allow the Dialogsheet part to have an explicit relationship with the VML Drawing part.*

Office allows the Dialogsheet part to have an explicit relationship with the VML Drawing part.

2.1.10 Part 1 Section 12.3.19, Single Cell Table Definitions Part

a. *The standard specifies the Root Element of the Single Cell Table Definitions part as singleCells.*

Office requires the Root Element to be singleXmlCells.

2.1.11 Part 1 Section 12.3.20, Styles Part

a. *The standard specifies the Root Namespace for the Styles Part as http://schemas.openxmlformats.org/spreadsheetml/2006/mains.*

Office requires the Root Namespace to be http://schemas.openxmlformats.org/spreadhseetml/2006/main.

2.1.12 Part 1 Section 12.3.24, Worksheet Part

a. *The standard does not allow the Worksheet part to have an implicit relationship with the Worksheet Sort Map part.*

Office allows the Worksheet part to have an implicit relationship with the Worksheet Sort Map part.

b. *The standard does not allow the Worksheet part to have an implicit relationship with the Query Table part.*

Office allows the Worksheet part to have an implicit relationship with the Query Table part.

c. *The standard does not allow the Worksheet part to have an explicit relationship with the Custom Property part.*

Office allows the Worksheet part to have an explicit relationship with the Custom Property part.

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2.1.13 Part 1 Section 12.4, External Workbooks

a. *The standard does not specify the meaning of the http://schemas.microsoft.com/office/2006/relationships/xlExternalLinkPath/xlStartup relationship type.*

   Excel uses the http://schemas.microsoft.com/office/2006/relationships/xlExternalLinkPath/xlStartup relationship type to specify a base path of an application-defined startup directory.

b. *The standard does not specify the meaning of the http://schemas.microsoft.com/office/2006/relationships/xlExternalLinkPath/xlAlternateStartup relationship type.*

   Excel uses the http://schemas.microsoft.com/office/2006/relationships/xlExternalLinkPath/xlAlternateStartup relationship type to specify a base path of an application-defined alternate startup directory.

c. *The standard does not specify the meaning of the http://schemas.microsoft.com/office/2006/relationships/xlExternalLinkPath/xlPathMissing relationship type.*

   Excel uses the http://schemas.microsoft.com/office/2006/relationships/xlExternalLinkPath/xlPathMissing relationship type to specify that a base path should not be inferred.

d. *The standard does not specify the meaning of the http://schemas.microsoft.com/office/2006/relationships/xlExternalLinkPath/xlLibrary relationship type.*

   Excel uses the http://schemas.microsoft.com/office/2006/relationships/xlExternalLinkPath/xlLibrary relationship type to specify a base path of an application-defined library directory.

e. *The standard states that this part can only contain links to external workbooks.*

   Excel also allows this part to contain OLE links and DDE links.

f. *The standard does not specify the meaning of the http://schemas.microsoft.com/office/2019/04/relationships/externalLinkLongPath relationship type.*

   Excel uses the http://schemas.microsoft.com/office/2019/04/relationships/externalLinkLongPath relationship type to specify a path that is longer than 218 characters.

g. *The standard does not specify the meaning of the http://schemas.microsoft.com/office/2019/04/relationships/oleObjectLinkLongPath relationship type.*

   Excel uses the http://schemas.microsoft.com/office/2019/04/relationships/oleObjectLinkLongPath relationship type to specify an OLE object link path that is longer than 218 characters.

h. *The standard does not specify the meaning of the http://schemas.microsoft.com/office/2019/04/relationships/xlExternalLinkLongPath/xlStartup relationship type.*

   Excel uses the http://schemas.microsoft.com/office/2019/04/relationships/xlExternalLinkLongPath/xlStartup relationship type to specify a longer than 218-character base path of an application-defined startup directory.

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i. *The standard does not specify the meaning of the http://schemas.microsoft.com/office/2019/04/relationships/xlExternalLinkLongPath/xlAlternateStartup relationship type.*

Excel uses the http://schemas.microsoft.com/office/2019/04/relationships/xlExternalLinkLongPath/xlAlternateStartup relationship type to specify a longer than 218-character base path of an application-defined alternate startup directory.

j. The standard does not specify the meaning of the http://schemas.microsoft.com/office/2009/04/relationships/xlExternalLinkLongPath/xlPathMissing relationship type.

Excel uses the http://schemas.microsoft.com/office/2009/04/relationships/xlExternalLinkLongPath/xlPathMissing relationship type to specify that a longer than 218-character base path should not be inferred.

k. The standard does not specify the meaning of the http://schemas.microsoft.com/office/2009/04/relationships/xlExternalLinkLongPath/xlLibrary relationship type.

Excel uses the http://schemas.microsoft.com/office/2009/04/relationships/xlExternalLinkLongPath/xlLibrary relationship type to specify a longer than 218-character base path of an application-defined library directory.

2.1.13.1 Part 1 Selection 12.4.1, External Workbooks With Long Path

a. The standard does not specify the path length limit for external workbooks.

Excel uses the following relationship types to specify paths for external workbooks that are longer than 218 characters.

http://schemas.microsoft.com/office/2019/04/relationships/externalLinkLongPath, *http://schemas.microsoft.com/office/2019/04/relationships/oleObjectLinkLongPath, http://schemas.microsoft.com/office/2019/04/relationships/xlExternalLinkLongPath/xlStartup, http://schemas.microsoft.com/office/2019/04/relationships/xlExternalLinkLongPath/xlAlternateStartup, http://schemas.microsoft.com/office/2009/04/relationships/xlExternalLinkLongPath/xlPathMissing, http://schemas.microsoft.com/office/2009/04/relationships/xlExternalLinkLongPath/xlLibrary.*

When an external workbook path is longer than 218 characters, Excel creates a short path in the form of \\unc\filename. This short path is saved in the relationships for external workbooks, specified in a through e in section 12.4. This short path must be unique among all relationships for the corresponding external workbook. The "unc" part of the short path must not exceed 8 characters. The "filename" part of the short path must not exceed 207 characters.

The long path corresponding to the short path must be saved in one of the above relationships for long paths, specified in f through k in section 12.4. The "unc" part must be appended to the long path as the query string without the key.

2.1.14 Part 1 Section 13.3, Part Summary

a. *The standard does not include documentation for the Legacy Diagram Text Info binary part.*

PowerPoint defines a Legacy Diagram Text Info binary part (§3.3.1.1, Legacy Diagram Text part) to store legacy diagram text information.

b. *The standard does not include documentation for the Legacy Diagram Text binary part.*

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PowerPoint defines a Legacy Diagram Text binary part (§3.3.1.1, Legacy Diagram Text part) to store legacy diagram text.

c. *The standard does not include documentation for the SmartTags binary part.*

PowerPoint defines a SmartTags binary part (§3.3.1.3, SmartTags part) to store smart tag data.

2.1.15 Part 1 Section 13.3.3, Handout Master Part

a. *The standard states that a Handout Master part is permitted to have an explicit relationship with the Embedded Control Persistence part.*

Office does not allow a Handout Master part to have an explicit relationship to the Embedded Control Persistence part.

b. *The standard does not allow the Handout Master part to have an explicit relationship with the User Defined Tags part.*

Office allows the Handout Master part to have an explicit relationship with the User Defined Tags part.

c. *The standard states that a Handout Master part is permitted to have an implicit relationship with the Custom XML Data Storage part.*

Office only allows for an explicit relationship between these two parts.

d. *The standard states that a Handout Master part is permitted to have an implicit relationship with the Thumbnail part.*

Office does not allow a Handout Master part to have an implicit relationship to the Thumbnail part.

e. *The standard does not allow the Handout Master part to have an explicit relationship with the Slide part.*

Office allows the Handout Master part to have an explicit relationship with the Slide part.

f. *The standard permits the Handout Master part to have an explicit relationship with the VML Drawing part.*

Office only permits the Handout Master part to have an implicit relationship with the VML Drawing part.

g. *The standard permits the Handout Master part to have an implicit relationship with the Additional Characteristics part.*

Office only permits the Handout Master part to have an explicit relationship with the Additional Characteristics part.

h. *The standard states that the Handout Master part is permitted to have an implicit relationship to a Bibliography part.*

Office only allows the Handout Master part to have an explicit relationship with a Bibliography part.

2.1.16 Part 1 Section 13.3.4, Notes Master Part

a. *The standard states that a Notes Master part is permitted to have an explicit relationship with the Embedded Control Persistence part.*

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Office does not allow a Notes Master part to have an explicit relationship to the Embedded Control Persistence part.

b. *The standard states that a Notes Master part is permitted to have an implicit relationship with the Thumbnail part.*

   Office does not allow a Notes Master part to have an implicit relationship to the Thumbnail part.

c. *The standard does not allow the Notes Master part to have an explicit relationship with the User Defined Tags part.*

   Office allows the Notes Master part to have an explicit relationship with the User Defined Tags part.

d. *The standard does not allow the Notes Master part to have an explicit relationship with the Slide part.*

   Office allows the Notes Master part to have an explicit relationship with the Slide part.

e. *The standard permits the Notes Master part to have an explicit relationship with the VML Drawing part.*

   Office only permits the Notes Master part to have an implicit relationship with the VML Drawing part.

f. *The standard permits the Notes Master part to have an implicit relationship with the Additional Characteristics part.*

   Office only permits the Notes Master part to have an explicit relationship with the Additional Characteristics part.

g. *The standard states that the Notes Master part is permitted to have an implicit relationship to a Bibliography part.*

   Office only allows the Notes Master part to have an explicit relationship with a Bibliography part.

2.1.17 Part 1 Section 13.3.5, Notes Slide Part

a. *The standard states that a Notes Slide part is permitted to have an explicit relationship with the Embedded Control Persistence part.*

   Office does not allow a Notes Slide part to have an explicit relationship to the Embedded Control Persistence part.

b. *The standard does not allow the Notes Slide part to have an implicit relationship to a Slide part.*

   Office allows the Notes Slide part to have an implicit relationship to a Slide part.

c. *The standard states that a Notes Slide part is permitted to have an implicit relationship with the Thumbnail part.*

   Office does not allow a Notes Slide part to have an implicit relationship to the Thumbnail part.

d. *The standard does not allow the Notes Slide part to have an explicit relationship with the User Defined Tags part.*

   Office allows the Notes Slide part to have an explicit relationship with the User Defined Tags part.

e. *The standard does not allow the Notes Slide part to have an explicit relationship with the Slide part.*

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Office allows the Notes Slide part to have an explicit relationship with the Slide part.

f. *The standard permits the Notes Slide part to have an explicit relationship with the VML Drawing part.*

Office only permits the Notes Slide part to have an implicit relationship with the VML Drawing part.

g. *The standard permits the Notes Slide part to have an implicit relationship with the Additional Characteristics part.*

Office only permits the Notes Slide part to have an explicit relationship with the Additional Characteristics part.

h. *The standard states that the Notes Slide part is permitted to have an implicit relationship to a Bibliography part.*

Office only allows the Notes Slide part to have an explicit relationship with a Bibliography part.

2.1.18 Part 1 Section 13.3.6, Presentation Part

a. *The standard states that a Presentation part is permitted to have implicit relationships with the Comments part.*

Office only allows the Presentation part to have implicit relationships with the Comment Authors part.

b. *The standard states that a Presentation part is permitted to have explicit relationships with the Slide Layout part.*

Office does not allow a Presentation part to have explicit relationships with the Slide Layout part.

c. *The standard states that the Presentation part is permitted to have an implicit relationship to a Font part.*

Office only allows the Presentation part to have an explicit relationship with a Font part.

d. *The standard states that a Presentation part is permitted to have an implicit relationship to the Thumbnail part.*

Office does not allow a Presentation part to have an implicit relationship to the Thumbnail part.

e. *The standard states that the Presentation part is permitted to have an implicit relationship to a Custom XML Data Storage part.*

Office also allows for an explicit relationship between the Presentation part and a Custom XML Data Storage part.

f. *The standard states that a Presentation part is permitted to have an implicit relationship to the Additional Characteristics part.*

Office also allows there to be an explicit relationship between a Presentation part and the Additional Characteristics part.

g. *The standard states that a Presentation part is permitted to have an implicit relationship to a Bibliography part.*

Office also allows there to be an explicit relationship between a Presentation part and a Bibliography part.

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2.1.19 Part 1 Section 13.3.7, Presentation Properties Part

a. *The standard states that a Presentation Properties part does not have any implicit or explicit relationships to other parts.*

   Office allows a Presentation Properties part to have an explicit relationship to the HTML Publish part.

2.1.20 Part 1 Section 13.3.8, Slide Part

a. *The standard states that a Slide part is permitted to have an implicit relationship with the Thumbnail part.*

   Office does not allow a Slide part to have an implicit relationship to the Thumbnail part.

b. *The standard does not allow the Slide part to have an explicit relationship with the Slide part.*

   Office allows the Slide part to have an explicit relationship with the Slide part.

c. *The standard permits the Slide part to have an explicit relationship with the VML Drawing part.*

   Office only permits the Slide part to have an implicit relationship with the VML Drawing part.

d. *The standard permits the Slide part to have an implicit relationship with the Additional Characteristics part.*

   Office only permits the Slide part to have an explicit relationship with the Additional Characteristics part.

e. *The standard states that the Slide part is permitted to have an implicit relationship to a Bibliography part.*

   Office only allows the Slide part to have an explicit relationship with a Bibliography part.

2.1.21 Part 1 Section 13.3.9, Slide Layout Part

a. *The standard states that a Slide Layout part is permitted to have an implicit relationship with the Thumbnail part.*

   Office does not allow a Slide Layout part to have an implicit relationship to the Thumbnail part.

b. *The standard does not allow the Slide Layout part to have an explicit relationship with the User Defined Tags part.*

   Office allows the Slide Layout part to have an explicit relationship with the User Defined Tags part.

c. *The standard does not allow the Slide Layout part to have an explicit relationship with the Slide part.*

   Office allows the Slide Layout part to have an explicit relationship with the Slide part.

d. *The standard permits the Slide Layout part to have an explicit relationship with the VML Drawing part.*

   Office only permits the Slide Layout part to have an implicit relationship with the VML Drawing part.

e. *The standard permits the Slide Layout part to have an implicit relationship with the Additional Characteristics part.*

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Office only permits the Slide Layout part to have an explicit relationship with the Additional Characteristics part.

f. *The standard states that the Slide Layout part is permitted to have an implicit relationship to a Bibliography part.*

Office only allows the Slide Layout part to have an explicit relationship with a Bibliography part.

2.1.22 Part 1 Section 13.3.10, Slide Master Part

a. *The standard states that a Slide Master part is permitted to have an implicit relationship with the Slide Layout part.*

Office only allows a Slide Master part to have an explicit relationship with the Slide Layout part.

b. *The standard states that the Slide Master part is permitted to have an implicit relationship to a Slide Layout part.*

Office only allows the Slide Master part to have an explicit relationship with a Slide Layout part.

c. *The standard states that a Slide Master part is permitted to have an implicit relationship with the Thumbnail part.*

Office does not allow a Slide Master part to have an implicit relationship to the Thumbnail part.

d. *The standard does not allow the Slide Master part to have an explicit relationship with the User Defined Tags part.*

Office allows the Slide Master part to have an explicit relationship with the User Defined Tags part.

e. *The standard does not allow the Slide Master part to have an explicit relationship with the Slide part.*

Office allows the Slide Master part to have an explicit relationship with the Slide part.

f. *The standard permits the Slide Master part to have an explicit relationship with the VML Drawing part.*

Office only permits the Slide Master part to have an implicit relationship with the VML Drawing part.

g. *The standard permits the Slide Master part to have an implicit relationship with the Additional Characteristics part.*

Office only permits the Slide Master part to have an explicit relationship with the Additional Characteristics part.

h. *The standard states that the Slide Master part is permitted to have an implicit relationship to a Bibliography part.*

Office only allows the Slide Master part to have an explicit relationship with a Bibliography part.

2.1.23 Part 1 Section 14.2.1, Chart Part

a. *The standard allows the Chart Part only to have an explicit relationship with a Chart Drawing part or an Embedded Package part.*

Office allows the Chart Part to have an explicit relationship with a Theme Override part.

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2.1.24 Part 1 Section 14.2.2, Chart Drawing Part

a. *The standard allows the Chart Drawing Part only to have an explicit relationship with a Chart Part.*

Office allows the Chart Drawing Part to have an explicit relationship with an Image part.

2.1.25 Part 1 Section 14.2.3, Diagram Colors Part

a. *The standard states that a Diagram Colors part is the target of an explicit relationship in a WordprocessingML Main Document, SpreadsheetML Drawings, or PresentationM Slide part.*

In Office, the Diagram Colors part can also be the target of an explicit relationship in a PresentationML Handout Master ("[ISO/IEC-29500-1] §13.3.3"), Notes Master ("[ISO/IEC-29500-1] §13.3.4"), Notes Slide ("[ISO/IEC-29500-1] §13.3.5"), Slide ("[ISO/IEC-29500-1] §13.3.8"), Slide Layout ("[ISO/IEC-29500-1] §13.3.9"), or Slide Master ("[ISO/IEC-29500-1] §13.3.10") part.

2.1.26 Part 1 Section 14.2.4, Diagram Data Part

a. *The standard states that a Diagram Data part is permitted to have an explicit relationship to an Image part.*

In Office the Diagram Data part can also have explicit relationships to Hyperlinks ("[ISO/IEC-29500-1] §15.3").

2.1.27 Part 1 Section 15.2, Part Summary

a. *The standard does not include documentation for the Embedded Control Persistence Binary Data part.*

Office defines an Embedded Control Persistence Binary Data part (§3.4.1.1, Embedded Control Persistence Binary Data Part), which contains information about persisted embedded controls in the package.

b. *The standard does not include documentation for the Quick Access Toolbar Customizations part.*

Office defines a Quick Access Toolbar Customizations part (§3.4.1.2, Quick Access Toolbar Customizations Part), which contains information about quick access toolbar customizations.

c. *The standard does not include documentation for the Ribbon Extensibility part.*

Office defines a Ribbon Extensibility part (§3.4.1.3, CustomUI Part), which contains information about ribbon customizations.

d. *The standard does not include documentation for the Context Menu part.*

Office defines a Context Menu part, which contains information about Context Menu customizations.

e. *The standard does not include documentation for the Backstage part.*

Office defines a Backstage part, which contains information about Backstage customizations.

2.1.28 Part 1 Section 15.2.5, Custom XML Data Storage Part

a. *The standard does not specify that Office reserves namespaces for storing document properties.*

Office reserves the following specific namespaces for storing document properties:

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Root Namespace	Reference
http://schemas.microsoft.com/office/2006/customDocumentInformationPanel	§3.5.3.1, Custom Document Information Panel Schema
http://schemas.microsoft.com/office/2006/metadata/customXsn	§3.5.4.1, Custom XSN Schema
http://schemas.microsoft.com/office/2006/metadata/contentType	§3.5.2.1, Content Type Schemas Schema
http://schemas.microsoft.com/office/2006/coverPageProps	§3.5.1.1, Cover Page Properties Schema
http://schemas.microsoft.com/office/2006/metadata/longProperties	§3.5.5.1, Long Properties Schema
office.server.policy	Collaborative Application Markup Language (CAML) Structure Specification ([MS-WSSCAML] Subclause 2.5.1.7).

Furthermore, a Custom XML Data Storage part with root namespace of http://schemas.microsoft.com/office/2006/metadata/properties describes the properties of this document as defined by the xsd:schema children of Content Type Schemas (§3.5.2.1, Content Type Schemas Schema). The xsd:schema that bears the ma:root Root (§3.5.2.2.1, Shared Attributes) attribute describes the structure of the root element this Custom XML Data Storage part, with the other xsd:schema children collectively describing elements from other namespaces referenced.

2.1.29 Part 1 Section 15.2.9, Embedded Control Persistence Part

a. *The standard does not state the content type used for ActiveX data stored in the Embedded Control Persistence part.*

   When Office stores data for ActiveX controls in the Embedded Control Persistence part, the following content type is used: application/vnd.ms-office.activeX+xml.

2.1.30 Part 1 Section 15.2.12.1, Core File Properties Part

a. *The standard specifies a source relations ship for the Core File Properties part as follows: http://schemas.openxmlformats.org/officedocument/2006/relationships/metadata/core-properties.*

   Office uses the following source relationship for the Core File Properties part: http://schemas.openxmlformats.org/package/2006/relationships/metadata/core-properties.

2.1.31 Part 1 Section 15.2.12.2, Custom File Properties Part

The standard does not specify any specific Custom File Properties ("[ISO/IEC-29500-1] §15.2.12.2; Custom File Properties Part"*) names or values, nor does it attribute meaning to them.*

Office reserves a number of Custom File Properties as enumerated in §3.11, Reserved Custom File Properties.

2.1.32 Part 1 Section 15.2.13, Font Part

a. *The standard states that application/x-font-ttf specifies that the font shall be stored in the TrueType or OpenType format.*

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PowerPoint does not use this content type. Word reads these fonts if the value of the fontKey attribute is equal to 00000000-0000-0000-0000-000000000000.

b. *The standard states that application/x-fontdata specifies that the font shall be stored as a bitmapped font (each glyph is stored as a raster image).*

PowerPoint stores TrueType and OpenType fonts ([Embed-Open-Type-Format], [Micro-Type-Exp-Format]) in parts of this type. Word does not read or write this content type.

c. *The standard specifies three possible values for the content type of this part, but specifies the format corresponding to only two of them.*

Word 2010 reads obfuscated fonts using the content type application/vnd.openxmlformats-officedocument.obfuscatedFont. This content type specifies that the font shall be stored in a format conforming to [ISO/IEC-14496-22] and shall be obfuscated using the algorithm specified by Font Embedding ("[ISO/IEC-29500-1] §17.8.1").

2.1.33 Part 1 Section 15.2.14, Image Part

a. *The standard does not list a reference to the Enhanced Metafile Format Specification.*

Office also supports the image/emf image type [MS-EMF].

b. *The standard does not list reference to the Enhanced Metafile Format Plus Extensions Specification.*

Office also supports the image/emf+ image type [MS-EMFPLUS].

c. *The standard does not list a reference to the Windows Metafile Format Specification.*

Office also supports the image/wmf image type [MS-WMF].

2.1.34 Part 1 Section 15.2.15, Printer Settings Part

a. *The standard provides the following reference to DEVMODE: http://msdn.microsoft.com/library/default.asp?url=/library/en-us/gdi/prntspol_8nle.asp.*

Office uses DEVMODE [DEVMODE] as specified by: http://msdn2.microsoft.com/en-us/library/ms535771.aspx.

b. *The standard does not specify the contents of the target attribute.*

Office writes the DEVMODE [DEVMODE] structure including printer driver specific data in machine byte order to the part specified in target attribute.

2.1.35 Part 1 Section 17.2.1, background (Document Background)

a. *The standard states that any element from the VML namespace or the drawingML namespace is allowed as a child of the background element.*

Word renders any drawingML specified as a background at the beginning of the document and not as a background.

b. *The standard does not state which setting is applied when both the themeShade and the themeTint attributes are present.*

Word applies the themeTint setting when both of these attributes are present.

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2.1.36 Part 1 Section 17.2.2, body (Document Body)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f)*;* oMathPara, §22.1.2.78(c)*.*

2.1.37 Part 1 Section 17.2.3, document (Document)

a. *The standard specifies that the conformance attribute is a valid attribute of the document element.*

Word 2007 ignores the conformance attribute. Word 2010 ignores the conformance attribute unless the user has installed the OOXML Strict Converter for Office 2010.

2.1.38 Part 1 Section 17.3.1.4, bar (Paragraph Border Between Facing Pages)

For additional notes that apply to this portion of the standard, please see the notes for bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

a. *The standard does not state a default value for the color attribute.*

Word uses a default value of auto for this attribute.

b. *The standard does not specify a default value for the sz attribute.*

Word uses a default value of 0 for this attribute.

c. *The standard does not specify a default value for the space attribute.*

Word uses a default value of 0 for this attribute.

2.1.39 Part 1 Section 17.3.1.5, between (Paragraph Border Between Identical Paragraphs)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

2.1.40 Part 1 Section 17.3.1.7, bottom (Paragraph Border Below Identical Paragraphs)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

2.1.41 Part 1 Section 17.3.1.8, cnfStyle (Paragraph Conditional Formatting)

For additional notes that apply to this portion of the standard, please see the notes for pPr, §17.7.5.2(a)*;* pPr, §17.7.6.1(a)*;* pPr, §17.7.8.2(a)*;* pPr, §17.9.22(a)*.*

a. *The standard specifies a set of attributes on this element.*

Word reads the val attribute as specified in "[ISO/IEC-29500-4] §14.3.1.1; Additional attribute for cnfStyle element (Part 1, §17.3.1.8)" if none of the attributes specified in this subsection are present.

2.1.42 Part 1 Section 17.3.1.10, divId (Associated HTML div ID)

For additional notes that apply to this portion of the standard, please see the notes for divId, §17.4.9(a)*;* pPr, §17.7.5.2(a)*;* pPr, §17.7.6.1(a)*;* pPr, §17.7.8.2(a)*;* pPr, §17.9.22(a)*.*

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a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word does not allow a value of 0 on this attribute.

2.1.43 Part 1 Section 17.3.1.11, framePr (Text Frame Properties)

a. *The standard states that the lines attribute can be any 32-bit integer.*

Word restricts this attributes to values between 1 and 10.

b. *The standard states that the values of the h attribute are defined by the ST_TwipsMeasure simple type.*

Word restricts the value of this attribute to be at least 1 and at most 31680.

c. *The standard states that the hAnchor attribute is evaluated relative to paragraph direction (LTR versus RTL).*

Word always evaluates the hAnchor attribute relative to the left edge.

d. *The standard states that 0 is a valid value of the h attribute.*

Word treats a value of 0 on this attribute as a value of auto.

e. *The standard states that the default value of the hAnchor attribute is page.*

Word uses a default value of text for the hAnchor attribute.

f. *The standard states that the default value of the hRule attribute is auto.*

Word uses a default value of atLeast for this attribute when the value of the h attribute is not 0.

g. *The standard states that the default value for the vAnchor attribute is page.*

Word uses a default value of text for this attribute.

2.1.44 Part 1 Section 17.3.1.12, ind (Paragraph Indentation)

a. *The standard states that character unit indent attributes (endChars, firstLineChars, hangingChars and startChars) specify indents in character units, which will be applied to the paragraph in the order specified by the Style Hierarchy.*

During Style Hierarchy application, Word ignores character unit indents with a value of zero along with related character unit indents that are applied earlier in the Style Hierarchy order.

b. *The standard states that character unit indent attributes, endChars, firstLineChars, hangingChars and startChars, specify indents in character units, which will be applied to the paragraph in the order specified by the Style Hierarchy.*

During Style Hierarchy application, Word overrides non-character unit indents with related non-zero character unit indents that are applied earlier in the Style Hierarchy order.

2.1.45 Part 1 Section 17.3.1.13, jc (Paragraph Alignment)

a. *The standard states that no alignment is applied to the paragraph when the paragraph alignment setting is never specified in the style hierarchy.*

Word applies a left alignment to the paragraph under this circumstance.

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2.1.46 Part 1 Section 17.3.1.14, keepLines (Keep All Lines On One Page)

a. *The standard states that the property can be applied to paragraphs anywhere in a document.*

Word does not keep lines together when rendering paragraphs inside a table.

2.1.47 Part 1 Section 17.3.1.16, kinsoku (Use East Asian Typography Rules for First and Last Character per Line)

a. *The standard states that the East Asian typography and line-breaking rules only apply to Simplified Chinese, Traditional Chinese, and Japanese text in the paragraph.*

Word only applies these rules to Simplified Chinese, Traditional Chinese, Korean, and Japanese text in the paragraph.

b. *The standard does not state how to resolve a conflict between this setting and the overflowPunct element when their rules conflict.*

Word allows the rules specified by the overflowPunct element to override this element when they are both true and affect the same character.

2.1.48 Part 1 Section 17.3.1.17, left (Left Paragraph Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

2.1.49 Part 1 Section 17.3.1.18, mirrorIndents (Use Left/Right Indents as Inside/Outside Indents)

a. *The standard does not describe the interaction between a hanging indent and this element.*

Word incorrectly aligns the hanging indent to the left margin for odd-numbered pages when a hanging indent is used with this element.

b. *The standard states that this setting can be applied to any set of paragraph properties.*

Word ignores this setting when displaying paragraphs inside a table.

2.1.50 Part 1 Section 17.3.1.19, numPr (Numbering Definition Instance Reference)

a. *The standard states that when this element appears as part of the paragraph formatting for a paragraph style, then any numbering level defined using the ilvl element shall be ignored.*

Word does not ignore this element within a paragraph style definition, and will exhibit unpredictable behavior when it is present.

2.1.51 Part 1 Section 17.3.1.20, outlineLvl (Associated Outline Level)

a. *The standard does not explicitly specify conditions under which this element can be ignored.*

Word ignores this element when the associated paragraph style has a style ID of Heading1 through Heading9, instead setting it to a corresponding value between 1 and 9.

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2.1.52 Part 1 Section 17.3.1.21, overflowPunct (Allow Punctuation to Extend Past Text Extents)

a. *The standard states that this setting applies to punctuation characters, but does not specify which characters are punctuation characters.*

Word only applies this setting to the following characters:

If the parent run is Chinese (Simplified):

- !%),.:;>?]}¢°·ˇ’”‰’”℃：、。〃〉》」』】〕〗”）ゝゞ！"％’）·：；？］｝¢

If the parent run is Chinese (Traditional):

- !),.:;?]}’”’、。〉》」』】〕”）ゝゞ！）·：；？］｝

If the parent run is Japanese:

- ,.’”、。」』】），．］｝。、

If the parent run is Korean:

- !%),.:;?]}¢°’”’”℃〉》」』】〕！%），．：；?］｝¢

b. *The standard does not state how a conflict between the overflowPunct element and the kinsoku element should be resolved when both are applied to a single paragraph.*

Word ignores the kinsoku element when this element is present and the two settings conflict.

2.1.53 Part 1 Section 17.3.1.22, p (Paragraph)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.54 Part 1 Section 17.3.1.25, pPr (Previous Paragraph Properties)

a. *The standard states that the cnfStyle and divId elements can differ between previous paragraph properties and current paragraph properties.*

Word sets cnfStyle and divId in previous paragraph properties to the values in current paragraph properties.

2.1.55 Part 1 Section 17.3.1.27, pStyle (Referenced Paragraph Style)

For additional notes that apply to this portion of the standard, please see the notes for pPr, §17.7.5.2(a)*;* pPr, §17.7.6.1(a)*;* pPr, §17.7.8.2(a)*.*

2.1.56 Part 1 Section 17.3.1.28, right (Right Paragraph Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

2.1.57 Part 1 Section 17.3.1.29, rPr (Run Properties for the Paragraph Mark)

For additional notes that apply to this portion of the standard, please see the notes for pPr, §17.7.5.2(a)*;* pPr, §17.7.6.1(a)*;* pPr, §17.7.8.2(a)*;* pPr, §17.9.22(a)*.*

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1. *The standard does not describe how text formatting in a list item is affected when formatting is applied to the paragraph mark.*

   When run formatting properties are applied to the paragraph mark at the end of a list item, the paragraph run text for the list item does not change to match the number and paragraph mark properties, and neither does the run text for subsequent runs.

2.1.58 Part 1 Section 17.3.1.30, rPr (Previous Run Properties for the Paragraph Mark)

a. *The standard states that the ins, del, moveFrom, moveTo, and oMath elements can differ between the current run properties and previous run properties for the paragraph mark.*

   Word ignores the values of the ins, del, moveFrom, moveTo, and oMath elements in the previous run properties for the paragraph mark and uses the values from the current run properties for the paragraph mark.

2.1.59 Part 1 Section 17.3.1.31, shd (Paragraph Shading)

For additional notes that apply to this portion of the standard, please see the notes for shd, §17.4.32(a,d).

2.1.60 Part 1 Section 17.3.1.33, spacing (Spacing Between Lines and Above/Below Paragraph)

a. *The standard states that line unit spacing attributes, beforeLines and afterLines, specify spacing in line units, which will be applied to the paragraph in the order specified by the Style Hierarchy.*

   During Style Hierarchy application, Word overrides non-line unit spacing with related non-zero line unit spacing that is applied earlier in the Style Hierarchy order.

2.1.61 Part 1 Section 17.3.1.37, tab (Custom Tab Stop)

a. *The standard states that the values of the pos attribute are defined by the XML Schema integer datatype.*

   Word restricts the value of this attribute to be at least -31680 (-22") and at most 31680 (22").

2.1.62 Part 1 Section 17.3.1.40, textboxTightWrap (Allow Surrounding Paragraphs to Tight Wrap to Text Box Contents)

a. *The standard describes that the val attribute on the textboxTightWrap element takes one of five values: none, allLines, firstAndLastLine, firstLineOnly, and lastLineOnly.*

   Word always resets the value of this attribute to allLines when opening a document.

2.1.63 Part 1 Section 17.3.1.41, textDirection (Paragraph Text Flow Direction)

a. *The standard states that this element specifies the direction of the text flow for this paragraph.*

   Word uses this property only when the paragraph is contained within a frame.

2.1.64 Part 1 Section 17.3.1.42, top (Paragraph Border Above Identical Paragraphs)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

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2.1.65 Part 1 Section 17.3.1.43, topLinePunct (Compress Punctuation at Start of a Line)

a. *The standard states that this element specifies whether punctuation shall be compressed when it appears as the first character in a line, but does not define which characters are affected.*

Word only applies this property to runs in one of the following languages: Chinese (Simplified), Chinese (Traditional), Korean, or Japanese.

2.1.66 Part 1 Section 17.3.1.44, widowControl (Allow First/Last Line to Display on a Separate Page)

a. *The standard states that this element is applied to all paragraphs.*

Word ignores this element when rendering paragraphs inside a table.

2.1.67 Part 1 Section 17.3.1.45, wordWrap (Allow Line Breaking At Character Level)

a. *The standard states that this element will cause text to break on the character level.*

Word applies this property to Korean text only if Word determines that there is Korean text in the paragraph.

b. *The standard does not impose any restrictions on the type of text that this element applies to.*

Word applies this element to only space-delimited languages.

2.1.68 Part 1 Section 17.3.2.1, b (Bold)

a. *The standard states that this element applies bold to non-complex script characters, but does not specify how that determination is made.*

Word determines this state based on the state of the cs and rtl properties and applies bold to runs that do not use either of those properties.

2.1.69 Part 1 Section 17.3.2.2, bCs (Complex Script Bold)

a. *The standard states that this element applies bold to complex script characters, but does not specify how that determination is made.*

Word determines this state based on the state of the cs and rtl properties and applies bold to runs that use either of those properties.

2.1.70 Part 1 Section 17.3.2.3, bdo (Bidirectional Override)

a. *The standard lists the possible parents for this element, but this list does not include oMath*

Word writes this element as a child of the oMath element.

2.1.71 Part 1 Section 17.3.2.4, bdr (Text Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); left, §17.15.2.21(a).

a. *The standard does not state which setting is applied when both the themeShade and the themeTint attributes are present.*

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Word applies the themeTint setting when both of these attributes are present.

2.1.72 Part 1 Section 17.3.2.6, color (Run Content Color)

For additional notes that apply to this portion of the standard, please see the notes for color, §17.15.2.5(a).

a. *The standard specifies an algorithm for themeShade calculations that is different from themeShade calculations in other subclauses.*

Given an RGB color defined as three hex values in RRGGBB format, the shade is applied as follows:

- Convert the color to the HSL color format (values from 0 to 1).
- Modify the luminance factor as follows:

$$L' = L * Shade_{percentage}$$

- Convert the resultant HSL color to RGB.

If this attribute is specified in the **color** element ("[ISO/IEC-29500-1] §17.15.2.5; color (Frameset Splitter Color)") nested inside a **framesetSplitbar** ("[ISO/IEC-29500-1] §17.15.2.20; framesetSplitbar (Frameset Splitter Properties)") element, Word deviates from this behavior. Refer to the **themeColor** attribute description.

[Example:

Consider a document with a background using the *accent2* theme color, whose RGB value (in RRGGBB hex format) is *C0504D*.

The equivalent HSL color value would be $\left(\frac{1}{360}, 0.48, 0.53\right)$.

Applying the shade formula with a shade percentage of 75% to the luminance, the result is:

$L' = 0.53 * 0.75$

$= 0.39698$

Taking the resulting HSL color value of $\left(\frac{1}{360}, 0.48, 0.39698\right)$ and converting back to RGB, the result is *943634*.

This transformed value can be seen in the resulting run color WordprocessingML's **val** attribute:

```
<w:color w:val="943634" w:themeColor="accent2" w:themeShade="BF" />
```

end example]

b. *The standard does not state which setting is applied when both the themeShade and the themeTint attributes are present.*

Word applies the themeTint setting when both of these attributes are present.

c. *The standard describes an algorithm for themeTint calculations that is different from themeTint calculations in other subclauses.*

In Word, the themeTint attribute is calculated using the following algorithm:

Given an RGB color defined as three hex values in RRGGBB format, the shade is applied as follows:

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- Convert the color to the HSL color format (values from 0 to 1).
- Modify the luminance factor as follows:

$$L' = L * \text{Tint}_{pct} + (1 - \text{Tint}_{pct})$$

- Convert the resultant HSL color to RGB.

If this attribute is specified in the **color** element ("[ISO/IEC-29500-1] §17.15.2.5; color (Frameset Splitter Color)") nested inside a **framesetSplitbar** element ("[ISO/IEC-29500-1] §17.15.2.20; framesetSplitbar (Frameset Splitter Properties)"), Word will not use the specified theme color but rather will use an RGB color based on the **themeShade** and **themeTint** attributes. The intensity of the red, green, and blue components of this RGB color range from 0 to 255. The value of **themeTint** shall specify the intensity of the red component. If the **themeTint** attribute is omitted, the intensity of the red component shall default to 255. The value of **themeShade** shall specify the intensity of the green component. If the **themeShade** attribute is omitted, the intensity of the green component shall default to 255. The intensity of the blue component shall be 0.

[Example: Consider a document with a background using the *accent2* theme color, whose RGB value (in RRGGBB hex format) is *4F81BD*.

The equivalent HSL color value would be $\left(\frac{213}{360}, 0.45, 0.53\right)$.

Applying the tint formula with a tint percentage of 60% to the luminance, the result is:

$$L' = 0.53 * 0.6 + (1 - .6)$$

$$= 0.71$$

Taking the resulting HSL color value of $\left(\frac{213}{360}, 0.45, 0.71\right)$ and converting back to RGB, the result is *95B3D7*.

This transformed value can be seen in the resulting background's **color** attribute:

```
<w:top w:val="single" w:sz="4" w:space="24"
  w:color="95B3D7" w:themeColor="accent2"
  w:themeTint="99"/>
```

end example]

2.1.73 Part 1 Section 17.3.2.7, cs (Use Complex Script Formatting on Run)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §17.7.5.4(a)*;* rPr, §17.7.6.2(a)*;* rPr, §17.7.9.1(a)*.*

2.1.74 Part 1 Section 17.3.2.8, dir (Bidirectional Embedding Level)

a. *The standard states the list of parents of the dir element, which does not include the oMath element (Section 22.1.2.77)*

Word can write the w:dir element as a child of the oMath element.

2.1.75 Part 1 Section 17.3.2.10, eastAsianLayout (East Asian Typography Settings)

a. *The standard states that horizontal in vertical text is performed with rotation for vertical at 90 degrees in one location and 270 in another.*

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Word rotates text 90 degrees to the left.

b. *The standard states that the vertCompress attribute determines whether the rotated text shall be compressed at display time in order to ensure that it fits into the existing line height.*

Word ignores this attribute.

c. *The standard does not state how to resolve conflicts between this element and the fitText element.*

Word ignores this element if the fitText element is also present on the parent paragraph.

d. *The standard does not state how a conflict between the settings specified by the combine attribute and the vert attribute should be resolved.*

Word ignores the vert attribute when the combine attribute is set to true (or equivalent).

e. *The standard states that this element should work within a numbering level definition.*

Word does not support this element when used within the run properties of a numbering level definition.

f. *The standard states that this element specifies the East Asian typography settings which shall be applied to the contents of the run.*

Word ignores these settings when the run is contained inside an equation, and when the run's direction does not match the direction of the parent paragraph.

2.1.76 Part 1 Section 17.3.2.11, effect (Animated Text Effect)

a. *The standard states that the text effect is rendered around the text, but not all effects are border effects.*

Word renders the text effects defined in blinkBackground, shimmer, and sparkle animations behind the text, as they are not border animations.

2.1.77 Part 1 Section 17.3.2.13, emboss (Embossing)

a. *The standard states that this element shall not be present with either the imprint or outline elements.*

Word also prevents it from being present with the shadow element.

2.1.78 Part 1 Section 17.3.2.14, fitText (Manual Run Width)

a. *The standard states that the fitText element causes the contents of the run to be resized to fit the width specified by the val attribute.*

Word ignores this element inside Math, inside structured document tags, and for text that does not match the reading order of the parent paragraph.

b. *The standard states that if the id attribute is omitted, then this run has no ID and shall not be linked with any other run in the parent paragraph.*

Word assigns an id of 0 when the id attribute is omitted, and links it to other contiguous runs having an omitted id attribute (or an explicit id value of 0).

c. *The standard states that the val attribute can contain any 64-bit integer value.*

Word restricts this attribute to a value between 0 and 31680 (22").

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d. *The standard does not state how a conflict between this setting and the spacing element and/or the eastAsianLayout element should be handled.*

Word uses this element when it is present, ignoring the spacing element and/or the eastAsianLayout element.

2.1.79 Part 1 Section 17.3.2.15, highlight (Text Highlighting)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §17.7.5.4(a); rPr, §17.7.6.2(a); rPr, §17.7.9.1(a); rPr, §17.9.24(a).

2.1.80 Part 1 Section 17.3.2.16, i (Italics)

a. *The standard states that this element applies italics to non-complex script characters, but does not specify how that determination is made.*

Word determines this state based on the state of the cs and rtl properties and applies italics to runs that do not use either of those properties.

2.1.81 Part 1 Section 17.3.2.17, iCs (Complex Script Italics)

a. *The standard states that this element applies italics to complex script characters, but does not specify how that determination is made.*

Word determines this state based on the state of the cs and rtl properties and applies italics to runs that use either of those properties.

2.1.82 Part 1 Section 17.3.2.18, imprint (Imprinting)

a. *The standard states that this element shall not be present with either the emboss or outline elements.*

Word also prevents it from being present with the shadow element.

2.1.83 Part 1 Section 17.3.2.19, kern (Font Kerning)

a. *The standard states that the values of the val attribute are defined by the XML Schema unsignedLong datatype.*

Word defines the values of this attribute with the XML Schema unsignedInt datatype, with a minimum value of 0 and a maximum value of 3277.

2.1.84 Part 1 Section 17.3.2.20, lang (Languages for Run Content)

a. *The standard states that the bidi attribute applies font size to complex script characters, but does not specify how that determination is made.*

Word determines this state based on the state of the cs and rtl properties and applies the language to runs that use either of those properties.

2.1.85 Part 1 Section 17.3.2.21, noProof (Do Not Check Spelling or Grammar)

a. *The standard states that this element causes spelling and grammar to be suppressed.*

Word does not check spelling, grammar, or hyphenate runs that contain this element.

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2.1.86 Part 1 Section 17.3.2.22, oMath (Office Open XML Math)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §17.7.5.4(a); rPr, §17.7.6.2(a); rPr, §17.7.9.1(a); rPr, §17.9.24(a).

a. *The standard states that the oMath run property can be applied to any run.*

Word only supports the oMath element when applied to the run properties on the paragraph mark.

2.1.87 Part 1 Section 17.3.2.25, r (Text Run)

a. *The standard states that runs can occur outside of paragraphs.*

Word does not open a file that contains this element outside of a paragraph. This paragraph element does not need to be the direct parent of the run, but the paragraph element must exist at some level around the run.

2.1.88 Part 1 Section 17.3.2.26, rFonts (Run Fonts)

a. *The standard does not limit the length of the ascii, hAnsi, cs, and eastAsia attributes.*

Word restricts the value of these attributes to be less than 32 characters.

b. *The standard states that the use of each of the run fonts shall be determined by the Unicode character values of the run content, but does not explain precisely how this is done.*

Word determines the use of each of these fonts from the Unicode character values in the following manner:

- If the run has the **cs** element ("[ISO/IEC-29500-1] §17.3.2.7; cs") or the **rtl** element ("[ISO/IEC-29500-1] §17.3.2.30; rtl"), then the **cs** (or **cstheme** if defined) font is used, regardless of the Unicode character values of the run's content.
- If the **eastAsia** (or **eastAsiaTheme** if defined) attribute's value is "Times New Roman" and the **ascii** (or **asciiTheme** if defined) and **hAnsi** (or **hAnsiTheme** if defined) attributes are equal, then the **ascii** (or **asciiTheme** if defined) font is used.
- Otherwise, the following table is used. For all ranges not listed in the following table, the **hAnsi** (or **hAnsiTheme** if defined) font shall be used.

Unicode Block	Range	Classification
Basic Latin	0000 – 007F	**ascii** (or **asciiTheme** if defined)
Latin-1 Supplement	00A0 – 00FF	**hAnsi** (or **hAnsiTheme** if defined), with the following exceptions: If **hint** is *eastAsia*, the following characters use **eastAsia** (or **eastAsiaTheme** if defined): A1, A4, A7 – A8, AA, AD, AF, B0 – B4, B6 – BA, BC – BF, D7, F7 If **hint** is *eastAsia* and the language of the run is either Chinese Traditional or Chinese Simplified, the following characters use **eastAsia** (or **eastAsiaTheme** if defined): E0 – E1, E8 – EA, EC – ED, F2 – F3, F9 – FA, FC
Latin Extended-A	0100 – 017F	**hAnsi** (or **hAnsiTheme** if defined), with the following exception: If **hint** is *eastAsia*, and the language of the run is either Chinese Traditional or Chinese Simplified, or the character set of the **eastAsia** (or **eastAsiaTheme** if defined) font is Chinese5 or GB2312 then **eastAsia** (or **eastAsiaTheme** if defined) font is used.
Latin Extended-B	0180 –	**hAnsi** (or **hAnsiTheme** if defined), with the following exception:

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Unicode Block	Range	Classification
	024F	If **hint** is *eastAsia*, and the language of the run is either Chinese Traditional or Chinese Simplified, or the character set of the **eastAsia** (or **eastAsiaTheme** if defined) font is Chinese5 or GB2312 then **eastAsia** (or **eastAsiaTheme** if defined) font is used.
IPA Extensions	0250 – 02AF	**hAnsi** (or **hAnsiTheme** if defined), with the following exception: If **hint** is *eastAsia*, and the language of the run is either Chinese Traditional or Chinese Simplified, or the character set of the **eastAsia** (or **eastAsiaTheme** if defined) font is Chinese5 or GB2312 then **eastAsia** (or **eastAsiaTheme** if defined) font is used.
Spacing Modifier Letters	02B0 – 02FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Combining Diacritical Marks	0300 – 036F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Greek	0370 – 03CF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Cyrillic	0400 – 04FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Hebrew	0590 – 05FF	**ascii** (or **asciiTheme** if defined)
Arabic	0600 – 06FF	**ascii** (or **asciiTheme** if defined)
Syriac	0700 – 074F	**ascii** (or **asciiTheme** if defined)
Arabic Supplement	0750 – 077F	**ascii** (or **asciiTheme** if defined)
Thaana	0780 – 07BF	**ascii** (or **asciiTheme** if defined)
Hangul Jamo	1100 – 11FF	**eastAsia** (or **eastAsiaTheme** if defined)
Latin Extended Additional	1E00 – 1EFF	**hAnsi** (or **hAnsiTheme** if defined), with the following exception: If the **hint** is *eastAsia* and the language of the run is Chinese Traditional or Chinese Simplified then **eastAsia** (or **eastAsiaTheme** if defined) is used.
General Punctuation	2000 – 206F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Superscripts and Subscripts	2070 – 209F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Currency Symbols	20A0 – 20CF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Combining Diacritical Marks for Symbols	20D0 – 20FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Letter-like Symbols	2100 – 214F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.

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Unicode Block	Range	Classification
Number Forms	2150 – 218F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Arrows	2190 – 21FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Mathematical Operators	2200 – 22FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Miscellaneous Technical	2300 – 23FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Control Pictures	2400 – 243F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Optical Character Recognition	2440 – 245F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Enclosed Alphanumerics	2460 – 24FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Box Drawing	2500 – 257F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Block Elements	2580 – 259F	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Geometric Shapes	25A0 – 25FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Miscellaneous Symbols	2600 – 26FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Dingbats	2700 – 27BF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
CJK Radicals Supplement	2E80 – 2EFF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
Kangxi Radicals	2F00 – 2FDF	**eastAsia** (or **eastAsiaTheme** if defined)
Ideographic Description Characters	2FF0 – 2FFF	**eastAsia** (or **eastAsiaTheme** if defined)
CJK Symbols and Punctuation	3000 – 303F	**eastAsia** (or **eastAsiaTheme** if defined)
Hiragana	3040 – 309F	**eastAsia** (or **eastAsiaTheme** if defined)
Katakana	30A0 – 30FF	**eastAsia** (or **eastAsiaTheme** if defined)
Bopomofo	3100 – 312F	**eastAsia** (or **eastAsiaTheme** if defined)
Hangul Compatibility Jamo	3130 – 318F	**eastAsia** (or **eastAsiaTheme** if defined)
Kanbun	3190 – 319F	**eastAsia** (or **eastAsiaTheme** if defined)

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Unicode Block	Range	Classification
Enclosed CJK Letters and Months	3200 – 32FF	**eastAsia** (or **eastAsiaTheme** if defined)
CJK Compatibility	3300 – 33FF	**eastAsia** (or **eastAsiaTheme** if defined)
CJK Unified Ideographs Extension A	3400 – 4DBF	**eastAsia** (or **eastAsiaTheme** if defined)
CJK Unified Ideographs	4E00 – 9FAF	**eastAsia** (or **eastAsiaTheme** if defined)
Yi Syllables	A000 – A48F	**eastAsia** (or **eastAsiaTheme** if defined)
Yi Radicals	A490 – A4CF	**eastAsia** (or **eastAsiaTheme** if defined)
Hangul Syllables	AC00 – D7AF	**eastAsia** (or **eastAsiaTheme** if defined)
High Surrogates	D800 – DB7F	**eastAsia** (or **eastAsiaTheme** if defined)
High Private Use Surrogates	DB80 – DBFF	**eastAsia** (or **eastAsiaTheme** if defined)
Low Surrogates	DC00 – DFFF	**eastAsia** (or **eastAsiaTheme** if defined)
Private Use Area	E000 – F8FF	If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used.
CJK Compatibility Ideographs	F900 – FAFF	**eastAsia** (or **eastAsiaTheme** if defined)
Alphabetic Presentation Forms	FB00 – FB4F	**hAnsi** (or **hAnsiTheme** if defined), with the following exceptions: If the **hint** is *eastAsia* then **eastAsia** (or **eastAsiaTheme** if defined) is used for characters in the range FB00 – FB1C. For the range FB1D – FB4F, **ascii** (or **asciiTheme** if defined) is used.
Arabic Presentation Forms-A	FB50 – FDFF	**ascii** (or **asciiTheme** if defined)
CJK Compatibility Forms	FE30 – FE4F	**eastAsia** (or **eastAsiaTheme** if defined)
Small Form Variants	FE50 – FE6F	**eastAsia** (or **eastAsiaTheme** if defined)
Arabic Presentation Forms-B	FE70 – FEFE	**ascii** (or **asciiTheme** if defined)
Halfwidth and Fullwidth Forms	FF00 – FFEF	**eastAsia** (or **eastAsiaTheme** if defined)

c. *The standard states that the default fonts for the ascii, hAnsi, cs, and eastAsia attributes are application-defined.*

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Word uses a default font of Times New Roman for all of these attributes.

d. *The standard states that all characters that are determined to be East Asian should use the value of eastAsia element as the font.*

If the value of eastAsia attibute is "Times New Roman", and the value of the ascii (or asciiTheme) and the hAnsi (or hAnsiTheme) attributes are equal, then the value of the ascii (or asciiTheme, if defined) attribute is used as the font.

e. *The standard states the following regarding ascii and asciiTheme attributes: If the asciiTheme attribute is also specified, then this attribute (ascii) shall be ignored and that value shall be used instead. If the ascii attribute is also specified, then that attribute (asciiTheme) shall be ignored and this value shall be used instead.*

These statements only apply to the current rFonts element that both attributes appear in and are not taken into consideration at different levels of the style hierarchy.

If an inherited style contains an rFonts element with the ascii attribute it will override any previously specified ascii or asciiTheme attribute in the style hierarchy. The same is true of the asciiTheme attribute, it will also override any previously specified asciiTheme or ascii attribute in the style hierarchy.

Similar behavior exists for cs, csTheme, eastAsia, easAsiaTheme, hAnsi, and hAnsiTheme attributes.

2.1.89 Part 1 Section 17.3.2.27, rPr (Previous Run Properties)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §17.3.2.22(a)*;* del, §17.13.5.13(a).

2.1.90 Part 1 Section 17.3.2.28, rPr (Run Properties)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §17.3.2.22(a)*;* del, §17.13.5.13(a).

2.1.91 Part 1 Section 17.3.2.29, rStyle (Referenced Character Style)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §17.7.5.4(a)*;* rPr, §17.7.6.2(a)*;* rPr, §17.7.9.1(a)*;* numStyleLink, §17.9.21(a)*;* rPr, §17.9.24(a).

a. *The standard states that this element specifies the style ID of the character style that shall be used to format the contents of this paragraph.*

Word applies character styles to the parent run.

b. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.92 Part 1 Section 17.3.2.30, rtl (Right To Left Text)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §17.7.5.4(a)*;* rPr, §17.7.6.2(a)*;* rPr, §17.7.9.1(a).

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2.1.93 Part 1 Section 17.3.2.31, shadow (Shadow)

a. *The standard states that for left-to-right text, the shadow is beneath the text and to its right; for right-to-left text, the shadow is beneath the text and to its left.*

Word always shows the shadow beneath the text and to its right, regardless of direction of text.

2.1.94 Part 1 Section 17.3.2.32, shd (Run Shading)

For additional notes that apply to this portion of the standard, please see the notes for shd, §17.4.32(a,d).

2.1.95 Part 1 Section 17.3.2.33, smallCaps (Small Caps)

a. *The standard states that all small letter characters shall display as their capital letter equivalent in a font size two points smaller than the actual font size specified.*

Word displays small caps text in a font size slightly smaller than the original size, but not exactly 2 points smaller.

2.1.96 Part 1 Section 17.3.2.35, spacing (Character Spacing Adjustment)

a. *The standard does not state how a conflict between this element and the fitText element should be resolved, when their requirements conflict.*

Word ignores this element when the fitText element is also specified.

b. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least -31680 (-22") and at most 31680 (22").

2.1.97 Part 1 Section 17.3.2.36, specVanish (Paragraph Mark Is Always Hidden)

a. *The standard states that this element results in the text always being hidden.*

Word ignores this element unless the vanish element is also set.

2.1.98 Part 1 Section 17.3.2.38, sz (Non-Complex Script Font Size)

a. *The standard states that this element applies font size to non-complex script characters but does not specify how that determination is made.*

Word determines this state based on the state of the cs and rtl properties and applies font size to runs that do not use either of those properties.

2.1.99 Part 1 Section 17.3.2.39, szCs (Complex Script Font Size)

a. *The standard states that this element applies font size to complex script characters but does not specify how that determination is made.*

Word determines this state based on the state of the cs and rtl properties and applies font size to runs that use either of those properties.

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2.1.100 Part 1 Section 17.3.2.40, u (Underline)

a. *The standard does not state a default value for the color attribute.*

   If the color attribute is not specified, Word defaults to the value defined in the style hierarchy and then to a value of auto.

b. *The standard does not state which setting is applied when both the themeShade and the themeTint attributes are present.*

   Word applies the themeTint setting when both of these attributes are present.

c. *The standard does not specify a default value for the val attribute.*

   If the val attribute is not specified, Word defaults to the value defined in the style hierarchy and then to no underline.

2.1.101 Part 1 Section 17.3.2.44, webHidden (Web Hidden Text)

a. *The standard states that this setting shall cause content to be hidden from display at display time in a document when the document is being displayed in a web page view.*

   Word ignores this setting when it is applied as part of a character style definition.

b. *The standard states that this element specifies whether the contents of this run shall be hidden from display at display time in a document when the document is being displayed in a web page view.*

   If this element is present within the previous run properties for a run, Word will apply that setting to the current run properties when it is saved.

2.1.102 Part 1 Section 17.3.3.2, contentPart (Content Part)

a. *The standard states that if an application cannot process content of the content type specified by the targeted part, then it should continue to process the file. If possible, it should also provide some indication that unknown content was not imported.*

Word will fail to load the document if the content part's content type is not text/xml. Otherwise, Word will ignore the content part without any indication if the root namespace is not recognized. For example, Word 2013 will ignore the content part without any indication if the root namespace neither "http://www.w3.org/1998/Math/MathML" nor "http://www.w3.org/2003/InkML".

2.1.103 Part 1 Section 17.3.3.3, control (Embedded Control)

For additional notes that apply to this portion of the standard, please see the notes for control, §14.2.2.1(a).

a. *The standard specifies that the shapeid reference is resolved by looking for a DrawingML object whose id attribute matches the value specified by the shapeid attribute.*

   Word looks for a DrawingML object or a VML shape element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)"), whose id attribute matches the value specified by the shapeid attribute.

2.1.104 Part 1 Section 17.3.3.9, drawing (DrawingML Object)

a. *The standard states that there can be an unlimited number of inline drawing and anchor drawing properties inside the drawing element.*

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Word expects a single child element to occur and will behave according to the last such element in the drawing element.

2.1.105 Part 1 Section 17.3.3.12, hpsRaise (Distance Between Phonetic Guide Text and Phonetic Guide Base Text)

a. *The standard states that the values of the val attribute are defined by the XML Schema unsignedLong datatype.*

Word defines the values of this attribute with the XML Schema short datatype.

2.1.106 Part 1 Section 17.3.3.13, lastRenderedPageBreak (Position of Last Calculated Page Break)

a. *The standard states that a lastRenderedPageBreak is written for each page break as calculated by the rendering application's pagination algorithm.*

When Word encounters a continuous section break ("[ISO/IEC-29500-1] §17.6.22; type") during pagination, Word will erroneously write a lastRenderedPageBreak.

This note applies to the following products: Office 2010, Office 2010 Server, Office 2010 SP1.

2.1.107 Part 1 Section 17.3.3.14, lid (Language ID for Phonetic Guide)

For additional notes that apply to this portion of the standard, please see the notes for lid, §17.14.17(a).

2.1.108 Part 1 Section 17.3.3.17, movie (Embedded Video)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.5.1(a)*;* attachedTemplate, §17.15.1.6(a).

a. *The standard states that this element shall be used to store video information associated with an image.*

Word ignores this element when loading a WordprocessingML document; therefore, this element is lost on roundtrip.

2.1.109 Part 1 Section 17.3.3.19, object (Embedded Object)

a. *The standard states that object can have a child of type drawing (DrawingML Object)*

Word will ignore the embedded object if it has a child of type drawing (DrawingML Object). The static representation of the object is maintained, but no longer has any connection to the embedded object.

This note applies to the following products: Office 2013 Client (Transitional), Office 2013 Server (Transitional), Office 2016 Client (Transitional), Office 2016 Server (Transitional).

2.1.110 Part 1 Section 17.3.3.20, objectEmbed (Embedded Object Properties)

a. *The standard states that this element specifies the visual properties and associated server application of an embedded object.*

Word always ignores this element.

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This note applies to the following products: Office 2013 Client (Transitional), Office 2013 Server (Transitional), Office 2016 Client (Transitional), Office 2016 Server (Transitional).

2.1.111 Part 1 Section 17.3.3.21, objectLink (Linked Object Properties)

a. *The standard states that this element specifies the visual properties, associated server application, and refresh mode of a linked object.*

Word always ignores this element.

This note applies to the following products: Office 2013 Client (Transitional), Office 2013 Server (Transitional), Office 2016 Client (Transitional), Office 2016 Server (Transitional).

2.1.112 Part 1 Section 17.3.3.24, rt (Phonetic Guide Text)

For additional notes that apply to this portion of the standard, please see the notes for rubyBase, §17.3.3.27(a-d)*;* oMath, §22.1.2.77(c)*.*

2.1.113 Part 1 Section 17.3.3.27, rubyBase (Phonetic Guide Base Text)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

a. *The standard makes no mention of a child customXml element.*

Word allows a child customXml element as defined in customXml (Ruby Cell-Level Custom XML Element) (§3.1.3.1.1, customXml).

b. *The standard makes no mention of a child fldSimple element.*

Word allows a child fldSimple element as defined in fldSimple (Ruby Simple Field) (§3.1.3.1.2, fldSimple).

c. *The standard makes no mention of a child hyperlink element.*

Word allows a child hyperlink element as defined in hyperlink (Ruby Hyperlink) (§3.1.3.1.3, hyperlink).

d. *The standard makes no mention of a child sdt element.*

Word allows a child sdt element as defined in sdt (Ruby Inline-Level Structured Document Tag) (§3.1.3.1.6, sdt).

2.1.114 Part 1 Section 17.3.3.30, sym (Symbol Character)

a. *The standard states that the font attribute can contain any string value.*

Word restricts the contents of the font attribute to a maximum length of 31 characters.

2.1.115 Part 1 Section 17.4.1, bidiVisual (Visually Right to Left Table)

For additional notes that apply to this portion of the standard, please see the notes for tblPr, §17.7.6.3(a)*;* tblPr, §17.7.6.4(a)*.*

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2.1.116 Part 1 Section 17.4.2, bottom (Table Cell Bottom Margin Exception)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a).

a. *The standard states that a 'type' attribute value of "nil" specifies that the current width is 0.*

Word ignores this element when the 'type' attribute has a value of "nil".

2.1.117 Part 1 Section 17.4.3, bottom (Table Cell Bottom Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.118 Part 1 Section 17.4.4, bottom (Table Bottom Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.119 Part 1 Section 17.4.5, bottom (Table Cell Bottom Margin Default)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a).

2.1.120 Part 1 Section 17.4.6, cantSplit (Table Row Cannot Break Across Pages)

a. *The standard states that the row shall start on a new page and flow onto multiple pages as necessary when the contents of the table row cannot fit on a single page.*

Word starts the row on a new page and cuts off overflowing contents as necessary under this circumstance.

2.1.121 Part 1 Section 17.4.7, cnfStyle (Table Row Conditional Formatting)

For additional notes that apply to this portion of the standard, please see the notes for trPr, §17.7.6.10(b); trPr, §17.7.6.11(a).

2.1.122 Part 1 Section 17.4.8, cnfStyle (Table Cell Conditional Formatting)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b); tcPr, §17.7.6.9(a).

2.1.123 Part 1 Section 17.4.9, divId (Associated HTML div ID)

For additional notes that apply to this portion of the standard, please see the notes for divId, §17.3.1.10(a); trPr, §17.7.6.10(b); trPr, §17.7.6.11(a).

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word does not allow a value of 0 on this attribute.

2.1.124 Part 1 Section 17.4.10, end (Table Cell Trailing Margin Exception)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a).

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a. *The standard states that a 'type' attribute value of "nil" specifies that the current width is 0.*

Word ignores this element when the 'type' attribute has a value of "nil".

2.1.125 Part 1 Section 17.4.11, end (Table Cell Trailing Margin Default)

a. *The standard states that any width value of type pct or auto for this element shall be ignored.*

Word uses a default value of 0 for the width when the value of the type attribute is pct or auto.

2.1.126 Part 1 Section 17.4.12, end (Table Cell Trailing Edge Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.127 Part 1 Section 17.4.13, end (Table Trailing Edge Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.128 Part 1 Section 17.4.14, gridAfter (Grid Columns After Last Cell)

For additional notes that apply to this portion of the standard, please see the notes for trPr, §17.7.6.10(b); trPr, §17.7.6.11(a).

a. *The standard states that if this element conflicts with the document grid, then it is ignored.*

In Word, if this element conflicts with the table grid, then it is ignored.

b. *The standard states the values for the val attribute are defined by the ST_DecimalNumber simple type*

Word only ignores 0 or negative values for this element

2.1.129 Part 1 Section 17.4.15, gridBefore (Grid Columns Before First Cell)

For additional notes that apply to this portion of the standard, please see the notes for trPr, §17.7.6.10(b); trPr, §17.7.6.11(a).

a. *The standard states that if the value of this element exceeds the number of grid columns, then the value shall be ignored.*

Word requires that this value not exceed the total number of grid columns. If the value of this element exceeds the number of grid columns, then the behavior is unpredictable.

b. *The standard states that the possible values for the val attribute are defined by the ST_DecimalNumber simple type.*

Word only understands non-negative values for the val attribute.

2.1.130 Part 1 Section 17.4.17, gridSpan (Grid Columns Spanned by Current Table Cell)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b); tcPr, §17.7.6.9(a).

a. *The standard allows a gridSpan to have a value of 0.*

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Word treats a gridSpan of 0 the same as a grid span of 1.

2.1.131 Part 1 Section 17.4.18, header (Header Cell Reference)

a. *The standard specifies that this element specifies a reference, using a unique identifier, to a table header cell that is associated with the current table cell.*

Word always ignores this element.

2.1.132 Part 1 Section 17.4.19, headers (Header Cells Associated With Table Cell)

a. *The standard specifies the list of header cells, as specified by child header elements, that provide header information associated with the current table cell.*

Word always ignores this element.

2.1.133 Part 1 Section 17.4.20, hidden (Hidden Table Row Marker)

a. *The standard allows the hidden element inside a table style definition.*

Word ignores the hidden element inside a table style definition.

2.1.134 Part 1 Section 17.4.21, hideMark (Ignore End Of Cell Marker In Row Height Calculation)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b)*;* tcPr, §17.7.6.9(a)*.*

2.1.135 Part 1 Section 17.4.22, insideH (Table Inside Horizontal Edges Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

2.1.136 Part 1 Section 17.4.23, insideH (Table Cell Inside Horizontal Edges Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

a. *The standard states that if the table has cell spacing then inside horizontal borders are displayed.*

In Word, when a table has cell spacing, the appearance of the insideH border is still subject to the conflict resolution algorithm defined by the tcBorders and tblBorders elements.

2.1.137 Part 1 Section 17.4.24, insideV (Table Inside Vertical Edges Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

2.1.138 Part 1 Section 17.4.25, insideV (Table Cell Inside Vertical Edges Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

a. *The standard states that if the table has cell spacing then inside vertical borders are displayed.*

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In Word, when a table has cell spacing the appearance of the insideV border is still subject to the conflict resolution algorithm defined by the tcBorders and tblBorders elements.

2.1.139 Part 1 Section 17.4.26, jc (Table Alignment Exception)

For additional notes that apply to this portion of the standard, please see the notes for lvlJc, §17.9.7(a)*.*

2.1.140 Part 1 Section 17.4.27, jc (Table Row Alignment)

For additional notes that apply to this portion of the standard, please see the notes for lvlJc, §17.9.7(a)*.*

2.1.141 Part 1 Section 17.4.28, jc (Table Alignment)

a. *The standard states that the table shall be left justified with zero indentation from the leading margin when no table alignment is specified in the style hierarchy.*

Word honors indentation under this circumstance.

2.1.142 Part 1 Section 17.4.30, shd (Table Shading Exception)

For additional notes that apply to this portion of the standard, please see the notes for shd, §17.4.32(a,d)*.*

a. *The standard states that table shading is applied to cells in the table.*

Word applies table shading only to the cell spacing of the table.

b. *The standard specifies that the val attribute is both required and optional.*

Word treats the val attribute as required.

2.1.143 Part 1 Section 17.4.31, shd (Table Shading)

For additional notes that apply to this portion of the standard, please see the notes for shd, §17.4.32(a,d)*.*

a. *The standard states that table shading is applied to cells in the table.*

Word applies table shading only to the cell spacing of the table.

b. *The standard specifies that the val attribute is both required and optional.*

Word treats the val attribute as required.

2.1.144 Part 1 Section 17.4.32, shd (Table Cell Shading)

a. *The standard does not state which setting is applied when both the themeShade and the themeTint attributes are present.*

Word applies the themeTint setting when both of these attributes are present.

b. *The standard states that if the shd element is omitted, then the cell shading is determined by the table-level or table-level exception cell shading settings.*

In Word if the shd element is omitted, then the cell shading is determined by the table style.

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c. *The standard specifies that the val attribute is both required and optional.*

Word treats the val attribute as required.

d. *The standard states that if the themeFill attribute is omitted, the color attribute is used.*

Because themeFill is the theme color equivalent of fill, if themeFill is omitted, Word uses the fill attribute in its place.

2.1.145 Part 1 Section 17.4.33, start (Table Cell Leading Edge Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.146 Part 1 Section 17.4.34, start (Table Cell Leading Margin Default)

a. *The standard states that any width value of type pct or auto for this element shall be ignored.*

Word uses a default value of 0 for the width when the value of the type attribute is pct or auto.

2.1.147 Part 1 Section 17.4.35, start (Table Cell Leading Margin Exception)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a).

a. *The standard states that a 'type' attribute value of "nil" specifies that the current width is 0.*

Word ignores this element when the 'type' attribute has a value of "nil".

2.1.148 Part 1 Section 17.4.36, start (Table Leading Edge Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.149 Part 1 Section 17.4.37, tbl (Table)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

a. *The standard states that when two tbl elements having the same style are present within the document content, without any intervening p elements, the corresponding tables shall be treated as a single table.*

In Word, there is an exception to this behavior when at least one of the tables has an absolute position specified in its tblpPr element. In this case, the corresponding tables are treated as distinct.

2. *The standard states that the number of tc (Table Cell) elements in the CT_Row is unbounded.*

Word allows at most 63 tc elements. If more than 63 tc elements are present in the tr element, Word considers the file to be invalid.

2.1.150 Part 1 Section 17.4.38, tblBorders (Table Borders)

a. *The standard specifies a method for resolving border conflicts.*

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In Word, when cell spacing is nonzero, **insideH** and **insideV** table-level exception borders may still conflict with cell borders. If there is a border conflict, it shall be resolved using the method describe in **tcBorders** ("[ISO/IEC-29500-1] §17.4.66; tcBorders (Table Cell Borders)").

b. *The standard says that if cell spacing is nonzero, then there is no border conflict even though insideH and insideV table exception borders may conflict with cell borders.*

   In Word, when cell spacing is nonzero, insideH and insideV table exception borders may still conflict with cell borders.

2.1.151 Part 1 Section 17.4.39, tblBorders (Table Borders Exceptions)

a. *The standard specifies a method for resolving border conflicts.*

In Word, when cell spacing is nonzero, **insideH** and **insideV** table-level exception borders may still conflict with cell borders. If there is a border conflict, it shall be resolved using the method describe in **tcBorders** ("[ISO/IEC-29500-1] §17.4.66; tcBorders (Table Cell Borders)").

b. *The standard says that if cell spacing is nonzero, then there is no border conflict even though insideH and insideV table exception borders may conflict with cell borders.*

   In Word, when cell spacing is nonzero, insideH and insideV table exception borders may still conflict with cell borders.

2.1.152 Part 1 Section 17.4.43, tblCellSpacing (Table Row Cell Spacing)

a. *The standard states that any width value of type pct or auto for this element shall be ignored.*

   Word uses a default value of 0 for the width when the value of the type attribute is pct or auto.

2.1.153 Part 1 Section 17.4.44, tblCellSpacing (Table Cell Spacing Exception)

a. *The standard states that any width value of type pct or auto for this element shall be ignored.*

   Word uses a default value of 0 for the width when the value of the type attribute is pct or auto.

2.1.154 Part 1 Section 17.4.45, tblCellSpacing (Table Cell Spacing Default)

a. *The standard states that any width value of type pct or auto for this element shall be ignored.*

   Word uses a default value of 0 for the width when the value of the type attribute is pct or auto.

2.1.155 Part 1 Section 17.4.50, tblInd (Table Indent from Leading Margin)

a. *The standard says tblInd is ignored if the justification is not left.*

   Word does not ignore tblInd if the justification is not left.

2.1.156 Part 1 Section 17.4.51, tblInd (Table Indent from Leading Margin Exception)

a. *The standard allows table indent exception to be set for any table row.*

   Word applies table indent exception to the whole table if the property is specified for the first table row and ignores this property if it is set for other table rows.

b. *The standard says tblInd is ignored if justification on the parent table row is not left.*

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Word does not ignore tblInd if the justification is not left.

2.1.157 Part 1 Section 17.4.52, tblLayout (Table Layout)

For additional notes that apply to this portion of the standard, please see the notes for tblPr, §17.7.6.3(a)*;* tblPr, §17.7.6.4(a)*.*

2.1.158 Part 1 Section 17.4.53, tblLayout (Table Layout Exception)

a. *The standard states that the table layout exception can be used to set any table row's table layout to autofit or fixed.*

Word ignores this element if it is not in the first row of the table or if its value is autofit. If the value is not ignored, then it applies to the whole table.

b. *The standard states that if the tblLayout element is omitted, then the value defaults to autofit.*

In Word, if the tblLayout element is omitted, then the layout algorithm is determined by the default set of table properties on the parent table.

2.1.159 Part 1 Section 17.4.54, tblLook (Table Style Conditional Formatting Settings Exception)

a. *The standard does not specify how to format corner cells when both a row style and an overlapping column style are determined by the options set in tblLook.*

When both a row and a column styling apply to a corner cell, Word allows the cell to be individually styled. These corner cells are:

- Top left cell – Applicable when both Header Row and First Column are used.
- Top right cell – Applicable when both Header Row and Last Column are used.
- Bottom left cell – Applicable when both Total Row and First Column are used.
- Bottom right cell – Applicable when both Total Row and Last Column are used.

b. *The standard specifies a set of attributes on this element.*

Word reads the val attribute specified in "[ISO/IEC-29500-4] §14.4.11; Additional attribute for tblLook element (Part 1, §17.4.54)" if, and only if, none of the attributes specified in this subsection are present.

2.1.160 Part 1 Section 17.4.55, tblLook (Table Style Conditional Formatting Settings)

For additional notes that apply to this portion of the standard, please see the notes for tblPr, §17.7.6.3(a)*;* tblPr, §17.7.6.4(a)*.*

a. *The standard states that when the tblLook element is omitted, the bitmask of table style options on the current table shall be assumed to be 0x0000.*

In Word, when the tblLook element is omitted, the bitmask of table style options on the current table is assumed to be 0x04A0.

b. *The standard states there are six conditional formatting options that can be set in tblLook.*

When both a row and a column styling is applied it may yield undesired effect on the overlapping corner cell. Word allows the cell to be individually styled. These corner cells are:

- Top left cell – when Header Row and First Column are used.

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- Top right cell – when Header Row and Last Column are used.
- Bottom left cell – when Total Row and First Column are used.
- Bottom right cell – when Total Row and Last Column are used.

c. *The standard specifies a set of attributes on this element.*

Word reads the val attribute specified in "[ISO/IEC-29500-4] §14.4.12; Additional attribute for tblLook element (Part 1, §17.4.55)" if, and only if, none of the attributes specified in this subsection are present.

2.1.161 Part 1 Section 17.4.56, tblOverlap (Floating Table Allows Other Tables to Overlap)

For additional notes that apply to this portion of the standard, please see the notes for tblPr, §17.7.6.3(a); tblPr, §17.7.6.4(a).

2.1.162 Part 1 Section 17.4.57, tblpPr (Floating Table Positioning)

For additional notes that apply to this portion of the standard, please see the notes for tblPr, §17.7.6.3(a); tblPr, §17.7.6.4(a).

a. *The standard says that horizontal floating table positioning flips which edge it is relative to in right to left paragraphs versus left to right paragraphs.*

In Word, horizontal floating table positioning is always relative to the left edge.

b. *The standard does not specify any conditions under which tblpPr is ignored.*

Word ignores the **tblpPr** element if all attributes are omitted. It also ignores this element if the table is contained in a textbox, footnote, endnote, or comment, or if all of the following conditions are met:

- The **tblpX** attribute value is 0.
- The **tblpY** attribute value is 0.
- The **horzAnchor** attribute value is *text.*
- The **vertAnchor** attribute value is not *text.*

c. *The standard states that the default values of vertAnchor and horzAnchor are page.*

In Word, the default value for vertAnchor is margin and the default value for horzAnchor is text.

d. *The standard allows any integer for leftFromText, rightFromText, topFromText, bottomFromText, tblpX, and tblpY.*

Word only allows integers between 0 and 32767 for leftFromText, rightFromText, topFromText, bottomFromText, tblpX, and tblpY.

e. *The standard does not specify that tblpX and tblpY should be changed before display.*

To avoid the condition where the tblpPr element is ignored, Word adds 1 twentieth of a point to the actual distance value when it saves a file and subtracts 1 twentieth of a point to the actual distance value when it opens a file. For example, if the value of attribute **tblpX** or **tblpY** is supposed be 0 twentieths of a point, then Word writes 1 instead, and if Word reads the value 1 for tblpX or tblpY it interprets that value as 0 instead.

2.1.163 Part 1 Section 17.4.58, tblPr (Previous Table Properties)

a. *The standard states that the tblStyleColBandSize and tblStyleRowBandSize elements are valid child elements of the tblPr element.*

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Word does not allow these elements to be child elements of the tblPr element.

2.1.164 Part 1 Section 17.4.59, tblPr (Table Properties)

a. *The standard states that the tblStyleColBandSize and tblStyleRowBandSize elements are valid child elements of the tblPr element.*

Word does not allow these elements to be child elements of the tblPr element.

2.1.165 Part 1 Section 17.4.62, tblStyle (Referenced Table Style)

For additional notes that apply to this portion of the standard, please see the notes for tblPr, §17.7.6.3(a)*;* tblPr, §17.7.6.4(a)*;* numStyleLink, §17.9.21(a)*.*

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.166 Part 1 Section 17.4.63, tblW (Preferred Table Width)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a)*;* tblPr, §17.7.6.3(a)*;* tblPr, §17.7.6.4(a)*.*

a. *The standard specifies that if w is 0, the preferred table width is 0.*

Word interprets the type attribute as auto if w is 0.

b. *The standard does not specify the behavior when the type attribute is nil.*

When the type attribute has a value of nil, Word interprets the type attribute value as auto.

2.1.167 Part 1 Section 17.4.64, tblW (Preferred Table Width Exception)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a)*.*

a. *The standard specifies that this element specifies the preferred width for the parent table row.*

Word ignores this element if it is not present in the first row of the table. If it is in the first row, Word applies this preferred width to the entire table.

b. *The standard specifies that if w is 0, the preferred table width is 0.*

Word interprets the type attribute as auto if w is 0.

c. *The standard states that if the tblW element is omitted, then the cell width is auto.*

In Word, if the tblW element is omitted, then the table width is determined by the preferred table width element.

d. *The standard does not specify the behavior when the type attribute is nil.*

Word interprets the type attribute value as auto when the type attribute has a value of nil.

2.1.168 Part 1 Section 17.4.65, tc (Table Cell)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f)*;* oMathPara, §22.1.2.78(c)*.*

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a. *The standard states that the id attribute is a valid attribute of the tc element.*

Word ignores the id attribute.

b. *The standard states that a tc element must include at least one block-level element.*

If a tc element does not contain at least one p element, and that element is not the last child block-level element of the tc element, then Word will fail to open the file.

3. The standard states that the number of tc (Table Cell) elements in the CT_Row is unbounded.

Word allows at most 63 tc elements. If more than 63 tc elements are present in the tr element, Word considers the file to be invalid.

2.1.169 Part 1 Section 17.4.66, tcBorders (Table Cell Borders)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.9(b).

a. *The standard specifies a method for resolving border conflicts.*

Word determines top, bottom, left, and right cell border for each cell as follows:

- If the cell border is omitted or *none* (no border), find the cell border from the table style ("[ISO/IEC-29500-1] §17.7.6").
- If the cell border is still not specified, find the appropriate border from the table-level border exceptions ("[ISO/IEC-29500-1] §17.4.39; tblBorders").
- If the cell border is still not specified, find the appropriate border from the table-level borders ("[ISO/IEC-29500-1] §17.4.38; tblBorders").

If the cell spacing is nonzero as specified using the tblCellSpacing element ("[ISO/IEC-29500-1] §17.4.44; tblCellSpacing"), then all cell borders and outer table borders display.

If the cell spacing is zero, then there may be a conflict between two adjacent borders. In Office, this conflict is resolved using the following procedure:

If the conflicting table cell border is *none* (no border), then the opposing border shall be displayed. If the conflicting table cell border is *nil*, then no border shall be displayed.

Each border shall then be assigned a weight using the following formula, and the border which has a higher value using this calculation shall be displayed over the alternative border:

$$W_{border} = \text{border width} * \text{border number}$$

The border width shall be specified in measurements of eighths of a point. The border number shall be determined by the following list. The borders with *dotted* and *dashed* styles shall be assigned the weight 1 regardless of the border width and number.

Border Number	
single	**1**
thick	**2**
double	**3**
dotDash	**8**
dotDotDash	**9**

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Border Number	
triple	**10**
thinThickSmallGap	**11**
thickThinSmallGap	**12**
thinThickThinSmallGap	**13**
thinThickMediumGap	**14**
thickThinMediumGap	**15**
thinThickThinMediumGap	**16**
thinThickLargeGap	**17**
thickThinLargeGap	**18**
thinThickThinLargeGap	**19**
wave	**20**
doubleWave	**21**
dashSmallGap	**22**
dashDotStroked	**23**
threeDEmboss	**24**
threeDEngrave	**25**
outset	**26**
inset	**27**

If the borders have an equal weight, then the higher of the two on this precedence list shall be displayed:

- **single**
- **thick**
- **double**
- **dotted**
- **dashed**
- **dotDash**
- **dotDotDash**
- **triple**
- **thinThickSmallGap**
- **thickThinSmallGap**
- **thinThickThinSmallGap**
- **thinThickMediumGap**
- **thickThinMediumGap**
- **thinThickThinMediumGap**
- **thinThickLargeGap**
- **thickThinLargeGap**
- **thinThickThinLargeGap**
- **wave**
- **doubleWave**

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- **dashSmallGap**
- **dashDotStroked**
- **threeDEmboss**
- **threeDEngrave**
- **outset**
- **inset**

If the borders have an identical style, then each border color shall be assigned a brightness value as follows:

$$\text{Brightness} = R + B + 2 * G$$

The color with the smaller brightness value shall be displayed.

If the borders have an identical brightness value, then each border color shall be assigned a new brightness value as follows:

$$\text{Brightness} = B + 2 * G$$

The color with the smaller brightness value shall be displayed.

If the borders have an identical brightness value, then each border color shall be assigned a brightness value as follows:

$$\text{Brightness} = G$$

The color with the smaller brightness value shall be displayed.

If the borders have an identical brightness value, then they are functionally identical, and the first border in reading order should be displayed.

2.1.170 Part 1 Section 17.4.67, tcFitText (Fit Text Within Cell)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b); tcPr, §17.7.6.9(a).

a. *The standard defines no special behavior for a cell containing text with line breaks.*

In Word, the text in the first paragraph in the cell is fit, but subsequent paragraphs are not.

b. *The standard states that inter-character spacing shall be reduced to fit text.*

In Word, the horizontal size of non-space characters is also reduced to fit text.

2.1.171 Part 1 Section 17.4.71, tcW (Preferred Table Cell Width)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a); tcPr, §17.7.6.8(b); tcPr, §17.7.6.9(a).

a. *The standard states that if the w attribute is 0, then preferred cell width is 0.*

In Word, if the w attribute is 0, then the type attribute is interpreted as auto.

b. *The standard does not specify the behavior when type is nil.*

Word interprets the type attribute value as auto when the type attribute has a value of nil.

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2.1.172 Part 1 Section 17.4.72, textDirection (Table Cell Text Flow Direction)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b); tcPr, §17.7.6.9(a).

a. *The standard states that if the textDirection element is omitted and is not specified in table style, then the table cell shall inherit text flow direction from the parent section.*

In Word, if the textDirection element is omitted and is not specified in table style, then the default text flow direction is lrTb.

2.1.173 Part 1 Section 17.4.73, tl2br (Table Cell Top Left to Bottom Right Diagonal Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

a. *The standard places no restrictions on the border style used in the val attribute.*

Word displays diagonal cell borders as a single solid line, except borders with dotted, dashed, dashSmallGap, dotDash, dotDotDash, and double border styles.

b. *The standard states that if this element is omitted then the table's border settings may be used.*

In Word, if this element is omitted, then the table styles border is used.

2.1.174 Part 1 Section 17.4.74, top (Table Cell Top Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.175 Part 1 Section 17.4.75, top (Table Cell Top Margin Default)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a).

2.1.176 Part 1 Section 17.4.76, top (Table Top Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.177 Part 1 Section 17.4.77, top (Table Cell Top Margin Exception)

a. *The standard states that a 'type' attribute value of "nil" specifies that the current width is 0.*

Word ignores this element when the 'type' attribute has a value of "nil".

2.1.178 Part 1 Section 17.4.78, tr (Table Row)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

a. *The standard states that if a table cell does not contain at least one child, then the file is corrupt.*

In Word, if a table row does not contain at least one child other than the row properties, then the file is corrupt.

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2. *The standard states that the number of tc (Table Cell) elements in the CT_Row is unbounded.*

   Word allows at most 63 tc elements. If more than 63 tc elements are present in the tr element, Word considers the file to be invalid.

2.1.179 Part 1 Section 17.4.79, tr2bl (Table Cell Top Right to Bottom Left Diagonal Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

a. *The standard places no restrictions on the border style used in the val attribute.*

   Word displays diagonal cell borders as a single solid line, except borders with dotted, dashed, dashSmallGap, dotDash, dotDotDash, and double border styles.

b. *The standard states that if this element is omitted then the table's border settings may be used.*

   In Word, if this element is omitted, then the table styles border is used.

2.1.180 Part 1 Section 17.4.80, trHeight (Table Row Height)

For additional notes that apply to this portion of the standard, please see the notes for trPr, §17.7.6.10(b)*;* trPr, §17.7.6.11(a)*.*

a. *The standard states that if the hRule attribute is omitted, then its value is assumed to be auto.*

   In Word, if the hRule attribute is omitted, then its value is assumed to be atLeast.

b. *The standard states that the values of the val attribute are defined by the XML Schema unsignedLong datatype.*

   Word defines the values of this attribute with the XML Schema unsignedInt datatype, with a minimum value of 0 and a maximum value of 31680.

c. *The standard allows the hRule attribute to be set to exact while the val attribute is set to 0.*

   Word requires that if the hRule attribute is set to exact, then the val attribute must not be 0.

d. *The standard states that if the hRule attribute is exact, the row height must be exactly as specified.*

   In Word, if the hRule attribute is exact, Word sets the row height to the exact height plus the largest bottom cell padding of any cell in the row.

2.1.181 Part 1 Section 17.4.83, vAlign (Table Cell Vertical Alignment)

a. *The standard states that the values of the val attribute are defined by the ST_VerticalJc simple type.*

   Word only allows the values top, center, and bottom.

2.1.182 Part 1 Section 17.4.84, vMerge (Vertically Merged Cell)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b)*;* tcPr, §17.7.6.9(a)*.*

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2.1.183 Part 1 Section 17.4.85, wAfter (Preferred Width After Table Row)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a); trPr, §17.7.6.10(b); trPr, §17.7.6.11(a).

2.1.184 Part 1 Section 17.4.86, wBefore (Preferred Width Before Table Row)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a); trPr, §17.7.6.10(b); trPr, §17.7.6.11(a).

a. *The standard states that the wBefore element specifies the width for the grid columns specified in gridAfter.*

In Word, the wBefore element specifies the width for the grid columns specified in gridBefore.

2.1.185 Part 1 Section 17.4.87, Table Measurement (CT_TblWidth)

For additional notes that apply to this portion of the standard, please see the notes for top, §17.4.77(a).

a. *The standard does not describe how to interpret the w attribute when the type attribute is set to "pct" and the value of w does not contain a percent sign.*

In Word, if the type attribute is equal to "pct" and the value of the w attribute does not contain a percent sign, the value of the w attribute shall be interpreted as fiftieths of a percent.

b. *The standard does not specify the expected behavior when the 'w' attribute contains a percent sign, and the 'type' attribute is not equal to "pct".*

In Word, when the value of 'w' contains a percent sign, then the 'type' attribute is ignored and the value is interpreted as whole percentage points.

c. *The standard states that the values of the w attribute are defined by ST_DecimalNumberOrPercent.*

Word expects w to be XML Schema short datatype, not including the percent sign.

d. *The standard states that the values of the w attribute are defined by ST_DecimalNumberOrPercent.*

Word expects the value of the w attribute to be greater than or equal to zero for all elements of type CT_TblWidth, except tblInd.

e. *The standard does not specify in ST_UniversalMeasure that the value of the 'w' attribute must be preserved in its format with a suffix (mm|cm|in|pt|pc|pi) when the 'type' attribute is equal to "dxa".*

On load, Word interprets the w attribute as specified by the standard, including the unit suffix. On save, Word may convert and write out the value of 'w' in twips.

2.1.186 Part 1 Section 17.5.1.1, attr (Custom XML Attribute)

a. *The standard states that the values of the name attribute are defined by the ST_String simple type.*

Word defines the values of this attribute with the XML Schema NCName datatype, restricting it to a maximum length of 255 characters.

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2.1.187 Part 1 Section 17.5.1.2, attr (Smart Tag Property)

a. *The standard does not place any restrictions on the value of the uri attribute.*

Word requires the value of this attribute to be urn:schemas-microsoft-com:office:office.

2.1.188 Part 1 Section 17.5.1.3, customXml (Inline-Level Custom XML Element)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c).

a. *The standard allows ins, del, moveTo, and moveFrom to contain inline customXml.*

Word will fail to load a file if ins, del, moveTo, or moveFrom contains inline customXml.

b. *The standard states a specific set of parent elements that can contain inline customXml elements.*

Word allows the following parent elements in addition to those already listed: deg, den, e, fName, lim, num, oMath, sub, and sup.

c. *The standard allows any string for the uri attribute.*

Word will not open a file if the uri attribute is not declared in an accompanying attachedSchema element.

d. *The standard states that the element attribute can contain any string value.*

Word only allows values conforming to the XML specification; a string conforming to the definition of xsd:NCName with a length of at most 255 characters.

2.1.189 Part 1 Section 17.5.1.4, customXml (Cell-Level Custom XML Element)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

a. *The standard states that the element attribute can contain any string value.*

Word only allows values conforming to the XML specification; a string conforming to the definition of xsd:NCName with a length of at most 255 characters.

b. *The standard states that the uri attribute can contain any string value.*

Word requires that the namespace specified in the uri attribute be declared in an accompanying attachedSchema element.

2.1.190 Part 1 Section 17.5.1.5, customXml (Row-Level Custom XML Element)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

a. *The standard states that the element attribute can contain any string value.*

Word only allows values conforming to the XML specification; a string conforming to the definition of xsd:NCName with a length of at most 255 characters.

2.1.191 Part 1 Section 17.5.1.6, customXml (Block-Level Custom XML Element)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

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a. *The standard states that the element attribute can contain any string value.*

Word only allows values conforming to the XML specification: a string conforming to the definition of xsd:NCName with a length of at most 255 characters.

b. *The standard allows any string for the uri attribute.*

Word will not open a file if the uri attribute is not declared in an accompanying attachedSchema element.

2.1.192 Part 1 Section 17.5.1.9, smartTag (Inline-Level Smart Tag)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c).

a. *The standard states that the element attribute can contain any string value.*

Word only allows values for this attribute that conform to the xsd:NCName datatype.

2.1.193 Part 1 Section 17.5.2.6, dataBinding (XML Mapping)

a. *The standard states that if the parent structured document tag is of type rich text or document part gallery, then this property shall be ignored.*

Word ignores the type of the content control and reverts it to plain text if this property is present.

2.1.194 Part 1 Section 17.5.2.7, date (Date Structured Document Tag)

a. *The standard says a date structured document tag cannot contain more than one table cell and cannot contain a table cell.*

In Word, a date structured document tag cannot contain more than one table cell and cannot contain a table.

2.1.195 Part 1 Section 17.5.2.9, docPart (Document Part Reference)

a. *The standard states that the application shall display the placeholder text of a document part if the parent structured document tag run contents are empty.*

Word does not display the placeholder text until the user clicks in and out of the structured document tag.

2.1.196 Part 1 Section 17.5.2.18, id (Unique ID)

a. *The standard states that if multiple SDTs specify the same value for id, then the first SDT is maintained, and others get a new ID.*

Word discards each SDT completely (leaving its contents) except the last one.

2.1.197 Part 1 Section 17.5.2.19, label (Structured Document Tag Label)

a. *The standard states that this element specifies a label identifier associated with the current structured document tag.*

Word ignores this element.

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2.1.198 Part 1 Section 17.5.2.20, lid (Date Picker Language ID)

For additional notes that apply to this portion of the standard, please see the notes for lid, §17.14.17(a).

2.1.199 Part 1 Section 17.5.2.25, placeholder (Structured Document Tag Placeholder Text)

a. *The standard states that the placeholder text shall be displayed when the parent structured document tag's run is empty*

Application does not show content control nor the placeholder text

2.1.200 Part 1 Section 17.5.2.27, rPr (Run Properties For Structured Document Tag Contents)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §17.3.2.22(a).

2.1.201 Part 1 Section 17.5.2.28, rPr (Structured Document Tag End Character Run Properties)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §17.3.2.22(a).

2.1.202 Part 1 Section 17.5.2.30, sdt (Row-Level Structured Document Tag)

a. *The standard does not allow range elements as children of the sdt element.*

Word allows the following additional elements as child elements of the sdt element:

Child Elements
bookmarkEnd ("[ISO/IEC-29500-1] §17.13.6.1; bookmarkEnd")
bookmarkStart ("[ISO/IEC-29500-1] §17.13.6.2; bookmarkStart")
commentRangeEnd ("[ISO/IEC-29500-1] §17.13.4.3; commentRangeEnd")
commentRangeStart ("[ISO/IEC-29500-1] §17.13.4.4; commentRangeStart")
customXmlDelRangeEnd ("[ISO/IEC-29500-1] §17.13.5.4; customXmlDelRangeEnd")
customXmlDelRangeStart ("[ISO/IEC-29500-1] §17.13.5.5; customXmlDelRangeStart")
customXmlInsRangeEnd ("[ISO/IEC-29500-1] §17.13.5.6; customXmlInsRangeEnd")
customXmlInsRangeStart ("[ISO/IEC-29500-1] §17.13.5.7; customXmlInsRangeStart")
customXmlMoveFromRangeEnd ("[ISO/IEC-29500-1] §17.13.5.8; customXmlMoveFromRangeEnd")
customXmlMoveFromRangeStart ("[ISO/IEC-29500-1] §17.13.5.9; customXmlMoveFromRangeStart")
customXmlMoveToRangeEnd ("[ISO/IEC-29500-1] §17.13.5.10; customXmlMoveToRangeEnd")
customXmlMoveToRangeStart ("[ISO/IEC-29500-1] §17.13.5.11; customXmlMoveToRangeStart")
moveFromRangeEnd ("[ISO/IEC-29500-1] §17.13.5.23; moveFromRangeEnd")

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Child Elements
moveFromRangeStart ("[ISO/IEC-29500-1] §17.13.5.24; moveFromRangeStart")
moveToRangeEnd ("[ISO/IEC-29500-1] §17.13.5.27; moveToRangeEnd")
moveToRangeStart ("[ISO/IEC-29500-1] §17.13.5.28; moveToRangeStart")

2.1.203 Part 1 Section 17.5.2.31, sdt (Inline-Level Structured Document Tag)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c).

a. *The standard does not allow range elements as children of the sdt element.*

Word allows the following additional elements as child elements of the sdt element:

Child Elements
bookmarkEnd ("[ISO/IEC-29500-1] §17.13.6.1; bookmarkEnd")
bookmarkStart ("[ISO/IEC-29500-1] §17.13.6.2; bookmarkStart")
commentRangeEnd ("[ISO/IEC-29500-1] §17.13.4.3; commentRangeEnd")
commentRangeStart ("[ISO/IEC-29500-1] §17.13.4.4; commentRangeStart")
customXmlDelRangeEnd ("[ISO/IEC-29500-1] §17.13.5.4; customXmlDelRangeEnd")
customXmlDelRangeStart ("[ISO/IEC-29500-1] §17.13.5.5; customXmlDelRangeStart")
customXmlInsRangeEnd ("[ISO/IEC-29500-1] §17.13.5.6; customXmlInsRangeEnd")
customXmlInsRangeStart ("[ISO/IEC-29500-1] §17.13.5.7; customXmlInsRangeStart")
customXmlMoveFromRangeEnd ("[ISO/IEC-29500-1] §17.13.5.8; customXmlMoveFromRangeEnd")
customXmlMoveFromRangeStart ("[ISO/IEC-29500-1] §17.13.5.9; customXmlMoveFromRangeStart")
customXmlMoveToRangeEnd ("[ISO/IEC-29500-1] §17.13.5.10; customXmlMoveToRangeEnd")
customXmlMoveToRangeStart ("[ISO/IEC-29500-1] §17.13.5.11; customXmlMoveToRangeStart")
moveFromRangeEnd ("[ISO/IEC-29500-1] §17.13.5.23; moveFromRangeEnd")
moveFromRangeStart ("[ISO/IEC-29500-1] §17.13.5.24; moveFromRangeStart")
moveToRangeEnd ("[ISO/IEC-29500-1] §17.13.5.27; moveToRangeEnd")
moveToRangeStart ("[ISO/IEC-29500-1] §17.13.5.28; moveToRangeStart")

2.1.204 Part 1 Section 17.5.2.32, sdt (Cell-Level Structured Document Tag)

a. *The standard does not allow range elements as children of the sdt element.*

Word allows the following additional elements as child elements of the sdt element:

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Child Elements
bookmarkEnd ("[ISO/IEC-29500-1] §17.13.6.1; bookmarkEnd")
bookmarkStart ("[ISO/IEC-29500-1] §17.13.6.2; bookmarkStart")
commentRangeEnd ("[ISO/IEC-29500-1] §17.13.4.3; commentRangeEnd")
commentRangeStart ("[ISO/IEC-29500-1] §17.13.4.4; commentRangeStart")
customXmlDelRangeEnd ("[ISO/IEC-29500-1] §17.13.5.4; customXmlDelRangeEnd")
customXmlDelRangeStart ("[ISO/IEC-29500-1] §17.13.5.5; customXmlDelRangeStart")
customXmlInsRangeEnd ("[ISO/IEC-29500-1] §17.13.5.6; customXmlInsRangeEnd")
customXmlInsRangeStart ("[ISO/IEC-29500-1] §17.13.5.7; customXmlInsRangeStart")
customXmlMoveFromRangeEnd ("[ISO/IEC-29500-1] §17.13.5.8; customXmlMoveFromRangeEnd")
customXmlMoveFromRangeStart ("[ISO/IEC-29500-1] §17.13.5.9; customXmlMoveFromRangeStart")
customXmlMoveToRangeEnd ("[ISO/IEC-29500-1] §17.13.5.10; customXmlMoveToRangeEnd")
customXmlMoveToRangeStart ("[ISO/IEC-29500-1] §17.13.5.11; customXmlMoveToRangeStart")
moveFromRangeEnd ("[ISO/IEC-29500-1] §17.13.5.23; moveFromRangeEnd")
moveFromRangeStart ("[ISO/IEC-29500-1] §17.13.5.24; moveFromRangeStart")
moveToRangeEnd ("[ISO/IEC-29500-1] §17.13.5.27; moveToRangeEnd")
moveToRangeStart ("[ISO/IEC-29500-1] §17.13.5.28; moveToRangeStart")

2.1.205 Part 1 Section 17.5.2.33, sdtContent (Cell-Level Structured Document Tag Content)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f)*;* oMathPara, §22.1.2.78(c)*.*

2.1.206 Part 1 Section 17.5.2.34, sdtContent (Block-Level Structured Document Tag Content)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f)*;* oMathPara, §22.1.2.78(c)*.*

2.1.207 Part 1 Section 17.5.2.35, sdtContent (Row-Level Structured Document Tag Content)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f)*;* oMathPara, §22.1.2.78(c)*.*

2.1.208 Part 1 Section 17.5.2.36, sdtContent (Inline-Level Structured Document Tag Content)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

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2.1.209 Part 1 Section 17.5.2.41, tabIndex (Structured Document Tag Navigation Order Index)

a. *The standard states that this element specifies the position of the current structured document tag in the navigation (tab) order used in the document.*

Word ignores this element.

2.1.210 Part 1 Section 17.5.2.43, temporary (Remove Structured Document Tag When Contents Are Edited)

a. *The standard states that temporary means the parent sdt should be removed when the contents are modified.*

Under limited circumstances involving inserting pictures, Word fails to remove the parent sdt when the contents are modified.

2.1.211 Part 1 Section 17.6.2, bottom (Bottom Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

a. *The standard states that bottomLeft, bottomRight, and id are attributes on the bottom element.*

Word ignores the bottomLeft, bottomRight, and id attributes on this element.

2.1.212 Part 1 Section 17.6.3, col (Single Column Definition)

a. *The standard does not specify a default value for the space attribute.*

Word uses a default value of 0 for this attribute.

b. *The standard states that the w attribute is always optional.*

Word requires that this attribute is present when the parent cols element has an equalWidth attribute value of false (or equivalent).

2.1.213 Part 1 Section 17.6.4, cols (Column Definitions)

a. *The standard states that the num attribute allows any integer value.*

Word restricts the value of the num attribute to a value between 1 and 45.

b. *The standard does not specify a default value for the equalWidth attribute.*

Word uses a default value of true for this attribute.

c. *The standard states that when the equalWidth attribute is false (or equivalent), the num attribute is ignored in favor of the number of child col elements.*

Word requires that the value of the num attribute matches the number of child col elements. If the num attribute is not specified, then Word assumes a value of 1.

2.1.214 Part 1 Section 17.6.7, left (Left Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

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a. *The standard states that the id attribute specifies a relationship ID for a custom border image.*

Word ignores the id attribute.

2.1.215 Part 1 Section 17.6.8, lnNumType (Line Numbering Settings)

a. *The standard states that the values of the start attribute are defined by the ST_DecimalNumber simple type.*

Word restricts the value of this attribute to be at least 0 and at most 32767.

b. *The standard states that the start attribute specifies the starting value for (re)started line numbering.*

Word uses the start attribute as the number of line numbers that should be skipped when starting or restarting line numbering (for example, a value of 3 means to start numbering at 4).

c. *The standard states that the countBy attribute can be any integer value.*

Word restricts the contents of this attribute to a value between 1 and 100 inclusive.

2.1.216 Part 1 Section 17.6.9, paperSrc (Paper Source Information)

a. *The standard states that the first and other attributes can be any integer.*

Word restricts these values to the range of an unsigned short.

b. *The standard simply states that this element's attributes specify "...a printer-specific code that uniquely identifies a specific printer tray..."*

Word passes this value to the Windows DEVMODE printing API [DEVMODE] where the value may have a standard meaning to Windows or an installed printer.

2.1.217 Part 1 Section 17.6.10, pgBorders (Page Borders)

a. *The standard does not specify a default value for the zOrder attribute.*

Word uses a default value of front for this attribute.

b. *The standard does not specify a default value for the offsetFrom attribute.*

Word uses a default value of text for this attribute.

2.1.218 Part 1 Section 17.6.11, pgMar (Page Margins)

a. *The standard states that the values of the right, left, header, footer, and gutter attributes are defined by the XML Schema unsignedLong datatype.*

Word restricts the values of these attributes to be at most 31680 (22").

b. *The standard states that the values of the top and bottom attributes are defined by the XML Schema integer datatype.*

Word restricts the values of these attributes to be at least -31680 (-22") and at most 31680 (22").

2.1.219 Part 1 Section 17.6.12, pgNumType (Page Numbering Settings)

a. *The standard states that the chapStyle attribute can be any integer value.*

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Word requires that this attribute is an unsigned byte.

b. *The standard does not specify a default value for the chapSep attribute.*

Word uses a default value of hyphen for this attribute.

c. *The standard does not state a default for the fmt attribute.*

Word uses a default value of decimal for this attribute.

d. *The standard states that the start attribute can be any integer value.*

Word requires that the start attribute is an unsigned 32-bit integer.

2.1.220 Part 1 Section 17.6.13, pgSz (Page Size)

a. *The standard states that the values of the code attribute are defined by the ST_DecimalNumber simple type.*

Word restricts the value of this attribute to be at least 0 and at most 118.

b. *The standard states that the h and w attributes can have any value in the range 0 to 4294967295, inclusive.*

Word requires that this value is between the width of the page margins (and any column widths, for the w attribute) and 31680 (22 inches).

2.1.221 Part 1 Section 17.6.14, printerSettings (Reference to Printer Settings Data)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a).

a. *The standard states that the printerSettings element references the Printer Settings part associated with this section.*

Word discards this element and the associated Printer Settings part.

2.1.222 Part 1 Section 17.6.15, right (Right Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

a. *The standard states that the id attribute specifies a relationship ID for the border image.*

Word ignores the id attribute.

2.1.223 Part 1 Section 17.6.17, sectPr (Document Final Section Properties)

For additional notes that apply to this portion of the standard, please see the notes for sectPr, §17.6.18(a, b).

2.1.224 Part 1 Section 17.6.18, sectPr (Section Properties)

For additional notes that apply to this portion of the standard, please see the notes for pPr, §17.7.5.2(a); pPr, §17.7.6.1(a); pPr, §17.7.8.2(a); pPr, §17.9.22(a).

a. *The standard appears to have the same definition for rsidSect as it does for rsidRPr.*

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Word uses rsidSect to denote the editing session when the section properties were last modified.

b. *The standard states that rsids are stored on the section properties, distinct from the paragraph in which they are located.*

Word ignores rsids in the sectPr and instead applies the corresponding rsids from the containing p (for the sectPr of any non-final section) or the last p in the document (for the final section).

c. *The standard states that a sectPr element can be contained within any pPr element.*

Word does not allow this element to be used on paragraphs within tables, headers, footers, comments, footnotes, endnotes, or text boxes.

2.1.225 Part 1 Section 17.6.19, sectPr (Previous Section Properties)

For additional notes that apply to this portion of the standard, please see the notes for sectPr, §17.6.18(a, b).

a. *The standard states that text flow direction can differ between previous section properties and current section properties.*

Word sets the text direction in the previous section properties to the text flow direction specified in the current section properties.

2.1.226 Part 1 Section 17.6.21, top (Top Border)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

a. *The standard states that topLeft, topRight, and id are attributes on the top element.*

Word ignores topLeft, topRight, and id attributes.

2.1.227 Part 1 Section 17.6.22, type (Section Type)

a. *The standard implies that the val attribute is optional.*

Word requires this attribute.

2.1.228 Part 1 Section 17.7.1, Style Inheritance

a. *The standard ambiguously states that a style's definition "should not" duplicate properties that are specified by the document defaults or any previous level in the style's hierarchy.*

Word may include properties in a style's definition which are already defined and unchanged in the document defaults or a previous level of the style's hierarchy.

2.1.229 Part 1 Section 17.7.2, Style Hierarchy

a. *The standard states that numbering styles are applied before paragraph styles in the style hierarchy.*

Word applies the properties from a paragraph style applied to a paragraph before it applies the properties from a numbering style applied to a paragraph via numbering properties.

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2.1.230 Part 1 Section 17.7.3, Toggle Properties

a. *The standard states that if a toggle property is not explicitly set in direct formatting, the toggle property appears at multiple levels of the style hierarchy, and the value specified by the document defaults is true, the effective value is true.*

In this case, Word determines that the effective value to be applied to the content shall be true if and only if its effective value is false for an even number of levels in the style hierarchy.

b. *The standard states that if no value is encountered on a level of the style hierarchy, the property takes on its default value.*

In Word, if no value is encountered on a level of the style hierarchy, the property takes on the value specified by the document defaults.

c. The standard states that if a paragraph style does not set a bold property value to false, and the paragraph style specified by its basedOn element specifies that it is true, the result of applying the style definition sets the value of bold to true.

Versions of Microsoft Word prior to Microsoft Word 2016 do not correctly display toggle properties for a table style unless the property is specified directly in the referenced table style.

2.1.231 Part 1 Section 17.7.4.1, aliases (Alternate Style Names)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a).

a. *The standard states that any series of alternate style names is valid.*

Word does not roundtrip multiple instances of an identical style name (including both duplication within this element and duplication with the primary style name).

b. *The standard states that any number of consecutive comma characters can be used to delimit consecutive style names.*

Word discards all aliases after the presence of multiple consecutive comma characters.

c. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters, removing all aliases whose inclusion would exceed that length.

2.1.232 Part 1 Section 17.7.4.2, autoRedefine (Automatically Merge User Formatting Into Style Definition)

a. *The standard states that this element can be specified for any type of style.*

Word only applies this element to paragraph styles.

2.1.233 Part 1 Section 17.7.4.3, basedOn (Parent Style ID)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a).

a. *The standard allows loops in the style based-on chain.*

Word requires that the style based-on chain does not have a circular reference.

b. *The standard does not limit the length of the value of the val attribute.*

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Word restricts the value of this attribute to be at most 253 characters.

2.1.234 Part 1 Section 17.7.4.5, latentStyles (Latent Style Information)

a. *The standard allows any integer for defUIPriorty.*

Word allows values between 0 and 99 inclusive for defUIPriority.

b. *The standard says that count specifies how many built-in styles to apply latent style defaults to, but does not specify which ones.*

Word applies these latent style defaults to the built-in styles in order of their index within Word's built-in styles. The table listing the primary style names of the built-in styles ("[ISO/IEC-29500-1] §17.7.4.9; name") provides the index for each built-in style.

c. *The standard says the default value for defUiPriority is 99.*

In Word, the default value for defUiPriority is 0.

d. *The standard does not specify default behavior when count is omitted.*

If count is omitted, then Word applies the latent style defaults to all known built-in styles.

2.1.235 Part 1 Section 17.7.4.6, link (Linked Style Reference)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a).

a. *The standard does not specify behavior when more than one style specifies the same styleId for a link.*

Word ignores all but the last link to a given style.

b. *The standard does not specify behavior for a singly linked style pairing.*

If Word reads a singly-linked style pairing, it makes the linking bi-directional.

c. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.236 Part 1 Section 17.7.4.8, lsdException (Latent Style Exception)

a. *The standard allows an unbounded integer for uiPriority.*

Word allows values between 0 and 99 for uiPriority.

2.1.237 Part 1 Section 17.7.4.9, name (Primary Style Name)

a. *The standard does not place any restrictions on the value of the val attribute.*

Word does not allow commas in this attribute's value.

b. *The standard does not limit the length of the value of the val attribute.*

Word restricts the combined length of the primary style name, all aliases, and alias separators (commas) to be at most 253 characters.

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c. *The standard does not specify to remove white space from the beginning or end of primary style name.*

   Word removes white space from the beginning or end of primary style name.

d. *The standard does not specify that certain primary style names must have certain style types.*

Word reserves a list of style names for use as built-in styles and requires that these names be used with the appropriate style type. If a built-in style name is used with the wrong style type or the style type is omitted, then Word enforces the correct built-in style name types by renaming the style or changing its type to match the built-in style type.

Reserved name	Style type	Index within built-in styles
annotation reference	character	39
annotation subject	paragraph	106
annotation text	paragraph	30
Balloon Text	paragraph	153
Bibliography	paragraph	265
Block Text	paragraph	84
Body Text	paragraph	66
Body Text 2	paragraph	80
Body Text 3	paragraph	81
Body Text First Indent	paragraph	77
Body Text First Indent 2	paragraph	78
Body Text Indent	paragraph	67
Body Text Indent 2	paragraph	82
Body Text Indent 3	paragraph	83
Book Title	character	264
caption	paragraph	34
Closing	paragraph	63
Colorful Grid	table	171
Colorful Grid Accent 1	table	189
Colorful Grid Accent 2	table	203
Colorful Grid Accent 3	table	217
Colorful Grid Accent 4	table	231
Colorful Grid Accent 5	table	245
Colorful Grid Accent 6	table	259
Colorful List	table	170

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Reserved name	Style type	Index within built-in styles
Colorful List Accent 1	table	188
Colorful List Accent 2	table	202
Colorful List Accent 3	table	216
Colorful List Accent 4	table	230
Colorful List Accent 5	table	244
Colorful List Accent 6	table	258
Colorful Shading	table	169
Colorful Shading Accent 1	table	187
Colorful Shading Accent 2	table	201
Colorful Shading Accent 3	table	215
Colorful Shading Accent 4	table	229
Colorful Shading Accent 5	table	243
Colorful Shading Accent 6	table	257
Dark List	table	168
Dark List Accent 1	table	186
Dark List Accent 2	table	200
Dark List Accent 3	table	214
Dark List Accent 4	table	228
Dark List Accent 5	table	242
Dark List Accent 6	table	256
Date	paragraph	76
Default Paragraph Font	character	65
Document Map	paragraph	89
E-mail Signature	paragraph	91
Emphasis	character	88
endnote reference	character	42
endnote text	paragraph	43
envelope address	paragraph	36
envelope return	paragraph	37
FollowedHyperlink	character	86
footer	paragraph	32
footnote reference	character	38

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Reserved name	Style type	Index within built-in styles
footnote text	paragraph	29
header	paragraph	31
heading 1	paragraph	1
heading 2	paragraph	2
heading 3	paragraph	3
heading 4	paragraph	4
heading 5	paragraph	5
heading 6	paragraph	6
heading 7	paragraph	7
heading 8	paragraph	8
heading 9	paragraph	9
HTML Acronym	character	95
HTML Address	paragraph	96
HTML Bottom of Form	paragraph	93
HTML Cite	character	97
HTML Code	character	98
HTML Definition	character	99
HTML Keyboard	character	100
HTML Preformatted	paragraph	101
HTML Sample	character	102
HTML Top of Form	paragraph	92
HTML Typewriter	character	103
HTML Variable	character	104
Hyperlink	character	85
index 1	paragraph	10
index 2	paragraph	11
index 3	paragraph	12
index 4	paragraph	13
index 5	paragraph	14
index 6	paragraph	15
index 7	paragraph	16
index 8	paragraph	17

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Reserved name	Style type	Index within built-in styles
index 9	paragraph	18
index heading	paragraph	33
Intense Emphasis	character	261
Intense Quote	paragraph	181
Intense Reference	character	263
Light Grid	table	160
Light Grid Accent 1	table	174
Light Grid Accent 2	table	192
Light Grid Accent 3	table	206
Light Grid Accent 4	table	220
Light Grid Accent 5	table	234
Light Grid Accent 6	table	248
Light List	table	159
Light List Accent 1	table	173
Light List Accent 2	table	191
Light List Accent 3	table	205
Light List Accent 4	table	219
Light List Accent 5	table	233
Light List Accent 6	table	247
Light Shading	table	158
Light Shading Accent 1	table	172
Light Shading Accent 2	table	190
Light Shading Accent 3	table	204
Light Shading Accent 4	table	218
Light Shading Accent 5	table	232
Light Shading Accent 6	table	246
line number	character	40
List	paragraph	47
List 2	paragraph	50
List 3	paragraph	51
List 4	paragraph	52
List 5	paragraph	53

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Reserved name	Style type	Index within built-in styles
List Bullet	paragraph	48
List Bullet 2	paragraph	54
List Bullet 3	paragraph	55
List Bullet 4	paragraph	56
List Bullet 5	paragraph	57
List Continue	paragraph	68
List Continue 2	paragraph	69
List Continue 3	paragraph	70
List Continue 4	paragraph	71
List Continue 5	paragraph	72
List Number	paragraph	49
List Number 2	paragraph	58
List Number 3	paragraph	59
List Number 4	paragraph	60
List Number 5	paragraph	61
List Paragraph	paragraph	179
macro	paragraph	45
Medium Grid 1	table	165
Medium Grid 1 Accent 1	table	183
Medium Grid 1 Accent 2	table	197
Medium Grid 1 Accent 3	table	211
Medium Grid 1 Accent 4	table	225
Medium Grid 1 Accent 5	table	239
Medium Grid 1 Accent 6	table	253
Medium Grid 2	table	166
Medium Grid 2 Accent 1	table	184
Medium Grid 2 Accent 2	table	198
Medium Grid 2 Accent 3	table	212
Medium Grid 2 Accent 4	table	226
Medium Grid 2 Accent 5	table	240
Medium Grid 2 Accent 6	table	254
Medium Grid 3	table	167

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Reserved name	Style type	Index within built-in styles
Medium Grid 3 Accent 1	table	185
Medium Grid 3 Accent 2	table	199
Medium Grid 3 Accent 3	table	213
Medium Grid 3 Accent 4	table	227
Medium Grid 3 Accent 5	table	241
Medium Grid 3 Accent 6	table	255
Medium List 1	table	163
Medium List 1 Accent 1	table	177
Medium List 1 Accent 2	table	195
Medium List 1 Accent 3	table	209
Medium List 1 Accent 4	table	223
Medium List 1 Accent 5	table	237
Medium List 1 Accent 6	table	251
Medium List 2	table	164
Medium List 2 Accent 1	table	182
Medium List 2 Accent 2	table	196
Medium List 2 Accent 3	table	210
Medium List 2 Accent 4	table	224
Medium List 2 Accent 5	table	238
Medium List 2 Accent 6	table	252
Medium Shading 1	table	161
Medium Shading 1 Accent 1	table	175
Medium Shading 1 Accent 2	table	193
Medium Shading 1 Accent 3	table	207
Medium Shading 1 Accent 4	table	221
Medium Shading 1 Accent 5	table	235
Medium Shading 1 Accent 6	table	249
Medium Shading 2	table	162
Medium Shading 2 Accent 1	table	176
Medium Shading 2 Accent 2	table	194
Medium Shading 2 Accent 3	table	208
Medium Shading 2 Accent 4	table	222

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Reserved name	Style type	Index within built-in styles
Medium Shading 2 Accent 5	table	236
Medium Shading 2 Accent 6	table	250
Message Header	paragraph	73
No List	numbering	107
No Spacing	paragraph	157
Normal	paragraph	0
Normal (Web)	paragraph	94
Normal Indent	paragraph	28
Normal Table	table	105
Note Heading	paragraph	79
Outline List 1	numbering	108
Outline List 2	numbering	109
Outline List 3	numbering	110
page number	character	41
Placeholder Text	character	156
Plain Text	paragraph	90
Quote	paragraph	180
Revision	paragraph	178
Salutation	paragraph	75
Signature	paragraph	64
Strong	character	87
Subtitle	paragraph	74
Subtle Emphasis	character	260
Subtle Reference	character	262
Table 3D effects 1	table	142
Table 3D effects 2	table	143
Table 3D effects 3	table	144
Table Classic 1	table	114
Table Classic 2	table	115
Table Classic 3	table	116
Table Classic 4	table	117
Table Colorful 1	table	118

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Reserved name	Style type	Index within built-in styles
Table Colorful 2	table	119
Table Colorful 3	table	120
Table Columns 1	table	121
Table Columns 2	table	122
Table Columns 3	table	123
Table Columns 4	table	124
Table Columns 5	table	125
Table Contemporary	table	145
Table Elegant	table	146
Table Grid	table	154
Table Grid 1	table	126
Table Grid 2	table	127
Table Grid 3	table	128
Table Grid 4	table	129
Table Grid 5	table	130
Table Grid 6	table	131
Table Grid 7	table	132
Table Grid 8	table	133
Table List 1	table	134
Table List 2	table	135
Table List 3	table	136
Table List 4	table	137
Table List 5	table	138
Table List 6	table	139
Table List 7	table	140
Table List 8	table	141
table of authorities	paragraph	44
table of figures	paragraph	35
Table Professional	table	147
Table Simple 1	table	111
Table Simple 2	table	112
Table Simple 3	table	113

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Reserved name	Style type	Index within built-in styles
Table Subtle 1	table	148
Table Subtle 2	table	149
Table Theme	table	155
Table Web 1	table	150
Table Web 2	table	151
Table Web 3	table	152
Title	paragraph	62
toa heading	paragraph	46
toc 1	paragraph	19
toc 2	paragraph	20
toc 3	paragraph	21
toc 4	paragraph	22
toc 5	paragraph	23
toc 6	paragraph	24
toc 7	paragraph	25
toc 8	paragraph	26
toc 9	paragraph	27
TOC Heading	paragraph	266

2.1.238 Part 1 Section 17.7.4.10, next (Style For Next Paragraph)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a).

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.239 Part 1 Section 17.7.4.11, personal (E-Mail Message Text Style)

a. *The standard says personal is ignored if no style exists whose styleId matches the boolean val attribute.*

Word treats the val attribute of personal as a boolean setting.

2.1.240 Part 1 Section 17.7.4.12, personalCompose (E-Mail Message Composition Style)

a. *The standard says personalCompose is ignored if no style exists whose styleId matches the boolean val attribute.*

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Word treats the val attribute of personalCompose as a boolean setting.

2.1.241 Part 1 Section 17.7.4.13, personalReply (E-Mail Message Reply Style)

a. *The standard says personalReply is ignored if no style exists whose styleId matches the boolean val attribute.*

Word treats the val attribute of personalReply as a boolean setting.

2.1.242 Part 1 Section 17.7.4.17, style (Style Definition)

a. *The standard does not state any special behavior for "NoList", "DefaultParagraphFont", and "TableNormal" styles.*

Word ignores any child elements of a style element with id "NoList", "DefaultParagraphFont", or "TableNormal".

b. *The standard says the length of the styleId attribute is unlimited.*

Word ignores the value of the styleId attribute if it exceeds 253 characters in length.

c. *The standard states that the number of styles is unbounded.*

Word does not open a document containing more than 4,079 styles.

2.1.243 Part 1 Section 17.7.4.19, uiPriority (Optional User Interface Sorting Order)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 99.

b. *The standard says the default behavior is to sort to the end of the list.*

In Word, the default behavior is to sort to the beginning of the list.

2.1.244 Part 1 Section 17.7.5.2, pPr (Paragraph Properties)

a. *The standard states that the cnfStyle, divId, pPrChange, pStyle, rPr, and sectPr elements are valid child elements of the pPr element.*

Word does not allow these elements to be child elements of the pPr element.

2.1.245 Part 1 Section 17.7.5.4, rPr (Run Properties)

a. *The standard states that the cs, highlight, oMath, rPrChange, rStyle, and rtl elements are valid child elements of the rPr element.*

Word does not allow these elements to be child elements of the rPr element.

2.1.246 Part 1 Section 17.7.6, Table Styles

a. *The standard does not specify how the tblLook affects the corner cell conditional formatting.*

In Word, corner cell conditional formatting is applied only if both of the corresponding first or last row or column are enabled.

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b. *The standard specifies that the resolved value of the toggle properties will toggle the previous level (True) or leave it unchanged (False) when present in a table style.*

Word resets the value of the toggle property to the value specified by the table style if a value is present; for example, a value of 1 resets the property's state to True instead of toggling it.

c. *The standard specifies the precedence order in which conditional formatting should be applied.*

When specified, Office applies conditional formats in the following order (therefore subsequent formats override properties on previous formats):

- Odd row banding, even row banding
- Odd column banding, even column banding
- First column, last column
- First row, last row
- Top left, top right, bottom left, bottom right

Refer to ST_TblStyleOverrideType, §17.18.89(a) for information about the conditional formatting values Microsoft Office recognizes.

2.1.247 Part 1 Section 17.7.6.1, pPr (Table Style Conditional Formatting Paragraph Properties)

a. *The standard states that the cnfStyle, divId, pStyle, rPr, and sectPr elements are valid child elements of the pPr element.*

Word does not allow these elements to be child elements of the pPr element.

b. *The standard allows framePr, suppressOverlap, and textDirection as a child element of pPr in a table style.*

Word does not allow framePr, suppressOverlap, or textDirection as a child element of pPr in a table style, and may fail to open such a file.

2.1.248 Part 1 Section 17.7.6.2, rPr (Table Style Conditional Formatting Run Properties)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §17.7.5.4(a).

a. *The standard states that the cs, highlight, oMath, rPrChange, rStyle, and rtl elements are valid child elements of the rPr element.*

Word does not allow these elements to be child elements of the rPr element.

2.1.249 Part 1 Section 17.7.6.3, tblPr (Table Style Conditional Formatting Table Properties)

a. *The standard states that the bidiVisual, tblLayout, tblLook, tblOverlap, tblpPr, tblStyle, tblStyleColBandSize, tblStyleRowBandSize, and tblW elements are valid child elements of the tblPr element.*

Word does not allow these elements to be child elements of the tblPr element.

2.1.250 Part 1 Section 17.7.6.4, tblPr (Style Table Properties)

a. *The standard states that the bidiVisual, tblLayout, tblLook, tblOverlap, tblpPr, tblStyle, and tblW elements are valid child elements of the tblPr element.*

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Word does not allow these elements to be child elements of the tblPr element.

2.1.251 Part 1 Section 17.7.6.5, tblStyleColBandSize (Number of Columns in Column Band)

For additional notes that apply to this portion of the standard, please see the notes for tblPr, §17.4.58(a)*;* tblPr, §17.4.59(a)*;* tblPr, §17.7.6.3(a)*.*

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 3.

b. *The standard says the default for tblStyleColBandSize is 1.*

Word uses 0 as the default for tblStyleColBandSize.

c. *The standard does not specify the meaning if tblStyleColBandSize is set to 0.*

If tblStyleColBandSize is set to 0, Word does not apply any banded column conditional formatting.

2.1.252 Part 1 Section 17.7.6.6, tblStylePr (Style Conditional Table Formatting Properties)

a. *The standard specifies the precedence order in which conditional formatting should be applied.*

When specified, Office applies conditional formats in the following order (therefore subsequent formats override properties on previous formats):

- Odd row banding, even row banding
- Odd column banding, even column banding
- First column, last column
- First row, last row
- Top left, top right, bottom left, bottom right

Refer to ST_TblStyleOverrideType, §17.18.89(a) for information about the conditional formatting values Microsoft Office recognizes.

2.1.253 Part 1 Section 17.7.6.7, tblStyleRowBandSize (Number of Rows in Row Band)

For additional notes that apply to this portion of the standard, please see the notes for tblPr, §17.4.58(a)*;* tblPr, §17.4.59(a)*;* tblPr, §17.7.6.3(a)*.*

a. *The standard says the default for tblStyleRowBandSize is 1.*

Word uses 0 as the default for tblStyleRowBandSize.

b. *The standard does not specify the meaning if tblStyleRowBandSize is set to 0.*

If tblStyleRowBandSize is set to 0, Word does not apply any banded row conditional formatting.

c. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 3.

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2.1.254 Part 1 Section 17.7.6.8, tcPr (Table Style Conditional Formatting Table Cell Properties)

a. *The standard says the properties in this element apply to the table regions specified by the conditional formatting setting.*

In Word, the noWrap, tcMar, and vAlign elements in this element always apply to entire table rows, even if the parent tblStylePr specifies the formatting should be applied to columns or a particular cell.

b. *The standard states that the cellDel, cellIns, cellMerge, cnfStyle, gridSpan, hideMark, hMerge, tcFitText, tcPrChange, tcW, textDirection, and vMerge elements are valid child elements of the tcPr element.*

Word does not allow these elements to be child elements of the tcPr element.

2.1.255 Part 1 Section 17.7.6.9, tcPr (Style Table Cell Properties)

a. *The standard allows all table cell properties in table styles.*

Word does not allow cellDel, cellIns, cellMerge, cnfStyle, gridSpan, hideMark, hMerge, tcFitText, tcPrChange, tcW, textDirection, and vMerge in table styles.

b. *The standard allows tcBorders elements in a table style for table-wide cell properties.*

Word does not allow the tcBorders elements in a table style for table-wide cell properties.

2.1.256 Part 1 Section 17.7.6.10, trPr (Table Style Conditional Formatting Table Row Properties)

For additional notes that apply to this portion of the standard, please see the notes for trPrChange, §17.13.5.37(a).

a. *The standard allows hidden as a child or trPr in a table style.*

Word ignores hidden if it is a child of trPr in a table style.

b. *The standard states that the cnfStyle, del, divId, gridAfter, gridBefore, ins, trHeight, trPrChange, wAfter, and wBefore elements are valid child elements of the trPr element.*

Word does not allow these elements to be child elements of the trPr element.

2.1.257 Part 1 Section 17.7.6.11, trPr (Style Table Row Properties)

a. *The standard states that the cnfStyle, del, divId, gridAfter, gridBefore, ins, trHeight, trPrChange, wAfter, and wBefore elements are valid child elements of the trPr element.*

Word does not allow these elements to be child elements of the trPr element.

b. *The standard allows hidden as a child of trPr in a table style.*

Word ignores hidden as a child of trPr in a table style.

2.1.258 Part 1 Section 17.7.8, Paragraph Styles

a. *The standard specifies that the resolved value of the toggle properties will toggle the previous level (True) or leave it unchanged (False) when present in a paragraph style.*

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Word resets the value of the toggle property to the value specified by the paragraph style if a value is present; for example, a value of 1 resets the property's state to True instead of toggling it.

2.1.259 Part 1 Section 17.7.8.2, pPr (Style Paragraph Properties)

a. *The standard states that the cnfStyle, divId, pStyle, rPr, and sectPr elements are valid child elements of the pPr element.*

Word does not allow these elements to be child elements of the pPr element.

b. *The standard allows framePr, suppressOverlap, and textDirection as child elements of pPr in a style.*

Word does not allow framePr, suppressOverlap, and textDirection as child elements in a style and may fail to load such a file.

2.1.260 Part 1 Section 17.7.9.1, rPr (Run Properties)

a. *The standard states that the cs, highlight, oMath, rStyle, and rtl elements are valid child elements of the rPr element.*

Word does not allow these elements to be child elements of the rPr element.

2.1.261 Part 1 Section 17.8, Fonts

a. *The standard states that when a font is unavailable, font substitution elements may not be modified.*

Word can modify the font substitution elements (altName, panose1, charset, family, notTrueType, pitch, sig) if a font with the same name has been loaded before in the same application session.

b. *The standard does not state that different forms of embedded font types must be from the same font.*

Word can only display one embedded font per font name. If **embedRegular** ("[ISO/IEC-29500-1] §17.8.3.6; embedRegular"), **embedBold** (“"[ISO/IEC-29500-1] §17.8.3.3; embedBold"), **embedItalic** (“"[ISO/IEC-29500-1] §17.8.3.5; embedItalic") or **embedBoldItalic** (“"[ISO/IEC-29500-1] §17.8.3.4; embedBoldItalic") specify different fonts, only one of these fonts will be used to display all variations. If multiple documents are loaded which specify different embedded fonts for a given font name, only one embedded font will be used to display all variations of such font across all documents. When Word saves a document; **embedRegular**, **embedBold**, **embedItalic** and **embedBoldItalic** will all be embedded forms of the same font.

2.1.262 Part 1 Section 17.8.3.1, altName (Alternate Names for Font)

a. *The standard describes the altName element as a set of alternative names given as comma-delimited list.*

Word does not split values on commas or anything else; instead, it treats the entire value as a single alternate font name.

b. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 31 characters.

c. *The standard states that the value of the altName element does not change when resaving a document.*

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Word removes the altName element for system fonts, keeps it for other fonts the first time they are loaded in the session, and reverts them to the previous value for subsequent times they are loaded in the session.

d. *The standard states that the value of the altName element does not change when resaving a document.*

When Word resolves an unknown font, it changes the value of the altName element to the font to which it was resolved, whether altName had a value before or not.

2.1.263 Part 1 Section 17.8.3.2, charset (Character Set Supported By Font)

a. *The standard states that when a font is unavailable the charset element shall not be modified.*

Word can modify the charset element of an unavailable font if a font with the same name has been loaded before in the same Word instance.

b. *The standard specifies that the characterSet attribute is a valid attribute of the charset element.*

Word ignores the characterSet attribute.

2.1.264 Part 1 Section 17.8.3.3, embedBold (Bold Style Font Style Embedding)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*.*

2.1.265 Part 1 Section 17.8.3.4, embedBoldItalic (Bold Italic Font Style Embedding)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*.*

2.1.266 Part 1 Section 17.8.3.5, embedItalic (Italic Font Style Embedding)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*.*

2.1.267 Part 1 Section 17.8.3.6, embedRegular (Regular Font Style Embedding)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*.*

2.1.268 Part 1 Section 17.8.3.8, embedTrueTypeFonts (Embed TrueType Fonts)

a. *The standard states that the embedTrueTypeFonts element directs the application to embed used fonts.*

Word does not embed non-installed fonts after resolved through font substitution.

2.1.269 Part 1 Section 17.8.3.9, family (Font Family)

a. *The standard states that when a font is unavailable the family element shall not be modified.*

Word can modify the family element of an unavailable font if a font with the same name has been loaded before in the same Word instance.

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2.1.270 Part 1 Section 17.8.3.10, font (Properties for a Single Font)

a. *The standard defines font name with an unbounded string length.*

Word limits font name length to between 1 and 31 characters.

b. *The standard does not describe font names as case insensitive.*

In Word, font names are case insensitive.

c. *The standard states that the name attribute specifies the name of the font.*

Word prepends the font name with an @ symbol to signify the font should be used for rendering vertical text.

2.1.271 Part 1 Section 17.8.3.12, notTrueType (Raster or Vector Font)

a. *The standard states that when a font is unavailable the notTrueType element shall not be modified.*

Word can modify the notTrueType element of an unavailable font if a font with the same name has been loaded before in the same Word instance.

2.1.272 Part 1 Section 17.8.3.13, panose1 (Panose-1 Typeface Classification Number)

a. *The standard states that when a font is unavailable, the panose1 element shall not be modified.*

Word does not roundtrip the panose1 value for fonts not installed on the system.

b. *The standard states that when a font is unavailable the panose1 element shall not be modified.*

Word can modify the panose1 element of an unavailable font if a font with the same name has been loaded before in the same Word instance.

2.1.273 Part 1 Section 17.8.3.14, pitch (Font Pitch)

a. *The standard states that when a font is unavailable the pitch element shall not be modified.*

Word can modify the pitch element of an unavailable font if a font with the same name has been loaded before in the same Word instance.

2.1.274 Part 1 Section 17.8.3.16, sig (Supported Unicode Subranges and Code Pages)

a. *The standard states that the sig element shall not be modified when the font is an unknown font.*

For unknown fonts, if the font cannot be resolved using the alternate font name or character set, Word might incorrectly reset bits to 0 in the usb0 attribute when bits in the csb0 attribute are set.

b. *The standard states that when a font is unavailable the sig element shall not be modified.*

Word can modify the sig element of an unavailable font if a font with the same name has been loaded before in the same Word instance.

c. *The standard states that the csb0 and csb1 attributes are specified as four-digit hexadecimal encodings.*

Word expects the csb1 and csb2 attributes to be eight-digit hexadecimal encodings.

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2.1.275 Part 1 Section 17.9.1, abstractNum (Abstract Numbering Definition)

a. *The standard allows any integer for the attribute abstractNumId.*

Word will not load a file where abstractNumId is negative.

2.1.276 Part 1 Section 17.9.2, abstractNumId (Abstract Numbering Definition Reference)

a. *The standard states that the values of the val attribute are defined by the XML integer datatype.*

Word restricts the value of this attribute to be at least 0.

2.1.277 Part 1 Section 17.9.3, ilvl (Numbering Level Reference)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 255.

2.1.278 Part 1 Section 17.9.4, isLgl (Display All Levels Using Arabic Numerals)

a. *The standard implies that only previous levels are affected by isLgl.*

Word isLgl affects all numbering levels, including the immediate level.

b. *The standard says the level text is displayed using the decimal number format regardless of the actual number format of that level in the list.*

In Word, if the actual numbering format of the level is none, then Word will display the level text using the none format regardless of isLgl.

2.1.279 Part 1 Section 17.9.5, lvl (Numbering Level Override Definition)

For additional notes that apply to this portion of the standard, please see the notes for lvl, §17.9.6(a, b).

2.1.280 Part 1 Section 17.9.6, lvl (Numbering Level Definition)

a. *The standard allows any integer for ilvl.*

Word will not load a file with ilvl less than 0 or greater than 8.

b. *The standard states that tentative levels shall not be shown in user interface.*

Word displays tentative numbering levels in its Multilevel List drop-down list.

2.1.281 Part 1 Section 17.9.7, lvlJc (Justification)

a. *The standard allows many values for lvlJc beyond start, center, and end.*

Word supports only the values for start, center, and end for lvlJc.

2.1.282 Part 1 Section 17.9.10, lvlRestart (Restart Numbering Level Symbol)

a. *The standard allows any integer for the value of lvlRestart.*

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Word only allows values between 0 and 7 for lvlRestart.

b. *The standard allows lvlRestart as a child of lvl (Numbering Level Override Definition).*

Word ignores lvlRestart if it is a child of lvl (Numbering Level Override Definition).

c. *The standard states that a numbering level restarts when an instance of the specified numbering level is used.*

Word restarts a numbering level when an instance of the specified numbering level or any higher level is used.

d. *The standard states that if this element is omitted, the numbering level shall restart each time the previous numbering level is used.*

If this element is omitted, Word restarts the numbering level each time the previous numbering level or any higher level is used.

2.1.283 Part 1 Section 17.9.11, lvlText (Numbering Level Text)

a. *The standard does not bound the number of escaped sequences %[1-9] included in the val attribute.*

Word allows at most 9 escaped sequences %[1-9] in the val attribute.

b. *The standard allows any length string for the val attribute of lvlText.*

Word requires that the length of the val attribute be at most 31 characters after instances of the % syntax are converted to their final values.

c. *The standard states that if the val attribute contains a % followed by a number higher than the current level, then that number is ignored.*

If the val attribute contains a % followed by a number higher than the current level, then Word ignores the entire lvlText.

d. *The standard allows the val attribute to be omitted while the null attribute is not set to on.*

Word requires that the null attribute be set to on if the val attribute is omitted.

2.1.284 Part 1 Section 17.9.13, name (Abstract Numbering Definition Name)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a)*.*

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.285 Part 1 Section 17.9.15, num (Numbering Definition Instance)

a. *The standard allows any integer for the numId.*

Word requires that the numId contain at most 32 characters.

2.1.286 Part 1 Section 17.9.17, numFmt (Numbering Format)

a. *The standard does not specify behavior when numFmt is bullet but lvlText is also set.*

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If the numFmt is bullet, Word will use the literal text in lvlText, ignoring %x syntax in lvlText.

b. *The standard states that the format attribute takes precedence over the val attribute.*

Word ignores the format attribute unless the value of the val attribute is equal to "custom".

2.1.287 Part 1 Section 17.9.18, numId (Numbering Definition Instance Reference)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0.

2.1.288 Part 1 Section 17.9.21, numStyleLink (Numbering Style Reference)

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.289 Part 1 Section 17.9.22, pPr (Numbering Level Associated Paragraph Properties)

a. *The standard states that the cnfStyle, divId, pPrChange, rPr, and sectPr elements are valid child elements of the pPr element.*

Word does not allow these elements to be child elements of the pPr element.

b. *The standard lists all pPr child elements as valid in the context of a numbering definition instance.*

Word only allows jc, ind, and tabs as child elements.

2.1.290 Part 1 Section 17.9.23, pStyle (Paragraph Style's Associated Numbering Level)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a)*.*

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.291 Part 1 Section 17.9.24, rPr (Numbering Symbol Run Properties)

a. *The standard states that the highlight, oMath, rPrChange, and rStyle elements are valid child elements of the rPr element.*

Word does not allow these elements to be child elements of the rPr element.

2.1.292 Part 1 Section 17.9.25, start (Starting Value)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0.

b. *The standard allows start as a child of lvl (Numbering Level Override Definition).*

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Word ignores start if it is a child of lvl (Numbering Level Override Definition).

2.1.293 Part 1 Section 17.9.27, styleLink (Numbering Style Definition)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a).

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.294 Part 1 Section 17.10.1, evenAndOddHeaders (Different Even/Odd Page Headers and Footers)

a. *The standard says the determination of even and odd pages is based on the ordinality of the pages.*

Word uses the starting value of page numbering for the parent section to determine if the first page is even or odd. This is specified with the start attribute on pgNUmType element.

b. *The standard says a missing header type shall use a new blank header.*

If a header is missing in a section beyond the first section, Word uses the header from the previous section.

2.1.295 Part 1 Section 17.10.2, footerReference (Footer Reference)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a).

a. *The standard says the relationship type referenced by this element shall be http://schemas.openxmlformats.org/officeDocument/2006/footer.*

Word uses the relationship type http://schemas.openxmlformats.org/officeDocument/2006/relationships/footer.

b. *The standard says that when no footerReference for the odd page footer is specified, then the even page footer shall be inherited from the previous section.*

In Word, when no footerReference for the odd page footer is specified, then the odd page footer is inherited from the previous section.

2.1.296 Part 1 Section 17.10.3, ftr (Footer)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

2.1.297 Part 1 Section 17.10.4, hdr (Header)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

2.1.298 Part 1 Section 17.10.5, headerReference (Header Reference)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a).

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a. *The standard says that the relationship type referenced by this element shall be http://schemas.openxmlformats.org/officeDocument/2006/header.*

   Word uses the relationship type http://schemas.openxmlformats.org/officeDocument/2006/relationships/header.

b. *The standard says that if no headerReference for the odd page header is specified, then the even page header shall be inherited from the previous section.*

   In Word, if no headerReference for the odd page header is specified, then the odd page header is inherited from the previous section.

2.1.299 Part 1 Section 17.10.6, titlePg (Different First Page Headers and Footers)

a. *The standard says that if titlePg is not specified, the first page shall use the odd page header/footer.*

   If the evenAndOddHeaders element is true, Word uses the odd/even state of the start attribute on the pgNumType element to determine whether to use the even or odd header on the first page.

b. *The standard says that if this element is specified and no first page header is specified using headerReference, a blank first page header is used.*

   In Word, for all sections other than the first section in the document, if this element is specified and no first page header is specified, then the first page header of the previous section is used.

2.1.300 Part 1 Section 17.11.2, endnote (Endnote Content)

For additional notes that apply to this portion of the standard, please see the notes for footnote, §17.11.10(a); oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

a. *The standard allows any integer for footnote or endnote ID.*

   Word only allows integers between -2147483648 and 32767.

2.1.301 Part 1 Section 17.11.3, endnote (Special Endnote List)

a. *The standard allows any integer for footnote or endnote ID.*

   Word only allows integers between -2147483648 and 32767.

b. *The standard says the footnote or endnote ID is used to match the ID in the footnoteRef or endnoteRef, although footnoteRef and endnoteRef do not contain an ID.*

   In Word, the footnote or endnote ID is used to match the ID in the footnoteReference or endnoteReference.

2.1.302 Part 1 Section 17.11.7, endnoteReference (Endnote Reference)

a. *The standard allows any integer for footnote or endnote ID.*

   Word only allows integers between -2147483648 and 32767.

b. *The standard allows endnote references in comments and text boxes.*

   Word ignores this element if it is specified in a comment or text box.

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2.1.303 Part 1 Section 17.11.9, footnote (Special Footnote List)

For additional notes that apply to this portion of the standard, please see the notes for endnote, §17.11.3(a, b).

2.1.304 Part 1 Section 17.11.10, footnote (Footnote Content)

For additional notes that apply to this portion of the standard, please see the notes for endnote, §17.11.2(a); oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

a. *The standard states that the id attribute is used to match the contents of a footnote or endnote using the footnoteRef or endnoteRef element.*

Word uses this attribute to make this match using the footnoteReference/endnoteReference elements.

2.1.305 Part 1 Section 17.11.14, footnoteReference (Footnote Reference)

For additional notes that apply to this portion of the standard, please see the notes for endnoteReference, §17.11.7(a).

a. *The standard states that footnote references can appear in comments and text boxes.*

Word ignores this element if it is specified within a comment or text box.

2.1.306 Part 1 Section 17.11.17, numFmt (Endnote Numbering Format)

a. *The standard says the default value for endnote numbering format is decimal.*

In Word, the default value for endnote numbering format is lowerRoman.

b. *The standard allows the numFmt to be set to bullet numbering format.*

If numFmt is set to bullet numbering format, Word uses decimal numbering format instead.

c. *The standard says the endnote numFmt specifies the numbering format which shall be used for both footnotes and endnotes.*

In Word, the footnotes numFmt specifies the numbering format for footnotes and the endnote numFmt specifies the numbering format for endnotes.

2.1.307 Part 1 Section 17.11.18, numFmt (Footnote Numbering Format)

a. *The standard says the footnote numFmt specifies the numbering format that shall be used for both footnotes and endnotes.*

In Word, the footnotes numFmt specifies the numbering format for footnotes and the endnote numFmt specifies the numbering format for endnotes.

b. *The standard allows the numFmt to be set to bullet numbering format.*

If numFmt is set to bullet numbering format, Word uses decimal numbering format instead.

2.1.308 Part 1 Section 17.11.20, numStart (Footnote and Endnote Numbering Starting Value)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

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Word defines the values of this attribute with the XML Schema unsignedShort datatype.

2.1.309 Part 1 Section 17.11.21, pos (Footnote Placement)

a. *The standard states that footnote placement operates at the document level and is ignored at the section level.*

Word determines footnote placement from the section level and ignores the setting at the document level.

2.1.310 Part 1 Section 17.12.6, docPartBody (Contents of Glossary Document Entry)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

2.1.311 Part 1 Section 17.12.7, docPartPr (Glossary Document Entry Properties)

a. *The standard states that there can be multiple occurrences of any given child element.*

Word ignores all except the last occurrence of any given child element.

2.1.312 Part 1 Section 17.12.8, docParts (List of Glossary Document Entries)

a. *The standard states that docParts must have at least 1 child element docPart*

Word can write out a document with 0 docPart elements

2.1.313 Part 1 Section 17.13.4.2, comment (Comment Content)

For additional notes that apply to this portion of the standard, please see the notes for cellDel, §17.13.5.1(a); ins, §17.13.5.18(b); oMath, §22.1.2.77(f); oMathPara, §22.1.2.78(c).

a. *The standard does not limit the length of the value of the initials attribute.*

Word restricts the value of this attribute to be at most nine characters.

b. *The standard allows revisions inside comments.*

Word does not support having revisions in comments and the following revision elements should not appear in comment content:

Revision Elements
cellDel ("[ISO/IEC-29500-1] §17.13.5.1; cellDel")
cellIns ("[ISO/IEC-29500-1] §17.13.5.2; cellIns")
cellMerge ("[ISO/IEC-29500-1] §17.13.5.3; cellMerge");
customXmlDelRangeEnd ("[ISO/IEC-29500-1] §17.13.5.4; customXmlDelRangeEnd")
customXmlDelRangeStart ("[ISO/IEC-29500-1] §17.13.5.5; customXmlDelRangeStart")
customXmlInsRangeEnd ("[ISO/IEC-29500-1] §17.13.5.6; customXmlInsRangeEnd")
customXmlInsRangeStart ("[ISO/IEC-29500-1] §17.13.5.7; customXmlInsRangeStart")

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Revision Elements
customXmlMoveFromRangeEnd ("[ISO/IEC-29500-1] §17.13.5.8; customXmlMoveFromRangeEnd")
customXmlMoveFromRangeStart ("[ISO/IEC-29500-1] §17.13.5.9; customXmlMoveFromRangeStart")
customXmlMoveToRangeEnd ("[ISO/IEC-29500-1] §17.13.5.10; customXmlMoveToRangeEnd")
customXmlMoveToRangeStart ("[ISO/IEC-29500-1] §17.13.5.11; customXmlMoveToRangeStart")
del ("[ISO/IEC-29500-1] §17.13.5.14; del")
del ("[ISO/IEC-29500-1] §17.13.5.15; del")
del ("[ISO/IEC-29500-1] §17.13.5.12; del")
del ("[ISO/IEC-29500-1] §17.13.5.13; del")
delInstrText ("[ISO/IEC-29500-1] §17.16.13; delInstrText")
delText ("[ISO/IEC-29500-1] §17.3.3.7; delText");
ins ("[ISO/IEC-29500-1] §17.13.5.17; ins")
ins ("[ISO/IEC-29500-1] §17.13.5.16; ins");
ins ("[ISO/IEC-29500-1] §17.13.5.20; ins")
ins ("[ISO/IEC-29500-1] §17.13.5.19; ins")
ins ("[ISO/IEC-29500-1] §17.13.5.18; ins")
moveFrom ("[ISO/IEC-29500-1] §17.13.5.22; moveFrom")
moveFrom ("[ISO/IEC-29500-1] §17.13.5.21; moveFrom")
moveFromRangeEnd ("[ISO/IEC-29500-1] §17.13.5.23; moveFromRangeEnd")
moveFromRangeStart ("[ISO/IEC-29500-1] §17.13.5.24; moveFromRangeStart")
moveTo ("[ISO/IEC-29500-1] §17.13.5.26; moveTo")
moveTo ("[ISO/IEC-29500-1] §17.13.5.25; moveTo")
moveToRangeEnd ("[ISO/IEC-29500-1] §17.13.5.27; moveToRangeEnd")
moveToRangeStart ("[ISO/IEC-29500-1] §17.13.5.28; moveToRangeStart")
numberingChange ("[ISO/IEC-29500-4] §14.6.1.1; numberingChange (Previous Numbering Field Properties)")
numberingChange ("[ISO/IEC-29500-4] §14.6.1.2; numberingChange (Previous Paragraph Numbering Properties)")
pPrChange ("[ISO/IEC-29500-1] §17.13.5.29; pPrChange")
rPrChange ("[ISO/IEC-29500-1] §17.13.5.31; rPrChange")
rPrChange ("[ISO/IEC-29500-1] §17.13.5.30; rPrChange")
sectPrChange ("[ISO/IEC-29500-1] §17.13.5.32; sectPrChange")
tblGridChange ("[ISO/IEC-29500-1] §17.13.5.33; tblGridChange")
tblPrChange ("[ISO/IEC-29500-1] §17.13.5.34; tblPrChange")

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Revision Elements
tblPrExChange ("[ISO/IEC-29500-1] §17.13.5.35; tblPrExChange")
tcPrChange ("[ISO/IEC-29500-1] §17.13.5.36; tcPrChange")
trPrChange ("[ISO/IEC-29500-1] §17.13.5.37; trPrChange")

c. *The standard does not limit the length of the value of the author attribute.*

Word restricts the value of this attribute to be at most 255 characters.

d. *The standard states that the date stored in the date attribute on the comment element is stored with the UTC date signifier (a trailing Z).*

The actual date is stored in the user's time zone. On load, Word ignores the UTC signifier and loads the date in the current time zone.

2.1.314 Part 1 Section 17.13.4.3, commentRangeEnd (Comment Anchor Range End)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); cellDel, §17.13.5.1(a).

a. *The standard states that if this element occurs without a corresponding commentRangeStart element, it shall be considered the single anchor point for the comment reference.*

If Word opens a file with a commentRangeEnd element without a corresponding commentRangeStart element, the location of the commentReference element determines the single anchor point for the comment reference.

b. *The standard allows commentRangeEnd in headers, footers, text boxes, footnotes, and endnotes.*

Word ignores this element if it is under a header, footer, text box, footnote, or endnote.

2.1.315 Part 1 Section 17.13.4.4, commentRangeStart (Comment Anchor Range Start)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); cellDel, §17.13.5.1(a).

a. *The standard allows an unbounded number of comment ranges.*

Word will not open a file with more than 32767 comment ranges.

b. *The standard states that if this element occurs without a corresponding commentRangeEnd element, it shall be considered the single anchor point for the comment reference.*

If Word opens a file with a commentRangeStart element without a corresponding commentRangeEnd element, the location of the commentReference element determines the single anchor point for the comment reference.

c. *The standard allows commentRangeStart in headers, footers, text boxes, footnotes, and endnotes.*

Word ignores this element if it is under a header, footer, text box, footnote, or endnote.

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2.1.316 Part 1 Section 17.13.4.5, commentReference (Comment Content Reference Mark)

For additional notes that apply to this portion of the standard, please see the notes for cellDel, §17.13.5.1(a).

a. *The standard allows commentReference in headers, footers, text boxes, footnotes, and endnotes.*

Word ignores this element if it is under a header, footer, text box, footnote, or endnote.

2.1.317 Part 1 Section 17.13.5.1, cellDel (Table Cell Deletion)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b); tcPr, §17.7.6.9(a); comment, §17.13.4.2(c); ins, §17.13.5.18(b).

a. *The standard states that the values of the id attribute are defined by the XML Schema integer datatype.*

Word does not allow a value of -1 on this attribute.

2.1.318 Part 1 Section 17.13.5.2, cellIns (Table Cell Insertion)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b); comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

2.1.319 Part 1 Section 17.13.5.3, cellMerge (Vertically Merged/Split Table Cells)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b); tcPr, §17.7.6.9(a); comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

2.1.320 Part 1 Section 17.13.5.4, customXmlDelRangeEnd (Custom XML Markup Deletion End)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b); cellDel, §17.13.5.1(a).

a. *The standard states that the customXmlDelRangeStart element applies deletion to customXml elements.*

Word uses this element to apply deletion to customXml elements and structured document tag elements.

2.1.321 Part 1 Section 17.13.5.5, customXmlDelRangeStart (Custom XML Markup Deletion Start)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b, c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard states that the customXmlDelRangeStart element applies deletion to customXml elements.*

Word uses this element to apply deletion to customXml elements and structured document tag elements.

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b. *The standard states that the range specified by a pair of customXmlDelRangeStart and customXmlDelRangeEnd elements can overlap the range specified by another such pair of elements.*

Word does not allow the range specified by a pair of customXmlDelRangeStart and customXmlDelRangeEnd elements to overlap the range specified by any other such pair of elements.

2.1.322 Part 1 Section 17.13.5.6, customXmlInsRangeEnd (Custom XML Markup Insertion End)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b); cellDel, §17.13.5.1(a).

a. *The standard states that the customXmlInsRangeEnd element applies insertion to customXml elements.*

Word uses this element to apply insertion to customXml elements and structured document tag elements.

2.1.323 Part 1 Section 17.13.5.7, customXmlInsRangeStart (Custom XML Markup Insertion Start)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b, c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard applies semantics and restrictions of both customXmlInsRangeStart and customXmlInsRangeEnd to customXmlInsRangeStart.*

Word only applies the semantics and restrictions of customXmlInsRangeStart.

b. *The standard states that the customXmlInsRangeStart element applies insertion to customXml elements.*

Word uses this element to apply insertion to customXml elements and structured document tag elements.

c. *The standard states that the range specified by a pair of customXmlInsRangeStart and customXmlInsRangeEnd elements can overlap the range specified by another such pair of elements.*

Word does not allow the range specified by a pair of customXmlInsRangeStart and customXmlInsRangeEnd elements to overlap the range specified by any other such pair of elements.

2.1.324 Part 1 Section 17.13.5.8, customXmlMoveFromRangeEnd (Custom XML Markup Move Source End)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b); cellDel, §17.13.5.1(a).

a. *The standard states that this element applies moveFrom to customXml elements.*

Word may use this element to apply moveFrom to structured document tag elements.

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2.1.325 Part 1 Section 17.13.5.9, customXmlMoveFromRangeStart (Custom XML Markup Move Source Start)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b, c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard states that this element applies moveFrom to customXml elements.*

   Word also uses this element to apply moveFrom to structured document tag elements.

b. *The standard states that the range specified by a pair of customXmlMoveFromRangeStart and customXmlMoveFromRangeEnd elements can overlap the range specified by another such pair of elements.*

   Word does not allow the range specified by a pair of customXmlMoveFromRangeStart and customXmlMoveFromRangeEnd elements to overlap the range specified by any other such pair of elements.

c. *The standard allows customXML move tracking to begin inside, end inside, or contain an oMathPara element.*

   Word has unpredictable results when customXML move tracking begins inside, ends inside, or contains an oMathPara element.

2.1.326 Part 1 Section 17.13.5.10, customXmlMoveToRangeEnd (Custom XML Markup Move Destination Location End)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b); cellDel, §17.13.5.1(a).

a. *The standard states that the customXmlMoveToRangeEnd element applies moveTo to customXml elements.*

   Word also uses this element to apply moveTo to structured document tag elements.

b. *The standard states that the document is non-conformant if customXmlMoveToRangeEnd is not contained in a move source container.*

   Word ignores customXmlMoveToRangeEnd if it is contained in a move source container.

c. *The standard states that the document is non-conformant if customXmlMoveToRangeEnd is not contained in a move source container.*

   Word always writes the customXmlMoveToRangeEnd in a move destination container.

2.1.327 Part 1 Section 17.13.5.11, customXmlMoveToRangeStart (Custom XML Markup Move Destination Location Start)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b, c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard states that the customXmlMoveToRangeStart element applies moveTo to customXml elements.*

   Word also uses this element to apply moveTo to structured document tag elements.

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b. *The standard states that the range specified by a pair of customXmlMoveToRangeStart and customXmlMoveToRangeEnd elements can overlap the range specified by another such pair of elements.*

   Word does not allow the range specified by a pair of customXmlMoveToRangeStart and customXmlMoveToRangeEnd elements to overlap the range specified by any other such pair of elements.

c. *The standard allows customXML move tracking to begin inside, end inside, or contain an oMathPara element.*

   Word has unpredictable behavior when customXML move tracking begins inside, ends inside, or contains an oMathPara element.

d. *The standard states that the document is non-conformant if customXmlMoveToRangeStart is not contained in a move source container.*

   Word ignores customXmlMoveToRangeStart if it is contained in a move source container.

e. *The standard states that the document is non-conformant if customXmlMoveToRangeStart is not contained in a move source container.*

   Word always writes the customXmlMoveToRangeStart in a move destination container.

2.1.328 Part 1 Section 17.13.5.12, del (Deleted Table Row)

For additional notes that apply to this portion of the standard, please see the notes for trPr, §17.7.6.10(b)*;* trPr, §17.7.6.11(a)*;* comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b)*.*

2.1.329 Part 1 Section 17.13.5.13, del (Deleted Math Control Character)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.16(a)*;* ins, §17.13.5.18(b)*.*

a. *The standard states that the rPr (Previous Run Properties) element is a valid child.*

   Word allows the rPr (Run Properties) element, not the rPr (Previous Run Properties) element, to be a child.

2.1.330 Part 1 Section 17.13.5.14, del (Deleted Run Content)

For additional notes that apply to this portion of the standard, please see the notes for customXml, §17.5.1.3(a)*;* comment, §17.13.4.2(b, c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b)*.*

a. *The standard allows nested deletions.*

   Word does not support nested deletions.

2.1.331 Part 1 Section 17.13.5.15, del (Deleted Paragraph)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b)*.*

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2.1.332 Part 1 Section 17.13.5.16, ins (Inserted Math Control Character)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); del, §17.13.5.13(a); ins, §17.13.5.18(b).

a. *The standard states that the rPr (Previous Run Properties) element is a valid child.*

Word allows the rPr (Run Properties) element, not the rPr (Previous Run Properties) element, to be a child.

b. *The standard states that the minOccurs value for the rPr child element is 1.*

Word does not require an occurrence of this element.

2.1.333 Part 1 Section 17.13.5.17, ins (Inserted Table Row)

For additional notes that apply to this portion of the standard, please see the notes for trPr, §17.7.6.10(b); trPr, §17.7.6.11(a); comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

2.1.334 Part 1 Section 17.13.5.18, ins (Inserted Run Content)

For additional notes that apply to this portion of the standard, please see the notes for customXml, §17.5.1.3(a); comment, §17.13.4.2(b, c); cellDel, §17.13.5.1(a).

a. *The standard allows nested insertions.*

Word does not support nested insertions.

b. *The standard states that the author attribute is required, but the prose defines its behavior when omitted.*

Word behaves according to schema - the author attribute is required.

2.1.335 Part 1 Section 17.13.5.19, ins (Inserted Numbering Properties)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

2.1.336 Part 1 Section 17.13.5.20, ins (Inserted Paragraph)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard states that this element specifies that a paragraph mark shall be treated as deleted (that is, the contents of this paragraph are no longer delimited by this paragraph mark, and are combined with the following paragraph).*

Word uses this element to specify that the paragraph mark shall be treated as inserted (that is, the contents of this paragraph used to be combined with the following paragraph but were moved into a new paragraph).

2.1.337 Part 1 Section 17.13.5.21, moveFrom (Move Source Paragraph)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard specifies semantics for this element.*

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Word ignores this element.

2.1.338 Part 1 Section 17.13.5.22, moveFrom (Move Source Run Content)

For additional notes that apply to this portion of the standard, please see the notes for customXml, §17.5.1.3(a); comment, §17.13.4.2(b, c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard allows moveFrom to be nested.*

Word does not support nesting moveFrom.

b. *The standard allows tracked moves in math objects and functions.*

Word treats tracked moves (moveFrom, moveTo) in math objects and functions as insertions and deletions.

2.1.339 Part 1 Section 17.13.5.23, moveFromRangeEnd (Move Source Location Container - End)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b); cellDel, §17.13.5.1(a).

2.1.340 Part 1 Section 17.13.5.24, moveFromRangeStart (Move Source Location Container - Start)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); comment, §17.13.4.2(b); cellDel, §17.13.5.1(a); bookmarkStart, §17.13.6.2(a-e).

a. *The standard allows an unbounded number of moveFrom/moveTo ranges.*

Word will not open a document with too many moveFrom/moveTo ranges. If the uiCompat97to2003 is set, the maximum is 32,751; otherwise the maximum is 2,147,483,647.

2.1.341 Part 1 Section 17.13.5.25, moveTo (Move Destination Run Content)

For additional notes that apply to this portion of the standard, please see the notes for customXml, §17.5.1.3(a); comment, §17.13.4.2(b, c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard allows the moveTo element to be a descendant of another moveTo element.*

Word does not allow the moveTo element to be a descendant of another moveTo element.

b. *The standard allows tracked moves in math objects and functions.*

Word treats tracked moves (moveFrom, moveTo) in math objects and functions as deletions and insertions.

2.1.342 Part 1 Section 17.13.5.26, moveTo (Move Destination Paragraph)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard specifies semantics for this element.*

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Word ignores this element.

2.1.343 Part 1 Section 17.13.5.27, moveToRangeEnd (Move Destination Location Container - End)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a)*;* sdt, §17.5.2.31(a)*;* sdt, §17.5.2.32(a)*;* comment, §17.13.4.2(b)*;* cellDel, §17.13.5.1(a)*.*

a. *The standard does not specify any restrictions concerning multiple moveToRangeEnd elements with the same id attribute value.*

Word will use the first moveToRangeEnd element (in document order) to determine the end of the destination container

2.1.344 Part 1 Section 17.13.5.28, moveToRangeStart (Move Destination Location Container - Start)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a)*;* sdt, §17.5.2.31(a)*;* sdt, §17.5.2.32(a)*;* comment, §17.13.4.2(b)*;* cellDel, §17.13.5.1(a)*;* bookmarkStart, §17.13.6.2(a-e)*.*

2.1.345 Part 1 Section 17.13.5.29, pPrChange (Revision Information for Paragraph Properties)

For additional notes that apply to this portion of the standard, please see the notes for pPr, §17.7.5.2(a)*;* pPr, §17.9.22(a)*;* comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b)*.*

2.1.346 Part 1 Section 17.13.5.30, rPrChange (Revision Information for Run Properties on the Paragraph Mark)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b)*.*

2.1.347 Part 1 Section 17.13.5.31, rPrChange (Revision Information for Run Properties)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §17.7.5.4(a)*;* rPr, §17.7.6.2(a)*;* rPr, §17.9.24(a)*;* comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b)*.*

2.1.348 Part 1 Section 17.13.5.32, sectPrChange (Revision Information for Section Properties)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b)*.*

a. *The standard states that the previous section properties are expressed as a complete set of properties.*

Word interprets previous section properties as relative to the current set of properties.

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2.1.349 Part 1 Section 17.13.5.33, tblGridChange (Revision Information for Table Grid Column Definitions)

For additional notes that apply to this portion of the standard, please see the notes for cellDel, §17.13.5.1(a).

2.1.350 Part 1 Section 17.13.5.34, tblPrChange (Revision Information for Table Properties)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b).

2.1.351 Part 1 Section 17.13.5.35, tblPrExChange (Revision Information for Table-Level Property Exceptions)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b).

2.1.352 Part 1 Section 17.13.5.36, tcPrChange (Revision Information for Table Cell Properties)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b)*;* tcPr, §17.7.6.9(a)*;* comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b).

2.1.353 Part 1 Section 17.13.5.37, trPrChange (Revision Information for Table Row Properties)

For additional notes that apply to this portion of the standard, please see the notes for trPr, §17.7.6.10(b)*;* trPr, §17.7.6.11(a)*;* comment, §17.13.4.2(c)*;* cellDel, §17.13.5.1(a)*;* ins, §17.13.5.18(b).

a. *The standard states that table styles can contain row property revisions.*

   Word does not allow row property revisions in table styles.

2.1.354 Part 1 Section 17.13.6, Bookmarks

a. *The standard allows a bookmark to begin inside a math object and end outside that object or vice versa.*

   Word does not allow a bookmark to begin inside a math object and end outside that object or vice versa.

b. *The standard does not specify a maximum number of bookmarks allowed in a document.*

   Word fails to open the file if it has too many bookmarks (more than 16380 when the uiCompat97to2003 element is present, more than 2147483647 otherwise).

2.1.355 Part 1 Section 17.13.6.1, bookmarkEnd (Bookmark End)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a)*;* sdt, §17.5.2.31(a)*;* sdt, §17.5.2.32(a)*;* cellDel, §17.13.5.1(a).

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2.1.356 Part 1 Section 17.13.6.2, bookmarkStart (Bookmark Start)

For additional notes that apply to this portion of the standard, please see the notes for sdt, §17.5.2.30(a); sdt, §17.5.2.31(a); sdt, §17.5.2.32(a); cellDel, §17.13.5.1(a).

a. *The standard says that if colFirst is greater than colLast, then colFirst and colLast should be ignored.*

In Word, if colFirst is greater than colLast, then colFirst behaves as if it took on the value of colLast.

b. *The standard allows any length string for the name attribute.*

Word only allows strings of length at most 40 for the name attribute. For additional restrictions on bookmark name attributes, refer to the Word Binary File Format (.doc) Structure Specification ([MS-DOC] section 2.9.279 "SttbfBkmk").

c. *The standard says that if multiple bookmarks have the same name, the first bookmark shall be maintained, and all subsequent bookmarks should be ignored.*

In Word, if multiple bookmarks have the same name, the last bookmark is maintained and all others are ignored.

d. *The standard says that if colFirst or colLast is greater than the number of columns in the table, then colFirst and colLast should be ignored.*

In Word, if colLast is greater than the number of columns in the table, the bookmark will extend from the column specified by colFirst past the end of the table row.

e. *The standard says that if colFirst or colLast is greater than the number of columns in the table, then colFirst and colLast should be ignored.*

In Word, if colFirst and colLast are greater than the number of columns in the table, the bookmark appears past the end of the table row.

2.1.357 Part 1 Section 17.13.7.1, permEnd (Range Permission End)

a. *The standard allows any string for the id attribute.*

Word only allows 32-bit integers for the id attribute.

b. *The standard allows an unbounded number of range permissions.*

Word will not open a file with too many range permissions (32752 if the uiCompat97to2003 element is present, 2147483647 otherwise).

2.1.358 Part 1 Section 17.13.7.2, permStart (Range Permission Start)

For additional notes that apply to this portion of the standard, please see the notes for permEnd, §17.13.7.1(a).

a. *The standard says that if colFirst or colLast is greater than the number of columns in table, both attributes should be ignored.*

Word does not ignore the attributes and instead behaves unpredictably.

b. *The standard does not specify behavior when both the ed and edGrp attributes are present.*

In Word, if the ed attribute is present, the edGrp attribute will be ignored.

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c. *The standard states that the value of the 'id' attribute can be any string.*

Word allows only 32-bit integers for the id attribute.

d. *The standard allows an unbounded number of range permissions.*

Word will not open a file with too many range permissions (32752 if the uiCompat97to2003 element is present, 2147483647 otherwise).

2.1.359 Part 1 Section 17.14, Mail Merge

a. *The standard says that the odso element in settings.xml contains information about whether to include or exclude records.*

In Word, information about whether to include or exclude records is stored in recipientData.xml.

b. *The standard says the odso element contains information about how to map data source columns to MERGEFIELD fields.*

In Word, the odso element contains information about how to map data source columns to a set of predefined mail merge fields.

2.1.360 Part 1 Section 17.14.2, activeRecord (Record Currently Displayed In Merged Document)

a. *The standard says that if the val attribute is greater than the number of records in the specified external data source, the val attribute is treated as if it were 1.*

If the val attribute greater than the number of records in the specified external data source, Word fails to open the file.

b. *The standard says that data is populated in merge fields based on mappings defined by the fieldMapData elements.*

In Word, merge fields directly reference data columns in the data source, not fieldMapData mappings.

2.1.361 Part 1 Section 17.14.4, checkErrors (Mail Merge Error Reporting Setting)

a. *The standard says that apps can define their own behaviors for values other than 1, 2, and 3.*

Word fails to roundtrip any value other than 1, 2, and 3.

2.1.362 Part 1 Section 17.14.5, colDelim (Column Delimiter for Data Source)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word defines the values of this attribute with the XML Schema unsignedInt datatype.

2.1.363 Part 1 Section 17.14.6, column (Index of Column Being Mapped)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word defines the values of this attribute with the XML Schema unsignedInt datatype.

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2.1.364 Part 1 Section 17.14.7, column (Index of Column Containing Unique Values for Record)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word defines the values of this attribute with the XML Schema unsignedInt datatype.

2.1.365 Part 1 Section 17.14.9, dataSource (Data Source File Path)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*.*

2.1.366 Part 1 Section 17.14.12, doNotSuppressBlankLines (Remove Blank Lines from Merged Documents)

a. *The standard specifies that when this element is present, the merged documents which are generated from the mail merge shall not have any blank lines removed.*

If this element is present with a val attribute value of false, Word will stop trying to connect to the external data source.

2.1.367 Part 1 Section 17.14.13, dynamicAddress (Use Country-Based Address Field Ordering)

a. *The standard says the default value of dynamicAddress is on.*

In Word, the default value of dynamicAddress is off.

2.1.368 Part 1 Section 17.14.14, fHdr (First Row of Data Source Contains Column Names)

a. *The standard says this element specifies the first row of data in the specified external data source should be treated as a header row.*

Word ignores this element for all types of external data sources except Excel.

2.1.369 Part 1 Section 17.14.15, fieldMapData (External Data Source to Merge Field Mapping)

a. *The standard states that the fieldMapData element is used to map from mappedName to data source columns.*

Word uses 30 pre-defined mail merge fields as follows:

Unique

CourtesyTitle

FirstName

MiddleName

LastName

Suffix

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Nickname

JobTitle

Company

Address1

Address2

City

State

PostalCode

CountryorRegion

BusinessPhone

BusinessFax

HomePhone

HomeFax

EmailAddress

WebPage

SpouseCourtesyTitle

SpouseFirstName

SpouseMiddleName

SpouseLastName

SpouseNickname

RubyFirstName

RubyLastName

Address3

Department

Word ignores the **mappedName** child element of a **fieldMapData** element and maps the mail merge fields according to the order of the fieldMapData elements inside the **odso** element. Specifically, the first **fieldMapData** element inside the **odso** element corresponds to the *Unique* field, second **fieldMapData** element corresponds to *CourtesyTitle* field, and so on.

b. *The standard says that this element maps MERGEFIELD fields to data source columns.*

In Word, this element maps predefined fields to data source columns.

2.1.370 Part 1 Section 17.14.16, headerSource (Header Definition File Path)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*.*

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a. *The standard specifies the headerSource element.*

Word fails to open WordprocessingML documents in which this element is present.

2.1.371 Part 1 Section 17.14.17, lid (Merge Field Name Language ID)

a. *The standard says the val attribute specifies either an ISO 639-1 letter code or 4 digit hexadecimal code for a specific language.*

Word does not understand 4 digit hexadecimal codes for languages when stored in this attribute.

2.1.372 Part 1 Section 17.14.18, linkToQuery (Query Contains Link to External Query File)

a. *The standard says this element specifies that the query string contains a reference to an external query file that contains the actual query data to be used against the specified external data source for the mail merge.*

Word saves this element irrespective of whether the query string actually contains a reference to an external query file or not, and subsequently ignores the element.

2.1.373 Part 1 Section 17.14.20, mailMerge (Mail Merge Settings)

a. *The standard states that the minOccurs value for the mainDocumentType child element is 1.*

Word does not require an occurrence of this element.

2.1.374 Part 1 Section 17.14.23, mappedName (Predefined Merge Field Name)

a. *The standard says that this element is used to map MERGEFIELD fields to data source columns.*

In Word, this element is used to map predefined mail merge fields to data source columns.

2.1.375 Part 1 Section 17.14.24, name (Data Source Name for Column)

a. *The standard says this element is used to look up a column name that is used to determine which column to map from the data source, but it also specifies the same meaning for the column element.*

In Word, the name element caches the value of the name of this column in the data source at the time when the connection was established, but the column element is used to determine which column to map from the data source.

b. *The standard says that if this element is omitted, no data source column name is provided for the current column.*

In Word, if this element is omitted, no data source column name is provided for the current column mapping.

2.1.376 Part 1 Section 17.14.25, odso (Office Data Source Object Settings)

a. *The standard states that the maxOccurs value for the recipientData child element is unbounded.*

Word limits the occurrences of this element to 1.

b. *The standard says that the odso element provides information about mapping to MERGEFIELD fields.*

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In Word, the odso element provides information about mappings to built-in mail merge data fields, not MERGEFIELD fields.

2.1.377 Part 1 Section 17.14.26, query (Query For Data Source Records To Merge)

a. *The standard does not restrict the SQL statements that may be used.*

Word does not allow SQL statements that attempt to modify the data source.

2.1.378 Part 1 Section 17.14.28, recipientData (Reference to Inclusion/Exclusion Data for Data Source)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*.*

a. *The standard requires relationships specified by this element to be of type http://schemas.openxmlformats.org/officeDocument/2006/mailMergeRecipientData.*

Word expects relationships specified by this element to be of type http://schemas.openxmlformats.org/officeDocument/2006/relationships/recipientData.

2.1.379 Part 1 Section 17.14.30, src (ODSO Data Source File Path)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*.*

a. *The standard specifies that this element is used only under certain conditions.*

Word does not use this element under any conditions.

2.1.380 Part 1 Section 17.14.31, table (Data Source Table Name)

a. *The standard says that this element specifies which table in a data source is being used.*

Word uses this element only when the query element is omitted.

2.1.381 Part 1 Section 17.14.34, udl (UDL Connection String)

a. *The standard specifies conditions under which the udl connection string is used.*

Word does not use the udl connection string.

2.1.382 Part 1 Section 17.14.35, uniqueTag (Unique Value for Record)

a. *The standard does not define the contents of this element.*

Word defines this element to contain a val attribute that is defined by the XML Schema base64Binary datatype.

b. *The standard says that this element is used to maintain a relationship between the records within an external data source and a given merged WordprocessingML document.*

Word uses this element to maintain a relationship between the records within an external data source and a given source WordprocessingML document.

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c. *The standard does not state how this element should be populated when the column containing unique data for a record is empty.*

Word computes the unique tag, when empty, to be a base64-encoded value using the following algorithm:

Utility function 1:

```
#define nPrimeLast 4294967291
__int32 LHashMM( __int32 l, __int32 dl )
{
        l = 131 * l + dl;

        if (l >= nPrimeLast) {
                l -= nPrimeLast;
        }

        return l;
}
```

Utility function 2:

```
  int32 LGetHashWz(const WCHAR *wzText)
{
        int cch = lstrlen(wzText);
          int32 lhash = 0L;

        for (int i = 0; i < cch; i++) {
                lhash = LHashMM(lhash, wzText[i]);
        }

        return lhash;
}
```

Utility function 3:

```
  int32 DwRowHash(thisRow)
{
        __int32 lwHash = 0L;
        for(int i = 0; i < TotalNumberOfColumnsInTheDataSource; i++) {
                Retrieve the value in the i-th column of thisRow as a Unicode String wzData;
                __int32 l = LGetHashWz(wzData);
                if(l) {
                        lwHash = LHashMM(lwHash, l);
                }
        }
        return lwHash;
}
```

Unique tag computation algorithm:

```
WCHAR wzUniqueTag[64] = {0};

*((__int32*) wzUniqueTag) = DwRowHash(the_row_containing_this_record);

return the wzUniqueTag as the uniqueTag;
```


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2.1.383 Part 1 Section 17.15.1.1, activeWritingStyle (Grammar Checking Settings)

a. *The standard states that the lang attribute specifies the language of the engine used to perform the grammatical content checking.*

Word ignores the activeWritingStyle element if the lang attribute specifies an unknown locale.

b. *The standard states that the dllVersion attribute can be any integer value.*

Word restricts this attribute to a 32-bit unsigned integer when the nlCheck attribute value is on, and a 16-bit unsigned integer when the nlCheck attribute value is off.

c. *The standard states that the values of the vendorID attribute are defined by the XML Schema integer datatype.*

Word defines this attribute with the XML Schema int datatype, with a minimum value of 0.

d. *The standard does not state a default value for the nlCheck attribute.*

Word uses off as the default value for the nlCheck attribute.

e. *The standard states that if an application reads these settings and does not understand the value of appName, then its settings may be ignored and the application's default settings used instead.*

Word only understands an appName attribute value of MSWord.

2.1.384 Part 1 Section 17.15.1.3, alwaysMergeEmptyNamespace (Do Not Mark Custom XML Elements With No Namespace As Invalid)

a. *The standard states that if this element is not present, then the custom XML markup that has no associated namespace shall be treated as an error.*

Word uses a default value of true for the val attribute of this element when no schemas are attached to the document using the attachedSchema element and no custom XML markup with an associated namespace appears in the document.

b. *The standard states that if this element is not present, then the custom XML markup that has no associated namespace shall be moved into a special error namespace when the document is opened.*

Word does not move the custom XML markup into an error namespace if the alwaysMergeEmptyNamespace element is not present.

2.1.385 Part 1 Section 17.15.1.6, attachedTemplate (Attached Document Template)

a. *The standard states that the id attribute specifies the relationship that shall have the type required by the parent element, yet a relationship type for the attachedTemplate element is not listed.*

Word requires http://schemas.openxmlformats.org/officeDocument/2006/relationships/attachedTemplate as the relationship type for the attachedTemplate element, as specified in "[ISO/IEC-29500-1] §11.4".

b. *The standard states that this element's val attribute shall contain the file path of the associated document template.*

Word does not support a val attribute for the attachedTemplate element. The file path for the associated document template is determined by evaluating the relationship ID on this element.

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2.1.386 Part 1 Section 17.15.1.7, autoCaption (Single Automatic Captioning Setting)

a. *The standard places no restrictions on the conditions under which this element is to be used.*

Word only reads this element when it is stored within the default document template.

b. *The standard states that the name attribute specifies a unique identifier for types of objects to be automatically captioned.*

Word writes and expects wfwTables for Microsoft Word Tables, and the key name of the OLE object for OLE objects (the key name is stored in the Windows registry under HKEY_CLASSES_ROOT).

c. *The standard states that the name attribute and the caption attribute can contain a string of unlimited length.*

Word limits these values to 255 characters.

2.1.387 Part 1 Section 17.15.1.8, autoCaptions (Automatic Captioning Settings)

a. *The standard does not state that this element will be ignored under certain circumstances.*

Word ignores this element unless it is stored within its default document template.

2.1.388 Part 1 Section 17.15.1.9, autoFormatOverride (Allow Automatic Formatting to Override Formatting Protection Settings)

a. *The standard states that the val attribute specifies that automatic formatting behavior shall be applied regardless of the formatting restrictions in place.*

Word ignores this element.

2.1.389 Part 1 Section 17.15.1.11, bookFoldPrinting (Book Fold Printing)

a. *The standard says book fold printing divides the page in half vertically with two left margins emanating from the bisector of the page, and two right margins instantiated at the left and right side of the page.*

Word divides the page in half vertically with two right margins emanating from the bisector of the page, and two left margins instantiated at the left and right side of the page.

2.1.390 Part 1 Section 17.15.1.12, bookFoldPrintingSheets (Number of Pages Per Booklet)

a. *The standard states that if this element is omitted, then default behavior shall be to print the document on a single sheet.*

In Word, if this element is omitted, default behavior is to include all the pages of the document in a single booklet.

b. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word defines the values of this attribute with the XML Schema short datatype, with a minimum value of 0.

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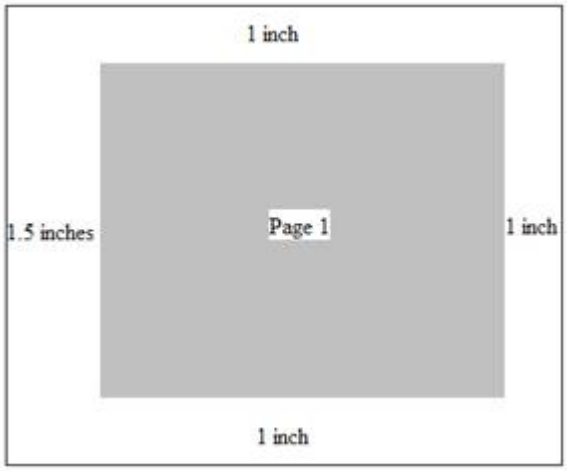
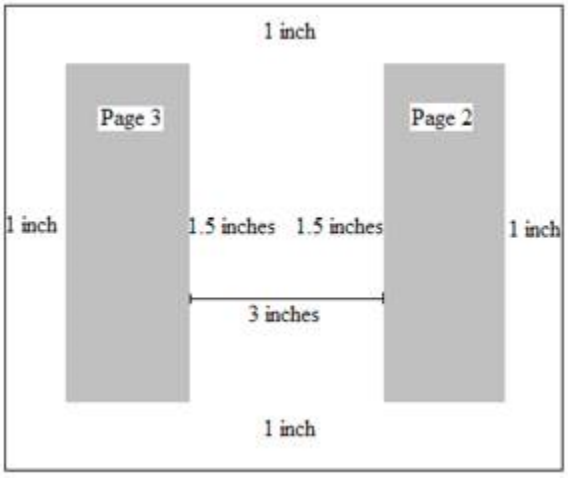
2.1.391 Part 1 Section 17.15.1.13, bookFoldRevPrinting (Reverse Book Fold Printing)

a. *The standard says this element divides the page in half vertically with two left margins emanating from the bisector of the page, and two right margins instantiated at the left and right side of the page.*

   In Word, this element divides the page in half vertically with two right margins emanating from the bisector of the page, and left margins instantiated at the left and right side of the page.

b. *The standard describes through example the output of printed pages with page 3 printed after page 2.*

Word prints page 3 on the left side of the second printed signature to allow the construction of a printed booklet. This can be visualized as follows:

Second Printed Sheet	Second Printed Signature
	

2.1.392 Part 1 Section 17.15.1.16, caption (Single Caption Type Definition)

a. *The standard allows strings of unbounded length for the name attribute.*

   Word allows strings of length at most 255 for the name attribute.

b. *In the standard, the heading attribute is described with specific semantics for values 1 through 9.*

   If the heading attribute is present, Word reads the value as zero and incorrectly displays autogenerated captions.

c. *The standard says the noLabel attribute controls whether labels are included in automatically generated captions.*

   Word ignores the noLabel attribute and instead uses the value of the chapNum attribute.

2.1.393 Part 1 Section 17.15.1.17, captions (Caption Settings)

a. *The standard states that this element could be used by other documents besides the default template.*

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Word only reads this element when it is stored in its default document template.

2.1.394 Part 1 Section 17.15.1.19, clickAndTypeStyle (Paragraph Style Applied to Automatically Generated Paragraphs)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a).

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

2.1.395 Part 1 Section 17.15.1.20, clrSchemeMapping (Theme Color Mappings)

a. *The standard states that if the t1 attribute is omitted, then the t1 theme color shall be used.*

Word uses the dark1 theme color, as no t1 theme color exists in the enumeration.

b. *The standard says that if the t2 attribute is omitted, then the t2 theme color shall be used.*

Word uses the dark2 theme color, as no t2 theme color exists in the enumeration.

2.1.396 Part 1 Section 17.15.1.22, consecutiveHyphenLimit (Maximum Number of Consecutively Hyphenated Lines)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word defines the values of this attribute with the XML Schema unsignedShort datatype.

2.1.397 Part 1 Section 17.15.1.23, decimalSymbol (Radix Point for Field Code Evaluation)

a. *The standard states that this element specifies the character that shall be interpreted as the radix point symbol.*

Word ignores this element and its value and always reads the system locale settings to get the value of the radix point symbol.

2.1.398 Part 1 Section 17.15.1.24, defaultTableStyle (Default Table Style for Newly Inserted Tables)

For additional notes that apply to this portion of the standard, please see the notes for numStyleLink, §17.9.21(a).

a. *The standard states that if this element is not specified then the application shall apply the default table style for inserted table*

Word will apply the TableGrid style for tables when this element is not specified

b. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 253 characters.

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2.1.399 Part 1 Section 17.15.1.25, defaultTabStop (Distance Between Automatic Tab Stops)

a. *The standard states that the values of the val attribute are defined by the XML Schema unsignedLong datatype.*

Word defines the values of this attribute with the XML Schema short datatype, with a minimum value of 0.

2.1.400 Part 1 Section 17.15.1.27, displayHorizontalDrawingGridEvery (Distance between Horizontal Gridlines)

a. *The standard says this element controls the number of horizontal grid units between horizontal grid lines.*

In Word, this element controls the number of horizontal grid units between vertical grid lines.

b. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 127.

2.1.401 Part 1 Section 17.15.1.28, displayVerticalDrawingGridEvery (Distance between Vertical Gridlines)

a. *The standard says this element controls the number of vertical grid units between vertical grid lines.*

In Word, this element controls the number of vertical grid units between horizontal grid lines.

b. *The standard states that, if this element is omitted, no vertical gridlines are displayed.*

In Word, if this element is omitted, horizontal gridlines are displayed for every vertical grid unit.

c. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 127.

2.1.402 Part 1 Section 17.15.1.29, documentProtection (Document Editing Restrictions)

a. *The standard's salt attribute description conflicts with itself, describing the salt attribute as being both prepended and appended to the password.*

Word prepends the salt attribute to the password.

b. *In the standard, the spinCount attribute specifies the number of times the hashing function shall be iteratively run.*

Word requires that the initial hash of the password with the salt not be considered in the count.

c. *The standard states that if the enforcement attribute is omitted, then protection settings are ignored by application.*

Word enforces protection when this attribute is missing.

d. *The standard states that the values for the cryptSpinCount attribute are defined by the ST_DecimalNumber simple type.*

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Word supports values only for the spinCount attribute that are between 0 and 10,000,000 (inclusive).

e. *The standard states that the saltValue attribute is a base64 string.*

Word prepends the binary form of the saltValue attribute and not the base64 string representation when hashing.

f. *The standard states that this setting uses a specific set of attributes, specified by the AG_Password attribute group, to store the password hash.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

Name	Description
algorithm Name	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system's cryptographic subsystem can be utilized by Office. The following hash algorithm names are reserved: ***MD2*** *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-1*** *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256*** *Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*

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Name	Description
	WHIRLPOOL *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*
hash Value	Specifies the hash value for the password required to edit this worksheet. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match, the protection shall no longer be enforced. If this value is omitted, then the reservationPassword attribute shall contain the password hash for the workbook. [*Example*: Consider an Office Open XML document with the following information stored in one of its protection elements: <… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

[*Example*:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

2.1.403 Part 1 Section 17.15.1.31, docVar (Single Document Variable)

a. *The standard does not limit the length of the value of the name attribute.*

Word restricts the value of this attribute to be at least 1 and at most 255 characters.

b. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 65280 characters.

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2.1.404 Part 1 Section 17.15.1.42, doNotUseMarginsForDrawingGridOrigin (Do Not Use Margins for Drawing Grid Origin)

a. *The standard contradicts itself with regard to the meaning of this element.*

Word uses the top-left corner of the page as the origin for the drawing grid when this element is present (instead of the margins).

2.1.405 Part 1 Section 17.15.1.44, drawingGridHorizontalOrigin (Drawing Grid Horizontal Origin Point)

a. *The standard states that this element as specifying the distance from the origin used for horizontal gridlines.*

Word interprets this element as the distance from the origin used for vertical gridlines.

2.1.406 Part 1 Section 17.15.1.46, drawingGridVerticalOrigin (Drawing Grid Vertical Origin Point)

a. *The standard states that this element specifies the distance from the origin used for vertical gridlines.*

Word interprets this element as the distance from the origin used for horizontal gridlines.

2.1.407 Part 1 Section 17.15.1.53, hyphenationZone (Hyphenation Zone)

a. *The standard states that if this element is omitted, then a default hyphenation zone of 360 twentieths of a point (0.25") shall be applied.*

Word assigns different default values for the hyphenation zone, based on the language of the running operating system.

2.1.408 Part 1 Section 17.15.1.56, listSeparator (List Separator for Field Code Evaluation)

a. *The standard states that this element specifies the character that shall be interpreted as a list item separator.*

Word ignores this element and its value and always reads the system locale settings to get the value of the list item separator.

2.1.409 Part 1 Section 17.15.1.58, noLineBreaksAfter (Custom Set of Characters Which Cannot End a Line)

a. *The standard does not state how conflicts between this element and the strictFirstAndLastChars elements should be resolved.*

Word ignores this element for Japanese text if the strictFirstAndLastChars element is specified.

b. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 50 characters.

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2.1.410 Part 1 Section 17.15.1.59, noLineBreaksBefore (Custom Set Of Characters Which Cannot Begin A Line)

a. *The standard does not state how conflicts between this element and the strictFirstAndLastChars element should be resolved.*

Word ignores this element when the strictFirstAndLastChars element is also specified.

b. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 100 characters.

2.1.411 Part 1 Section 17.15.1.60, noPunctuationKerning (Never Kern Punctuation Characters)

a. *The standard states that the default value of this element is false.*

Word uses a default equal to true when the primary editing language is Korean.

b. *The standard states here that when kerning is enabled, Latin text should be kerned. However, the kern element contains no such restriction.*

Word kerns all characters when kerning is enabled.

2.1.412 Part 1 Section 17.15.1.62, printFractionalCharacterWidth (Print Fractional Character Widths)

a. *The standard does not state the default behavior when this element is omitted.*

Word does not apply this property when this element is omitted.

b. *The standard states that this setting specifies that the contents of this document shall be printed with fractional character widths.*

Word ignores this property.

2.1.413 Part 1 Section 17.15.1.63, printPostScriptOverText (Print PostScript Codes With Document Text)

a. *The standard states that the PostScript codes specified in WordprocessingML documents containing PRINT fields shall be included in foreground (on the same Z-order as text) with the data printed in the contents of a given WordprocessingML document.*

Word ignores this element.

2.1.414 Part 1 Section 17.15.1.69, revisionView (Visibility of Annotation Types)

a. *The standard states that the markup attribute specifies whether the application shall visually indicate any additional non-printing area used to display annotations.*

Word uses this attribute to specify whether any annotations should be displayed when the document is opened. If this attribute is set to false, then no annotations are displayed, regardless of the state of the other attributes.

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2.1.415 Part 1 Section 17.15.1.70, rsid (Single Session Revision Save ID)

a. *The standard states that the rsid should be randomly chosen and that every editing session shall be assigned an rsid that is larger than all earlier ones in the same file. If both are observed, the application would quickly run out of allowable rsid's.*

Word generates a random number for every rsid that is not necessarily larger than all earlier ones in the same file.

2.1.416 Part 1 Section 17.15.1.74, saveInvalidXml (Allow Saving Document As XML File When Custom XML Markup Is Invalid)

a. *The standard states that if the doNotValidateAgainstSchema element is set, then the XML is never invalid and this property is ignored.*

Word does not ignore this property when doNotValidateAgainstSchema element is set.

2.1.417 Part 1 Section 17.15.1.76, saveThroughXslt (Custom XSL Transform To Use When Saving As XML File)

a. *The standard states that if both solutionID and id attributes are present, the id attribute is used if the solutionID attribute cannot be used successfully.*

Word ignores the id attribute whenever this attribute is present, even if this information cannot be used successfully.

b. *The standard does not state what shall occur when the solutionID attribute cannot be recognized.*

Word ignores the parent saveThroughXslt element if this attribute cannot be recognized.

2.1.418 Part 1 Section 17.15.1.80, showXMLTags (Show Visual Indicators for Custom XML Markup Start/End Locations)

a. *The standard does not explicitly state that this element does not need to be roundtripped.*

Word uses, but does not roundtrip, this element.

2.1.419 Part 1 Section 17.15.1.81, smartTagType (Supplementary Smart Tag Information)

a. *The standard does explicitly state that this element can be ignored under certain conditions.*

Word ignores this element if either the name or namespaceuri attribute is omitted, or the attributes do not identify a smart tag contained in the document.

b. *The standard does not say that the url attribute can be ignored under certain conditions.*

Word ignores this attribute when the application already has URL information for this name/namespaceuri combination.

2.1.420 Part 1 Section 17.15.1.82, strictFirstAndLastChars (Use Strict Kinsoku Rules for Japanese Text)

a. *The standard does not state how to resolve conflicts between this element and the noLineBreaksBefore and noLineBreaksAfter elements when their settings conflict.*

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Word overrides the settings specified by the noLineBreaksBefore and noLineBreaksAfter elements with the settings from this element on Japanese text.

2.1.421 Part 1 Section 17.15.1.85, stylePaneFormatFilter (Suggested Filtering for List of Document Styles)

a. *The standard states that the default value of this element is to have all settings defined turned off.*

Word has the following settings turned on: visibleStyles, clearFormatting, headingStyles, and latentStyles.

b. *The standard states the meaning for each setting.*

Word does not support numberingStyles, tableStyles, or directformattingOnTables.

c. *The standard specifies a set of attributes on this element.*

Word reads the val attribute specified in "[ISO/IEC-29500-4] §14.8.2.4; Additional attribute for stylePaneFormatFilter element (Part 1, §17.15.1.85)" if, and only if, none of the attributes specified in this subsection are present.

2.1.422 Part 1 Section 17.15.1.87, summaryLength (Percentage of Document to Use When Generating Summary)

a. *The standard does not explicitly state that the summaryLength element can be removed when a document is saved.*

Word does not round trip this setting unless certain operations related to automatic summaries are performed while the document is open.

b. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 100.

2.1.423 Part 1 Section 17.15.1.88, themeFontLang (Theme Font Languages)

For additional notes that apply to this portion of the standard, please see the notes for lang, §17.3.2.20(a).

a. *The standard states that the default values of languages of the theme fonts are specified by the cs, ea, and latin elements in the Theme part.*

Word calculates the default languages of the theme fonts based on the Office install language and the system installed keyboards.

2.1.424 Part 1 Section 17.15.1.90, updateFields (Automatically Recalculate Fields on Open)

a. *The standard makes no explicit mention of the roundtripping behavior of the updateFields element.*

Word does not roundtrip the updateFields element in all circumstances.

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2.1.425 Part 1 Section 17.15.1.92, view (Document View Setting)

a. *The standard states that the val attribute value specifies the view which shall be used to render the contents of a WordprocessingML document.*

Under certain conditions, Word treats a value of normal as unsupported when the document is loaded and reverted to a value of print.

2.1.426 Part 1 Section 17.15.1.93, writeProtection (Write Protection)

For additional notes that apply to this portion of the standard, please see the notes for documentProtection, §17.15.1.29(a, b,d, e).

a. *The standard states that this setting is keyed off of a non-existent password attribute.*

Word uses the AG_Password attribute group to determine whether to prompt for a password.

b. *The standard states that this setting uses a specific set of attributes, specified by the AG_Password attribute group, to store the password hash.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

Name	Description
algorithm Name	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system's cryptographic subsystem can be utilized by Office. The following hash algorithm names are reserved: ***MD2*** *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*

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Name	Description
	SHA-1 *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256*** *Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***WHIRLPOOL*** *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*
hash Value	Specifies the hash value for the password required to edit this worksheet. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match, the protection shall no longer be enforced. If this value is omitted, then the reservationPassword attribute shall contain the password hash for the workbook. [*Example*: Consider an Office Open XML document with the following information stored in one of its protection elements: <… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

[*Example*:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

c. *The standard states that all attributes within AG_Password are optional*

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If any attribute specified by AG_Password is present, Word will require these attributes to be present: algorithmName, hashValue, spinCount. Otherwise, Word will not open the file.

2.1.427 Part 1 Section 17.15.1.94, zoom (Magnification Setting)

a. *The standard states that the percent attribute is required.*

Word does not always require this attribute.

b. *The standard specifies that a percent attribute value of less than the minimum zoom level shall result in display of the document using the application's minimum zoom level.*

Word treats this attribute as omitted when it has a value of 0.

c. *The standard states that this element specifies the magnification level which should be applied to a document when it is displayed by an application.*

Word 2013 ignores this element when reading a document.

2.1.428 Part 1 Section 17.15.2.1, allowPNG (Allow PNG as Graphic Format)

a. *The standard states that when this element is false, the PNG file format shall not be allowed when this document is saved as a web page.*

Word does save PNG files when this setting is off; however, the web page is structured such that the PNG files are not required for a web browser to read the file correctly.

2.1.429 Part 1 Section 17.15.2.2, blockQuote (Data for HTML blockquote Element)

a. *The standard states that if both this element and the bodyDiv element are specified, then the bodyDiv element shall be ignored.*

Word ignores this element in favor of the bodyDiv element when the current div is a direct descendant of the divs element.

2.1.430 Part 1 Section 17.15.2.3, bodyDiv (Data for HTML body Element)

a. *The standard states that if both this element and the blockQuote element ("[ISO/IEC-29500-1] §17.15.2.2; blockQuote") are specified, then this element shall be ignored.*

Word ignores the blockQuote element in favor of this element if this div is a direct subelement of the divs tag.

2.1.431 Part 1 Section 17.15.2.4, bottom (Bottom Border for HTML div)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.432 Part 1 Section 17.15.2.5, color (Frameset Splitter Color)

For additional notes that apply to this portion of the standard, please see the notes for color, §17.3.2.6(a-c).

a. *The standard states that the themeColor attribute specifies the theme color that should be applied to the current object.*

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Word does not use the specified theme color, but will use an RGB color calculated from the themeShade and themeTint attributes if this attribute is specified in the color element ("[ISO/IEC-29500-1] §17.15.2.5; color") nested inside a framesetSplitbar element ("[ISO/IEC-29500-1] §17.15.2.20; framesetSplitbar").

2.1.433 Part 1 Section 17.15.2.6, div (Information About Single HTML div Element)

a. *The standard states that the values of the id attribute are defined by the XML Schema integer datatype.*

Word does not allow a value of 0 on this attribute.

2.1.434 Part 1 Section 17.15.2.10, doNotOrganizeInFolder (Do Not Place Supporting Files in Subdirectory)

a. *The standard states that the doNotOrganizeInFolder element specifies that applications shall not automatically place all supporting files in a subdirectory.*

Word ignores this element when the doNotUseLongFileNames element is set to true (or equivalent).

2.1.435 Part 1 Section 17.15.2.14, encoding (Output Encoding When Saving as Web Page)

a. *The standard requires that this setting is roundtripped as specified.*

Word does not roundtrip this element when the specified encoding is equal to the current default encoding, or when the specified encoding is not supported.

b. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 255 characters.

2.1.436 Part 1 Section 17.15.2.17, frameLayout (Frameset Layout)

a. *The standard says that if this element is omitted, the frames in this frameset shall be stacked vertically on top of one another (a row frameset).*

In Word, if this element is omitted, the default value is none.

2.1.437 Part 1 Section 17.15.2.18, frameset (Nested Frameset Definition)

a. *The standard does not state the behavior of an empty frameset element.*

Word treats an empty frameset as though it contains a single frame element (using its default values).

2.1.438 Part 1 Section 17.15.2.19, frameset (Root Frameset Definition)

a. *The standard does not state the behavior of an empty frameset element.*

Word treats an empty frameset as though it contains a single frame element (using its default values).

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2.1.439 Part 1 Section 17.15.2.21, left (Left Border for HTML div)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a).

a. *The standard does not state which borders the frame attribute applies to.*

Word only applies this attribute to the right and bottom borders.

2.1.440 Part 1 Section 17.15.2.23, longDesc (Frame Long Description)

a. *The standard specifies this element.*

Word ignores this element.

2.1.441 Part 1 Section 17.15.2.30, name (Frame Name)

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 255 characters.

2.1.442 Part 1 Section 17.15.2.33, optimizeForBrowser (Disable Features Not Supported by Target Web Profile)

a. *The standard states that this element (in conjunction with the other elements listed) is used to set the target web browser.*

Word does not use the indicated settings to determine target browser when document is loaded, instead using Internet Explorer 6 as the target browser in every case.

b. *The standard states that the target attribute should specify which HTML profile to use when saving docs to HTML.*

Word ignores this attribute.

2.1.443 Part 1 Section 17.15.2.34, pixelsPerInch (Pixels per Inch for Graphics/Images)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 1023.

2.1.444 Part 1 Section 17.15.2.35, right (Right Border for HTML div)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c); bdr, §17.3.2.4(a); left, §17.15.2.21(a).

2.1.445 Part 1 Section 17.15.2.38, sourceFileName (Source File for Frame)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a).

2.1.446 Part 1 Section 17.15.2.39, sz (Frame Size)

a. *The standard allows any string for the val attribute.*

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For the val attribute, Word allows an integer between 1 and 32,767 followed by *; an integer between 1 and 500 followed by %; or an integer which divided by pixelsPerInch gives a value between 0 and 22.

b. *The standard says if this element is omitted, then no information shall be implied about the size of the current frameset.*

Word considers the default value to be 1*.

2.1.447 Part 1 Section 17.15.2.40, sz (Nested Frameset Size)

a. *The standard allows any string for the val attribute.*

For the val attribute, Word allows an integer between 1 and 32,767 followed by *; an integer between 1 and 500 followed by %; or an integer which divided by pixelsPerInch gives a value between 0 and 22.

b. *The standard states that no information shall be implied about the size of the current frameset when this element is omitted.*

Word implies that the size of the current frameset shall be a relative measurement with a value of 1 when the sz element is omitted.

2.1.448 Part 1 Section 17.15.2.41, targetScreenSz (Target Screen Size for Web Page)

a. *The standard states that this element stores the ideal minimum target screen size on which web pages generated when saving this document will be displayed.*

Word ignores this element.

2.1.449 Part 1 Section 17.15.2.42, title (Frame or Frameset Title)

a. *The standard specifies that a frameset may have a title element.*

Word ignores any title element inside a frameset; therefore, this element is lost on roundtrip.

2.1.450 Part 1 Section 17.15.2.43, top (Top Border for HTML div)

For additional notes that apply to this portion of the standard, please see the notes for bar, §17.3.1.4(a-c)*;* bdr, §17.3.2.4(a)*;* left, §17.15.2.21(a)*.*

2.1.451 Part 1 Section 17.15.3.2, applyBreakingRules (Use Legacy Ethiopic and Amharic Line Breaking Rules)

a. *The standard says that the application shall allow break opportunities after this specific set of character only if this setting is off.*

Word allows break opportunities after this specific set of characters only if the setting is on.

b. *The standard says that setting the val attribute to 0, off, or false should turn off this property.*

Word may turn this setting on if editing has been enabled for a language that is right to left or that uses complex scripts.

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2.1.452 Part 1 Section 17.15.3.6, doNotLeaveBackslashAlone (Display Backslash As Yen Sign)

a. *The standard states that backslashes should be converted to yen signs unconditionally if the setting is turned on.*

Word only converts backslashes to yen signs if the setting is turned on and Japanese language support has been installed.

2.1.453 Part 1 Section 17.16.1, Syntax

a. *The standard states that an arbitrary amount of white space (including none) is supported between tokens.*

Unless the instruction begins with a field, Word requires white space between the field-type and its instructions, to disambiguate custom field names from a field + string instruction.

b. *The standard does not restrict the number of switches used in a field.*

Word allows at most 10 formatting-switches and at most 10 field-specific-switches in a field.

c. *The standard allows more than one picture switch and allows picture switch to occur in any order relative to other field switches.*

Word allows at most one picture switch and requires that picture switch to precede other field switches.

d. *The standard defines a general syntax of fields that includes many field types.*

Word uses the following field types (§3.1.3.2, Additional Fields) in addition to or superseding those already specified by the general syntax of fields in "[ISO/IEC-29500-1] §17.16.1":

document-information:

PRIVATE |

links-and-references:

DDE | DDEAUTO | GLOSSARY | INCLUDE | IMPORT | SHAPE

e. *The standard defines a user-defined-field.*

Word does not implement user-defined-fields.

f. The standard states that the instruction of one field can be another field, but the word instruction isn't in the syntax defined in "[ISO/IEC-29500-1] §17.16.1".

Word interprets "instructions" in this section to mean "codes", as defined in "[ISO/IEC-29500-1] §17.16".

2.1.454 Part 1 Section 17.16.2, XML representation

a. *The standard states that the instruction of one field can be another field, allowing fields to nest.*

Word does not allow the field-type name to be composed of nested fields.

[*Example:* { DATE } is allowed, { DA{ QUOTE "TE" } } is not allowed. *end example*]

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2.1.455 Part 1 Section 17.16.3.2, Bookmarks

1. *The standard does not explicitly indicate behavior when a bookmark name is a valid table cell reference and is used in a field formula.*

   In Word, if the bookmark name used in a field formula is a valid cell reference as described in A1-Style Cell References, §18.17.2.3.1(a) or R1C1-Style Cell Reference, §18.17.2.3.2(a), its value is evaluated as follows:

   If the field formula is contained in a table and references a non-existent table cell, an error message is displayed. If the table cell exists, but does not have a numeric value, Word will use a value of 0. If the table cell does have a numeric value, Word will use that value.

   If the field formula is not contained in a table, and the bookmark name is not a valid bookmark, Word will use a value of 0. If the bookmark name is valid, and the bookmark does not have a numeric value, Word will use the value of 0. If the bookmark name is valid and the bookmark does have a numeric value, Word will use that value.

2. *The standard does not explicitly indicate behavior when a bookmark name is the same as a reserved function name.*

   In Word, reserved function names cannot be used as bookmark names within a formula or expression.

2.1.456 Part 1 Section 17.16.3.3, Operators

a. *The standard says that the multiplication, division and exponent operators have higher precedence than the percentage operator.*

   In Word, the percentage operator has higher precedence than the multiplication, division and exponent operators.

2.1.457 Part 1 Section 17.16.3.5, Table cell references

1. *The standard states that cells have names such as A1, A2, B1, B2, and so on, with the letter representing the column and the number representing a row.*

   In Word, a cell can also be referenced with the R1C1 style as described in R1C1-Style Cell Reference, §18.17.2.3.2(a). Word only recognizes absolute cell references in this format.

2.1.458 Part 1 Section 17.16.4.1, Date and time formatting

a. *The standard does not specify that quotation marks must surround switch arguments that contain white space.*

   In Word, quotation marks are required around the switch-argument if it contains white space; otherwise, the quotation marks are optional.

2.1.459 Part 1 Section 17.16.4.3, General formatting

a. *The standard makes no mention of the MERGEFORMATINET switch argument*

Word understands an additional switch argument, MERGEFORMATINET.

When this switch argument is present on an INCLUDEPICTURE or IMPORT field, Word will preserve the dimensions of any picture within the result such that when the result is updated with a new picture, the dimensions of the new picture shall be set to match the dimensions of the original picture.

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When this switch argument is present on any other field, Word interprets this the same as a MERGEFORMAT switch.

2.1.460 Part 1 Section 17.16.5.1, ADDRESSBLOCK

a. *The standard does not fully explain the format accepted by the \f switch.*

In Word, placeholders in this switch's field-argument reference a **fieldMapData** element. ("[ISO/IEC-29500-1] §17.14.15; fieldMapData"). The placeholder will be expanded to the current mail merge entry in the column specified by the value in the name element where the **mappedName** of the placeholder matches the **mappedName** of the **fieldMapData**.

The following are the possible placeholders and corresponding mapped merge field names are reserved:

PLACEHOLDER	ALTERNATE PLACEHOLDER	mappedName
<<_TITLE0_>>	/t0	Courtesy Title
<<_NICK0_>>	/n0	Nickname
<<_FIRST0_>>	/f0	First Name
<<_MIDDLE0_>>	/m0	Middle Name
<<_LAST0_>>	/l0	Last Name
<<_SUFFIX0_>>	/s0	Suffix
<<_TITLE1_>>	/t1	Spouse/Partner Courtesy Title
<<_NICK1_>>	/n1	Spouse/Partner Nickname
<<_FIRST1_>>	/f1	Spouse/Partner First Name
<<_MIDDLE1_>>	/m1	Spouse/Partner Middle Name
<<_LAST1_>>	/l1	Spouse/Partner Last Name
<<_SUFFIX1_>>	/s1	Spouse/Partner Suffix
<<_COMPANY_>>	/c	Company
<<_STREET1_>>	/r	Address 1
<<_STREET2_>>	/e	Address 2
<<_CITY_>>	/i	City
<<_STATE_>>	/a	State
<<_POSTAL_>>	/z	Postal Code
<<_COUNTRY_>>	/d	Country or Region

Word maps the <<_SUFFIX1_>> and /s1 placeholder to mappedName Spouse/Partner Nickname, and maps the placeholder <<_NICK1_>> or /n1 to the empty string.

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b. *The standard states that to exclude multiple countries/regions, multiple \e switches can be used.*

Word will respect only the right-most switch, assuming the instruction string is read left to right.

c. *The standard does not specify the format that the argument to the \e switch should be in.*

If the text within the field-argument supplied for the \e switch is equivalent to the country that would be used when expanding this mail merge entry, then the country shall be excluded.

The following strings MAY contain characters represented in the following way. U+ABCD shall represent the unicode point ABCD. When U+ABCD notation is used in this way, a trailing space will be included to separate U+ABCD from subsequent text, if any.

For example, "AlgU+00E8 ria" represents the string "Algèria"

The following paragraphs contain strings which are all considered equivalent to other strings within that paragraph. These strings are enclosed within quotation marks, and are separated by commas.

"Algeria", "Algerien", "Algerie", "U+0627 U+0644 U+062C U+0632 U+0627 U+0626 U+0631", "U+0410 U+043B U+0436 U+0438 U+0440", "AlU+017E U+00ED rsko", "Algeriet", "U+0391 U+03BB U+03B3 U+03B5 U+03C1 U+03AF U+03B1", "Argelia", "AlU+017E eeria", "AlgU+00E9 rie", "U+05D0 U+05DC U+05D2 'U+05D9 U+05E8 U+05D9 U+05D4", "AlU+017E ir", "AlgU+00E9 ria", "Algerian", "Algeria ", "AlU+017E U+012B rija", "AlU+017E yras", "AlU+017E yro Liaudies DemokratinU+0117 Respublika", "Algerije", "Algieria", "ArgU+00E9 lia", "RepU+00FA blica Argelina DemocrU+00E1 tica e Popular", "AlU+017E irija", "U+0E41 U+0E2D U+0E25 U+0E08 U+0E35 U+0E40 U+0E23 U+0E35 U+0E22", "Cezayir", "U+0905 U+0932 U+094D U+091C U+0940 U+0930 U+093F U+092F U+093E", "AlgU+00E8 ria"

"Armenia", "U+0623 U+0631 U+0645 U+064A U+0646 U+064A U+0627", "U+0410 U+0440 U+043C U+0435 U+043D U+0438 U+044F", "ArmU+00E9 nie", "Armenien", "U+0391 U+03C1 U+03BC U+03B5 U+03BD U+03AF U+03B1", "Armeenia", "Armenian tasavalta", "U+05D0 U+05E8 U+05DE U+05E0 U+05D9 U+05D4", "Armenija", "U+00D6 rmU+00E9 nyorszU+00E1 g", "ArmU+0113 nija", "ArmU+0117 nija", "ArmU+0117 nijos Respublika", "ArmeniU+00EB", "ArmU+00EA nia", "RepU+00FA blica da ArmU+00EA nia", "ArmU+00E9 nia", "ArmU+00E9 nsko", "U+0E2D U+0E32 U+0E23 U+0E4C U+0E40 U+0E21 U+0E40 U+0E19 U+0E35 U+0E22", "Ermenistan", "U+0412 U+0456 U+0440 U+043C U+0435 U+043D U+0456 U+044F", "U+0906 U+0930 U+094D U+092E U+0947 U+0928 U+093F U+092F U+093E", "ArmU+00E8 nia"

"Australia", "Australie", "Oz", "AS", "U+0623 U+0633 U+062A U+0631 U+0627 U+0644 U+064A U+0627", "U+0410 U+0432 U+0441 U+0442 U+0440 U+0430 U+043B U+0438 U+044F", "AustrU+00E1 lie", "Australien", "U+0391 U+03C5 U+03C3 U+03C4 U+03C1 U+03B1 U+03BB U+03AF U+03B1", "Austraalia", "Australian liittovaltio", "U+05D0 U+05D5 U+05E1 U+05D8 U+05E8 U+05DC U+05D9 U+05D4", "Australija", "AusztrU+00E1 lia", "AustrU+0101 lija", "Australijos Sandrauga", "AustraliU+00EB", "AustrU+00E1 lia", "Comunidade da AustrU+00E1 lia", "Avstralija", "U+0E2D U+0E2D U+0E2A U+0E40 U+0E15 U+0E23 U+0E40 U+0E25 U+0E35 U+0E22", "Avustralya", "U+0410 U+0432 U+0441 U+0442 U+0440 U+0430 U+043B U+0456 U+044F", "U+0911 U+0938 U+094D U+091F U+094D U+0930 U+0947 U+0932 U+093F U+092F U+093E", "AustrU+00E0 lia"

"Austria", "Autriche", "U+00D6 sterreich", "Oesterreich", "U+0627 U+0644 U+0646 U+0645 U+0633 U+0627", "U+0410 U+0432 U+0441 U+0442 U+0440 U+0438 U+044F", "Rakousko", "U+00D8 strig", "Oestereich", "U+0391 U+03C5 U+03C3 U+03C4 U+03C1 U+03AF U+03B1", "ItU+00E4 valta", "ItU+00E4 vallan tasavalta", "U+05D0 U+05D5 U+05E1 U+05D8 U+05E8 U+05D9 U+05D4", "Austrija", "Ausztria", "Austrijos Respublika", "Oostenrijk", "U+00D8 sterrike", "U+00C1 ustria", "RepU+00FA blica da U+00C1 ustria", "RakU+00FA sko", "Avstrija", "U+00D6 sterrike", "U+0E2D U+0E2D U+0E2A U+0E40 U+0E15 U+0E23 U+0E35 U+0E22", "Avusturya", "U+0410 U+0432 U+0441 U+0442 U+0440 U+0456 U+044F", "U+0911 U+0938 U+094D U+091F U+094D U+0930 U+093F U+092F U+093E", "U+00C0 ustria"

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"Azerbaijan", "U+0623 U+0630 U+0631 U+0628 U+064A U+062C U+0627 U+0646", "U+0410 U+0437 U+0435 U+0440 U+0431 U+0430 U+0439 U+0434 U+0436 U+0430 U+043D", "AzerbajdU+017E U+00E1 n", "Aserbajdsjan", "Aserbajdjan", "Aserbaidschan", "U+0391 U+03B6 U+03B5 U+03C1 U+03BC U+03C0 U+03B1 U+03CA U+03C4 U+03B6 U+03AC U+03BD", "AzerbaiyU+00E1 n", "RepU+00FA blica de AzerbaiyU+00E1 n", "AserbaidU+017E aan", "AserbaidU+017E aani Vabariik", "Azerbaidzan", "Azerbaidzanin tasavalta", "AzerbaU+00EF djan", "U+05D0 U+05D6 U+05E8 U+05D1 U+05D9 U+05D2 'U+05D0 U+05DF", "U+05D0 U+05D6 U+05E8 U+05D1 U+05D9 U+05D2 'U+05DF", "AzerbajdU+017E an", "AzerbajdzsU+00E1 n", "Azerbaigian", "AzerbaidU+017E U+0101 na", "AzerbaidU+017E anas", "AzerbaidU+017E ano Respublika", "Azerbeidzjan", "AzerbejdU+017C an", "AzerbaijU+00E3 o", "RepU+00FA blica do AzerbaijU+00E3 o", "Azerbaidjan", "Azerbajdzjan", "U+0E2D U+0E32 U+0E40 U+0E0B U+0E2D U+0E23 U+0E4C U+0E44 U+0E1A U+0E08 U+0E32 U+0E19", "Azerbaycan", "U+0905 U+095B U+0930 U+092C U+0948 U+091C U+093E U+0928"

"Bahrain", "Bahrayn", "U+0627 U+0644 U+0628 U+062D U+0631 U+064A U+0646", "U+0411 U+0430 U+0445 U+0440 U+0435 U+0439 U+043D", "Bahrajn", "U+039C U+03C0 U+03B1 U+03C7 U+03C1 U+03AD U+03B9 U+03BD", "BahrU+00E1 in", "Bahrein", "BahrU+00E9 in", "Estado de BahrU+00E9 in", "Estado de Bahrein", "Bahrainin valtio", "BahreU+00EF n", "U+05D1 U+05D7 U+05E8 U+05D9 U+05D9 U+05DF", "U+05D1 U+05D7 U+05E8 U+05D9 U+05DF", "Bahreina", "Bahreinas", "Bahreino ValstybU+0117", "BarU+00E9 m", "Estado de BarU+00E9 m", "Barein", "U+0E1A U+0E32 U+0E2B U+0E4C U+0E40 U+0E23 U+0E19", "Bahreyn", "U+092C U+0939 U+0930 U+0940 U+0928"

"Bangladesh", "U+0628 U+0646 U+063A U+0644 U+0627 U+062F U+0634", "U+0628 U+0646 U+063A U+0644 U+0627 U+062F U+064A U+0634", "U+0628 U+0646 U+062C U+0644 U+0627 U+062F U+064A U+0634", "U+0411 U+0430 U+043D U+0433 U+043B U+0430 U+0434 U+0435 U+0448", "BangladU+00E9 U+0161", "Bangladesch", "U+039C U+03C0 U+03B1 U+03BD U+03B3 U+03BA U+03BB U+03B1 U+03BD U+03C4 U+03AD U+03C2", "Bangladeshin kansantasavalta", "U+05D1 U+05E0 U+05D2 U+05DC U+05D3 U+05E9", "U+05D1 U+05E0 U+05D2 U+05DC U+05D4 U+05D3 U+05E9", "U+05D1 U+05E0 U+05D2 U+05DC U+05D4 -U+05D3 U+05E9", "BangladeU+0161", "Banglades", "BangladeU+0161 a", "BangladeU+0161 as", "BangladeU+0161 o Liaudies Respublika", "Bangladesz", "RepU+00FA blica Popular de Bangladesh", "Bangladeche", "U+0E1A U+0E31 U+0E07 U+0E04 U+0E25 U+0E32 U+0E40 U+0E17 U+0E28", "BangladeU+015F", "U+092C U+093E U+0902 U+0917 U+094D U+0932 U+093E U+0926 U+0947 U+0936"

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U+05D9 U+05D4", "Belgija", "BeU+013C U+0123 ija", "Belgijos KaralystU+0117", "BelgiU+00EB", "Reino da BU+00E9 lgica", "U+0411 U+0435 U+043B U+044C U+0433 U+0438 U+044F", "Belgicko", "U+0E40 U+0E1A U+0E25 U+0E40 U+0E22 U+0E35 U+0E22 U+0E21", "BelU+00E7 ika", "U+0411 U+0435 U+043B U+044C U+0433 U+0456 U+044F", "U+092C U+0947 U+0932 U+094D U+091C U+093F U+092F U+092E", "BU+00E8 lgica"

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"Finland", "Finnland", "Finlandia", "Suomi", "U+0641 U+0646 U+0644 U+0646 U+062F U+0629", "U+0641 U+0646 U+0644 U+0646 U+062F U+0627", "U+0424 U+0438 U+043D U+043B U+0430 U+043D U+0434 U+0438 U+044F", "Finsko", "U+03A6 U+03B9 U+03BD U+03BB U+03B1 U+03BD U+03B4 U+03AF U+03B1", "RepU+00FA blica de Finlandia", "Soome", "Suomen tasavalta", "Finlande", "U+05E4 U+05D9 U+05E0 U+05DC U+05E0 U+05D3", "Finska", "FinnorszU+00E1 g", "Somija", "Suomija", "Suomijos Respublika", "SF", "Suomi Finland", "FinlU+00E2 ndia", "RepU+00FA blica da FinlU+00E2 ndia", "Finlanda", "U+0424 U+0438 U+043D U+043B U+044F U+043D U+0434 U+0438 U+044F", "FU+00ED nsko", "U+0E1F U+0E34 U+0E19 U+0E41 U+0E25 U+0E19 U+0E14 U+0E4C", "Finlandiya", "U+0424 U+0456 U+043D U+043B U+044F U+043D U+0434 U+0456 U+044F", "U+095E U+093F U+0928 U+0932 U+0948 U+0902 U+0921", "FinlU+00E0 ndia"

"France", "Francia", "Frankreich", "Frankrijk", "Peranchis", "U+0641 U+0631 U+0646 U+0633 U+0627", "U+0424 U+0440 U+0430 U+043D U+0446 U+0438 U+044F", "Francie", "Frankrig", "U+0393 U+03B1 U+03BB U+03BB U+03AF U+03B1", "Prantsusmaa", "Prantsuse Vabariik", "Ranska", "Ranskan tasavalta", "U+05E6 U+05E8 U+05E4 U+05EA", "Francuska", "FranciaorszU+00E1 g", "Francija", "PrancU+016B zija", "PrancU+016B zijos Respublika", "Frankrike", "Francja", "FranU+00E7 a", "RepU+00FA blica Francesa", "FranU+0163 a", "U+0424 U+0440 U+0430 U+043D U+0446 U+0443 U+0437 U+0441 U+043A U+0430 U+044F U+0420 U+0435 U+0441 U+043F U+0443 U+0431 U+043B U+0438 U+043A U+0430", "FrancU+00FA zsko", "U+0E1D U+0E23 U+0E31 U+0E48 U+0E07 U+0E40 U+0E28 U+0E2A", "Fransa", "U+0424 U+0440 U+0430 U+043D U+0446 U+0456 U+044F", "U+095E U+094D U+0930 U+093E U+0902 U+0938"

"Georgia", "U+062C U+0648 U+0631 U+062C U+064A U+0627", "U+0413 U+0440 U+0443 U+0437 U+0438 U+044F", "Gruzie", "Georgien", "U+0393 U+03B5 U+03C9 U+03C1 U+03B3 U+03AF U+03B1", "Gruusia", "Georgian tasavalta", "GU+00E9 orgie", "U+05D2 U+05E8 U+05D5 U+05D6 U+05D9 U+05D4", "Gruzija", "GrU+00FA zia", "Gruzijos Respublika", "GeorgiU+00EB", "Gruzja", "GeU+00F3 rgia", "RepU+00FA blica da GeU+00F3 rgia", "GruzU+00ED nsko", "U+0E08 U+0E2D U+0E23 U+0E4C U+0E40 U+0E08 U+0E35 U+0E22", "GU+00FC rcistan", "U+0413 U+0440 U+0443 U+0437 U+0456 U+044F", "U+091C U+0949 U+0930 U+094D U+091C U+093F U+092F U+093E", "GeU+00F2 rgia"

"Germany", "West Germany", "East Germany", "Deutschland", "GDR", "FRG", "GER", "Allemagne", "Alemania", "U+0623 U+0644 U+0645 U+0627 U+0646 U+064A U+0627", "U+0413 U+0435 U+0440 U+043C U+0430 U+043D U+0438 U+044F", "U+0424 U+0420 U+0413", "NU+011B mecko", "SpolkovU+00E1 republika NU+011B mecko", "SRN", "ZU+00E1 padnU+00ED NU+011B mecko", "VU+00FD chodnU+00ED NU+011B mecko", "NDR", "NSR", "Tyskland", "Bundesrepublik Deutschland", "BRD", "B.R.D.", "U+0393 U+03B5 U+03C1 U+03BC U+03B1 U+03BD U+03AF U+03B1", "RepU+00FA blica Federal de Alemania", "RepU+00FA blica Federal Alemana", "Saksamaa", "Saksa Liitvabariik", "Saksa", "LU+00E4 U+00E4 ne-Saksamaa", "Ida-Saksamaa", "SLV", "SFV", "Saksan liittotasavalta", "FU+00F6 rbundsrepubliken Tyskland", "ItU+00E4 -Saksa", "LU+00E4 nsi-Saksa", "DDR", "U+05D2 U+05E8 U+05DE U+05E0 U+05D9 U+05D4", "U+05DE U+05D6 U+05E8 U+05D7 U+05D2 U+05E8 U+05DE U+05E0 U+05D9 U+05D4", "U+05DE U+05E2 U+05E8 U+05D1 U+05D2 U+05E8 U+05DE U+05E0 U+05D9 U+05D4", "U+05D2 U+05E8 U+05DE U+05E0 U+05D9 U+05D4 U+05D4 U+05DE U+05D6 U+05E8 U+05D7 U+05D9 U+05EA", "U+05D2 U+05E8 U+05DE U+05E0 U+05D9 U+05D4 U+05D4 U+05DE U+05E2 U+05E8 U+05D1 U+05D9 U+05EA",

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"NjemaU+010D ka", "NU+00E9 metorszU+00E1 g", "NU+00E9 met SzU+00F6 vetsU+00E9 gi KU+00F6 ztU+00E1 rsasU+00E1 g", "Germania", "VU+0101 cija", "AustrumvU+0101 cija", "RietumvU+0101 cija", "Vokietija", "Vokietijos FederacinU+0117 Respublika", "VFR", "Duitsland", "Bondsrepubliek Duitsland", "Vest-Tyskland", "U+00D8 st-Tyskland", "Niemcy", "Republika Federalna Niemiec", "Niemiecka Republika Demokratyczna", "RFN", "NRD", "Alemanha", "RepU+00FA blica Federal da Alemanha", "Germania de Vest", "Germania de Est", "U+0424 U+0435 U+0434 U+0435 U+0440 U+0430 U+0442 U+0438 U+0432 U+043D U+0430 U+044F U+0420 U+0435 U+0441 U+043F U+0443 U+0431 U+043B U+0438 U+043A U+0430 U+0413 U+0435 U+0440 U+043C U+0430 U+043D U+0438 U+044F", "Nemecko", "NemU+010D ija", "Zahodna NemU+010D ija", "Vzhodna NemU+010D ija", "VU+00E4 sttyskland", "U+00D6 sttyskland", "U+0E40 U+0E22 U+0E2D U+0E23 U+0E21 U+0E19 U+0E35", "Almanya", "BatU+0131 Almanya", "DoU+011F u Almanya", "U+041D U+0456 U+043C U+0435 U+0447 U+0447 U+0438 U+043D U+0430", "U+0424 U+0435 U+0434 U+0435 U+0440 U+0430 U+0442 U+0438 U+0432 U+043D U+0430 U+0420 U+0435 U+0441 U+043F U+0443 U+0431 U+043B U+0456 U+043A U+0430 U+041D U+0456 U+043C U+0435 U+0447 U+0447 U+0438 U+043D U+0430", "U+0424 U+0420 U+041D", "U+091C U+0930 U+094D U+092E U+0928 U+0940", "Alemanya"

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U+03AF U+03B1", "Islandi Vabariik", "Islanti", "Islannin tasavalta", "U+05D0 U+05D9 U+05E1 U+05DC U+05E0 U+05D3", "Izland", "Islanda", "Islandija", "Islandijos Respublika", "IJsland", "IslU+00E2 ndia", "RepU+00FA blica da IslU+00E2 ndia", "U+0E44 U+0E2D U+0E0B U+0E4C U+0E41 U+0E25 U+0E19 U+0E14 U+0E4C", "U+0130 zlanda", "U+0406 U+0441 U+043B U+0430 U+043D U+0434 U+0456 U+044F", "U+0906 U+0907 U+0938 U+0932 U+0948 U+0902 U+0921", "IslU+00E0 ndia"

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"Japan", "Giappone", "Japon", "Jepun", "JapU+00F3 n", "U+0627 U+0644 U+064A U+0627 U+0628 U+0627 U+0646", "U+042F U+043F U+043E U+043D U+0438 U+044F", "Japonsko", "U+0399 U+03B1 U+03C0 U+03C9 U+03BD U+03AF U+03B1", "Jaapan", "Japani", "U+05D9 U+05E4 U+05DF", "U+05D9 U+05E4 U+05D0 U+05DF", "JapU+00E1 n", "JapU+0101 na", "Japonija", "Japonia", "JapU+00E3 o", "Japonska", "U+0E0D U+0E35 U+0E48 U+0E1B U+0E38 U+0E48 U+0E19", "Japonya", "U+042F U+043F U+043E U+043D U+0456 U+044F", "U+091C U+093E U+092A U+093E U+0928"

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U+0E16 U+0E32 U+0E19", "U+0915 U+095B U+093E U+0916 U+0938 U+094D U+0924 U+093E U+0928"

"Korea (Republic of)", "Korea", "Republic of Korea", "South Korea", "Corea", "Corea del Sur", "CorU+00E9 e", "SU+00FC dkorea", "U+0643 U+0648 U+0631 U+064A U+0627", "(U+062C U+0645 U+0647 U+0648 U+0631 U+064A U+0629) U+0643 U+0648 U+0631 U+064A U+0627", "U+0643 U+0648 U+0631 U+064A U+0627 U+0627 U+0644 U+062C U+0646 U+0648 U+0628 U+064A U+0629", "U+041A U+043E U+0440 U+0435 U+044F", "U+0420 U+0435 U+043F U+0443 U+0431 U+043B U+0438 U+043A U+0430 U+041A U+043E U+0440 U+0435 U+044F", "U+042E U+0436 U+043D U+0430 U+041A U+043E U+0440 U+0435 U+044F", "JiU+017E nU+00ED Korea", "Sydkorea", "Korea (Republik)", "Republik Korea", "U+039A U+03BF U+03C1 U+03AD U+03B1 (U+0394 U+03B7 U+03BC U+03BF U+03BA U+03C1 U+03B1 U+03C4 U+03AF U+03B1 U+03C4 U+03B7 U+03C2)", "RepU+00FA blica de Corea", "LU+00F5 una-Korea", "Korea Vabariik", "Korean tasavalta", "Korea (tasavalta)", "EtelU+00E4 -Korea", "RU+00E9 publique de CorU+00E9 e", "CorU+00E9 e du Sud", "U+05E7 U+05D5 U+05E8 U+05D9 U+05D0 U+05D4 (U+05D4 U+05E8 U+05E4 U+05D5 U+05D1 U+05DC U+05D9 U+05E7 U+05D4 U+05E9 U+05DC)", "JuU+017E na Koreja", "Republika Koreja", "Korea (Koreai KU+00F6 ztU+00E1 rsasU+00E1 g)", "Repubblica di Corea", "Corea del Sud", "Koreja", "KorU+0117 ja", "KorU+0117 jos Respublika", "PietU+0173 KorU+0117 ja", "Republiek Korea", "Zuid-Korea", "SU+00F8 r-Korea", "Republika Korei", "Korea PoU+0142 udniowa", "CorU+00E9 ia do Sul", "RepU+00FA blica da CorU+00E9 ia", "Coreia (RepU+00FA blica da)", "Coreia", "RepU+00FA blica da Coreia", "Coreia do Sul", "Republica Coreea", "U+042E U+0436 U+043D U+0430 U+044F U+041A U+043E U+0440 U+0435 U+044F", "JuU+017E nU+00E1 KU+00F3 rea", "KU+00F3 rea", "Nordkorea", "Republiken Korea", "U+0E40 U+0E01 U+0E32 U+0E2B U+0E25 U+0E35", "Kore (Cumhuriyeti)", "Kore", "GU+00FC ney Kore", "U+041F U+0456 U+0432 U+0434 U+0435 U+043D U+043D U+0430 U+041A U+043E U+0440 U+0435 U+044F", "U+0915 U+094B U+0930 U+093F U+092F U+093E"

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"Oman", "Sultanate of Oman", "OmU+00E1 n", "U+0639 U+0645 U+0627 U+0646", "U+0633 U+0644 U+0637 U+0646 U+0629 U+0639 U+0645 U+0627 U+0646", "U+041E U+043C U+0430 U+043D", "U+039F U+03BC U+03AC U+03BD", "Sultanato de OmU+00E1 n", "SultanU+00ED a de OmU+00E1 n", "Omaan", "Omaani Sultaniriik", "Omanin sulttaanikunta", "Sultanat d'Oman", "U+05E2 U+05D5 U+05DE U+05DF", "U+05E2 U+05D5 U+05DE U+05D0 U+05DF", "OmU+0101 na", "Omanas", "Omano Sultonatas", "Sultanaat van Oman", "Sultanaat Oman", "Sultanatet Oman", "OmU+00E3", "Sultanato de OmU+00E3", "Sultanat Oman", "U+0E42 U+0E2D U+0E21 U+0E32 U+0E19", "Umman", "Umman SultanlU+0131 U+011F U+0131", "U+0913 U+092E U+093E U+0928"

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"Russia", "Rusia", "RuU+00DF land", "Russland", "U+0631 U+0648 U+0633 U+064A U+0627", "U+0420 U+0443 U+0441 U+0438 U+044F", "Rusko", "RuskU+00E1 federace", "Rusland", "Russische FU+00F6 deration", "U+03A1 U+03C9 U+03C3 U+03AF U+03B1", "Venemaa", "Venemaa FU+00F6 deratsioon", "Vene", "VenU+00E4 jU+00E4", "VenU+00E4 jU+00E4 n federaatio", "Russie", "FU+00E9 dU+00E9 ration de Russie", "U+05E8 U+05D5 U+05E1 U+05D9 U+05D4", "Rusija", "OroszorszU+00E1 g", "Krievija", "Krievijas FederU+0101 cija", "Rusijos Federacija", "Russische Federatie", "Russische republiek", "Den russiske fU+00F8 derasjon", "Rosja", "Federacja Rosyjska", "RU+00FA ssia", "FederaU+00E7 U+00E3 o da RU+00FA ssia", "FederaU+00E7 U+00E3 o Russa", "U+0420 U+043E U+0441 U+0441 U+0438 U+044F", "U+0420 U+0424", "U+0420 U+043E U+0441 U+0441 U+0438 U+0439 U+0441 U+043A U+0430 U+044F U+0424 U+0435 U+0434 U+0435 U+0440 U+0430 U+0446 U+0438 U+044F", "RuskU+00E1 federU+00E1 cia", "RF", "Ryssland", "U+0E23 U+0E31 U+0E2A U+0E40 U+0E0B U+0E35 U+0E22", "Rusya", "U+0420 U+043E U+0441 U+0456 U+044F", "U+0420 U+043E U+0441 U+0456 U+0439 U+0441 U+044C U+043A U+0430 U+0424 U+0435 U+0434 U+0435 U+0440 U+0430 U+0446 U+0456 U+044F", "U+0930 U+0942 U+0938"

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"Slovenien", "Slowenien", "U+03A3 U+03BB U+03BF U+03B2 U+03B5 U+03BD U+03AF U+03B1", "Sloveenia", "Slovenian tasavalta", "SlovU+00E9 nie", "U+05E1 U+05DC U+05D5 U+05D1 U+05E0 U+05D9 U+05D4", "SzlovU+00E9 nia", "SlovU+0113 nija", "SlovU+0117 nija", "SlovU+0117 nijos Respublika", "SloveniU+00EB", "SU+0142 owenia", "EslovU+00EA nia", "RepU+00FA blica da EslovU+00EA nia", "EslovU+00E9 nia", "Republika Slovenija", "Republic Slovenia", "U+0E2A U+0E42 U+0E25 U+0E27 U+0E35 U+0E40 U+0E19 U+0E35 U+0E22", "Slovenya", "U+0421 U+043B U+043E U+0432 U+0435 U+043D U+0456 U+044F", "U+0938 U+094D U+0932 U+094B U+0935 U+0947 U+0928 U+093F U+092F U+093E", "EslovU+00E8 nia"

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U+03B1 U+03BD U+03B4 U+03AF U+03B1", "Eszak-Irorszag", "ZiemeU+013C U+012B rija", "U+0160 iaurU+0117 s Airija", "Nord-Irland", "nord-Irland", "Nord Irland", "Irlandia PU+00F3 U+0142 nocna", "Irlandia PU+0142 n.", "PU+00F3 U+0142 nocna Irlandia", "Irlanda de Nord", "U+0421 U+0435 U+0432 U+0435 U+0440 U+043D U+0430 U+044F U+0418 U+0440 U+043B U+0430 U+043D U+0434 U+0438 U+044F", "SevernU+00E9 U+00CD rsko", "Severna Irska", "Irlanda del Norte", "Kuzey U+0130 rlan da", "U+041F U+0456 U+0432 U+043D U+0456 U+0447 U+043D U+0430 U+0406 U+0440 U+043B U+0430 U+043D U+0434 U+0456 U+044F", "U+5317 U+30A2 U+30A4 U+30EB U+30E9 U+30F3 U+30C9", "U+5317 U+7231 U+5C14 U+5170", "U+5317 U+611B U+723E U+862D", "U+BD81 U+C544 U+C77C U+B79C U+B4DC", "U+0623 U+064A U+0631 U+0644 U+0646 U+062F U+0629 U+0627 U+0644 U+0634 U+0645 U+0627 U+0644 U+064A U+0629", "U+05E6 U+05E4 U+05D5 U+05DF U+05D0 U+05D9 U+05E8 U+05DC U+05E0 U+05D3", "U+0E19 U+0E2D U+0E23 U+0E4C U+0E40 U+0E17 U+0E34 U+0E23 U+0E4C U+0E19 U+0E44 U+0E2D U+0E23 U+0E4C U+0E41 U+0E25 U+0E19 U+0E14 U+0E4C", "W ales", "PaU+00ED s de Gales", "U+0423 U+0435 U+043B U+0441", "PaU+00ED s de GalU+00B7 les", "Pays de Galles", "U+039F U+03C5 U+03B1 U+03BB U+03AF U+03B1", "Galles", "Velsa", "Velsas", "Walia", "U+0162 ara Galilor", "U+0423 U+044D U+043B U+044C U+0441", "Gales", "PaU+00ED s de Gales", "Galler", "U+0423 U+0435 U+043B U+044C U+0441", "U+30A6 U+30A7 U+30FC U+30EB U+30BA", "U+5A01 U+5C14 U+58EB", "U+5A01 U+723E U+65AF", "U+C6E8 U+C77C U+C2A4", "U+0648 U+064A U+0644 U+0632", "U+05D5 U+05D9 U+05D9 U+05DC U+05E1", "U+0E40 U+0E27 U+0E25 U+0E2A U+0E4C", "Scotland", "EscU+00F3 cia", "U+0428 U+043E U+0442 U+043B U+0430 U+043D U+0434 U+0438 U+044F", "EscU+00F2 cia", "U+0160 kotska", "Skotsko", "Skotland", "Schotland", "U+0160 otimaa", "Skotlanti", "U+00C9 cosse", "U+03A3 U+03BA U+03C9 U+03C4 U+03AF U+03B1", "Skocia", "Scozia ", "Skotija", "U+0160 kotija", "Skottland", "Szkocja", "ScoU+0163 ia", "U+0160 kU+00F3 tsko", "Escocia", "U+0130 skoU+00E7 ya", "U+0428 U+043E U+0442 U+043B U+0430 U+043D U+0434 U+0456 U+044F", "U+30B9 U+30B3 U+30C3 U+30C8 U+30E9 U+30F3 U+30C9", "U+82CF U+683C U+5170", "U+8607 U+683C U+862D", "U+C2A4 U+CF54 U+D2C0 U+B79C U+B4DC", "U+0627 U+0633 U+0643 U+062A U+0644 U+0646 U+062F U+0629", "U+05E1 U+05E7 U+05D5 U+05D8 U+05DC U+05E0 U+05D3", "U+0E2A U+0E01 U+0E2D U+0E15 U+0E41 U+0E25 U+0E19 U+0E14 U+0E4C", "I sle of Man", "Ilha de Man", "U+041E U+0441 U+0442 U+0440 U+043E U+0432 U+041C U+0430 U+043D", "Illa de Man", "Ostrov Man", "U+00D8 en Man", "Man", "Mani saar", "Mansaari", "U+00CE le de Man", "U+039D U+03AE U+03C3 U+03BF U+03C2 U+039C U+03B1 U+03BD", "Man-sziget", "Isola di Man", "Menas sala", "Meno sala", "Wyspa Man", "Insula Man", "U+041E U+0441 U+0442 U+0440 U+043E U+0432 U+041C U+044D U+043D", "Otok Man", "Isla de Man", "ManU+00F6 n", "Man AdasU+0131", "U+041E U+0441 U+0442 U+0440 U+0456 U+0432 U+041C U+0435 U+043D", "U+30DE U+30F3 U+5CF6", "U+9A6C U+6069 U+5C9B", "U+66FC U+57CE U+5CF6", "U+B9E8 U+C12C", "U+062C U+0632 U+064A U+0631 U+0629 U+0645 U+0627 U+0646", "U+05D4 U+05D0 U+05D9 U+05DE U+05D0 U+05DF", "U+0E2B U+0E21 U+0E39 U+0E48 U+0E40 U+0E01 U+0E32 U+0E30 U+0E41 U+0E21 U+0E19"

"United States of America", "Etats-Unis", "Estados Unidos de AmU+00E9 rica", "Es Us", "Stati Uniti d'America", "EUA", "EEUU", "USA", "US", "America", "United States", "Amerika Syarikat", "U+0627 U+0644 U+0648 U+0644 U+0627 U+064A U+0627 U+062A U+0627 U+0644 U+0645 U+062A U+062D U+062F U+0629 U+0627 U+0644 U+0623 U+0645 U+0631 U+064A U+0643 U+064A U+0629", "U+0623 U+0645 U+0631 U+064A U+0643 U+0627", "U+0421 U+044A U+0435 U+0434 U+0438 U+043D U+0435 U+043D U+0438 U+0430 U+043C U+0435 U+0440 U+0438 U+043A U+0430 U+043D U+0441 U+043A U+0438 U+0449 U+0430 U+0442 U+0438", "U+0421 U+044A U+0435 U+0434 U+0438 U+043D U+0435 U+043D U+0438 U+0449 U+0430 U+0442 U+0438", "U+0421 U+0410 U+0429", "SpojenU+00E9 stU+00E1 ty americkU+00E9", "Vereinigte Staaten von Amerika", "Vereinigte Staaten", "Amerika", "U.S.A.", "U+0397 U+03BD U+03C9 U+03BC U+03AD U+03BD U+03B5 U+03C2 U+03A0 U+03BF U+03BB U+03B9 U+03C4 U+03B5 U+03AF U+03B5 U+03C2 U+03C4 U+03B7 U+03C2 U+0391 U+03BC U+03B5 U+03C1 U+03B9 U+03BA U+03AE U+03C2", "Estados Unidos", "EE. UU.", "Ameerika U+00DC hendriigid", "U+00DC hendriigid", "Ameerika", "Amerikan yhdysvallat", "Yhdysvallat", "Amerikka", "Pohjois-Amerikka", "U+00C9 tats-Unis d'AmU+00E9 rique", "U+00C9 tats-Unis", "U+05D0 U+05E8 U+05E6 U+05D5 U+05EA U+05D4 U+05D1 U+05E8 U+05D9 U+05EA", "U+05D0 U+05E8 U+05E6 U+05D5 U+05EA -U+05D4 U+05D1 U+05E8 U+05D9 U+05EA", "U+05D0 U+05DE U+05E8 U+05D9 U+05E7 U+05D4", "U+05D0 U+05E8 U+05E6 U+05D5 U+05EA U+05D4 U+05D1 U+05E8 U+05D9 U+05EA U+05E9 U+05DC U+05D0 U+05DE U+05E8 U+05D9 U+05E7 U+05D4", "Sjedinjene AmeriU+010D ke DrU+017E ave", "SAD",

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"Amerikai EgyesU+00FC lt U+00C1 llamok", "Stati Uniti", "Amerikas SavienotU+0101 s Valstis", "ASV", "JungtinU+0117 s Amerikos Valstijos", "JungtinU+0117 s Valstijos", "JAV", "Verenigde Staten", "Verenigde Staten van Amerika", "VS", "V.S.", "Noord-Amerika", "Noord Amerika", "De forente stater", "U.S.", "Amerikas forente stater", "Stany Zjednoczone", "Stany Zjednoczone Ameryki PU+00F3 U+0142 nocnej", "Estados Unidos da AmU+00E9 rica", "E.U.A.", "AmU+00E9 rica", "Statele Unite ale Americii", "S.U.A", "U+0421 U+0428 U+0410", "U+0421 U+043E U+0435 U+0434 U+0438 U+043D U+0435 U+043D U+043D U+044B U+0435 U+0428 U+0442 U+0430 U+0442 U+044B", "U+0421 U+043E U+0435 U+0434 U+0438 U+043D U+0435 U+043D U+043D U+044B U+0435 U+0428 U+0442 U+0430 U+0442 U+044B U+0410 U+043C U+0435 U+0440 U+0438 U+043A U+0438", "SpojenU+00E9 U+0161 tU+00E1 ty americkU+00E9", "ZdruU+017E ene drU+017E ave Amerike", "ZDA", "Amerikas fU+00F6 renta stater", "FU+00F6 renta staterna", "U+0E2A U+0E2B U+0E23 U+0E31 U+0E10 U+0E2D U+0E40 U+0E21 U+0E23 U+0E34 U+0E01 U+0E32", "Amerika BirleU+015F ik Devletleri", "A.B.D.", "ABD", "U+0421 U+043F U+043E U+043B U+0443 U+0447 U+0435 U+043D U+0456 U+0428 U+0442 U+0430 U+0442 U+0438 U+0410 U+043C U+0435 U+0440 U+0438 U+043A U+0438", "U+0421 U+043F U+043E U+043B U+0443 U+0447 U+0435 U+043D U+0456 U+0428 U+0442 U+0430 U+0442 U+0438", "U+0410 U+043C U+0435 U+0440 U+0438 U+043A U+0430", "U+0421 U+043F U+043E U+043B U+0443 U+0447 U+0435 U+043D U+0456 U+0428", "U+0938 U+0902 U+092F U+0941 U+0915 U+094D U+0924 U+0930 U+093E U+091C U+094D U+092F U+0905 U+092E U+0947 U+0930 U+093F U+0915 U+093E", "Estats Units", "Nord-AmU+00E8 rica", "U+05D0 U+05E8 U+05D4 U+0022 U+05D1"

"Uzbekistan", "U+0623 U+0632 U+0628 U+0643 U+0633 U+062A U+0627 U+0646 U+0623 U+0648 U+0632 U+0628 U+0643 U+0633 U+062A U+0627 U+0646", "U+0423 U+0437 U+0431 U+0435 U+043A U+0438 U+0441 U+0442 U+0430 U+043D", "UzbekistU+00E1 n", "Usbekistan", "U+039F U+03C5 U+03B6 U+03BC U+03C0 U+03B5 U+03BA U+03B9 U+03C3 U+03C4 U+03AC U+03BD", "RepU+00FA blica de UzbekistU+00E1 n", "Usbekistani Vabariik", "Usbeki", "Uzbekistanin tasavalta", "OuzbU+00E9 kistan", "U+05D0 U+05D5 U+05D6 U+05D1 U+05E7 U+05D9 U+05E1 U+05D8 U+05D0 U+05DF", "U+05D0 U+05D5 U+05D6 U+05D1 U+05E7 U+05D9 U+05E1 U+05D8 U+05DF", "U+00DC zbegisztU+00E1 n", "UzbekistU+0101 na", "Uzbekistanas", "Uzbekija", "Uzbekistano Respublika", "Oezbekistan", "UzbequistU+00E3 o", "RepU+00FA blica do UzbequistU+00E3 o", "UsbequistU+00E3 o", "U+0E2D U+0E38 U+0E0B U+0E40 U+0E1A U+0E01 U+0E34 U+0E2A U+0E16 U+0E32 U+0E19", "U+00D6 zbekistan", "U+0909 U+095B U+094D U+092C U+0947 U+0915 U+093F U+0938 U+094D U+0924 U+093E U+0928"

"Vietnam", "Socialist Republic of Vietnam", "U+0641 U+064A U+062A U+0646 U+0627 U+0645", "U+0412 U+0438 U+0435 U+0442 U+043D U+0430 U+043C", "U+0421 U+043E U+0446 U+0438 U+0430 U+043B U+0438 U+0441 U+0442 U+0438 U+0447 U+0435 U+0441 U+043A U+0430 U+0440 U+0435 U+043F U+0443 U+0431 U+043B U+0438 U+043A U+0430 U+0412 U+0438 U+0435 U+0442 U+043D U+0430 U+043C", "VietnamskU+00E1 socialistickU+00E1 republika", "Sozialistische Republik Vietnam", "U+0392 U+03B9 U+03B5 U+03C4 U+03BD U+03AC U+03BC", "RepU+00FA blica socialista de Vietnam", "RepU+00FA blica Socialista de Vietnam", "Vietnami Sotsialistlik Vabariik", "Vietnamin sosialistinen tasavalta", "ViU+00EA t Nam", "U+05D5 U+05D9 U+05D9 U+05D8 U+05E0 U+05D0 U+05DD", "U+05D5 U+05D9 U+05D8 U+05E0 U+05DD", "U+05D4 U+05E8 U+05E4 U+05D5 U+05D1 U+05DC U+05D9 U+05E7 U+05D4 U+05D4 U+05E1 U+05D5 U+05E6 U+05D9 U+05D0 U+05DC U+05D9 U+05E1 U+05D8 U+05D9 U+05EA U+05E9 U+05DC U+05D5 U+05D9 U+05D9 U+05D8 U+05E0 U+05D0 U+05DD", "Vijetnam", "VietnU+00E1 m", "Repubblica Socialista del Vietnam", "Vjetnama", "Vietnamas", "Vietnamo SocialistinU+0117 Respublika", "Socialistische Republiek Vietnam", "Viet Nam", "Wietnam", "VietnU+00E3", "RepU+00FA blica Socialista do VietnU+00E3", "Vietname", "RepU+00FA blica Socialista do Vietname", "Republica SocialistU+0103 Vietnam", "U+0412 U+044C U+0435 U+0442 U+043D U+0430 U+043C", "U+0421 U+043E U+0446 U+0438 U+0430 U+043B U+0438 U+0441 U+0442 U+0438 U+0447 U+0435 U+0441 U+043A U+0430 U+044F U+0420 U+0435 U+0441 U+043F U+0443 U+0431 U+043B U+0438 U+043A U+0430 U+0412 U+044C U+0435 U+0442 U+043D U+0430 U+043C", "VSR", "Socialistiska republiken Vietnam", "U+0E40 U+0E27 U+0E35 U+0E22 U+0E14 U+0E19 U+0E32 U+0E21", "Vietnam Sosyalist Cumhuriyeti", "U+0412 'U+0454 U+0442 U+043D U+0430 U+043C", "U+0421 U+043E U+0446 U+0456 U+0430 U+043B U+0456 U+0441 U+0442 U+0438 U+0447 U+043D U+0430 U+0420 U+0435 U+0441 U+043F U+0443 U+0431 U+043B U+0456 U+043A

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U+0430 U+0412 'U+0454 U+0442 U+043D U+0430 U+043C", "U+0421 U+0420 U+0412", "U+0935 U+093F U+092F U+0924 U+0928 U+093E U+092E"

"Ireland", "Republic of Ireland", "Eire", "Irlanda", "RepU+00FA blica da Irlanda", "U+0418 U+0440 U+043B U+0430 U+043D U+0434 U+0438 U+044F", "U+0420 U+0435 U+043F U+0443 U+0431 U+043B U+0438 U+043A U+0430 U+0418 U+0440 U+043B U+0430 U+043D U+0434 U+0438 U+044F", "U+0415 U+0439 U+0440 U+0435", "RepU+00FA blica d'Irlanda", "Irska", "Republika Irska", "Irsko", "IrskU+00E1 republika", "Irland", "Ierland", "Iirimaa", "Irlanti", "Irlannin tasavalta", "Irlande", "U+0399 U+03C1 U+03BB U+03B1 U+03BD U+03B4 U+03AF U+03B1", "U+00CD rorszU+00E1 g", "Irlanda ", "U+012A rija", "U+012A rijas Republika", "Airija", "Airijos Res publika", "Irlandia", "Republika Irlandii", "Republica Irlanda", "U+00CD rsko", "U+00CD rska republika", "IrlU+00E4 ndska republiken", "IrlU+00E4 ndska Republiken", "U+0130 rlanda ", "U+0406 U+0440 U+043B U+0430 U+043D U+0434 U+0456 U+044F", "U+0420 U+0435 U+0441 U+043F U+0443 U+0431 U+043B U+0456 U+043A U+0430 U+0406 U+0440 U+043B U+0430 U+043D U+0434 U+0456 U+044F", "U+30A2 U+30A4 U+30EB U+30E9 U+30F3 U+30C9", "U+7231 U+5C14 U+5170", "U+611B U+723E U+862D", "U+C544 U+C77C U+B79C U+B4DC", "U+0623 U+064A U+0631 U+0644 U+0646 U+062F U+0627", "U+05D0 U+05D9 U+05E8 U+05DC U+05E0 U+05D3", "U+0E44 U+0E2D U+0E23 U+0E4C U+0E41 U+0E25 U+0E19 U+0E14 U+0E4C"

"Argentina", "Argentine", "Argentinien", "AR"

"Bolivia"

"Brunei Darussalam", "Brunei"

"Chile", "Cile"

"Colombia", "Kolumbien"

"Costa Rica", "Costarica"

"Dominican Republic", "República Dominicana", "Rep.Dom.", "RD"

"Ecuador"

"Guatemala"

"Indonesia", "Dutch East Indies"

"Iraq"

"Jamaica", "Giamaica"

"Kenya"

"Kyrgyzstan"

"Libya"

"Liechtenstein"

"Luxembourg", "Lussemburgo", "Luxemburgo"

"Macau SAR", "Macau", "Macao"

"Malaysia", "East Malaysia", "Malaya", "Malaisie"

"Mexico", "Mejico", "México", "Messico"

"Moldova"

"Monaco", "Mónaco"

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"New Zealand", "NZ", "Neuseeland", "Nuovo Zelanda", "Nueva Zelanda"

"Nicaragua"

"Panama", "Panamá", "Panama"

"Paraguay"

"Peru", "Perú", "Peru"

"Philippines", "The Philippines", "Pilipinas", "Filippine", "Filipinas"

"Singapore", "Republic of Singapore", "Singapur"

"South Africa", "S Africa", "Republic of South Africa", "Suid-Afrika", "Sud Africa", "Südafrika", "Sudáfrica"

"Syria"

"Tajikistan"

"Turkmenistan"

"Uruguay"

"Venezuela"

"Yemen"

2.1.461 Part 1 Section 17.16.5.2, ADVANCE

a. *The standard allows the advance field to be nested inside another field.*

   Word does not carry out the display behavior of the ADVANCE field if it is nested inside another field.

b. *The standard states that this field has no effect on images, etc.*

   Word moves inline objects, including pictures.

2.1.462 Part 1 Section 17.16.5.4, AUTHOR

a. *The standard says that an author field must have one of the general-formatting switches.*

   In Word, having a general-formatting switch is optional for an author field.

2.1.463 Part 1 Section 17.16.5.7, BIBLIOGRAPHY

a. *The standard does not specify default behavior when the \f switch is present without an argument.*

   In Word, if the argument for \f is not specified, then the language from the \l switch is used if specified.

b. *The standard does mention the acceptance of integer language codes for the \l and \f switches.*

   Word also accepts integer LCID language codes in addition to BCP47 culture tags.

c. *The standard says \m switch specifies which single source to show in the bibliography.*

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In Word, the \m switch may be used repeatedly to specify a set of sources to show in the bibliography.

d. *The standard allows the /f and /l switches to supply different locales.*

In Word, if the /f and /l switches supply different locales, then the locale supplied with /f is used for /l.

2.1.464 Part 1 Section 17.16.5.8, CITATION

a. *The standard says that the \l switch specifies the locale used to format the citation.*

In Word, if a source has a locale set using the LCID element ("[ISO/IEC-29500-1] §22.6.2.39; LCID"), then that locale is used to format the source rather than the locale specified in the \l switch.

b. *The standard does not describe how \m switch affect other switches in a multi-source citation.*

In Word, other switches affect the previously defined source, defined either by the initial tag in the field or the last tag specified with the \m switch.

c. *The standard says the field value for the CITATION field is the same as for the COMMENTS field.*

In Word, the field value for the CITATION field is a formatted citation for the sources specified within the field.

2.1.465 Part 1 Section 17.16.5.9, COMMENTS

a. *The standard says a COMMENTS field must have a general-formatting-switch.*

In Word, using a general-formatting switch in a COMMENTS field is optional.

2.1.466 Part 1 Section 17.16.5.10, COMPARE

a. *The Standard does not specify the expression used to evaluate the comparison.*

Word uses the following expression: comparison => expression comparison-operator expression.

b. *The standard states that the left hand expression operand can contain wildcards.*

Word supports wildcards in the right hand expression operand only.

c. *The standard does not specify any length restrictions on wildcards expansions.*

In Word, if an asterisk is used in Expression-2, the portion of Expression-1 that corresponds to the asterisk plus any remaining characters in Expression-2 shall NOT exceed 128 characters.

2.1.467 Part 1 Section 17.16.5.11, CREATEDATE

a. *The standard says by default the Gregorian calendar is used for the CREATEDATE field.*

In Word, the calendar used for the CREATEDATE field is locale specific.

2.1.468 Part 1 Section 17.16.5.12, DATABASE

a. *The standard does not specify meaning for arguments 512 and 1024 in the \b switch.*

In Word, arguments 512 and 1024 in the \b switch control row and column banding respectively.

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b. *The standard does not explain the format of the argument to the \l switch.*

In Word, the text in this switch's field-argument specifies the format, by indexing into the following table:

Index (Name)	Properties
1 (Simple 1)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The top border color shall be dark green (00CC00). The bottom border color shall be dark green (00CC00). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be dark green (00CC00). The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be dark green (00CC00).
2 (Simple 2)	The table shall have the following properties: The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The font shall be bold. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The font shall be bold. The first column shall have the following properties: The right border shall be a 1 1/2 pt single line. The right border color shall be black (000000). The font shall be bold. The first column of the last row shall have the following properties: There shall be no top border. The font shall be bold. The last column shall have the following properties: The left border shall be a 3/4 pt single line. The left border color shall be black (000000). The font shall be bold. The header rows of the last column shall have the following properties:

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Index (Name)	Properties
	There should be no left border. The font shall be bold.
3 (Simple3)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The font shall be bold.
4 (Classic 1)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The bottom border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The font shall be italic. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The first column of the last row shall have the following properties: The font shall be bold. The first column shall have the following properties: The right border shall be a 3/4 pt single line. The right border color shall be black (000000). The header rows of the last column shall have the following properties: The font shall not be italic. The font shall be bold.

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Index (Name)	Properties
5 (Classic 2)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The bottom border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be dark magenta (CC00CC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The first column of the last row shall have the following properties: The font color shall be dark blue (0000CC). The first column shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font shall be bold. The first column of header rows shall have the following properties: The foreground shading color shall be dark magenta (CC00CC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The header rows of the last column shall have the following properties: The font shall be bold.
6 (Classic 3)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The vertical alignment shall be top.

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Index (Name)	Properties
	The table data shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be dark blue (0000CC). The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be dark blue (0000CC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The font shall be bold. The font shall be italic. The last row shall have the following properties: The top border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The foreground shading color shall be white (FFFFFF). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be dark blue (0000CC). The first column shall have the following properties: The font color shall be black (000000). The font shall be bold. The first column of the header row shall have the following properties: The font color shall be black (000000). The font shall be bold. The font shall be italic.
7 (Classic 4)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000).

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Index (Name)	Properties
	The foreground shading color shall be dark blue (0000CC). The background shading shall be white (FFFFFF). The shading pattern shall be pct50. The font color shall be white (FFFFFF). The font shall be bold. The font shall be italic. The last row shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct50. The font color shall be dark blue (0000CC). The first column shall have the following properties: The font shall be bold.
8 (Colorful 1)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The top border color shall be dark cyan (00CCCC). The left border color shall be dark cyan (00CCCC). The bottom border color shall be dark cyan (00CCCC). The right border color shall be dark cyan (00CCCC). The font shall be white (FFFFFF). The vertical alignment shall be top. The table data shall have the following properties: The inside horizontal border shall be a 3/4 pt single line. The inside horizontal border color shall be cyan (00FFFF). The foreground shading color shall be dark cyan (00CCCC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The header rows shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font shall be bold. The font shall be italic. The first column shall have the following properties: The foreground shading color shall be dark blue (0000CC).

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Index (Name)	Properties
	The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font shall be bold. The font shall be italic. The first column of header rows shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The first column of the last row shall have the following properties: The font shall be bold. The font shall not be italic.
9 (Colorful 2)	The table shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The vertical alignment shall be top. The table data shall have the following properties: The foreground shading color shall be yellow (FFFF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct20. The last column shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be dark red (CC0000). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The font shall be bold. The font shall be italic. The first column shall have the following properties: The font shall be bold. The font shall be italic. The first column of the last row shall have the following properties: The font shall be bold.
10 (Colorful 3)	The table shall have the following properties:

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Index (Name)	Properties
	The top border shall be a 2 1/4 pt single line. The left border shall be a 2 1/4 pt single line. The bottom border shall be a 2 1/4 pt single line. The right border shall be a 2 1/4 pt single line. The inside horizontal border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The inside horizontal border color shall be light gray (C0C0C0). The foreground shading color shall be dark cyan (00CCCC). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be dark cyan (00CCCC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The first column shall have the following properties: The left border shall be a 4 1/2 pt single line. The right border shall be a 3/4 pt single line. The left border color shall be black (000000). The right border color shall be black (000000). The foreground shading color shall be dark cyan (00CCCC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The first column of header rows shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The font shall be bold.
11 (Columns 1)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000).

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Index (Name)	Properties
	The font shall be bold. The vertical alignment shall be top. Odd columns of table data shall have the following properties: The foreground shading color shall be yellow (FFFF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. Even columns of table data shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The font shall be bold. The header rows shall have the following properties: The bottom border shall be a 3/4 pt double line. The bottom border color shall be black (000000). The font shall not be bold. The last row shall have the following properties: The font shall not be bold. The first column shall have the following properties: The font shall not be bold. The last row of the first column shall have the following properties: The font shall be bold. The last column shall have the following properties: The font shall not be bold. The header rows of the last column shall have the following properties: The font shall be bold.
12 (Columns 2)	The table shall have the following properties: The font shall be bold. The vertical alignment shall be top. Odd columns of table data shall have the following properties: The foreground shading color shall be green (00FF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. Even columns of table data shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct30.

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Index (Name)	Properties
	The font color shall be dark blue (0000CC). The font shall be bold. The header rows shall have the following properties: The foreground shading color shall be dark blue (0000CC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The last row shall have the following properties: The font shall not be bold. The first column shall have the following properties: The font color shall be black (000000). The font shall not be bold. The last row of the first column shall have the following properties: The font shall be bold. The last column shall have the following properties: The font shall not be bold. The header rows of the last column shall have the following properties: The font shall be bold.
13 (Columns 3)	The table shall have the following properties: The top border shall be a 3/4 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The right border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be dark blue (0000CC). The left border color shall be dark blue (0000CC). The bottom border color shall be dark blue (0000CC). The right border color shall be dark blue (0000CC). The inside vertical border color shall be dark blue (0000CC). The font shall be bold. Applies to odd columns. The vertical alignment shall be top. Odd columns of table data shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct10. Even columns of table data shall have the following properties: The foreground shading color shall be dark gray (C0C0C0).

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Index (Name)	Properties
	The background shading shall be white (FFFFFF). The shading pattern shall be solid. The header rows shall have the following properties: The foreground shading color shall be dark blue (0000CC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be dark blue (0000CC). The font shall not be bold. The first column shall have the following properties: The font shall not be bold. The last column shall have the following properties: The font shall not be bold. The header rows of the last column shall have the following properties: The font shall be bold.
14 (Columns 4)	The table shall have the following properties: The vertical alignment shall be top. Odd columns of table data shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct10. Even columns of table data shall have the following properties: The foreground shading color shall be dark cyan (00CCCC). The background shading shall be white (FFFFFF). The shading pattern shall be pct50. The header rows shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The last row shall have the following properties: The font shall be bold. The last column shall have the following properties: The font shall be bold.

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Index (Name)	Properties
15 (Columns 5)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be dark gray (CCCCCC). The left border color shall be dark gray (CCCCCC). The bottom border color shall be dark gray (CCCCCC). The right border color shall be dark gray (CCCCCC). The inside vertical border color shall be light gray (C0C0C0). The vertical alignment shall be top. Even columns of table data shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be dark gray (CCCCCC). The font shall be bold. The font shall be italic. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be dark gray (CCCCCC). The font shall be bold. The first column shall have the following properties: The font shall be bold. The last column shall have the following properties: The font shall be bold.
16 (Grid 1)	The table shall have the following properties: The top border shall be a 3/4 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The right border shall be a 3/4 pt single line. The inside horizontal border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000).

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Index (Name)	Properties
	The inside horizontal border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top. The last column shall have the following properties: The font shall be italic. The last row shall have the following properties: The font shall be italic.
17 (Grid 2)	The table shall have the following properties: The inside horizontal border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The inside horizontal border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The font shall be bold. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The font shall be bold. The first column shall have the following properties: The font shall be bold. The last column shall have the following properties: The font shall be bold.
18 (Grid 3)	The table shall have the following properties: The top border shall be a 3/4 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 3/4 pt single line. The right border shall be a 1 1/2 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000).

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Index (Name)	Properties
	The foreground shading color shall be yellow (FFFF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct30. The last row shall have the following properties: The font shall be bold. The last column shall have the following properties: The font shall be bold.
19 (Grid 4)	The table shall have the following properties: The left border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The inside horizontal border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The left border color shall be black (000000). The right border color shall be black (000000). The inside horizontal border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be yellow (FFFF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct30. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The foreground shading color shall be yellow (FFFF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct30. The font shall be bold. The last column shall have the following properties: The font shall be bold.
20 (Grid 5)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The inside horizontal border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be black (000000).

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Index (Name)	Properties
	The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The inside horizontal border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The last row shall have the following properties: The font shall be bold. The last column shall have the following properties: The font shall be bold. The header rows in the first column shall have the following properties: The top left to bottom right border shall be a 3/4 pt single line. The top left to bottom right border color shall be black (000000).
21 (Grid 6)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The font shall be bold. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The first column shall have the following properties: The font shall be bold. The header rows in the first column shall have the following properties:

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Index (Name)	Properties
	The top left to bottom right border shall be a 3/4 pt single line. The top left to bottom right border color shall be black (000000).
22 (Grid 7)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The inside horizontal border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The inside horizontal border color shall be black (000000). The inside vertical border color shall be black (000000). The font shall be bold. The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The font shall not be bold. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The font shall not be bold. The first column shall have the following properties: The font shall not be bold. The last column shall have the following properties: The font shall not be bold. The header rows in the first column shall have the following properties: The top left to bottom right border shall be a 3/4 pt single line. The top left to bottom right border color shall be black (000000).
23 (Grid 8)	The table shall have the following properties: The top border shall be a 3/4 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The right border shall be a 3/4 pt single line. The inside horizontal border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be dark blue (0000CC).

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Index (Name)	Properties
	The left border color shall be dark blue (0000CC). The bottom border color shall be dark blue (0000CC). The right border color shall be dark blue (0000CC). The inside horizontal border color shall be dark blue (0000CC). The inside vertical border color shall be dark blue (0000CC). The vertical alignment shall be top. The header rows shall have the following properties: The foreground shading color shall be dark blue (0000CC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The font shall be bold. The last row shall have the following properties: The font shall be bold. The last column shall have the following properties: The font shall be bold.
24 (List 1)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 3/4 pt single line. The top border color shall be dark cyan (00CCCC). The left border color shall be dark cyan (00CCCC). The bottom border color shall be dark cyan (00CCCC). The right border color shall be dark cyan (00CCCC). The vertical alignment shall be top. Even rows of table data shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be dark red (CC0000). The font shall be bold. The font shall be italic. The last row shall have the following properties:

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Index (Name)	Properties
	The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The shading pattern shall be clear. The first column of the last row shall have the following properties: The font shall be bold.
25 (List 2)	The table shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be dark gray (CCCCCC). The vertical alignment shall be top. Double banded even rows of table data shall have the following properties: The foreground shading color shall be green (00FF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct20. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be dark cyan (00CCCC). The background shading shall be dark green (00CC00). The shading pattern shall be pct75. The font color shall be white (FFFFFF). The font shall be bold. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The shading pattern shall be clear. The first column of the last row shall have the following properties: The font shall be bold.
26 (List 3)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The bottom border color shall be black (000000). The vertical alignment shall be top. The table data shall have the following properties: The inside horizontal border shall be a 3/4 pt single line. The inside horizontal border color shall be black (000000). The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line.

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Index (Name)	Properties
	The bottom border color shall be black (000000). The font color shall be dark blue (0000CC). The font shall be bold. The last row shall have the following properties: The top border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The first column of the last row shall have the following properties: The font color shall be dark blue (0000CC). The font shall be italic.
27 (List 4)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 1 1/2 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 1 1/2 pt single line. The inside horizontal border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The inside horizontal border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be dark gray (CCCCCC). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white (FFFFFF). The font shall be bold.
28 (List 5)	The table shall have the following properties: The top border shall be a 3/4 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The right border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The vertical alignment shall be top. The table data shall have the following properties: The inside horizontal border shall be a 3/4 pt single line.

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Index (Name)	Properties
	The inside horizontal border color shall be black (000000). The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The font shall be bold. The first column shall have the following properties: The font shall be bold.
29 (List 6)	The table shall have the following properties: The top border shall be a 3/4 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The right border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct50. The vertical alignment shall be top. Even rows of table data shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The font shall be bold. The first column shall have the following properties: The right border shall be a 1 1/2 pt single line. The right border color shall be black (000000). The font shall be bold.
30 (List 7)	The table shall have the following properties: The top border shall be a 1 1/2 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 1 1/2 pt single line. The right border shall be a 3/4 pt single line. The inside horizontal border shall be a 3/4 pt single line. The top border color shall be dark green (00CC00). The left border color shall be dark green (00CC00).

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Index (Name)	Properties
	The bottom border color shall be dark green (00CC00). The right border color shall be dark green (00CC00). The inside horizontal border color shall be black (000000). The vertical alignment shall be top. Odd rows of table data shall have the following properties: The foreground shading color shall be yellow (FFFF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. Even rows of table data shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct20. The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be dark green (00CC00). The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font shall be bold. The first column shall have the following properties: The font shall be bold. The last row shall have the following properties: The top border shall be a 1 1/2 pt single line. The top border color shall be dark green (00CC00). The shading pattern shall be clear. The font shall be bold. The last column shall have the following properties: The font shall be bold.
31 (List 8)	The table shall have the following properties: The top border shall be a 3/4 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The right border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top.

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Index (Name)	Properties
	Odd rows of table data shall have the following properties: The foreground shading color shall be red (FF0000). The background shading shall be white (FFFFFF). The shading pattern shall be pct50. Even rows of table data shall have the following properties: The foreground shading color shall be yellow (FFFF00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). The foreground shading color shall be yellow (FFFF00). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font shall be bold. The font shall be italic. The first column shall have the following properties: The font shall be bold. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be black (000000). The font shall be bold. The last column shall have the following properties: The font shall be bold.
32 (3DFx 1)	The table shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The vertical alignment shall be top. The header rows shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be dark gray (CCCCCC). The font color shall be dark magenta (CC00CC). The font shall be bold. The last row shall have the following properties: The top border shall be a 3/4 pt single line. The top border color shall be white (FFFFFF).

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Index (Name)	Properties
	The first column shall have the following properties: The right border shall be a 3/4 pt single line. The right border color shall be dark gray (CCCCCC). The font shall be bold. The last column shall have the following properties: The left border shall be a 3/4 pt single line. The left border color shall be white (FFFFFF). The header rows in the first column shall have the following properties: There shall be no bottom border. There shall be no right border. The header rows of the last column shall have the following properties: There shall be no left border. There shall be no bottom border. The last row of the first column shall have the following properties: There shall be no top border. There shall be no right border. The font color shall be dark blue (0000CC). The last row of the last column shall have the following properties: There shall be no top border. There shall be no left border.
33 (3DFx 2)	The table shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The vertical alignment shall be top. Odd rows of table data shall have the following properties: The top border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The top border color shall be dark gray (CCCCCC). The bottom border color shall be white (FFFFFF). The header rows shall have the following properties: The font shall be bold. Odd rows of the first column shall have the following properties: The right border shall be a 3/4 pt single line. There shall be no top border. There shall be no bottom border. The right border color shall be dark gray (CCCCCC).

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Index (Name)	Properties
	Odd rows of the last column shall have the following properties: The right border shall be a 3/4 pt single line. The right border color shall be white (FFFFFF). The last row of the first column shall have the following properties: The font shall be bold.
34 (3DFx 3)	The table shall have the following properties: The vertical alignment shall be top. Even columns of the table shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be solid. Odd columns of the table shall have the following properties: The foreground shading color shall be dark gray (C0C0C0). The background shading shall be white (FFFFFF). The shading pattern shall be pct50. Odd rows of table data shall have the following properties: The top border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The top border color shall be dark gray (CCCCCC). The bottom border color shall be white (FFFFFF). The header rows shall have the following properties: The font shall be bold. Odd rows of the first column shall have the following properties: The right border shall be a 3/4 pt single line. The top border color shall be automatically determined. The bottom border color shall be automatically determined. The right border color shall be dark gray (CCCCCC). Odd rows of the last column shall have the following properties: The right border shall be a 3/4 pt single line. The right border color shall be white (FFFFFF). Applies to odd rows The last row of the first column shall have the following properties: The font shall be bold.
35 (Contemporary)	The table shall have the following properties: The inside horizontal border shall be a 2 1/4 pt single line. The inside vertical border shall be a 2 1/4 pt single line. The inside horizontal border color shall be white (FFFFFF).

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Index (Name)	Properties
	The inside vertical border color shall be white (FFFFFF). The vertical alignment shall be top. Odd rows of table data shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct20. Even rows of table data shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct5. The header rows shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be pct20.
36 (Elegant)	The table shall have the following properties: The top border shall be a 3/4 pt double line. The left border shall be a 3/4 pt double line. The bottom border shall be a 3/4 pt double line. The right border shall be a 3/4 pt double line. The inside horizontal border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000). The inside horizontal border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The font shall be all caps.
37 (Professional)	The table shall have the following properties: The top border shall be a 3/4 pt single line. The left border shall be a 3/4 pt single line. The bottom border shall be a 3/4 pt single line. The right border shall be a 3/4 pt single line. The inside horizontal border shall be a 3/4 pt single line. The inside vertical border shall be a 3/4 pt single line. The top border color shall be black (000000). The left border color shall be black (000000). The bottom border color shall be black (000000). The right border color shall be black (000000).

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Index (Name)	Properties
	The inside horizontal border color shall be black (000000). The inside vertical border color shall be black (000000). The vertical alignment shall be top. The header rows shall have the following properties: The foreground shading color shall be black (000000). The background shading shall be white (FFFFFF). The shading pattern shall be solid. The font color shall be white. The font shall be bold.
38 (Subtle 1)	The table shall have the following properties: The interior vertical border shall be a 3/4 pt single line. The interior vertical border shall be black (000000). The vertical alignment shall be top. Even rows of the table shall have the following properties: The bottom border shall be a 3/4 pt single line. The bottom border color shall be black (000000). There shall be no interior vertical border. The foreground shading color shall be dark yellow (CCCC00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The header rows shall have the following properties: The top border shall be a 3/4 pt single line. The bottom border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The bottom border color shall be black (000000). The shading pattern shall be clear. The last row shall have the following properties: The top border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The foreground shading color shall be dark magenta (CC00CC). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The first column shall have the following properties: The right border shall be a 1 1/2 pt single line. The right border color shall be black (000000). The last column shall have the following properties: The left border shall be a 1 1/2 pt single line. The left border color shall be black (000000). The last column of header rows shall have the following properties:

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Index (Name)	Properties
	The font shall be bold. The first column of the last row shall have the following properties: The font shall be bold.
39 (Subtle 2)	The table shall have the following properties: The left border shall be a 3/4 pt single line. The right border shall be a 3/4 pt single line. The left border color shall be black (000000). The right border color shall be black (000000). The vertical alignment shall be top. The last column shall have the following properties: The left border shall be a 1 1/2 pt single line. The left border color shall be black (000000). The foreground shading color shall be dark yellow (CCCC00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The first column shall have the following properties: The right border shall be a 1 1/2 pt single line. The right border color shall be black (000000). The foreground shading color shall be dark green (00CC00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The last row shall have the following properties: The top border shall be a 1 1/2 pt single line. The top border color shall be black (000000). The shading pattern shall be clear. The last row of the first column shall have the following properties: The foreground shading color shall be dark green (00CC00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The font shall be bold. The last column of header rows shall have the following properties: The foreground shading color shall be dark yellow (CCCC00). The background shading shall be white (FFFFFF). The shading pattern shall be pct25. The font shall be bold. The header rows shall have the following properties: The bottom border shall be a 1 1/2 pt single line. The bottom border color shall be black (000000). The shading pattern shall be clear.

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Index (Name)	Properties
40 (Web 1)	The table shall have the following properties: The top border shall be a 3/4 pt outset line. The left border shall be a 3/4 pt outset line. The bottom border shall be a 3/4 pt outset line. The right border shall be a 3/4 pt outset line. The inside horizontal border shall be a 3/4 pt outset line. The inside vertical border shall be a 3/4 pt outset line. The vertical alignment shall be top. The cell spacing shall be 20 twips.
41 (Web 2)	The table shall have the following properties: The top border shall be a 3/4 pt inset line. The left border shall be a 3/4 pt inset line. The bottom border shall be a 3/4 pt inset line. The right border shall be a 3/4 pt inset line. The inside horizontal border shall be a 3/4 pt inset line. The inside vertical border shall be a 3/4 pt inset line. The vertical alignment shall be top. The cell spacing shall be 20 twips.
42 (Web 3)	The table shall have the following properties: The top border shall be a 2 1/4 pt outset line. The left border shall be a 2 1/4 pt outset line. The bottom border shall be a 2 1/4 pt outset line. The right border shall be a 2 1/4 pt outset line. The inside horizontal border shall be a 3/4 pt outset line. The inside vertical border shall be a 3/4 pt outset line. The vertical alignment shall be top. The cell spacing shall be 20 twips.

c. *The standard does not specify any restriction on the set of SQL instructions included with the \s switch.*

   Word does not allow SQL commands that attempt to make changes to the data source (Drop Table, Insert, and so on).

d. *The standard says that if the \l switch is blank, the \b switch value is 16 (Autofit).*

   In Word, if the \l switch is blank or omitted, the \b bitmask for Autofit is the only one that will affect the display of the table.

e. *The standard says that if the number of columns is 62 or more, the field inserts the results of a query in columns separated by tabs.*

   In Word, the results of the query are inserted in columns separated by tabs if the number of columns in the data source is 64 or more.

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f. *The standard says the \c switch specifies a connection string for accessing the data source.*

Word does not use the connection string specified by the \c switch.

2.1.469 Part 1 Section 17.16.5.13, DATE

a. *The standard says the default calendar is Gregorian.*

In Word, the default calendar depends on the locale.

2.1.470 Part 1 Section 17.16.5.14, DOCPROPERTY

a. *The standard does not say that Custom document properties can be specified in the DOCPROPERTY field.*

In Word, Custom document properties can be specified by name in the DOCPROPERTY field.

b. *The standard says that the Keywords and Words categories don't have any equivalent fields.*

In Word, the Keywords and Words categories are equivalent to the Keywords and NumWords fields.

2.1.471 Part 1 Section 17.16.5.17, FILENAME

a. *The standard says a FILENAME field must use a general-formatting-switch.*

In Word, using a general-formatting-switch in a FILENAME field is optional.

2.1.472 Part 1 Section 17.16.5.18, FILESIZE

a. *The standard says that the switches cause the result to be rounded to the nearest kilobyte or megabyte.*

Word rounds to the nearest thousand bytes and million bytes.

2.1.473 Part 1 Section 17.16.5.20, FORMCHECKBOX

a. *The standard allows the FORMCHECKBOX field to be nested inside another field.*

In Word, if the FORMCHECKBOX field is nested inside another field, no result is displayed.

2.1.474 Part 1 Section 17.16.5.21, FORMDROPDOWN

a. *The standard allows the FORMDROPDOWN field to be nested inside another field.*

In Word, if the FORMDROPDOWN field is nested inside another field, no result is displayed.

2.1.475 Part 1 Section 17.16.5.23, GOTOBUTTON

a. *The standard does not state how to interpret % in field-argument-1 for the GOTOBUTTON field.*

Word uses % in field-argument-1 to specify a percentage of the document as a target for the GOTOBUTTON field.

b. *The standard allows a GOTOBUTTON field to be nested inside another field.*

In Word, if a GOTOBUTTON field is nested inside another field, no result is displayed.

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2.1.476 Part 1 Section 17.16.5.24, GREETINGLINE

a. *The standard defines \c as both the alternate text switch and the format switch.*

In Word, the format switch is \f.

b. *The standard does not explain how the \f switch specifies the format of the field value.*

In Word, the text in this switch's field-argument specifies the greeting line format by providing placeholders which reference a **fieldMapData** element ("[ISO/IEC-29500-1] §17.14.15; fieldMapData"). The placeholder will be expanded to the current mail merge entry in the column specified by the value in the name element where the **mappedName** of the placeholder matches the **mappedName** of the **fieldMapData**.

The following are the possible placeholders and corresponding mapped merge field names are reserved:

PLACEHOLDER	ALTERNATE PLACEHOLDER	mappedName
BEFORE text	/g text	This placeholder specifies that text shall be inserted before the greeting line.
AFTER text	/x text	This placeholder specifies that text shall be inserted after the greeting line.
TITLE0	/t0	Courtesy Title
NICK0	/n0	Nickname
FIRST0	/f0	First Name
LAST0	/l0	Last Name
SUFFIX0	/s0	Suffix
TITLE1	/t1	Spouse/Partner Courtesy Title
FIRST1	/f1	Spouse/Partner First Name

The following are the possible greeting line formats.

Greeting Line Formats
<<_TITLE0_>><<_LAST0_>>
<<_TITLE0_>><<and _TITLE1_>><<_LAST0_>>
<<_TITLE0_>><<_FIRST0_>><<_LAST0_>><<_SUFFIX0_>>
<<_TITLE0_>><<_NICK0_>><<_LAST0_>><<_SUFFIX0_>>
<<_FIRST0_>><<_LAST0_>><<_SUFFIX0_>>
<<_NICK0_>><<_LAST0_>><<_SUFFIX0_>>
<<_FIRST0_>><<and _FIRST1_>><<_LAST0_>>
<<_NICK0_>><<and _FIRST1_>><<_LAST0_>>
<<_FIRST0_>>

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Greeting Line Formats
<<_NICK0_>>
<<_FIRST0_>><<and _FIRST1_>>
<<_NICK0_>><<and _FIRST1_>>
<<Mr. and Mrs. _LAST0_>>

The <<_BEFORE_ text>> and <<_AFTER_ text>> placeholders may optionally come anywhere within a greeting line format.

<< and >> shall be omitted when displaying the greeting line.

If any of the placeholders in the greeting line format cannot be resolved, or are empty, the text specified in the /e switch shall be the field result. If a greeting line format is not one of the possible greeting line formats specified in the preceding table, the text specified in the /e switch shall be the field result.

c. *The standard defines the alternate text switch as \c.*

In Word, the alternate text switch is \e.

2.1.477 Part 1 Section 17.16.5.25, HYPERLINK

a. *The standard does not list \h as a possible switch for the HYPERLINK field.*

In Word, the \h switch for the HYPERLINK field means that when the hyperlink is invoked, the target of the hyperlink should not be added to a list of viewed hyperlinks.

b. *The standard does not list \s as a possible switch for the HYPERLINK field.*

In Word, the \s switch is used for the HYPERLINK field with the same meaning as the docLocation attribute of the hyperlink element.

2.1.478 Part 1 Section 17.16.5.26, IF

a. *The Standard does not specify the format of comparison.*

Word uses the following rule: comparison => expression comparison-operator expression

b. *The standard states that the left hand expression can contain ? or * wildcard characters.*

Word supports these characters in the right hand expression only.

c. *The standard does not specify any length restrictions on wildcard expansion.*

In Word, if an asterisk is used in Expression-2, the portion of Expression-1 that corresponds to the asterisk plus any remaining characters in Expression-2 shall NOT exceed 128 characters.

2.1.479 Part 1 Section 17.16.5.28, INCLUDETEXT

a. *The standard states the \e and \m switches are valid switches and describes what they should do.*

Word ignores the \e and \m switches.

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2.1.480 Part 1 Section 17.16.5.29, INDEX

a. *The standard does not list \o as a switch for the INDEX field.*

Word adds a \o switch that is used with the INDEX field to specify sort order. The text in this switch's field-argument specifies the sort order for Chinese, S for sorting by strokes within radicals and P for sorting by pronunciation. By default, sorting is by strokes.

b. *The standard says that if the \f switch is omitted, the index will include all entries.*

In Word, if the \f switch is omitted, the index will contain only those entries also lacking \f switches.

c. *The standard does not limit the length of the field arguments for switches \d, \e, \g, \k, and \l.*

In Word, the \d, \e, \g, \k, and \l switches are all limited to 15 characters.

d. *The standard states the \z flag is of type ST_Lang, yet has examples showing the \z switch with an argument of 1033.*

Word also supports numeric language ID's for this switch.

2.1.481 Part 1 Section 17.16.5.30, KEYWORDS

a. *The standard says the KEYWORD field must have a general-formatting-switch.*

In Word, using a general-formatting switch in a KEYWORD field is optional.

2.1.482 Part 1 Section 17.16.5.31, LASTSAVEDBY

a. *The standard says the LASTSAVEDBY field must use a general-formatting-switch.*

In Word using a general-formatting-switch with a LASTSAVEDBY field is optional.

2.1.483 Part 1 Section 17.16.5.32, LINK

a. *The standard does not explain the format of field-argument-1 of the LINK field.*

Word has a specific format for field-argument-1 of the LINK field. This format specifies an OLE Programmatic Identifier (ProgID). This string shall not start with a digit, shall not contain any punctuation (including underscores) other than periods, and shall have a maximum length of 39 characters.

The pieces of a ProgID are separated by periods; white space shall not occur within the ProgID. The typical format of a ProgID is:

<Library>.<ComponentName>.<VersionNumber>

b. *The standard says that the LINK field has no field value.*

In Word, the field value of a LINK field is an OLE object representation of the linked file, or the contents of the linked file itself, depending on the switches used.

c. *The standard says the \d switch will prevent the graphic data from being stored with the document.*

When saving a document to OOXML, Word stores the graphic data in the file even if the \d switch is used.

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d. *The standard says the \f switch determines the formatting of the linked object when displayed in the document.*

Word ignores the argument of the \f switch.

e. *The standard does not restrict which field switches can be used with each other, even when their definitions are mutually exclusive.*

If more than one switch is present from the set \b, \h, \p, \r, \t, \d, and \u, Word ignores all but the last one.

2.1.484 Part 1 Section 17.16.5.33, LISTNUM

a. *The standard says that If the \l switch is omitted for a new series, the default value is 3.*

In Word, if the \l switch is omitted for a new series, the default value depends on the ilvl of the paragraph.

b. *The standard allows the LISTNUM to be nested inside another field.*

In Word, the LISTNUM field is ignored if nested inside another field.

c. *The standard does not specify the behavior in the event that no previous numbered paragraph or LISTNUM is present in the document.*

Word uses the NumberDefault sequence by default.

2.1.485 Part 1 Section 17.16.5.34, MACROBUTTON

a. *The standard allows the MACROBUTTON field to be nested inside another field.*

In Word, if the MACROBUTTON field is nested inside another field, no result is displayed.

2.1.486 Part 1 Section 17.16.5.35, MERGEFIELD

a. *The standard specifies that the \m switch means the MERGEFIELD field is a mapped field.*

In Word, the \m switch in the MERGEFIELD means the text in field-argument specifies the mappedName of a fieldMapData element.

2.1.487 Part 1 Section 17.16.5.39, NEXTIF

a. *The standards states that the expression shall be enclosed in quotation marks.*

Word does not require the expression to be enclosed in quotation marks.

b. *The Standard does not specify the format of comparison.*

Word uses the following rule: comparison => expression comparison-operator expression.

c. *The standard does not specify any length restrictions on wildcards expansions.*

In Word, if an asterisk is used in Expression-2, the portion of Expression-1 that corresponds to the asterisk plus any remaining characters in Expression-2 shall NOT exceed 128 characters.

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2.1.488 Part 1 Section 17.16.5.40, NOTEREF

a. *The standard says the /p switch causes the NOTEREF field value to include the string below or above.*

In Word, the /p switch causes the NOTEREF field value to include a localized version of the strings below or above.

2.1.489 Part 1 Section 17.16.5.42 NUMPAGES

a. *The standard states NUMPAGES retrieves the number of pages in the current document, as recorded in the Pages element of the Application-Defined File Properties part.*

Word uses the value stored in the Pages element of the File Properties part ("[ISO/IEC-29500-1] §15.2.12.3"). If the first section definition in the document includes a titlePg element ("[ISO/IEC-29500-1] §17.10.6; titlePg") and a pgNumType ("[ISO/IEC-29500-1] §17.6.12; pgNumType") element with a "start" attribute with a value of "0", then Word will adjust the number of pages for the title page by subtracting 1 from the value of the Pages element.

2.1.490 Part 1 Section 17.16.5.45, PAGEREF

a. *The standard says the value of the PAGEREF field may contain the strings above, below, and "on page #".*

In Word, the value of the PAGEREF field contains versions of the strings above, below, and "on page #" that are translated depending on the language of the text in the document and the language of the current application UI.

2.1.491 Part 1 Section 17.16.5.46, PRINT

a. *The standard does not specify how field argument 1 defines the drawing rectangle.*

In Word, text in this switch's field-argument-1 defines the drawing rectangle on which the subsequent PostScript instructions operate. It can be any of the keywords from the following table.

Keyword	Description
`cell`	Sets the bounding box to equal the size of a one-line cell with the width of the current cell. The bounding box's upper-left corner will be placed by default at the upper-left corner of the current page. The bounding box will be offset to the right by the location of the current column, and offset down by the amount of prior text in the current cell. In Word, the bounding box will be offset to the right by the location of the current column minus the width of the left border, and offset down by the amount of prior text in the current cell minus the width of the top border.
`page`	Sets the bounding box to be equal to the current page.
`para`	Sets the bounding box to be equal to the current paragraph.
`pic`	Sets the bounding box to be equal to the next picture in the current paragraph. Word will only recognize a picture described using VML when using this option.
`row`	Sets the bounding box to equal the size of a one-line row in the current table. The bounding box's upper-left corner will be placed by default at the upper-left corner of the current page. The bounding box will be offset to the right by the location of the current row, and offset down by the amount of prior text in the current cell. In Word, the bounding box will not be offset to the right, and offset down by the amount of prior text in the current cell minus the width of the top border.

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b. *The standard says that /p is an optional switch for the PRINT field.*

In Word, the /p switch is required for the PRINT field.

c. *The standard does not specify any relationship between the PRINT field and the usePrinterMetrics compatibility option.*

Word does not carry out the behavior specified by the PRINT field unless the usePrinterMetrics compatibility option is on.

d. *The standard allows the PRINT field to be nested inside another field.*

Word will not carry out the behavior specified by the PRINT field is it is nested inside another field.

2.1.492 Part 1 Section 17.16.5.47, PRINTDATE

a. *The standard says the Gregorian calendar is used by default.*

In Word, the default calendar depends on the locale.

2.1.493 Part 1 Section 17.16.5.49, QUOTE

a. *The standard lists date-and-time-formatting switches twice in the list of switches allowed in a QUOTE field and leaves out numeric-formatting-switches.*

In Word, the list of allowable switches in a QUOTE field includes numeric-formatting-switches.

b. *The standard specifies the field value of the QUOTE field as the text in the field argument without any transformation.*

In Word, the text specified by *text* in *field-argument* may specify a character whose code point value is specified in decimal or hexadecimal. Up to three digits shall be used to specify a character using decimal numbers. Up to four digits shall be used to specify a character using hexadecimal (leading 0x or 0X). Word does not allow insertion of the code point 13 as a character.

c. *The standard says that a QUOTE field must contain at least one switch.*

In Word, including a switch in the QUOTE field is optional.

2.1.494 Part 1 Section 17.16.5.50, RD

a. *The standard says that the \p switch indicates relative path for an RD field.*

In Word, the \f indicates a relative path for an RD field.

b. *The standard says the RD field must contain a switch.*

In Word, including a switch in the RD field is optional.

2.1.495 Part 1 Section 17.16.5.51, REF

a. *The standard says the REF must have at least one general-formatting-switch and at most one field-specific-switch.*

In Word, the REF field is allowed to have zero general-formatting-switches and multiple field-specific-switches.

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b. *The standard says the \d switch specifies the character sequence used to separate sequence numbers and page numbers, but does not explain what sequence numbers and page numbers.*

   In Word, the \d switch specifies the character sequence used to separate sequence numbers placed in the field value by the \n, \r, and \w switches.

c. *The standard provides insufficient information to explain how the \n switch affects the REF field value.*

   In Word, for a referenced numbered paragraph, \n causes the field result to be the paragraph number without trailing periods. No information about prior numbered levels is displayed unless it is included as part of the current level.

[Example:

If the referenced paragraph is numbered `2.7.1`, the field shall result in `1`. end example]

d. *The standard says the REF keyword is not optional when used with bookmarks with the same name as a field.*

   In Word, REF is required to be present if the bookmark name is one of the following: CONTROL, DATA, EMBED, HTMLCONTROL, or SUBSCRIBER.

e. *The standard provides insufficient information to explain how the \r switch affects the REF field value.*

   In Word, for a referenced numbered paragraph, \r inserts the paragraph number of the bookmarked paragraph in relative context, or relative to its position in the numbering scheme without trailing periods.

[Example:

If the `REF` field is contained within paragraph `4.3.1` and the referenced paragraph is numbered `4.5.2`, the result shall be `5.2`. end example]

f. *The standard provides insufficient information to explain how the \w switch affects the REF field value.*

   In Word, for a referenced numbered paragraph, \w causes the field result to be the entire paragraph number without trailing periods, regardless of the location of the `REF` field.

[Example:

If the `REF` field is contained within paragraph `4.3.1` and the referenced paragraph is numbered `4.5.2`, the result shall be `4.5.2`. end example]

g. *The standard says that a text entity in a field that does not match a known field instruction will be interpreted as a REF field.*

   In addition to not allowing known field instructions as REF fields, Word also disallows the following names to be used as automatic bookmarks. These reserved names must be prefaced with REF.

   - ADDIN
   - CONTROL
   - DATA
   - DISPLAYNFC
   - EMBED
   - FTNREF
   - HTMLCONTROL
   - SUBSCRIBER

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2.1.496 Part 1 Section 17.16.5.52, REVNUM

a. *The standard says that no switches are used on the REVNUM field.*

Word allows both numeric and general formatting switches for the REVNUM field.

2.1.497 Part 1 Section 17.16.5.53, SAVEDATE

a. *The standard says the default calendar for the SAVEDATE field is Gregorian calendar.*

In Word, the default calendar for the SAVEDATE field depends on the locale.

2.1.498 Part 1 Section 17.16.5.54, SECTION

a. *The standard says that the SECTION field only allows switches general-formatting-switches.*

In Word, the SECTION field also allows numeric-formatting-switches.

2.1.499 Part 1 Section 17.16.5.55, SECTIONPAGES

a. *The standard says the SECTIONPAGES field value is the number of the current page within the current section.*

In Word, the SECTIONPAGES field value is the number of pages in the current section.

b. *The standard says that the only switches the SECTIONPAGES field can take are general-formatting-switches.*

In Word, the SECTIONPAGES field can also take a numeric-formatting-switch.

2.1.500 Part 1 Section 17.16.5.56, SEQ

a. *The standard does not specify the meaning of the optional bookmark name in the SEQ field.*

In Word, when a bookmark name is used in an SEQ field, the SEQ field displays the result of the SEQ field nearest the bookmark in the document.

b. *The standard says that the \s switch resets the sequence number to the built-in (integer) heading level specified.*

In Word, the \s switch resets the sequence following a heading of the specified level.

2.1.501 Part 1 Section 17.16.5.58, SKIPIF

a. *The standard makes no mention of wildcards used in the SKIPIF field.*

In Word, if Operator is = or <>, Expression-2 can contain a question mark (?) to represent any single character, or an asterisk (*) to represent any string of characters. The expression shall be enclosed in quotation marks so that it is compared as a character string. If an asterisk is used in Expression-2, the portion of Expression-1 that corresponds to the asterisk, plus any remaining characters in Expression-2, shall NOT exceed 128 characters.

b. *The standard does not specify the expression that is evaluated for the comparison.*

Word evaluates the following expression: comparison => expression comparison-operator expression.

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c. *The Standard states that quotation marks shall be around the expression using wildcard characters.*

Word does not require quotation marks surrounding expressions with wildcard characters.

d. *The Standard does not specify restrictions on the length of the wildcard expansion.*

In Word, if an asterisk is used in Expression-2, the portion of Expression-1 that corresponds to the asterisk plus any remaining characters in Expression-2 shall NOT exceed 128 characters.

2.1.502 Part 1 Section 17.16.5.59, STYLEREF

a. *The standard does not fully define what switch \n means in a STYLEREF field.*

In Word, for a referenced numbered paragraph, \n causes the field result to be the paragraph number without trailing periods. No information about prior numbered levels is displayed unless it is included as part of the current level.

[Example: If the referenced paragraph is numbered `2.7.1`, the field shall result in `1`. end example]

b. *The standard does not mention shorthand for how heading styles may be used.*

Word interprets 1 as heading 1, 2 as heading 2, ... 9 as heading 9 in field-argument.

c. *The standard specifies different search algorithms for a STYLEREF field in a header for a printed document versus an electronic document.*

When a STYLEREF field is in a header in an electronic document, Word uses the search algorithm specified for a STYLEREF field in a header for a printed document.

d. *The standard does not fully define what switch \r means in a STYLEREF field.*

In Word, for a referenced numbered paragraph, \r inserts the paragraph number of the bookmarked paragraph in relative context, or relative to its position in the numbering scheme without trailing periods.

[Example: If the `REF` field is contained within paragraph `4.3.1` and the referenced paragraph is numbered `4.5.2`, the result shall be `5.2`. end example]

e. *The standard does not fully define what switch \w means in a STYLEREF field.*

In Word, for a referenced numbered paragraph, \w causes the field result to be the entire paragraph number without trailing periods, regardless of the location of the `REF` field.

[Example: If the `REF` field is contained within paragraph `4.3.1` and the referenced paragraph is numbered `4.5.2`, the result shall be `4.5.2`. end example]

f. *The standard does not fully define what switch \l means in a STYLEREF field.*

In Word, if the STYLEREF field is in a header, then this switch causes the search to go from the bottom of the page to the beginning of the document and then to the end of the document; otherwise, it has no effect.

2.1.503 Part 1 Section 17.16.5.60, SUBJECT

a. *The standard says the SUBJECT field must have a general-formatting-switch.*

In Word, using a general-formatting switch with the SUBJECT field is optional.

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2.1.504 Part 1 Section 17.16.5.61, SYMBOL

a. *The standard says the \j switch interprets text in the field argument as the value of a SHIFT-JIS character.*

   If the \j switch is used with characters 0x5C or 0x7E, Word does not display their SHIFT-JIS substitutions.

b. *The standard places no restrictions on the Unicode characters which may be used with the \u switch in the SYMBOL field.*

   Using the \u switch, Word will not display surrogate pairs or Unicode characters outside of Unicode plane 0 (Basic Multilingual Plane). If a character is specified outside of plane 0, the value will be truncated to one within plane 0.

c. *The standard allows the SYMBOL field to be nested inside another field.*

   In Word, if the SYMBOL field is nested inside another field, no result is displayed.

2.1.505 Part 1 Section 17.16.5.62, TA

a. *The standard does not explain how a TOA field uses TA fields.*

   In Word, the TOA field will only display an entry for a set of TA fields (containing the same entry for short citation and category) if both a long citation and category are defined.

b. *The standard says the default value for the \c switch is 1 when omitted.*

   In Word, there is no default value for the \c switch when omitted.

2.1.506 Part 1 Section 17.16.5.64, TEMPLATE

a. *The standard says the TEMPLATE field must use a general-formatting-switch.*

   In Word, using a general-formatting-switch in the TEMPLATE field is optional.

2.1.507 Part 1 Section 17.16.5.66, TITLE

a. *The standard says the TITLE field must use a general-formatting-switch.*

   In Word, using a general-formatting-switch in the TITLE field is optional.

2.1.508 Part 1 Section 17.16.5.67, TOA

a. *The standard does not define a maximum length for the separator switches \d, \e, \g, and \l.*

   Word allows at most 15 characters for each of the separator switches \d, \e, \g, and \l.

2.1.509 Part 1 Section 17.16.5.68, TOC

a. *The standard does not specify behavior when both the \f and \l switches are used.*

   In Word, if the \f switch is used after the \l switch, the \f switch supersedes the levels specified to include all levels.

b. *The standard says that the \p switch argument is a sequence of characters.*

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Word only allows a single character in the argument of the \p switch and ignores any additional characters.

c. *The standard states that the \o switch will direct the TOC field to include paragraphs formatted with the specified built-in heading style(s).*

Word will include any style whose definition includes an outlineLvl ("[ISO/IEC-29500-1] §17.3.1.20; outlineLvl") paragraph property corresponding to the heading level(s) specified by the \o field argument.

d. *The standard states that the text in the field-argument of the \t switch specifies those styles as a set of comma-separated doublets, with each doublet being a comma-separated set of style name and table of content level.*

Word uses the list-separator ("[ISO/IEC-29500-1] §17.16.1; Syntax") between doublets and the two items within the doublet. But the list-separator can be other characters besides a comma.

2.1.510 Part 1 Section 17.16.5.69, USERADDRESS

a. *The standard says a USERADDRESS field must use a general-formatting-switch.*

In Word, using a general-formatting-switch in a USERADDRESS field is optional.

2.1.511 Part 1 Section 17.16.5.70, USERINITIALS

a. *The standard says the USERINITIALS field must use a general-formatting-switch.*

In Word, using a general-formatting-switch in a USERINITIALS field is optional.

2.1.512 Part 1 Section 17.16.5.71, USERNAME

a. *The standard says a USERNAME field must use a general-formatting-switch.*

In Word, using a general-formatting-switch in a USERNAME field is optional.

2.1.513 Part 1 Section 17.16.5.72, XE

a. *The standard allows an XE field to specify an unbounded level.*

Word only allows levels up to 7 in an XE field.

2.1.514 Part 1 Section 17.16.9, ddList (Drop-Down List Form Field Properties)

a. *The standard states that the maxOccurs value for the listEntry child element is unbounded.*

Word limits the occurrences of this element to 25.

2.1.515 Part 1 Section 17.16.10, default (Default Text Box Form Field String)

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 255 characters.

2.1.516 Part 1 Section 17.16.11, default (Default Drop-Down List Item Index)

a. *The standard says that if the value exceeds the number of items in the drop-down list, then drop-down list defaults to its first entry.*

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In Word, if the value exceeds the number of items, then the drop-down list defaults to an empty entry.

b. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word restricts the value of this attribute to be at least 0 and at most 24.

2.1.517 Part 1 Section 17.16.12, default (Default Checkbox Form Field State)

a. *The standard says the checkbox default is used when there is no content in the drop-down.*

In Word, the checkbox default is the default state of the checkbox.

2.1.518 Part 1 Section 17.16.17, ffData (Form Field Properties)

a. *The standard says that if ffData is omitted, the properties associated with the form field shall be based on default values for the form field.*

In Word, if ffData is omitted, the form field is considered invalid and cannot be used or edited.

b. *The standard states that label and tabIndex are child elements of this element.*

Word ignores these elements and does not round trip them.

2.1.519 Part 1 Section 17.16.19, fldSimple (Simple Field)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.520 Part 1 Section 17.16.20, format (Text Box Form Field Formatting)

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 64 characters.

b. *The standard lists four possible values for format when type is equal to regular.*

Word also uses the values "Single byte ..." and "Double byte ...".

2.1.521 Part 1 Section 17.16.22, hyperlink (Hyperlink)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

a. *The standard does not limit the length of the values of the anchor, docLocation, tgtFrame, and tooltip attributes.*

Word restricts the values of the anchor, docLocation, and tgtFrame attributes to be at most 255 characters and the tooltip attribute to be at most 260 characters.

b. The standard states that if a hyperlink target is also specified using the r:id attribute, then the anchor attribute shall be ignored.

Word appends a "#" and the value of the anchor attribute to the hyperlink's Target URL from the Relationship element in the corresponding relationship part.

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2.1.522 Part 1 Section 17.16.24, label (Form Field Label)

a. *The standard specifies this element as a valid element.*

Word ignores this element and does not round trip it.

2.1.523 Part 1 Section 17.16.25, listEntry (Drop-Down List Entry)

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 255 characters.

2.1.524 Part 1 Section 17.16.26, maxLength (Text Box Form Field Maximum Length)

a. *The standard states that the values of the val attribute are defined by the XML Schema integer datatype.*

Word defines the values of this attribute with the XML Schema short datatype, with a minimum value of 1.

2.1.525 Part 1 Section 17.16.32, tabIndex (Form Field Navigation Order Index)

a. *The standard states this element is a valid element*

Word ignores this element, and does not round trip it.

2.1.526 Part 1 Section 17.17.1.1, subDoc (Anchor for Subdocument Location)

For additional notes that apply to this portion of the standard, please see the notes for attachedTemplate, §17.15.1.6(a)*;* oMath, §22.1.2.77(c)*.*

2.1.527 Part 1 Section 17.17.2.1, altChunk (Anchor for Imported External Content)

a. *The standard states that the relationship type is http://schemas.openxmlformats.org/officeDocument/2006/relationships/afChunk.*

Word uses the relationship type defined in Alternative Format Import Part ("[ISO/IEC-29500-1] §11.3.1"): http://schemas.openxmlformats.org/officeDocument/2006/relationships/aFChunk.

b. *The standard specifies that applications can support any set of content types.*

Word supports the following content types:

- application/vnd.openxmlformats-officedocument.wordprocessingml.document.main+xml
- application/vnd.ms-word.document.macroEnabled.main+xml
- application/vnd.openxmlformats-officedocument.wordprocessingml.template.main+xml
- application/vnd.ms-word.template.macroEnabledTemplate.main+xml
- message/rfc822
- application/xml
- application/rtf
- application/xhtml+xml
- text/html
- text/plain

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2.1.528 Part 1 Section 17.18.2, ST_Border (Border Styles)

a. *The standard states that the thinThickLargeGap, thinThickMediumGap, and thinThickSmallGap border styles specify line borders consisting of a thin line contained within a thick line contained within a thick thin.*

Word uses these styles to specify line borders consisting of a thin line contained within a thick line.

b. *The standard places no restrictions on when the inset and outset border styles should be honored.*

Word displays inset and outset borders using the single border style when the border is not a table border or when the resolved value of the tblCellSpacing element for a row is nil.

c. *The standard states that the inset and outset border styles specify a line border consisting of an inset/outset set of lines around the parent object.*

Word displays these border styles as defined in the CSS2 specification [CSS-LEVEL2].

d. *The standard states that custom is a valid enumeration value.*

In Word, if the enumeration value of an ST_Border simple type is custom, then the file is considered corrupt.

2.1.529 Part 1 Section 17.18.3, ST_BrClear (Line Break Text Wrapping Restart Location)

a. *The standard states that a value of "clear" determines the next possible restart location.*

Word respects this value in Web Layout, but behaves unpredictably in Print Layout.

2.1.530 Part 1 Section 17.18.5, ST_CaptionPos (Automatic Caption Positioning Values)

a. *The standard allows that left, right, above, and below for automatically inserted captions.*

Word supports only above and below for automatically inserted captions.

2.1.531 Part 1 Section 17.18.7, ST_CharacterSpacing (Character-Level Whitespace Compression Settings)

a. *The standard states that the ST_CharacterSpacing simple type specifies that white space compression is applied to white space characters.*

In Word, this simple type applies white space compression to full width punctuation characters.

2.1.532 Part 1 Section 17.18.10, ST_DecimalNumber (Decimal Number Value)

a. *The standard states that the contents of the ST_DecimalNumber simple type are a restriction on the XML Schema integer datatype.*

Word defines the contents of this simple type as being a restriction on the XML Schema int datatype.

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2.1.533 Part 1 Section 17.18.13, ST_DisplacedByCustomXml (Location of Custom XML Markup Displacing an Annotation)

a. *The standard allows the displacedByCustomXml attribute to be used in comments, headers, and footers.*

Word may ignore the parent element under certain conditions when it encounters the displacedByCustomXml attribute in a comment, header, or footer.

2.1.534 Part 1 Section 17.18.14, ST_DocGrid (Document Grid Types)

a. *The standard states that the snapToChars attribute serves the same purpose as the linesAndChars attribute.*

The snapToChars attribute specifies that each line in the parent section shall be divided into units of the character pitch specified on the **docGrid** element ("[ISO/IEC-29500-1] §17.6.5; docGrid"). Contiguous regions of characters u as *eastAsia*, *ascii*/*hAnsi*, and *cs* using the character classification algorithm are then placed into these units as follows:

- *eastAsia* – One character per grid unit, centered in that unit.
- *ascii*/*hAnsi* – All characters in the block centered in as many grid units as are necessary to display that text. [Example: If text needs 4.1 grid units of space, it is centered in 5 units. end example]
- *cs* – All characters in the block left-aligned in as many grid units as are necessary to display that text.

The additional line pitch on the **docGrid** element is also added in order to maintain a specific number of lines per page and characters per line.

2.1.535 Part 1 Section 17.18.15, ST_DocPartBehavior (Insertion Behavior Types)

a. *The standard says that when the behavior is set to pg, the entry is preceded by a blank paragraph whose only content is a page break character.*

In Word, when the behavior is set to pg, the entry is preceded by a page break character, but that page break character is not necessarily the only content in the previous paragraph.

b. *The standard says that when the behavior is set to pg, the entry is put on its own new page by preceding it with a page break.*

In Word, when the behavior is set to pg, the entry is put on its own new page by adding a preceding and trailing page break.

2.1.536 Part 1 Section 17.18.24, ST_Em (Emphasis Mark Type)

a. *The standard does not state which language should be used for the language resolution part of the emphasis mark values.*

Word uses the East Asian language for the language resolution part of these values.

b. *The standard states that the dot value specifies that the emphasis mark is to be rendered using Unicode character 0xFF0E for Japanese and Simplified Chinese, 0x2027 for Traditional Chinese, and 0x02D9 for all other East Asian languages.*

In Word, the emphasis mark is rendered using Unicode character 0x02D9 for Korean, 0x2027 for Traditional Chinese, and 0xFF0E for all other East Asian languages.

c. *The standard specifies that Traditional Chinese shall use Unicode character 0x3002 for the circle value and that it shall be positioned beneath the characters.*

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Word does not place the circle emphasis beneath the characters for Traditional Chinese.

d. *The standard specifies that the emphasis mark is a comma character, rendered above each character, using Unicode character 0x3001.*

   In Word, a circle type is used instead of the comma type if the East Asian language of the text is Korean or Traditional Chinese.

2.1.537 Part 1 Section 17.18.25, ST_FFHelpTextVal (Help Text Value)

a. *The standard states that the ST_FFHelpTextVal simple type allows strings with 256 characters.*

   In Word, the ST_FFHelpTextVal attribute allows strings with at most 255 characters.

2.1.538 Part 1 Section 17.18.26, ST_FFName (Form Field Name Value)

a. *The standard allows strings with at most 65 characters.*

   Word allows strings with at most 20 characters.

2.1.539 Part 1 Section 17.18.27, ST_FFStatusTextVal (Status Text Value)

a. *The standard states that the ST_FFStatusTextVal simple type allows strings with up to 140 characters.*

   In Word, the ST_FFStatusTextVal simple type allows strings with at most 138 characters.

2.1.540 Part 1 Section 17.18.31, ST_FrameLayout (Frameset Layout Order)

a. *The standard states that the enumeration value none means that no frames shall be shown in the frameset.*

   Word interprets an enumeration value of none to mean that one frame should be shown in the frameset.

2.1.541 Part 1 Section 17.18.34, ST_FtnPos (Footnote Positioning Location)

a. *The standard defines docEnd as a supported value in the footnote position enumeration.*

   Word does not support docEnd as a value in the footnote position enumeration.

b. *In the standard, sectEnd specifies that all footnotes shall be placed at the end of the section in which they are referenced.*

   Word treats sectEnd like beneathText and displays footnotes immediately after the last line of text on the page on which the note reference mark appears.

2.1.542 Part 1 Section 17.18.36, ST_HdrFtr (Header or Footer Type)

a. *The standard states that counting always starts from one for Odd/Even page number calculation.*

   In Word, counting depends on page numbering settings of the section.

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2.1.543 Part 1 Section 17.18.41, ST_Hint (Font Type Hint)

a. *The standard states in a note that the W3C definition of this simple type's content model is located in appendix $A.1. Appendix $A.1 states that normative definitions of the definitions also reside in an accompanying file named OfficeOpenXML-XMLSchema-Strict.zip, distributed in electronic form.*

   While present in Appendix $A.1, the definition of the 'cs' enum is missing in the electronic version of the schema file (wml.xsd, contained in OfficeOpenXML-XMLSchema-Strict.zip).

2.1.544 Part 1 Section 17.18.42, ST_HpsMeasure (Measurement in Half-Points)

a. *The standard states that the contents of the ST_HpsMeasure simple type are a restriction on the XML Schema unsignedLong datatype.*

   Word defines this simple type as being a restriction on the XML Schema unsignedInt datatype, with a minimum value of 2 and a maximum value of 3277.

2.1.545 Part 1 Section 17.18.44, ST_Jc (Horizontal Alignment Type)

a. *The standard states that the lowKashida setting shall also be applied to Arabic text when the enumeration value is set to both.*

   Word does not apply the lowKashida setting when the enumeration value is set to both.

2.1.546 Part 1 Section 17.18.52, ST_MailMergeDataType (Mail Merge Data Source Type Values)

a. *The standard states the type as xsd:string and calls out a number of values as reserved for this type.*

   Word accepts the following values 'textFile', 'database', 'spreadsheet', 'query', 'odbc', and 'native'. Word interprets any other value as equivalent to 'textFile.'

2.1.547 Part 1 Section 17.18.57, ST_Merge (Merged Cell Type)

a. *The standard states that a value of continue shall be ignored if the previous cell does not specify continue or restart*

   Word attempts to interpret continue values for vertically merged cells even if none of the previous cells contain a restart value

2.1.548 Part 1 Section 17.18.59, ST_NumberFormat (Numbering Format)

a. *The standard states that the ideographEnclosedCircle numbering format specifies that the sequence shall consist of sequential numerical ideographs, using the appropriate character, as described below.*

   Word encloses sequential numerical ideographs of this format in parentheses.

b. *The standard states that the hindiConsonants attribute specifies that the sequence shall consist of Hindi consonants, and that the hindiVowels attribute specifies that the sequence shall consist of Hindi vowels.*

   Word uses the hindiConsonants attribute to specify that the sequence shall consist of Hindi vowels, and the hindiVowels attribute to specify that the sequence shall consist of Hindi consonants.

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c. *The standard states for the aiueo and aiueoFullWidth enumeration values that a character should be repeated for values above 46*

   Word does not repeat any characters for values above 46, instead it simply starts at 1 again.

d. *The standard states that for the bahtText enumeration value, the application will use a sequence consisting of a numeric value from the Thai counting system.*

   Word interprets the bahtText enumeration value as decimal.

e. *The standard states for the chineseCountingThousand enumeration value, if the sequence number is between 10,000 and 100,000 and no groups are formed, and the number is not a multiple of 1,000, the symbol U+96F6 should be written.*

   Word does not write out the symbol U+96F6.

f. *The standard states for aiueoFullWidth that character is written once and then written once and then written once and then repeated the number of times the size of the set was subtracted from the original value.*

   Word writes the character once and then repeats it the number of times the size of the set was subtracted from the original value.

g. *The standard states for arabicAbjad that character is written once and then written once and then written once and then repeated the number of times the size of the set was subtracted from the original value.*

   Word writes the character once and then repeats it the number of times the size of the set was subtracted from the original value.

h. *The standard states that the arabicAlpha character is written once and then written once and then written once and then repeated the number of times the size of the set was subtracted from the original value.*

   Word writes the character once and then repeats it the number of times the size of the set was subtracted from the original value.

i. *The standard states for chicago that the character is written once and then written once and then repeated the number of times the size of the set was subtracted from the original value.*

   Word writes the character once and then repeats it the number of times the size of the set was subtracted from the original value.

j. *The standard does not specify a maximum value for cardinalText, chineseCountingThousand, chineseLegalSimplified, ideographLegalTraditional, japaneseCounting, koreanCounting, koreanDigital2, ordinalText, or taiwaneseCountingThousand.*

Word does not write out anything for sequence numbers after 999,999 for cardinalText, chineseCountingThousand, chineseLegalSimplified, ideographLegalTraditional, japaneseCounting, koreanCounting, koreanDigital2, ordinalText, or taiwaneseCountingThousand.

k. *The standard does not specify a maximum value beyond which behavior should change for chicago.*

   Word does not write out sequence numbers for chicago after 116.

l. *The standard does not specify a maximum value beyond which behavior should change for hexadecimal format.*

   Word writes out nothing for sequence numbers after 65535 in hexadecimal format.

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m. *The standard does not specify what to display for numbers above 9999 for japaneseDigitalTenThousand numbering styles.*

Word does not display anything for sequence numbers above 9999 for japaneseDigitalTenThousand numbering styles.

n. *The standard does not specify a maximum value beyond which behavior should change for koreanLegal.*

Word does not write out anything for sequence numbers for koreanLegal after 9,999,999.

o. *The standard does not specify maximum display values.*

Word does not display values above 217483647. In some cases Word will not display values above a lower value.

p. *The standard states that the set of characters used by the chineseLegalSimplified numbering format for values 1-10 starts with U+96F6.*

Word uses the set of characters starting with u+96F6 for this numbering format for values 0-9.

q. *The standard specifies that the ten thousand symbol for chineseLegalSimplified is U+4E07.*

Word uses the codepoint U+842C to represent the ten thousand sequence number for chineseLegalSimplified.

r. *The standard states for the chosung enumeration value that a character should be repeated for values above 14.*

Word does not repeat any characters for values above 14, instead it simply starts at 1 again.

s. *The standard states that decimalEnclosedCircleChinese is identical to decimalEnclosedCircle.*

Word uses only the first 10 characters from the same set as decimalEnclosedCircle to represent the numbers 1-10, and then falls back to decimal.

t. *The standards specifies a behavior for the dollarText enum value.*

Word interprets the dollarText enum value as decimal.

u. *The standard states for the ganada enumeration value that a character should be repeated for values above 14*

Word does not repeat any characters for values above 14; instead it simply restarts at 1.

v. *The standard specifies that for the ideographLegalTraditional enum value, the sequence number 3 is represented by the character U+53C3.*

Word uses the character U+53C1 to represent the sequence number 3.

w. *The standard specifies the set of characters used by arabicAbjad numbering format for values 1–28.*

Word adds the zero-width non-joiner character U+200C before every sequence number used by this numbering format.

x. *The standard specifies the set of characters used by arabicAlpha numbering format for values 1–28.*

Word adds the zero-width non-joiner character U+200C after every sequence number used by this numbering format.

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y. *The standard specifies the set of characters used by hebrew2 numbering format for values 1–22.*

Word adds the RTL character U+200F before every sequence number used by this numbering format.

z. *The standard does not mention the usage of U+96F6 for ideographLegalTraditional.*

Word uses the same rule as chineseLegalSimplified to determine when to write out U+96F6.

aa. *The standard does not mention the usage of the character U+5104 in the japaneseLegal numbering.*

Word uses the character U+5104 when writing out the sequence numbers from 100,000,000 and above.

bb. *The standard does not specify any other characters for sequence numbers above 100 for the koreanLegal numbering style.*

Word uses the procedure specified for koreanCounting numbering format to create sequence numbers for 100 and above.

cc. *The standard states that the sequence number is placed between two dashes.*

Word inserts spaces (U+0020) between the number and the two dashes for numberInDashes numbering formats.

2.1.549 Part 1 Section 17.18.62, ST_PageBorderDisplay (Page Border Display Options)

a. *The standard states that the value notFirstPage specifies that the page border shall be displayed on only the first page in the parent section.*

Word uses this value to specify that the page border shall be displayed on all pages except the first page in the parent section.

2.1.550 Part 1 Section 17.18.68, ST_PointMeasure (Measurement in Points)

a. *The standard states that the contents of the ST_PointMeasure simple type are defined by the ST_UnsignedDecimalNumber simple type.*

Word restricts the contents of this simple type to be at least 0 and at most 31.

2.1.551 Part 1 Section 17.18.70, ST_ProofErr (Proofing Error Type)

a. *The standard states that the gramStart attribute indicates the end of a grammatical error and the gramEnd attribute indicates the start of a grammatical error.*

Word uses the gramStart attribute to indicate the start of a grammatical error and the gramEnd attribute to indicate the end of a grammatical error.

2.1.552 Part 1 Section 17.18.75, ST_RubyAlign (Phonetic Guide Text Alignment)

a. *The standard states that for the left enumeration value ruby text will be aligned left and for the right enumeration value ruby text will be aligned right.*

Word changes left to right and left to right when the run layout is right-to-left.

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2.1.553 Part 1 Section 17.18.78, ST_Shd (Shading Patterns)

a. *The standard specifies an enumeration value "nil" with the same meaning as clear.*

Word ignores value "nil" when used to specify properties of a paragraph or a run of text. Word treats the value "nil" as equivalent to not specifying shading when it is used to specify properties of a table, cell, or row.

2.1.554 Part 1 Section 17.18.80, ST_SignedHpsMeasure (Signed Measurement in Half-Points)

a. *The standard states that ST_SignedHpsMeasure allows unbounded integers.*

Word only reads 32-bit integers for ST_SignedHpsMeasure.

2.1.555 Part 1 Section 17.18.81, ST_SignedTwipsMeasure (Signed Measurement in Twentieths of a Point)

a. *The standard states that ST_SignedTwipsMeasure allows unbounded integers.*

Word only reads 32-bit integers for ST_SignedTwipsMeasure.

2.1.556 Part 1 Section 17.18.84, ST_TabJc (Custom Tab Stop Type)

a. *The standard states that the decimal value specifies that the current tab stop shall result in a location in the document where all following text is aligned around the first decimal character in the following text runs.*

In Word, if the value is decimal, the tab stop results in a location in the document where all following text is aligned around the first decimal separator in the following text runs.

b. *The standard does not state how to interpret the decimal attribute if there is no decimal separator.*

Word aligns text around the implicit decimal separator after the last digit of the first numerical value appearing in the following text if there is no decimal separator.

c. *The standard does not list "left" or "right" as valid values for the val attribute.*

Word treats a value of "left" as if it were "start". Word treats a value of "right" as if it were "end".

d. *The standard does not describe the behavior when a table cell contains a single decimal tab stop.*

Word will insert an implicit tab into the table cell when there is a single decimal tab stop, which results in the content being aligned to the decimal tab stop automatically.

2.1.557 Part 1 Section 17.18.89, ST_TblStyleOverrideType (Conditional Table Style Formatting Types)

a. *The standard states that a value of "wholeTable" for the "type" attribute specifies that the given conditional formatting applies to the entire table.*

Word does not apply and discards on save any properties within the tblStylePr ("[ISO/IEC-29500-1] §17.7.6.6; tblStylePr") element when the "type" attribute has a value of "wholeTable".

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2.1.558 Part 1 Section 17.18.93, ST_TextDirection (Text Flow Direction)

a. *The standard states that tbLrV orients lines from top to bottom, left to right and tbRlV orients lines from top to bottom, right to left.*

The standard states:

Enumeration Value	Description
btLr (Lines Flow From Left to Right)	Semantically equivalent to **lr**.
lrTb (Lines Flow From Top to Bottom)	Semantically equivalent to **tb**.
lrTbV (Lines Flow From Top to Bottom, Rotated)	Semantically equivalent to **tbV**.
tbLrV (Lines Flow From Left to Right, Rotated)	Semantically equivalent to **lrV**.
tbRl (Lines Flow From Right to Left)	Semantically equivalent to **rl**.
tbRlV (Lines Flow From Left to Right, Rotated)	Semantically equivalent to **lrV**.

In Word, these enumeration values have different meanings when used in the context of a table.

Enumeration Value	Description
btLr (Bottom to Top, Left to Right)	Specifies that text in the parent object shall flow from bottom to top vertically, then from left to right horizontally on the page. This means that vertical lines are filled before the text expands horizontally.
lrTb (Left to Right, Top to Bottom)	Specifies that text in the parent object shall flow from left to right horizontally, then top to bottom vertically on the page. This means that horizontal lines are filled before the text expands vertically.
lrTbV (Left to Right, Top to Bottom Rotated)	Specifies that text in the parent object shall flow from left to right horizontally, then top to bottom vertically on the page. This means that horizontal lines are filled before the text expands vertically. This flow is also rotated such that any East Asian text shall be rotated 270 degrees when displayed on a page.
tbLrV (Top to Bottom, Left to Right Rotated)	Specifies that text in the parent object shall flow from top to bottom vertically, then left to right horizontally on the page. This means that vertical lines are filled before the text expands horizontally. This flow is also rotated such that all text is rotated 90 degrees when displayed on a page.
tbRl (Top to Bottom, Right to Left)	Specifies that text in the parent object shall flow from right to left horizontally, then top to bottom vertically on the page. This means that horizontal lines are filled before the text expands vertically.
tbRlV (Top to Bottom, Left to	Specifies that text in the parent object shall flow from top to bottom vertically,

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Enumeration Value	Description
Right Rotated)	then left to right horizontally on the page. This means that vertical lines are filled before the text expands horizontally. This flow is also rotated such that all text is rotated 90 degrees when displayed on a page.

b. *The standard states that btLr enumeration value was removed from the ST_TextDirection simple type.*

Word does not respect this value when used at the section level.

c. *The standard states that rlV orients the text from top to bottom, then right to left, rotated.*

Word does not respect this value when used at the section level.

d. *The standard states that lrV orients the text from top to bottom, then left to right, rotated.*

Word does not respect this value when used at the section level.

2.1.559 Part 1 Section 17.18.94, ST_TextEffect (Animated Text Effects)

a. *The standard specifies colors for each of the enumeration values.*

Word will use different colors in order to show the effect if the page background and system color background are too similar.

2.1.560 Part 1 Section 17.18.95, ST_TextScale (Text Expansion/Compression Percentage)

a. *The standard states that the valid range for ST_TextScale is between 0 and 600.*

Word requires that the valid range be between 1 and 600.

2.1.561 Part 1 Section 17.18.101, ST_VerticalJc (Vertical Alignment Type)

a. *The standard says that both justification is not used if multiple sections are on a page, and does not specify behavior for other alignment values if multiple sections are on a page.*

If there are multiple sections on one page and they have different vertical alignment, then Word will ignore the vertical alignment specified and will use the default value of top.

2.1.562 Part 1 Section 17.18.102, ST_View (Document View Values)

a. *The standard states that the enumeration value normal renders the document in outline view.*

In Word, the enumeration value normal renders the document in a draft view.

2.1.563 Part 1 Section 17.18.104, ST_Wrap (Text Wrapping around Text Frame Type)

a. *The standard's description for the enumeration value none is the same as notBeside.*

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The behavior of the enumeration values none and notBeside are implemented distinctly by Word. Word implements none by not allowing text to wrap around the remaining space on each line around the text frame.

2.1.564 Part 1 Section 18.2.1, bookViews (Workbook Views)

a. *The standard states that the maxOccurs value for the workbookView child element is unbounded.*

Excel limits the occurrences of this element to 2147483647.

2.1.565 Part 1 Section 18.2.2, calcPr (Calculation Properties)

a. *The standard does not specify a default value for the forceFullCalc attribute.*

Excel uses a default value of false for this attribute.

b. *The standard specifies that iterateCount attribute iterations will always take place.*

Office will stop iteration if values change by less than the iterateDelta attribute value.

c. *The standard does not specify a default value for the calcId attribute.*

Excel uses a default value of 0 for this attribute.

2.1.566 Part 1 Section 18.2.3, customWorkbookView (Custom Workbook View)

a. *The standard states that the values of the windowWidth attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 2147483647.

b. *The standard states that the values of the mergeInterval attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be 0 or at least 5 and at most 1440.

c. *The standard states that the values of the tabRatio attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 1000.

d. *The standard states that the values of the activeSheetId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 65534.

e. *The standard states that setting the showStatusbar attribute equal to false or 0 will hide the status bar.*

Office does not hide the status bar when the showStatusbar attribute is set to false or 0.

f. *The standard states that the values of the guid attribute are defined by the ST_Guid simple type.*

Excel requires that the guid attribute value not be a null guid (00000000-0000-0000-0000-000000000000).

g. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at most 255 UTF-16 code units after escape sequences have been replaced with characters.

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h. *The standard states that the values of the windowHeight attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 2147483647.

i. *The standard states that the windowWidth attribute is required.*

Excel does not require this attribute.

j. *The standard states that the windowHeight attribute is required.*

Excel does not require this attribute.

2.1.567 Part 1 Section 18.2.4, customWorkbookViews (Custom Workbook Views)

a. *The standard states that the maxOccurs value for the customWorkbookView child element is unbounded.*

Excel limits the occurrences of this element to 2147483647.

2.1.568 Part 1 Section 18.2.5, definedName (Defined Name)

a. *The standard states that the contents of this element are an extension on the ST_Formula simple type.*

Excel requires the contents of this element to follow the grammar for a name formula, as defined in Name Formulas (§3.2.3.1.4, Name Formulas).

b. *The standard says that @customMenu is used.*

In Excel, @customMenu is reserved and unused.

c. *The standard says that @description is used.*

In Excel, @description is reserved and unused.

d. *The standard says that @help is used.*

In Excel, @help is reserved and unused.

e. *The standard says that @statusBar is used.*

In Excel, @statusBar is reserved and unused.

f. *The standard says that @shortcutKey is used.*

In Excel, @shortcutKey is reserved and unused.

g. *The standard says that @xlm is used.*

In Excel, @xlm is reserved and unused.

h. *The standard says that @vbProcedure is used.*

In Excel, @vbProcedure is reserved and unused.

i. *The standard says that @functionGroupId is used.*

In Excel, @functionGroupId is reserved and unused.

j. *The standard does not limit the length of the value of the comment attribute.*

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Excel restricts the value of this attribute to be at most 255 characters before escaping.

k. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

l. *The standard specifies localSheetID is the sheet index in this workbook where data from an external reference is displayed.*

Office uses this index for sheet-local names to specify the sheet on which the name is defined.

m. *The standard states that built-in names reserved by SpreadsheetML begin with _xlnm.*

Office assumes that all names that being with _xl are restricted.

n. *The standard does not state restrictions around uniqueness of definedName elements.*

If the attribute **@localSheetId** is used on a **definedName**, the defined name is local and its **@name** must be unique among the other defined names for the sheet ID. If the **@localSheetId** attribute is not used, the defined name must be unique among the other defined names that do not use the attribute.

o. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

p. *The standard says that @function is used.*

In Excel, @function is reserved and unused.

q. *The standard states that the values of the name attribute are defined by the ST_Xstring simple type.*

Excel requires the value of this attribute to meet the restrictions defined in Names ("[ISO/IEC-29500-1] §18.17.2.5").

r. *The standard states that the values of the localSheetId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32766.

2.1.569 Part 1 Section 18.2.6, definedNames (Defined Names)

a. *The standard states that the maxOccurs value for the definedName child element is unbounded.*

Excel limits the occurrences of this element to 2147483647.

2.1.570 Part 1 Section 18.2.7, ext (Extension)

a. *The standard implies that the minOccurs value for the any child element is 1.*

Excel allows zero occurrences of this element.

2.1.571 Part 1 Section 18.2.9, externalReferences (External References)

a. *The standard states that the maxOccurs value for the externalReference child element is unbounded.*

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Excel limits the occurrences of this element to 65534.

2.1.572 Part 1 Section 18.2.11, fileRecoveryPr (File Recovery Properties)

a. *The standard states that applications typically mark the autorecover attribute as true only after crash.*

Excel unmarks the autorecover attribute after crash.

2.1.573 Part 1 Section 18.2.12, fileSharing (File Sharing)

a. *The standard allows the userName attribute to be any length.*

Office requires that if present, the value of the userName attribute must be 1 to 54 characters long.

b. *The standard states that the userName and reservationPassword attributes are optional.*

Office requires that the userName attribute is present if the reservationPassword attribute exists.

c. *The standard states that this setting uses a specific reservationPassword attribute to store the password hash for unlocking revisions in the workbook.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

Name	Description
algorithmName	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system's cryptographic subsystem can be utilized by Office. The hash algorithm names, described in the following table, are reserved. ***MD2*** *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash*

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Name	Description
	values, because of publicly known breaks. end note] ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-1*** *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256*** *Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***WHIRLPOOL*** *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*
hash Value	Specifies the hash value for the password required to edit this worksheet. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match, the protection shall no longer be enforced. If this value is omitted, then the reservationPassword attribute shall contain the password hash for the workbook. [*Example* Consider an Office Open XML document with the following information stored in one of its protection elements: <… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

[Example:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

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The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

2.1.574 Part 1 Section 18.2.13, fileVersion (File Version)

a. *The standard states that the appName attribute is restricted to be an XML Schema string datatype.*

   Office requires that the appName attribute have a maximum length of 65535 characters.

b. *The standard states that the lastEdited attribute is restricted to be an XML Schema string datatype.*

   Office requires that the lastEdited attribute have a maximum length of 65535 characters.

c. *The standard states that te lowestEdited attribute is restricted to be an XML Schema string datatype.*

   Office requires that the lowestEdited attribute have a maximum length of 65535 characters.

d. *The standard states that the rupBuild attribute is restricted to an XML Schema string datatype.*

   Office requires that the rupBuild attribute have a maximum length of 65535 characters.

e. *The standard does not define any value restrictions on the lastEdited attribute.*

   In Office, if the appName attribute equals xl in the en-US locale, then the lastEdited attribute is the text representation of an unsigned integer in the en-US locale.

f. *The standard does not define any value restrictions on the lowestEdited attribute.*

   In Office, if the appName attribute equals xl in the en-US locale, then the lowestEdited attribute is the text representation of an unsigned integer in the en-US locale.

g. *The standard does not define any value restrictions on the rupBuild attribute.*

   In Office, if the appName attribute equals xl in the en-US locale, then the rupBuild attribute is the text representation of an unsigned integer in the en-US locale.

h. *The standard does not place any restrictions on the value for the lastEdited attribute.*

   In Office, when the appName attribute equals xl, the lastEdited attribute should be less than or equal to 32767.

i. *The standard does not place any restrictions on the value for the lowestEdited attribute.*

   In Office, when the appName attribute equals xl, the lowestEdited attribute should be less than or equal to 32767.

j. *The standard does not place any restrictions on the value for the rupBuild attribute.*

   In Office, when the appName attribute equals xl, the rupBuild attribute should be less than or equal to 32767.

2.1.575 Part 1 Section 18.2.14, functionGroup (Function Group)

a. *The standard implies that the name attribute is optional.*

   Excel requires this attribute.

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b. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at most 32 characters before escaping.

2.1.576 Part 1 Section 18.2.15, functionGroups (Function Groups)

a. *The standard does not limit the value of @builtInGroupCount.*

Office requires that the maximum value be 255.

b. *The standard states that the maxOccurs value for the sequence containing the child functionGroup element is unbounded.*

Excel limits the occurrences of the functionGroup element to 255.

c. *The standard states that the values of the builtInGroupCount attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the sum of the functionGroup elements plus the value of the builtInGroupCount attribute to be at most 255.

2.1.577 Part 1 Section 18.2.16, oleSize (Embedded Object Size)

a. *The standard states that the @ref is the reference for the embedded object.*

Office treats @ref as the cell range over which the embedded object is displayed.

2.1.578 Part 1 Section 18.2.19, sheet (Sheet Information)

a. *The standard does not place any restrictions on the value for the name attribute.*

Office requires that the name attribute be less than or equal to 31 characters in length and follow the character limitations for sheet-name and sheet-name-special in Formulas ("[ISO/IEC-29500-1] §18.17").

b. *The standard does not place any restrictions on the value for the sheetId attribute.*

Office requires that the sheetId attribute be between 1 and 65534 inclusive.

c. *The standard does not place any restrictions on the value for the id attribute.*

Office requires that the id attribute be 255 or less characters in length.

d. *The standard states that sheet names are unique.*

Office requires that sheet names are case-insensitive unique in any locale.

2.1.579 Part 1 Section 18.2.20, sheets (Sheets)

a. *The standard states that the maxOccurs value for the sheet child element is unbounded.*

Excel limits the occurrences of this element to 32767.

2.1.580 Part 1 Section 18.2.22, smartTagType (Smart Tag Type)

a. *The standard does not limit the length of the value of the namespaceUri attribute.*

Excel restricts the value of this attribute to be at most 2083 characters.

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b. *The standard does not limit the length of the value of the url attribute.*

Excel restricts the value of this attribute to be at most 2083 characters.

c. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

d. *The standard states that the name attribute is optional.*

Excel requires this attribute.

e. *The standard states that the namespaceUri attribute is optional.*

Excel requires this attribute.

2.1.581 Part 1 Section 18.2.23, smartTagTypes (Smart Tag Types)

a. *The standard states that the minOccurs value for the smartTagType child element is 0.*

Excel requires an occurrence of this element.

2.1.582 Part 1 Section 18.2.24, webPublishing (Web Publishing Properties)

a. *The standard states that characterSet is a valid attribute, and that when it is present, codePage should be ignored*

Office ignores the characterSet attribute if it is present, and does not ignore the codePage attribute if characterSet is present.

2.1.583 Part 1 Section 18.2.25, webPublishObject (Web Publishing Object)

a. *The standard does not limit the length of the value of the title attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

b. *The standard does not limit the length of the value of the destinationFile attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

c. *The standard does not limit the length of the value of the divId attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

d. *The standard does not limit the length of the value of the sourceObject attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

e. *The standard states that the values of the id attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 2147483647.

f. *The standard states that the values of the sourceObject attribute are defined by the ST_Xstring simple type.*

Excel requires the value of this attribute to meet the restrictions defined in Names ("[ISO/IEC-29500-1] §18.17.2.5").

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2.1.584 Part 1 Section 18.2.27, workbook (Workbook)

a. *The standard states that minOccurs for the bookViews element is zero.*

Excel will fail to print files without a bookViews element.

b. *The standard specifies that the conformance attribute is a valid attribute of the workbook element.*

Excel ignores the conformance attribute.

This note applies to the following products: Office 2010, Office 2010 Server, Office 2010 SP1.

2.1.585 Part 1 Section 18.2.28, workbookPr (Workbook Properties)

a. *The standard states that allowRefreshQuery is a valid attribute on this element.*

Excel does not support this attribute on this element.

b. *The standard does not specify a default value for the defaultThemeVersion attribute.*

Excel uses a default value of 0, which indicates that no default theme applies in the workbook, for this attribute.

c. *The standard describes the codeName attribute as specifying the codename of the application that created the workbook.*

Office uses the codeName attribute to specify the name of the Workbook object as to be used in a scripting application.

d. *The standard states that the values of the codeName attribute are defined by the XML Schema string datatype.*

Excel requires this attribute to be at most 31 characters, with the following pattern restriction: [\p{L}\P{IsBasicLatin}][_\d\p{L}\P{IsBasicLatin}]*.

e. *The standard specifies a value of 1 or true for @hidePivotFieldList indicates the field list is shown.*

Office treats that a value of 1 or true to indicate the field list is hidden, and a value of 0 or false otherwise.

f. *The standard does not specify the meaning of possible values for the attribute refreshAllConnections.*

Office treats a value of 1 or true for @refreshAllConnections to indicate all connections shall be refreshed, and 0 or false otherwise.

g. *The standard states that the dateCompatibility attribute determines whether the date base should be treated as a compatibility date base or should support the full date range of* [ISO-8601]*.*

Office ignores the dateCompatibility attribute, and always uses a compatibility date base.

This note applies to the following products: Office 2010, Office 2010 Server, Office 2010 SP1.

h. *The standard states that the filterPrivacy attribute is used to warn the user when PII is added to a document.*

In Office, the filterPrivacy attribute is used to determine if PII is removed or not removed from the workbook when it is saved.

i. *The standard implies that the implementing application should draw a border around unselected tables if @showBorderUnselectedTables is set to true.*

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Office does not draw the border around tables regardless of the value of showBorderUnselectedTables.

j. *The standard states that the dateCompatibility attribute determines whether the date base should be treated as a compatibility date base or should support the full date range of* [ISO-8601]*.*

Office ignores the dateCompatibility attribute. If workbook@conformance equals "strict", the 1900 date system is used. Otherwise the 1900 compatibility date system is used. Excel does not support negative serial numbers.

This note applies to the following products: Office 2013 Client (Strict), Office 2013 Server (Strict), Office 2013 Client (Transitional), Office 2013 Server (Transitional).

2.1.586 Part 1 Section 18.2.29, workbookProtection (Workbook Protection)

a. *The standard specifies @lockWindows indicates whether the windows that comprise the workbook are locked.*

In Office if all sheets have a sheetView element with the attribute windowProtection set to false, then @lockWindows will also be saved as false.

b. *The standard specifies @lockRevision indicates whether the workbook is locked for revisions.*

Office uses @lockRevision to specify whether the change history in a shared workbook cannot be removed.

c. *The standard specifies @workbookPassword as the hash of the password required for unlocking revisions in this workbook.*

Office uses @workbookPassword as the hash of the password required for unlocking the structure of the workbook and/or the windows in this workbook.

d. *The standard states that this setting uses a specific revisionsPassword attribute to store the password hash for unlocking revisions in the workbook.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

Name	Description
algorithm Name	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system’s cryptographic subsystem can be utilized by Office. The hash algorithm names, described in the following table, are reserved. ***MD2*** *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash*

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Name	Description
	values, because of publicly known breaks. end note] ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-1*** *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256*** *Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***WHIRLPOOL*** *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*
hash Value	Specifies the hash value for the password required to edit this worksheet. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match, the protection shall no longer be enforced. If this value is omitted, then the reservationPassword attribute shall contain the password hash for the workbook. [*Example*: Consider an Office Open XML document with the following information stored in one of its protection elements: <… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

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[Example:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

e. *The standard states that this setting uses a specific workbookPassword attribute to store the password hash for unlocking revisions in the workbook.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

Name	Description
algorithmName	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system's cryptographic subsystem can be utilized by Office. The hash algorithm names, described in the following table, are reserved. ***MD2*** *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-1*** *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256***

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Name	Description
	Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used. ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***WHIRLPOOL*** *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*
hash Value	Specifies the hash value for the password required to edit this worksheet. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match, the protection shall no longer be enforced. If this value is omitted, then the reservationPassword attribute shall contain the password hash for the workbook. [*Example*: Consider an Office Open XML document with the following information stored in one of its protection elements: <… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

[Example:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

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2.1.587 Part 1 Section 18.2.30, workbookView (Workbook View)

a. *The standard does not place any restrictions on the length of the value for @windowHeight and @windowWidth.*

Office requires that the value of @windowHeight and @windowWidth be less than or equal to 2147483647.

b. *The standard does not place any restrictions on the value for @tabRatio.*

Office requires that @tabRatio be less than or equal to 1000.

c. *The standard does not place any restrictions on the value for @activeTab.*

Office requires that @activeTab be between 0 and 32766 inclusive.

d. *The standard does not restrict the value of the firstSheet attribute.*

Office limits the value of the firstSheet attribute to 0 through 32766 inclusive or to 4294967286.

2.1.588 Part 1 Section 18.3.1.1, anchor (Object Cell Anchor)

a. *The standard states that any combination of sizeWithCells and moveWithCells is allowed.*

Office does not implement the combination sizeWithCells with a value of true and moveWithCells with a value of false.

b. *The standard specifies that the z-order attribute is a valid attribute of the anchor element.*

Excel ignores the z-order attribute.

2.1.589 Part 1 Section 18.3.1.3, brk (Break)

a. *The standard states that the values of the min attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 1048576; it should never exceed the number of rows or columns in the spreadsheetML instance.

b. *The standard states that Page Breaks can have a start and end point defined by using the min and max attributes.*

Office ignores the min and max attribute values and places a page break across the entire range.

c. *The standard states that the values of the id attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 1048576.

d. *The standard states that the values of the max attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 1048576.

e. *The standard states that the default value of the id attribute is 0.*

Excel does not use a default value for this attribute.

f. *The standard states that the default value of the max attribute is 0.*

Excel does not use a default value for this attribute.

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2.1.590 Part 1 Section 18.3.1.4, c (Cell)

a. *The standard states that @cm is zero-based index and does not specify the collection.*

Office specifies that @cm is a one-based index into the cellMetadata collection in the metadata part.

b. *The standard states that @vm is a zero-based index and does not specify the collection.*

Office specifies that @vm is a one-based index into cellMetadata collection in the metadata part.

c. *The standard makes @r optional in the schema, but the prose does not explain the meaning of the default behavior.*

If this attribute is not specified, the cell shall be located in the column with the index that is 1 greater than that of the previous cell in the parent **row** collection. If this attribute is not specified and the cell is the first **c** element in the parent **row** collection, the cell shall be located in the first column.

d. *The standard states that the values of the cm attributes are defined by the XML Schema unsignedInt datatype.*

Office requires that the cm attribute be less than 2147483648.

e. *The standard specifies that @vm is an unsignedInt.*

Office specifies that @vm is an unsignedInt and is less than 2147483648.

f. *The standard specifies that @s is unsignedInt.*

Office specifies @s is an unsignedInt between 0 and 65490.

g. *The standard does not specify which collection @s indexes.*

Office specifies that @s indexes into the cellXfs collection in the style part.

h. *The standard incorrectly describes the style index in the example as "6", which conflicts with the XML fragment.*

In Excel, the style index in the example should read "1" which matches the XML fragment.

2.1.591 Part 1 Section 18.3.1.5, cellSmartTag (Cell Smart Tag)

a. *The standard states that the values for the type attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the value be between 0 and 32768 inclusive.

b. *The standard indicates that there can be more than one cellSmartTag for a cell.*

Office assumes that each cellSmartTag must have its corresponding type present in the smartTagType element in the smartTagTypes collection of the workbook.

2.1.592 Part 1 Section 18.3.1.6, cellSmartTagPr (Smart Tag Properties)

a. *The standard does not place any restrictions on the length of the value for the key attribute.*

Office requires that the key attribute be less than or equal to 255 characters in length.

b. *The standard does not place any restrictions on the length of the value for the val attribute.*

Office requires that the val attribute be less than or equal to 255 characters in length.

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2.1.593 Part 1 Section 18.3.1.7, cellSmartTags (Cell Smart Tags)

a. *The standard does not limit the number of cellSmartTag elements that can exist within the parent element.*

Office allows only a single cellSmartTag element to exist within the parent.

2.1.594 Part 1 Section 18.3.1.8, cellWatch (Cell Watch Item)

a. *The standard includes the @r defined without any restrictions within the parent element collection.*

Office requires that @r shall be unique within parent element collection.

2.1.595 Part 1 Section 18.3.1.10, cfRule (Conditional Formatting Rule)

a. *The standard implies that the type attribute is optional.*

Excel requires this attribute.

b. *The standard specifies the operator attribute as optional.*

Office requires the operator attribute to be specified if and only if type attribute value equals cells.

c. *The standard specifies timePeriod attribute as optional.*

Office requires timePeriod attribute to be specified if and only if type attribute value equals timePeriod.

d. *The standard does not specify a default value for the rank attribute.*

Excel uses a default value of 0 for this attribute.

e. *The standard states that the formula ("*[ISO/IEC-29500-1] *§18.3.1.43; formula") child element is optional.*

Excel requires the formula child element unless the type attribute is “colorScale”, “dataBar”, or “iconSet”.

2.1.596 Part 1 Section 18.3.1.11, cfvo (Conditional Format Value Object)

a. *The standard describes @val as type ST_Xstring.*

Office assumes that @val is restricted by valid Conditional Format Formulas as defined in Formulas ("[ISO/IEC-29500-1] §18.17").

b. *The standard does not state any restrictions on the value of the type attribute.*

In Office, if the parent element is iconSet, the type attribute cannot have values of min or max.

2.1.597 Part 1 Section 18.3.1.12, chartsheet (Chart Sheet)

a. *The standard specifies that the drawingHF element is a valid child element of the chartsheet element.*

Excel ignores the drawingHF element.

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2.1.598 Part 1 Section 18.3.1.13, col (Column Width & Formatting)

a. *The standard describes the min attribute of without any restrictions on its minimum or maximum values.*

Office requires the min attribute to be between 1 and 16384 inclusive.

b. *The standard defines the values of the max attribute without any restrictions on its length other than what is called for in xs:unsignedInt.*

Office requires the max attribute to be between values 1 and 16384 inclusive.

c. *The standard defines the width attribute without any restrictions on the length.*

Office requires the width attribute be between 0 and 255 inclusive.

d. *The standard states that the values of the style attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the style attribute be between 0 and 65429 inclusive.

e. *The standard defines the outlineLevel attribute without specifying its maximum value.*

Office specifies the outlineLevel attributes maximum value is 7.

f. *The standard defines the width attribute as the number of characters times the maximum digit width of the numbers 0, 1, …, 9 as rendered in the normal style's font, plus 2 pixels of margin padding on each side, plus 1 pixel padding for the gridlines.*

Office specifies the formula as width = Truncate((((((NoC * MDW + PP)) + ((NoC * MDW + PP) MOD 8)) - PP) / MDW) * 256) / 256.

2.1.599 Part 1 Section 18.3.1.14, colBreaks (Vertical Page Breaks)

For additional notes that apply to this portion of the standard, please see the notes for rowBreaks, §18.3.1.74(a, b)*.*

a. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the count attribute be an unsignedInt less than or equal to 1023.

b. *The standard states that the values of the manualBreakCount attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the manualBreakCount attribute is an unsignedInt less than or equal to 1023.

2.1.600 Part 1 Section 18.3.1.15, color (Data Bar Color)

For additional notes that apply to this portion of the standard, please see the notes for tabColor, §18.3.1.93(a-c)*;* bgColor, §18.8.3(a)*.*

a. *The standard specifies use with only data bar and color scale.*

In Office, the color element used in various formatting elements as defined in parent sub-clause list.

b. *The standard states that the values of the indexed attribute are defined by the XML Schema unsignedInt datatype.*

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Excel restricts the value of this attribute to be at most 255.

c. *The standard states that the values of the tint attribute are defined by the XML Schema double datatype.*

Excel restricts the value of this attribute to be at least -1 and at most 1.

d. *The standard states that the values of the theme attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute, a zero-based index, to be at most 255.

2.1.601 Part 1 Section 18.3.1.16, colorScale (Color Scale)

a. *The standard states that the maxOccurs value for the cfvo child element is unbounded.*

Excel limits the occurrences of this element to 3.

b. *The standard states that the maxOccurs value for the color child element is unbounded.*

Excel limits the occurrences of this element to 3.

c. *The standard places no restrictions on the relationship between the count of cfvo child elements and the count of color child elements.*

Excel requires these two counts to be the same.

2.1.602 Part 1 Section 18.3.1.18, conditionalFormatting (Conditional Formatting)

a. *The standard states that the possible values for @sqref are defined by ST_Sqref simple type.*

Office requires that the value of @sqref have a length of at least 1 (be non-empty).

2.1.603 Part 1 Section 18.3.1.19, control (Embedded Control)

a. *The standard does not specify the ObjectType or restriction of valid values for @shapeId.*

Office requires the ObjectType of the drawing shape to be Picture and the value to be between 1 and 67098623 inclusive.

b. *The standard does not specify restrictions for the name attribute.*

In Excel, the string shall be unique and have a maximum of 32 characters.

2.1.604 Part 1 Section 18.3.1.20, controlPr (Embedded Control Properties)

a. *The standard specifies the recalcAlways attribute.*

Office does not read or write the recalcAlways attribute and ignores this attribute if present.

b. *The cf attribute in the controlPr element is round tripped.*

Office does not round trip the cf attribute in the controlPr element.

c. *The standard specifies that all of the attributes under the controlPr element are valid.*

Excel ignores the attributes autoFill, autoLine, autoPict, cf, defaultSize, disabled, macro, recalcAlways and uiObject, and does not round trip cf and recalcAlways when controlPr is associated with an ActiveX(R) control.

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d. *The standard specifies that all of the attributes under the controlPr element are valid.*

Excel ignores autoFill, autoLine, autoPict, cf, defaultSize, disabled, id, linkedCell, listFillRange, recalcAlways and uiObject, and does not round trip autoPict, cf, id, linkedCell, listFillRange and recalcAlways when associated with a form control.

2.1.605 Part 1 Section 18.3.1.21, controls (Embedded Controls)

a. *The standard states that the maxOccurs value for the control child element is unbounded.*

Excel limits the occurrences of this element to 65535.

2.1.606 Part 1 Section 18.3.1.22, customPr (Custom Property)

a. *The standard specifies no restriction on the uniqueness of the name attribute.*

In Office, the name attribute must be case-insensitive and unique.

2.1.607 Part 1 Section 18.3.1.24, customSheetView (Custom Chart Sheet View)

a. *The standard states that the attribute scale defines the print scale.*

Office uses the scale attribute to define the zoom level.

2.1.608 Part 1 Section 18.3.1.25, customSheetView (Custom Sheet View)

a. *The standard says scale attribute defines the print scale.*

Office uses the scale attribute to define the zoom level.

b. *The standard states that the values of the colorId attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the colorId attribute value to an unsignedInt less than or equal to 64.

c. *The standard specifies @scale ranges from 10 to 400.*

Excel also allow for a value of zero, which is interpreted as the automatic setting.

d. *The standard specifies that colorId attribute defines the color value for text in row or column headings and gridlines the custom view.*

Office uses colorId attribute to define the color value for gridlines in the custom view.

e. *The standard specifies that possible values for the guid attribute are defined by ST_Guid simple type.*

Office requires the guid attribute to be a non-null guid (a null guid is defined as 00000000-0000-0000-0000-000000000000).

2.1.609 Part 1 Section 18.3.1.26, customSheetViews (Custom Chart Sheet Views)

a. *The standard states that the maxOccurs value for the customSheetView child element is unbounded.*

Excel limits the occurrences of this element to 2147483647.

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2.1.610 Part 1 Section 18.3.1.27, customSheetViews (Custom Sheet Views)

a. *The standard states that the maxOccurs value for the customSheetView child element is unbounded.*

Excel limits the occurrences of this element to 2147483647.

2.1.611 Part 1 Section 18.3.1.28, dataBar (Data Bar)

a. *The standard states that the values of the maxLength attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 100.

b. *The standard states that the values of the minLength attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 100.

2.1.612 Part 1 Section 18.3.1.29, dataConsolidate (Data Consolidate)

a. *The standard states that startLabels is an attribute*

Excel uses leftLabels instead of startLabels

2.1.613 Part 1 Section 18.3.1.32, dataValidation (Data Validation)

a. *The standard does not limit the length of the value of the prompt attribute.*

Excel restricts the value of this attribute to be at most 255 characters, after decoding.

b. *The standard states that the possible values for @sqref are defined by ST_Sqref simple type.*

Office limits the number of references in @sqref to be between 1 and 32767 inclusive.

c. *The standard does not restrict the value of the error attribute.*

Office restricts the length of the value of the error attribute to 224 characters.

d. *The standard does not limit the length of the value of the errorTitle attribute.*

Office limits the length of the value of the errorTitle attribute to 32 characters.

e. *The standard states that there is no limit on length of the promptTitle attribute value.*

Office limits the length of the promptTitle attribute value to 32 characters.

2.1.614 Part 1 Section 18.3.1.33, dataValidations (Data Validations)

a. *The standard states that the values of the xWindow attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 65535.

b. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 65534.

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c. *The standard states that the values of the yWindow attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 65535.

d. *The standard does not specify a default value for the xWindow attribute.*

Excel uses a default value of 0 for this attribute.

e. *The standard does not specify a default value for the yWindow attribute.*

Excel uses a default value of 0 for this attribute.

f. *The standard does not specify a default value for the count attribute.*

Excel uses a default value of 0 for this attribute.

g. *The standard states that the maxOccurs value for the dataValidation child element is unbounded.*

Excel limits the occurrences of this element to 65534.

2.1.615 Part 1 Section 18.3.1.34, dialogsheet (Dialog Sheet)

a. *The standard states that the drawing element is specified in CT_Dialogsheet.*

Office never saves the drawing element.

b. *The standard states that the minOccurs value for the legacyDrawing child element is 0.*

Excel requires an occurrence of this element.

c. *The standard specifies that the drawingHF element is a valid child element of the dialogsheet element.*

Excel ignores the drawingHF element.

2.1.616 Part 1 Section 18.3.1.36, drawing (Drawing)

For additional notes that apply to this portion of the standard, please see the notes for dialogsheet, §18.3.1.34(a)*.*

2.1.617 Part 1 Section 18.3.1.37, drawingHF (Drawing Reference in Header Footer)

a. *The standard specifies the drawingHF element.*

Excel will ignore the drawingHF element.

2.1.618 Part 1 Section 18.3.1.38, evenFooter (Even Page Footer)

a. *The standard states that if no evenFooter is specified, then the oddFooter is used.*

In Office, oddFooter is used only when headerFooter@differentOddEven equals false.

b. *The standard does not limit the length of the value of this element.*

Excel restricts the value of this element to be at most 255 characters.

c. *The standard makes no mention of an xml:space attribute.*

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Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.619 Part 1 Section 18.3.1.39, evenHeader (Even Page Header)

a. *The standard states that if no evenHeader is specified, then the oddHeader is used.*

In Office, oddHeader is used only when headerFooter@differentOddEven equals false.

b. *The standard does not specify formatting codes in ABNF format.*

Office uses the following ABNF formatting codes to describe header and footer formatting:

headerfooter = *(left / pagenum / pagetotal / fontsize / strikethrough / superscript / subscript / center / date / time / filepath / picture / underline / doubleunderline / right / bookpath / sheetname / fontname / fonttype / font / bold / italic / ampersand / emptytoken / UNICHAR)

UNICHAR = %x0020-FFFF

This code specifies Unicode characters, starting with the space character (%x0020).

DIGIT = %x0030-0039

This code specifies a digit between 0 and 9.

HEXALPHA = %x0041-0046 / %x0061-0066

This code specifies a character between A and F or between a and f.

DQUOTE = %x0022

This code specifies a double quotation mark.

left = "&L"

This code specifies the beginning of the left section. There are three header and footer sections: left, center, and right. When two or more of this section marker exist, the contents from All markers are concatenated, in the order of appearance, and placed into the left section.

pagenum = "&P"

This code specifies the current page number.

pagetotal = "&N" 0*1(("-" / "+") *DIGIT)

This code specifies the total number of pages.

fontsize = "&" 1*3DIGIT

This code specifies the text font size, where font size is measured in points.

strikethrough = "&S"

This code specifies whether the strikethrough text style is on or off. The first occurrence of this code must turn the strikethrough text style on, and the second occurrence must turn it off.

superscript = "&X"

This code specifies whether the superscript text style is on or off. The first occurrence of this code must turn the superscript text style on, and the second occurrence must turn it off. The superscript

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and subscript codes must not both be on at same time. If both codes occur in the string, the code that occurs first is applied and the other is ignored.

subscript = "&Y"

This code specifies whether the subscript text style is on or off. The first occurrence of this code must turn the subscript text style on, and the second occurrence must turn it off. The superscript and subscript codes must not both be on at same time. If both codes occur in the string, the code that occurs first is applied and the other is ignored.

center = "&C"

This code specifies the beginning of the center section. When two or more of this section marker exist, the contents from All markers are concatenated, in the order of appearance, and placed into the center section.

date = "&D"

This code specifies a date.

time = "&T"

This code specifies a time.

picture = "&G"

This code specifies a picture.

underline = "&U"

This code specifies whether the single underline text style is on or off. The first occurrence of this code must turn the underline text style on, and the second occurrence must turn it off.

doubleunderline = "&E"

This code specifies whether the double underline text style is on or off. The first occurrence of this code must turn the double underline text style on, and the second occurrence must turn it off.

right = "&R"

This code specifies the beginning of the right section. When two or more of this section marker exist, the contents from All markers are concatenated, in the order of appearance, and placed into the right section.

bookpath = "&Z"

This code specifies a workbook file path.

bookname = "&F"

This code specifies a workbook file name.

sheetname = "&A"

This code specifies a worksheet name.

fontname = (1*UNICHAR / "-")

This code specifies the text font name. When the font name is a hyphen, no font is specified. This can be a localized string.

fonttype = ("italic" / "bold" / "regular" / "italic bold" / "bold italic")

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This code specifies the text font type. This can be a localized string.

font = "&" DQUOTE fontname , fonttype DQUOTE

This code specifies the text font.

bold = "&B"

This code specifies whether the bold text style is on or off. The first occurrence of this code must turn the bold text style on, and the second occurrence must turn it off.

italic = "&I"

This code specifies whether the italic text style is on or off. The first occurrence of this code must turn the italic text style on, and the second occurrence must turn it off.

ampersand = "&&"

This code specifies an ampersand character.

emptytoken = "&" *1UNICHAR

This code specifies an unidentified token. If only "&" appears, or if there is a UNICHAR specified after "&" and it is not one of the UNICHAR characters listed in the preceding rules, then the token is interpreted as empty and nothing is rendered in the header or footer text.

c. *The standard does not limit the length of the value of this element.*

   Excel restricts the value of this element to be at most 255 characters.

d. *The standard makes no mention of an xml:space attribute.*

   Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.620 Part 1 Section 18.3.1.40, f (Formula)

a. *The standard specifies that any cell in a worksheet may be the input cell for a data table.*

   Office requires that the input cell not belong to the cell range in the ref attribute, the master row or the master column - unless the cell is deleted as specified in attribute del1.

b. *The standard specifies a bx attribute value of true causes this formula to assign a value to a name.*

   Office requires the bx attribute to be always set to false.

c. *The standard specifies that attribute del2 applies to data table formulas only.*

   Office uses attribute del2 for two-dimensional data table formulas only.

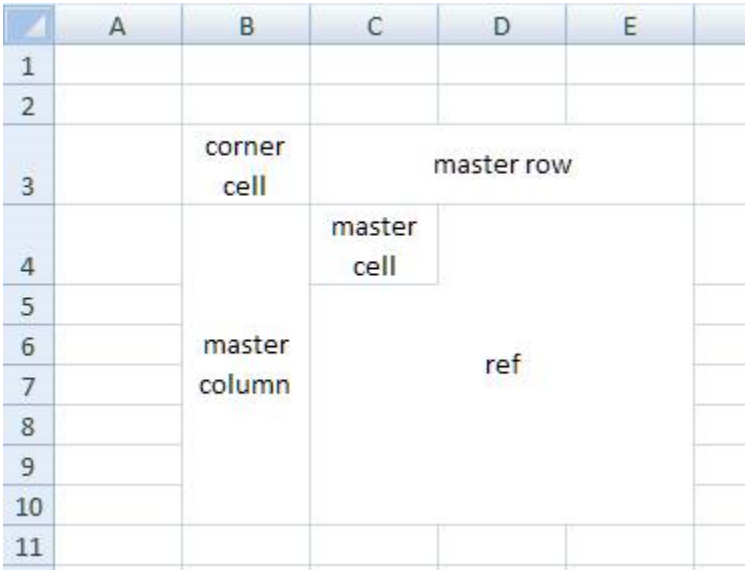
d. *The standard specifies that the top-left cell in the data table is the master cell.*

The cell with the smallest row and column in the **ref** attribute is called the master cell. The single column reference with the column one less than the smallest column in the **ref** attribute and spanning the same rows as the cell range in the **ref** attribute is called the master column. The single row reference with the row one less than the smallest row in the **ref** attribute and spanning the same columns as the cell range in the **ref** attribute is called the master row. The cell with the column and row one less than the master cell is called, the corner cell.

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[Example:

The example shows the master cell, row and column, and the corner cell for the data table specified by the **ref** attribute equal to *"C4:E10"*:



end example]

e. *The standard specifies that if the aca attribute equals true, then that formula is an array formula.*

Office uses the t attribute value array to indicate an array formula. The aca attribute is ignored if the formula is not an array formula.

f. *The standard specifies that any cells in a worksheet may be the input cells for a two-dimensional data table.*

Office requires that the input cells not belong to the cell range in the ref attribute, the master row, the master column or the corner cell unless the corresponding cells are deleted as specified in attributes del1 and del2.

g. *The standard specifies that data tables are recalculated whenever a worksheet is recalculated.*

Office recalculates data tables as specified by calcPr@calcMode.

h. *The standard states that the si attribute is optional.*

Office requires the si attribute to exist when the t attribute equals shared and is ignored otherwise.

i. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.621 Part 1 Section 18.3.1.41, firstFooter (First Page Footer)

a. *The standard does not limit the length of the value of this element.*

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Excel restricts the value of this element to be at most 255 characters after escaped sequences are replaced with characters.

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.622 Part 1 Section 18.3.1.42, firstHeader (First Page Header)

a. *The standard does not place any restrictions on the length of the value for this element.*

Office requires that the length of the value for this element be less than or equal to 255.

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.623 Part 1 Section 18.3.1.43, formula (Formula)

a. *The standard states that the content of this element is a formula whose calculated value specifies the criteria for the conditional formatting rule.*

If the parent element for formula is rdn ("[ISO/IEC-29500-1] §18.11.1.13; rdn"), then the formula element represents a formula for a defined name and is defined by the grammar in Name Formulas (§3.2.3.1.4, Name Formulas).

If the parent element for formula is cfRule ("[ISO/IEC-29500-1] §18.3.1.10; cfRule"), then the formula element represents a formula for a conditional formatting rule, and is defined by the grammar in Conditional Formatting Formulas (§3.2.3.1.2, Conditional Formatting Formulas).

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.624 Part 1 Section 18.3.1.44, formula1 (Formula 1)

a. *The standard states that the contents of this element are an extension on the ST_Formula simple type.*

Excel requires the contents of this element for a data validation formula, as defined in Data Validation Formulas (§3.2.3.1.3, Data Validation Formulas).

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.625 Part 1 Section 18.3.1.45, formula2 (Formula 2)

a. *The standard states that the contents of this element are an extension on the ST_Formula simple type.*

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Excel requires the contents of this element to follow the grammar for a data validation formula, as defined in Data Validation Formulas (§3.2.3.1.3, Data Validation Formulas).

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.626 Part 1 Section 18.3.1.47, hyperlink (Hyperlink)

a. *The standard does not place any restrictions on the length of the value for the location attribute.*

Office requires that length of the location attribute be between 0 and 2084 inclusive.

b. *The standard does not place any restrictions on the length of the value for the display attribute.*

Office requires that the length of the display attribute be between 0 and 2084 inclusive.

c. *The standard does not place any restrictions on the length of the value for the tooltip attribute.*

Office requires that the tooltip attribute be less than or equal to 255 characters in length.

2.1.627 Part 1 Section 18.3.1.50, ignoredError (Ignored Error)

a. *The standard does not specify the maximum item number of the sqref attribute.*

Office defines the maximum item number of the sqref attribute as 2147483647.

2.1.628 Part 1 Section 18.3.1.51, ignoredErrors (Ignored Errors)

a. *The standard states that the maxOccurs value for the ignoredError child element is unbounded.*

Excel limits the occurrences of this element to 9.

2.1.629 Part 1 Section 18.3.1.52, inputCells (Input Cells)

For additional notes that apply to this portion of the standard, please see the notes for scenario, §18.3.1.75(c, d).

a. *The standard does not limit the length of the value of the val attribute.*

Excel restricts the value of this attribute to be at most 255 characters, after decoding.

b. *The standard does not specify a default value for the numFmtId attribute.*

Excel uses a default value of 0 for this attribute.

c. *The standard states that @deleted prevents the inputCell from being a part of a scenario when run.*

Office includes inputCells that have @deleted="true" when running a scenario.

d. *The standard states a usage for the @numFmtId field.*

In Office @numFmtId is the number formatting used to display the input values for the scenario when it was created.

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2.1.630 Part 1 Section 18.3.1.53, is (Rich Text Inline)

a. *The standard states that the maxOccurs value for the r child element is unbounded.*

Excel limits the occurrences of this element to 32767.

b. *The standard states that the maxOccurs value for the rPh child element is unbounded.*

Excel limits the occurrences of this element to 32767.

2.1.631 Part 1 Section 18.3.1.55, mergeCells (Merge Cells)

a. *The standard states that the maxOccurs value for the mergeCell child element is unbounded.*

Excel limits the occurrences of this element to 4294967294.

2.1.632 Part 1 Section 18.3.1.56, objectPr (Embedded Object Properties)

a. *The standard specifies that setting the disabled attribute to true disables the running of the specified macro.*

Office allows the specified macro to run regardless of the value assigned to disabled.

2.1.633 Part 1 Section 18.3.1.57, oddFooter (Odd Page Footer)

a. *The standard does not limit the length of the value of this element.*

Excel restricts the value of this element to be at most 255 characters.

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.634 Part 1 Section 18.3.1.58, oddHeader (Odd Header)

a. *The standard does not limit the length of the value of this element.*

Excel restricts the value of this element to be at most 255 characters.

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.635 Part 1 Section 18.3.1.59, oleObject (Embedded Object)

a. *The standard allows any string for progId attribute.*

Office requires that the value of @progId be less than 39 characters in length and shall not start with a digit, contain any punctuation (including underscores) other than periods.

b. *The standard allows any Xstring for link attribute.*

Office requires that the value of @link be a formula as defined in "[ISO/IEC-29500-1] §18.17". The length of the decoded string shall not exceed 8192 characters.

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c. *The standard does not specify any restriction of valid values for the attribute shapeId.*

Office requires @min to be between 1 and 67098623 inclusive.

d. *The standard does not call out a type of the shape specified by the shapeId attribute.*

In Office, only Picture shapes are valid ObjectTypes for the shapeID attribute.

e. *The standard makes no mention of an ObjectID attribute.*

Office uses the ObjectID attribute to specify a unique ID identifying the embedded object, with a value data type of ST_String ("[ISO/IEC-29500-1] §22.9.2.13").

f. *The standard uses the dvAspect attribute.*

Office implements the dvAspect attribute using the name DrawAspect. The values for this attribute are defined by the ST_OLEDrawAspect ("[ISO/IEC-29500-4] §19.2.3.18").

g. *The standard makes no mention of a Type attribute.*

Office uses this attribute to define how the embedded OLE object is included in the package or stored externally from the package. The attribute data type is ST_OLEType ("[ISO/IEC-29500-4] §19.2.3.20").

2.1.636 Part 1 Section 18.3.1.60, oleObjects (Embedded Objects)

a. *The standard states that the maxOccurs value for the oleObject child element is unbounded.*

Excel limits the occurrences of this element to 65535.

2.1.637 Part 1 Section 18.3.1.62, pageMargins (Page Margins)

a. *The standard states that the values of the left attribute are defined by the XML Schema double datatype.*

In Office, the left attribute is limited to between 0 inclusive and 49 exclusive.

b. *The standard states that the values of the right attribute are defined by the XML Schema double datatype.*

In Office, the right attribute is limited to between 0 inclusive and 49 exclusive.

c. *The standard states that the values of the top attribute are defined by the XML Schema double datatype.*

In Office, the top attribute is limited to between 0 inclusive and 49 exclusive.

d. *The standard states that the values of the bottom attribute are defined by the XML Schema double datatype.*

In Office, the bottom attribute is limited to between 0 inclusive and 49 exclusive.

e. *The standard states that values of the header attribute are defined by the XML Schema double datatype.*

In Office, the header attribute is limited to between 0 inclusive and 49 exclusive.

f. *The standard states that values of the footer attribute are defined by the XML Schema double datatype.*

In Office, the footer attribute is limited to between 0 inclusive and 49 exclusive.

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2.1.638 Part 1 Section 18.3.1.63, pageSetup (Page Setup Settings)

For additional notes that apply to this portion of the standard, please see the notes for pageSetup, §21.2.2.134(b).

a. *The standard specifies that the scale attribute ranges from 10 to 400.*

Excel also allow for a value of zero, which is interpreted as the automatic setting.

b. *The standard states that the values of the horizontalDpi attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1.

c. *The standard states that the values of the verticalDpi attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1.

d. *The standard states that the values of the copies attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 32767.

e. *The standard states that the values of the firstPageNumber attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32767 for the positive first page range and at least 4294967295 (-1) and at most 4294934531 (-32767) for the negative first page range.

f. *The standard states that the values of the fitToWidth attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32767.

g. *The standard states that the values of the fitToHeight attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32767.

h. *The standard provides a list of paper sizes supported by the paperSize attribute.*

The paperSize attribute specifies the paper size according to the following table. Values larger than or equal to 256 specify custom printer paper sizes. The default value may vary by locale and default printer. Values between 118 and 256 are reserved for future use.

Value	Meaning
1	US Letter 8 1/2 x 11 in
2	US Letter Small 8 1/2 x 11 in
3	US Tabloid 11 x 17 in
4	US Ledger 17 x 11 in
5	US Legal 8 1/2 x 14 in
6	US Statement 5 1/2 x 8 1/2 in
7	US Executive 7 1/4 x 10 1/2 in

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Value	Meaning
8	A3 297 x 420 mm
9	A4 210 x 297 mm
10	A4 Small 210 x 297 mm
11	A5 148 x 210 mm
12	B4 (JIS) 250 x 354
13	B5 (JIS) 182 x 257 mm
14	Folio 8 1/2 x 13 in
15	Quarto 215 x 275 mm
16	10 x 14 in
17	11 x 17 in
18	US Note 8 1/2 x 11 in
19	US Envelope #9 3 7/8 x 8 7/8
20	US Envelope #10 4 1/8 x 9 1/2
21	US Envelope #11 4 1/2 x 10 3/8
22	US Envelope #12 4 \276 x 11
23	US Envelope #14 5 x 11 1/2
24	C size sheet
25	D size sheet
26	E size sheet
27	Envelope DL 110 x 220mm
28	Envelope C5 162 x 229 mm
29	Envelope C3 324 x 458 mm
30	Envelope C4 229 x 324 mm
31	Envelope C6 114 x 162 mm
32	Envelope C65 114 x 229 mm
33	Envelope B4 250 x 353 mm
34	Envelope B5 176 x 250 mm
35	Envelope B6 176 x 125 mm
36	Envelope 110 x 230 mm
37	US Envelope Monarch 3.875 x 7.5 in
38	6 3/4 US Envelope 3 5/8 x 6 1/2 in
39	US Std Fanfold 14 7/8 x 11 in

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Value	Meaning
40	German Std Fanfold 8 1/2 x 12 in
41	German Legal Fanfold 8 1/2 x 13 in
42	B4 (ISO) 250 x 353 mm
43	Japanese Postcard 100 x 148 mm
44	9 x 11 in
45	10 x 11 in
46	15 x 11 in
47	Envelope Invite 220 x 220 mm
48	RESERVED--DO NOT USE
49	RESERVED--DO NOT USE
50	US Letter Extra 9 \275 x 12 in
51	US Legal Extra 9 \275 x 15 in
52	US Tabloid Extra 11.69 x 18 in
53	A4 Extra 9.27 x 12.69 in
54	Letter Transverse 8 \275 x 11 in
55	A4 Transverse 210 x 297 mm
56	Letter Extra Transverse 9\275 x 12 in
57	SuperA/SuperA/A4 227 x 356 mm
58	SuperB/SuperB/A3 305 x 487 mm
59	US Letter Plus 8.5 x 12.69 in
60	A4 Plus 210 x 330 mm
61	A5 Transverse 148 x 210 mm
62	B5 (JIS) Transverse 182 x 257 mm
63	A3 Extra 322 x 445 mm
64	A5 Extra 174 x 235 mm
65	B5 (ISO) Extra 201 x 276 mm
66	A2 420 x 594 mm
67	A3 Transverse 297 x 420 mm
68	A3 Extra Transverse 322 x 445 mm
69	Japanese Double Postcard 200 x 148 mm
70	A6 105 x 148 mm
71	Japanese Envelope Kaku #2

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Value	Meaning
72	Japanese Envelope Kaku #3
73	Japanese Envelope Chou #3
74	Japanese Envelope Chou #4
75	Letter Rotated 11 x 8 1/2 11 in
76	A3 Rotated 420 x 297 mm
77	A4 Rotated 297 x 210 mm
78	A5 Rotated 210 x 148 mm
79	B4 (JIS) Rotated 364 x 257 mm
80	B5 (JIS) Rotated 257 x 182 mm
81	Japanese Postcard Rotated 148 x 100 mm
82	Double Japanese Postcard Rotated 148 x 200 mm
83	A6 Rotated 148 x 105 mm
84	Japanese Envelope Kaku #2 Rotated
85	Japanese Envelope Kaku #3 Rotated
86	Japanese Envelope Chou #3 Rotated
87	Japanese Envelope Chou #4 Rotated
88	B6 (JIS) 128 x 182 mm
89	B6 (JIS) Rotated 182 x 128 mm
90	12 x 11 in
91	Japanese Envelope You #4
92	Japanese Envelope You #4 Rotated
93	PRC 16K 146 x 215 mm
94	PRC 32K 97 x 151 mm
95	PRC 32K(Big) 97 x 151 mm
96	PRC Envelope #1 102 x 165 mm
97	PRC Envelope #2 102 x 176 mm
98	PRC Envelope #3 125 x 176 mm
99	PRC Envelope #4 110 x 208 mm
100	PRC Envelope #5 110 x 220 mm
101	PRC Envelope #6 120 x 230 mm
102	PRC Envelope #7 160 x 230 mm
103	PRC Envelope #8 120 x 309 mm

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Value	Meaning
104	PRC Envelope #9 229 x 324 mm
105	PRC Envelope #10 324 x 458 mm
106	PRC 16K Rotated
107	PRC 32K Rotated
108	PRC 32K(Big) Rotated
109	PRC Envelope #1 Rotated 165 x 102 mm
110	PRC Envelope #2 Rotated 176 x 102 mm
111	PRC Envelope #3 Rotated 176 x 125 mm
112	PRC Envelope #4 Rotated 208 x 110 mm
113	PRC Envelope #5 Rotated 220 x 110 mm
114	PRC Envelope #6 Rotated 230 x 120 mm
115	PRC Envelope #7 Rotated 230 x 160 mm
116	PRC Envelope #8 Rotated 309 x 120 mm
117	PRC Envelope #9 Rotated 324 x 229 mm
118	PRC Envelope #10 Rotated 458 x 324 mm

i. *The standard states that paperHeight is a valid attribute, and that when it is present, paperSize shall be ignored.*

Office ignores the paperHeight attribute if it is present, and does not ignore the paperSize attribute if paperHeight is present.

j. *The standard states that paperWidth is a valid attribute, and that when it is present, paperSize shall be ignored.*

Office ignores the paperWidth attribute if it is present, and does not ignore the paperSize attribute if paperWidth is present.

2.1.639 Part 1 Section 18.3.1.64, pageSetup (Chart Sheet Page Setup)

a. *The standard states that the values of the firstPageNumber attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 65534.

b. *The standard states that the values of the copies attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 32767.

c. *The standard states that the values of the horizontalDpi attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1.

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d. *The standard states that the values of the verticalDpi attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1.

e. *The standard states that the paperSize attribute allows values as defined in the table.*

The paperSize attribute specifies the paper size according to the following table. The value 0, or values larger than or equal to 256 specify custom printer paper sizes. Values between 118 and 256 are reserved for future use.

Value	Meaning
1	US Letter 8 1/2 x 11 in
2	US Letter Small 8 1/2 x 11 in
3	US Tabloid 11 x 17 in
4	US Ledger 17 x 11 in
5	US Legal 8 1/2 x 14 in
6	US Statement 5 1/2 x 8 1/2 in
7	US Executive 7 1/4 x 10 1/2 in
8	A3 297 x 420 mm
9	A4 210 x 297 mm
10	A4 Small 210 x 297 mm
11	A5 148 x 210 mm
12	B4 (JIS) 250 x 354
13	B5 (JIS) 182 x 257 mm
14	Folio 8 1/2 x 13 in
15	Quarto 215 x 275 mm
16	10 x 14 in
17	11 x 17 in
18	US Note 8 1/2 x 11 in
19	US Envelope #9 3 7/8 x 8 7/8
20	US Envelope #10 4 1/8 x 9 1/2
21	US Envelope #11 4 1/2 x 10 3/8
22	US Envelope #12 4 \276 x 11
23	US Envelope #14 5 x 11 1/2
24	C size sheet
25	D size sheet
26	E size sheet

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Value	Meaning
27	Envelope DL 110 x 220mm
28	Envelope C5 162 x 229 mm
29	Envelope C3 324 x 458 mm
30	Envelope C4 229 x 324 mm
31	Envelope C6 114 x 162 mm
32	Envelope C65 114 x 229 mm
33	Envelope B4 250 x 353 mm
34	Envelope B5 176 x 250 mm
35	Envelope B6 176 x 125 mm
36	Envelope 110 x 230 mm
37	US Envelope Monarch 3.875 x 7.5 in
38	6 3/4 US Envelope 3 5/8 x 6 1/2 in
39	US Std Fanfold 14 7/8 x 11 in
40	German Std Fanfold 8 1/2 x 12 in
41	German Legal Fanfold 8 1/2 x 13 in
42	B4 (ISO) 250 x 353 mm
43	Japanese Postcard 100 x 148 mm
44	9 x 11 in
45	10 x 11 in
46	15 x 11 in
47	Envelope Invite 220 x 220 mm
48	RESERVED--DO NOT USE
49	RESERVED--DO NOT USE
50	US Letter Extra 9 \275 x 12 in
51	US Legal Extra 9 \275 x 15 in
52	US Tabloid Extra 11.69 x 18 in
53	A4 Extra 9.27 x 12.69 in
54	Letter Transverse 8 \275 x 11 in
55	A4 Transverse 210 x 297 mm
56	Letter Extra Transverse 9\275 x 12 in
57	SuperA/SuperA/A4 227 x 356 mm
58	SuperB/SuperB/A3 305 x 487 mm

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Value	Meaning
59	US Letter Plus 8.5 x 12.69 in
60	A4 Plus 210 x 330 mm
61	A5 Transverse 148 x 210 mm
62	B5 (JIS) Transverse 182 x 257 mm
63	A3 Extra 322 x 445 mm
64	A5 Extra 174 x 235 mm
65	B5 (ISO) Extra 201 x 276 mm
66	A2 420 x 594 mm
67	A3 Transverse 297 x 420 mm
68	A3 Extra Transverse 322 x 445 mm
69	Japanese Double Postcard 200 x 148 mm
70	A6 105 x 148 mm
71	Japanese Envelope Kaku #2
72	Japanese Envelope Kaku #3
73	Japanese Envelope Chou #3
74	Japanese Envelope Chou #4
75	Letter Rotated 11 x 8 1/2 11 in
76	A3 Rotated 420 x 297 mm
77	A4 Rotated 297 x 210 mm
78	A5 Rotated 210 x 148 mm
79	B4 (JIS) Rotated 364 x 257 mm
80	B5 (JIS) Rotated 257 x 182 mm
81	Japanese Postcard Rotated 148 x 100 mm
82	Double Japanese Postcard Rotated 148 x 200 mm
83	A6 Rotated 148 x 105 mm
84	Japanese Envelope Kaku #2 Rotated
85	Japanese Envelope Kaku #3 Rotated
86	Japanese Envelope Chou #3 Rotated
87	Japanese Envelope Chou #4 Rotated
88	B6 (JIS) 128 x 182 mm
89	B6 (JIS) Rotated 182 x 128 mm
90	12 x 11 in

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Value	Meaning
91	Japanese Envelope You #4
92	Japanese Envelope You #4 Rotated
93	PRC 16K 146 x 215 mm
94	PRC 32K 97 x 151 mm
95	PRC 32K(Big) 97 x 151 mm
96	PRC Envelope #1 102 x 165 mm
97	PRC Envelope #2 102 x 176 mm
98	PRC Envelope #3 125 x 176 mm
99	PRC Envelope #4 110 x 208 mm
100	PRC Envelope #5 110 x 220 mm
101	PRC Envelope #6 120 x 230 mm
102	PRC Envelope #7 160 x 230 mm
103	PRC Envelope #8 120 x 309 mm
104	PRC Envelope #9 229 x 324 mm
105	PRC Envelope #10 324 x 458 mm
106	PRC 16K Rotated
107	PRC 32K Rotated
108	PRC 32K(Big) Rotated
109	PRC Envelope #1 Rotated 165 x 102 mm
110	PRC Envelope #2 Rotated 176 x 102 mm
111	PRC Envelope #3 Rotated 176 x 125 mm
112	PRC Envelope #4 Rotated 208 x 110 mm
113	PRC Envelope #5 Rotated 220 x 110 mm
114	PRC Envelope #6 Rotated 230 x 120 mm
115	PRC Envelope #7 Rotated 230 x 160 mm
116	PRC Envelope #8 Rotated 309 x 120 mm
117	PRC Envelope #9 Rotated 324 x 229 mm
118	PRC Envelope #10 Rotated 458 x 324 mm

f. *The standard states that the values of the paperSize attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 2147483647.

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g. *The standard states that paperHeight is a valid attribute, and that when it is present, paperSize shall be ignored.*

Office ignores the paperHeight attribute if it is present, and does not ignore the paperSize attribute if paperHeight is present.

h. *The standard states that paperWidth is a valid attribute, and that when it is present, paperSize shall be ignored.*

Office ignores the paperWidth attribute if it is present, and does not ignore the paperSize attribute if paperWidth is present.

2.1.640 Part 1 Section 18.3.1.66, pane (View Pane)

a. *In the standard the TopLeftCell attribute currently states use equals optional.*

Office treats the TopLeftCell attribute as optional if state equals split; otherwise, it is required.

b. *The standard does not define what the value for the xSplit attribute indicates if the parent element is customSheetView.*

In Office, when parent is customSheetView, the xSplit attribute is always saved as the number of columns (regardless of frozen or unfrozen state).

c. *The standard does not define what the value for the ySplit attribute indicates if the parent element is customSheetView.*

In Office, when parent is customSheetView, the ySplit attribute is always saved as the number of rows (regardless of frozen or unfrozen state).

d. *In the standard the xSplit and ySplit definitions are reversed.*

In Office, xSplit is the Vertical split position and columns visible in the left pane, and ySplit is the Horizontal split position and columns visible in the top pane.

e. *The standard states that the xSplit and ySplit values can be zero indicating none for that setting.*

Office does not support setting xSplit and ySplit to Zero when the parent element is SheetView.

2.1.641 Part 1 Section 18.3.1.68, pivotArea (Pivot Area)

a. *The standard does not state that the dataOnly attribute can be true only if the labelOnly attribute is false.*

Office allows the dataOnly attribute to be true only if the labelOnly attribute is false.

b. *The standard does not state that the labelOnly attribute can be true only if the dataOnly attribute is false.*

Office allows the labelOnly attribute to be true only if the dataOnly attribute is false.

c. *The standard does not specify a default value for the field attribute.*

Excel uses a default value of -1 for this attribute.

d. *The standard does not restrict the value of the fieldPosition attribute.*

In Office, the fieldPosition attribute represents the position of the field within the axis to which this rule applies. If cacheIndex is true, the value of this field shall be greater than or equal to zero and less than 256. If cacheIndex is false, then if the axis value is axisRow, the value of fieldPosition shall be

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less than the number of elements in the row fields collection ("[ISO/IEC-29500-1] §18.10.1.81; rowFields"). If the axis value is axisCol, the value of fieldPosition shall be less than the number of elements in the column fields collection ("[ISO/IEC-29500-1] §18.10.1.14; colFields"). If the axis value is axisPage, the value of fieldPosition shall be less than number of elements in page fields collection ("[ISO/IEC-29500-1] §18.10.1.63; pageFields"). If axis value is axisData, the value of fieldPosition shall be less than the number of elements in the data fields collection ("[ISO/IEC-29500-1] §18.10.1.13; chartFormats").

e. *The standard does not place restrictions on the value of the field attribute.*

In Office, the field attribute represents a zero-based index of the field that this selection rule refers to. The value of this field can be -1 (it references nothing) or the value can be -2 (it references data). Otherwise, if cacheIndex is true, it shall be greater than or equal to zero and less than the number of elements in the cacheFields collection in the pivot cache definition ("[ISO/IEC-29500-1] §18.10.1.67; pivotCacheDefinition"); if the cacheIndex is false, the value shall be less than the number of elements in the pivot fields (§3.10.1.70 pivotFields (PivotTable Fields)) collection ("[ISO/IEC-29500-1] §18.10.1.70; pivotFields").

2.1.642 Part 1 Section 18.3.1.69, pivotSelection (PivotTable Selection)

a. *The standard does not specify any relationships for the data attribute.*

Office requires that the data attribute be false when the label attribute is true.

b. *The standard states that the values of the previousRow attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 1048575.

c. *The standard states that the values of the previousCol attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 16383.

d. *The standard states that the values of the dimension attribute are defined by the XML Schema unsignedInt datatype.*

In Excel, if the axis attribute equals axisRow, then the dimension attribute must be less than number of elements in the rowFields collection. If the axis attribute equals axisCol, then the dimension attribute must be less than number of elements in the columnFields collection. If the axis attribute equals axisPage, then the dimension attribute equals 0.

e. *The standard states that the values for the min attribute are defined by the XML Schema unsignedInt datatype.*

In Excel, if the axis attribute equals axisRow, then the min attribute must be less than the number of elements in the rowItems collection. If the axis attribute equals axisCol, then the min attribute must be less than the number of elements in the colItems collection. When the axis attribute equals axisPage, then the min attribute must be 0.

f. *The standard states that @max is not restricted beyond unsigned int.*

In Excel, if @axis=axisRow, @max shall be less than the number of elements in rowItems collection. If @axis=axisCol, @max shall be less than the number of elements in colItems. When @axis=axisPage then @max shall be 0.

g. *The standard does not limit @start beyond unsigned int.*

Office requires that @min < @start < @max+1.

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h. *The standard does not define the valid set of values for the activeRow or the activeCol attributes.*

Office requires that the following conditions be true:

- If **axis** is set to *axisRow*, then the valid set of values for the activeRow or activeCol attributes should be within the Row axis area.
- If **axis** is set to *axisCol*, then the valid set of values for the activeRow or activeCol attributes should be within the Column axis area.
- If **axis** is set to *axisPage*, then the valid set of values for the activeRow or activeCol attributes should be within the Page/Report Filter axis area.

i. *The standard defines values for the pane attribute.*

In Office, topLeft is interpreted as bottomRight and vice versa.

j. *The standard states that the r:id attribute is optional.*

Excel requires this attribute.

k. *The standard states that the axis attribute has a valid value of axisPage.*

Office will report a valid file as corrupt if axis is equal to axisPage.

l. *The standard states that the valid values for the axis attribute are defined by the ST_Axis simple type.*

Office does not allow the axis attribute to equal axisValue.

2.1.643 Part 1 Section 18.3.1.71, protectedRange (Protected Range)

a. *The standard sets no restrictions on the string for the name attribute.*

Office requires that the name attribute shall be unique within the parent element collection, start with a letter, only contain letters, numbers, spaces, underscores, periods, backslashes, or question marks.

b. *The standard does not define the minimum values for the sqref attribute.*

Office defines the minimum value for the sqref attribute to be 1.

c. *The standard does not limit the length of the value of the name attribute.*

Word restricts the value of this attribute to be at least 1 and at most 255 characters.

d. *The standard states that this setting uses a specific Password attribute to store the password hash.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

Name	Description
algorithmName	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system's cryptographic subsystem can be utilized by Office. The hash algorithm names, described in the following table, are reserved.

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Name	Description
	MD2 *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-1*** *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256*** *Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***WHIRLPOOL*** *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*
hash Value	Specifies the hash value for the password required to edit this worksheet. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match, the protection shall no longer be enforced. If this value is omitted, then the reservationPassword attribute shall contain the password hash for the workbook. [*Example*: Consider an Office Open XML document with the following information stored in one of its protection elements: <… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the

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Name	Description
	resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

[Example:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

e. *The standard states that the securityDescriptor element is a valid child element of the CT_ProtectedRange type.*

   Office does not support the securityDescriptor element as a child of CT_ProtectedRange, and ignores any instances of the securityDescriptor element.

2.1.644 Part 1 Section 18.3.1.73, row (Row)

a. *The standard states that the values of the r attribute are defined by the XML Schema unsignedInt datatype.*

   Office requires that the r attribute be between 1 and 1048576 inclusive, and shall be in non-decreasing order.

b. *The standard states that the values of the outlineLevel attribute are defined by the XML Schema unsignedByte datatype.*

   Office requires that the value of the outlineLevel attribute be between 0 and 7 inclusive.

c. *The standard states that the values of the s attribute are defined by the XML Schema unsignedInt datatype.*

   Office requires that the value of the s attribute be between 0 and 65490 inclusive.

2.1.645 Part 1 Section 18.3.1.74, rowBreaks (Horizontal Page Breaks (Row))

For additional notes that apply to this portion of the standard, please see the notes for colBreaks, §18.3.1.14(a, b)*.*

a. *The standard states that the count attribute is defined by unsignedInt.*

   Office defines count to be an xsd:unsignedInt less than 1023.

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b. *The standard states that the manualBreakCount attribute is defined by unsignedInt.*

Office defines manualBreakCount to be an xsd:unsignedInt less than 1023.

2.1.646 Part 1 Section 18.3.1.75, scenario (Scenario)

a. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 32.

b. *The standard states that the maxOccurs value for the inputCells child element is unbounded.*

Excel limits the occurrences of this element to 32.

c. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at most 255 characters, after decoding.

d. *The standard states that the name attribute must be unique for the workbook.*

Office only requires that the name attribute be unique for each worksheet (allows duplicates in a workbook).

e. *The standard does not limit the length of the value of the user attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 54 characters, after decoding.

f. *The standard does not limit the length of the value of the comment attribute.*

Excel restricts the value of this attribute to be at most 255 characters, after decoding.

2.1.647 Part 1 Section 18.3.1.76, scenarios (Scenarios)

a. *In the standard, the current and show attributes do not have upper limits.*

In Excel, both the current and show attributes must be less than the number of child scenario elements.

2.1.648 Part 1 Section 18.3.1.77, securityDescriptor (Security Descriptor)

a. *The standard states that the securityDescriptor element is a valid child element of the CT_ProtectedRange type.*

Office does not support the securityDescriptor element as a child of CT_ProtectedRange, and ignores any instances of the securityDescriptor element.

This note applies to the following products: Office 2010, Office 2010 Server, Office 2010 SP1.

b. *The standard states that the securityDescriptor element is a valid child element of the CT_ProtectedRange type.*

Excel ignores all but first of securityDescriptor elements with a common parent.

This note applies to the following products: Office 2013 Client (Strict), Office 2013 Server (Strict), Office 2013 Client (Transitional), Office 2013 Server (Transitional).

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2.1.649 Part 1 Section 18.3.1.78, selection (Selection)

a. *The standard does not specify a default value for the activeCell attribute.*

Excel uses a default value of A1 for this attribute.

b. *The standard states that the values of the activeCellId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 8191.

2.1.650 Part 1 Section 18.3.1.81, sheetFormatPr (Sheet Format Properties)

a. *The standard does not place any restrictions on the value of the outlineLevelRow or outlineLevelCol attributes.*

Office requires that the outlineLevelRow and outlineLevelCol attributes be between 0 and 7 inclusive.

b. *The standard does not place any restrictions on the value of @baseColWidth.*

Office requires that @baseColWidth have a maximum value of less than or equal to 255.

c. *The standard does not place restrictions on the value of the defaultColWidth attribute.*

Office requires that the defaultColWidth attribute be less than 65536 and greater than or equal to zero.

2.1.651 Part 1 Section 18.3.1.82, sheetPr (Sheet Properties)

a. *The standard allows any range reference for the syncRef attribute.*

In Office, the syncRef attribute specifies a valid cell reference only when either the syncHorizontal or the syncVertical attributes is true.

b. *The standard states that the values of the codeName attribute are defined by the XML Schema string datatype.*

Office requires the codeName attribute to be less than 32 characters with the following pattern restriction: [\p{L}\P{IsBasicLatin}][_\d\p{L}\P{IsBasicLatin}]*.

c. *The standard specifies the codeName attribute is valid for all parents.*

In Office, the codeName attribute is only valid for the worksheet parent.

2.1.652 Part 1 Section 18.3.1.83, sheetPr (Chart Sheet Properties)

a. *The standard specifies @codeName can be any xsd:string.*

Office requires @codeName to be less than 32 characters with the following pattern restriction: [\p{L}\P{IsBasicLatin}][_\d\p{L}\P{IsBasicLatin}]*.

2.1.653 Part 1 Section 18.3.1.84, sheetProtection (Chart Sheet Protection)

a. *The standard states that when the content attribute equals true, no changes can be made to chart elements.*

Office allows changes to chart elements, even when the content attribute equals true.

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b. *The standard states that this setting uses a specific Password attribute to store the password hash.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

Name	Description
algorithm Name	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system's cryptographic subsystem can be utilized by Office. The hash algorithm names, described in the following table, are reserved. ***MD2*** *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-1*** *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256*** *Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***WHIRLPOOL*** *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*
hash Value	Specifies the hash value for the password required to edit this worksheet. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match,

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Name	Description
	the protection shall no longer be enforced. If this value is omitted, then the reservationPassword attribute shall contain the password hash for the workbook. [*Example*: Consider an Office Open XML document with the following information stored in one of its protection elements: <… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

[Example:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

2.1.654 Part 1 Section 18.3.1.85, sheetProtection (Sheet Protection Options)

a. *The standard does not specify any restrictions for a dialogsheet parent element.*

For a **dialogsheet** parent element, Office requires that the dialog sheet is protected when the attributes **objects** and **scenarios** are *true*. The dialog sheet should not be protected when the attributes **objects** and **scenarios** are *false*. No other values are allowed. In addition, the **sheet** attribute is always *true* and all other attributes are their default value.

b. *The standard states that this setting uses a specific Password attribute to store the password hash.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

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Name	Description
algorithm Name	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system's cryptographic subsystem can be utilized by Office. The hash algorithm names, described in the following table, are reserved. ***MD2*** *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-1*** *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256*** *Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***WHIRLPOOL*** *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*
hash Value	Specifies the hash value for the password required to edit this worksheet. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match, the protection shall no longer be enforced. If this value is omitted, then the reservationPassword attribute shall contain the password hash for the workbook. [*Example*: Consider an Office Open XML document with the following information stored in one of its protection elements:

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Name	Description
	<… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

[Example:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

2.1.655 Part 1 Section 18.3.1.87, sheetView (Worksheet View)

a. *The standard states that the values of the colorId attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the colorId attribute value to an unsignedInt less than or equal to 64.

b. *The standard specifies that the @colorId defines the color value for text in row/column headings and gridlines in the view.*

Office uses the @colorId to define the color value only for gridlines in the view.

2.1.656 Part 1 Section 18.3.1.88, sheetViews (Sheet Views)

a. *The standard states that the maxOccurs value for the sheetView child element is unbounded.*

Excel limits the occurrences of this element to 2147483647.

2.1.657 Part 1 Section 18.3.1.89, sheetViews (Chart Sheet Views)

a. *The standard states that the maxOccurs value for the sheetView child element is unbounded.*

Excel limits the occurrences of this element to 2147483647.

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2.1.658 Part 1 Section 18.3.1.91, sortCondition (Sort Condition)

a. *The standard states that the values of the customList attribute are defined by the ST_Xstring simple type.*

Office requires that the customList attribute value be an escaped string not exceeding 255 UTF-16 code units after escape sequences are replaced with characters.

2.1.659 Part 1 Section 18.3.1.93, tabColor (Sheet Tab Color)

For additional notes that apply to this portion of the standard, please see the notes for color, §18.3.1.15(b-d)*;* bgColor, §18.8.3(a)*.*

a. *The standard does not specify a default value for the auto attribute.*

Excel uses a default value of false for this attribute.

b. *In the standard, the auto, indexed, rgb, and theme attributes are all optional.*

Office requires that only one of the auto, indexed, rgb, or theme attributes shall be specified.

c. *The standard specifies that the theme attribute is an index of an item in the clrScheme collection.*

Office requires the theme attribute to be a zero-based index of an item in the clrScheme collection.

2.1.660 Part 1 Section 18.3.1.96, v (Cell Value)

a. *The standard does not limit the length of the value of this element.*

Excel restricts the value of this element to be at most 32767 characters.

b. *The standard does not place content restrictions on values based on the t attribute.*

Office places the following value restrictions based on the cell type:

- If the cell contains a string, the value shall be a zero-based index into the shared string table, pointing to the actual string value.
- If the cell contains a number, the value shall be a textual representation of a double-precision floating point number.
- If the cell contains a Boolean, the value shall be 1 to specify true and 0 to specify false.
- If the cell contains an error, the value shall be one of the following text strings: #NULL!, #DIV/0!, #VALUE!, #REF!, #NAME?, #NUM!, or #N/A.
- Cells containing formulas express the last calculated result of the formula in this element.

A spreadsheet application may use inline strings to bypass creating the shared string table. Inline strings are specified by the **is** element under the **c** element instead of the **v** element under the **c** element. Inline strings are specified in the same way a string would be expressed in the shared string table. See the **is** element ("[ISO/IEC-29500-1] §18.3.1.53; is") for an example.

c. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

d. *The standard states that when the cell value is a date, that it is in ISO 8601 format.*

Office supports only a limited number of date formats possible using ISO 8601, as listed in the Notes field.

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2.1.661 Part 1 Section 18.3.1.97, webPublishItem (Web Publishing Item)

a. *The standard does not place any restrictions on the length of the value for the title attribute.*

Office requires that the title attribute be less than 255 characters in length.

b. *The standard does not place any restrictions on the length of the value for the destinationFile attribute.*

Office requires that the destinationFile attribute be less than 255 characters in length, and not empty.

c. *The standard does not place any restrictions on the length of the value for the divId attribute.*

Office requires that the divId attribute be less than 255 characters in length, and not empty.

d. *The standard does not place any restrictions on the length of the value for the sourceObject attribute.*

Office requires that the sourceObject attribute follow the rules of defined names as specified in Names ("[ISO/IEC-29500-1] §18.17.2.5").

e. *The standard does not place any restrictions on the value for the id attribute.*

Office requires that the value of the id attribute be between 1 and 2147483647 inclusive.

f. *The standard states that the sourceObject attribute is required for sourceType equal to pivotTable, query, or label.*

Office requires the sourceObject attribute for sourceType equal to pivotTable, query, or label. The sourceObject attribute shall not be present otherwise.

g. *The standard states that the sourceRef attribute is required when the sourceType attribute equals range.*

Office requires the sourceRef attribute shall not be missing if the sourceType is a range, otherwise it shall not be present.

2.1.662 Part 1 Section 18.3.1.99, worksheet (Worksheet)

a. *The standard states that the maxOccurs value for the conditionalFormatting child element is unbounded.*

Excel limits the occurrences of this element to 2147483647.

b. *The standard specifies that the drawingHF element is a valid child element of the worksheet element.*

Excel ignores the drawingHF element.

2.1.663 Part 1 Section 18.3.2.1, colorFilter (Color Filter Criteria)

a. *The standard states that the dxfId attribute is optional.*

Excel requires this attribute.

2.1.664 Part 1 Section 18.3.2.4, dateGroupItem (Date Grouping)

a. *The standard does not specify a default value for the month attribute.*

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Excel uses a default value of 1 for this attribute.

b. *The standard does not specify a default value for the day attribute.*

Excel uses a default value of 1 for this attribute.

c. *The standard does not specify a default value for the hour attribute.*

Excel uses a default value of 0 for this attribute.

d. *The standard does not specify a default value for the minute attribute.*

Excel uses a default value of 0 for this attribute.

e. *The standard does not specify a default value for the second attribute.*

Excel uses a default value of 0 for this attribute.

2.1.665 Part 1 Section 18.3.2.5, dynamicFilter (Dynamic Filter)

a. *The standard does not place any limitations on the value of the val attribute.*

Office requires that the val attribute be less than the maxVal attribute.

b. *The standard states in the description of the val attribute: "See description of maxVal to understand when val is required." However, the description of the maxVal attribute is not clear that both values are required at the same time.*

Office requires that @val is required whenever @maxVal is required.

c. *The standard describes @maxVal as optional and correctly describes instances when it is required and what it means then, but does not state what happens when it is not required.*

Office requires that when @maxVal is not required, it shall not be written out.

2.1.666 Part 1 Section 18.3.2.6, filter (Filter)

a. *The standard implies that the val attribute is optional.*

Excel requires this attribute.

2.1.667 Part 1 Section 18.3.2.7, filterColumn (AutoFilter Column)

a. *The standard does not place limitations on the value of the colId attribute.*

In Office, the colId attribute must be greater than or equal to 0 and less than or equal to the number of columns in the region described by the parent autoFilter element's ref attribute.

2.1.668 Part 1 Section 18.3.2.8, filters (Filter Criteria)

a. *The standard states that the filter and dateGroupItem child elements should be sequenced.*

Excel requires these child elements to be a choice of one or the other.

b. *The standard defines the calendarType attribute for date grouped items.*

Office ignores the calendarType attribute.

c. *The standard states that the calendarType attribute is of type ST_CalendarType, which has a value for "saka".*

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Office does not support the ST_CalendarType value of "saka" and instead treats the "saka" value as equivalent to the "none" value of ST_CalendarType.

2.1.669 Part 1 Section 18.3.2.9, iconFilter (Icon Filter)

a. *The standard does not specify any limitations on the value of the iconId attribute.*

Office requires that value in the iconId attribute is less than the total number of icons in the iconSet.

2.1.670 Part 1 Section 18.3.2.10, top10 (Top 10)

a. *The standard does not mention any limits on the value of @val.*

In Office, if this element is on a pivottable, the @val must be greater than or equal to 0. Otherwise, it must be between 1 and 500 inclusive.

b. *The standard does not specify a default value for the filterVal attribute.*

Excel uses a default value of 0 for this attribute.

2.1.671 Part 1 Section 18.4.3, phoneticPr (Phonetic Properties)

a. *The standard states that the type attribute specifies which type of East Asian character set should be used to display the phonetic run.*

Excel uses this attribute to specify which Japanese character set should be used to display the phonetic run.

b. *The standard states that phonetic text is allowed for East Asian languages.*

Excel restricts phonetic text to the Japanese language.

2.1.672 Part 1 Section 18.4.5, rFont (Font)

a. *The standard specifies the string length for the val attribute shall be 0 to 31 characters.*

Office requires the length to be that of the string before escaping.

2.1.673 Part 1 Section 18.4.6, rPh (Phonetic Run)

a. *The standard states that phonetic text is allowed for East Asian languages.*

Excel restricts phonetic text to the Japanese language.

2.1.674 Part 1 Section 18.4.7, rPr (Run Properties)

a. *The standard defines the child elements using a choice.*

Excel requires the child elements to be in the following sequence: b, i, strike, condense, extend, outline, shadow, u, vertAlign, sz, color, rFont, family, charset, scheme.

2.1.675 Part 1 Section 18.4.8, si (String Item)

a. *The standard states that t can be an unbounded number of characters.*

Excel restricts t to 32767.

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b. *The standard states that the maxOccurs value for the r child element is unbounded.*

Excel limits the occurrences of this element to 32767.

c. *The standard states that the maxOccurs value for the rPh child element is unbounded.*

Excel limits the occurrences of this element to 32767.

2.1.676 Part 1 Section 18.4.9, sst (Shared String Table)

a. *The standard specifies uniqueCount as an unbound unsigned int.*

Office requires the value be less than or equal to 2147483647.

b. *The standard specifies count as an unbound unsigned int.*

Office requires the value be less than or equal to 2147483647.

2.1.677 Part 1 Section 18.4.11, sz (Font Size)

a. *The standard restricts the definition of the sz element to Latin and East Asian text only.*

Office does not restrict the applicability of the sz element to only Latin and East Asian text, that is, it applies to all text.

b. *The standard states that sz is the point size to be used to display text.*

Office converts the points provided to twips, and rounding may occur when writing sz@val back to SpreadsheetML files.

c. *The standard does not specify restrictions on the val attribute.*

Office requires the val attribute to be a double between 1 and 409.55 inclusive.

2.1.678 Part 1 Section 18.4.12, t (Text)

a. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

b. *The standard places no restrictions on the length of the value of the t element.*

Excel restricts the value of this element to 32767 characters.

2.1.679 Part 1 Section 18.5.1.1, calculatedColumnFormula (Calculated Column Formula)

a. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

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2.1.680 Part 1 Section 18.5.1.2, table (Table)

a. *The standard states that the values of the id attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 4294967294.

b. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

c. *The standard does not describe what happens if the name attribute value is the empty string or the name attribute is not present.*

Office, if this attribute is not specified or the value is an empty string, the value will be set to the value specified for the required displayName attribute.

d. *The standard does not specify a default value for the connectionId attribute.*

Excel uses a default value of 0 for this attribute.

e. *In the standard there are no limits on when the connectionId attribute can be present.*

In Office, this attribute must not be specified or the specified value must be 0 if tableType is not xml.

f. *In the standard no relationship between @totalsRowCount and @totalRowShown is specified.*

In Office, if @totalsRowCount equals 1, then totalsRowShown must be true.

g. *The standard does not limit the length of the value of the comment attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

h. *The standard only limits the @ref to include the totals row.*

In Office, the count of rows for @ref shall be equal to or greater than the sum of rows specified by: @headerRowCount, @insertRow, and @totalsRowCount. Additionally, @ref must not overlap with another Table or auto-filter on the same worksheet.

i. *The standard does not limit the length of the value of the dataCellStyle attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

j. *The standard does not limit the length of the value of the headerRowCellStyle attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

k. *The standard does not limit the length of the value of the totalsRowCellStyle attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

l. *The standard states that the values of the connectionId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 2147483647.

2.1.681 Part 1 Section 18.5.1.3, tableColumn (Table Column)

a. *The standard says the maximum string length of the name attribute is unlimited.*

In Office, the name attribute string length must be less than or equal to 255 characters.

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b. *The standard says the maximum string length of the uniqueName attribute is unlimited.*

   In Excel, the string length of the uniqueName attribute must be less than or equal to 255.

c. *The standard specifies that the totalsRowLabel attribute shall be ignored unless totalRowFunction is none.*

   In Office, the totalsRowLabel attribute shall be absent if totalsRowFunction has the value custom.

d. *The standard says the @headerRowCellStyle maximum string length is unlimited.*

   In Office, the headerRowCellStyle length must be between 1 and 255 characters inclusive.

e. *The standard says the @totalsRowCellStyle maximum string length is unlimited.*

   In Office the length of @totalsRowCellStyle shall be between 1 and 255 inclusive.

f. *The standard does not have requirements about the presence of the headerRowCellStyle attribute.*

   In Office, headerRowCellStyle attribute shall be absent if the enclosing table element's headerRow attribute value is greater than or equal to 1.

g. *The standard specifies the queryTableFieldId attribute as an unsignedInt datatype.*

   In Office, the queryTableFieldId attribute must be greater than zero.

h. *The standard says the @id value range is defined as unsigned integer.*

   In Office the value of @id must be greater than zero.

i. *The standard does not specify any relationship between the value of the name attribute and cell contents.*

   In Office, if the enclosing table element's headerRowCount attribute has a value greater than or equal to 1, then this attribute must have the same value as the cell it occupies.

j. *The standard says the maximum string length of the totalsRowLabel attribute is unlimited.*

   In Office, the maximum string length of the totalsRowLabel attribute must be less than or equal to 32767.

k. *The standard does not specify when the headerRowDxfId attribute shall be absent.*

   In Office, the headerRowDxfId attribute shall be absent if the enclosing table element's headerRow attribute value is greater than or equal to 1.

l. *The standard says the @dataCellStyle maximum string length is unlimited.*

   In Office, the @dataCellStyle length must be between 1 and 255 characters inclusive.

m. *The standard does not specify a relationship between the queryTableFieldId attribute and @tableType.*

   In Office, the queryTableFieldId attribute shall be absent when the enclosing table element's tableType attribute equals queryTable.

n. *The standard does not specify the totalsRowFunction attribute relationships.*

In Office, if the table element attribute totalsRowCount is not 0, the totalsRowFunction attribute shall match the formula of the occupied cell and be of the form SUBTOTAL(<function number>,<ref>), unless the value is none or custom. A value of none implies no formula.

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2.1.682 Part 1 Section 18.5.1.5, tableStyleInfo (Table Style)

a. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

b. *The standard does not specify a default value for the showColumnStripes attribute.*

Excel uses a default value of false for this attribute.

c. *The standard does not specify a default value for the showFirstColumn attribute.*

Excel uses a default value of false for this attribute.

d. *The standard does not specify a default value for the showLastColumn attribute.*

Excel uses a default value of false for this attribute.

e. *The standard does not specify a default value for the showRowStripes attribute.*

Excel uses a default value of false for this attribute.

2.1.683 Part 1 Section 18.5.1.6, totalsRowFormula (Totals Row Formula)

For additional notes that apply to this portion of the standard, please see the notes for calculatedColumnFormula, §18.5.1.1(a)*.*

2.1.684 Part 1 Section 18.5.1.7, xmlColumnPr (XML Column Properties)

a. *The standard does not specify a maximum length for @xpath.*

Office requires the decoded string length of @xpath to be less than 32000.

b. *The standard specifies that the mapId attribute has the value range of an xs:unsignedInt datatype.*

In Excel, the mapId attribute must be greater than 0 and less than 2147483647.

c. *The standard states that the denormalized attribute is true if it has been filled down (denormalized) and false otherwise.*

The denormalized attribute does not have any effect on the way Office behaves. Excel always denormalizes non-repeating nodes when mapped to a Table's column.

2.1.685 Part 1 Section 18.5.2.1, singleXmlCell (Table Properties)

a. *The standard specifies the value range for attribute id to be xsd:unsignedInt.*

In Office, id shall be between 1 and 4294967294 inclusive.

b. *The standard specifies the value range of attribute connectionId to be xsd:unsignedInt.*

In Office, attribute connectionId shall be less than or equal to 2147483647.

2.1.686 Part 1 Section 18.5.2.3, xmlCellPr (Cell Properties)

a. *The standard does not limit the length of the value of the uniqueName attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

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b. *The standard states that the uniqueName attribute is optional.*

Excel requires this attribute.

2.1.687 Part 1 Section 18.5.2.4, xmlPr (Column XML Properties)

a. *The standard specifies the value range for @xpath to be ST_Xstring.*

Office requires that the value of attribute xpath be greater than 0 and less than 32000 characters.

b. *The standard specifies that attribute mapId has the value range of xs:unsignedInt.*

Office requires that the value of attribute mapId be greater than or equal to 1 and less than or equal to 2147483647.

2.1.688 Part 1 Section 18.6.1, c (Cell)

a. *The standard refers to "c attribute" and "cell's" .*

Office interprets these to refer to "c element" and "cells".

b. *The standard does not specify the context of cell for the i attribute.*

Office uses the previous cell in the calcChain collection.

c. *The standard does not place restrictions between the use of the l attribute and the s attribute.*

Office requires that the l and s attributes be mutually exclusive.

d. *The standard does not adequately describe dependency levels for the l attribute.*

A dependency level is the set of formulas that may depend on formulas on the preceding dependency levels. A parent formula, as defined by **s** attribute, shall not depend on other formulas on the same dependency level. A child formula, as defined by **s** attribute, shall only depend on other formulas on the same dependency level that precede it on the same child chain.

e. *The standard does not adequately describe child chains for the s attribute.*

A child chain is a sequence of **c** elements and the corresponding formulas that have **s** attribute equal to true. A parent formula is a formula corresponding to the **c** element that has **s** attribute equal to false, and that immediately precedes the child chain. The child chain’s formulas, within the same dependency level, depend only on the preceding child formulas and on the parent formula.

f. *The standard states that when the s attribute is omitted its value is inherited from the previous c element.*

Office defaults to false when the s attribute is omitted, indicating that the formula is a parent formula.

g. *The standard specifies @t starts a new thread.*

Office treats the attribute as deprecated and is ignored.

h. *The standard states that the values of the i attribute are defined by the XML int datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 65534.

i. *The standard states that the default value of the i attribute is 0.*

Excel requires this attribute to be specified on the first cell in the calcChain collection; the default value on subsequent cells is taken from the previous record.

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2.1.689 Part 1 Section 18.7.1, author (Author)

a. *The standard does not limit the length of the value of the author element.*

Excel restricts the value of this element to be at most 65535 characters.

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.690 Part 1 Section 18.7.3, comment (Comment)

a. *The standard specifies @guid is required and unique if the workbook is shared.*

Excel additionally specifies @guid is optional if the workbook is not shared.

b. *The standard specifies that the shapeId attribute is a valid attribute of the comment element.*

Excel ignores the shapeId attribute.

2.1.691 Part 1 Section 18.7.5, commentPr (Comment Properties)

a. *The standard specifies the commentPR element.*

Excel will fail to open a file containing the commentPR element.

2.1.692 Part 1 Section 18.7.7, text (Comment Text)

For additional notes that apply to this portion of the standard, please see the notes for is, §18.3.1.53(a, b)*;* t, §18.4.12(b)*.*

2.1.693 Part 1 Section 18.8.1, alignment (Alignment)

a. *The standard states that the values of the textRotation attribute are defined by the XML Schema unsignedInt.*

Excel restricts the value of this attribute to be in the range 0-180 inclusive or 255. The meaning of the values 0-180 is defined in the standard, 255 means Vertical Text.

b. *The standard states that the values of the indent attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 255.

c. *The standard states that the values of the readingOrder attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be 0, 1, or 2.

d. *The standard does not specify a default value for the horizontal attribute.*

Excel uses a default value of general for this attribute.

e. *The standard does not specify a default value for the vertical attribute.*

Excel uses a default value of bottom for this attribute.

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f. *The standard does not specify a default value for the textRotation attribute.*

Excel uses a default value of 0 for this attribute.

g. *The standard does not specify a default value for the wrapText attribute.*

Excel uses a default value of false for this attribute.

h. *The standard does not specify a default value for the indent attribute.*

Excel uses a default value of 0 for this attribute.

i. *The standard does not specify a default value for the relativeIndent attribute.*

Excel uses a default value of 0 for this attribute.

j. *The standard does not specify a default value for the justifyLastLine attribute.*

Excel uses a default value of false for this attribute.

k. *The standard does not specify a default value for the shrinkToFit attribute.*

Excel uses a default value of false for this attribute.

l. *The standard does not specify a default value for the readingOrder attribute.*

Excel uses a default value of 0 for this attribute.

2.1.694 Part 1 Section 18.8.3, bgColor (Background Color)

For additional notes that apply to this portion of the standard, please see the notes for color, §18.3.1.15(b-d)*;* tabColor, §18.3.1.93(a-c)*.*

a. *The standard does not specify the priorities of the various color types.*

Office prioritizes the attributes as auto < indexed < rgb < theme, and only roundtrips the type with the highest priority if two or more are specified.

2.1.695 Part 1 Section 18.8.4, border (Border)

a. *The standard does not specify a default value for the diagonalUp attribute.*

Excel uses a default value of false for this attribute.

b. *The standard does not specify a default value for the diagonalDown attribute.*

Excel uses a default value of false for this attribute.

2.1.696 Part 1 Section 18.8.5, borders (Borders)

a. *The standard states that the border child element has a minOccurs value of 0 and a maxOccurs value of unbounded.*

Excel limits the occurrences of this element to be at least 1 and at most 65430.

2.1.697 Part 1 Section 18.8.7, cellStyle (Cell Style)

a. *The standard does not limit the length of the value for the @name.*

Office limits the value of @name to 255 characters.

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b. *The standard states that the builtinId attribute is any 32-bit unsigned integer.*

Office limits the values of the builtinId attribute to greater than or equal to zero and less than or equal to 53.

c. *The standard states that the iLevel attribute indicates that formatting is for an outline style, regardless of the value of the builtIn attribute.*

Office will ignore the iLevel attribute if the style is not either the RowLevel or ColLevel built-in styles (builtIn=1 or =2).

d. *The standard states that the values of the iLevel attribute are defined by the XML Schema unsigned int datatype.*

Office limits the iLevel attribute to the values 0 through 7.

e. *The standard does not define built-in styles 12, 13, and 14.*

Office defines built-in styles 12 = "Emphasis 1", 13 = "Emphasis 2", 14 = "Emphasis 3".

f. *The standard does not place uniqueness restrictions on the xfId attribute.*

Office requires that the xfId attribute must be unique with respect to the xfId values in all other cellStyle elements.

g. *The standard does not place uniqueness restrictions on the name attribute.*

Office requires that value of the name attribute must be unique with respect to the name values in all other cellStyle elements.

2.1.698 Part 1 Section 18.8.8, cellStyles (Cell Styles)

a. *The standard states that the maxOccurs value for the cellStyle child element is unbounded.*

Excel limits the occurrences of this element to 65430.

2.1.699 Part 1 Section 18.8.9, cellStyleXfs (Formatting Records)

a. *The standard states that the maxOccurs value for the xf child element is unbounded.*

Excel limits the occurrences of this element to 65430.

b. *The standard states that both the cell style xf records and cell xf records must be read to understand the full set of formatting applied to a cell.*

In Office, only the cell xf record defines the formatting applied to a cell.

c. *The standard does not limit the number of xf elements inside cellXfs and cellStyleXfs, or note any relationship between them.*

Office requires that the combined quantity of xf records inside cellXfs and non-built-in xf records inside CellStyleXfs must not exceed 65430 elements.

2.1.700 Part 1 Section 18.8.10, cellXfs (Cell Formats)

a. *The standard states that the maxOccurs value for the xf child element is unbounded.*

Excel limits the occurrences of this element to 65430.

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b. *The standard states that both the cell style xf records and cell xf records must be read to understand the full set of formatting applied to a cell.*

   In Office, only the cell xf record defines the formatting applied to a cell.

c. *The standard does not limit the number of xf elements inside cellXfs and cellStyleXfs, or note any relationship between them.*

   Office requires that the combined quantity of xf records inside cellXfs and non-built-in xf records inside CellStyleXfs must not exceed 65430 elements.

2.1.701 Part 1 Section 18.8.15, dxfs (Formats)

a. *The standard states that the maxOccurs value for the dxf child element is unbounded.*

   Excel limits the occurrences of this element to 2147483647.

2.1.702 Part 1 Section 18.8.16, end (Trailing Edge Border)

a. *The standard specifies that an "end" element specify a trailing edge border.*

   Excel writes "right" instead of "end".

2.1.703 Part 1 Section 18.8.18, family (Font Family)

a. *The standard states that the values of the val attribute are defined by the XML Schema int datatype.*

   Excel restricts the value of this attribute to be at least 0 and at most 5.

b. *The standard implies that the val attribute refers to character set.*

   In Office, the val attribute is interpreted as referring to the font family.

2.1.704 Part 1 Section 18.8.19, fgColor (Foreground Color)

For additional notes that apply to this portion of the standard, please see the notes for color, §18.3.1.15(b-d); tabColor, §18.3.1.93(a-c); bgColor, §18.8.3(a).

a. *The standard does not specify the priorities of the various color types.*

   Office prioritizes the attributes as auto < indexed < rgb < theme, and only roundtrips the type with the highest priority if two or more are specified.

2.1.705 Part 1 Section 18.8.21, fills (Fills)

a. *The standard states that the fill child element has a minOccurs value of 0 and a maxOccurs value of unbounded.*

   Excel limits the occurrences of this element to be at least 1 and at most 65430.

b. *The standard allows for arbitrary definitions of these elements*

   In Excel, the first two Fill ("[ISO/IEC-29500-1] §18.8.20; fill") values are reserved and deviations from their predefined values are not respected

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2.1.706 Part 1 Section 18.8.22, font (Font)

a. *The standard defines the child elements using a choice.*

Excel requires the child elements to be in the following sequence: i, strike, condense, extend, outline, shadow, u, vertAlign, sz, color, name, family, charset, scheme.

2.1.707 Part 1 Section 18.8.23, fonts (Fonts)

a. *The standard states that the font child element has a minOccurs value of 0 and a maxOccurs value of unbounded.*

Excel limits the occurrences of this element to be at least 1 and at most 65491.

2.1.708 Part 1 Section 18.8.24, gradientFill (Gradient)

a. *The standard specifies @degree as defined by the XML Schema double datatype.*

Office requires @degree to be a double between -1.7E308 and 1.7E308 inclusive.

2.1.709 Part 1 Section 18.8.27, indexedColors (Color Indexes)

a. *The standard states that the maxOccurs value for the rgbColor child element is unbounded.*

Excel limits the occurrences of this element to 64.

2.1.710 Part 1 Section 18.8.28, mruColors (MRU Colors)

a. *The standard states that the maxOccurs value for the color child element is unbounded.*

Excel limits the occurrences of this element to 10.

2.1.711 Part 1 Section 18.8.29, name (Font Name)

a. *The standard states that string length for the val attribute can be 0 to 31 characters.*

Excel restricts the value of this attribute to be at least 1 and at most 31 characters before escaping.

2.1.712 Part 1 Section 18.8.30, numFmt (Number Format)

a. *The standard defines built-in format ID 14: "mm-dd-yy"; 22: "m/d/yy h:mm"; 37: "#,##0 ;(#,##0)"; 38: "#,##0 ;[Red](#,##0)"; 39: "#,##0.00;(#,##0.00)"; 40: "#,##0.00;[Red](#,##0.00)"; 47: "mmss.0"; KOR fmt 55: "yyyy-mm-dd".*

Excel defines built-in format ID 14: "m/d/yyyy"; 22: "m/d/yyyy h:mm"; 37: "#,##0_);(#,##0)"; 38: "#,##0_);[Red](#,##0)"; 39: "#,##0.00_);(#,##0.00)"; 40: "#,##0.00_);[Red](#,##0.00)"; 47: "mm:ss.0"; KOR fmt 55: "yyyy/mm/dd".

b. *The standard does not define a restriction on the size or content of the formatCode attribute.*

In Office, the formatCode attribute is a string specifying how to format and render the numeric value of a cell. It must be less than 255 characters in length. For a string to be considered a valid format code, it should be well-formed according to the following ABNF specification.

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These definitions are for en-US locale. International consideration as specified in numFmts ("[ISO/IEC-29500-1] §18.8.31; numFmts") must be accounted for and the ABNF must be modified accordingly for specific international number formats.

In the following ABNF specification, the following set of tokens can occur 0 to unbounded times:

LITERAL-STRING

LITERAL-CHAR-REPEAT

LITERAL-CHAR-SPACE

as long as they don't break apart the following elements:

INTL*

LITERAL*

NFDateTimeToken

NFPartExponential

NFPartCond

NFPartLocaleID

NFPartColor

NFPartIntNum

NFPartStrColor

The following set of tokens must occur 0 or 1 times in each section as defined in numFmts ("[ISO/IEC-29500-1] §18.8.31; numFmts").

NFPartLocaleID

NFAbsTimeToken must occur 0 or 1 times in NFDateTime.

Also, an absolute time token must not coexist with a non-absolute equivalent token in NFDateTime.

```
All =
   ([NFPartColor] NFPartCond NFGeneral) /
   NFAnyNoCond /
   (NFAnyNoText ASCII-SEMICOLON NFAny) /
   (NFAnyNoText ASCII-SEMICOLON NFAnyNoText ASCII-SEMICOLON NFAnyNoCond) /
   (NFAnyNoText ASCII-SEMICOLON NFAnyNoText ASCII-SEMICOLON
      NFAnyNoTextNoCond ASCII-SEMICOLON [NFText / NFGeneral])
NFAny =
[NFPartColor]
(
   ([NFPartCond] NFNumber) /
```


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```
   NFText /
   ([NFPartCond] NFFraction) /
   ([NFPartCond] [NFDateTime] [NFGeneral] [NFDateTime])
   )
NFAnyNoText =
[NFPartColor] [NFPartCond]
(
   NFNumber /
   NFFraction /
   ([NFDateTime] [NFGeneral] [NFDateTime])
   )
NFAnyNoCond =
[NFPartColor]
(
   NFNumber /
   NFText /
   NFFraction /
   ([NFDateTime] [NFGeneral] [NFDateTime])
   )
NFAnyNoTextNoCond =
[NFPartColor]
(
   NFNumber /
   NFFraction /
   ([NFDateTime] [NFGeneral] [NFDateTime])
   )
NFGeneral = INTL-NUMFMT-GENERAL
NFNumber = NFPartNum [NFPartExponential NFPartNum] *INTL-CHAR-NUMGRP-SEP *INTL-AMPM
NFDateTimeToken = NFPartYear / NFPartMonth / NFPartDay /
   NFPartHour / NFPartMinute / NFPartSecond / NFAbsTimeToken

NFAbsTimeToken = NFPartAbsHour / NFPartAbsSecond / NFPartAbsMinute
```


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```
NFDateTime =
   *INTL-AMPM (1*(NFDateTimeToken) *(NFDateTimeToken / NFPartSubSecond /
      INTL-CHAR-DATE-SEP / INTL-CHAR-TIME-SEP / INTL-AMPM))
NFText =
(1*ASCII-COMMERCIAL-AT *(ASCII-COMMERCIAL-AT / INTL-AMPM)) /
(*(ASCII-COMMERCIAL-AT / INTL-AMPM) 1*ASCII-COMMERCIAL-AT)
NFFraction = NFPartFraction ASCII-SOLIDUS NFPartFraction [NFPartNum] *INTL-AMPM
; Definitions for partial rules used by the preceding rules.
NFPartNum =
(1*NFPartNumToken2 *(NFPartNumToken2 / ASCII-PERCENT-SIGN)) /
(*(NFPartNumToken2 / ASCII-PERCENT-SIGN) 1*NFPartNumToken2)
NFPartExponential = ASCII-CAPITAL-LETTER-E NFPartSign
NFPartYear = 2(ASCII-SMALL-LETTER-Y) / 4(ASCII-SMALL-LETTER-Y)
NFPartMonth = 1*5(ASCII-SMALL-LETTER-M)
NFPartDay = 1*4(ASCII-SMALL-LETTER-D)
NFPartHour = 1*2(ASCII-SMALL-LETTER-H)
NFPartAbsHour =
   ASCII-LEFT-SQUARE-BRACKET 1*ASCII-SMALL-LETTER-H ASCII-RIGHT-SQUARE-BRACKET

NFPartMinute = 1*2(ASCII-SMALL-LETTER-M)
NFPartAbsMinute =
   ASCII-LEFT-SQUARE-BRACKET 1*ASCII-SMALL-LETTER-M ASCII-RIGHT-SQUARE-BRACKET

NFPartSecond =
   1*2(ASCII-SMALL-LETTER-S)

NFPartAbsSecond =
   ASCII-LEFT-SQUARE-BRACKET 1*ASCII-SMALL-LETTER-S ASCII-RIGHT-SQUARE-BRACKET

NFPartSubSecond = INTL-CHAR-DECIMAL-SEP 1*3ASCII-DIGIT-ZERO
NFPartCond =
   ASCII-LEFT-SQUARE-BRACKET NFPartCompOper NFPartCondNum
```


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```
   ASCII-RIGHT-SQUARE-BRACKET
NFPartCompOper =
   (ASCII-LESS-THAN-SIGN [ASCII-EQUALS-SIGN / ASCII-GREATER-THAN-SIGN]) /
   ASCII-EQUALS-SIGN /
   (ASCII-GREATER-THAN-SIGN [ASCII-EQUALS-SIGN])
NFPartLocaleID =
   ASCII-LEFT-SQUARE-BRACKET ASCII-DOLLAR-SIGN 1*UTF16-ANY [ASCII-HYPHEN-MINUS
   3*8ASCII-DIGIT-HEXADECIMAL] ASCII-RIGHT-SQUARE-BRACKET
NFPartCondNum =
   [ASCII-HYPHEN-MINUS] NFPartIntNum [INTL-CHAR-DECIMAL-SEP NFPartIntNum]
      [NFPartExponential NFPartIntNum]
NFPartSign = ASCII-PLUS-SIGN / ASCII-HYPHEN-MINUS
NFPartColor =
   ASCII-LEFT-SQUARE-BRACKET
   INTL-COLOR / (NFPartStrColor NFPart1To56)
   ASCII-RIGHT-SQUARE-BRACKET
NFPart1To56 =
   NFPartNumber1To9 /
   NFPartNumber1To4 ASCII-DIGIT /
   ASCII-DIGIT-FIVE (ASCII-DIGIT-ZERO / NFPartNumber1To6)
NFPartIntNum = 1*ASCII-DIGIT
NFPartNumToken1 = ASCII-NUMBER-SIGN / ASCII-QUESTION-MARK /
   ASCII-DIGIT-ZERO
NFPartNumToken2 = NFPartNumToken1 / INTL-CHAR-DECIMAL-SEP / INTL-CHAR-NUMGRP-SEP
NFPartFraction =
(1*NFPartIntNum *(NFPartIntNum / ASCII-PERCENT-SIGN)) /
(*(NFPartIntNum / ASCII-PERCENT-SIGN) 1*NFPartIntNum) /
(1*NFPartNumToken1 *(NFPartNumToken1 / ASCII-PERCENT-SIGN)) /
(*(NFPartNumToken1 / ASCII-PERCENT-SIGN) 1*NFPartNumToken1)
NFPartNumber1To4 =
   ASCII-DIGIT-ONE /
   ASCII-DIGIT-TWO /
```


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```
   ASCII-DIGIT-THREE /
   ASCII-DIGIT-FOUR
NFPartNumber1To6 =
   NFPartNumber1To4 /
   ASCII-DIGIT-FIVE /
   ASCII-DIGIT-SIX
NFPartNumber1To9 =
   NFPartNumber1To6 /
   ASCII-DIGIT-SEVEN /
   ASCII-DIGIT-EIGHT /
   ASCII-DIGIT-NINE
NFPartStrColor =
   ASCII-CAPITAL-LETTER-C ASCII-SMALL-LETTER-O ASCII-SMALL-LETTER-L
      ASCII-SMALL-LETTER-O ASCII-SMALL-LETTER-R
LITERAL-CHAR = ASCII-REVERSE-SOLIDUS UTF16-ANY
LITERAL-CHAR-REPEAT = ASCII-ASTERISK UTF16-ANY
LITERAL-STRING =
   (ASCII-QUOTATION-MARK 1*UTF16-ANY-WITHOUT-QUOTE ASCII-QUOTATION-MARK) /
   1*LITERAL-CHAR
UTF16-ANY-WITHOUT-QUOTE = %x0000-0021 / %x0023-FFFF
LITERAL-CHAR-SPACE = ASCII-LOW-LINE UTF16-ANY

; INTL* Rules must be validated to suit the
; Locale and/or the UI language as appropriate
;
================================================================
====
INTL-CHAR-DECIMAL-SEP = ASCII-FULL-STOP
INTL-CHAR-NUMGRP-SEP = ASCII-COMMA
INTL-CHAR-DATE-SEP = ASCII-SOLIDUS
INTL-CHAR-TIME-SEP = ASCII-COLON
INTL-COLOR =
   (ASCII-CAPITAL-LETTER-B ASCII-SMALL-LETTER-L ASCII-SMALL-LETTER-A
```


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```
      ASCII-SMALL-LETTER-C ASCII-SMALL-LETTER-K) / ; Black
   (ASCII-CAPITAL-LETTER-B ASCII-SMALL-LETTER-L ASCII-SMALL-LETTER-U
      ASCII-SMALL-LETTER-E) / ; Blue
   (ASCII-CAPITAL-LETTER-C ASCII-SMALL-LETTER-Y ASCII-SMALL-LETTER-A
      ASCII-SMALL-LETTER-N) / ;Cyan
   (ASCII-CAPITAL-LETTER-G ASCII-SMALL-LETTER-R ASCII-SMALL-LETTER-E
      ASCII-SMALL-LETTER-E ASCII-SMALL-LETTER-N) / ; Green
   (ASCII-CAPITAL-LETTER-M ASCII-SMALL-LETTER-A ASCII-SMALL-LETTER-G
      ASCII-SMALL-LETTER-E ASCII-SMALL-LETTER-N
      ASCII-SMALL-LETTER-T ASCII-SMALL-LETTER-A) / ; Magenta
   (ASCII-CAPITAL-LETTER-R ASCII-SMALL-LETTER-E
      ASCII-SMALL-LETTER-D ) / ; Red
   (ASCII-CAPITAL-LETTER-W ASCII-SMALL-LETTER-H ASCII-SMALL-LETTER-I
      ASCII-SMALL-LETTER-T ASCII-SMALL-LETTER-E) / ; White
   (ASCII-CAPITAL-LETTER-Y ASCII-SMALL-LETTER-E ASCII-SMALL-LETTER-L
      ASCII-SMALL-LETTER-L ASCII-SMALL-LETTER-O
      ASCII-SMALL-LETTER-W) ; Yellow


INTL-NUMFMT-GENERAL =
   ASCII-CAPITAL-LETTER-G ASCII-SMALL-LETTER-E ASCII-SMALL-LETTER-N
   ASCII-SMALL-LETTER-E ASCII-SMALL-LETTER-R ASCII-SMALL-LETTER-A
   ASCII-SMALL-LETTER-L
INTL-AMPM =
   (ASCII-CAPITAL-LETTER-A ASCII-CAPITAL-LETTER-M ASCII-SOLIDUS
      ASCII-CAPITAL-LETTER-P ASCII-CAPITAL-LETTER-M) /
   "A/P"


UTF16-ANY = %x0000-FFFF
;
================================================================
====
; Derived from Unicode names of ASCII characters (%x20-7F)
```


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```
;
================================================================
====

ASCII-SPACE = %x20

ASCII-EXCLAMATION-MARK = %x21

ASCII-QUOTATION-MARK = %x22

ASCII-NUMBER-SIGN = %x23

ASCII-DOLLAR-SIGN = %x24

ASCII-PERCENT-SIGN = %x25

ASCII-AMPERSAND = %x26

ASCII-APOSTROPHE = %x27

ASCII-LEFT-PARENTHESIS = %x28

ASCII-RIGHT-PARENTHESIS = %x29

ASCII-ASTERISK = %x2A

ASCII-PLUS-SIGN = %x2B

ASCII-COMMA = %x2C

ASCII-HYPHEN-MINUS = %x2D

ASCII-FULL-STOP = %x2E

ASCII-SOLIDUS = %x2F

ASCII-DIGIT-ZERO = %x30

ASCII-DIGIT-ONE = %x31

ASCII-DIGIT-TWO = %x32

ASCII-DIGIT-THREE = %x33

ASCII-DIGIT-FOUR = %x34

ASCII-DIGIT-FIVE = %x35

ASCII-DIGIT-SIX = %x36

ASCII-DIGIT-SEVEN = %x37

ASCII-DIGIT-EIGHT = %x38

ASCII-DIGIT-NINE = %x39

ASCII-COLON = %x3A

ASCII-SEMICOLON = %x3B

ASCII-LESS-THAN-SIGN = %x3C

ASCII-EQUALS-SIGN = %x3D
```


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ASCII-GREATER-THAN-SIGN = %x3E

ASCII-QUESTION-MARK = %x3F

ASCII-COMMERCIAL-AT = %x40

ASCII-CAPITAL-LETTER-A = %x41

ASCII-CAPITAL-LETTER-B = %x42

ASCII-CAPITAL-LETTER-C = %x43

ASCII-CAPITAL-LETTER-D = %x44

ASCII-CAPITAL-LETTER-E = %x45

ASCII-CAPITAL-LETTER-F = %x46

ASCII-CAPITAL-LETTER-G = %x47

ASCII-CAPITAL-LETTER-H = %x48

ASCII-CAPITAL-LETTER-I = %x49

ASCII-CAPITAL-LETTER-J = %x4A

ASCII-CAPITAL-LETTER-K = %x4B

ASCII-CAPITAL-LETTER-L = %x4C

ASCII-CAPITAL-LETTER-M = %x4D

ASCII-CAPITAL-LETTER-N = %x4E

ASCII-CAPITAL-LETTER-O = %x4F

ASCII-CAPITAL-LETTER-P = %x50

ASCII-CAPITAL-LETTER-Q = %x51

ASCII-CAPITAL-LETTER-R = %x52

ASCII-CAPITAL-LETTER-S = %x53

ASCII-CAPITAL-LETTER-T = %x54

ASCII-CAPITAL-LETTER-U = %x55

ASCII-CAPITAL-LETTER-V = %x56

ASCII-CAPITAL-LETTER-W = %x57

ASCII-CAPITAL-LETTER-X = %x58

ASCII-CAPITAL-LETTER-Y = %x59

ASCII-CAPITAL-LETTER-Z = %x5A

ASCII-LEFT-SQUARE-BRACKET = %x5B

ASCII-REVERSE-SOLIDUS = %x5C

ASCII-RIGHT-SQUARE-BRACKET = %x5D

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ASCII-CIRCUMFLEX-ACCENT = %x5E

ASCII-LOW-LINE = %x5F

ASCII-GRAVE-ACCENT = %x60

ASCII-SMALL-LETTER-A = %x61

ASCII-SMALL-LETTER-B = %x62

ASCII-SMALL-LETTER-C = %x63

ASCII-SMALL-LETTER-D = %x64

ASCII-SMALL-LETTER-E = %x65

ASCII-SMALL-LETTER-F = %x66

ASCII-SMALL-LETTER-G = %x67

ASCII-SMALL-LETTER-H = %x68

ASCII-SMALL-LETTER-I = %x69

ASCII-SMALL-LETTER-J = %x6A

ASCII-SMALL-LETTER-K = %x6B

ASCII-SMALL-LETTER-L = %x6C

ASCII-SMALL-LETTER-M = %x6D

ASCII-SMALL-LETTER-N = %x6E

ASCII-SMALL-LETTER-O = %x6F

ASCII-SMALL-LETTER-P = %x70

ASCII-SMALL-LETTER-Q = %x71

ASCII-SMALL-LETTER-R = %x72

ASCII-SMALL-LETTER-S = %x73

ASCII-SMALL-LETTER-T = %x74

ASCII-SMALL-LETTER-U = %x75

ASCII-SMALL-LETTER-V = %x76

ASCII-SMALL-LETTER-W = %x77

ASCII-SMALL-LETTER-X = %x78

ASCII-SMALL-LETTER-Y = %x79

ASCII-SMALL-LETTER-Z = %x7A

ASCII-LEFT-CURLY-BRACKET = %x7B

ASCII-VERTICAL-LINE = %x7C

ASCII-RIGHT-CURLY-BRACKET = %x7D

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```
ASCII-TILDE = %x7E

ASCII-DELETE = %x7F

ASCII-CRLF = %x0d.0a

ASCII-DIGIT =

   ASCII-DIGIT-ZERO /

   ASCII-DIGIT-ONE /

   ASCII-DIGIT-TWO /

   ASCII-DIGIT-THREE /

   ASCII-DIGIT-FOUR /

   ASCII-DIGIT-FIVE /

   ASCII-DIGIT-SIX /

   ASCII-DIGIT-SEVEN /

   ASCII-DIGIT-EIGHT /

   ASCII-DIGIT-NINE

ASCII-DIGIT-HEXADECIMAL =

   ASCII-DIGIT /

   ASCII-SMALL-LETTER-A /

   ASCII-SMALL-LETTER-B /

   ASCII-SMALL-LETTER-C /

   ASCII-SMALL-LETTER-D /

   ASCII-SMALL-LETTER-E /

   ASCII-SMALL-LETTER-F /

   ASCII-CAPITAL-LETTER-A /

   ASCII-CAPITAL-LETTER-B /

   ASCII-CAPITAL-LETTER-C /

   ASCII-CAPITAL-LETTER-D /

   ASCII-CAPITAL-LETTER-E /

   ASCII-CAPITAL-LETTER-F

;
================================================================
====
```

c. *The standard does not restrict the parent of numFmt, such that the numFmtId attribute specifies the Id used by the master style records (xf's) to reference this number format.*

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In Office, the numFmtId attribute specifies the Id used by the master style records (xf's) to reference this number format only if the parent element is present within numFmts element. Its value is ignored otherwise.

2.1.713 Part 1 Section 18.8.31, numFmts (Number Formats)

a. *The standard does not describe how to interpret a number format with only three sections.*

If only three sections are specified, the first is used for positive numbers, second for negative numbers and the third is used for zero values in Office.

b. *The standard states that the & (ampersand) text operator is used to join, or concatenate, two values.*

Excel displays '&' if '&' is present in the format.

c. *The standard states that if the cell contains a number between 0 and 1, the application shall multiply the number by 100 and add the percentage symbol in the cell (for Percentage formatting).*

Office applies percentage formatting to any numeric cell value.

d. *The standard does not include an entry for '/' in the table of format characters.*

In Excel, the fraction format character ('/') displays the number in the format of a fraction. It is interpreted as the fraction format character only when preceded and followed by a number symbol (0, #, and ?).

e. *The standard lists e+ and e- along with E+ and E- as the format characters for specifying use of scientific notation.*

In Office, only E+ and E- are the format characters for specifying use of scientific notation.

f. *The standard states that date format codes e and ee become yy in all locales other than JPN/CHT.*

In Office, date format codes e and ee become yyyy in all locales other than JPN/CHT.

g. *The standard does not limit the number of custom number formats defined in numFmts.*

Office limits the number of custom number formats to 206 and also persists files that contain more than 206 custom formats (which it cannot load).

2.1.714 Part 1 Section 18.8.33, protection (Protection Properties)

a. *The standard does not specify a default value for the locked attribute.*

Excel uses a default value of true for this attribute.

b. *The standard does not specify a default value for the hidden attribute.*

Excel uses a default value of false for this attribute.

2.1.715 Part 1 Section 18.8.37, start (Leading Edge Border)

a. *The standard specifies that "start" should be the element to specify a leading edge border.*

Excel uses "left" to specify a leading edge border.

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2.1.716 Part 1 Section 18.8.38, stop (Gradient Stop)

a. *The standard specifies @position as defined by the XML Schema double datatype.*

Office requires @position to be a double between 0 and 1 inclusive.

2.1.717 Part 1 Section 18.8.39, styleSheet (Style Sheet)

a. *The standard states that the child elements styleSheet have a minOccurs equal to zero.*

In Office, styleSheet child elements specify formatting information for the cells in an Excel document. All child elements that are referenced in the Excel document must be present or the document will be considered non-conformant.

2.1.718 Part 1 Section 18.8.40, tableStyle (Table Style)

a. *The standard incorrectly states that built-in table styles are written in tableStyle elements.*

In Office, only user-defined table styles are written to the tableStyle elements.

b. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

c. *The standard states that the maxOccurs value for the tableStyleElement child element is unbounded.*

Excel limits the occurrences of this element to 28.

2.1.719 Part 1 Section 18.8.41, tableStyleElement (Table Style)

a. *The standard specifies that the values of the size attribute are defined by the XML Schema unsignedInt datatype.*

Office requires the size attribute to be an unsignedInt between 1 to 9 inclusive.

2.1.720 Part 1 Section 18.8.42, tableStyles (Table Styles)

a. *The standard specifies @defaultTableStyle as xsd:string.*

Office requires @defaultChanged to be an xsd:string whose length is between 1 and 255 inclusive.

b. *The standard specifies @defaultPivotStyle as xsd:string.*

Office requires @defaultPivotStyle to be an xsd:string whose length is between 1 and 255 inclusive.

2.1.721 Part 1 Section 18.8.45, xf (Format)

a. *The standard does not define different behaviors for @applyAlignment depending on whether the xf is in the CellXfs element or the CellStyleXfs element.*

For the **cellStyleXfs** element, this boolean value indicates whether the alignment formatting specified for this **xf** is applied. The default value for **applyAlignment** in **cellStyleXfs** is true.

For the **cellXfs** element, this boolean value indicates whether the alignment formatting in the xf is overwritten by changes to the **cellStyleXfs** referenced by **xfId**. If **applyAlignment** is false and the alignment formatting in the **cellStyleXfs** changes, the new alignment formatting is set in the **xf** as

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well. If **applyAlignment** is true, then the **xf** will retain its existing alignment formatting. If the alignment formatting in the **cellXf** is different than the alignment formatting in the parent **cellStyleXf**, **applyAlignment** shall be true. The default value for **applyAlignment** in cellXfs element is false.

b. *The standard does not define different behaviors for @applyBorder depending on whether the xf is in the CellXfs element or the CellStyleXfs element.*

For the **cellStyleXfs** element, this boolean value indicates whether the border formatting specified for this **xf** is applied. The default value for **applyBorder** in **cellStyleXfs** is true.

For the **cellXfs** element, this boolean value indicates whether the border formatting in the xf is overwritten by changes to the **cellStyleXfs** referenced by **xfId**. If **applyBorder** is false and the border formatting in the **cellStyleXfs** changes, the new border formatting is set in the **xf** as well. If **applyBorder** is true, then the **xf** will retain its existing border formatting. If the border formatting in the **cellXf** is different than the border formatting in the parent **cellStyleXf**, **applyBorder** shall be true. The default value for **applyBorder** in cellXfs element is false.

c. *The standard does not define different behaviors for @applyFill depending on whether the xf is in the CellXfs element or the CellStyleXfs element.*

For the **cellStyleXfs** element, this boolean value indicates whether the fill formatting specified for this **xf** is applied. The default value for **applyFill** in **cellStyleXfs** is true.

For the **cellXfs** element, this boolean value indicates whether the fill formatting in the xf is overwritten by changes to the **cellStyleXfs** referenced by **xfId**. If **applyFill** is false and the fill formatting in the **cellStyleXfs** changes, the new fill formatting is set in the **xf** as well. If **applyFill** is true, then the **xf** will retain its existing fill formatting. If the fill formatting in the **cellXf** is different than the fill formatting in the parent **cellStyleXf**, **applyFill** shall be true. The default value for **applyFill** in cellXfs element is false.

d. *The standard does not define different behaviors for @applyFont depending on whether the xf is in the CellXfs element or the CellStyleXfs element.*

For the **cellStyleXfs** element, this boolean value indicates whether the font formatting specified for this **xf** is applied. The default value for **applyFont** in **cellStyleXfs** is true.

For the **cellXfs** element, this boolean value indicates whether the font formatting in the xf is overwritten by changes to the **cellStyleXfs** referenced by **xfId**. If **applyFont** is false and the font formatting in the **cellStyleXfs** changes, the new font formatting is set in the **xf** as well. If **applyFont** is true, then the **xf** will retain its existing font formatting. If the font formatting in the **cellXf** is different than the font formatting in the parent **cellStyleXf**, **applyFont** shall be true. The default value for **applyFont** in cellXfs element is false.

e. *The standard does not define different behavior for @applyNumberFormat depending on whether the xf is in the CellXfs element or the CellStyleXfs element.*

For the **cellStyleXfs** element, this boolean value indicates whether the number formatting specified for this **xf** is applied. The default value for **applyNumberFormat** in **cellStyleXfs** is true.

For the **cellXfs** element, this boolean value indicates whether the number formatting in the xf is overwritten by changes to the **cellStyleXfs** referenced by **xfId**. If **applyNumberFormat** is false and the number formatting in the **cellStyleXfs** changes, the new number formatting is set in the **xf** as well. If **applyNumberFormat** is true, then the **xf** will retain its existing number formatting. If the number formatting in the **cellXf** is different than the number formatting in the parent **cellStyleXf**, **applyNumberFormat** shall be true. The default value for **applyNumberFormat** in cellXfs element is false.

f. *The standard does not define different behaviors for @applyProtection depending on whether the xf is in the CellXfs element or the CellStyleXfs element.*

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For the **cellStyleXfs** element, this boolean value indicates whether the protection formatting specified for this **xf** is applied. The default value for **applyProtection** in **cellStyleXfs** is true.

For the **cellXfs** element, this boolean value indicates whether the protection formatting in the xf is overwritten by changes to the **cellStyleXfs** referenced by **xfId**. If **applyProtection** is false and the protection formatting in the **cellStyleXfs** changes, the new protection formatting is set in the **xf** as well. If **applyProtection** is true, then the **xf** will retain its existing protection formatting. If the protection formatting in the **cellXf** is different than the protection formatting in the parent **cellStyleXf**, **applyProtection** shall be true. The default value for **applyProtection** in cellXfs element is false.

2.1.722 Part 1 Section 18.9.1, bk (Metadata Block)

a. *The standard does not place any restrictions on the ordering of rc child elements.*

Office requires that rc elements must be stored in the strictly increasing order of their metadata record type indexes.

2.1.723 Part 1 Section 18.9.3, cellMetadata (Cell Metadata)

For additional notes that apply to this portion of the standard, please see the notes for valueMetadata, §18.9.17(a)*.*

a. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the count attribute has a maximum value of 2147483647.

2.1.724 Part 1 Section 18.9.4, futureMetadata (Future Metadata)

a. *The standard specifies that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that @count has a maximum value of 2147483647.

b. *The standard states that the name attribute is the metadata type name.*

Office requires this name must be equal to the name attribute of one of the metadataType records in the metadataTypes collection. This name must be unique among all futureMetadata records and MUST NOT equal XLMDX. Excel reserves names that begin with XL. For more information, see [MS-XLSX] section 2.2.4.4.

c. *The standard states that the possible values for the name attribute are defined by ST_Xstring simple type.*

Office requires that the name attribute be non-empty and less than or equal to 65535 characters.

2.1.725 Part 1 Section 18.9.5, k (KPI MDX Metadata)

a. *The standard does not specify the base of @n and @np.*

Office treats @n and @np as zero-based indexes into the metadataStrings collection.

b. *The standard states that the values of the n attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the n attribute has a maximum value of 2147483647.

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c. *The standard states that the values of the np attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the np attribute has a maximum value of 2147483647.

2.1.726 Part 1 Section 18.9.6, mdx (MDX Metadata Record)

a. *The standard states that the values of the n attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the n attribute has a maximum value of 2147483647.

2.1.727 Part 1 Section 18.9.7, mdxMetadata (MDX Metadata Information)

a. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datetype.*

Office requires that @count has a maximum value of 2147483647.

2.1.728 Part 1 Section 18.9.9, metadataStrings (Metadata String Store)

a. *The standard specifies that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that @count has a maximum value of 2147483647.

2.1.729 Part 1 Section 18.9.10, metadataType (Metadata Type Information)

a. *The standard specifies that the adjust attribute is true if metadata corresponding to a particular cell needs to be notified when that cell's location is changed, false otherwise.*

Office does not respect the value of the adjust attribute.

b. *The standard specifies that the assign attribute is true when metadata should be propagated by assignment, false otherwise.*

Office does not respect the value of the assign attribute.

c. *The standard specifies that the clearAll attribute is true if the metadata persists after a clear all, false otherwise.*

Office does not respect the value of the clearAll attribute.

d. *The standard specifies that the coerce attribute is true if the value metadata is removed upon coercion, false otherwise.*

Office does not respect the value of the coerce attribute.

e. *The standard specifies that the ghostCol attribute is true when the metadata is copied to or from a ghost column, false otherwise.*

Office does not respect the value of the ghostCol attribute.

f. *The standard specifies that the ghostRow attribute is true when the metadata is copied to or from a ghost row, false otherwise.*

Office does not respect the value of the ghostRow attribute.

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g. *The standard specifies that merge is true if the metadata persists after a cell merge, false otherwise.*

Office does not respect the value of the merge attribute.

h. *The standard specifies that pasteAll is true when the metadata is populated on a Paste:All, false otherwise.*

Office does not respect the value of the pasteAll attribute.

i. *The standard specifies that pasteBorders is true when the metadata is populated when only borders are pasted, false otherwise.*

Office does not respect the value of the pasteBorders attribute.

j. *The standard specifies that pasteColWidths is true if the metadata is populated when only column widths are pasted, false otherwise.*

Office does not respect the value of the pasteColWidths attribute.

k. *The standard specifies that the pasteComments attribute is true when metadata is populated when only comments are pasted, false otherwise.*

Office does not respect the value of the pasteComments attribute.

l. *The standard specifies that the pasteDataValidation attribute is true when metadata is populated when only data validation is pasted, false otherwise.*

Office does not respect the value of the pasteDataValidation attribute.

m. *The standard specifies that the pasteFormats attribute is true when metadata is populated when only formatting is pasted, false otherwise.*

Office does not respect the value of the pasteFormats attribute.

n. *The standard specifies that the pasteFormulas attribute is true when the metadata is populated when only formulas are pasted, false otherwise.*

Office does not respect the value of the pasteFormulas attribute.

o. *The standard specifies that the pasteNumberFormats attribute is true when metadata is populated when only number formatting is pasted, false otherwise.*

Office does not respect the value of the pasteNumberFormats attribute.

p. *The standard specifies that the rowColShift attribute is true if the metadata persists after the cell has been shifted, false otherwise.*

Office does not respect the value of the rowColShift attribute.

q. *The standard specifies that the splitAll attribute is true if the metadata is copied to all new cells resulting from a split and false otherwise.*

Office does not respect the value of the splitAll attribute.

r. *The standard specifies that the splitFirst attribute is true when the metadata from a split cell is only copied to the first resulting cell, false otherwise.*

Office does not respect the value of the splitFirst attribute.

s. *The standard specifies that the clearComments attribute is true if the metadata persists after Clear:Comments, false otherwise.*

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Office does not respect the value of the clearComments attribute.

t. *The standard specifies that the clearContents attribute is true if metadata persists after a "Clear: Contents" action, false otherwise.*

Office does not respect the value of the clearContents attribute.

u. *The standard does not restrict the value of the minSupportedVersion attribute when the name attribute equals XLMDX.*

Office requires that the value of the minSupportedVersion attribute shall be set to 120000 when the name attribute equals XLMDX.

v. *The standard does not restrict the value of the name attribute.*

Office requires that the value of the name attribute must be XLMDX for MDX metadata type and the name XLMDX cannot be used for future metadata type.

w. *The standard states that the possible values for the name attribute are defined by ST_Xstring simple type.*

Office requires that the name attribute be non-empty and less than or equal to 65535 characters.

x. *The standard does not restrict the value @adjust when @name=XLMDX.*

Office requires that the value @adjust shall not be true when @name=XLMDX.

y. *The standard does not restrict the value @assign when @name=XLMDX.*

Office requires that the value @assign shall be true when @name=XLMDX.

z. *The standard does not restrict the value @cellMeta when @name=XLMDX.*

Office requires that the value @cellMeta shall not be true when @name=XLMDX.

aa. *The standard does not restrict the value @clearAll when @name=XLMDX.*

Office requires that the value @clearAll shall not be true when @name=XLMDX.

bb. *The standard does not restrict the value @clearComments when @name=XLMDX.*

Office requires that the value @clearComments shall be true when @name=XLMDX.

cc. *The standard does not restrict the value @clearContents when @name=XLMDX.*

Office requires that the value @clearContents shall not be true when @name=XLMDX.

dd. *The standard does not restrict the value @clearFormats when @name=XLMDX.*

Office requires that the value @clearFormats shall be true when @name=XLMDX.

ee. *The standard does not restrict the value @coerce when @name=XLMDX.*

Office requires that the value @coerce shall be true when @name=XLMDX.

ff. *The standard does not restrict the value @copy when @name=XLMDX.*

Office requires that the value @copy shall be true when @name=XLMDX.

gg. *The standard does not restrict the value @delete when @name=XLMDX.*

Office requires that the value @delete shall not be true when @name=XLMDX.

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hh. *The standard does not restrict the value @edit when @name=XLMDX.*

Office requires that the value @edit shall not be true when @name=XLMDX.

ii. *The standard does not restrict the value @ghostCol when @name=XLMDX.*

Office requires that the value @ghostCol shall not be true when @name=XLMDX.

jj. *The standard does not restrict the value @ghostRow when @name=XLMDX.*

Office requires that the value @ghostRow shall not be true when @name=XLMDX.

kk. *The standard does not restrict the value @merge when @name=XLMDX.*

Office requires that the value @merge shall be true when @name=XLMDX.

ll. *The standard does not restrict the value @pasteAll when @name=XLMDX.*

Office requires that the value @pasteAll shall be true when @name=XLMDX.

mm. *The standard does not restrict the value @pasteBorders when @name=XLMDX.*

Office requires that the value @pasteBorders shall not be true when @name=XLMDX.

nn. *The standard does not restrict the value @pasteColWidths when @name=XLMDX.*

Office requires that the value @pasteColWidths shall not be true when @name=XLMDX.

oo. *The standard does not restrict the value @pasteComments when @name=XLMDX.*

Office requires that the value @pasteComments shall not be true when @name=XLMDX.

pp. *The standard does not restrict the value @pasteDataValidation when @name=XLMDX.*

Office requires that the value @pasteDataValidation shall not be true when @name=XLMDX.

qq. *The standard does not restrict the value @pasteFormats when @name=XLMDX.*

Office requires that the value @pasteFormats shall not be true when @name=XLMDX.

rr. *The standard does not restrict the value @pasteFormulas when @name=XLMDX.*

Office requires that the value @pasteFormulas shall not be true when @name=XLMDX.

ss. *The standard does not restrict the value @pasteValues when @name=XLMDX.*

Office requires that the value @pasteValues shall be true when @name=XLMDX.

tt. *The standard does not restrict the value @pasteNumberFormats when @name=XLMDX.*

Office requires that the value @pasteNumberFormats shall not be true when @name=XLMDX.

uu. *The standard does not restrict the value @rowColShift when @name=XLMDX.*

Office requires that the value @rowColShift shall be true when @name=XLMDX.

vv. *The standard does not restrict the value @splitAll when @name=XLMDX.*

Office requires that the value @splitAll shall not be true when @name=XLMDX.

ww. *The standard does not restrict the value @splitFirst when @name=XLMDX.*

Office requires that the value @splitFirst shall be true when @name=XLMDX.

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2.1.730 Part 1 Section 18.9.11, metadataTypes (Metadata Types Collection)

a. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the count attribute have a maximum value of 2147483647.

2.1.731 Part 1 Section 18.9.12, ms (Set MDX Metadata)

a. *The standard describes the ns attribute as an unsigned integer with 32 significant bits.*

Office requires that the value be between 0 and 2147483647 inclusive.

b. *The standard describes the @c as an unsigned integer with 32 significant bits.*

Office requires that the value be between 0 and 2147483647 inclusive.

2.1.732 Part 1 Section 18.9.13, n (Member Unique Name Index)

a. *The standard states that the values of the x attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the x attribute has a maximum value of 2147483647.

2.1.733 Part 1 Section 18.9.14, p (Member Property MDX Metadata)

a. *The standard states that the values of the n attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the n attribute has a maximum value of 2147483647.

b. *The standard states that the values of the np attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the np attribute has a maximum value of 2147483647.

2.1.734 Part 1 Section 18.9.15, rc (Metadata Record)

a. *The standard states that the values of the t attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the t attribute has a maximum value of 2147483647.

2.1.735 Part 1 Section 18.9.16, t (Tuple MDX Metadata)

a. *The standard has no restriction on whether ct can be present along with fi and/or si.*

Office requires that @ct must not be specified if either @si or @fi is specified.

b. *The standard defines the attribute si as an xsd:unsignedInt.*

In Office, @si has a maximum value of less than or equal to 2147483647.

c. *The standard defines the attribute c as an xsd:unsignedInt.*

In Office, @c has a maximum value of less than or equal to 2147483647.

d. *The standard does not restrict the value of @fi beyond unsigned int.*

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Office requires that @fi have a maximum value of 58.

e. *The standard does not specify whether @si is a 0-based or 1-based index.*

Office specifies @si is a 0-based index to a metadata string.

f. *The standard does not limit the values of @ct.*

Specifies a language used to determine the currency symbol to display for currency values. For example, if the culture is en-US, the values in the application will format the values with a dollar sign. If the culture is fr-FR the application will format the values with a euro sign.

This value conforms to the language tagging conventions of RFC 3066. The pattern <language>-<REGION> is used, for example, en-US or fr-FR.

Office does not load a file in which this attribute contains a value that it does not recognize, or is not recognized by the underlying operating system. Office recognizes the following values:

Language	Locale	Language Tag
Africaans	South Africa	af-ZA
Albanian	Albanian	sq-AL
Alsatian	France	gsw-FR
Amharic	Ethiopia	am-ET
Arabic	Algeria	ar-DZ
Arabic	Bahrain	ar-BH
Arabic	Egypt	ar-EG
Arabic	Iraq	ar-IQ
Arabic	Jordan	ar-JO
Arabic	Kuwait	ar-KW
Arabic	Lebanon	ar-LB
Arabic	Libya	ar-LY
Arabic	Morocco	ar-MA
Arabic	Oman	ar-OM
Arabic	Qatar	ar-QA
Arabic	Saudi Arabia	ar-SA
Arabic	Syria	ar-SY
Arabic	Tunisia	ar-TN
Arabic	U.A.E.	ar-AE
Arabic	Yemen	ar-YE
Armenian	Armenia	hy-AM
Assamese	India	as-IN

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Language	Locale	Language Tag
Azerbaijani (Cyrillic)	Azerbaijan	az-AZ-Cyrl
Azerbaijani (Latin)	Azerbaijan	az-AZ-Latn
Bangla	Bangladesh	bn-BD
Bangla (Bangla Script)	India	bn-IN
Bashkir	Russia	ba-RU
Basque	Basque	eu-ES
Belarusian	Belarus	be-BY
Bosnian (Cyrillic)	Bosnia and Herzegovina	bs-BA-Cyrl
Bosnian (Latin)	Bosnia and Herzegovina	bs-BA-Latn
Breton	France	br-FR
Bulgarian	Bulgaria	bg-BG
Catalan	Catalan	ca-ES
Chinese	Hong Kong SAR	zh-HK
Chinese	Macao SAR	zh-MO
Chinese	PRC	zh-CN
Chinese	Singapore	zh-SG
Chinese	Taiwan	zh-TW
Corsican	France	co-FR
Croatian	Croatia	hr-HR
Croatian (Latin)	Bosnia and Herzegovina	hr-BA-Latn
Czech	Czech Republic	cs-CZ
Danish	Denmark	da-DK
Dari	Afghanistan	prs-AF
Divehi	Maldives	div-MV
Dutch	Belgium	nl-BE
Dutch	Netherlands	nl-NL
English	Australia	en-AU
English	Belize	en-BZ
English	Canada	en-CA
English	Caribbean	en-CB
English	India	en-IN
English	Ireland	en-IE

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Language	Locale	Language Tag
English	Jamaica	en-JM
English	Malaysia	en-MY
English	New Zealand	en-NZ
English	Philippines	en-PH
English	South Africa	en-ZA
English	Trinidad	en-TT
English	United Kingdom	en-GB
English	United States	en-US
English	Zimbabwe	en-ZW
Estonian	Estonia	et-EE
Faroese	Faroe Islands	fo-FO
Filipino	Philippines	fil-PH
Finnish	Finland	fi-FI
French	Belgium	fr-BE
French	Canada	fr-CA
French	France	fr-FR
French	Luxembourg	fr-LU
French	Monaco	fr-MC
French	Switzerland	fr-CH
Frisian	Netherlands	fy-NL
Galician	Galicia	gl-ES
Georgian	Georgia	ka-GE
German	Austria	de-AT
German	Germany	de-DE
German	Liechtenstein	de-LI
German	Luxembourg	de-LU
German	Switzerland	de-CH
Greek	Greece	el-GR
Greenlandic	Greenland	kl-GL
Gujarati (Gujarati Script)	India	gu-IN
Hausa (Latin)	Nigeria	ha-NG-Latn
Hebrew	Israel	he-IL

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Language	Locale	Language Tag
Hindi	India	hi-IN
Hungarian	Hungary	hu-HU
Icelandic	Iceland	is-IS
Igbo	Nigeria	ig-NG
Inari Sami	Finland	smn-FI
Indonesian	Indonesia	id-ID
Inuktitut (Latin)	Canada	iu-CA-Latn
Inuktitut (Syllabics)	Canada	iu-CA-Cans
Irish	Ireland	ga-IE
isiXhosa / Xhosa	South Africa	xh-ZA
isiZulu / Zulu	South Africa	zu-ZA
Italian	Italy	it-IT
Italian	Switzerland	it-CH
Japanese	Japan	ja-JP
Kannada (Kannada Script)	India	kn-IN
Kazakh	Kazakhstan	kk-KZ
Khmer	Cambodia	kh-KH
K'iche	Guatemala	qut-GT
Kinyarwanda	Rwanda	rw-RW
Konkani	India	kok-IN
Korean	Korea	ko-KR
Kyrgyz	Kyrgyzstan	ky-KG
Lao	Lao PDR	lo-LA
Latvian	Latvia	lv-LV
Lithuanian	Lithuania	lt-LT
Lower Sorbian	Germany	wee-DE
Lule Sami	Norway	smj-NO
Lule Sami	Sweden	smj-SE
Luxembourgish	Luxembourg	lb-LU
Macedonian (North Macedonia)	Republic of North Macedonia	mk-MK
Malay	Brunei	ms-BN
Malay	Malaysia	ms-MY

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Language	Locale	Language Tag
Malayalam (Malayalam Script)	India	ml-IN
Maltese	Malta	mt-MT
Maori	New Zealand	mi-NZ
Mapudungun	Chile	arn-CL
Marathi	India	mr-IN
Mohawk	Mohawk	moh-CA
Mongolian (Cyrillic)	Mongolia	mn-MN
Mongolian (Mongolian)	PRC	mn-CN-Mong
Nepali	Nepal	ne-NP
Northern Sami	Finland	se-FI
Northern Sami	Norway	se-NO
Northern Sami	Sweden	se-SE
Norwegian (Bokmål)	Norway	nb-NO
Norwegian (Nynorsk)	Norway	nn-NO
Occitan	France	oc-FR
Odia (Odia Script)	India	or-IN
Pashto	Afghanistan	ps-AF
Persian	Iran	fa-IR
Polish	Poland	pl-PL
Portuguese	Brazil	pt-BR
Portuguese	Portugal	pt-PT
Punjabi (Gurmukhi Script)	India	pa-IN
Quechua	Bolivia	quz-BO
Quechua	Ecuador	quz-EC
Quechua	Peru	quz-PE
Romanian	Romania	ro-RO
Romansh	Switzerland	rm-CH
Russian	Russia	ru-RU
Sakha	Russia	sah-RU
Sanskrit	India	sa-IN
Serbian (Cyrillic)	Bosnia and Herzegovina	sr-BA-Cyrl
Serbian (Cyrillic)	Serbia and Montenegro (former)	sr-SP-Cyrl

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Language	Locale	Language Tag
Serbian (Latin)	Bosnia and Herzegovina	sr-BA-Latn
Serbian (Latin)	Serbia and Montenegro (former)	sr-SP-Latn
Sesotho sa Leboa / Northern Sotho	South Africa	ns-ZA
Setswana / Tswana	South Africa	tn-ZA
Sinhala	Sri Lanka	si-LK
Skolt Sami	Finland	sms-FI
Slovak	Slovakia	sk-SK
Slovenian	Slovenia	sl-SI
Southern Sami	Norway	sma-NO
Southern Sami	Sweden	sma-SE
Spanish	Argentina	es-AR
Spanish	Bolivia	es-BO
Spanish	Chile	es-CL
Spanish	Columbia	es-CO
Spanish	Costa Rica	es-CR
Spanish	Dominican Republic	es-DO
Spanish	Ecuador	es-EC
Spanish	El Salvador	es-SV
Spanish	Guatemala	es-GT
Spanish	Honduras	es-HN
Spanish	Mexico	es-MX
Spanish	Nicaragua	es-NI
Spanish	Panama	es-PA
Spanish	Paraguay	es-PY
Spanish	Peru	es-PE
Spanish	Puerto Rico	es-PR
Spanish	Spain	es-ES
Spanish	United States	es-US
Spanish	Uruguay	es-UY
Spanish	Venezuela	es-VE
Swahili	Kenya	sw-KE
Swedish	Finland	sv-FI

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Language	Locale	Language Tag
Swedish	Sweden	sv-SE
Syriac	Syria	syr-SY
Tajik (Cyrillic)	Tajikistan	tg-TJ-Cyrl
Tamazight (Latin)	Algeria	tmz-DZ-Latn
Tamil	India	ta-IN
Tatar	Russia	tt-RU
Telugu (Telugu Script)	India	te-IN
Thai	Thailand	th-TH
Tibetan	Bhutan	bo-BT
Tibetan	PRC	bo-CN
Turkish	Turkey	tr-TR
Turkmen	Turkmenistan	tk-TM
Uighur	PRC	ug-CN
Ukrainian	Ukraine	uk-UA
Upper Sorbian	Germany	wen-DE
Urdu	Pakistan	ur-PK
Uzbek (Cyrillic)	Uzbekistan	uz-UZ-Cyrl
Uzbek (Latin)	Uzbekistan	uz-UZ-Latn
Vietnamese	Viet Nam	vi-VN
Welsh	United Kingdom	cy-GB
Wolof	Senegal	wo-SN
Yi	PRC	ii-CN
Yoruba	Nigeria	yo-NG

2.1.736 Part 1 Section 18.9.17, valueMetadata (Value Metadata)

For additional notes that apply to this portion of the standard, please see the notes for cellMetadata, §18.9.3(a)*.*

a. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the count attribute have a maximum value of 2147483647.

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2.1.737 Part 1 Section 18.10.1.1, autoSortScope (AutoSort Scope)

a. *The standard states that autoSortScope represents the sorting scope for the PivotTable.*

In Office when autoSortScope is not specified, the sort is based on the items in the pivotField. When the sortType attribute of the parent pivotField is set to manual, autoSortScope must not be specified.

2.1.738 Part 1 Section 18.10.1.2, b (Boolean)

a. *The standard does not specify a default value for the u attribute.*

Excel uses a default value of false for this attribute.

b. *The standard does not specify a default value for the f attribute.*

Excel uses a default value of false for this attribute.

c. *The standard does not limit the length of the value of the c attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

d. *The standard does not qualify the c attribute as applicable only in certain cases.*

In Office, the c attribute is only valid for OLAP PivotTables and when createdVersion is 3 or greater.

e. *The standard does not define the relation between the u attribute and the sharedItems parent.*

In Office, the u attribute only applies when the parent is sharedItems.

f. *The standard does not define restrictions on when the cp attribute should be present.*

In Office, the cp attribute applies to OLAP-based PivotTables only and the parent is sharedItems.

g. *The standard does not specify restrictions on value of the cp attribute.*

In Office, the value of the cp attribute shall be equal to the number of x child elements and less than or equal to the mappingCount attribute of the corresponding cacheField element.

h. *The standard does not define the relation between the f attribute and the sharedItems parent.*

In Office, the f attribute only applies when the parent is sharedItems.

2.1.739 Part 1 Section 18.10.1.3, cacheField (PivotCache Field)

a. *The standard does not restrict values of the hierarchy attribute.*

In Office, the hierarchy attribute must be non-negative and less than the count of cacheHierarchy elements in the cacheHierarchies node. This attribute is only used by OLAP PivotCache.

b. *The standard does not define all the possible values of the level attribute.*

In Excel, the level attribute is only used by the OLAP PivotCache. If memberPropertyField is 0, this value shall be either 0x7fff (which means all levels) or it shall be less than the count of fieldUsage elements in fieldsUsage node.

c. *The standard does not specify restrictions for the name attribute.*

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In Office, the name attribute must be unique. The name is case-insensitive and shall have length between 1 and 32767 inclusively. If the value of createdVersion is less than 3, @name shall not be longer than 255 characters.

d. *The standard does not define maxLength restriction for the caption attribute.*

In Office, the caption attribute shall not be longer than 32767; if createdVersion of pivotCacheDefinition is less than 3, then the caption attribute must not be defined.

e. *The standard does not define length restriction for the propertyName attribute.*

In Office, the propertyName attribute shall have length between 1 and 32767 inclusively.

f. *In the standard the databaseField attribute is not restricted by data source type.*

In Office, the databaseField attribute must be TRUE for OLAP data sources.

g. *In the standard, the formula attribute is defined as a generic string.*

Office requires that the formula attribute be a Pivot formula as defined in §3.2.3.1.8, Pivot Formulas.

h. *In the standard the mappingCount attribute does not have restrictions.*

In Office, the mappingCount attribute shall be less than or equal to number of cacheField items in the cacheFields collection.

i. *The standard does not specify restrictions for the memberPropertyField attribute.*

In Office, the memberPropertyField attribute shall be 1 if the propertyName attribute is not empty and it shall be 0 or false for non-OLAP PivotCaches.

j. *The standard does not restrict the formula attribute usage for different data sources.*

In Office, the formula attribute shall not be specified for OLAP PivotCaches.

k. *In the standard, there is no restriction on value of the databaseField attribute for the first cacheField in collection.*

In Office, the first cacheField shall have a databaseField attribute equal to 1 or true.

2.1.740 Part 1 Section 18.10.1.4, cacheFields (PivotCache Fields)

a. *The standard states that the maxOccurs value for the cacheField child element is unbounded.*

Excel limits the occurrences of this element to 1024 when the value of the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 16384 otherwise.

b. *The standard states that the minOccurs value for the cacheField child element is 0.*

Excel requires an occurrence of this element for non-OLAP PivotCaches.

2.1.741 Part 1 Section 18.10.1.5, cacheHierarchies (PivotCache Hierarchies)

a. *The standard states that the minOccurs value for the cacheHierarchy child element is 0.*

Excel requires an occurrence of this element.

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2.1.742 Part 1 Section 18.10.1.6, cacheHierarchy (PivotCache Hierarchy)

a. *The standard does not limit the length of the value of the uniqueName attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

b. *The standard does not limit the length of the value of the caption attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

c. *The standard states that the caption attribute is optional.*

Excel requires this attribute.

d. *The standard does not limit the length of the value of the defaultMemberUniqueName attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

e. *The standard does not limit the length of the value of the allUniqueName attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

f. *The standard does not limit the length of the value of the allCaption attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

g. *The standard does not limit the length of the value of the dimensionUniqueName attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

h. *The standard does not limit the length of the value of the displayFolder attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

i. *The standard does not limit the length of the value of the measureGroup attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

j. *The standard does not place any restrictions on the value for the parentSet attribute.*

In Excel, the value must be less than the number of cacheHierarchy elements in cacheHierarchies collection.

k. *The standard does not state value restrictions for the iconSet attribute.*

Excel requires that the iconSet attribute be between 0 and 11.

l. *The standard does not place any restrictions on the value for the set attribute.*

In Excel, the values for the measure attribute and the set attribute cannot both be 1.

m. *The standard does not place any restrictions on the value for the measure attribute.*

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In Excel, the values for the measure attribute and the set attribute cannot both be 1.

n. *The standard does not specify the relationship between the dimensionUniqueName attribute and dimension item in the dimensions collection.*

Excel requires that the dimensionUniqueName attribute match the uniqueName attribute of an item in the dimensions collection and must be present if the set attribute equals 0, measure=0, and hidden=0.

o. *The standard states that the oneField attribute, when true, indicates this hierarchy is associated with only one field.*

Excel requires that the oneField attribute be written out when the fieldsUsage collection contains one item.

p. *The standard does not specify any dependencies between the measure attribute value and dimensions collection.*

In Excel, if the measure attribute equals 0, the matching dimension shall not have measure=1; if the measure attribute equals 1, there shall be at least one dimension with measure=1 if dimensions collection present.

2.1.743 Part 1 Section 18.10.1.7, cacheSource (PivotCache Source Description)

a. *The standard says that data source information is retrieved with the connectionId attribute.*

Office only uses the connectionId attribute for external data sources.

b. *The standard states that the connectionId attribute is the index to the workbook connection.*

Office requires that the connectionId attribute be the unique ID of the workbook connection.

c. *The standard does not place any restrictions on the value for the connectionId attribute.*

In Office, the connectionId attribute specifies the unique identifier of the workbook connection. When the cache type is set to External, this value shall be greater than 0 and shall be equal to **id** in one of the **connection** elements.

d. *The standard does not define any required schema based on the value of the type attribute.*

Office requires that if this value is worksheet, a child element worksheetSource shall be present. If this value is consolidation, a child element consolidation shall be present.

2.1.744 Part 1 Section 18.10.1.8, calculatedItem (Calculated Item)

a. *The standard does not define restrictions on the value of the field attribute.*

Office requires that the max value of the field attribute be less than the count of cacheField elements.

b. *The standard does not specify usage of child pivotArea element.*

In Office, pivotArea child element is used to specify cells to which the formula attributes apply.

c. *The standard does not place any restrictions on the value for the formula attribute.*

Office restricts the value of the formula attribute to be a Calculated Item Formula, as defined in Formulas ("[ISO/IEC-29500-1] §18.17").

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d. *The standard specifies that the field attribute indicates an index of the pivotField with which this calculated item is associated.*

Office interprets the field attribute to specify an index of the cacheField with which this calculated item is associated.

2.1.745 Part 1 Section 18.10.1.10, calculatedMember (Calculated Member)

a. *The standard discusses calculatedMember in the context of calculated OLAP hierarchies only.*

In Office, the calculatedMember element can also be used to represent a named set.

b. *The standard does not have a length restriction for the name attribute.*

Office limits the name attribute to being non-empty and less than 64000 characters.

c. *The standard does not specify a length restriction for the mdx attribute.*

Office limits the mdx attribute to being non-empty; if the createdVersion attribute of the pivotCacheDefinition is less than 3, the mdx attribute max length is less than 2049, otherwise it is 32767.

d. *The standard states that calculated items cannot be added.*

Office does allow the addition of calculated items.

e. *The standard does not limit the length of the value of the memberName attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 65535 characters.

f. *The standard does not limit the length of the value of the hierarchy attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 65535 characters.

g. *The standard does not limit the length of the value of the parent attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 65535 characters.

h. *The standard does not specify a dependency of the memberName attribute on the set attribute.*

Office requires that the memberName attribute shall be specified if the set attribute equals 0; it shall not be specified if the set attribute equals 1.

i. *The standard does not specify a dependency of the hierarchy attribute on the set attribute.*

Office requires that the hierarchy attribute shall be specified if the set attribute equals 0; it shall not be specified if the set attribute equals 1.

j. *The standard does not specify a dependency between the parent attribute and the set attribute.*

Office requires that the parent attribute shall not be specified if the set attribute equals 1.

2.1.746 Part 1 Section 18.10.1.12, chartFormat (PivotChart Format)

a. *The standard states that the format attribute specifies an index to a dxf element in the Styles part.*

Office uses the format attribute to specify an index to a pivotFmt element in the Chart part.

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2.1.747 Part 1 Section 18.10.1.15, colHierarchiesUsage (Column OLAP Hierarchy References)

a. *The standard states that the maxOccurs value for the colHierarchyUsage child element is unbounded.*

   Excel limits the occurrences of this element to 16384.

2.1.748 Part 1 Section 18.10.1.16, colHierarchyUsage (Column OLAP Hierarchies)

For additional notes that apply to this portion of the standard, please see the notes for rowHierarchyUsage, §18.10.1.83(a, b).

2.1.749 Part 1 Section 18.10.1.17, colItems (Column Items)

a. *The standard states that the maxOccurs value for the i child element is unbounded.*

   Excel limits the occurrences of this element to 1048576.

2.1.750 Part 1 Section 18.10.1.18, conditionalFormat (Conditional Formatting)

a. *The standard does not state the relationship of the priority attribute to the worksheet cfRule element.*

   In Office, there shall be a conditionalFormatting element, in the worksheet part associated with this PivotTable, with the pivot attribute equal to true and a cfRule element with the priority attribute equal to this priority value.

b. *The standard does not place any restriction on the relationship between the values of the scope attribute and the type attribute.*

   In Office, when the scope attribute equals data or selection, only the values all or none are allowed for the type attribute.

2.1.751 Part 1 Section 18.10.1.21, d (Date Time)

a. *The standard does not specify a default value for the u attribute.*

   Excel uses a default value of false for this attribute.

b. *The standard does not specify a default value for the f attribute.*

   Excel uses a default value of false for this attribute.

c. *The standard does not limit the length of the value of the c attribute.*

   Excel restricts the value of this attribute to be at most 65535 characters.

d. *The standard does not define @c's relation with the datasource type.*

   In Office, @c applies only to OLAP-based PivotTables and only when pivotCacheDefinition@createdVersion is 3 or greater.

e. *The standard does not define the relationship between the cp attribute and the datasource type.*

   In Office, the cp attribute applies to OLAP-based PivotTables only.

f. *The standard does not define the relation between the cp attribute and the sharedItems parent.*

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In Office, the cp attribute applies when the parent is sharedItems.

g. *The standard does not define the relation between @f and the sharedItems parent.*

In Office, @f applies when the parent is sharedItems.

h. *The standard does not define restrictions on the value of @cp.*

In Excel, @cp shall be equal to the count of child x elements and be less than or equal to the @mappingCount of the corresponding cacheField element.

i. *The standard does not define the relation between @u and the sharedItems parent.*

In Excel, @u applies when the parent is sharedItems.

2.1.752 Part 1 Section 18.10.1.22, dataField (Data Field Item)

a. *The standard does not specify length restrictions for the name attribute.*

Office specifies the maximum length of the name attribute shall be 32767, unless pivotTableDefinition@createdVersion is less than 3 in which case the maximum shall be 255.

b. *The standard states the fld attribute specifies the index to the field in the pivotCacheRecords part that this data item summarizes.*

In Office, the fld attribute specifies a valid index into the pivotField elements of the pivotFields.

c. *The standard for @showDataAs has a note about cell formatting.*

Office for @showDataAs uses the ST_ShowDataAs definition to determine how the dataField should be used rather than the note direction.

d. *The standard does not define a default behavior for the numFmtId attribute.*

Office assumes the application uses a default format if the numFmtId attribute is not present.

e. *The standard does not specify restrictions for the baseField attribute.*

In Office, if the showDataAs attribute is difference, percent, percentDiff or runTotal, then the baseField attribute value shall be greater or equal to zero and less than the number of pivotField elements in the pivotFields collection.

f. *The standard does not restrict the value of the baseItem attribute.*

In Office, if the showDataAs attribute equals difference, percent, or percentDiff, then the baseItem attribute shall be 1048828 (the previous item) or 1048829 (the next item). Otherwise, it is less than the number of item elements in the items collection of the field pointed to by the baseField attribute.

2.1.753 Part 1 Section 18.10.1.24, dimension (OLAP Dimension)

a. *The standard does not limit the length of the value of the caption attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 65535 characters.

b. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 65535 characters.

c. *The standard does not limit the length of the value of the uniqueName attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 32767 characters.

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2.1.754 Part 1 Section 18.10.1.26, discretePr (Discrete Grouping Properties)

a. *The standard says discretePr represents the collection of discrete grouping properties for a field group.*

In Office, each child element specifies a mapping from an element in the sharedItems collection ("[ISO/IEC-29500-1] §18.10.1.90; sharedItems (Shared Items)") of the base field of this field group to an element in the groupItems collection ("[ISO/IEC-29500-1] §18.10.1.38; groupItems") of the field group, using a zero-based index into the groupItems collection. The number of child elements shall match the number of elements in the sharedItems collection ("[ISO/IEC-29500-1] §18.10.1.90; sharedItems (Shared Items)") of the base field of this field group.

2.1.755 Part 1 Section 18.10.1.27, e (Error Value)

a. *The standard does not limit the length of the value of the c attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

b. *The standard does not define the relation between the c attribute and the datasource type.*

In Office, the c attribute applies only to OLAP-based PivotTables when the pivotCacheDefinition element attribute createdVersion is greater than or equal to 3.

c. *The standard does not define the relation between the cp attribute and child elements.*

In Office, the value of the cp attribute shall be equal to the count of child elements and be less than or equal to the @mappingCount of the corresponding cacheField element.

d. *The standard does not define the relation between the cp attribute and the datasource type.*

In Office, the cp attribute applies only to OLAP-based PivotTables.

e. *The standard does not define relation between the cp attribute and sharedItems node.*

In Office, the cp attribute applies only when the node parent is sharedItems.

f. *The standard does not specify a default value for the f attribute.*

Excel uses a default value of false for this attribute.

g. *The standard does not specify a default value for the u attribute.*

Excel uses a default value of false for this attribute.

h. *The standard does not normatively define valid error values for the v attribute.*

Office implements the following error values:

- #DIV/0!
- #NAME?
- #VALUE!
- #NULL!
- #NUM!
- #REF!
- #N/A
- #GETTING_DATA

i. *The standard does not define relation between the f attribute and sharedItems node.*

In Office, the f attribute applies only when the node parent is sharedItems.

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j. *The standard does not define relation between the u attribute and sharedItems node.*

In Office, the u attribute applies only when the node parent is sharedItems.

2.1.756 Part 1 Section 18.10.1.29, field (Field)

a. *In the standard for the element description it says there will be as many <x> elements as there are item values in any particular column or row.*

Office says that there will be as many <field> elements as there are fields in the column or row axis.

b. *The standard notes that elements may not be explicitly written and i elements, @r and @v used, which do not occur on this element or its parents.*

Office assumes that field elements are always explicit and the x attribute is required.

c. *The standard specifies that the x attribute is the index to a pivotField item value and there will be as many x elements as there are item values in any particular column.*

Office specifies that the x attribute is a valid zero-based index to a pivotField element in the pivotFields collection with value equal to -2 or greater than or equal to zero and less than the element count in the pivotFields collection.

d. *The standard does not restrict the document from having duplicate field indexes (@x).*

Office requires that the value of @x cannot be duplicated within the parent element.

2.1.757 Part 1 Section 18.10.1.30, fieldGroup (Field Group Properties)

a. *The standard allows fieldGroup to include both rangePr and discretePr in a valid document.*

Office does not allow fieldGroup to include rangePr and discretePr at the same time.

b. *The standard does not require the groupItems collection to exist in any circumstances.*

In Office, if fieldGroup contains rangePr or discretePr, the groupItems collection must exist and must not be empty.

c. *The standard does not provide restrictions on the base attribute.*

Office requires that value of the base attribute to be less than number of cacheFields and the cacheField element pointed to by the base value must have a databaseField attribute equal to 1.

d. *The standard does not provide restrictions on the par attribute.*

Office requires that if fieldGroup has rangePr child, then cacheField pointed to by @par shall have fieldGroup that contains rangePr; the value of the base attribute in that fieldGroup must equal the value of the base attribute on this element.

e. *The standard does not specify a dependency between the value of the rangePr element attribute groupBy and the par attribute value.*

In Office, if the groupBy attribute of a rangePr child is range, then the par attribute shall not be specified; otherwise, it shall be less than count of cacheFields elements.

2.1.758 Part 1 Section 18.10.1.31, fieldsUsage (Fields Usage)

a. *The standard does not restrict the number of items in the fieldsUsage collection, in any case.*

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In Office, if the parent cacheHierarchy has @measure equal to 1, this collection shall contain only one item.

2.1.759 Part 1 Section 18.10.1.32, fieldUsage (PivotCache Field Id)

a. *The standard does not restrict the value of the x attribute in any way.*

In Office, x is a zero-based index in the parent collection, must be >= -1 and < the total number of cacheField elements. If x points to a cacheField, this cacheField must point back to the same hierarchy the parent fieldsUsage is part of.

b. *The standard does not state a dependency between fieldUsage index and cacheField@level.*

Office requires that the index of fieldUsage in the fieldsUsage collection determine the mapping between Pivot level and a cache field. The index must match the value of @level in the corresponding cacheField item.

2.1.760 Part 1 Section 18.10.1.33, filter (PivotTable Advanced Filter)

a. *The standard does not define a maximum value for @fld.*

Office requires @fld to be less than the pivotFields count.

b. *The standard does not define a max value for @iMeasureHier.*

Office requires that @iMeasureHier be less than the pivotHierarchies count.

c. *The standard does not define a maximum value for the mpFld attribute.*

Office requires that the mpFld attribute be less than the pivotFields count.

d. *The standard does not specify a default value for the iMeasureFld attribute.*

Excel uses a default value of 0 for this attribute.

e. *The standard does not state a maximum limit for the iMeasureFld attribute.*

Office specifies that @iMeasureFld be less than the data fields count. Office will not load a file that has @iMeasureFld greater or equal to the count of pivotFields.

f. *The standard does not state any restrictions on when the mpFld attribute can be used.*

Office assumes that the mpFld attribute is specific to OLAP PivotTables.

g. *The standard states that @evalOrder specifies the evaluation order of the pivot filter.*

In Office, the value of -1 indicates that the order in which filters are applied is not relevant.

2.1.761 Part 1 Section 18.10.1.35, format (PivotTable Format)

a. *The standard defines the action attribute as type ST_FormatAction, which contains Drill and Formula as values.*

Excel does not support the Drill and Formula values for the action attribute.

2.1.762 Part 1 Section 18.10.1.37, group (OLAP Group)

a. *The standard does not define limitations on the valid values for the id attribute.*

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Office requires that the value of the id attribute be greater than 0.

b. *The standard does not define a length limitation to the value of @uniqueParent.*

Office limits the value of @uniqueParent to 65535 characters.

c. *The standard does not place limits on the length of @caption, @name, and @uniqueName.*

Office assumes that for @caption, @name, and @uniquename, if the value of pivotCacheDefinition@createdVersion is less than 3, the maximum length of these attributes is 255 characters.

2.1.763 Part 1 Section 18.10.1.38, groupItems (OLAP Group Items)

a. *The standard states that the groupItems element defines OLAP Group Items.*

In Office, the groupItems element does not apply to OLAP PivotTables.

2.1.764 Part 1 Section 18.10.1.39, groupLevel (OLAP Grouping Levels)

a. *The standard does not limit the length of the value of the caption attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

b. *The standard does not limit the length of the value of the uniqueName attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

2.1.765 Part 1 Section 18.10.1.41, groupMember (OLAP Group Member)

a. *The standard does not limit the length of the value of the uniqueName attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 65535 characters.

2.1.766 Part 1 Section 18.10.1.44, i (Row Items)

a. *The standard does not specify restrictions on the i attribute.*

Office specifies that the i attribute should be 0 if the dataFields collection is empty and should be less than number of elements in that collection otherwise.

b. *The standard states that a value of default on the t attribute indicates a grand total as the last row item value.*

Excel uses the definition from the ST_ItemType simple type for the definition of this value.

c. *The standard does not place restrictions on the value of the r attribute.*

In Office, if the r attribute is not 0, then the sum of the r attribute and number of x attribute elements must be less or equal to the number of elements in the rowFields or colFields collections, depending on context. The r attribute shall not exceed the number of items in the previous row item.

d. *The standard does not specify the relationship of x elements to pivotFields.*

Office defines the relationship between x elements and pivotFields as follows:

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The **v** attribute of the **x** element shall be *1048832* (specifying that no item appears at this position) or a valid item index in its pivot field.

The axis index, of a child item **x**, is calculated as the value of **r** plus the index of the **x** element within the collection in this element. The field index is calculated as given by the **x** attribute of the **field** element, at the position given by the axis index, in either the **colFields** element ("[ISO/IEC-29500-1] §18.10.1.14; colFields"), if the parent of this element is **colItems,** or the **rowFields** element ("[ISO/IEC-29500-1] §18.10.1.81; rowFields"), if the parent of this element is **rowItems**.

If the field index is *-2* valid item indexes, for the **v** attribute of the **x** child, shall be less than the number of elements in the **dataFields** collection ("[ISO/IEC-29500-1] §18.10.1.23; dataFields"). Otherwise valid item indexes, for the **v** attribute of the **x** child, shall be less than the number of elements in the **items** collection ("[ISO/IEC-29500-1] §18.10.1.46; items") of the **pivotField,** at the index given by the field index in the pivotFields ("[ISO/IEC-29500-1] §18.10.1.70; pivotFields").

2.1.767 Part 1 Section 18.10.1.45, item (PivotTable Field Item)

a. *The standard states that the s attribute specifies if the item has a character value.*

   Excel uses the s attribute to specify if the item has a manual filter applied.

b. *The standard does not require any ordering of the child item elements.*

   In Office, any item elements that have the t attribute equal to the default value must appear before item elements with other values.

c. *The standard does not restrict the c attribute to OLAP PivotTables.*

   Excel allows the c attribute only for OLAP PivotTables.

d. *The standard does not restrict the d attribute to OLAP PivotTables.*

   Excel allows the d attribute for OLAP PivotTables only.

e. *The standard does not restrict the e attribute to OLAP PivotTables only.*

   Excel allows the e attribute for OLAP PivotTables only.

f. *The standard does not restrict the f attribute to non-OLAP PivotTables.*

   Excel allows the f attribute in non-OLAP PivotTables only.

g. *The standard does not restrict the h attribute to non-OLAP PivotTables.*

   Excel allows the h attribute in non-OLAP PivotTables only.

h. *The standard does not restrict the m attribute to non-OLAP PivotTables.*

   Excel allows the m attribute in non-OLAP PivotTables only.

i. *The standard does not restrict the s attribute to OLAP PivotTables.*

   Excel allows the s attribute in OLAP PivotTables only.

j. *The standard does not restrict the sd attribute to non-OLAP PivotTables.*

   Excel allows the sd attribute in non-OLAP PivotTables only.

k. *The standard restricts the x attribute to non-OLAP PivotTables only.*

   Excel allows the x attribute in both OLAP and non-OLAP PivotTables.

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l. *The standard states that the sd attribute indicates whether the details are hidden for an item.*

Excel uses the sd attribute to indicate whether the item is expanded. A value of true indicates item details are shown. A value of false indicates item details are hidden.

m. *The standard does not specify when the x attribute is required.*

Excel requires the x attribute when the value of the t attribute is data.

n. *The standard states that the x attribute specifies an index to an item in the pivotFields collection.*

Excel uses the x attribute to specify an index to an item in the sharedItems collection for this pivotField.

o. *The standard does not specify when the x attribute values should be unique for item elements in an items collection.*

Excel requires the x attribute values to be unique for item elements in an items collection.

p. *The standard states that the m attribute indicates whether the item's value is missing.*

Excel uses the m attribute to indicate whether the item itself is missing from the source data.

q. *The standard does not restrict the length of the n attribute.*

Office requires that the n attribute be no longer than 32767 characters, or 255 characters when the PivotTable version is less than 3.

r. *The standard does not restrict the value of the n attribute.*

Office requires for non-OLAP PivotTables that, if present, the value of the n attribute be unique within the containing pivotField.

s. *The standard does not restrict the value of the t attribute with respect to other attributes.*

Office requires that the f, h, m, and d attributes be the default values if the t attribute has a value other than data.

t. *The standard does not restrict the possible values for the t attribute within ST_ItemType.*

Office does not allow blank or grand as values for the t attribute in the item element.

2.1.768 Part 1 Section 18.10.1.46, items (Field Items)

a. *The standard says that @count specifies the number of fields in the PivotTable.*

In Office @count specifies the number of items in the pivotField.

2.1.769 Part 1 Section 18.10.1.47, kpi (OLAP KPI)

a. *The standard implies that the caption attribute is optional.*

Excel requires this attribute.

b. *The standard does not limit the length of the value of the uniqueName attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

c. *The standard does not limit the length of the value of the caption attribute.*

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Excel restricts the value of this attribute to be at least 1 and most 32767 characters.

d. *The standard does not limit the length of the value of the displayFolder attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

e. *The standard does not limit the length of the value of the measureGroup attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

f. *The standard does not limit the length of the value of the parent attribute.*

Excel restricts the value of this attribute to be at most 32767 characters.

g. *The standard does not limit the length of the value of the value attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

h. *The standard does not limit the length of the value of the goal attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

i. *The standard does not limit the length of the value of the status attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

j. *The standard does not limit the length of the value of the trend attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

k. *The standard does not limit the length of the value of the weight attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

l. *The standard does not limit the length of the value of the time attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

m. *The standard states that the time attribute can be present.*

Office reports files as corrupt that contain this attribute.

n. *The standard states the values of the weight attribute are defined by the Xstring simple type.*

Office will not successfully open files when this attribute is non-empty and contains a value that does not match the uniqueName attribute value of a cacheHierarchy with a measure value of 1.

o. *The standard places no restrictions on the relationship between the parent attribute and the uniqueName attribute on the parent kpi element.*

Excel requires the value of the parent attribute, when not null, to be equal to the value of the uniqueName attribute on the parent kpi element.

p. *The standard places no restrictions on the relationship between the value attribute and the uniqueName attribute on the cacheHierarchy element.*

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Excel requires the value of the value attribute to be equal to the value of the uniqueName attribute on a cacheHierarchy element whose measure attribute has a value of 1.

q. *The standard places no restrictions on the relationship between the goal attribute and the uniqueName attribute on the cacheHierarchy element.*

Excel requires the value of the goal attribute to be equal to the value of the uniqueName attribute on a cacheHierarchy element whose measure attribute has a value of 1.

r. *The standard places no restrictions on the relationship between the status attribute and the uniqueName attribute on the cacheHierarchy element.*

Excel requires the value of the status attribute to be equal to the value of the uniqueName attribute on a cacheHierarchy element whose measure attribute has a value of 1.

s. *The standard places no restrictions on the relationship between the trend attribute and the uniqueName attribute on the cacheHierarchy element.*

Excel requires the value of the trend attribute to be equal to the value of the uniqueName attribute on a cacheHierarchy element whose measure attribute has a value of 1.

2.1.770 Part 1 Section 18.10.1.49, location (PivotTable Location)

a. *The standard does not bound the maximum allowed value on the firstHeaderRow attribute.*

Office bounds the maximum allowed value of firstHeaderRow by the value of firstDataRow.

b. *The standard says the @ref specifies the first row of the PivotTable.*

Office assumes that @ref specifies the range of the PivotTable excluding the page fields.

2.1.771 Part 1 Section 18.10.1.50, m (No Value)

a. *The standard does not limit the length of the value of the c attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

b. *The standard does not define the relation between @c and the datasource type.*

In Office, @c applies only to OLAP-based PivotTables. If the value of pivotCacheDefinition@createdVersion is less than 3, this value shall not be specified.

c. *The standard does not specify a default value for the f attribute.*

Excel uses a default value of false for this attribute.

d. *The standard does not define the relation between @cp and child elements.*

In Office, the value of @cp shall be equal to the count of child x elements and be less than or equal to the @mappingCount of the corresponding cacheField element.

e. *The standard does not define the relation between @cp and the datasource type.*

In Office, @cp applies only to OLAP-based PivotTables.

f. *The standard does not define relation between @cp and sharedItems node.*

In Office, @cp applies only when the node parent is sharedItems.

g. *The standard does not specify a default value for the u attribute.*

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Excel uses a default value of false for this attribute.

h. *The standard does not define relation between @f and sharedItems node.*

In Office, @f applies only when the node parent is sharedItems.

i. *The standard does not define relation between @u and sharedItems node.*

In Office, @u applies only when the node parent is sharedItems.

j. *The standard defines that a value of true for the i attribute indicates this value contains underline formatting.*

In Excel, a value of true for the i attribute indicates this value contains italic formatting.

k. *The standard defines that a value of true for the st attribute indicates this value contains underline formatting.*

In Excel, a value of true for the st attribute indicates this value contains strikethrough formatting.

2.1.772 Part 1 Section 18.10.1.51, map (OLAP Measure Group)

a. *The standard does not place any restrictions on the value of the measureGroup attribute.*

In Office, the value of the measureGroup attribute must be less than the number of items in measureGroups collection.

b. *The standard does not restrict the value of @dimension.*

In Office, @dimension must be less than the number of items in the dimensions collection.

c. *The standard does not specify the base of the dimension attribute index.*

Office treats the dimension attribute as a zero-based index.

d. *The standard does not specify the base of the measureGroup attribute index.*

Office treats the measureGroup attribute as a zero-based index.

e. *The standard states that the dimension attribute is optional.*

Excel requires this attribute.

f. *The standard implies that the measureGroup attribute is optional.*

Excel requires this attribute.

2.1.773 Part 1 Section 18.10.1.53, measureGroup (OLAP Measure Group)

a. *The standard does not limit the length of the value of the caption attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 65535 characters.

b. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 65535 characters.

2.1.774 Part 1 Section 18.10.1.55, member (Member)

a. *The standard states that the name attribute specifies the name of a hidden item.*

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Excel uses this attribute to specify the name of an included or excluded item.

2.1.775 Part 1 Section 18.10.1.56, members (Members)

a. *The standard does not state how to handle the absence of the level attribute.*

Excel allows child member elements in this collection to be from all hierarchy levels under this circumstance.

b. *The standard states that the values of the level attribute are defined by the XML Schema unsignedInt datatype.*

Excel requires the value of this attribute, when present, to be more than 0 and less than the value of the count attribute of the associated PivotCache's cacheHierarchy element with the same index as the parent pivotHierarchy element, if that value is greater than 0.

2.1.776 Part 1 Section 18.10.1.57, mp (OLAP Member Property)

a. *The standard does not state the relation between the name attribute and the nameLen attribute.*

In Office, if the name attribute is specified, the nameLen attribute shall also be specified and gives the length of an OLAP hierarchy name.

b. *The standard does not state the relation between the name attribute and the pLen attribute.*

In Office, if the name attribute is specified then the pLen attribute must also be specified.

c. *The standard does not state the relation between the name attribute and the pPos attribute.*

In Office, if the name attribute is specified then the pPos attribute ust also be specified.

d. *The standard does not state any relationship between the mp element and pivotTableDefinition@createdVersion.*

Office assumes that if pivotTableDefinition@createdVersion is less than 3, then the name attribute shall be present.

e. *The standard says that mp represents an OLAP Member property.*

Office assumes that if field is not 4294967295, then it specifies a valid index to a pivotField, in this PivotTable, which specifies the information for the member property that is not specified in this element.

f. *The standard limits the possible values for @level to unsignedInt.*

Office requires that when specified, the value of @level be equal to the value of the associated cacheField element @level with the same name attribute as this element, or that the special value of 32767 be used to apply to all levels.

g. *The standard does not place restrictions on when the showAsCaption attribute is used.*

Office ignores the showAsCaption attribute unless the name attribute is present and the uniqueMemberProperty attribute on the PivotField this element applies to is present.

h. *The standard does not place any restrictions on the value of @field.*

In Office, the value of @field must refer to a valid pivotField or be equal to 4294967295.

i. *The standard does not state any relationship between the element and pivotTableDefinition@createdVersion.*

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In Office, if the pivotTableDefinition@createdVersion is greater than or equal to 3, then the field attribute shall not equal 4294967295 and the other attributes of this element shall not be present.

j. *The standard says that mp represents an OLAP Member property.*

Office specifies that if field is not 4294967295, then the cacheField at index field in the associated PivotCache shall have memberPropertyField attribute equal to 1 or true.

k. *The standard does not state the relation between the name attribute and the associated cacheField.*

In Office, if name is specified and if field is not equal to 4294967295, then the associated cacheField shall have with a name attribute that matches this one and shall begin with the unique name of the OLAP hierarchy which this element is attached.

l. *The standard does not state a default value for the pPos attribute.*

Excel uses a default value of 0 for this attribute.

m. *The standard does not state a default value for the pLen attribute.*

Excel uses a default value of 0 for this attribute.

n. *The standard does not state a default value for the nameLen attribute.*

Excel uses a default value of 0 for this attribute.

2.1.777 Part 1 Section 18.10.1.58, mpMap (Member Properties Map)

a. *The standard states that @v is an index into the shared items table...*

Office treats @v as an index into the cacheFields collection.

b. *The standard states that the values of the v attribute are defined by the XML int datatype.*

Excel restricts the value of this attribute to be at least 0 and at most equal to the value of the cacheFields count; the value of the memberPropertyField attribute on the cacheField pointed to by this value must be true.

2.1.778 Part 1 Section 18.10.1.60, n (Numeric)

a. *The standard does not define relation between @cp and the datasource type.*

Office allows @cp only with OLAP PivotTables.

b. *The standard does not limit the length of the value of the c attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

c. *The standard does not define relation between @c and the datasource type.*

Office allows @c only for OLAP-based PivotTables. If the value of pivotCacheDefinition@createdVersion is less than 3 this value shall not be specified.

d. *The standard does not specify a default value for the u attribute.*

Excel uses a default value of false for this attribute.

e. *The standard does not restrict the value of @cp.*

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Office requires that @cp be equal to the count of child x elements and be less than or equal to the mappingCount of the corresponding cacheField element.

f. *The standard does not specify a default value for the f attribute.*

Excel uses a default value of false for this attribute.

g. *The standard states that the values of the v attribute are defined by the XML Schema double datatype.*

Excel does not allow the values of INF, -INF, or NaN on this attribute.

h. *The standard does not state when @f is valid.*

In Office, @f is valid only when the parent of the n element is of CT_SharedItems type.

i. *The standard does not define relation of @u with CT_SharedItems node.*

In Office, @u is used only when the n element's parent is of CT_SharedItems type.

j. *The standard states that @b applies to italics.*

Office assumes that @b applies to bold.

k. *The standard does not place a restriction for on the value of the cp attribute.*

In Office, the cp attribute applies only when the node parent is sharedItems.

2.1.779 Part 1 Section 18.10.1.62, pageField (Page Field)

a. *The standard does not state the default for the item attribute.*

In Office, if the item attribute is not specified it means that all items will be used if non-OLAP and pivotField@multipleItemSelectionAllowed is false.

b. *The standard says @index specifies the index of the item in the PivotCache.*

In Office, @item specifies the index of an item in the pivotField referred to by @fld. If present, @item shall be a valid index of an item element and shall specify how to filter this field in the PivotTable.

c. *The standard does not mention limitations on @hier value.*

In Office, if @hier is present and the PivotTable is an OLAP PivotTable then the number of pivotHierarchies shall be greater than 0, and @hier must be >=0 and < the number of pivotHierarchies. For a non-OLAP PivotTable, @hier must be -1.

d. *The standard does not specify limits on length of the name attribute.*

Office requires that the length of the name attribute be less than or equal to 255 if pivotTableDefinition@createdVersion is less than 3, and less than or equal to 32767 if pivotTableDefinition@createdVersion is greater than or equal to 3.

e. *The standard does not state limits on string length of @cap.*

Office specifies that the length of @cap shall be less than or equal to 255 if pivotTableDefinition@createdVersion is less than 3, and less than or equal to 32767 if pivotTableDefinition@createdVersion is greater than or equal to 3.

f. *The standard does not specify restrictions on @fld.*

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In Office, @fld must be greater than or equal to 0 and less than the number of pivotField elements on the PivotTable. Additionally, the pivotField referred to must have an axis attribute set to axisPage.

g. *The standard does not specify limits on when the item attribute shall be present.*

In Office, the item attribute shall not be present for OLAP PivotTables, or if pivotField@multipleItemSelectionAllowed is true. In those cases the filtering will be determined by the settings on the pivotField and/or pivotHierarchy.

h. *The standard does not define when the name attribute will be present.*

Office requires the name attribute for OLAP PivotTables.

i. *The standard describes page fields as allowing filtering to display data for a single item or all the items.*

Office additionally assumes that using settings on a pivotField or pivotHierarchy filtering can be done for multiple items in a field used as a page or report filter.

j. *The standard does not state that the name attribute is affected by the multipleItemSelectionAllowed attribute.*

In Office, if pivotHierarchy@multipleItemSelectionAllowed equals 0, the name attribute specifies the member used for filtering. Otherwise, it is ignored.

k. *The standard states that @name specifies the unique name of the hierarchy.*

Office assumes that @name specifies the member unique name of the OLAP member being displayed.

2.1.780 Part 1 Section 18.10.1.63, pageFields (Page Field Items)

a. *The standard states that the maxOccurs value for the pageField child element is unbounded.*

Excel limits the occurrences of this element to 256.

2.1.781 Part 1 Section 18.10.1.64, pageItem (Page Item)

a. *The standard does not define a length restriction on the name attribute.*

Office limits the name attribute to 255 or fewer characters when pivotCacheDefinition@createdVersion is less than 3, otherwise to 32767 or fewer characters.

2.1.782 Part 1 Section 18.10.1.67, pivotCacheDefinition (PivotCache Definition)

a. *The standard doesn't specify maxLength for @refreshedBy.*

In Office, the maxLength for @refreshedBy is 255.

b. *The standard doesn't specify any restrictions for @backgroundQuery.*

In Office, the @backgroundQuery shall be 0 for non-external data sources.

c. *The standard does not specify any restrictions for the optimizeMemory attribute.*

In Office, the optimizeMemory attribute must be 0 or false for non-external and non-ODBC data sources.

d. *The standard does not specify any restrictions for the refreshedVersion attribute.*

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In Office, the refreshedVersion attribute shall not be less than the minRefreshableVersion attribute.

e. *The standard does not specify any restrictions for the id attribute.*

In Office, the id attribute must not be empty if the saveData attribute is 1 and the invalid attribute is 0.

f. *The standard does not define application defined behavior when the missingItemsLimit attribute is not present.*

If this number is not specified, Office sets the threshold automatically based on the number of items.

g. *The standard does not define a relation between this @tupleCache and the tupleCache child element.*

In Office, if @tupleCache has a value of 0, then pivotCacheDefinition shall not contain tupleCache element.

h. *The standard does not place any restrictions on the value of the backgroundQuery attribute with respect to connection element.*

Office requires the backgroundQuery attribute match the value of background on the related connection element.

2.1.783 Part 1 Section 18.10.1.69, pivotField (PivotTable Field)

a. *The standard does not specify behavior if @axis is not present.*

Office specifies if @axis is not present, the field does not appear in the row, column or page regions of the PivotTable.

b. *The standard does not restrict valid values for the axis attribute.*

In Office, axisValues shall not be used for the axis attribute.

c. *The standard does not specify a default value for the numFmtId attribute.*

Excel uses a default value of 0 for this attribute.

d. *The standard does not specify a default value for the dataSourceSort attribute.*

Excel uses a default value of false for this attribute.

e. *The standard does not define the meaning of the absence of @rankBy.*

Office assumes if @rankBy is not present, this indicates that no data field will be used by AutoShow for ranking.

f. *The standard does not mention any relationship between the value of the dataField attribute and dataField elements.*

Office requires that if the dataField attribute is true and this pivotTable is not an OLAP pivotTable, then there must be at least one matching dataField element on this pivotTable with an fld attribute equal to this element's index within its parent element.

g. *The standard says that for @nonAutoSortDefault, a value of 1 or true indicates that an AutoSort operation will be applied to the field.*

In Office, a value of 1 or true indicates a simple data sort operation will be applied to the field.

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h. *The standard does not require a relationship between the axis attribute and rowFields.*

Office requires that if the axis attribute equals axisRow and this pivotTable is not an OLAP pivotTable, then there must be a field element in the rowFields collection with its x attribute set to the index of this pivotField.

i. *The standard does not require a relationship between the axis attribute and colFields.*

Office requires that if the axis attribute equals axisCol and this pivotTable is not an OLAP pivotTable, then there must be a field element in the colFields collection with its x attribute set to the index of this pivotField.

j. *The standard does not require a relationship between the axis attribute and pageFields.*

Office requires that if the axis attribute equals axisPage and this pivotTable is not an OLAP pivotTable, then there shall be a pageField element on this pivotTable with the fld attribute set to this pivotField's index.

k. *The standard does not define a relationship between the dataField attribute and the cacheHierarchy element.*

Office requires that if the dataField attribute equals 1 and this is an OLAP pivotTable, then the cacheField on the associated pivotCache with the same index as this element shall exist and have a hierarchy attribute which will refer to a cacheHierarchy element with its measure attribute equal to 1.

l. *The standard does not require a relationship between the axis attribute and cacheHierarchy.*

Office specifies if the axis attribute is present and this is an OLAP pivotTable, then the cacheField on the associated pivotCache with the same index as this element shall have a hierarchy attribute which will refer to a cacheHierarchy element with its measure attribute equal to 0.

m. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

n. *The standard does not limit the length of the value of the subtotalCaption attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

o. *The standard does not limit the length of the value of the uniqueMemberProperty attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

p. *The standard does not place a uniqueness restriction on the value of @name.*

Office requires @name to be unique for non-OLAP PivotTables.

q. *The standard does not place any restrictions on the relationship between the serverField attribute and the cacheField and pivotCache elements.*

Excel requires that the value of the serverField attribute on the cacheField element be 1 and the value of the type attribute on the associated pivotCache element be external when the value of the serverField attribute on this element is true.

r. *The standard does not mention that if autoShow is true, there are range limitations on itemPageCount.*

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In Excel, the itemPageCount attribute must be between 1 and 255 inclusive or the rankBy attribute must be greater than or equal to 0 and less than the number of dataField elements.

s. *The standard does not specify restrictions for the hideNewItems attribute.*

Office specifies that the hideNewItems attribute shall be false for non-OLAP pivotTables.

t. *The standard does not specify restrictions for the showPropAsCaption attribute.*

Office specifies that the showPropAsCaption attribute shall be false for non-OLAP pivotTables.

u. *The standard does not specify restrictions for the showPropCell attribute.*

Office specifies that the showPropCell attribute shall be false for non-OLAP tables.

v. *The standard does not specify restrictions for the showPropTip attribute.*

Office specifies that the showPropTip attribute shall be false for non-OLAP pivotTables.

w. *The standard does not specify restrictions for the showAll attribute.*

Office specifies that the showAll attribute shall be false for OLAP pivotTables.

x. *The standard does not specify restrictions on @dataSourceSort.*

Office specifies that @dataSourceSort shall not be 1 on a non-OLAP PivotTable.

y. *The standard describes @hiddenLevel as a PivotTable wide attribute.*

Office assumes @hiddenLevel refers to the particular level of this PivotField.

z. *The standard specifies that a @dataField value of 0 or false indicates this field appears in another region of the PivotTable.*

Office assumes a @dataField value of 0 or false indicates this field does not appear in the data region of the PivotTable.

aa. *The standard states that @itemPageCount is the number of items showed per page in the PivotTable.*

In Office, specifies @itemPageCount is the number of items to show when the PivotTable's Autoshow feature is enabled.

bb. *The standard specifies the subtotalCaption attribute as text.*

Office will replace the ? character in this attribute with the field name when displayed in the UI.

cc. *The standard states that a value of 0 or false for @serverField indicates that this is a local page field.*

In Office, assumes value of 0 or false indicates that this is not a server-based page field and the @axis can be any valid value.

dd. *The standard does not state when @dragToData is used.*

Office ignores @dragToData for OLAP PivotTables.

ee. *The standard does not state when @dragToRow is used.*

Office ignores @dragToRow for OLAP PivotTables.

ff. *The standard does not state when @dragToCol is used.*

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Office ignores @dragToCol for OLAP PivotTables.

gg. *The standard does state when @dragToPage will be used.*

In Office, @dragToPage is ignored for OLAP PivotTables.

hh. *The standard does not require a corresponding item element when the avgSubtotal is true.*

In Office, if avgSubtotal is true, then this element's items collection must contain an item element with t="avg".

ii. *The standard does not require a corresponding item element when the countASubtotal is true.*

In Office, if countASubtotal is true, then this element's items collection must contain an item element with t="countA".

jj. *The standard does not require a corresponding item element when @countSubtotal is true.*

In Office if @countSubtotal is true, then this element's items collection must contain an item element with t="count".

kk. *The standard does not require a corresponding item element when the maxSubtotal is true.*

In Office, if maxSubtotal is true, then this element's items collection must contain an item element with t="max".

ll. *The standard does not require a corresponding item element when the minSubtotal is true.*

In Office, if minSubtotal is true, then this element's items collection must contain an item element with t="min".

mm. *The standard does not require a corresponding item element when the productSubtotal is true.*

In Office, if productSubtotal is true, then this element's items collection must contain an item element with t="product".

nn. *The standard does not require a corresponding item element when the stdDevPSubtotal is true.*

In Office, if stdDevPSubtotal is true, then this element's items collection must contain an item element with t="stdDevP".

oo. *The standard does not require a corresponding item element when the stdDevSubtotal is true.*

In Office, if stdDevSubtotal is true, then this element's items collection must contain an item element with t="stdDev".

pp. *The standard does not require a corresponding item element when the sumSubtotal is true.*

In Office, if sumSubtotal is true, then this element's items collection must contain an item element with t="sum".

qq. *The standard does not require a corresponding item element when the varPSubtotal is true.*

In Office, if varPSubtotal is true, then this element's items collection must contain an item element with t="varP".

rr. *The standard does not require a corresponding item element when the varSubtotal is true.*

In Office, if varSubtotal is true, then this element's items collection must contain an item element with t="var".

ss. *The standard does not require a corresponding item element when the defaultSubtotal is false.*

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In Office, if defaultSubtotal is true or not written, then this element's items collection must contain an item element with t="default".

tt. *The standard does not state any requirements on the type of PivotTable for which @uniqueMemberProperty is valid.*

Office requires that this attribute is only set on OLAP PivotTables.

uu. *The standard does not restrict the usage of the includeNewItemsInFilter attribute.*

Office assumes the includeNewItemsInFilter attribute shall be ignored for OLAP PivotTables.

vv. *The standard states that @showPropTip determines if a tooltip is shown for a PivotTable cell.*

In Office the value of mp@showTip, if present, takes precedence over @showPropTip.

ww. *The standard states that @showPropCell determines if a tooltip is shown for a PivotTable cell.*

In Office the value of mp@showCell, if present, takes precedence over @showPropCell.

2.1.784 Part 1 Section 18.10.1.70, pivotFields (PivotTable Fields)

a. *The standard does not specify a limit on the number of pivotField child elements.*

In Office, if this PivotTable is an OLAP PivotTable, then the number of pivotField elements must be less than or equal to the number of cacheField elements on the associated cache. Otherwise they must be equal.

2.1.785 Part 1 Section 18.10.1.71, pivotHierarchies (PivotTable OLAP Hierarchies)

a. *The standard does not mention limitations on the number of child elements.*

Office requires that the number of child elements must be the same as the number of cacheHierarchy elements plus the number of kpi elements in the PivotCacheDefinition associated with this PivotTable.

2.1.786 Part 1 Section 18.10.1.72, pivotHierarchy (OLAP Hierarchy)

a. *The standard specifies @includeNewItemsInFilter value of 1 indicates the application will show only items the user has selected; all other items will be hidden.*

Specification of the includeNewItemsInFilter attribute applies to **member** elements in the **members** children (there can be more than 1 **members** under **pivotHierarchy**) of this element and **item** elements, which have *s* equal to *1* or *true* and which are in **pivotField** element associated with this **pivotHierarchy** by the **fieldsUsage** element of the **cacheHiearchy**.

A value of 1, or true, indicates the specified **members** and **items** represent items that are excluded from the PivotTable, along with their descendants.

A value of 0, or false, indicates the specified **members** and **items** represent items that are included in the PivotTable, along with their ascendants and descendants.

b. *The standard specifies @dragToData indicates whether the user is allowed to put this hierarchy into the data area of the view.*

Office specifies @dragToData value of indicates the user can put this hierarchy into the data area of the PivotTable, subject to other constraints that may apply.

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c. *The standard specifies @dragToRow indicates whether the user is allowed to put this hierarchy into the row area of the PivotTable.*

Office specifies @dragToRow value of 1 true indicates the user can put this hierarchy into the row area of the PivotTable, subject to other constraints that may apply.

d. *The standard does not specify a length limit for the caption attribute.*

Office specifies a limit of less than or equal to 65535 characters for the caption attribute.

e. *The standard specifies @dragToPage indicates whether the user is allowed to put this hierarchy into the page area of the PivotTable.*

Office specifies @dragToPage value of 1 indicates the user can put this hierarchy into the page area of the PivotTable, subject to other constraints that may apply.

f. *In the standard when @dragToCol is 0, this hierarchy cannot be removed.*

Office specifies when @dragToCol is 0 the user cannot put this hierarchy into the column area of the PivotTable. When the value is 1 the user can put this hierarchy into the column area of the PivotTable, subject to other constraints that may apply.

2.1.787 Part 1 Section 18.10.1.73, pivotTableDefinition (PivotTable Definition)

For additional notes that apply to this portion of the standard, please see the notes for raf, §18.11.1.8(b).

a. *The standard does not specify a default value for the dataPosition attribute.*

Excel uses a default value of 0 for this attribute.

b. *The standard does not define a default value for @autoFormatId.*

Office defines a default value for @autoFormatId of 1.

c. *The standard describes the mdxSubqueries attribute.*

Office does not use the mdxSubqueries attribute.

d. *The standard states for @asteriskTotals that 1 or true means that asterisks will be displayed.*

In Office, a value for @asteriskTotals of 1 or true means that asterisks will not be displayed.

e. *The standard does not limit the length of the value of the dataCaption attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

f. *The standard does not limit the length of the value of the grandTotalCaption attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

g. *The standard does not limit the length of the value of the errorCaption attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

h. *The standard does not limit the length of the value of the missingCaption attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

i. *The standard does not limit the length of the value of the pageStyle attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

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j. *The standard does not limit the length of the value of the pivotTableStyle attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

k. *The standard does not limit the length of the value of the vacatedStyle attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

l. *The standard does not limit the length of the value of the tag attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

m. *The standard does not limit the length of the value of the rowHeaderCaption attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotTable element is less than 3 and 32767 characters otherwise.

n. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

o. *The standard says that, for @preserveFormatting, 1 or true specifies to discard formatting on refresh.*

Office interprets a value of 1 or true for @preserveFormatting to indicate the formatting will be preserved and 0 or false to indicate the formatting will be discarded.

p. *The standard's @subtotalHiddenItems definition refers to the data area of the pivotTable.*

Office defines @subtotalHiddenItems to indicate whether hidden items in the page area of the pivotTable are used for subtotal calculation.

q. *The standard says that a value of 1 for @immersive means immersive is off, and that 0 means it is on.*

Office specifies a value of 1 for @immersive means that the immersive experience is left on, and a value of 0 means it is turned off.

r. *The standard does not explain what the published attribute is used for.*

Office uses the published attribute to indicate that the PivotTable is published for display in a Web browser.

s. *The standard does not list valid values for the autoFormatId attribute.*

Office, in the context of pivotTableDefinition, requires that the value of the autoFormatId attribute be less than 21 or greater than 4096 and less than or equal to 4117.

t. *The standard does not state a default value for the applyNumberFormats attribute.*

Excel uses a default value of 0 for this attribute.

u. *The standard does not state a default value for the applyBorderFormats attribute.*

Excel uses a default value of 0 for this attribute.

v. *The standard does not state a default value for the applyFontFormats attribute.*

Excel uses a default value of 0 for this attribute.

w. *The standard does not state a default value for the applyPatternFormats attribute.*

Excel uses a default value of 0 for this attribute.

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x. *The standard does not state a default value for the applyAlignmentFormats attribute.*

Excel uses a default value of 0 for this attribute.

y. *The standard does not state a default value for the applyWidthHeightFormats attribute.*

Excel uses a default value of 0 for this attribute.

z. *The standard does not limit the length of the value of the colHeaderCaption attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotTable element is less than 3 and 32767 characters otherwise.

aa. *The standard does not state a maximum value for @indent.*

Office has a maximum value of 127 for @indent.

bb. *The standard does not state how to interpret the values for @indent, or the value for no indent.*

Office assumes that @indent contains a number that is one less than the number of indent increments to apply; greater than or equal to zero and less than or equal to 127. A value of 127 indicates no indent will be used.

cc. *The standard does not specify a maximum value for @pageWrap.*

Office allows a max value of 255 for @pageWrap.

dd. *The standard does not define a default value for @rowHeaderCaption.*

Office assumes that if @rowHeaderCaption is not present an application specific string can be used.

ee. *The standard specifies the showEmptyCol attribute as indicating whether to include empty columns in the table.*

Office only uses the showEmptyCol attribute for OLAP PivotTables.

ff. *The standard specifies @showEmptyRow as indicating whether to include empty rows in the table.*

Office only uses @showEmptyRow for OLAP PivotTables.

gg. *The standard does not define when @subtotalHiddenItems should be used by an application.*

Office only uses the value of @subtotalHiddenItems for non-OLAP PivotTables.

hh. *The standard states that page fields allow filtering of the entire PivotTable report to display data for a single item or all of the items.*

In Office, page fields allow filtering to display data for multiple items.

2.1.788 Part 1 Section 18.10.1.74, pivotTableStyleInfo (PivotTable Style)

a. *The standard defines the @showLastColumn to determine if the last column of formatting is shown.*

Office ignores this attribute.

b. *The standard does not specify a default value for the showRowHeaders attribute.*

Excel uses a default value of 0 for this attribute.

c. *The standard does not specify a default value for the showRowStripes attribute.*

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Excel uses a default value of 0 for this attribute.

d. *The standard does not specify a default value for the showColStripes attribute.*

Excel uses a default value of 0 for this attribute.

e. *The standard does not specify a default value for the showColHeaders attribute.*

Excel uses a default value of 0 for this attribute.

f. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

2.1.789 Part 1 Section 18.10.1.75, query (Query)

a. *The standard allows the mdx attribute to be any ST_Xstring.*

Office requires that the mdx attribute be less than 65535 characters in length.

2.1.790 Part 1 Section 18.10.1.77, r (PivotCache Record)

a. *The standard does not specify restriction on the number of child elements.*

In Office, the number of child elements shall be equal to the number of cacheField elements with the databaseField attribute equal to 1 or true.

2.1.791 Part 1 Section 18.10.1.78, rangePr (Range Grouping Properties)

a. *The standard does not specify restrictions for @groupBy in case of parent/child relationship.*

In Office, if this rangePr is a part of a fieldGroup with a parent field, the groupBy in the rangePr of the parent must have a value that is greater than the groupBy in this rangePr.

b. *The standard does not specify restrictions for @groupInterval.*

In Office, @groupInterval must be greater than zero; if @groupBy does not equal range, the value must be an integer less than 32768.

c. *The standard does not specify restrictions for the @startNum and @endNum relationship.*

In Office, @startNum shall be less than @endNum.

d. *The standard does not specify restrictions for the @startDate and @endDate relationship.*

In Office, @startDate shall be less than @endDate.

e. *The standard does not specify restrictions for the startDate attribute and startNum or endNum attribute relationships.*

In Office, the startDate attribute shall not be specified if the startNum or endNum attributes are specified.

f. *The standard does not specify restrictions for the endDate attribute and startNum or endNum attribute relationships.*

Office requires that the endDate attribute shall not be specified if the startNum or endNum attributes are specified.

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g. *The standard does not specify the relationship between the groupBy attribute and the startDate and endDate attributes.*

In Office, if this value is not *range*, at least one of **startDate** or **endDate** shall be specified. Additionally, if this value is not *range* and the enclosing **cacheField** has **databaseField** equal to 1, **sharedItems** element ("[ISO/IEC-29500-1] §18.10.1.90; sharedItems (Shared Items)") of the enclosing **cacheField** shall have **containsDate** equal to 1 and **containsNumber** equal to 0; also, this **cacheField** shall have **containsSemiMixedTypes** equal to 0, otherwise it shall have **containsMixedTypes** equal to 0 and **containsBlank** equal to 0.

h. *In the standard no default behavior is specified for @endDate.*

If @endDate is not specified, Office uses values in the sharedItems collection of the enclosing cacheField to calculate the ending value.

i. *In the standard no default behavior is specified for @startDate.*

If @startDate is not specified, Office uses values in the sharedItems collection of the enclosing cacheField to calculate the starting value.

j. *In the standard, no default behavior is specified for the endNum attribute.*

If the endNum attribute is not specified, Office uses values in the sharedItems collection of the enclosing cacheField to calculate the ending value.

k. *In the standard, no default behavior is specified for the startNum attribute.*

If the startNum attribute is not specified, Office uses values in the sharedItems collection of the enclosing cacheField to calculate the starting value.

l. *The standard does not specify restrictions on data types for items of fields when the groupBy attribute equals range.*

Office requires that the sharedItems element of the enclosing cacheField have a containsString attribute equal to 0 and a containsMixedTypes attribute equal to 0 when the value of the groupBy attribute equals range.

m. *The standard does not place any restrictions on the value of the groupBy attribute when the value of the containsMixedType attribute on the sharedItems element of the enclosing cacheField is 1.*

Excel requires the value of the groupBy attribute to be range under this circumstance.

2.1.792 Part 1 Section 18.10.1.79, rangeSet (Range Set)

a. *The standard does not describe a relationship between the i1 attribute and the count attribute of the pages element.*

Office expects that the i1 attribute is not present when the count attribute of the pages element is less than 1; otherwise, the presence of the i1 attribute is optional.

b. *In the standard, no relationship is described between @i1 and page@count.*

Office expects @i1 to be less than page@count.

c. *The standard does not describe a relationship between the i2 attribute and the count attribute of the pages element.*

Office expects that the i2 attribute is not present when the count attribute of the pages element is less than 2; otherwise, the presence of the i2 attribute is optional.

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d. *The standard does not describe a relationship between the i3 attribute and the count attribute of the pages element.*

   Office expects that the i3 attribute is not present when the count attribute of the pages element is less than 3; otherwise, the presence of the i3 attribute is optional.

e. *The standard does not describe a relationship between the i4 attribute and the count attribute of the pages element.*

   Office expects that the i4 attribute is not present when the count attribute of the pages element is less than 4; otherwise, the presence of the i4 attribute is optional.

f. *In the standard, no relationship is described between @i2 and page@count.*

   Office expects @i2 to be less than page@count for the second page.

g. *In the standard, no relationship is described between @i3 and page@count.*

   Office expects @i3 to be less than page@count for the third page.

h. *In the standard, no relationship is described between @i4 and page@count.*

   Office expects @i4 to be less than page@count for the fourth page.

i. *The standard does not specify a relationship between @name and @ref.*

   Office requires that @name and @ref not both be present.

j. *The standard states that the values of the sheet attribute are defined by the XML Schema string datatype.*

Office places additional restrictions on the value of the sheet attribute. This string shall not be empty and its length shall not exceed 31 characters. This string shall not begin or end with the apostrophe (0x0027) character. This string shall not contain the following characters:

- Null (0x0000)
- End Of Text (0x0003)
- Asterisk (0x002A)
- Solidus (0x002F)
- Colon (0x003A)
- Question Mark (0x003F)
- Left Square Bracket (0x005B)
- Reverse Solidus (0x005C)
- Right Square Bracket (0x005D)802

2.1.793 Part 1 Section 18.10.1.83, rowHierarchyUsage (Row OLAP Hierarchies)

a. *The standard does not specify that @hierarchyUsage values cannot be duplicated.*

   In Office, @hierarchyUsage values may not be duplicated within a rowHierarchiesUsage.

b. *The standard says hierarchyUsage specifies the reference to an OLAP hierarchy in a PivotTable.*

   In Office, @hierarchyUsage must be -2 (specifying the data hierarchy) or greater than or equal to 0 and less than the number of pivotHierarchy elements.

2.1.794 Part 1 Section 18.10.1.85, s (Character Value)

a. *The standard does not specify a default value for the u attribute.*

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Excel uses a default value of false for this attribute.

b. *The standard does not specify a default value for the f attribute.*

Excel uses a default value of false for this attribute.

c. *The standard does not limit the length of the value of the c attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

d. *The standard does not define a relationship between the c attribute and the datasource type.*

In Office, the c attribute is only used with OLAP-based PivotTables. If the value of pivotCacheDefinition@createdVersion is less than 3, this value shall not be specified.

e. *The standard does not state that @cp is required in certain cases.*

Office requires that @cp shall be equal to the count of child x elements and be less than or equal to the @mappingCount of the corresponding cacheField element.

f. *The standard does not state that the presence of @cp is related to the datasource type.*

In Office, @cp is specific to OLAP-based PivotTables.

g. *The standard does not define a relationship between @cp and the parent element of s.*

In Office, @cp applies only when the parent of the s element is of type CT_SharedItems.

h. *The standard does not define a relationship between @f and the parent element of s.*

In Office, @f applies only when the parent of the s element is of type CT_SharedItems.

i. *The standard does not define a relationship between @u and the parent element of s.*

In Office, @u applies only when the parent of the s element is of type CT_SharedItems.

j. *The standard does not limit the length of the value of the v attribute.*

Excel restricts the value of this attribute to be at most 255 characters when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 32767 characters otherwise.

2.1.795 Part 1 Section 18.10.1.86, serverFormat (Server Format)

a. *The standard allows for both culture and format attributes.*

Office allows only one of culture or format attributes.

b. *The standard does not specify a maximum length for the culture attribute.*

Office has a maximum length of 31 for the culture attribute.

c. *The standard defines the format attribute to be an ST_Xstring, with no length limitations.*

Office limits the format attribute to 65535 characters.

d. *The standard does not restrict valid files to those with known language tags.*

Office does not load a file in which this attribute contains a value that it does not recognize, or is not recognized by the underlying operating system. Office recognizes the following values:

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Language	Locale	Language Tag
Africaans	South Africa	af-ZA
Albanian	Albanian	sq-AL
Alsatian	France	gsw-FR
Amharic	Ethiopia	am-ET
Arabic	Algeria	ar-DZ
Arabic	Bahrain	ar-BH
Arabic	Egypt	ar-EG
Arabic	Iraq	ar-IQ
Arabic	Jordan	ar-JO
Arabic	Kuwait	ar-KW
Arabic	Lebanon	ar-LB
Arabic	Libya	ar-LY
Arabic	Morocco	ar-MA
Arabic	Oman	ar-OM
Arabic	Qatar	ar-QA
Arabic	Saudi Arabia	ar-SA
Arabic	Syria	ar-SY
Arabic	Tunisia	ar-TN
Arabic	U.A.E.	ar-AE
Arabic	Yemen	ar-YE
Armenian	Armenia	hy-AM
Assamese	India	as-IN
Azerbaijani (Cyrillic)	Azerbaijan	az-AZ-Cyrl
Azerbaijani (Latin)	Azerbaijan	az-AZ-Latn
Bangla	Bangladesh	bn-BD
Bangla (Bangla Script)	India	bn-IN
Bashkir	Russia	ba-RU
Basque	Basque	eu-ES
Belarusian	Belarus	be-BY
Bosnian (Cyrillic)	Bosnia and Herzegovina	bs-BA-Cyrl
Bosnian (Latin)	Bosnia and Herzegovina	bs-BA-Latn
Breton	France	br-FR

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Language	Locale	Language Tag
Bulgarian	Bulgaria	bg-BG
Catalan	Catalan	ca-ES
Chinese	Hong Kong SAR	zh-HK
Chinese	Macao SAR	zh-MO
Chinese	PRC	zh-CN
Chinese	Singapore	zh-SG
Chinese	Taiwan	zh-TW
Corsican	France	co-FR
Croatian	Croatia	hr-HR
Croatian (Latin)	Bosnia and Herzegovina	hr-BA-Latn
Czech	Czech Republic	cs-CZ
Danish	Denmark	da-DK
Dari	Afghanistan	prs-AF
Divehi	Maldives	div-MV
Dutch	Belgium	nl-BE
Dutch	Netherlands	nl-NL
English	Australia	en-AU
English	Belize	en-BZ
English	Canada	en-CA
English	Caribbean	en-CB
English	India	en-IN
English	Ireland	en-IE
English	Jamaica	en-JM
English	Malaysia	en-MY
English	New Zealand	en-NZ
English	Philippines	en-PH
English	South Africa	en-ZA
English	Trinidad	en-TT
English	United Kingdom	en-GB
English	United States	en-US
English	Zimbabwe	en-ZW
Estonian	Estonia	et-EE

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Language	Locale	Language Tag
Faroese	Faroe Islands	fo-FO
Filipino	Philippines	fil-PH
Finnish	Finland	fi-FI
French	Belgium	fr-BE
French	Canada	fr-CA
French	France	fr-FR
French	Luxembourg	fr-LU
French	Monaco	fr-MC
French	Switzerland	fr-CH
Frisian	Netherlands	fy-NL
Galician	Galicia	gl-ES
Georgian	Georgia	ka-GE
German	Austria	de-AT
German	Germany	de-DE
German	Liechtenstein	de-LI
German	Luxembourg	de-LU
German	Switzerland	de-CH
Greek	Greece	el-GR
Greenlandic	Greenland	kl-GL
Gujarati (Gujarati Script)	India	gu-IN
Hausa (Latin)	Nigeria	ha-NG-Latn
Hebrew	Israel	he-IL
Hindi	India	hi-IN
Hungarian	Hungary	hu-HU
Icelandic	Iceland	is-IS
Igbo	Nigeria	ig-NG
Inari Sami	Finland	smn-FI
Indonesian	Indonesia	id-ID
Inuktitut (Latin)	Canada	iu-CA-Latn
Inuktitut (Syllabics)	Canada	iu-CA-Cans
Irish	Ireland	ga-IE
isiXhosa / Xhosa	South Africa	xh-ZA

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Language	Locale	Language Tag
isiZulu / Zulu	South Africa	zu-ZA
Italian	Italy	it-IT
Italian	Switzerland	it-CH
Japanese	Japan	ja-JP
Kannada (Kannada Script)	India	kn-IN
Kazakh	Kazakhstan	kk-KZ
Khmer	Cambodia	kh-KH
K'iche	Guatemala	qut-GT
Kinyarwanda	Rwanda	rw-RW
Konkani	India	kok-IN
Korean	Korea	ko-KR
Kyrgyz	Kyrgyzstan	ky-KG
Lao	Lao PDR	lo-LA
Latvian	Latvia	lv-LV
Lithuanian	Lithuania	lt-LT
Lower Sorbian	Germany	wee-DE
Lule Sami	Norway	smj-NO
Lule Sami	Sweden	smj-SE
Luxembourgish	Luxembourg	lb-LU
Macedonian (North Macedonia)	Republic of North Macedonia	mk-MK
Malay	Brunei	ms-BN
Malay	Malaysia	ms-MY
Malayalam (Malayalam Script)	India	ml-IN
Maltese	Malta	mt-MT
Maori	New Zealand	mi-NZ
Mapudungun	Chile	arn-CL
Marathi	India	mr-IN
Mohawk	Mohawk	moh-CA
Mongolian (Cyrillic)	Mongolia	mn-MN
Mongolian (Mongolian)	PRC	mn-CN-Mong
Nepali	Nepal	ne-NP
Northern Sami	Finland	se-FI

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Language	Locale	Language Tag
Northern Sami	Norway	se-NO
Northern Sami	Sweden	se-SE
Norwegian (Bokmål)	Norway	nb-NO
Norwegian (Nynorsk)	Norway	nn-NO
Occitan	France	oc-FR
Odia (Odia Script)	India	or-IN
Pashto	Afghanistan	ps-AF
Persian	Iran	fa-IR
Polish	Poland	pl-PL
Portuguese	Brazil	pt-BR
Portuguese	Portugal	pt-PT
Punjabi (Gurmukhi Script)	India	pa-IN
Quechua	Bolivia	quz-BO
Quechua	Ecuador	quz-EC
Quechua	Peru	quz-PE
Romanian	Romania	ro-RO
Romansh	Switzerland	rm-CH
Russian	Russia	ru-RU
Sakha	Russia	sah-RU
Sanskrit	India	sa-IN
Serbian (Cyrillic)	Bosnia and Herzegovina	sr-BA-Cyrl
Serbian (Cyrillic)	Serbia and Montenegro (former)	sr-SP-Cyrl
Serbian (Latin)	Bosnia and Herzegovina	sr-BA-Latn
Serbian (Latin)	Serbia and Montenegro (former)	sr-SP-Latn
Sesotho sa Leboa / Northern Sotho	South Africa	ns-ZA
Setswana / Tswana	South Africa	tn-ZA
Sinhala	Sri Lanka	si-LK
Skolt Sami	Finland	sms-FI
Slovak	Slovakia	sk-SK
Slovenian	Slovenia	sl-SI
Southern Sami	Norway	sma-NO
Southern Sami	Sweden	sma-SE

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Language	Locale	Language Tag
Spanish	Argentina	es-AR
Spanish	Bolivia	es-BO
Spanish	Chile	es-CL
Spanish	Columbia	es-CO
Spanish	Costa Rica	es-CR
Spanish	Dominican Republic	es-DO
Spanish	Ecuador	es-EC
Spanish	El Salvador	es-SV
Spanish	Guatemala	es-GT
Spanish	Honduras	es-HN
Spanish	Mexico	es-MX
Spanish	Nicaragua	es-NI
Spanish	Panama	es-PA
Spanish	Paraguay	es-PY
Spanish	Peru	es-PE
Spanish	Puerto Rico	es-PR
Spanish	Spain	es-ES
Spanish	United States	es-US
Spanish	Uruguay	es-UY
Spanish	Venezuela	es-VE
Swahili	Kenya	sw-KE
Swedish	Finland	sv-FI
Swedish	Sweden	sv-SE
Syriac	Syria	syr-SY
Tajik (Cyrillic)	Tajikistan	tg-TJ-Cyrl
Tamazight (Latin)	Algeria	tmz-DZ-Latn
Tamil	India	ta-IN
Tatar	Russia	tt-RU
Telugu (Telugu Script)	India	te-IN
Thai	Thailand	th-TH
Tibetan	Bhutan	bo-BT
Tibetan	PRC	bo-CN

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Language	Locale	Language Tag
Turkish	Turkey	tr-TR
Turkmen	Turkmenistan	tk-TM
Uighur	PRC	ug-CN
Ukrainian	Ukraine	uk-UA
Upper Sorbian	Germany	wen-DE
Urdu	Pakistan	ur-PK
Uzbek (Cyrillic)	Uzbekistan	uz-UZ-Cyrl
Uzbek (Latin)	Uzbekistan	uz-UZ-Latn
Vietnamese	Viet Nam	vi-VN
Welsh	United Kingdom	cy-GB
Wolof	Senegal	wo-SN
Yi	PRC	ii-CN
Yoruba	Nigeria	yo-NG

2.1.796 Part 1 Section 18.10.1.88, set (OLAP Set)

a. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that the count attribute be less than 2147483648 or 4294967295 when number of items in the set is unknown.

b. *The standard does not limit the length of the value of the setDefinition attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

c. *The standard states that the values of the maxRank attribute are defined by the XML Schema int datatype.*

Excel restricts the value of this attribute to be at least 0 and at most 1048576.

d. *The standard does not specify a default value for the count attribute.*

Excel uses a default value of 4294967295 for this attribute.

e. *The standard says that the count attribute specifies the number of tuples in the set.*

Office assumes that this indicates the number of tuples in the resulting set rather than the tpls element.

2.1.797 Part 1 Section 18.10.1.90, sharedItems (Shared Items)

a. *In the standard @maxValue is a double.*

Office does not support the use of NaN, INF, or -INF for @maxValue.

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b. *The standard states that the values of the minValue attribute are defined by the XML Schema double datatype.*

Office does not support the use of NaN, INF, or -INF for the minValue attribute.

c. *In the standard it states that a longText attribute value of false indicates when text is less than 255 characters.*

Office interprets a longText attribute value of false to indicate when text is less than or equal to 255 characters.

d. *The standard describes when the attributes are not used in the load process.*

Office checks these restrictions for individual attributes, not on the element as a whole. Restrictions are described in detail per attribute.

e. *In the standard relationships of @containsNumber with other attributes is not explicit.*

In Office, @containsNumber shall be 1 or true when @containsInteger is specified. This value shall also be 1 or true when @minValue or @maxValue is specified.

f. *In the standard there is not an explicit order between @minValue and @maxValue.*

In Office the value of @minValue shall be less than or equal to the value of @maxValue.

g. *The standard does not defined what mixed types are for the containsMixedTypes attribute.*

In Office, the containsMixedTypes attribute assumes that boolean and error shall be considered part of the string type.

h. *The standard does not define what other values are for the containsSemiMixedTypes attribute.*

Office expects that the containsSemiMixedTypes attribute is true when the field contains text, blank, boolean or error values.

i. *The standard states that when the containsString attribute equals 1, this field contains a text value.*

In Office, boolean and error are considered strings in the context of the containsString attribute.

j. *In the standard, a value of 1 or true for the containsInteger attribute indicates this field contains integer values.*

In Office, a value of 1 or true for the containsInteger attribute indicates this field contains only integer values and does not contain non-integer numeric values.

k. *The standard does not explicitly specify relationships for the minValue attribute.*

In Office, the minValue attribute shall be present when the maxValue attribute is specified. The minValue attribute shall not be specified when the minDate or maxDate attributes are specified. If present, at least one child must be a n element.

l. *The standard does not explicitly specify relationships for @maxValue.*

In Office, @maxValue shall be present when @minValue is specified. @maxValue shall not be specified when @minDate or @maxDate are specified. If present, at least one child must be a n element.

m. *The standard does not explicitly specify relationships for @minDate.*

In Office @minDate shall be present when @maxDate is specified. @minDate shall not be present when @minValue or maxValue are present. If present, at least one child must be a d element.

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n. *The standard does not explicitly specify relationships for @maxDate.*

   In Office @maxDate must be present when @minDate is specified. @maxDate shall not be present when @minValue or @maxValue are present. If present, at least one child must be a d element.

o. *The standard states that the maxOccurs value for the choice statement including the m, n, b, e, s, and d elements is unbounded.*

   Excel limits the occurrences of this choice to 32500 when the createdVersion attribute on the pivotCacheDefinition element is less than 3 and 1048576 otherwise.

2.1.798 Part 1 Section 18.10.1.91, sortByTuple (Sort By Tuple)

a. *The standard does not place any restrictions the relationship between this element and the parent set.*

   Excel specifies that any sort done on the parent set will consider this tuple when determining sort values.

2.1.799 Part 1 Section 18.10.1.92, tpl (Tuple)

a. *The standard does not require that @fld is mutually exclusive with @hier in a SpreadsheetML document.*

   Office requires that @fld and @heir be mutually exclusive in SpreadsheetML documents.

b. *The standard does not state that @fld has restrictions beyond unsignedInt.*

   Office expects that @fld is a zero-based index and shall be less than the number of items in the cacheFields collection.

c. *The standard does not place any restrictions on the value of the hier attribute.*

   Office expects that the hier attribute is a zero-based index and shall be less than the number of items in the cacheHierarchies collection.

d. *The standard does not specify restrictions for the item attribute.*

If the value for the fld attribute is specified, then the value for this attribute shall be less than the number of items in the sharedItems collection, defined in sharedItems ("[ISO/IEC-29500-1] §18.10.1.90; sharedItems (Shared Items)").

If the value for the hier attribute is specified, then the value for this attribute shall either be equal to one of the special values 4294967294/4294967295 or it shall be less than number of items in the sets collection defined in sets ("[ISO/IEC-29500-1] §18.10.1.89; sets (Sets)").

The special value of 4294967294 implies that this is the all member of the hierarchy.

The special value of 4294967295 implies that this is the default member of the hierarchy.

2.1.800 Part 1 Section 18.10.1.95, worksheetSource (Worksheet PivotCache Source)

a. *The standard allows both ref and name attributes.*

   Office requires one and only one of these attributes.

b. *The standard states that the id attribute contains a relationship to a sheet part.*

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Office uses the id attribute to specify a relationship to an external workbook.

c. *The standard limits @name to any length string.*

In Office, @name has a limit of 255 characters, and cannot be empty.

d. *The standard limits @sheet to any length string.*

In Office, @sheet has a limit of 31 characters.

2.1.801 Part 1 Section 18.10.1.96, x (Member Property Index)

a. *The standard states the values for the v attribute are defined by the XML Schema int datatype.*

Office requires that the v attribute be greater than or equal to -1 and less than the corresponding sharedItems count. A value of -1 specifies that there is no value for this member property.

b. *The standard describes x as an array of indexes.*

Office expects that x represents an index to the cached member property value.

c. *The standard does not provide complete information on which cacheField's shared item table is indexed by @v.*

Office assumes that @v is the 0-based index into the shared items table of the member property pointed by @mpMap. The Nth @mpMap used for Nth x element (the parent of @v).

d. *The standard says @v represents an index to shared items table.*

Office specifies that if the parent of this element is i, then v shall be specified by the specification for i ("[ISO/IEC-29500-1] §18.10.1.44; i").

2.1.802 Part 1 Section 18.10.1.97, x (Shared Items Index)

a. *The standard specifies that the x element is an array of indexes.*

Office assumes that the value of x@v is an index into the shared items collection.

b. *The standard does not place a limit on the value of @v.*

Office requires that @v shall be less than sharedItems count.

c. *The standard does not specify different restrictions for @v based on the parent element of x.*

In Office if the parent is the reference element, then restrictions of this value are defined by reference@field. If the parent is the tables element, then this value specifies the index into the table tag position in @url.

2.1.803 Part 1 Section 18.10.2.1, reference (Reference)

a. *The standard defines @field (Field Index) values range as unsignedInt and says a value of -2 indicates the data field.*

Office uses the value 4294967294 (a valid unsignedInt) to specify the data field and the @v in the x elements represent indices into the dataFields collection.

b. *The standard defines @field values range as unsignedInt.*

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Office requires that if the pivotArea@cacheIndex is 0, then the value shall be a valid index in the pivotFields in the pivotTable, and, unless byPosition is 1, @v in the x elements represent indices into items collection of the pivotField.

c. *The standard states that the values for the field attribute are defined by the XML Schema unsignedInt datatype.*

Office requires that if the pivotArea@chacheIndex is 1 the value shall be a valid index in the cacheFields in the pivot cache and the v attribute in the x elements represent indices into sharedItems collection of the cacheField.

2.1.804 Part 1 Section 18.11.1.1, header (Header)

a. *The standard states that the values of the maxSheetId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32767.

b. *The standard does not limit the length of the value of the userName attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 54 characters.

c. *The standard does not specify a default value for the minRId attribute.*

Excel uses a default value of 0 for this attribute.

d. *The standard does not specify a default value for the maxRId attribute.*

Excel uses the value of the minRId attribute as the default value for this attribute.

e. *The standard states that the values of the maxRId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least the value of the minRId attribute and at most 2147483647.

f. *The standard states that the values of the minRId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 2147483647.

2.1.805 Part 1 Section 18.11.1.2, headers (Revision Headers)

a. *The standard does not specify a default value for the lastGuid attribute.*

Excel uses the value of the guid attribute as the default value of the lastGuid attribute.

b. *The standard does not place any restrictions on the value for @preserveHistory.*

Office requires that the value of @preserveHistory shall be greater than or equal to 0 and less than or equal to 32K.

c. *The standard specifies @protected is false if the tracking should not be removed, true otherwise.*

Office specifies @protected is true if the tracking should not be removed, false if it can be removed.

d. *The standard does not place any restrictions on the value for @revisionId.*

Office allows a maximum value of 2147483647.

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e. *The standard does not place any restrictions on the value for the version attribute.*

Office requires that the version attribute be between 1 and 2147483647 inclusive.

f. *The standard specifies @guid to be of type ST_Guid.*

Office requires @guid to not be a null Guid ({00000000-0000-0000-0000-000000000000}).

2.1.806 Part 1 Section 18.11.1.3, nc (New Cell Data)

a. *The standard states that the values of the cm attribute are defined by the XML Schema unsignedInt datatype.*

Excel requires the value of this attribute to be 0.

b. *The standard states that the values of the s attribute are defined by the XML Schema unsignedInt datatype.*

Excel requires the value of this attribute to be 0.

c. *The standard states that the values of the ph attribute are defined by the XML Schema boolean datatype.*

Excel requires the value of this attribute to be 0 or false.

d. *The standard states that the values of the vm attribute are defined by the XML Schema unsignedInt datatype.*

Excel requires the value of this attribute to be 0.

e. *The standard states that the values of the t attribute are defined y the ST_CellType simple type.*

Excel limits the values of this attribute to be b, e, inlineStr, or n.

f. *The standard states that the r attribute is optional.*

Excel requires this attribute.

g. *The standard does not limit the length of the value of the child v element.*

Excel restricts the value of this child element to be at most 32767 characters.

h. *The standard places no restrictions on the relationship between the values of the r attributes on the oc and nc elements.*

Excel requires that the value of the r attribute on the oc element match the value of the r attribute on the nc element.

2.1.807 Part 1 Section 18.11.1.5, oc (Old Cell Data)

For additional notes that apply to this portion of the standard, please see the notes for nc, §18.11.1.3(a-g).

2.1.808 Part 1 Section 18.11.1.7, oldFormula (Old Formula)

a. *The standard states that the contents of this element are an extension on the ST_Formula simple type.*

Excel requires the contents of this element to follow the grammar for a name formula, as defined in Name Formulas (§3.2.3.1.4, Name Formulas).

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b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.809 Part 1 Section 18.11.1.8, raf (Revision AutoFormat)

For additional notes that apply to this portion of the standard, please see the notes for pivotTableDefinition, §18.10.1.79(s-y)*.*

a. *The standard states that the values of the sheetId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32767.

b. *In the standard, @autoformatid is defined to be of type unsignedInt with no restrictions.*

Office specifies that when in the context of raf and queryTable elements, the value shall be less than 21. In the context of the pivotTableDefinition element, the value shall be less than 21 or greater than 4096 and less than or equal to 4117.

2.1.810 Part 1 Section 18.11.1.9, rcc (Revision Cell Change)

For additional notes that apply to this portion of the standard, please see the notes for rdn, §18.11.1.13(j,n)*.*

a. *The standard states that the values of the sId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32767.

b. *The standard does not specify a default value for the numFmtId attribute.*

Excel uses a default value of 0 for this attribute.

c. *The standard states that the s attribute is only applicable to undo operations.*

Excel allows this attribute to be applicable to operations other than undo.

2.1.811 Part 1 Section 18.11.1.10, rcft (Revision Merge Conflict)

For additional notes that apply to this portion of the standard, please see the notes for rdn, §18.11.1.13(j,n)*.*

a. *The standard defines the @sheetId without including its maximum or minimum values.*

Office specifies that @sheetId is in the range from 0 to 32767.

2.1.812 Part 1 Section 18.11.1.11, rcmt (Revision Cell Comment)

a. *The standard specifies that @author is restricted to be of type ST_Xstring.*

Office defines that the length of @author should be between 1 and 52 inclusive.

b. *The standard places no restrictions on the relationship between the guid attribute and a revision record.*

Office uses the guid attribute to associate a revision record with a comment in a worksheet.

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2.1.813 Part 1 Section 18.11.1.13, rdn (Revision Defined Name)

a. *The standard defines the @localSheetId without specifying a maximum value.*

Office specifies the maximum value of @localSheetId to be 32767.

b. *The standard does not limit the length of the attribute customMenu.*

Office specifies the maximum length of @customMenu shall be 32767.

c. *The standard does not limit the length of the oldCustomMenu attribute.*

Office specifies the maximum length of @oldCustomMenu shall be 32767.

d. *The standard does not limit the length of the attribute description.*

Office specifies the maximum length of @description to be 32767.

e. *The standard does not limit the length of the @oldDescription.*

Office specifies a maximum length for @oldDescription is 32767.

f. *The standard does not limit the length of @help.*

Office specifies the maximum length of @help shall be 32767.

g. *The standard does not limit the length of the oldHelp attribute.*

Office specifies the maximum length of @oldHelp to be 32767.

h. *The standard does not limit the length of the statusBar attribute.*

Office specifies the maximum length of @statusBar to be 32767.

i. *The standard does not limit the length of @oldStatusBar.*

Office specifies the maximum length of @oldStatusBar to be 32767.

j. *The standard does not specify any restrictions on the formula in the formula element.*

Excel specifies the formula element to be a Name formula, as defined in Formulas ("[ISO/IEC-29500-1] §18.17").

k. *The standard does not limit the length of the value of the comment attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

l. *The standard states that the values of the name attribute are defined by the ST_Xstring simple type.*

In Office, the value of the name attribute shall be unique within the parent element collection and must match the definition of Defined Name in Formulas ("[ISO/IEC-29500-1] §18.17").

m. *The standard does not limit the length of the value of the oldComment attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

n. *The standard states that the values of the rId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 2147483647.

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2.1.814 Part 1 Section 18.11.1.14, reviewed (Reviewed)

a. *The standard does not place any restrictions on the value for the rId attribute.*

Office allows the rId attribute to have a maximum value of 2147483647. Revision records shall always appear in increasing order of revision record Ids within a shared workbooks part

2.1.815 Part 1 Section 18.11.1.17, rfmt (Revision Format)

a. *The standard defines the length attribute without including its maximum values.*

Office requires that the length attribute shall be less than 32767 when a part of string is affected by the change or shall be 2147483647 when all the characters of the string are affected by the change.

b. *The standard defines the @sheetId without including its maximum or minimum values.*

Office specifies that @sheetId is in the range from 0 to 32767.

c. *The standard does not describe the limits and relationships of @start.*

Office requires that either @length is 2147483647 and @start is 0 or the sum of @start and @length shall be less than 32767.

d. *The standard does not specify when @start shall be omitted.*

Office specifies @start such that start shall be omitted when a built-in or custom format is applied to the references specified by @sqref.

e. *The standard does not specify when @length is omitted.*

Office specifies that @length shall be omitted when a built-in or custom format is applied to the references specified by @sqref.

2.1.816 Part 1 Section 18.11.1.18, ris (Revision Insert Sheet)

For additional notes that apply to this portion of the standard, please see the notes for rdn, §18.11.1.13(j,n).

a. *The standard states that the values of the sheetId attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32767.

b. *The standard states that the values of the sheetPosition attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 65533.

c. *The standard defines the possible values for the @name without specifying the format of the value.*

Office requires that @name follows the form [Book]SheetName, where SheetName follows valid syntax for a sheet name.

2.1.817 Part 1 Section 18.11.1.19, rm (Revision Cell Move)

For additional notes that apply to this portion of the standard, please see the notes for rdn, §18.11.1.13(j,n).

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a. *The standard includes the attribute sheetId defined as an unsignedInt.*

Office specifies that the maximum value of the sheetId attribute is 32767.

b. *The standard includes the attribute sourceSheetId defined as an unsignedInt.*

Office specifies that the maximum value of the sourceSheetId attribute is 32767.

c. *The standard does not limit the restrictions between the size of the attributes source and destination.*

Office requires that @source and @destination should be equal in width and height.

2.1.818 Part 1 Section 18.11.1.20, rqt (Revision Query Table)

a. *The standard does not place any restrictions on the value for @sheetId.*

Office requires that @version be less than or equal to 32767.

2.1.819 Part 1 Section 18.11.1.21, rrc (Revision Row Column Insert Delete)

For additional notes that apply to this portion of the standard, please see the notes for rdn, §18.11.1.13(j,n).

a. *The standard includes the @sId defined as an unsignedInt.*

Office specifies that the maximum length of @sId is 32767.

2.1.820 Part 1 Section 18.11.1.22, rsnm (Revision Sheet Name)

For additional notes that apply to this portion of the standard, please see the notes for rdn, §18.11.1.13(j,n).

a. *The standard defines the sheetId attribute without restrictions on its maximum value.*

Office specifies the maximum length of the sheetId attribute to be 32767.

b. *The standard defines @newName without any restrictions on its the form of the value.*

Office requires @newName follows the form [Book]SheetName where SheetName follows valid sheet name syntax.

c. *The standard defines @oldname without any limitations on the form of the value.*

Office requires that @oldName follow the form [Book]SheetName, where SheetName follows valid sheet name syntax.

2.1.821 Part 1 Section 18.11.1.23, sheetId (Sheet Id)

a. *The standard defines @val without restrictions on its maximum value.*

Office specifies @val has a maximum value of 65535.

2.1.822 Part 1 Section 18.11.1.24, sheetIdMap (Sheet Id Map)

a. *The standard states that the maxOccurs value for the sheetId child element is unbounded.*

Excel limits the occurrences of this element to 65535.

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2.1.823 Part 1 Section 18.11.1.25, undo (Undo)

a. *The standard does not place any restrictions on the value for the sId attribute.*

Office only allows a maximum value of 32767 for the sId attribute.

b. *The standard does not place any restrictions on the existence of the array and v attributes.*

In Office, the array attribute and the v attribute are mutually exclusive. Both cannot be true at the same time.

c. *The standard defines @exp without specifying the relationships it has with other attributes.*

Office requires that when @exp equals ref or refError, then @dr should define a single cell reference.

d. *The standard does not define a relationship between the value of the nf attribute and the value of the ref3D and exp attributes.*

In Office, if the nf attribute is true, then the ref3D attribute should be false and the exp attribute should not be refError or areaError.

e. *The standard does not define a relationship between the value of the ref3D attribute and the value of the exp attribute.*

In Office, if the ref3D attribute is true, then the exp attribute should not be computedArea.

f. *The standard states that this element represents undo information for row and column deletion.*

Office uses this element to represent undo information for row and column deletion and also move operations of rows and columns.

g. *The standard states that the dn attribute is mutually exclusive with the r attribute.*

In Office, the dn attribute is mutually exclusive with the r and sId attributes.

h. *The standard places no restrictions on the index attribute.*

Office requires that the index attribute be less than the total number of expressions in the formula.

2.1.824 Part 1 Section 18.11.2.2, users (User List)

a. *The standard states that the values of the count attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 256.

2.1.825 Part 1 Section 18.12.1, deletedField (Deleted Field)

a. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

2.1.826 Part 1 Section 18.12.2, queryTable (Query Table)

For additional notes that apply to this portion of the standard, please see the notes for pivotTableDefinition, §18.10.1.73(s-y); raf, §18.11.1.8(b).

a. *The standard does not state any limitations on the value of @firstBackgroundRefresh.*

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Office requires that if @firstBackgroundRefresh is true, then @backgroundRefresh shall also be true.

b. *The standard does not state that @name must be unique.*

Office requires that @name be unique.

c. *The standard does not state any limitations for @connectionId.*

Office requires @connectionId to be greater than 0 and must refer to a valid external data connection.

d. *The standard does not define any relationship between @name and defined names.*

In Office, if there is a definedName that matches this value, with any spaces within this name converted to underscores ("_") for the purposes of this comparison, then that definedName indicates the range of this query table.

e. *The standard does not state any limitations on the value of @removeDataOnSave.*

Office ignores @removeDataOnSave if @refreshOnLoad is false.

f. *The standard does not place restrictions on the length of @name.*

Office requires that @name be less than 256 characters in length, and non-empty.

g. *The standard does not define any relationship between @name and tables.*

In Office, if this query table is related to a Table, then a definedName associated with this @name shall exist and shall refer to the same range the Table refers to.

2.1.827 Part 1 Section 18.12.4, queryTableField (QueryTable Field)

a. *The standard states that the tableColumnId attribute specifies the unique identifier for the table column if the query table is attached to a table object rather than just a range in the sheet.*

In Office, the tableColumnId attribute shall be 0 if the query table is attached to a range in the sheet.

b. *The standard states the possible values for the name attribute are defined by ST_Xstring simple type.*

Office requires that the name attribute is a string 0-255 characters in length.

c. *The standard states no restrictions on value of the clipped attribute are stated.*

Office requires that if the clipped attribute is true, the dataBound attribute shall also be true.

d. *The standard states no limitations on @fillFormulas.*

Office requires that is @fillFormulas is true, @dataBound shall also be false.

e. *The standard states no limitations on @rowNumbers.*

Office requires that if @rowNumbers is true, @dataBound shall also be true.

2.1.828 Part 1 Section 18.12.6, queryTableRefresh (QueryTable Refresh Information)

a. *The standard does not restrict @unboundColumnsLeft.*

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Office requires that @unboundColumnsLeft shall be less than 16384.

b. *The standard does not restrict @unboundColumnsRight.*

Office requires that @unboundColumnsRight shall be less than 16384.

c. *The standard states that the possible values for @nextId are defined by the XML Schema unsignedInt datatype.*

Office has an additional restriction on @nextId requiring that the maximum value cannot be larger than 65535.

d. *The standard states that @fieldWrappedId indicates whether @nextId wrapped around.*

Office requires that if @fieldWrappedId is false, then all id values on the queryTableField elements within the queryTableFields collection will be less than @nextId.

e. *The standard does not state any restrictions on the value of @minimumVersion.*

Office requires @minimumVersion be 0-31 inclusive.

2.1.829 Part 1 Section 18.13.1, connection (Connection)

a. *The standard states that when @interval is not present, the connection is not automatically refreshed.*

In Office, @interval = 0 also indicates the connection is not automatically refreshed.

b. *The standard states that the values of the interval attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 32767.

c. *The standard does not limit the length of the value of the name attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

d. *The standard states that the name attribute is optional.*

Excel requires this attribute.

e. *The standard defines values for @type through 8, with 8 being DSP.*

Office assumes that there are 9 possible values, and that values 8 and 9 are unused/reserved.

f. *The standard does not limit the length of the value of the description attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

g. *The standard does not limit the length of the value of the singleSignOnId attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

h. *The standard does not limit the length of the value of the odcFile attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

i. *The standard does not limit the length of the value of the sourceFile attribute.*

Excel restricts the value of this attribute to be at most 255 characters.

j. *The standard states that the type attribute is optional.*

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Excel requires this attribute.

k. *The standard states that @reconnectionMethod specifies what the spreadsheet application should do when a connection fails.*

In Office, @reconnectionMethod is ignored if @onlyUseConnectionFile is set to true.

l. *The standard states that @refreshedVersion applies to connections that are used by a query table.*

In Office, @refreshedVersion is used by both pivot caches and query tables.

m. *The standard states that @minRefreshableVersion applies to connections that are used by a QueryTable.*

In Office, @minRefreshableVersion applies to both pivot caches and query tables.

n. *The standard does not place restrictions on when the saveData attribute is used.*

Office only uses the saveData attribute for query tables. It is ignored for PivotTables. When the saveData attribute is false, the refreshFileOnLoad attribute must be true.

o. *The standard states that @type=3 denotes a file based database source.*

Office does not use the value 3 for @type.

2.1.830 Part 1 Section 18.13.3, dbPr (Database Properties)

a. *The standard does not limit the length of the value of the connection attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

2.1.831 Part 1 Section 18.13.5, olapPr (OLAP Properties)

a. *The standard states that the localConnection attribute is used when the local attribute is set to true.*

Office requires the localConnection attribute if the local attribute equals true.

b. *The standard does not place restrictions on the value of @rowDrillCount.*

Office limits the value of @rowDrillCount to 1 through 1048576 inclusive.

2.1.832 Part 1 Section 18.13.6, parameter (Parameter Properties)

a. *The standard states that @cell is restricted to be of type ST_Xstring.*

Office requires that @cell be restricted to be of type ST_Formula and not be empty.

b. *The standard does not place any restrictions on the length of the value for @name.*

Office requires that @name be less or equal to 255 characters in length.

c. *The standard does not place any length restrictions on @string.*

Office limits @string length to 255 characters.

d. *In the standard, there is no relation between the cell attribute and the parameterType attribute .*

Office requires that the cell attribute be specified when the parameterType attribute equals cell.

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e. *The standard does not place any restrictions on the length of the value for @prompt.*

Office specifies @prompt length limit to be 65535.

2.1.833 Part 1 Section 18.13.8, s (Character Value)

a. *The standard says this element is used to specify an HTML table to import by name.*

In Office, the element is used to specify an HTML table to import when it is a child of tables.

b. *The standard says @v is used as the name of the HTML table.*

In Office, when the element is a child of tables, @v is used as the name of the HTML table. When the element is a child of metadataStrings, @v is used to hold an element in the metadata string store.

c. *In the standard, @v does not have a size restriction.*

In Office, when the element is a child of tables, @v has a maximum length of 255 characters. When the element is a child of metadataStrings, @v has a maximum length of 65535 characters.

2.1.834 Part 1 Section 18.13.10, textField (Text Import Field Settings)

a. *The standard does not indicate relationships between the position attributes of textField elements of the collection.*

In Office, subsequent textField elements shall have position values greater than or equal to the preceding elements.

b. *The standard states that the values of the position attribute are defined by the XML Schema unsignedInt datatype.*

In Office, the range for the position attribute is between 0 and 2147483647 inclusive.

2.1.835 Part 1 Section 18.13.11, textFields (Fields)

a. *The standard states that the maxOccurs value for the textField child element is unbounded.*

Office limits the occurrences of this element to 2001.

2.1.836 Part 1 Section 18.13.12, textPr (Text Import Settings)

a. *The standard places no restrictions on the relationship between the delimited attribute and the comma, delimiter, semicolon, space, and tab attributes.*

Excel will ignore the comma, delimiter, semicolon, space, and tab attributes when the value of the delimited attribute is false.

b. *The standard states that the values of the firstRow attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 2147483647.

c. *The standard states that string values of the decimal attribute are expected to be one character in length.*

Office expects string values of the decimal attribute to be one character with an ANSI value up to 255.

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d. *The standard states that strings values of the thousands attribute are expected to be one character in length.*

   Office expects string values of the thousands attribute to be one character with an ANSI value up to 255.

e. *The standard states that the minOccurs value for the textFields child element is 0.*

   Excel requires an occurrence of this element.

f. *The standard does not limit the length of the value of the sourceFile attribute.*

   Excel restricts the value of this attribute to be at least 1 and at most 218 characters.

g. *The standard places no restrictions on the relationship between the prompt attribute and the sourceFile attribute.*

   Excel requires the sourceFile attribute when the value of the prompt attribute is false.

h. *The standard states that when both system and text file decimal separator is set to "," and thousands separator to period, 123,123.45 is imported as 123,123.45 (numeric).*

   Office imports the value as text in this case.

i. *The standard states that the default value of the sourceFile attribute is the empty string.*

   Excel does not use a default value for this attribute.

j. *The standard states that characterSet is a valid attribute, and that when it is present, codePage should be ignored.*

   Office ignores the characterSet attribute if it is present, and does not ignore the codePage attribute if characterSet is present.

   This note applies to the following products: Office 2010, Office 2010 Server, Office 2010 SP1.

2.1.837 Part 1 Section 18.13.13, webPr (Web Query Properties)

a. *The standard describes @sourceData as a flag indicating if XML source data should be imported instead of HTML.*

   Office specifies that the XML source shall be from the URL specified by WebQuerySourceHRef in the HTML.

b. *The standard states that @url may be an empty string.*

   In Office @url cannot be an empty string, and must have a length less than or equal to 230 characters.

c. *The standard does not state the relationship between the url, xml, and connection@deleted elements.*

   In Office, if @xml= true and the @deleted of the parent connection element is false, a non-empty @url shall be specified. If @xml is false, @url shall be specified if the @deleted of the parent connection element is false and not specified otherwise.

2.1.838 Part 1 Section 18.14.1, cell (External Cell Data)

a. *The standard does not restrict @t having value s, which implies v contains a reference to a shared string table.*

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In Office, @t shall not equal s.

b. *The standard does not specify how the index for the vm attribute is used.*

In Office, the vm attribute shall be a one-based index into the valueMetadata collection in the metadata part that specifies this cell's value metadata.

c. *For @r, the standard does not restrict cell reference to be within the row of the parent row element.*

For @r, Office requires that cell reference be within the row of the parent row element.

d. *The standard implies that the r attribute is optional.*

Excel requires this attribute.

2.1.839 Part 1 Section 18.14.2, ddeItem (DDE Item definition)

a. *The standard does not specify length restrictions on @name.*

Office restricts @name to not be empty and have a length less than or equal to 255 characters.

b. *The standard states that the ole attribute indicates that the DDE item uses OLE.*

In Office, the ole attribute specifies that DDE Item is used to provide the name of the data source topic. If set to true, the value of name should be StdDocumentName.

2.1.840 Part 1 Section 18.14.4, ddeLink (DDE Connection)

a. *The standard does not specify length limits on @ddeService.*

Office enforces a minimum of 1 character and a maximum of 255 characters for @ddeService.

b. *The standard does not specify length limits on the ddeTopic attribute.*

Office restricts the ddeTopic attribute to 255 characters.

c. *The standard does not place a restriction on the maximum length of the ddeService attribute concatenated with the ddeTopic attribute.*

Office requires that the combined length of the ddeService and ddeTopic attributes be less than 255.

d. *The standard does not place restrictions on the inclusion of '[' or ']' in the ddeService and ddeTopic attributes.*

Office requires that the concatenation of the ddeService attribute followed by the ddeTopic attribute contain at most one pair of square brackets ('[' and ']'), and that the opening bracket precede the closing bracket.

2.1.841 Part 1 Section 18.14.5, definedName (Defined Name)

a. *The standard does not specify the maximum length for @name.*

Office limits the possible values of @name to be defined names as defined in Names ("[ISO/IEC-29500-1] §18.17.2.5").

b. *In the standard the refersTo attribute uses the ST_Xstring type.*

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Office requires @referTo to be a valid formula that is restricted to cell references within the same external book.

c. *The standard does not specify the range of the sheetId attribute.*

Office restricts the sheetID attribute to a minimum value of greater than or equal to 0 and less than or equal to 65533.

2.1.842 Part 1 Section 18.14.8, externalLink (External Reference)

a. *The standard states that the extLst child element is mutually exclusive with the externalBook, ddeLink, and oleLink child elements.*

Excel allows an extLst child element to follow an externalBook, ddeLink, or oleLink child element.

b. *The standard states that externalList element can be empty.*

Excel requires that an externalList element must contain one of externalBook, ddeLink, or oleLink.

2.1.843 Part 1 Section 18.14.9, oleItem (Object Link Item)

a. *The standard does not specify the length limit of the name attribute.*

Office limits the name attribute length to between 0 and 255 characters inclusive.

b. *The standard specifies that the value of the name attribute is ST_XString.*

Office will not open files with the name attribute length equal to zero.

2.1.844 Part 1 Section 18.14.11, oleLink (Generic Object Link Connection)

a. *The standard does not specify a limit for the @progId string.*

Office limits the @progId string to a minimum of 1 and a maximum of 255.

b. *The standard indicates that @progId has a maximum length of 255 according to ST_Xstring255.*

In Office, @progId and the referenced target in the corresponding relationships part have a maximum combined length of 254.

2.1.845 Part 1 Section 18.14.12, row (Row)

a. *The standard does not place any restrictions on the value for @row.*

Office requires that the value of @row be less than or equal to 1048576.

2.1.846 Part 1 Section 18.14.13, sheetData (External Sheet Data Set)

a. *The standard states that @sheetId index is an unsigned integer, with no additional restrictions on value, and that it is 1-based.*

Office requires that @sheetId range from 0 through 65533 inclusive.

b. *The standard does not define any order requirements for rows.*

In Office, rows must appear in ascending order.

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2.1.847 Part 1 Section 18.14.15, sheetName (Sheet Name)

a. *The standard indicates that @val is a string of unbounded length.*

Office generally expects that @val has a maximum length of 31 characters and enforces this limit on load. On save, in some circumstances, up to 252 characters can be saved for @val.

2.1.848 Part 1 Section 18.14.16, sheetNames (Supporting Workbook Sheet Names)

a. *The standard states that the maxOccurs value for the sheetName child element is unbounded.*

Excel limits the occurrences of this element to 65534.

2.1.849 Part 1 Section 18.14.17, val (DDE Link Value)

a. *The standard does not limit the length of the value of this element.*

Excel restricts the value of this element to be at most 32767 characters.

b. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

2.1.850 Part 1 Section 18.14.18, value (Value)

a. *The standard does not give length restriction for the val element.*

In Office, the val element has a maximum length of 32767 characters.

2.1.851 Part 1 Section 18.14.19, values (DDE Name Values)

a. *The standard allows the cols attribute to be unbounded.*

Excel limits the value to be in the range 1 to 16384 inclusive.

b. *The standard allows the rows attribute to be unbounded.*

Excel limits the value to be in the range 1 to 1048576, inclusive.

c. *The standard does not specify the relationship of the value elements to the cols and rows attributes.*

Excel requires that the number of value elements must be equal to rows times cols and that value elements appear in row-major order.

2.1.852 Part 1 Section 18.15.1, main (Main)

a. *The standard does not limit the length of the value of the first attribute.*

Excel restricts the value of this attribute to be at least 1 and at most 255 characters.

2.1.853 Part 1 Section 18.15.2, stp (Strings in Subtopic)

a. *The standard does not limit the length of the value of this element.*

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Excel restricts the value of this element to be at most 255 characters.

b. *The standard describes 1 for stp for cube functions only.*

In Office, a value of 0 for the first stp indicates that not all of the related cells with calling cube functions have been refreshed. For each Cube function, there shall be exactly one stp.

c. *The standard makes no mention of an xml:space attribute.*

Excel uses this attribute to specify, using the W3C space preservation rules, how white space should be handled for the element's contents; its allowed values are defined by the XML 1.0 specification.

d. *The standard does not describe how stp relates to the RTD function.*

In Office, for the RTD function, the first stp having a value of "" indicates that the RTP add-in is run on the local machine. Any other value for the stp indicates the server name. All subsequent stps indicate the topics of the RTD function.

2.1.854 Part 1 Section 18.15.3, tp (Topic)

For additional notes that apply to this portion of the standard, please see the notes for v, §18.3.1.96(c).

a. *The standard does not specify a length restriction for the v element.*

In Excel, the v element must not be more than 32767 characters long.

2.1.855 Part 1 Section 18.15.4, tr (References)

a. *The standard states that the values of the s attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at least 1 and at most 65534.

2.1.856 Part 1 Section 18.16.1, DataBinding (XML Mapping)

a. *The standard does not specify a default value for the FileBinding attribute.*

Excel uses a default value of false for this attribute.

b. *The standard does not say that @ConnectionID is equal to @id in one of collection elements.*

In Office, @ConnectionID must be equal to @id in one of collection elements.

c. *The standard does not indicate any restrictions for the attribute @ConnectionID.*

In Office, @ConnectionID shall be specified if @FileBinding is true, it shall not be specified if @FileBinding is false.

d. *The standard does not limit the length of the value of the DataBindingName attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

e. *The standard does not limit the length of the value of the FileBindingName attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

f. *The standard states that the values of the FileBinding attribute are defined by the XML Schema boolean datatype.*

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Excel restricts the value of this attribute to be true or false.

g. *The standard states that the values of the ConnectionID attribute are defined by the XML Schema unsignedInt datatype.*

Excel restricts the value of this attribute to be at most 2147483647.

h. *The standard does not specify a minOccurs value for the any element.*

Excel sets this value to be 0.

i. *The standard places no restrictions on the relationship between the FileBindingName attribute and the FileBinding attribute.*

Excel requires that the value of the FileBindingName attribute not be specified if the FileBinding attribute is false.

2.1.857 Part 1 Section 18.16.2, Map (XML Mapping Properties)

a. *The standard indicates that @Append type is xsd:boolean.*

Office requires @Append to be true or false (not 1/0).

b. *The standard indicates that @ShowImportExportValidationErrors type is xsd:boolean.*

Office requires @ShowImportExportValidationErrors to be true or false (not 1/0).

c. *The standard states that the values of the AutoFit attribute are defined by the XML Schema boolean datatype.*

Excel restricts the value of this attribute to be true or false.

d. *The standard indicates that @PreserveSortAFLayout type is xsd:boolean.*

Office requires @PreserveSortAFLayout to be true or false (not 1/0).

e. *The standard indicates that @PreserveFormat type is xsd:boolean.*

Office requires @PreserveFormat to be true or false (not 1/0).

f. *The standard does not specify a maximum length restriction for the name attribute.*

Office limits the name attribute length to less than 65536 characters.

g. *The standard does not specify a maximum length restriction for @RootElement.*

Office limits @RootElement to less than 65536 characters.

h. *The standard does not specify a maximum for @ID.*

Office limits @ID to be less than 2147483648 and greater than 0.

2.1.858 Part 1 Section 18.16.4, Schema (XML Schema)

a. *The standard does not limit the length of the value of the ID attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

b. *The standard does not limit the length of the value of the SchemaRef attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

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c. *The standard does not limit the length of the value of the Namespace attribute.*

Excel restricts the value of this attribute to be at most 65535 characters.

d. *The standard does not specify a minOccurs value for the any element.*

Excel sets this value to be 0.

e. *The standard states that the SchemaLanguage attribute is a valid attribute, and that it specifies the media type of the schema language.*

Office ignores the SchemaLanguage attribute, and assumes that any Custom XML Mappings (as specified in Section 18.16) use XML Schema (media type application/xml).

f. *The standard states that the complex type for the schema element defines its mixed attribute as true.*

Excel ignores the mixed attribute on the schema element.

2.1.859 Part 1 Section 18.17, Formulas

a. *The standard does not specify structure references.*

Office has special restrictions on structure references as defined in Structure References (§3.2.3.1.1, Structure References).

b. *The standard does not specify conditional formatting formulas.*

Office has special restrictions on conditional formatting formulas as defined in Conditional Formatting Formulas (§3.2.3.1.2, Conditional Formatting Formulas).

c. *The standard does not specify data validation formulas.*

Office has special restrictions on data validation formulas as defined in Data Validation Formulas (§3.2.3.1.3, Data Validation Formulas).

d. *The standard does not specify name formulas.*

Office has special restrictions on name formulas as defined in Name Formulas (§3.2.3.1.4, Name Formulas).

e. *The standard does not specify pivot formulas.*

Office has special restrictions on pivot formulas as defined in Pivot Formulas (§3.2.3.1.8, Pivot Formulas).

f. *The standard does not specify chart formulas.*

Office has special restrictions on chart formulas as defined in Chart Formulas (§3.2.3.1.6, Chart formulas).

g. *The standard does not specify R1C1 formulas.*

Office has special restrictions on R1C1 formulas as defined in R1C1 Formulas (§3.2.3.1.7, R1C1 formulas).

h. *The standard does not specify external name formulas.*

Office has special restrictions on external name formulas as defined in External Name Formulas (§3.2.3.1.5, External Name Formulas).

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i. *The standard does not specify OLE Link formulas.*

Office has special restrictions on OLE Link formulas as defined in OLE Link Formulas (§3.2.3.1.9, OLE Link Formulas).

2.1.860 Part 1 Section 18.17.2, Syntax

a. *The standard does not specify the EBNF standard used to describe formula.*

Office defines the syntax rules in this subclause follow the system shown in ISO/IEC 14977: literal text is surrounded by double-quotes (or by apostrophes); the left-square-bracket and right-square-bracket designate the start and end of an option; the left-curly-bracket and right-curly-bracket designate the start and end of an sequence of zero-or-more items; the vertical-line indicates an alternative; and each rule ends with a semicolon. Whenever hyphen is used as the exception-symbol (as per ISO/IEC 14977), it is surrounded by white space, and further clarified by a comment.

b. *The standard does not specify the set of productions for formula using EBNF.*

Office writes the productions for formula using the following EBNF:

```
formula=
  expression  ;
expression= {space}, nospace-expression, {space};
nospace-expression=
  "(",  expression,  ")"  |
  constant  |
  prefix-operator,  expression  |
  expression,  infix-operator,  expression  |
  expression,  postfix-operator  |
  cell-reference  |
  function-call  |
  name-reference  |
structure-reference ;
```

c. *The standard does not state that structured referencing in formulas is allowed.*

Office allows structured referencing in formulas.

d. *The standard provides a rather loose definition of value space for arithmetic terms in an expression.*

Excel uses IEC 60559's double precision, excluding denormalized numbers.

e. *The standard does not define how behavior of range values differ between array formulas and normal formulas.*

In Office, the way in which input ranges are interpreted and output values are understood to relate to cells sharing the formula may mean one of two things based on whether the formula was an array formula or not.

For an array-entered formula: All range arguments are interpreted to be their full range. If the result of the formula is an array, the values of the array are meant to be returned across all of the cells in the sheet sharing the formula. (When the size of the range for an array formula exceeds in either dimension the size of the returned array, the excess cells take on a value of `#N/A`.)

For a normal (non-array) formula:

- Implicit intersection is performed on all arguments to functions except for those that allow a range.
- If the formula results in an array, only the first value from the array is returned to the cell.

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- In Office, if implicit intersection cannot be performed, #VALUE! is returned to the cell.

Implicit intersection is determined as follows: When a range is passed to a function which expects only a single cell, a test is made to discover whether the calling cell intersects that range at any point horizontally or vertically. If it does, the cell at the point of intersection is passed to the function. [Example: The formula ABS(B1:B3) is entered into A2. Because the ABS function does not expect a range, implicit intersection is performed. A2 intersects B1:B3 horizontally on row 2, and so the value in B2 is passed into the function. end example]

f. *The standard does specify which function's arguments can be a range.*

Office defines the list of function arguments that allow a range is as follows:

- ACCRINT - all arguments
- ACCRINTM - all arguments
- AMORDEGRC - all arguments
- AMORLINC - all arguments
- AND - all arguments
- AREAS – reference argument
- AVEDEV - all arguments
- AVERAGE - all arguments
- AVERAGEA - all arguments
- AVERAGEIF - all arguments except for criteria
- AVERAGEIFS - all arguments except for criteria1, criteria2, and so on.
- BESSELI - all arguments
- BESSELJ - all arguments
- BESSELK - all arguments
- BESSELY - all arguments
- BIN2DEC - all arguments
- BIN2HEX - all arguments
- BIN2OCT - all arguments
- CHOOSE - all arguments except index
- COLUMN - all arguments
- COLUMNS - all arguments
- COMPLEX - all arguments
- CONVERT - all arguments
- COUNT - all arguments
- COUNTA - all arguments
- COUNTBLANK - all arguments
- COUNTIF - all arguments except criteria
- COUNTIFS - all arguments except for criteria1, criteria2, and so on.
- COUPDAYBS- all arguments
- COUPDAYS - all arguments
- COUPDAYSNC - all arguments
- COUPNCD - all arguments
- COUPNUM - all arguments
- COUPPCD - all arguments
- CUBEMEMBER - member-expression
- CUBESET - set-expression
- CUBEVALUE - all except connection
- CUMIPMT - all arguments
- CUMPRINC - all arguments
- DAVERAGE - all arguments
- DCOUNT - all arguments
- DCOUNTA - all arguments
- DEC2BIN - all arguments
- DEC2HEX - all arguments
- DEC2OCT - all arguments

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- DELTA - all arguments
- DEVSQ - all arguments
- DGET - all arguments
- DISC - all arguments
- DMAX - all arguments
- DMIN - all arguments
- DOLLARDE - all arguments
- DOLLARFR - all arguments
- DPRODUCT - all arguments
- DSTDEV - all arguments
- DSTDEVP - all arguments
- DSUM - all arguments
- DURATION - all arguments
- DVAR - all arguments
- DVARP - all arguments
- EDATE - all arguments
- EFFECT - all arguments
- EOMONTH - all arguments
- ERF - all arguments
- ERFC - all arguments
- FACTDOUBLE - all arguments
- FREQUENCY - all arguments
- FVSCHEDULE - schedule argument
- GCD - all arguments
- GEOMEAN - all arguments
- GESTEP - all arguments
- GETPIVOTDATA - data-field, pivot-table, field-1, and item-1 arguments
- GROWTH - all arguments
- HARMEAN - all arguments
- HEX2BIN - all arguments
- HEX2DEC - all arguments
- HEX2OCT - all arguments
- HLOOKUP - all arguments
- IFERROR - value-if-error argument
- IMABS - all arguments
- IMAGINARY - all arguments
- IMARGUMENT - all arguments
- IMCONJUGATE - all arguments
- IMCOS - all arguments
- IMDIV - all arguments
- IMEXP - all arguments
- IMLN - all arguments
- IMLOG10 - all arguments
- IMLOG2 - all arguments
- IMPOWER - all arguments
- IMPRODUCT - all arguments
- IMREAL - all arguments
- IMSIN - all arguments
- IMSQRT - all arguments
- IMSUB - all arguments
- IMSUM - all arguments
- INDEX - array or reference argument
- INTRATE - all arguments
- IRR - values argument
- ISEVEN - all arguments
- ISODD - all arguments
- ISREF - all arguments
- KURT - all arguments

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- LARGE - array argument
- LCM - all arguments
- LINEST - known-xs and known-ys arguments
- LOGEST - known-xs and known-ys arguments
- LOOKUP - all arguments except lookup_value
- MATCH - lookup_array argument
- MAX - all arguments
- MAXA - all arguments
- MDURATION - all arguments
- MEDIAN - all arguments
- MIN - all arguments
- MINA - all arguments
- MIRR - values argument
- MROUND - all arguments
- MULTINOMIAL - all arguments
- N - all arguments
- NETWORKDAYS - holidays argument
- NOMINAL - all arguments
- NPV - all arguments except rate
- OCT2BIN - all arguments
- OCT2DEC - all arguments
- OCT2HEX - all arguments
- ODDFPRICE - all arguments
- ODDFYIELD - all arguments
- ODDLPRICE - all arguments
- ODDLYIELD - all arguments
- OFFSET - reference argument
- OR - all arguments
- PERCENTILE - array argument
- PERCENTRANK - array argument
- PHONETIC - all arguments
- PRICE - all arguments
- PRICEDISC - all arguments
- PRICEMAT - all arguments
- PRODUCT - all arguments
- QUARTILE – array argument
- QUOTIENT - all arguments
- RANDBETWEEN - all arguments
- RANK - ref argument
- RECEIVED - all arguments
- ROW – reference argument
- ROWS – array argument
- SERIESSUM - all arguments
- SKEW - all arguments
- SMALL - array argument
- SQRTPI - all arguments
- STDEV - all arguments
- STDEVA - all arguments
- STDEVP - all arguments
- STDEVPA - all arguments
- SUBTOTAL - all arguments except function_num
- SUM - all arguments
- SUMIF - all arguments except criteria
- SUMIFS - all arguments except criteria1, criteria2, and so on.
- SUMSQ - all arguments
- T - all arguments
- TBILLEQ - all arguments
- TBILLPRICE - all arguments

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- TBILLYIELD - all arguments
- TREND – all arguments except const-flag
- TRIMMEAN – array argument
- VAR – all arguments
- VARA – all arguments
- VARP – all arguments
- VARPA – all arguments
- VLOOKUP – table-array argument
- WEEKNUM - all arguments
- WORKDAY – holidays argument
- XIRR – all arguments except guess
- XNPV – all arguments except rate
- YEARFRAC - all arguments
- YIELD - all arguments
- YIELDDISC - all arguments
- YIELDMAT - all arguments
- ZTEST – array argument

g. *The standard does not specify what happens when implicit intersection cannot be performed.*

Office returns #VALUE! when implicit intersection cannot be performed.

2.1.861 Part 1 Section 18.17.2.1, Constants

a. *The standard does not specify the set of productions for constant using EBNF.*

Office writes the productions for constant using the following EBNF:

```
constant=
  error-constant  |
  logical-constant  |
  numerical-constant  |
  string-constant  |
  array-constant  ;
error-constant=
  "#DIV/0!"  |  "#N/A"  |  "#NAME?"  |  "#NULL!"  |
  "#NUM!"  |  "#REF!"  | "#VALUE!" | "#GETTING_DATA";
logical-constant=
  "FALSE"  |  "TRUE"  ;
numerical-constant=
  [neg-sign],  significand-part, [exponent-part] ;
significand-part=
  whole-number-part, [fractional-part] |
  fractional-part ;
whole-number-part=
  digit-sequence;
fractional-part=
  full-stop, digit-sequence  ;
exponent-part=
  exponent-character, [ sign ], digit-sequence  ;
full-stop=
  "."    ;  (* also known as “period” *)
sign=
  "+"  |
  neg-sign  ;
neg-sign=
  "-" ;
exponent-character=
  "E" | "e" ;

digit-sequence=
  decimal-digit,  {decimal-digit}  ;
nonzero-digit-sequence=
nonzero-decimal-digit,  {decimal-digit}  ;
```


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```
decimal-digit=
  "0"  |  nonzero-decimal-digit  ;
nonzero-decimal-digit=
  "1"  |  "2"  |  "3"  |  "4"  |
  "5"  |  "6"  |  "7"  |  "8"  |  "9"  ;

string-constant=
  double-quote, [string-chars], double-quote  ;
string-chars=
  string-char,  {string-char}  ;
string-char=
  escaped-double-quote  |
  character  -  double-quote  ;   (* any character except double-quote *)
escaped-double-quote=
  ' "" '  ;   (* consecutive double-quotes, with no space between them *)
double-quote=
  ' " '  ; (* one double-quote character*)
character=
  as defined by the production Char in the XML 1.0 specification, §2.2.
```

b. *The standard does not specify the set of productions for array-constant using EBNF.*

Office writes the productions for array-constant using the following EBNF:

```
array-constant=
  "{",  constant-list-rows,  "}"  ;
constant-list-rows=
  constant-list-row,  {  semicolon,  constant-list-row  }  ;
semicolon=
  ";"    ;
constant-list-row=
  constant,  {  comma,  constant  }  ;
```

c. *The standard does not list #GETTING_DATA as being saved in any formulas.*

Office saves #GETTING_DATA in formulas.

2.1.862 Part 1 Section 18.17.2.2, Operators

a. *The standard does not specify the productions for operator using EBNF.*

Office writes the productions for operator using the following EBNF:

```
operator=
  ":"  |  comma  |  space  |  "^"  |  "*"  |  "/"  |  "+"  |  "-"
  |  "&"  |  "="  |  "<>"  |  "<"  |  "<="  |  ">"  |  ">="  |  "%"  ;
infix-operator=
  ":"  |  comma  |  space  |  "^"  |  "*"  |  "/"  |  "+"  |  "-"  |  "&"
  |  "="  |  "<>"  |  "<"  |  "<="  |  ">"  |  ">="  ;
postfix-operator=
  "%"  ;
prefix-operator=
  "+"  |  "-";
```

b. *The standard states that an expression with value 0 tests logically false while one with any nonzero value tests true.*

In Office, an expression with value 0 tests logically false while one with any nonzero numeric value tests true.

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2.1.863 Part 1 Section 18.17.2.3, Cell References

a. *The standard does not specify the productions for cell-reference using EBNF.*

Office writes the productions for cell-reference using the following EBNF:

```
cell-reference= external-cell-reference | A1-reference ;
external-cell-reference= sheets-prefix, A1-reference ;
book-prefix= workbook-index, "!" ;
sheets-prefix = single-sheet-prefix |
  sheet-range, "!" ;
single-sheet-prefix = single-sheet, "!" ;
single-sheet= [workbook-index] sheet-name |
  apostrophe,  [workbook-index] sheet-name-special,  apostrophe ;
sheet-range= [workbook-index], sheet-name, ":", sheet-name |
apostrophe,  [workbook-index] sheet-name-special, ":", sheet-name-special,  apostrophe ;
workbook-index =
  "[",  whole-number-part,  "]" ;
sheet-name=
  sheet-name-characters ;
sheet-name-characters=
  sheet-name-character,  {sheet-name-character} ;
sheet-name-character=
  character - (operator  |  apostrophe  |  "["  |  "]"  |  "\"  |  "?") ;
            (* any character except operator or ', [, ], \, or ? *)
apostrophe= "'"   ;
space = " "   ;
sheet-name-special=
  sheet-name-start-character-special,
    [ [sheet-name-characters-special], sheet-name-end-character-special] ;
sheet-name-start-character-special=
  character  -  (apostrophe  |  "*"  |  "["  |  "]"  |  "\"  |  ":"  |  "/"
|  "?" | ? Unicode character END OF TEXT ? )  ;
(* any character, including operator, except ', *, [, ], \, :, /, ?, or END OF TEXT *)
sheet-name-end-character-special=
  sheet-name-start-character-special  ;
sheet-name-characters-special=
  sheet-name-character-special,  {sheet-name-character-special}  ;
sheet-name-character-special=
  apostrophe, apostrophe  |
  character  -  (apostrophe  |  "*"  |  "["  |  "]"  |  "\"  |  ":"  |  "/"
  |  "?" | ? Unicode character END OF TEXT ? )  ;
(* any character, including operator, except ', *, [, ], \, :, /, ?, or END OF TEXT *)
```

b. *The standard does not specify how external book index can be used to access a cell in external workbook.*

In Office, a nonzero index represents a reference to an external book in an external link collection.

c. *The standard refers to absolute cell reference behavior when the position of the cell containing the formula changes.*

Excel does not relate the behavior of cells during move operations to relative or absolute references.

d. *The standard states that functions which take 3D references are AVERAGE, AVERAGEA, COUNT, COUNTA, MAX, MAXA, MIN, MINA, PRODUCT, STDEV, STDEVA, STDEVP, STDEVPA, SUM, VAR, VARA, VARP, and VARPA.*

In Office, the following functions also take 3D references: AND, AVEDEV, DEVSQ, GEOMEAN, HARMEAN, KURT, MEDIAN, NPV, OR, SKEW, SUMSQ, TRIMMEAN, and ZTEST.

e. *The standard states 3-D references shall not be used in multi-cell formulas.*

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In Office, 3-D references can be used in array or multi-cell formulas within the same limits as in a single-cell formula.

2.1.864 Part 1 Section 18.17.2.3.1, A1-Style Cell References

a. *The standard does not specify the productions for A1-reference using EBNF.*

Office writes the productions for A1-reference using the following EBNF:

```
A1-reference=
  A1-column,  ":",  A1-column    |
  A1-row,  ":", A1-row    |
  A1-cell, ":", A1-cell |
  A1-cell ;
A1-cell=
  A1-column,  A1-row;
A1-column=
  A1-relative-column  |
  A1-absolute-column  ;
A1-relative-column=
  letter, {letter}  ;  (* see semantic rules for A1-Style Cell References  ("[ISO/IEC-29500-
1] §18.17.2.3.1") *)
letter=
  "A"|"B"|"C"|"D"|"E"|"F"|"G"|"H"|"I"|"J"|"K"|"L"|"M"|
  "N"|"O"|"P"|"Q"|"R"|"S"|"T"|"U"|"V"|"W"|"X"|"Y"|"Z"|
  "a"|"b"|"c"|"d"|"e"|"f"|"g"|"h"|"i"|"j"|"k"|"l"|"m"|
  "n"|"o"|"p"|"q"|"r"|"s"|"t"|"u"|"v"|"w"|"x"|"y"|"z"  ;
A1-absolute-column=
  "$", A1-relative-column  ;
A1-row=
  A1-relative-row  |
  A1-absolute-row  ;
A1-relative-row=
  digit-sequence  ;  (* must be nonzero; see A1-Style Cell References  ("[ISO/IEC-29500-1]
§18.17.2.3.1") *)
A1-absolute-row=
  "$", A1-relative-row  ;
```

2.1.865 Part 1 Section 18.17.2.3.2, R1C1-Style Cell Reference

a. *The standard does not use EBNF to specify the productions for R1C1-reference.*

Office writes the productions for R1C1-reference using the following EBNF:

```
R1C1-reference=
  R1C1-row-only    |
  R1C1-column-only    |
  R1C1-cell, ":", R1C1-cell |
  R1C1-cell ;
R1C1-cell=
  R1C1-row,  R1C1-column  ;
R1C1-row-only=
  "R",  R1C1-absolute-number,   |
  "R[",  R1C1-relative-number, "]"  ;
R1C1-row=
  R1C1-relative-row  |
  R1C1-absolute-row  ;
R1C1-relative-row= "R"    |
  "R[",  R1C1-relative-number, "]"  ;
R1C1-absolute-row=
  "R", R1C1-absolute-number  ;
R1C1-column-only=
  "C",  R1C1-absolute-number  |
  "C[",  R1C1-relative-number,  "]"  ;
```


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```
R1C1-column=
  R1C1-relative-column  |
  R1C1-absolute-column  ;
R1C1-relative-column= "C"    |
  "C[",  R1C1-relative-number,  "]"  ;
R1C1-absolute-column= "C", R1C1-absolute-number  ;
R1C1-relative-number=
  ["-"], digit-sequence   ;
R1C1-absolute-number=
  digit-sequence  ;  (* must be nonzero; see A1-Style Cell References  ("[ISO/IEC-29500-1]
§18.17.2.3.1") *)
```

b. *The standard states that a negative offset indicates a row to the left or a column above, and a positive offset indicates a row to the right or a column below.*

In Office, a negative offset indicates a column to the left or a row above, and a positive offset indicates a column to the right or a row below.

2.1.866 Part 1 Section 18.17.2.4, Functions

a. *The standard does not use EBNF to write the productions for function-call.*

Office writes the productions for function-call using the following EBNF:

```
function-call=
  function-name,  "(",  argument-list,  ")"    ;
function-name=
  predefined-function-name |
  user-defined-function-name ;
predefined-function-name=
  "ABS"  |  "ACOS"  |  "ACOSH"
  |  ( any of the other functions defined in Predefined Function Definitions ("[ISO/IEC-
29500-1] §18.17.7"))  ;
user-defined-function-name=
  name-reference ;
argument-list=
  argument,  {  comma,  argument  }  ;
comma=
  ","  ;
argument=
  [expression]  ;
```

b. *The standard states that a function is a named formula that takes zero or more arguments, performs an operation, and, optionally, returns a result.*

In Office, a function always returns a result.

2.1.867 Part 1 Section 18.17.2.5, Names

a. *The standard does not use EBNF to write the syntax for name.*

Office writes the productions for name using the following EBNF:

```
name-reference= name |
  external-name;
external-name= single-sheet-prefix, name;
name=
  name-start-character, [ name-characters ]  ;
name-start-character=
  underscore  |  backslash  |  ? any code points which are characters as defined by the
Unicode character properties, chapter four of the Unicode Standard ?;
```


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```
underscore=
  "_"  ;
backslash=
  "\"  ;
name-characters=
  name-character,  {name-character}  ;
name-character=
  name-start-character  |  decimal-digit  |  full-stop  |  ? any code points which are digits
as defined by the Unicode character properties, chapter four of the Unicode standard ?;
```

b. *The standard specifies that two names that are the same in different workbooks can be disambiguated by prepending the workbook name.*

   Office prefixes names used in the same context with the index of the relationship ID associated with the workbook name and an exclamation mark. A relationship ID index of 0 indicates the current workbook.

c. *The standard does not specify that \name-character is an invalid name.*

   Office will not create or load names of the form \name-character.

2.1.868 Part 1 Section 18.17.2.6, Types and Values

a. *The standard does not specify a limit on the expression.*

   In Office, if the expression is text and is greater than 32767 characters, then a consuming application shall treat this as equivalent to the error value #VALUE!.

2.1.869 Part 1 Section 18.17.3, Error values

a. *The standard does not specify #GETTING_DATA as an error value.*

   Office allows #GETTING_DATA as an error value. Reason for occurrence: Intended to indicate when value is waiting on data from an asynchronous function.

2.1.870 Part 1 Section 18.17.5.2, Precision

a. *The standard states that m is an integer whose absolute value is less than 2^53, and n is an integer between -1075 and 970, inclusive.*

   Office treats m as an integer whose absolute value is greater than or equal to 2^52 and less than 2^53, and n is an integer between -1074 and 971, inclusive.

b. *The standard states in a note that the default precision is patterned after the IEEE double-precision 64-bit floating-point type.*

   In Office, the default precision is patterned after the IEEE double-precision 64-bit floating-point type, with denormalized numbers excluded.

2.1.871 Part 1 Section 18.17.5.4, Interpretation

a. *The standard gives maximum value as 2^1023 - 1, minimum as - 2^1023 + 1.*

   Office uses maximum 2^1024 – 2^971, minimum - 2^1024 + 2^971 and has smallest positive value of 2^-1022.

b. *The standard does not specify behavior if the absolute value of the raw value is smaller than the smallest positive value in the value space.*

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In Office, if the absolute value of the raw value is smaller than the smallest positive value in the value space, then a consuming application shall treat this as equivalent to 0.

2.1.872 Part 1 Section 18.17.6.3, Array Formulas

a. *The standard refers to the r attribute in multiple places to denote the reference to which the formula applies.*

Office uses the ref attribute in formulas to denote the reference to which the formula applies.

2.1.873 Part 1 Section 18.17.6.5, Name Representation

a. *The standard states that the names shall be defined in the Worksheet part's XML with each being the subject of a definedName element, inside a definedNames element.*

In Office, these names shall be defined in the Workbook part's XML with each being the subject of a definedName element, inside a definedNames element.

2.1.874 Part 1 Section 18.17.7.2, ACCRINT

a. *The standard does not specify an optional argument calc-method.*

Excel has an optional argument *calc-method*, which is defined as follows:

Name	Type	Description
calc-method	logical	Specifies the way to calculate the total accrued interest when the date of settlement is later than the date of first-interest. A value of TRUE (1) returns the total accrued interest from issue to settlement. A value of FALSE (0) returns the accrued interest from first-interest to settlement. If no argument is specified, it defaults to TRUE.

b. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true:

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Value	Day Count Basis
	▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

c. *The standard states that the par argument has a default value of 1000.*

Office uses 0.001 as the default value for the par argument.

2.1.875 Part 1 Section 18.17.7.3, ACCRINTM

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.

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Value	Day Count Basis
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard states that the par argument has a default value of 1000.*

Office uses a 0.001 as the default value for the par argument.

c. *The standard states A is the number of days from the issue date to the maturity date.*

Office treats A as the number of days from the issue date to the settlement date.

2.1.876 Part 1 Section 18.17.7.4, ACOS

a. *The standard does not specify unit of return value.*

Office calculates arc cosine of x, in radians.

2.1.877 Part 1 Section 18.17.7.6, ADDRESS

a. *The standard states if row-number or col-number < 1, #NUM! is returned and if ref-type is outside the range 1–4, #NUM! is returned.*

Office returns #VALUE! in such cases for the function.

2.1.878 Part 1 Section 18.17.7.7, AMORDEGRC

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this

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Value	Day Count Basis
	algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard describes day basis value of 2 (actual/360).*

Office only uses day basis values of 0, 1, 3 or 4.

2.1.879 Part 1 Section 18.17.7.8, AMORLINC

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per

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Value	Day Count Basis
	year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard describes day basis value of 2 (actual/360).*

Office only uses day basis values of 0, 1, 3 or 4.

2.1.880 Part 1 Section 18.17.7.10, AREAS

a. *The standard states if the reference designates no areas, #NUM! is returned.*

Office returns #NULL! if the reference designates no areas.

2.1.881 Part 1 Section 18.17.7.12, ASIN

a. *The standard does not specify the unit of the return value.*

Office calculates arc sine of x, in radians.

2.1.882 Part 1 Section 18.17.7.13, ASINH

a. *The standard states that ASINH computes the inverse hyperbolic cosine of x.*

Office computes ASINH as the inverse hyperbolic sine of x.

2.1.883 Part 1 Section 18.17.7.14, ATAN

a. *The standard does not specify the unit of the return value.*

Office calculates arc tangent of x, in radians.

2.1.884 Part 1 Section 18.17.7.15, ATAN2

a. *The standard states that the return value of the function is the arc tangent of x.*

In Office, the return value of the function is the arc tangent of two arguments determined by the point (x, y); that is, the angle in the Cartesian plane formed by the positive x-axis and the vector from (0,0) to the point (x, y); the result is constrained to be in the half-open interval (-π,π]. This function is useful in converting from rectangular coordinates (x, y) to polar coordinates (r,θ), with the angle θ being returned by this function, in radians.

Mathematical Formula:

If x> 0 (in the 1st or 4th quadrant or on the positive x -axis), then ATAN2(x,y) =arctan(y/x);

If x< 0 and y≥ 0 (in the 2nd quadrant or on the negative x -axis), then ATAN2(x,y) =arctan(y/x) + π;

If x< 0 and y< 0 (in the 3rd quadrant), then ATAN2(x,y) =arctan(y/x) - π;

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If x = 0 and y≠ 0 (on the y -axis excluding the origin), then ATAN2(x,y) =(π/2)*sgn(y),

In the preceding formulas, arctan is the principal value of inverse tangent function, whose range is the interval (-π/2,π/2), and sgn(y) returns one of the values -1, 0, or +1 according as y is negative, zero, or positive.

2.1.885 Part 1 Section 18.17.7.17, AVEDEV

a. *The standard specifies the mathematical formula for AVEDEV to be C(n,k) = P(k,n)/k!=n!/(k!(n-k)!).*

   Office uses the mathematical formula: (1/n) Σ|x - x-bar| and maps n to the size of the data set, x to a value from the data set, and x-bar as the AVERAGE(argument-list).

2.1.886 Part 1 Section 18.17.7.19, AVERAGEA

a. *The standard states if an argument in argument-list is an array or reference, only values in that array or reference are used.*

   In Office, if an argument in argument-list is an array or reference, numeric values in that array or reference are included, and text values are included but treated as 0.

2.1.887 Part 1 Section 18.17.7.20, AVERAGEIF

a. *The standard does not describe error case when all the cells being averaged in average-range (or in cell-range if average-range is omitted) are empty or contain non-numeric data.*

   Office returns #DIV/0! in this case.

2.1.888 Part 1 Section 18.17.7.21, AVERAGEIFS

a. *The standard indicates the Average-range need not have the same size and shape as cell-range-1 through cell-range-n.*

   Office requires each cell-range-1 through cell-range-n to have the same size and shape as the average-range.

b. *The standard states that argument cell-range-n is of type number, expression, reference, or text; while argument selection-criteria-n is of type reference or text.*

   In Office, argument cell-range-n can be of type reference and argument selection-criteria-n can be of type number, expression, reference, or text.

2.1.889 Part 1 Section 18.17.7.23, BESSELI

a. *The standard does not specify how function arguments map to formula variables.*

   Office maps x to argument x and n to argument n.

2.1.890 Part 1 Section 18.17.7.24, BESSELJ

a. *The standard does not specify how function arguments map to formula variables.*

   Office maps x to argument x and n to argument n.

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2.1.891 Part 1 Section 18.17.7.25, BESSELK

a. *The standard uses the mathematical formula: K_n (x)= (p/2) i^(n+1) [J_n (ix)+iY_n (ix)], and does not say how function arguments map to formula variables.*

Office uses the mathematical formula K_n (x)= (π/2) i^(n+1) [J_n (ix)+iY_n (ix)] and maps Jn to the J Bessel function, Yn to the Y Bessel function, n to argument n, and x to argument x.

2.1.892 Part 1 Section 18.17.7.26, BESSELY

a. *The standard does not specify how function arguments map to formula variables.*

Office maps n to argument n and x to argument x.

2.1.893 Part 1 Section 18.17.7.28, BETAINV

a. *The standard states that if probability < 0 or probability > 1, #NUM! is returned.*

Office returns #NUM! if probability <= 0 or probability >= 1.

b. *The standard does not place a restriction on the relationship between argument A and argument B.*

Office returns #NUM! if argument A is greater than or equal to argument B.

c. *The standard specifies that BETAINV uses an iterative search technique.*

Office does not require an iterative search technique to be used.

2.1.894 Part 1 Section 18.17.7.29, BIN2DEC

a. *The standard states that the number argument is a 10-digit binary number that is to be converted to a decimal string.*

Office treats the number argument as a 10-digit binary number that is to be converted to a decimal number.

2.1.895 Part 1 Section 18.17.7.33, CEILING

a. *The standard states that If x is negative, and significance is positive, then the value is rounded up toward zero.*

Office returns #NUM! if x and significance have different signs.

2.1.896 Part 1 Section 18.17.7.34, CELL

a. *The standard does not specify locale specific strings for argument category.*

In Excel, if the SpreadsheetML is intended to be used in certain non-English locales, the category string can be the English value shown in the standard, or the translation shown in the following tables. Locales not specified in the following tables shall only use the English versions of the category string.

[Note: Using translated versions of the category string is strongly discouraged, as spreadsheet applications might not support these translations. end note]

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Locale	address	col	color	contents	coord	filename	format
az-latn-az	ünvan	col	rəng	mündəricat	coord	fayladi	format
ca-es	dirección	columna	color	contenido	coord	nombrearchivo	formato
cs-cz	adresa	sloupec	barva	obsah	souřadnice	názevsouboru	formát
da-dk	adresse	kolonne	farve	indhold	koord	filnavn	format
de-de	adresse	spalte	farbe	inhalt	koord	dateiname	format
es-es	direccion	columna	color	contenido	coord	nombrearchivo	formato
et-ee	aadress	veerg	värv	sisukord	Koordinatt	failinimi	vorming
fi-fi	osoite	sarake	väri	sisältö	koord	tiedostonnimi	muoto
fr-fr	adresse	colonne	couleur	contenu	coordonnees	nomfichier	format
hu-hu	cím	oszlop	szín	tartalom	koord	filenév	forma
it-it	indirizzo	col	colore	contenuto	coordinate	nomefile	formato
kk-kz	мекенжай	баған	түс	мазмұны	ТҰРАҒИАТ	файлатауы	пішім
lv-lv	adrese	kolonna	krāsa	saturs	koordinātas	faila_nosaukums	formāts
nb-no	adresse	kol	farge	innhold	koord	filnavn	format
nl-nl	adres	kolom	kleur	inhoud	coord	bestandsnaam	notatie
pl-pl	adres	kolumna	kolor	zawartość	WSPÓŁRZ	nazwa_pliku	format
pt-br	endereço	col	cor	conteúdo	coord	nome.arquivo	formato
pt-pt	endereço	col	cor	conteúdo	coord	nome.ficheiro	formato
ru-ru	адрес	столбец	цвет	содержимое	КООРД	имяфайла	формат
sk-sk	adresa	stĺpec	farba	obsah	koordinovať	názovsúboru	formát
sl-si	address	sto	color	contents	coord	filename	format
sv-se	adress	kol	färg	innehåll	koord	filnamn	format
tr-tr	adres	süt	renk	içerik	koord	dosyaadi	biçim
uk-ua	адреса	стовпець	колір	вміст	КООРД	ім`я_файлу	формат

Locale	parentheses	prefix	protect	row	Sheet	type	width
az-latn-az	parentheses	prefix	protect	sətir	Vərəq	tip	en
ca-es	parentesis	prefijo	proteger	fila	hoja	tipo	ancho
cs-cz	závorky	prefix	zámek	řádek	list	typ	šířka
da-dk	parenteser	foranstillet	beskyt	række	ark	værditype	bredde

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Locale	parentheses	prefix	protect	row	Sheet	type	width
de-de	klammern	präfix	schutz	zeile	blatt	typ	breite
es-es	parentesis	prefijo	proteger	fila	hoja	tipo	ancho
et-ee	sulud	eesliide	kaitse	rida	leht	tüüp	laius
fi-fi	sulkeet	etuliite	suojaus	rivi	taulukko	tyyppi	leveys
fr-fr	parentheses	prefixe	protege	ligne	feuille	type	largeur
hu-hu	zárójelek	előtag	védett	sor	lap	típus	széles
it-it	parentesi	prefisso	proteggi	riga	foglio	tipo	larghezza
kk-kz	жақшалар	префикс	қорғаныс	жол	ПАРАҚ	түр	ені
lv-lv	iekavas	prefikss	aizsargāt	rinda	lapa	tips	platums
nb-no	parenteser	prefiks	beskytt	rad	ark	verditype	bredde
nl-nl	haakjes	voorvoegsel	bescherming	rij	blad	type	breedte
pl-pl	nawiasy	prefiks	ochrona	wiersz	arkusz	typ	szerokość
pt-br	parênteses	prefixo	proteger	lin	planilha	tipo	largura
pt-pt	parênteses	prefixo	proteger	lin	folha	tipo	largura
ru-ru	скобки	префикс	защита	строка	ТАБЛИЦА	тип	ширина
sk-sk	zátvorky	vloženýznak	chrániť	riadok	hárok	typ	šírka
sl-si	parentheses	prefix	protect	vrstica	sheet	type	širina
sv-se	parenteser	prefix	skydd	rad	blad	typ	bredd
tr-tr	ayraç	önek	koruma	sat	tablo	tür	genişlik
uk-ua	дужки	префікс	захист	рядок	АРКУШ	тип	довжина

b. *The standard does not fully specify details when argument category is format.*

In Excel, when the category parameter is format then the value returned depends upon the number format of the upper-left cell of reference, and more specifically upon the number format code of the upper-left cell of reference. Depending upon the number format code of the appropriate cell, the result value of CELL when the category is format is based upon the following rules.

First, some observations regarding the rules are in order:

The various sections of the number format code are referred to within the rules. For more information on sections in the number format code, see numFmts ("[ISO/IEC-29500-1] §18.8.31; numFmts"). There are cases where it is useful to discuss the characters from the number format code which are dependent upon the value in the cell. These characters, instead of representing text or spacing in the cell's display text, interpret, in some fashion, the value to be displayed. In the rules, these characters

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are referred to as interpreted characters of the number format code. The following table shows all the interpreted characters:

Interpreted Characters
0
#
@
D
M
Y
H
S
?
AM/PM
A/P
G
E
R

There are cases where it is also useful to discuss runs of similar interpreted characters. [*Example*: Each d, m, and y within the number format code dd/mm/yyyy does not represent a separate interpretation of the day of the date value to be represented, and instead helps to make up a representation of the day of the date that is two digits in length. *end example*]. These runs of similar characters are referred to as interpreted symbols because multiple characters are used, but the result is a single symbolic representation of at least part of the value.

Because there are multiple different symbols for days, months, years, hours, minutes, seconds, and AM/PM, it is sometimes useful to discuss all of the representations of each of these. When any of Day, Month, Year, Hour, Minute, and so on, is referred to within a rule, what is meant is any of the possible representations for that date/time portion. For example, a Day symbol would be any of d, dd, ddd, or dddd.

The use of characters such as 0, E, and % as a symbol within a number format code does not include usages of these same characters either escaped (by preceding them with a backslash character "\") or as a part of a quoted string.

Here are the rules to determine the result value:

If the first interpreted symbols within the first section are any of the date or time characters (any of y, m, d, h, m, s), then the first one or two characters of the return value are determined by the order of interpreted symbols (including any interpreted symbols, not just date/time symbols) according to the following table ("anything" can mean "no additional symbols". If the type is "anything except <type>", then the excepted symbol type cannot follow the previously specified symbol):

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Interpreted Symbols in Order	Return Value Characters
Day, month, year, anything	"D1"
Day, month, anything besides year, anything	"D2"
Month, year, anything	"D3"
Month, day, year, anything	"D4"
Month, day, anything besides year, anything	"D5"
Hours, minutes, seconds, AM/PM, anything	"D6"
Hours, minutes, AM/PM, anything	"D7"
Hours, minutes, seconds, anything besides AM/PM, anything	"D8"
Hours, minutes, anything besides seconds or AM/PM, anything	"D9"
Any other combination of symbols	"G" or "C" depending on whether there is a $ in the first condition

Otherwise, the first character of the return value is determined based upon the referenced cell's number format code according to the rules in the following table:

First Section of the Number Format Code		First Return Value Character
Absent Characters (as Symbols)	Present Characters (as Symbols)	
	@	"G"
@	$	"C"
@, $	%	"P"
@, $, %	E	"S"
@, $, %, E	A run of any combination of one or more "0", "#", and "?" characters, followed by a comma, followed by a run of any combination of one or more "0", "#", and "?" characters. This run cannot be preceded by a period (".") or by any interpreted characters.	","
@, $, %, E, or a run of characters containing a comma as described in the preceding row	At least one of "0", "?", or "#"	"F"
Any of the conditions described in the preceding rows	Anything	"G"

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The final value is determined by appending any of the applicable characters from the following table to the return value characters obtained from the previous two tables:

Case	Characters to Append
The first character of the return value is C, F, S, P, or "," and the number format code contains any of "?", "0", or "#" as a symbol.	The decimal number equal to the total number of "#", "?", and "0" characters to the right of the first "." within the first section.
The first character of the return value was C, and the number format code does not contains any of "?", "0", or "#" as a symbol.	15 or the length of the string immediately following the first "$" sign in the number format code that is a symbol.
The first section of the number format code contains an open parenthesis ("(") as a symbol.	"()"
The second section of the number format code contains [Red], [Black], [Green], [White], [Blue], [Magenta], [Yellow], or [Cyan] as a symbol.	"-"

c. *The standard does not specify coord and sheet as values for argument category.*

Excel allows the following additional values for the *category* argument:

category	Meaning	Result Type
"coord"	Returns the referenced cell in the format $A:$<referenced column>$<referenced row>.	text
"sheet"	Returns 1.	number

2.1.897 Part 1 Section 18.17.7.37, CHIINV

a. *The standard specifies that an iterative search technique is used for the implementation of the CHIINV function.*

Office does not require an iterative search technique to be used.

b. *The standard lists #N/A as the return value in case the search has not converged after some number of iterations.*

Office does not require an iterative search technique to be used.

2.1.898 Part 1 Section 18.17.7.40, CLEAN

a. *The standard states that the function makes a string that is a copy of string with all so-called non-printable characters—those with internal values in the range U+0000–001F—removed.*

In Office, the function makes a string that is a copy of string with all so-called non-printable characters removed; specifically, those characters with internal values in the Unicode ranges U+0000 – U+001F and U+0080 – U+009F are removed.

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2.1.899 Part 1 Section 18.17.7.45, COMPLEX

a. *The standard states that if real-number has the value 0 and imaginary-number has a non-zero value, the resulting string contains just the real number.*

In Office, if real-number has the value 0 and imaginary-number has a non-zero value, the resulting string contains just the imaginary-number and suffix.

2.1.900 Part 1 Section 18.17.7.47, CONFIDENCE

a. *The standard does not specify on which probability distribution the CONFIDENCE function is based.*

In Office, the CONFIDENCE function is based on a normal distribution.

2.1.901 Part 1 Section 18.17.7.48, CONVERT

a. *The standard specifies P or p as the unit string for Pascal.*

Office requires Pa or p to be the unit string for Pascal.

b. *The standard specifies H or hp as the unit string for Horsepower.*

Office requires h or HP as the unit string for Horsepower.

c. *The standard does not specify the detailed unity type for cup, oz, tbs, and tsp.*

Office treats cup as traditional U.S cup, oz as U.S. fluid ounce, tbs as traditional U.S. tablespoon, and tsp as traditional U.S. teaspoon.

d. *The standard specifies ptorus_pt as the unit string for U.S. pint.*

Office requires pt or us_pt as the unit string for U.S. pint.

e. *The standard specifies a list of liquid measure conversions.*

Office does not support the following liquid measure conversions: AU_tbs, CZ_mass, CZ_mug, GB_tbs, CA_tbs, JP_tbs, imperial_gal, AU_gal, CA_gal, GB_gal, imperial_oz, AU_oz, CA_oz, GB_oz, imperial_pt, AU_pt, CA_pt, GB_pt, imperial_qt, AU_qt, CA_qt, GB_qt, JP_cup, metric_cup, AU_cup, CA_cup, NZ_cup, metric_tsp, AU_tsp, CA_tsp, JP_tsp, GB_tsp.

2.1.902 Part 1 Section 18.17.7.49, CORREL

a. *The standard does not specify how function arguments map to formula variables.*

Office maps x to value from array-1, x-bar to AVERAGE(array-1), y to value from array-2, y-bar to AVERAGE(array-2).

2.1.903 Part 1 Section 18.17.7.50, COS

a. *The standard does not specify the unit for x.*

Office uses x in radians.

2.1.904 Part 1 Section 18.17.7.52, COUNT

a. *The standard states that argument-list is of type text.*

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Office requires that each argument in argument-list be of type logical, number, name, text, array, or reference.

2.1.905 Part 1 Section 18.17.7.53, COUNTA

a. *The standard states that argument-list is of type text.*

Office requires argument-list to be of type logical, number, name, text, array, or reference.

2.1.906 Part 1 Section 18.17.7.56, COUNTIFS

a. *The standard specifies a count-range argument.*

Office does not accept a count-range argument.

b. *The standard specifies that selection-criteria-1 is the first range of cells to be counted.*

Office specifies that selection-criteria-1 is in the form of a number, expression, cell reference, or text that define which cells will be counted.

2.1.907 Part 1 Section 18.17.7.57, COUPDAYBS

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.

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Value	Day Count Basis
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

2.1.908 Part 1 Section 18.17.7.58, COUPDAYS

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

2.1.909 Part 1 Section 18.17.7.59, COUPDAYSNC

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

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Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

2.1.910 Part 1 Section 18.17.7.60, COUPNCD

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or

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Value	Day Count Basis
	equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

2.1.911 Part 1 Section 18.17.7.61, COUPNUM

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))

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Value	Day Count Basis
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard does not specify that arguments settlement and maturity are truncated to integers.*

In Office, arguments settlement and maturity are truncated to integers.

c. *The standard states that the return values is the number of coupons payable between the settlement date and maturity date, rounded up to the nearest whole coupon.*

In Office, if the number of months between the settlement and maturity is not a multiple of the number of months between coupon payments and settlement date is less than one payment period away from serial day 1, #NUM! is returned.

2.1.912 Part 1 Section 18.17.7.62, COUPPCD

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per

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Value	Day Count Basis
	year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

2.1.913 Part 1 Section 18.17.7.64, CRITBINOM

a. *The standard specifies the number-trials argument as a number.*

In Excel, the number-trials argument is truncated to an integer.

2.1.914 Part 1 Section 18.17.7.65, CUBEKPIMEMBER

a. *The standard does not specify how the relative importance of the KPI can be used on the server when argument kpi-property is 5.*

In Excel, a kpi-property value of 5 indicates the relative importance assigned to the KPI on the server. If this KPI is assigned a parent KPI, then this number can be used on the server to proportionally adjust the results of this KPI value when calculating the value of the parent KPI. While this number can be shown in the spreadsheet application, it is assumed that it is used by the server for any calculations affecting the KPI.

b. *The standard states argument kpi-property equal to 6 returns a temporal context of the KPI.*

Office returns the unique name of the member in the time dimension that defines the timeframe of the KPI if kpi-property equals 6.

2.1.915 Part 1 Section 18.17.7.69, CUBESET

a. *The standard does not define the return value when sort-order requires sort-by but sort-by value is not in the cube.*

In Office, #N/A is returned in this case.

2.1.916 Part 1 Section 18.17.7.70, CUBESETCOUNT

a. *The standard does not define the return value if set argument does not evaluate to a set.*

In Office, #N/A is returned in this case.

2.1.917 Part 1 Section 18.17.7.72, CUMIPMT

a. *The standard does not define the return value of the CUMIPMT formula when end_period is greater than nper.*

Excel returns a value of #NUM! when end_period is greater than nper.

b. *The standard states that start-period and end-period are numbers.*

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Excel truncates start-period and end-period to integers.

2.1.918 Part 1 Section 18.17.7.73, CUMPRINC

a. *The standard does not specify the return value if the end_period argument is greater than the nper argument.*

Office returns #NUM! if the end_period argument is greater than the nper argument.

b. *The standard states that start-period and end-period are numbers.*

Excel truncates start-period and end-period to integers.

2.1.919 Part 1 Section 18.17.7.74, DATE

a. *The standard does not specify that the year argument must be positive.*

Office requires the year argument to be a positive number.

b. *The standard defines a normalization process for month and day arguments.*

Office applies additional rules to the value of month or day in a year-month-day argument triplet when those values are out of range.

month is simply an instance of counting a given number of months, minus one, relative to January of the year specified, using the Gregorian calendar [ISO-8601]. This calendar defines that there are 12 months in a year, and that when counting forward, the month following December of one year is January of the following year, and when counting backward, the month preceding January of one year is December of the previous year. Likewise, day is simply an instance of counting a given number of days, minus one, relative to the first day of the adjusted month, using the Gregorian calendar. This calendar defines the number of days in each month, and that when counting forward, the day following the final day of one month is the first day of the following month, and when counting backward, the day preceding the first day of one month is the final day of the previous month.

[*Example*: The year-month-day argument triplets (2007, 12,32), (2007,13,1), and (2008,1,1) all result in the same serial date. *end example*]

[*Note*: One way to handle out-of-range values for month or day is as follows:

Compute yearAdjust = INT((month - 1)/12)

Compute adjustedMonth = month - (yearAdjust * 12)

Compute adjustedYear = year + yearAdjust.

A serialDateBase can now be computed for the first day of the adjustedYear and adjustedMonth. Finally, compute the serial date for the full triplet by adding (day-1) to this serialDateBase. *end note*]

c. *The standard indicates various range of values for the year that cause #NUM! to be returned.*

Office returns #NUM! if the year is outside the acceptable range for the date base currently in use.

2.1.920 Part 1 Section 18.17.7.76, DATEVALUE

a. *The standard states the function computes the serial value of the date and/or time represented by the string date-time-string, taking into account the current date base value.*

In Office, the function computes the serial value of the date represented by the string date-time-string, taking into account the current date base value.

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b. *The standard does not specify what happens when the date-time-string argument contains both a date and time part.*

   Office truncates the time portion of the date-time-string argument, or returns 0 for time only values of date-time-string argument.

2.1.921 Part 1 Section 18.17.7.77, DAVERAGE

a. *The standard states that the field argument is the column to which criteria shall be applied.*

   Office treats the field argument as the column to use to compute the average.

2.1.922 Part 1 Section 18.17.7.78, DAY

a. *The standard includes the example "DAY(DATE(2006,0,2)) results in 31", which is inconsistent with the defined behaviors for the DAY ("*[ISO/IEC-29500-1] *§18.17.7.78; DAY") and DATE ("*[ISO/IEC-29500-1] *§18.17.7.74; DATE") functions.*

   Excel implements the standard as written, and returns 2.

2.1.923 Part 1 Section 18.17.7.79, DAYS360

a. *The standard does not describe the adjustments made when start-date is the 28th day of the 2nd month (or 29th day of the second month for leap-years) for when argument method-flag is FALSE or omitted.*

   In Office, if the start-date is the 28th day of the 2nd month (29th day of the 2nd month for leap-years) it is also changed to the 30th day of that same month.

2.1.924 Part 1 Section 18.17.7.80, DB

a. *The standard does not specify the return value if period > life and month argument is omitted or month is 12, or if period > (life + 1).*

   Office returns #NUM! in this case.

b. *The standard states that the syntax is: DB (cost , salvage , life , period [, [month]]).*

   Office uses the following syntax: DB (cost , salvage , life , period [, month]).

2.1.925 Part 1 Section 18.17.7.81, DCOUNT

a. *The standard states that the field argument is the column to which criteria shall be applied.*

   Office treats the field argument as the column with values to count.

2.1.926 Part 1 Section 18.17.7.82, DCOUNTA

a. *The standard states that the field argument is the column to which criteria shall be applied.*

   Office treats the field argument as the column with values to count.

2.1.927 Part 1 Section 18.17.7.83, DDB

a. *The standard states that if the cost life argument is less than or equal to 0, then #NUM! is returned.*

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Office returns #NUM! if the cost argument is less than 0.

b. *The standard does not specify the return value if period > life.*

Office returns #NUM! if period > life.

c. *The standard states that the syntax is: DDB (cost , salvage , life , period [, factor]]).*

Office uses the following syntax: DDB (cost , salvage , life , period [, factor]).

2.1.928 Part 1 Section 18.17.7.84, DEC2BIN

a. *The standard defines the number argument as a decimal number.*

Office truncates the number argument to a decimal integer.

2.1.929 Part 1 Section 18.17.7.85, DEC2HEX

a. *The standard defines the number argument as a decimal number.*

Office truncates the number argument to a decimal integer.

2.1.930 Part 1 Section 18.17.7.86, DEC2OCT

a. *The standard defines the number argument as a decimal number.*

Office truncates the number argument to a decimal integer.

2.1.931 Part 1 Section 18.17.7.89, DEVSQ

a. *The standard does not specify the return value when the argument is an array or a reference that contains only text, logical values, or empty cells.*

Office returns #NUM! when argument is an array or a reference that contains only text, logical values, or empty cells.

2.1.932 Part 1 Section 18.17.7.90, DGET

a. *The standard states that argument field is the column to which criteria shall be applied.*

Office treats argument field as the column containing the value to get.

2.1.933 Part 1 Section 18.17.7.91, DISC

a. *The standard states the pr argument is the security's price per $100 face value.*

Office treats the pr argument as the price per 100 currency units face value.

b. *The standard states the redemption argument is the security's redemption value per $100 face value.*

Office treats the redemption argument as the security's redemption value per 100 currency units face value.

c. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

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Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

d. *The standard states that the formula for DISC has par as the denominator.*

Office requires the formula to have redemption in the denominator instead of par.

2.1.934 Part 1 Section 18.17.7.92, DMAX

a. *The standard states that the field argument is the column to which criteria shall be applied.*

Office treats the field argument as the column for which to find the maximum.

2.1.935 Part 1 Section 18.17.7.93, DMIN

a. *The standard states that the field argument is the column to which criteria shall be applied.*

Office treats the field argument as the column for which to find the minimum.

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2.1.936 Part 1 Section 18.17.7.94, DOLLAR

a. *The standard states that the thousands separator, radix point, and currency symbol are locale-specific. The format used is $#,##0.00;$(#,##0.00).*

Office treats the thousands separator, radix point, and currency symbol to be implementation-specific.

b. *The standard does not specify the return value if the num-decimal argument is greater than 127.*

Office returns #VALUE! if the num-decimal argument is greater than 127.

2.1.937 Part 1 Section 18.17.7.95, DOLLARDE

a. *The standard does not specify how the return value is calculated.*

In Excel, the fractional part of fractional-dollar is scaled to match the magnitude of fraction by moving the decimal place right by the number of digits in fraction. The fractional-dollarm.n is computed into a decimal dollar value as m + i, where i is an intermediate result equal to (((0.n)*(10x))/fraction), and x is the base 10 log of fraction, rounded up to the nearest whole number.

[Example: Given a fractional-dollar value of 1.02 and a fraction value of 16, the fractional part of fractional-dollar is multiplied by 100, giving a value of 2 to be divided by fraction before being added to the integral part of fractional-dollar, yielding a decimal price of 1.125. end example]

b. *The standard states that argument fractional-dollar is the number expressed as a fraction.*

Office treats argument fractional-dollar as the number to be interpreted as a fractional dollar price.

2.1.938 Part 1 Section 18.17.7.96, DOLLARFR

a. *The standard does not specify how the return value is calculated.*

In Excel, the fractional part of the return value is scaled to have the same number of digits after the decimal point, as there are digits in fraction. [Example: DOLLARFR(1.125, 16) has a two-digit fraction value and so returns the two-digit fractional number 1.02 end example] If an exact numerator cannot be found, the function returns the lowest numerator that could be used with fraction, multiplied by a power of ten. [Example: DOLLARFR(1.5,3) returns 1.15, as there is no exact fraction which satisfies n/3 = 0.5, and 15/30 represents the lowest power of ten fraction can be multiplied by to obtain an exact value. end example]

2.1.939 Part 1 Section 18.17.7.97, DPRODUCT

a. *The standard states that the field argument is the column to which criteria shall be applied.*

Office treats the field argument as the column containing the values to be multiplied.

2.1.940 Part 1 Section 18.17.7.98, DSTDEV

a. *The standard states that the field argument is the column to which criteria shall be applied.*

Office treats the field argument as the column for which the standard deviation is to be computed.

2.1.941 Part 1 Section 18.17.7.99, DSTDEVP

a. *The standard states that the field argument is the column to which criteria shall be applied.*

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Office treats the field argument as the column for which the standard deviation is to be computed.

2.1.942 Part 1 Section 18.17.7.100, DSUM

a. *The standard states that the field argument is the column to which criteria shall be applied.*

Office treats the field argument as the column for which the sum is to be computed.

2.1.943 Part 1 Section 18.17.7.101, DURATION

a. *The standard says that duration is defined as the weighted average of the present value of the cash flows and is used as a measure of a bond price's response to changes in yield.*

Office treats duration as the weighted average term to maturity of the cash flows from a bond. The weight of each cash flow is determined by dividing the present value of the cash flow by the price.

b. *The standard indicates that the function is specific to U.S. currency.*

Office does not require the function to be specific to any currency.

c. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the

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Value	Day Count Basis
	year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

2.1.944 Part 1 Section 18.17.7.102, DVAR

a. *The standard states that the field argument is the column to which criteria shall be applied.*

Office treats the field argument as the column for which the variance is to be computed.

2.1.945 Part 1 Section 18.17.7.103, DVARP

a. *The standard states that the field argument is the column to which criteria shall be applied.*

Office treats the field argument as the column for which the variance is to be computed.

2.1.946 Part 1 Section 18.17.7.105, EDATE

a. *The standard does not specify the case where the day of the month in argument start-date is greater than the last day of the result month.*

In this case, Office will round day to the last day of the result month.

2.1.947 Part 1 Section 18.17.7.108, ERF

a. *The standard does not specify how function arguments map to formula variables.*

Office maps z to lower-bound argument, a to lower-bound argument, b to upper-bound argument.

2.1.948 Part 1 Section 18.17.7.109, ERFC

a. *The standard does not specify how function arguments map to formula variables.*

Office maps x to lower-bound argument.

2.1.949 Part 1 Section 18.17.7.110, ERROR.TYPE

a. *The standard states that return values are 1-7 or #N/A.*

Office can also return a value of 8, corresponding to value #GETTING_DATA.

2.1.950 Part 1 Section 18.17.7.119, FIND

a. *The standard specifies that the start-pos argument shall be at least 0.*

Office requires start-pos argument to be at least 1.

b. *The standard states that FIND is intended for use with languages that use the single-byte character set (SBCS), whereas FINDB is intended for use with languages that use the double-byte character set (DBCS).*

In Office, FIND is intended for use with any language, whereas FINDB is intended for use with languages that use the double-byte character set (DBCS).

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2.1.951 Part 1 Section 18.17.7.120, FINDB

a. *The standard states argument start-pos shall be at least 0.*

Office requires argument stat-pos to be at least 1.

b. *The standard does not specify that argument start-pos and the return value are measured in bytes.*

In Office, argument start-pos and return value are measured in bytes.

c. *The standard does not specify behavior of FINDB when default language supports DBCS and when it does not support DBCS.*

In Office, when the default language supports DBCS, FINDB counts each double-byte character as 2 bytes, and each single-byte character as 1. When the default language does not support DBCS, FINDB counts each character as 1 byte.

d. *The standard does not specify which languages support DBCS.*

In Office, the languages that support DBCS include Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.

2.1.952 Part 1 Section 18.17.7.121, FINV

a. *The standard specifies that an iterative search technique is used for the implementation of this function.*

Office does not require an iterative search technique to be used.

2.1.953 Part 1 Section 18.17.7.124, FIXED

a. *The standard states that the number parameter is truncated to integer.*

Office does not truncate the number parameter to an integer.

b. *The standard does not state that num-decimal is truncated to an integer.*

Office truncates num-decimal to an integer.

c. *For argument suppress-commas-flag, the standard states that if it is TRUE, commas are not included; if FALSE or omitted, commas are included.*

In Office, if argument suppress-commas-flag is TRUE, digit grouping symbols are not included; if FALSE or omitted, they are included.

2.1.954 Part 1 Section 18.17.7.125, FLOOR

a. *The standard states that regardless of the sign of x, a value is rounded down when adjusted toward zero.*

In Office, a value is rounded toward zero when adjusted.

2.1.955 Part 1 Section 18.17.7.126, FORECAST

a. *The standard states that x and y are the sample means.*

Office treats x and y as the sample values while x-bar and y-bar as the sample means.

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2.1.956 Part 1 Section 18.17.7.129, FV

a. *The standard states that the type argument is truncated to an integer.*

   Office does not truncate the type argument to an integer.

b. *The standard states that argument type is either 0 or 1.*

   In Office, any nonzero value of argument type is equivalent to 1.

c. *The standard states that if type is any number other than 0 or 1, #NUM! is returned.*

   In Office, any nonzero value of argument type is equivalent to 1.

d. *The standard states that argument nper is truncated to integer.*

   Office does not truncate argument nper to integer.

e. *The standard states that either the pmt argument or the pv argument must be supplied.*

   Office allows both to be omitted (and returns a future value of zero).

2.1.957 Part 1 Section 18.17.7.132, GAMMAINV

a. *The standard specifies that an iterative search technique is used for the implementation of this function.*

   Office does not require an iterative search technique to be used.

2.1.958 Part 1 Section 18.17.7.135, GEOMEAN

a. *The standard states that cells with a value equal to 0 are included in the calculation.*

   Office returns #NUM! if the value of any data point is less than or equal to 0.

2.1.959 Part 1 Section 18.17.7.137, GETPIVOTDATA

a. *The standard states that arguments field-1 and item-1 are mandatory arguments.*

   Office treats arguments field-1 and item-1 as optional arguments.

2.1.960 Part 1 Section 18.17.7.139, HARMEAN

a. *The standard states that cells with the value 0 are included in calculations.*

   Office returns #NUM! if the value of any data point is less than or equal to 0.

2.1.961 Part 1 Section 18.17.7.143, HLOOKUP

a. *The standard states that argument row-index-num is the row number in argument table-array from which the matching value is to be returned.*

   In Office, argument row-index-num is the row number, truncated to integer, in argument table-array from which the matching value is to be returned.

2.1.962 Part 1 Section 18.17.7.144, HOUR

a. *The standard states that the returned value shall be in the range 0 - 59.*

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Office requires that the returned value shall be in the range 0 - 23.

2.1.963 Part 1 Section 18.17.7.147, IF

a. *The standard states that arguments value-if-true and value-if-false can contain up to seven levels of nested IF function calls.*

In Office, these arguments can contain as many levels of nesting as the application allows.

2.1.964 Part 1 Section 18.17.7.148, IFERROR

a. *The standard states that the value argument is checked for the following error values: #N/A, #VALUE!, #REF!, #DIV/0!, #NUM!, #NAME?, or #NULL!.*

In Office, the value argument is checked for the following error values: #N/A, #VALUE!, #REF!, #DIV/0!, #NUM!, #NAME?, #NULL!, or #GETTING_DATA.

2.1.965 Part 1 Section 18.17.7.151, IMARGUMENT

a. *The standard does not fully specify how the angle θ is calculated.*

Office calculates angle θ as ATAN2(x,y).

b. *The standard does not specify how function arguments map to formula variables.*

Office maps x + yi to argument complex number, and theta to ATAN2(x,y).

c. *The standard states that the complex number can be in the form x+yi.*

Office accepts complex numbers in the form x+yi and x+yj.

2.1.966 Part 1 Section 18.17.7.154, IMDIV

a. *The standard does not specify what happens in the case of complex division by zero.*

Office returns #NUM! if complex-number-2 is zero.

2.1.967 Part 1 Section 18.17.7.156, IMLN

a. *The standard does not specify what happens if complex-number is zero.*

Office returns #NUM! if complex-number is zero.

b. *The standard does not fully specify how the angle θ is calculated.*

Excel calculates imln using the following mathematical formula:

$$ln(x + yi) = ln\sqrt{x^2 + y^2} + i\,\theta$$

where:

θ = ATAN2(x,y) calculated according to the formula in ATAN2 ("[ISO/IEC-29500-1] §18.17.7.15; ATAN2")$\theta \in (-\pi; \pi]$

2.1.968 Part 1 Section 18.17.7.157, IMLOG10

a. *The standard does not specify what happens if complex-number is zero.*

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Office returns #NUM! if complex-number is zero.

2.1.969 Part 1 Section 18.17.7.158, IMLOG2

a. *The standard does not specify what happens if complex-number is zero.*

Office returns #NUM! if complex-number is zero.

2.1.970 Part 1 Section 18.17.7.159, IMPOWER

a. *The standard does not mention error case of argument complex-number equal to zero and argument n is not a positive number.*

Office returns #NUM! if complex-number is zero, and the exponent n is not a positive number.

b. *The standard specifies that y is the exponent to which complex-number is to be raised as well as a coefficient of the argument complex-number.*

Office treats n as the exponent to which argument complex-number is to be raised.

c. *The standard does not fully specify how the angle θ is calculated.*

Office calculates angle θ as ATAN2(x,y).

2.1.971 Part 1 Section 18.17.7.162, IMSIN

a. *The standard states the mathematical formula is sin(x+yi) = sin(x)cosh(y) - cos(x)sinh(y)i.*

Office uses the mathematical formula sin(x+yi) = sin(x)cosh(y) + cos(x)sinh(y)i.

2.1.972 Part 1 Section 18.17.7.163, IMSQRT

a. *The standard does not fully specify how the angle θ is calculated.*

Office calculates angle θ as ATAN2(x,y).

2.1.973 Part 1 Section 18.17.7.166, INDEX

a. *The standard states that the argument row-number and argument column-number refers to the row or column, respectively, in argument array.*

Office treats argument row-number as the column number if there is only one row in the array.

2.1.974 Part 1 Section 18.17.7.167, INDIRECT

a. *The standard does not place any length restrictions on argument ref-text.*

Office returns #VALUE! if argument ref-text is more than 255 characters.

b. *The standard states the argument ref-text is of type A1-style reference, an R1C1-style reference, a name defined as a reference, or a reference to a cell as a string.*

Office allows argument ref-text to be type A1-style reference, an R1C1-style reference, a name defined as a reference, a structure reference, or a reference to a cell as a string.

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2.1.975 Part 1 Section 18.17.7.168, INFO

a. *The standard lists "memavail" as "Amount of memory available, in bytes."*

Office always returns #N/A for "memavail".

b. *The standard lists "memused" as "Amount of memory being used for data."*

Office always returns #N/A for "memused".

c. *The standard lists "totmem" as "Total memory available, including memory already in use, in bytes."*

Office always returns #N/A for "totmem".

d. *The standard does not specify mode as a valid value for argument category.*

Office permits mode as a valid value for argument category and it returns 1.

e. *The standard does not specify the valid value osreturncode for argument category.*

Office permits ostreturncode as a valid value for argument category and it returns 0.

f. *The standard does not specify setlang as a valid value for argument category.*

Office permits setlang as a valid value for argument category and it returns locale information.

g. *The standard states that the return type is text.*

Office allows the return type to be text or number.

2.1.976 Part 1 Section 18.17.7.170, INTERCEPT

a. *The standard states that x and y are the sample means.*

Office treats x and y as the sample values; x-bar and y-bar are the sample means.

b. *The standard makes no mention of the case for non-intercepting lines.*

Office returns #DIV/0, if the regression line does not intercept the y-axis,.

2.1.977 Part 1 Section 18.17.7.171, INTRATE

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30

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Value	Day Count Basis
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard states argument redemption is the amount to be received at maturity, the security's annual yield.*

Office defines the argument redemption as the amount to be received at maturity.

2.1.978 Part 1 Section 18.17.7.172, IPMT

a. *The standard states that payment type is truncated to integer.*

Office does not truncate payment type to integer.

b. *The standard states that argument type is either 0 or 1.*

In Office, any nonzero value of argument type is equivalent to 1.

c. *The standard states that if argument type is not 0 or 1, #NUM! is returned.*

In Office argument type is a value of any number.

d. *The standard states that argument per shall be in the range 1-nper.*

In Office argument per shall be in the range 1 ≤ per < nper+1.

e. *The standard does not define the error case if argument per is not in the range 1 ≤ per < nper+1.*

In Office if argument per is not in the range 1 ≤ per < nper+1, then #NUM! is returned.

f. *The standard does not specify the value of argument type if omitted.*

In Office if the argument type is omitted the argument type has a value of 0.

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2.1.979 Part 1 Section 18.17.7.173, IRR

a. *The standard states that IRR uses an iterative calculation technique.*

Office does not require an iterative calculation technique to be used for this function.

2.1.980 Part 1 Section 18.17.7.184, ISPMT

a. *The standard states that the range for argument per is 1 - nper.*

In Office the argument per has no range restriction.

b. *The standard does not state the returned error case if argument nper is 0.*

In Office when the argument nper is 0, #DIV/0! is returned.

2.1.981 Part 1 Section 18.17.7.191, LEFT

a. *The standard states that LEFT is intended for use with languages that use the single-byte character set (SBCS), whereas LEFTB is intended for use with languages that use the double-byte character set (DBCS).*

In Office, LEFT is intended for use with any language, whereas LEFTB is intended for use with languages that use the double-byte character set (DBCS).

2.1.982 Part 1 Section 18.17.7.192, LEFTB

a. *The standard states that LEFT is intended for use with languages that use the single-byte character set (SBCS), whereas LEFTB is intended for use with languages that use the double-byte character set (DBCS).*

In Office, LEFT is intended for use with any language, whereas LEFTB is intended for use with languages that use the double-byte character set (DBCS).

b. *The standard does not specify behavior of LEFTB when default language supports DBCS and when it does not support DBCS.*

In Office, when the default language supports DBCS, LEFTB counts each double-byte character as 2 bytes, and each single-byte character as 1. When the default language does not support DBCS, LEFTB counts each character as 1 byte.

c. *The standard does not specify which languages support DBCS.*

In Office, the languages that support DBCS include Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.

2.1.983 Part 1 Section 18.17.7.193, LEN

a. *The standard specifies that LEN is intended for use with languages that use the single-byte (SBCS), whereas LENB is intended for use with languages that use the double-byte character set (DBCS).*

In Office, LEN is intended for use with any language, whereas LENB is intended for use with languages that use the double-byte character set (DBCS).

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2.1.984 Part 1 Section 18.17.7.194, LENB

a. *The standard states that LENB is intended for use with languages that use the double-byte character set (DBCS), whereas LEN is intended for use with languages that use the single-byte character set (SBCS).*

   In Office, LENB is intended for use with languages that use the double-byte character set (DBCS), whereas LEN is intended for use with any language.

b. *The standard does not specify behavior of LENB when default language supports DBCS and when it does not support DBCS.*

   In Office, when the default language supports DBCS, LENB counts each double-byte character as 2 bytes, and each single-byte character as 1. When the default language does not support DBCS, LENB counts each character as 1 byte.

c. *The standard does not specify which languages support DBCS.*

   In Office, the languages that support DBCS include Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.

2.1.985 Part 1 Section 18.17.7.195, LINEST

a. *The standard states that x and y are sample means.*

   Office treats x and y as the sample values, and x-bar and y-bar as the sample means of known-xs and known-ys, respectively.

b. *The standard does not place any restrictions on dimensions of known-ys or known-xs.*

   In Office, if known-ys and known-xs are both specified but don't match in size (or number of variables for the multivariate case), #REF! is returned.

c. *The standard describes statistic seb as the standard error value for the constant b.*

   In Office, if b is forced to be zero (const-flag=FALSE), then it has no standard error and #N/A is returned.

d. *The standard does not mention collinearity cases for this function.*

In Excel, vectors in known-xs that are collinear (have no additional predictive value because they can be expressed as sum of multiples of existing vectors) are omitted from the regression calculations. The vectors are given a coefficient of 0 and a standard error of 0 (m = 0; se=0). If vectors are omitted, df is affected because df depends on the number of values used for predictive purposes.

e. *The standard states the syntax is: LINEST (known-ys [, [known-xs] [, [const-flag] [, stats-flag]]).*

   Office uses the following syntax: LINEST (known-ys [, [known-xs] [, [const-flag] [,[stats-flag]]]]).

2.1.986 Part 1 Section 18.17.7.197, LOG

a. *The standard does not specify what happens if base is equal to 1.*

   Office returns #DIV/0! if base is equal to 1.

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2.1.987 Part 1 Section 18.17.7.199, LOGEST

a. *The standard specifies the equation for the curve is y = b * mx or y=b*(m1*x1)*(m2*x2)*...) if there are multiple values*

Office uses the following equation for the curve: y = b * (m^x) or y=b*(m1^x1)*(m2^x2)...(mn^xn) if there are multiple values

b. *The standard does not place any restrictions on dimensions of known-ys or known-xs.*

In Office, if known-ys and known-xs are not the same size, or known-ys does not contain exactly one value for each row or column of known-xs, #REF! is returned.

c. *The standard specifies the following syntax: LOGEST (known-ys [, [known-xs] [, [const-flag] [, stats-flag]]).*

Office uses the following syntax: LOGEST (known-ys [, [known-xs] [, [const-flag] [, [stats-flag]]]]).

2.1.988 Part 1 Section 18.17.7.200, LOGINV

a. *The standard states that if probability is less than 0, or if probability is greater than 1, #NUM! is returned.*

Office returns #NUM! if probability is less than or equal to 0, or if probability is greater than or equal to 1.

2.1.989 Part 1 Section 18.17.7.201, LOGNORMDIST

a. *The standard states that the function returns the inverse of the lognormal cumulative distribution function of x.*

In Office, the function returns the lognormal cumulative distribution of x.

2.1.990 Part 1 Section 18.17.7.204, MATCH

a. *The standard states that if no match is found, #NUM! is returned.*

In Office, #N/A is returned if no match is found.

b. *The standard does not place any restrictions on the dimensions of argument lookup-array.*

In Office, argument lookup-array must be an array or range with only one row or only one column, else #N/A is returned.

2.1.991 Part 1 Section 18.17.7.208, MDURATION

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is

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Value	Day Count Basis
	changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard does not specify how function arguments map to formula variables.*

Office maps coupon payments per year to argument frequency, DURATION to DURATION(settlement, maturity, coupon, yld, frequency, [basis]), and market yield to argument yld.

2.1.992 Part 1 Section 18.17.7.210, MID

a. *The standard states that MID is intended for use with languages that use the single-byte character set (SBCS), whereas MIDB is intended for use with languages that use the double-byte character set (DBCS).*

In Office, MID is intended for use with any language, whereas MIDB is intended for use with languages that use the double-byte character set (DBCS).

b. *The standard states if start-pos < 0, #VALUE! is returned.*

Office returns #VALUE! if start-pos < 1.

c. *The standard states that if the start-pos argument is greater than the length of string, or if start-pos and number- bytes combined exceeds the length of the string argument, the whole of the string argument shall be extracted.*

In Office, if start-pos is greater than the length of string the empty string is returned. If start-pos and number-bytes combined exceeds the length of string, the remainder of string starting at byte position start-pos is returned.

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2.1.993 Part 1 Section 18.17.7.211, MIDB

a. *The standard states that MIDB is intended for use with languages that use the double-byte character set (DBCS), whereas MID is intended for use with languages that use the single-byte character set (SBCS).*

   In Office, MIDB is intended for use with languages that use the double-byte character set (DBCS), whereas MID is intended for use with any language.

b. *The standard states if start-pos < 0, #VALUE! is returned.*

   Office returns #VALUE! if start-pos < 1.

c. *The standard states that if the start-pos argument is greater than the length of the string argument, or if the start-pos argument and the number- bytes argument combined exceed the length of the string argument, the whole of string shall be extracted.*

   In Office, if start-pos is greater than the length of string the empty string is returned. If start-pos and number-bytes combined exceeds the length of string, the remainder of string starting at byte position start-pos is returned.

d. *The standard specifies the return value as a string containing number-bytes-worth of characters from string, starting at character position start-pos.*

   Office returns a string containing number-bytes-worth of characters from string, starting at byte position start-pos.

e. *The standard does not specify behavior of MIDB when default language supports DBCS and when it does not support DBCS.*

   In Office, when the default language supports DBCS, MIDB counts each double-byte character as 2 bytes, and each single-byte character as 1. When the default language does not support DBCS, MIDB counts each character as 1 byte.

f. *The standard does not specify which languages support DBCS.*

   In Office, the languages that support DBCS include Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.

2.1.994 Part 1 Section 18.17.7.212, MIN

a. *The standard states that the arguments in argument-list designate the values for which the largest value is to be computed.*

   Office treats the arguments in argument-list to be the values for which the smallest value is to be computed.

2.1.995 Part 1 Section 18.17.7.213, MINA

a. *The standard states that the arguments in argument-list designate the values for which the largest value is to be computed.*

   Office treats the arguments in argument-list to be the values for which the smallest value is to be computed.

2.1.996 Part 1 Section 18.17.7.215, MINVERSE

a. *The standard states the inverse matrix is calculated with an accuracy of at least 15 digits, which can lead to a small numeric error when the cancellation is not complete.*

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In Office, the inverse matrix is calculated with an accuracy of at least 15 digits, which can lead to a small numeric error.

2.1.997 Part 1 Section 18.17.7.222, MULTINOMIAL

a. *The standard defines MULTINOMIAL as a function of a,b,c.*

Office treats MULTINOMIAL as a function of a1, a2,...,an, where a1 maps to arg-1, a2 to arg-2,...,an to arg-n.

2.1.998 Part 1 Section 18.17.7.223, N

a. *The standard states that if argument value is anything else (including array and text), the function will return 0.*

Office does not treat array as a special case: the function will return 0 if argument value is anything else (including text).

2.1.999 Part 1 Section 18.17.7.225, NEGBINOMDIST

a. *The standard states if success-probability is < 0 or > 1, #NUM! is returned.*

Office returns #NUM!, if success-probability is <= 0 or >=1.

2.1.1000 Part 1 Section 18.17.7.226, NETWORKDAYS

a. *The standard states that the function computes the number of whole working days between start-date and end-date.*

Office computes the number of whole working days between start-date and end-date, inclusive.

b. *The standard states that the function returns the number of whole working days between start-date and end-date.*

In Office, time information in the date arguments is ignored when computing the number of whole working days between start-date and end-date.

c. *The standard states that weekend days are not considered as working days.*

Office treats Saturday and Sunday as weekend days.

2.1.1001 Part 1 Section 18.17.7.230, NORMINV

a. *The standard states that the function uses an iterative search technique.*

Office does not require an iterative search technique to be used.

b. *The standard states if probability < 0 or probability > 1, #NUM! is returned.*

Office returns #NUM! if probability is <= 0 or if probability is >= 1.

2.1.1002 Part 1 Section 18.17.7.231, NORMSDIST

a. *The standard states that the function returns the standard normal distribution for the specified mean and standard deviation.*

Office returns the cumulative standard normal distribution for the specified value.

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b. *The standard states that the mathematical formula for the function is: f(z)= (1/√2π) e^(-z^2/2).*

In Excel, the NORMSDIST function is described by the following mathematical formula:

$$f(z) = \int_{-\infty}^{z} \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}} dx$$

c. *The standard states that the return value is the standard normal distribution for the specified mean and standard deviation.*

Office returns the cumulative standard normal distribution.

2.1.1003 Part 1 Section 18.17.7.232, NORMSINV

a. *The standard states that the function uses an iterative search technique.*

Office does not require an iterative search technique to be used.

b. *The standard states that the function returns the inverse of the standard normal distribution.*

In Office, the function returns the inverse of the standard normal cumulative distribution.

c. *The standard states that if probability < 0 or if probability > 1, #NUM! is returned.*

Office returns #NUM! if probability ≤ 0 or if probability ≥ 1.

2.1.1004 Part 1 Section 18.17.7.235, NPER

a. *The standard states if type is any number other than 0 or 1, #NUM! is returned.*

Office treats nonzero values of type to indicate payment is at the beginning of the period.

b. *The standard does not specify a default for the optional argument type.*

In Office, if the value for type is omitted it defaults to value of 0.

c. *The standard states that the argument type is truncated to an integer.*

Office does not truncate the argument type to an integer.

2.1.1005 Part 1 Section 18.17.7.236, NPV

a. *The standard states that arguments that are numbers, empty cells, logical values, or text representations of numbers are included; arguments that are error values or text that cannot be translated into numbers are ignored.*

In Office, arguments that are numbers or text that can be translated into numbers are included. arguments that are empty cells, logical values, or text that cannot be translated into numbers are ignored.

2.1.1006 Part 1 Section 18.17.7.237, OCT2BIN

a. *The standard states that if number is negative, num-bin-digits is ignored and the result has 10 digits.*

Office does not ignore num-bin-digits when the number is negative.

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2.1.1007 Part 1 Section 18.17.7.238, OCT2DEC

a. *The standard states that argument number is of type number.*

Office treats argument number as type text.

2.1.1008 Part 1 Section 18.17.7.241, ODDFPRICE

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard states that the function is specific to U.S. currency.*

Office does not require the function to be specific to any currency.

c. *The standard indicates no restriction on the argument redemption.*

Office returns #NUM! if argument redemption <= 0.

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2.1.1009 Part 1 Section 18.17.7.242, ODDFYIELD

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard states the function is specific to U.S. currency.*

In Excel, the function is not specific to any currency.

c. *The standard states that if rate or pr < 0, #NUM! is returned.*

Office returns #NUM! if rate < 0 or pr <= 0.

2.1.1010 Part 1 Section 18.17.7.243, ODDLPRICE

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

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Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard indicates that the function is specific to U.S. currency.*

Office does not require the function to be specific to any currency.

c. *The standard indicates no restriction on the argument redemption.*

Office returns #NUM! ff the argument redemption <= 0.

2.1.1011 Part 1 Section 18.17.7.244, ODDLYIELD

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30

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Value	Day Count Basis
	Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard indicates that the function is specific to U.S. currency.*

Office does not require the function to be specific to any currency.

c. *The standard states that if rate or pr < 0, #NUM! is returned.*

Office returns #NUM! if rate < 0 or pr <= 0.

2.1.1012 Part 1 Section 18.17.7.245, OFFSET

a. *The standard specifies that the height and width arguments shall be positive.*

Office allows the height and width arguments to be negative.

2.1.1013 Part 1 Section 18.17.7.247, PEARSON

a. *The standard maps x and y to AVERAGE(array-1) and AVERAGE(array-2), respectively.*

Office maps x to an individual value from array-1, x-bar to AVERAGE(array-1), y to an individual value from array-2, y-bar to AVERAGE(array-2).

2.1.1014 Part 1 Section 18.17.7.248, PERCENTILE

a. *The standard indicated the return value is undefined if the array is empty.*

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Office returns 0 if the array is empty.

2.1.1015 Part 1 Section 18.17.7.249, PERCENTRANK

a. *The standard defines significance argument as a number.*

Office truncates significance argument to an integer.

b. *The standard does not specify an upper limit on significance argument.*

Office returns #DIV/0! when the significance argument is greater than 308.

2.1.1016 Part 1 Section 18.17.7.253, PMT

a. *The standard places no restrictions on nper.*

In Excel, if nper is 0, then #DIV/0! is returned.

b. *The standard states that the argument type can only be 0 or 1.*

Office allows the value for argument type to be omitted or nonzero.

c. *The standard states that the argument type is truncated to an integer.*

Office does not truncate the argument type to an integer.

d. *The standard does not specify a default for the optional argument type.*

In Office, if the value for type is omitted it defaults to value of 0.

2.1.1017 Part 1 Section 18.17.7.254, POISSON

a. *The standard stated that if argument mean ≤ 0, #NUM! is returned.*

Office returns #NUM! if argument mean is < 0.

b. *The standard states the formula for CUMPOISSON = ∑_(k=0)^x((e^(-λ) λ^x)/k!).*

Office requires CUMPOISSON = ∑_(k=0)^x((e^(-λ) λ^k)/k!).

2.1.1018 Part 1 Section 18.17.7.255, POWER

a. *The standard states that POWER(0,0) will return #DIV/0!.*

Office returns #NUM! for POWER(0,0).

2.1.1019 Part 1 Section 18.17.7.256, PPMT

a. *The standard states that the type argument is truncated to an integer.*

Office does not truncate the type argument to an integer.

b. *The standard does not specify a default for the optional argument type.*

In Office, if the value for type is omitted it defaults to value of 0.

c. *The standard states that the argument type can only be 0 or 1.*

Office allows the value for argument type to be omitted or nonzero.

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d. *The standard does not place any restrictions on the per argument.*

In Excel, if the per argument is less than 1 or greater than the nper argument, #NUM! is returned.

2.1.1020 Part 1 Section 18.17.7.257, PRICE

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard indicates that the function is specific to U.S. currency.*

Office does not require the function to be specific to any currency.

2.1.1021 Part 1 Section 18.17.7.258, PRICEDISC

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

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Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard indicates that the function is specific to U.S. currency.*

Office does not require the function to be specific to any currency.

2.1.1022 Part 1 Section 18.17.7.259, PRICEMAT

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is

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Value	Day Count Basis
	changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard indicates that the function is specific to U.S. currency.*

Office does not require the function to be specific to any currency.

2.1.1023 Part 1 Section 18.17.7.260, PROB

a. *The standard states that if the sum of the values in probability-range < 1, #NUM! is returned.*

Office returns #NUM! if the sum of the values in probability-range is not equal to 1.

b. *The standard states that if any value in argument probability-range ≤ 0 or any value in probability-range > 1, #NUM! is returned.*

In Office, values in argument probability-range may be ≤ 0 or > 1.

2.1.1024 Part 1 Section 18.17.7.261, PRODUCT

a. *The standard states that valid arguments in argument-list shall be counted.*

In Office, valid arguments in argument-list shall be multiplied.

2.1.1025 Part 1 Section 18.17.7.263, PV

a. *The standard does not specify a default for the optional argument type.*

In Office, if the value for type is omitted it defaults to value of 0.

b. *The standard states that the argument type is truncated to an integer.*

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Office does not truncate the argument type to an integer.

c. *The standard states that if the argument type is any number other than 0 or 1, #NUM! is returned.*

Office allows the value for argument type to be omitted or nonzero.

2.1.1026 Part 1 Section 18.17.7.269, RANK

a. *The standard does not indicate restrictions on the value of attribute number.*

Office returns #N/A if number does not exist in number-list.

2.1.1027 Part 1 Section 18.17.7.270, RATE

a. *The standard does not define a default for the argument type.*

Office specifies that the argument type defaults to 0.

b. *The standard states that the argument type may only be 0 or 1.*

In Office, if the argument type is nonzero the payment is at the beginning of the period.

c. *The standard specifies that an iterative technique is used for the implementation of this function.*

Office does not use an iterative technique.

2.1.1028 Part 1 Section 18.17.7.271, RECEIVED

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))

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Value	Day Count Basis
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

2.1.1029 Part 1 Section 18.17.7.272, REPLACE

a. *The standard states that REPLACE is intended for use with languages that use the single-byte character set (SBCS), whereas REPLACEB is intended for use with languages that use the double-byte character set (DBCS).*

   In Office, REPLACE is intended for use with any language, whereas REPLACEB is intended for use with languages that use the double-byte character set (DBCS).

b. *The standard specifies start-pos shall be greater than or equal to 0.*

   In Office, start-pos shall be greater than or equal to 1.

2.1.1030 Part 1 Section 18.17.7.273, REPLACEB

a. *The standard does not specify that argument start-pos and number-bytes are measured in bytes.*

   Office measures argument start-pos and number-bytes in bytes.

b. *The standard states that REPLACEB is intended for use with languages that use the double-byte character set (DBCS) and REPLACE is intended for use with languages that use the single-byte character set (SBCS).*

   In Office, REPLACEB is intended for use with languages that use the double-byte character set (DBCS) and REPLACE is intended for use with any language.

c. *The standard specifies that start-pos shall be greater than or equal to 0.*

   In Office, start-pos shall be greater than or equal to1.

d. *The standard does not specify which languages support DBCS.*

   In Office, the languages that support DBCS include Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.

e. *The standard does not specify behavior of REPLACEB when default language supports DBCS and when it does not support DBCS.*

   In Office, when the default language supports DBCS, REPLACEB counts each double-byte character as 2 bytes, and each single-byte character as 1. When the default language does not support DBCS, REPLACEB counts each character as 1 byte.

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2.1.1031 Part 1 Section 18.17.7.275, RIGHT

a. *The standard specifies that RIGHT is intended for use with languages that use the single-byte character set (SBCS), whereas RIGHTB is intended for use with languages that use the double-byte character set (DBCS).*

In Office, RIGHT is intended for use with any language, whereas RIGHTB is intended for use with languages that use the double-byte character set (DBCS).

2.1.1032 Part 1 Section 18.17.7.276, RIGHTB

a. *The standard does not specify which languages support DBCS.*

In Office, the languages that support DBCS include Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.

b. *The standard does not specify behavior of RIGHTB when default language supports DBCS and when it does not support DBCS.*

In Office, when the default language supports DBCS, RIGHTB counts each double-byte character as 2 bytes, and each single-byte character as 1. When the default language does not support DBCS, RIGHTB counts each character as 1 byte.

2.1.1033 Part 1 Section 18.17.7.277, ROMAN

a. *The standard does not specify what happens if number argument is equal to 0.*

Office returns the empty string if number argument is equal to 0.

2.1.1034 Part 1 Section 18.17.7.278, ROUND

a. *The standard states that a return value is the rounded down value of x.*

Office treats x as the rounded value of x.

2.1.1035 Part 1 Section 18.17.7.282, ROWS

a. *The standard states that if the range of cells referred to by array is not contiguous, #NULL! is returned.*

Office returns #REF!, if array refers to the union of discontiguous ranges.

2.1.1036 Part 1 Section 18.17.7.284, RTD

a. *The standard does not describe restrictions on progID.*

In Office, if progID does not reference an application that is registered and that implements IRTDServer, then #N/A is returned.

b. *The standard does not describe how the application communicates with Excel.*

In Office, the application must implement the IRTDServer interface.

c. *The standard does not specify that argument-list may be left blank.*

In Office, argument-list is required, but may be left blank.

d. *The standard uses the following syntax: RTD(progID, [rtd-server], argument-list).*

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Office uses the following syntax: RTD(progID, rtd-server, argument-list).

e. *In the standard, argument-list does not specify the maximum number of arguments.*

In Office, argument-list may contain at most 253 arguments.

f. *The standard describes the rtd-server argument as a string that is specific to the application with which RTD is communicating.*

In Office, the rtd-server argument is used to perform a DCOM call to a remote RTD server. It is not specific to the RTD server. If there is no server and the application is run locally, the argument is left blank.

2.1.1037 Part 1 Section 18.17.7.285, SEARCH

a. *The standard states that start-pos shall be at least 0.*

In Office, start-pos shall be at least 1.

b. *The standard states that SEARCH is intended for use with languages that use the single-byte character set (SBCS), whereas SEARCHB is intended for use with languages that use the double-byte character set (DBCS).*

In Office, SEARCH is intended for use with any language, whereas SEARCHB is intended for use with languages that use the double-byte character set (DBCS).

2.1.1038 Part 1 Section 18.17.7.286, SEARCHB

a. *The standard states that in the description of argument start-pos, start-pos shall be at least 0.*

In Office, start-pos shall be at least 1, measured in bytes.

b. *The standard does not specify that the start position is measured in bytes.*

Office measures the start position in bytes.

c. *The standard does not specify behavior of SEARCHB when default language supports DBCS and when it does not support DBCS.*

In Office, when the default language supports DBCS, SEARCHB counts each double-byte character as 2 bytes, and each single-byte character as 1. When the default language does not support DBCS, SEARCHB counts each character as 1 byte.

d. *The standard does not specify which languages support DBCS.*

In Office, the languages that support DBCS include Japanese, Chinese (Simplified), Chinese (Traditional), and Korean.

2.1.1039 Part 1 Section 18.17.7.288, SERIESSUM

a. *The standard states that the argument coefficients must be of type reference.*

Office allows the coefficients argument to be of types array or reference.

2.1.1040 Part 1 Section 18.17.7.290, SIN

a. *The standard does not specify the unit for x.*

Office uses x in radians.

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2.1.1041 Part 1 Section 18.17.7.294, SLOPE

a. *The standard does not specify how function arguments map to formula variables.*

Office maps x-bar to the sample mean AVERAGE (known-xs) argument and y-bar to the sample mean AVERAGE (known-ys) argument.

2.1.1042 Part 1 Section 18.17.7.299, STDEV

a. *The standard maps x to the sample mean and n to the sample size.*

Office maps x-bar to the sample mean, n to the sample size and x to a sample value.

b. *The standard does not specify what happens if sample size is less than or equal to 1.*

Office returns #DIV/0! if sample size is less than or equal to 1.

2.1.1043 Part 1 Section 18.17.7.300, STDEVA

a. *The standard maps x to the sample mean and n to the sample size.*

Office maps x-bar to the sample mean, n to the sample size and x to a sample value.

b. *The standard does not specify what happens if size is less than or equal to one.*

Office returns #DIV/0! if sample size is less than or equal to one.

2.1.1044 Part 1 Section 18.17.7.301, STDEVP

a. *The standard maps x to sample value, x-bar to sample mean, and n to the sample size.*

Office maps x to a population value, x-bar to the population mean, and n to the population size.

b. *The standard states that if data represents a population sample only, STDEVA should be used.*

In Office, STDEV should be used in this case.

c. *The standard does not specify what happens if population size is 0.*

Office returns #DIV/0! if population size is 0.

2.1.1045 Part 1 Section 18.17.7.302, STDEVPA

a. *The standard maps x to sample value, x-bar to sample mean, and n to the sample size.*

Office maps x to a population value, x-bar to the population mean, and n to the population size.

b. *The standard does not specify what happens if population size is 0.*

Office returns #DIV/0! if population size is 0.

2.1.1046 Part 1 Section 18.17.7.304, SUBSTITUTE

a. *The standard states if occurence is less than 0, #VALUE! is returned.*

Office returns #VALUE! if occurence is less than or equal to 0.

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2.1.1047 Part 1 Section 18.17.7.306, SUM

a. *The standard states that valid arguments in argument-list shall be counted.*

In Office, valid arguments in argument-list shall be added.

2.1.1048 Part 1 Section 18.17.7.308, SUMIFS

a. *The standard states that sum-range need not have the same size and shape as cell-range-1 through cell-range-n.*

In Office, each cell-range-1...cell-range-n shall have the same size and shape as sum-range.

b. *The standard states that cells in sum-range that contain TRUE evaluate to 1; cells in sum-range that contain FALSE evaluate to 0.*

In Office, cells in sum-range that do not contain numeric values evaluate to 0.

2.1.1049 Part 1 Section 18.17.7.309, SUMPRODUCT

a. *The standard states if the array arguments do not have the same dimensions, #NUM! is returned.*

In Office, if the array arguments do not have the same dimensions, #VALUE! is returned.

2.1.1050 Part 1 Section 18.17.7.310, SUMSQ

a. *The standard states that valid arguments in argument-list shall be counted.*

In Office, valid arguments in argument-list shall have their squares summed.

2.1.1051 Part 1 Section 18.17.7.316, TAN

a. *The standard does not specify the unit for x.*

Office uses x in radians.

2.1.1052 Part 1 Section 18.17.7.319, TBILLPRICE

a. *The standard states that the function computes the price per $100 face value for a U.S. Treasury bill.*

In Office, the function is not specific to any currency or treasury bill.

b. *The standard states that if the settlement arguent is greater than the maturity argument, then #NUM! is returned.*

Office returns #NUM! if the settlement argument is greater than or equal to the maturity argument.

2.1.1053 Part 1 Section 18.17.7.320, TBILLYIELD

a. *The standard states that the argument pr is the Treasury bill's price per $100 face value.*

In Office, the argument pr is not specific to any currency or Treasury bill.

b. *The standard states that If settlement > maturity, #NUM! is returned.*

Office returns #NUM! if settlement ≥ maturity.

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2.1.1054 Part 1 Section 18.17.7.323, TIME

a. *The standard specifies that the serial value for the given time, as a value greater than or equal to 0 and less than or equal to 1.*

Office treats the serial value for the given time, as a value greater than or equal to 0 and less than 1.

2.1.1055 Part 1 Section 18.17.7.324, TIMEVALUE

a. *The standard does not state the range for the result of the function.*

Office returns a value greater than or equal to zero and less than 1.

2.1.1056 Part 1 Section 18.17.7.330, TRIMMEAN

a. *The standard states that #NUM! is returned if the percent argument is less than zero or greater than 1.*

In Office, #NUM! is returned if the percent argument is less than zero or greater than or equal to 1.

2.1.1057 Part 1 Section 18.17.7.332, TRUNC

a. *The standard states that the argument x is of type array or reference.*

Office requires argument x to be of type number.

2.1.1058 Part 1 Section 18.17.7.333, TTEST

a. *The standard does not specify any restriction on argument test-type.*

In Office, #NUM! is returned if argument test-type is any value other than 1, 2, or 3.

2.1.1059 Part 1 Section 18.17.7.334, TYPE

a. *The standard states that the argument can be of any type.*

Office allows the argument value to be of any type except for reference.

2.1.1060 Part 1 Section 18.17.7.336, USDOLLAR

a. *The standard does not specify any restriction on argument num-decimal.*

Office returns #VALUE! if argument num-decimal is greater than 127.

b. *The standard states that the thousands separator is the comma, the radix point is the period, and the currency symbol is $ and the format used is $#,##0.00;($#,##0.00).*

In Office, the formatting applied to the string for the thousands separator, radix point, and currency symbol are implementation-specific.

2.1.1061 Part 1 Section 18.17.7.337, VALUE

a. *The standard does not specify what happens if string argument is not formatted as number, currency, date or time.*

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In Office, if string is not formatted using a number, currency, date, or time format, #VALUE! Is returned.

2.1.1062 Part 1 Section 18.17.7.338, VAR

a. *The standard does not specify what happens if sample size is less than or equal to 1.*

Office returns #DIV/0! if sample size less than or equal to 1.

b. *The standard does not specify how function arguments map to formula variables.*

Office maps x to a sample value, x-bar to AVERAGE(argument-1, argument-2,...,argument-n) and n to sample size.

2.1.1063 Part 1 Section 18.17.7.339, VARA

a. *The standard does not specify what happens if sample size is less than or equal to 1.*

Office returns #DIV/0! if sample size is less than or equal to 1.

b. *The standard does not specify how function arguments map to formula variables.*

Office maps x to a sample value, x-bar to AVERAGE(argument-1, argument-2,...,argument-n) and n to sample size.

2.1.1064 Part 1 Section 18.17.7.340, VARP

a. *The standard does not specify what happens if population size is 0.*

Office returns #DIV/0! if population size is 0.

b. *The standard does not specify how function arguments map to formula variables.*

Office maps x to a population value, x-bar to AVERAGE(argument-1, argument-2,...,argument-n) and n to population size.

2.1.1065 Part 1 Section 18.17.7.341, VARPA

a. *The standard does not specify what happens if population size is 0.*

Office returns #DIV/0! if population size is 0.

b. *The standard does not specify how function arguments map to formula variables.*

Office maps x to a population value, x-bar to AVERAGE(argument-1, argument-2,...,argument-n) and n to population size.

2.1.1066 Part 1 Section 18.17.7.342, VDB

a. *The standard does not define any restriction on the relationship between the arguments start-period and end-period.*

In Office, if argument start-period > argument end-period, #NUM! is returned.

b. *The standard does not define any restriction on the relationship between the arguments end-period and life.*

In Office, if argument end-period > argument life, then #NUM! is returned.

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c. *The standard does not define any restriction on the relationship between the arguments cost and salvage.*

   In Office, if argument cost is less than argument salvage, then 0 is returned.

2.1.1067 Part 1 Section 18.17.7.343, VLOOKUP

a. *The standard states the values in the left-most column of table-array shall be placed in ascending order.*

   In Office, if range-lookup-flag is TRUE or omitted the values in the left-most column of table-array shall be placed in ascending order.

2.1.1068 Part 1 Section 18.17.7.346, WEIBULL

a. *The standard states that if argument cumulative-flag is TRUE, GAMMADIST returns the cumulative distribution function; if FALSE, it returns the probability density function.*

   In Office, if argument cumulative-flag is TRUE, WEIBULL returns the cumulative distribution function; if FALSE, it returns the probability density function.

2.1.1069 Part 1 Section 18.17.7.347, WORKDAY

a. *The standard states that #NUM! is returned if any date in argument holidays is out of range for the current date base value.*

   Office returns #VALUE! if any date in argument holidays is out of range for the current date base value.

b. *The standard does not declare which days are weekend days.*

   In Office the function considers Saturday and Sunday to be the weekend days.

2.1.1070 Part 1 Section 18.17.7.349, XIRR

a. *The standard specifies that an iterative technique is used for the implementation of this function.*

   Office does not require an iterative technique to be used.

b. *The standard states that if any date in argument dates is out of range for the current date base value, #NUM! is returned.*

   In Office, if any date in argument dates is out of range for the current date base value, #VALUE! is returned.

c. *The standard does not define any restriction that argument values must contain one positive and one negative value.*

   In Office, if argument values do not contain at least one positive and one negative value, #NUM! is returned.

d. *The standard states that if any date in argument dates precedes the start date, #NUM! is returned.*

   In Office, dates in the argument dates can precede the start date.

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2.1.1071 Part 1 Section 18.17.7.350, XNPV

a. *The standard does not define any restriction on the argument rate.*

In Office, if rate ≤ 0, #NUM! is returned.

2.1.1072 Part 1 Section 18.17.7.352, YEARFRAC

a. *The standard does not describe day and month adjustments for the argument basis.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360.Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: ▪ If the date is 28 or 29 February, it is adjusted to 30 February. ▪ For months with 31 days, all dates with a day value of 31 are changed to day 30, including situations where the first date is 28 or 29 February.
1	Actual/actual. The actual number of days between the two dates are counted. If the date range includes the date 29 February, the year is 366 days; otherwise it is 365 days.
2	Actual/360. Similar to Basis 1, but only has 360 days per year.
3	Actual/365. Similar to Basis 1, but always has 365 days per year.
4	European 30/360. The European method for adjusting day counts. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If the date is 28 or 29 February, it is adjusted to 30 February. For months with 31 days, all dates with a day value of 31 are changed to day 30, including situations where the first date is 28 or 29 February.

b. *The standard lists day-count-basis as one of the function's arguments.*

In Excel, the function does not take a day-count-basis argument.

c. *The standard does not specify any restrictions on arguments start-date or end-date.*

Office returns #NUM! if arguments start-date or end-date is out of range for the current date base value.

d. *The standard does not describe year length adjustments when argument basis is Actual/actual.*

In Office, if the argument basis is Actual/actual, the year length used is the average length of the years that the range crosses, regardless of where arguments start-date and end-date fall in their respective years.

2.1.1073 Part 1 Section 18.17.7.353, YIELD

a. *The standard does not describe day and month adjustments.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

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Value	Day Count Basis
0 or omitted	US (NASD) 30/360.Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: ▪ If the date is 28 or 29 February, it is adjusted to 30 February. ▪ For months with 31 days, all dates with a day value of 31 are changed to day 30, including situations where the first date is 28 or 29 February.
1	Actual/actual. The actual number of days between the two dates are counted. If the date range includes the date 29 February, the year is 366 days; otherwise it is 365 days.
2	Actual/360. Similar to Basis 1, but only has 360 days per year.
3	Actual/365. Similar to Basis 1, but always has 365 days per year.
4	European 30/360. The European method for adjusting day counts. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If the date is 28 or 29 February, it is adjusted to 30 February. For months with 31 days, all dates with a day value of 31 are changed to day 30, including situations where the first date is 28 or 29 February.

b. *The standard states that the redemption argument is the security's redemption value per $100 face value.*

   In Office the redemption argument is the security's redemption value per 100 currency units face value.

c. *The standard describes the argument pr as the security's price.*

   In Office, the argument pr is the security's price per 100 currency units face value.

d. *The standard describes the argument rate as the security's interest rate.*

   In Office, the argument rate is the security's annual coupon rate.

2.1.1074 Part 1 Section 18.17.7.354, YIELDDISC

a. *The standard does not describe day and month adjustments.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360.Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: ▪ If the date is 28 or 29 February, it is adjusted to 30 February. ▪ For months with 31 days, all dates with a day value of 31 are changed to day 30, including situations where the first date is 28 or 29 February.
1	Actual/actual. The actual number of days between the two dates are counted. If the date range includes the date 29 February, the year is 366 days; otherwise it is 365 days.
2	Actual/360. Similar to Basis 1, but only has 360 days per year.

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Value	Day Count Basis
3	Actual/365. Similar to Basis 1, but always has 365 days per year.
4	European 30/360. The European method for adjusting day counts. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If the date is 28 or 29 February, it is adjusted to 30 February. For months with 31 days, all dates with a day value of 31 are changed to day 30, including situations where the first date is 28 or 29 February.

b. *The standard states that the redemption argument is the security's redemption value per $100 face value.*

In Office, the redemption argument is the security's redemption value per 100 currency units face value.

c. *The standard describes the argument pr as the security's price.*

In Office, the argument pr is the security's price per 100 currency units face value.

2.1.1075 Part 1 Section 18.17.7.355, YIELDMAT

a. *The standard does not specify day and month adjustments for the basis argument.*

In Excel, the *basis* argument specifies the truncated integer type of day count basis to use, as follows:

Value	Day Count Basis
0 or omitted	US (NASD) 30/360. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360 by making the following adjustments: If both day-of-months are 31, they are changed to 30 Otherwise, if date1's day-of-month is 31, it is changed to 30 Otherwise, if date1's day-of-month is 30 and date2's day-of-month is 31, date2's day-of-month is changed to 30 (note that date2's day-of-month will stay 31 if date1's day < 30) Otherwise, if both dates are the last day of February in their respective years, both day-of-month is changed to 30 Otherwise, if date1 is the last day of February, its day-of-month is changed to 30
1	Actual/actual. If the dates are equal, the difference in days is 0. If date1 and date2 not "less than or equal to a year apart" (as defined below), then the days in the years between the dates is the average number of days in the years between date1 and date2, inclusive. Otherwise, the days in the years between the dates is 365, except for these cases (where it is 366): the dates are in the same year and it is a leap-year, a February 29 occurs between the two dates, or **date1 or** date2 is February 29. To determine if date1 and date2 are "less than or equal to a year apart" for purposes of this algorithm, one of these conditions must be true: ▪ The two dates have the same year ▪ Date2's year is exactly one more than date1's year, and ((date1.month > date2.month) or ((date1.month == date2.month) and (date1.day >= date2.day)))
2	Actual/360. Computes the actual difference in days, and presumes there are always 360 days per year.
3	Actual/365. Computes the actual difference in days, and presumes there are always 365 days per

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Value	Day Count Basis
	year.
4	European 30/360. The European method for adjusting day counts. If the dates are equal, the difference of days is 0. Assumes that each month has 30 days and the total number of days in the year is 360; any day-of-month (in date1, date2, or both) with a value of 31 is changed to 30. Note that February dates are *never* changed, because there is no February 31.

b. *The standard specifies pr argument as the security's price.*

Office treats pr argument as the security's price per 100 currency units face value.

c. *The standard states if rate or pr ≤ 0, #NUM! is returned.*

Office returns #NUM! if pr is less than or equal to 0, or if rate is less than 0.

d. *The standard does not describe a restriction on the relative values of issue and settlement.*

Office returns #NUM! if issue ≥ settlement.

2.1.1076 Part 1 Section 18.17.7.356, ZTEST

a. *The standard does not specify how function arguments map to formula variables.*

Office maps x-bar to sample mean and μ_0 to argument test-value.

b. *In the standard, there is no restriction on the value of sigma.*

In Office, if sigma is less than or equal to 0, then #NUM! is returned.

2.1.1077 Part 1 Section 18.18.2, ST_BorderId (Border Id)

a. *The standard allows this type to be any unsignedInt.*

In Office, the valid values for attributes that use this type are restricted by the count of border elements in the borders collection.

2.1.1078 Part 1 Section 18.18.6, ST_CellFormulaType (Formula Type)

a. *The standard is missing attributes referencing this type.*

Office allows f@t to reference this type.

2.1.1079 Part 1 Section 18.18.7, ST_CellRef (Cell Reference)

a. *The standard defines a cell reference to be any string.*

A single cell reference consists of a column name immediately followed by a row number. The column name is encoded using one, two, or three capital letters in US English locale:

<letter> ::= “A” | “B” | “C” | “D” | “E” | “F” | “G” | “H” | “I” | “J” | “K” | “L” | “M” | “N” | “O” | “P” | “Q” | “R” | “S” | “T” | “U” | “V” | “W” | “X” | “Y” | “Z”

<column name> ::= <letter> | <letter> <letter> | <letter> <letter> <letter>

<cell reference> ::= <column name> <row number>

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The row number is an integer in the range from 1 to 1048576.

Assume that the letter "A" corresponds to the numeric value 1, the letter "B" – to the numeric value 2, and so on, and the letter "Z" corresponding to the numeric value 26. Further assume that <letter N> designates the letter in position N of the column name, counting from the right, with a missing letter corresponding to the numeric value 0. The column number then can be expressed as follows:

<column number> = 676*<letter 3> + 26*<letter 2> + <letter 1>

[Example:

Column name "A" corresponds to the column number 1: 676*0 + 26*0 + 1 = 1.

Column name "AD" corresponds to the column number 30: 676*0 + 26*1 + 4 = 30.

Column name "XFD" corresponds to the column number 16384: 676*24 + 26*6 + 4 = 16384.

end example]

The first column in a sheet is number 1 and it has the name "A". The last column in the sheet is number 16384 and it has the name "XFD".

[Example:

A1 – a reference to the cell at column 1, row 1.

XFD1048576 – a reference to the cell in the bottom right corner of the sheet, that is, at column 16384, row 1048576.

end example]

2.1.1080 Part 1 Section 18.18.8, ST_CellSpan (Cell Span Type)

a. *The standard states that the ST_CellSpan simple type is referenced by the ST_CellSpan simple type.*

   Office defines this simple type to be referenced by the ST_CellSpans simple type.

b. *The standard allows any string to be a valid CellSpan.*

In Office, the numerical values separated by the colon specify the first and last columns of the span using one-based column indices. The values shall be positive and never exceed the maximum number of columns within the spreadsheet document. The value to the left of the colon shall be less than or equal to the value to the right of the colon.

This restriction matches the following regular expression pattern: \d+:\d+.

2.1.1081 Part 1 Section 18.18.16, ST_CredMethod (Credentials Method)

a. *The standard states that prompt is a valid value of the ST_CredMethod simple type.*

   Excel does not allow this value on this simple type.

2.1.1082 Part 1 Section 18.18.25, ST_DxfId (Format Id)

a. *The standard specifies that the values for the ST_Dxfld simple type are defined by the XML Schema unsignedInt datatype.*

   In Office, the valid values for attributes that use this simple type must be less than or equal to 4294967294.

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2.1.1083 Part 1 Section 18.18.29, ST_FileType (File Type)

a. *The standard does not state that this setting can be overridden.*

In Office, this simple type is used in the absence of the byte-order mark (BOM), whose value shall override this setting.

b. *The standard states that "lin" and "other" are valid values for ST_FileType.*

Office does not support the values "lin" and "other", and instead uses the value "win".

2.1.1084 Part 1 Section 18.18.30, ST_FillId (Fill Id)

a. *The standard allows this type to be any unsignedInt.*

In Office, the valid values for attributes that use this type are restricted by the count of fill elements in the fills collection ("[ISO/IEC-29500-1] §18.8.21; fills").

Excel reserves FIllId index values 0 and 1 for internal use. If these are overwritten in the styles.xml file, Excel will ignore the fill definitions and use its internally defined styles instead.

2.1.1085 Part 1 Section 18.18.35, ST_Formula (Formula)

a. *The standard does not limit the length of the contents of the ST_Formula simple type.*

Excel restricts the contents of this simple type to be at most 8192 characters.

b. *The standard is missing reference to general formulas syntax and prose.*

In Excel, the ST_Formula simple type should have a reference to general formulas syntax and prose as defined in Formulas ("[ISO/IEC-29500-1] §18.17").

2.1.1086 Part 1 Section 18.18.42, ST_IconSetType (Icon Set Type)

a. *The standard states that the 5Rating set contains smiley-face icons for conditional formatting.*

Office implements the 5Rating icon set is a set of 5 cell phone-like bars (see icons for '4 ratings icon set').

2.1.1087 Part 1 Section 18.18.47, ST_NumFmtId (Number Format Id)

a. *The standard states that the values of the ST_NumFmtId simple type are defined by the XML Schema unsignedInt datatype.*

Office restricts the values of this attribute to be at most 65535.

b. *The standard does not restrict the values of instances of the ST_NumFmtId simple type.*

Office requires the first instance of this type in any sequence to be equal to zero. This instance specifies the default style.

2.1.1088 Part 1 Section 18.18.57, ST_PhoneticType (Phonetic Type)

a. *The standard defines the character set that will be defined for displaying phonetic hints.*

Office uses the value as a hint as to what character set is preferred for editing phonetic hints.

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2.1.1089 Part 1 Section 18.18.59, ST_PivotFilterType (Pivot Filter Types)

a. *The standard has descriptions for caption enumeration values stating they apply to field captions.*

In Office, these enumeration values apply to item captions.

2.1.1090 Part 1 Section 18.18.62, ST_Ref (Cell References)

a. *The standard does not clearly define what constitutes a valid a cell range reference.*

In Office, a cell range reference consists of two single cell references separated by ":" character. The first single cell reference corresponds to the cell with the smallest row and column numbers, and the second single cell reference corresponds to the cell with the largest row and column numbers within the range. If both references correspond to the same cell, only the first reference might be recorded, and both ":" and the second reference might be omitted:

<cell range reference> ::= <cell reference> ":" <cell reference> | <cell reference>

The cell reference, the encoding of column names and their mapping to column numbers are described in ST_CellRef simple type ("[ISO/IEC-29500-1] §18.18.8; ST_CellSpan").

The width of the cell range reference is equal to the difference between the largest column number and the smallest column number of the cell range reference, plus 1.

The height of the cell range reference is equal to the difference between the largest row number and the smallest row number of the cell range reference, plus 1.

[Examples

A1:AD5 – a reference to the cell range of 150 cells, with top left corner in the cell at column , row 1, and the bottom right corner in the cell at column 30, row 5. The width of this range is 30 columns, and the height of this range is 5 rows.

XFD1048576 – a reference to the cell in the bottom right corner of the sheet.

end examples]

2.1.1091 Part 1 Section 18.18.63, ST_RefA (Single Cell Reference)

a. *The standard defines this subclause to be a reference to single cell.*

Office allows elements or attributes of this type to be either a single cell reference or an area reference.

b. *The standard does not describe the type of cell references that are allowed.*

Office specifies the appropriate format of the cell references and the parsing format to be the same as ST_Ref.

2.1.1092 Part 1 Section 18.18.76, ST_Sqref (Reference Sequence)

a. *The standard states that the number of ST_Refs in the list is not limited.*

Office limits the number of refs in the list to 8192, unless explicitly noted in the respective usage text.

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2.1.1093 Part 1 Section 18.18.77, ST_TableStyleType (Table Style Type)

a. *The standard specifies enumeration values using the generic term "table", so that each value can be applied to either ordinary tables or PivotTables.*

Office the following enumeration values also apply to PivotTables: firstColumn, firstColumnStripe, firstHeaderCell, firstRowStripe, headerRow, lastColumn, secondColumnStripe, secondRowStripe, totalRow, and wholeTable.

2.1.1094 Part 1 Section 18.18.83, ST_TotalsRowFunction (Totals Row Function Types)

a. *The standard does not specify the formula specified by the enumeration value.*

The values *average*, *count*, *countNums*, *max*, *min*, *stdDev*, *sum*, and *var* specify the SUBTOTAL formula ("[ISO/IEC-29500-1] §18.17.7.305; SUBTOTAL"); where the *function-number* is specified in the following value table and the *argument-list* is a cell reference ("[ISO/IEC-29500-1] §18.17.2.3") or structure reference ("[ISO/IEC-29500-1] §18.17.2.3") that designates the cells of the table column's data region.

The following are possible enumeration values for this type:

Enumeration Value	Description
average (Average)	Represents the arithmetic mean. The SUBTOTAL *function-number* is 101.
count (Non Empty Cell Count)	Represents a count of the number of non-empty cells. The SUBTOTAL *function-number* is 103.
countNums (Count Numbers)	Represents the number of cells that contain numbers. The SUBTOTAL *function-number* is 102.
custom (Custom Formula)	Represents the formula provided in *totalsRowFormula.*
max (Maximum)	Represents the largest value. The SUBTOTAL *function-number* is 104.
min (Minimum)	Represents the smallest value. The SUBTOTAL *function-number* is 105.
none (None)	No total row.
stdDev (StdDev)	Represents the estimated standard deviation. The SUBTOTAL *function-number* is 107.
sum (Sum)	Represents the arithmetic sum. The SUBTOTAL *function-number* is 109.
var (Var)	Represents the estimated variance. The SUBTOTAL *function-number* is 110.

2.1.1095 Part 1 Section 18.18.87, ST_UpdateLinks (Update Links Behavior Types)

a. *The standard requires that for the value of always the links are always updated without displaying an alert.*

Excel always displays an alert before updating the links.

2.1.1096 Part 1 Section 18.18.89, ST_Visibility (Visibility Types)

a. *The standard states this is about sheet visibility.*

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Office uses this for workbook window visibility.

2.1.1097 Part 1 Section 18.18.92, ST_WebSourceType (Web Source Type)

a. *The standard states that the label value defines a label.*

Excel uses this value to define a named range of cells.

b. *The standard states that charts can be published.*

Office does not allow charts to be published.

2.1.1098 Part 1 Section 19.2.1.5, custShow (Custom Show)

a. *The standard states that the id attribute is a number that should be unique within the presentation.*

PowerPoint requires that the id attribute shall be linked to one of the custom shows defined in the presentation's custShowLst element.

2.1.1099 Part 1 Section 19.2.1.6, custShow (Custom Show)

a. *The standard states that the id attribute should be unique among all the custom shows within the corresponding presentation.*

PowerPoint further uses consecutive values when writing out the id values.

2.1.1100 Part 1 Section 19.2.1.10, embeddedFontLst (Embedded Font List)

a. *The standard states that the font data is referenced within the embeddedFont element.*

PowerPoint further requires that the typeface of each embeddedFont element shall be unique.

b. *The standard states that the embeddedFontLst element specifies a list of fonts that are embedded within the corresponding presentation.*

PowerPoint further requires that all of the fonts specified in this list shall be used in this presentation.

2.1.1101 Part 1 Section 19.2.1.11, ext (Extension)

a. *The standard implies that the uri attribute is optional.*

PowerPoint requires the uri attribute.

2.1.1102 Part 1 Section 19.2.1.13, font (Embedded Font Name)

For additional notes that apply to this portion of the standard, please see the notes for latin, §21.1.2.3.7(a-d)*.*

2.1.1103 Part 1 Section 19.2.1.17, kinsoku (Kinsoku Settings)

a. *The standard does not specify which values of the lang attribute represent valid East Asian languages.*

In PowerPoint, the value for the lang attribute must be one of the following:

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Value	Description
ja-jp	Japanese. Specifies that the settings apply to runs of text with the **langId** attribute of the **rPr** element ("[ISO/IEC-29500-1] §21.1.2.3.9; rPr") equal to ja-jp (Japanese).
ko-kr	Korean. Specifies that the settings apply to runs of text with the **langId** attribute of the **rPr** element ("[ISO/IEC-29500-1] §21.1.2.3.9; rPr") equal to ko-kr (Korean).
zh-cn	Chinese (Simplified). Specifies that the settings apply to runs of text with the **langId** attribute of the **rPr** element ("[ISO/IEC-29500-1] §21.1.2.3.9; rPr") equal to one of the following: zh-cn (Chinese - People's Republic of China) zh-sg (Chinese - Singapore) ii-cn (Yi)
zh-tw	Chinese (Traditional). Specifies that the settings apply to runs of text with the **langId** attribute of the **rPr** element ("[ISO/IEC-29500-1] §21.1.2.3.9; rPr") equal to one of the following: zh-tw (Chinese - Taiwan) zh-hk (Chinese - Hong Kong SAR) zh-mo (Chinese - Macao SAR)

The value is case insensitive.

2.1.1104 Part 1 Section 19.2.1.19, modifyVerifier (Modification Verifier)

a. *The standard states that the algIdExt attribute specifies that a cryptographic algorithm not defined in the standard has been used to generate the hash value stored with the document.*

PowerPoint further requires that the algIdExt attribute specifies a hashing algorithm which is implemented by a CryptoAPI provider, and if the algIdExt attribute is used, the cryptProviderTypeExt attribute shall specify the provider.

b. *The standard describes the hashData attribute as the hash value for the password stored within the document.*

In Office, the hashData value is the Base64 encoded representation of the binary hashing algorithm output, which is calculated as follows:

H[init] = H(password, salt)

Followed by spinCount cycles where:

H[n] = H(H[n-1], count)

Count shall begin with 0x0 and is expressed as a little-endian 32-bit integer. The initial hashing operation shall not be included in count.

c. *The standard states that the saltData attribute is a random string.*

PowerPoint defines the saltData attribute as random base 64-encoded data (typically 16 bytes), and the binary form of this attribute (not the base 64-encoded version) is used by the hashing algorithm.

d. *The standard specifies that the spinCount attribute specifies the number of times the hashing function shall be iteratively run when attempting to compare a user-supplied password with the value stored in the hashData attribute.*

PowerPoint does not include the initial hash of the password with the salt in this count.

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e. *The standard lists several possible values for the cryptAlgorithmSid attribute.*

PowerPoint only uses values 1, 2, 3, 4, 12, 13, and 14.

f. *The standard states that this setting uses a specific set of attributes to store the password hash.*

In Office, when the HKCU/Software/Microsoft/Office/<VERSION>/Common/Security/UseIsoPasswordVerifier registry key is set to 1, the XML for file sharing is written by using the XML attribute structure in the following table.

Name	Description
algorithm Name	The name of the cryptographic hashing algorithm used to generate the hash value. Only those algorithms that are installed in the operating system's cryptographic subsystem can be utilized by Office. The following hash algorithm names are reserved: ***MD2*** *Specifies that the MD2 algorithm, as defined by RFC 1319, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD4*** *Specifies that the MD4 algorithm, as defined by RFC 1320, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***MD5*** *Specifies that the MD5 algorithm, as defined by RFC 1321, shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-128*** *Specifies that the RIPEMD-128 algorithm, as defined by ISO/IEC 10118-3:2004 shall be used.* *[Note: It is recommended that applications should avoid using this algorithm to store new hash values, because of publicly known breaks. end note]* ***RIPEMD-160*** *Specifies that the RIPEMD-160 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-1*** *Specifies that the SHA-1 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-256*** *Specifies that the SHA-256 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-384*** *Specifies that the SHA-384 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***SHA-512*** *Specifies that the SHA-512 algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.* ***WHIRLPOOL*** *Specifies that the WHIRLPOOL algorithm, as defined by ISO/IEC 10118-3:2004, shall be used.*

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Name	Description
hash Value	Specifies the hash value for the password required to edit this presentation. This value shall be compared with the resulting hash value after hashing the user-supplied password using the algorithm specified by the preceding attributes and parent XML element. If the two values match, the protection shall no longer be enforced. [*Example*: Consider an Office Open XML document with the following information stored in one of its protection elements: <… algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" /> The hashValue attribute value of 9oN7nWkCAyEZib1RomSJTjmPpCY= specifies that the user-supplied password must be hashed using the pre-processing defined by the parent element (if any) followed by the hashing algorithm (specified via the algorithmName attribute value) and that the resulting hash value must be match for the protection to be disabled. *end example*] The possible values for this attribute are defined by the W3C XML Schema base64Binary datatype.
saltValue	Specifies the random bytes that are pre-pended to the user-supplied password before it was hashed by the hashing algorithm.
spinCount	Specifies the number of times the hashing function shall be iteratively run (using each iteration's result as the input for the next iteration).

[*Example*:

Consider an Office Open XML document with the following information stored in one of its protection elements:

< … algorithmName="SHA-1" hashValue="9oN7nWkCAyEZib1RomSJTjmPpCY=" />

The algorithmName attribute value of SHA-1 specifies that the SHA-1 hashing algorithm must be used to generate a hash from the user-defined password.

end example]

2.1.1105 Part 1 Section 19.2.1.22, notesSz (Notes Slide Size)

a. *The standard states that the values of the cx attribute are defined by the ST_PositiveCoordinate simple type.*

PowerPoint defines the values of the cx attribute with the ST_SlideSizeCoordinate simple type.

b. *The standard states that the values of the cy attribute are defined by the ST_PositiveCoordinate simple type.*

PowerPoint defines the values of the cy attribute with the ST_SlideSizeCoordinate simple type.

c. *The standard states that the cx attribute specifies the length of the extents rectangle in EMUs.*

PowerPoint uses the cx attribute to specify the width of the rectangle.

d. *The standard states that the cy attribute specifies the width of the extents rectangle in EMUs.*

PowerPoint uses the cy attribute to specify the height of the rectangle.

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2.1.1106 Part 1 Section 19.2.1.24, photoAlbum (Photo Album Information)

a. *The standard states that images that are part of the photo album are identified by the presence of the isPhoto element in the definition of the picture.*

PowerPoint identifies photo album images as those with the isPhoto attribute of the nvPr element set to a value of true.

b. *The standard states that the bw attribute specifies whether all pictures in the photo album are to be displayed as black and white.*

PowerPoint uses the bw attribute to specify the last state of a user interface setting that indicates whether all pictures in the photo album are to be displayed as black and white.

c. *The standard states that the frame attribute specifies the frame type that is to be used on all the pictures in the photo album.*

PowerPoint uses the frame attribute to specify the last state of a user interface setting for the frame type that is to be used on all the pictures in the photo album.

d. *The standard states that the layout attribute specifies the layout that is to be used to arrange the pictures in the photo album on individual slides.*

PowerPoint uses the layout attribute to specify the last state of a user interface setting for the layout that is to be used to arrange the pictures in the photo album on individual slides.

e. *The standard states that the showCaptions attribute specifies whether to show captions for pictures in the photo album.*

PowerPoint uses the showCaptions attribute to specify the last state of a user interface setting that indicates whether to show captions for pictures in the photo album.

2.1.1107 Part 1 Section 19.2.1.25, present (Presenter Slide Show Mode)

a. *The standard states that when in full-screen presenter mode, the presentation is displayed on one monitor while a different monitor displays notes and provides navigation controls.*

PowerPoint does not display the presentation and the notes and navigation controls on separate monitors in this mode.

2.1.1108 Part 1 Section 19.2.1.26, presentation (Presentation)

a. *The standard states that possible values for the firstSlideNum attribute are defined by the XML Schema int datatype.*

PowerPoint restricts the value of the firstSlideNum attribute to be greater than or equal to 0 and less than or equal to 9999.

b. *The standard states that the values of the serverZoom attribute are defined by the ST_Percentage simple type.*

PowerPoint defines the values of the serverZoom attribute with the ST_PositivePercentage simple type.

c. *The standard states that the showSpecialPlsOnTitleSld attribute specifies whether to show the header and footer placeholders on the title slides.*

PowerPoint uses the showSpecialPlsOnTitleSld attribute to specify the last state of the user interface setting which indicates whether to show the header and footer placeholders on the title slides.

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d. *The standard states that the strictFirstAndLastChars attribute specifies whether to use strict characters for starting and ending lines of Japanese text.*

PowerPoint ignores the strictFirstAndLastChars attribute when the lang attribute on the kinsoku element has a value of ja-jp.

e. *The standard states that the conformance attribute specifies the schema to use to validate the document.*

PowerPoint ignores the conformance attribute.

2.1.1109 Part 1 Section 19.2.1.38, sldRg (Slide Range)

For additional notes that apply to this portion of the standard, please see the notes for pRg, §19.5.56(b).

2.1.1110 Part 1 Section 19.2.1.39, sldSz (Presentation Slide Size)

a. *The standard states that the type attribute specifies the type of slide size that should be used.*

PowerPoint only uses the type attribute when the cx attribute and the cy attribute map to more than one type.

b. *The standard states that the cy attribute specifies the width of the extents rectangle in EMUs.*

PowerPoint uses the cy attribute to specify the height of the rectangle.

c. *The standard states that the cx attribute specifies the length of the extents rectangle in EMUs.*

PowerPoint uses the cx attribute to specify the width of the rectangle.

d. *The standard states that the sldSz element specifies the size of the presentation slide surface.*

PowerPoint assumes a default of <p:sldSz cx=”9144000” cy=”6858000” /> if the sldSz element is not present.

2.1.1111 Part 1 Section 19.2.1.40, smartTags (Smart Tags)

a. *The standard states that the id attribute specifies the relationship identifier that is used in conjunction with a corresponding relationship file to resolve the location of the smart tag.*

The id attribute of the smartTags element defines a relationship to a part within the presentation package whose contents are defined by the PowerPoint 97-2003 Binary File Format (.ppt) Structure Specification (“[MS-PPT] section 2.11.28; SmartTagStore11Container”). This binary part contains no RecordHeader structure.

2.1.1112 Part 1 Section 19.2.2.4, guide (A Guide)

a. *The standard does not state how to interpret the position information of the pos attribute.*

PowerPoint interprets the position information to be relative to the top, left corner of the slide.

2.1.1113 Part 1 Section 19.2.2.6, normalViewPr (Normal View Properties)

a. *The standard states that the vertBarState attribute affects the state of the slide region.*

PowerPoint uses the vertBarState attribute to affect the state of the side content region.

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b. *The standard states that the horzBarState attribute affects the state of the side content region.*

PowerPoint uses the horzBarState attribute to affect the state of the slide region.

c. *The standard places no restrictions on the relationship between the horzBarState attribute and the restoredTop child element.*

PowerPoint ignores the restoredTop child element when the value of the horzBarState attribute is minimized or maximized.

d. *The standard places no restrictions on the relationship between the vertBarState attribute and the restoredLeft child element.*

PowerPoint ignores the restoredLeft child element when the value of the vertBarState attribute is minimized or maximized.

2.1.1114 Part 1 Section 19.2.2.9, origin (View Origin)

For additional notes that apply to this portion of the standard, please see the notes for chOff, §20.1.7.2(b)*.*

2.1.1115 Part 1 Section 19.2.2.11, restoredLeft (Normal View Restored Left Properties)

For additional notes that apply to this portion of the standard, please see the notes for restoredTop, §19.2.2.12(a)*.*

a. *The standard states that the sz attribute specifies the size of the slide region.*

PowerPoint uses the sz attribute to specify the height of the slide region when the sz attribute is a child of the restoredTop element and width of the slide region when @sz is a child of the restoredLeft element.

2.1.1116 Part 1 Section 19.2.2.12, restoredTop (Normal View Restored Top Properties)

For additional notes that apply to this portion of the standard, please see the notes for restoredLeft, §19.2.2.11(a)*.*

a. *The standard states that the autoAdjust attribute specifies the size of the side content region.*

PowerPoint interprets the autoAdjust attribute to specify the size of the slide region, not the side content region.

2.1.1117 Part 1 Section 19.2.2.13, scale (View Scale)

a. *The standard states that the scale element specifies the view scaling factors that the presentation was last viewed with.*

PowerPoint requires that the ratio value of child element sx and child element sy shall not be less than 0.03 or greater than 5.

b. *The standard states that the values of the n attribute on the sx and sy child elements are defined by the XML Schema long datatype.*

PowerPoint defines the values of the n attribute with the XML Schema int datatype.

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c. *The standard states that the values of the d attribute on the sx and sy child elements are defined by the XML Schema long datatype.*

PowerPoint defines the values of the d attribute with the XML Schema int datatype.

2.1.1118 Part 1 Section 19.3.1.1, bg (Slide Background)

a. *The standard states that the bwMode attribute specifies that the background should be rendered using only black and white coloring.*

PowerPoint uses the bwMode attribute to specify how the background should be rendered when in black and white mode.

2.1.1119 Part 1 Section 19.3.1.2, bgPr (Background Properties)

a. *The standard states the grpFill element is a valid child of the bgPr element.*

PowerPoint does not allow the grpFill element to be a child of the bgPr element.

2.1.1120 Part 1 Section 19.3.1.4, blipFill (Picture Fill)

For additional notes that apply to this portion of the standard, please see the notes for blipFill, §21.3.2.2(a).

2.1.1121 Part 1 Section 19.3.1.16, cSld (Common Slide Data)

a. *The standard states that the controls element is a valid child of the cSld element.*

PowerPoint does not allow the controls element to be a child of the cSld element when the cSld's parent element is the handoutMaster element, the notes element, or the notesMaster element.

2.1.1122 Part 1 Section 19.3.1.17, custData (Customer Data)

a. *The standard does not specify what type of resource the id attribute should refer to.*

PowerPoint requires that the id attribute specify a valid data store item.

2.1.1123 Part 1 Section 19.3.1.23, grpSpPr (Group Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for grpSpPr, §20.5.2.18(a-c).

2.1.1124 Part 1 Section 19.3.1.27, notesMaster (Notes Master)

a. *The standard states that the notesMaster element specifies an instance of a handout master slide.*

PowerPoint uses the notesMaster element to specify an instance of a notes master slide.

b. *The standard does not specify the z-order of shapes in a notes master slide.*

PowerPoint renders the shape elements contained in a notesMaster element in the order they are written. The note text is always rendered in the foreground.

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2.1.1125 Part 1 Section 19.3.1.28, notesStyle (Notes Text Style)

a. *The standard states that the notesStyle element specifies the text formatting style for all text within a notes slide.*

PowerPoint uses the notesStyle element to specify the text in the notes section of the notes page view and the notes master view.

2.1.1126 Part 1 Section 19.3.1.33, nvPr (Non-Visual Properties)

a. *The standard states that the isPhoto attribute specifies whether the picture belongs to a photo album.*

PowerPoint does not support the isPhoto attribute when nvPr's parent element is the nvGrpSpPr element.

b. *The standard states that the ph element is a valid child of the nvPr element.*

PowerPoint does not allow the ph element to be a child of the nvPr element when the nvPr's parent element is the nvCxnSpPr element or the nvGrpSpPr element.

2.1.1127 Part 1 Section 19.3.1.36, ph (Placeholder Shape)

a. *The standard states that the placeholder idx attribute specifies the placeholder index.*

The following additional restrictions apply to values on the idx attribute:

- For a placeholder on a Master, Notes Master, Handout Master, Slide Layout or Notes Slide the value shall not be equal to 0xffffffff.
- For any two placeholders on a Master, Notes Master, Handout Master, Slide Layout or Notes Slide the values must not be the same.
- For any two placeholders on a Slide with values not equal to 0xffffffff the values shall not be the same.
- For a placeholder on a Slide with a value not equal to 0xffffffff there shall be a placeholder on the Slide Layout with the same attribute values.

b. *The standard does not specify the inheritance model of a placeholder shape.*

PowerPoint defines a placeholder shape on a slide to inherit from the slide layout placeholder with the same idx value, and a placeholder shape on a notes slide to inherit from the notes master placeholder with the same type value.

2.1.1128 Part 1 Section 19.3.1.38, sld (Presentation Slide)

a. *The standard states that the sld element specifies a slide within a slide list, where the slide list is used to specify an ordering of slides.*

PowerPoint uses this element to specify the root element of a slide part.

2.1.1129 Part 1 Section 19.3.1.44, spPr (Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for spPr, §20.5.2.30(a-c)*.*

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2.1.1130 Part 1 Section 19.3.1.53, xfrm (2D Transform for Graphic Frame)

For additional notes that apply to this portion of the standard, please see the notes for xfrm, §20.1.7.6(a).

2.1.1131 Part 1 Section 19.3.2.1, control (Embedded Control)

For additional notes that apply to this portion of the standard, please see the notes for oleObj, §19.3.2.4(b, c).

a. *The standard states that the showAsIcon attribute specifies whether the Embedded object will be shown as an icon or using its native representation.*

PowerPoint uses the showAsIcon attribute to specify the user preference to show the Embedded object as an icon rather than using its native representation.

b. *The standard states that the imgW attribute specifies the width of the embedded control.*

PowerPoint uses the imgW attribute to specify the width of the thumbnail image.

c. *The standard states that the imgH attribute specifies the height of the embedded control.*

PowerPoint uses the imgH attribute to specify the height of the thumbnail image.

2.1.1132 Part 1 Section 19.3.2.2, embed (Embedded Object or Control)

a. *The standard states that the embed element specifies an Embedded object or Control that is embedded within the presentation.*

PowerPoint uses the embed element to specify an OLE object that is embedded within the presentation.

2.1.1133 Part 1 Section 19.3.2.3, link (Linked Object or Control)

a. *The standard states that the link element specifies a link to an external Embedded object or Control.*

PowerPoint the link this element to specify a link to an external OLE object.

2.1.1134 Part 1 Section 19.3.2.4, oleObj (Global Element for Embedded objects and Controls)

For additional notes that apply to this portion of the standard, please see the notes for control, §19.3.2.1(a-c).

a. *The standard states that the oleObj element specifies a global element to be used for an Embedded object and Control.*

PowerPoint uses the oleObj element to specify a global element to be used for an OLE object.

b. *The standard states that the imgW attribute specifies the width of the embedded control.*

PowerPoint uses the imgW attribute to specify the width of the thumbnail image.

c. *The standard states that the imgH attribute specifies the height of the embedded control.*

PowerPoint uses the imgH attribute to specify the height of the thumbnail image.

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d. *The standard states that the showAsIcon attribute specifies whether the Embedded object will be shown as an icon or using its native representation.*

PowerPoint uses the showAsIcon attribute to specify the user preference to show the Embedded object as an icon rather than using its native representation.

2.1.1135 Part 1 Section 19.3.3.1, tag (Programmable Extensibility Tag)

a. *The standard implies that the name attribute is optional.*

PowerPoint requires the name attribute.

b. *The standard implies that the val attribute is optional.*

PowerPoint requires the val attribute.

c. *The standard places no restrictions on the string value of the name attribute.*

PowerPoint requires that, within the scope of the tagLst parent element, the value for the name attribute must be case-insensitively unique.

d. *The standard does not specify where recorded slide animation timings are stored.*

PowerPoint uses a special tag to store slide auto advance timings for the presentation slide that contains this tag. The name attribute has a value of "TIMING", and the value attribute has a value that is a valid Time_string, as specified in the following grammar:

Time_string = *Time_element ; time string can have zero or more elements

Time_element = "|" Time_value ; each element is preceded by character "|"

Time_value = 1*DIGIT "." 1*1 DIGIT ; seconds with rounding to 1/10th of a second

Each time value specifies the animation build advance time of the slide. Time zero is the time that this slide displays during a slide show. The time unit is in seconds, rounded to 1/10th of a second. If there is no animation on a presentation slide, the value attribute contains an empty string.

[*Example:*

<p:tag name="TIMING" val="|2.9|3.5|4.6"/>

end example]

2.1.1136 Part 1 Section 19.4.1, cm (Comment)

a. *The standard does not state how to interpret the position information of the pos child element.*

PowerPoint interprets the position information to be relative to the top, left corner of the slide.

2.1.1137 Part 1 Section 19.4.5, pos (Comment Position)

For additional notes that apply to this portion of the standard, please see the notes for chOff, §20.1.7.2(b).

a. *The standard states that the y attribute specifies a coordinate on the x-axis.*

PowerPoint uses this attribute to specify a coordinate on the y-axis.

b. *The standard states that the possible values of the x and y attributes are defined by the ST_Coordinate simple type ("*[ISO/IEC-29500-1] *§20.1.10.16; ST_Coordinate (Coordinate)").*

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PowerPoint treats the possible values of the x and y attributes as they were defined by the ST_EighthPointMeasure simple type ("[ISO/IEC-29500-1] §17.18.23; ST_EighthPointMeasure").

2.1.1138 Part 1 Section 19.5.1, anim (Animate)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

a. *The standard states that the to attribute specifies the ending value for the animation as a percentage.*

PowerPoint does not specify the ending value as a percentage.

b. *The standard does not state a default value for the calcmode attribute.*

PowerPoint uses a default value of lin for the calcmode attribute.

c. *The standard does not state a default value for the valueType attribute.*

PowerPoint uses a default value of num for the valueType attribute.

d. *The standard states that the values of the from attribute are defined by the XML Schema string datatype.*

PowerPoint requires that the value of the from attribute be specified as a preset string value, as specified in the to element; as a string that represents a color value and a real number, as specified in the to element; or as an arbitrary string.

e. *The standard states that the values of the by attribute are defined by the XML Schema string datatype.*

PowerPoint requires that the value of the by attribute be specified as a preset string value, as specified in the to element; as a string that represents a color value and a real number, as specified in the to element; or as an arbitrary string.

f. *The standard states that the values of the to attribute are defined by the XML Schema string datatype.*

PowerPoint requires that the value of the to attribute be specified as a preset string value, as specified in the to element; as a string that represents a color value and a real number, as specified in the to element; or as an arbitrary string.

g. *The standard places no restrictions on the number of attrName child elements parented by the attrNameLst element when inside the anim element.*

PowerPoint requires that there be at least one attrName child element of the attrNameLst element when inside an anim element; if more than one attrName child element exists, only the first will be used.

h. *The standard places no restrictions on the relationship between the by, from, and to attributes.*

The attributes from, to, and by must be used in one of the following combinations:

- from_to: when the from and to attributes have values of the same type;
- from_by: when the from and by attributes have values of the same type but the to attribute is undefined;
- to_only: when the to attribute is defined but the from attribute is undefined;
- by_only: when the by attribute is defined but the from and to attributes are undefined.

All other combinations are invalid.

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When the attributes are used with a to_only combination or a by-only combination, the following criteria determine the starting value of the animation:

- when the attribute valueType is num, the starting value is 0.0;
- when the attribute valueType is clr, the starting value is an HSL color in which all spectrum is 0;
- when the attribute valueType is str, the starting value is an empty string.

The attribute by is not used in from_to and to_only combinations.

i. *The standard places no restrictions on what the grpId attribute refers to.*

PowerPoint requires that the grpId attribute reference a group that is present in the timing tree.

2.1.1139 Part 1 Section 19.5.2, animClr (Animate Color Behavior)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

a. *The standard does not state a default value for the clrSpc attribute.*

PowerPoint uses a default value of rgb for the clrSpc attribute.

b. *The standard places no restrictions on the value of the attrNameLst element when inside the animClr element.*

PowerPoint requires that the valid values of the attrNameLst element are: style.color, fillcolor, and stroke.color. The attrNameLst element must have at least one of these values and only the first one is effective (additional are ignored).

c. *The standard does not specify how to interpret the from child element, the to child element, or the by child element of the animClr element.*

In Office, the child element from defines the animation starting color, child element to defines the animation ending color, and child element by defines a color value that shall be added to the starting color to reach the ending color.

If the child element from is not specified, color black is used as the starting color. Either the child element by or the child element to shall be specified. If both the by and the to elements are specified, the by element is ignored.

2.1.1140 Part 1 Section 19.5.3, animEffect (Animate Effect)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

2.1.1141 Part 1 Section 19.5.4, animMotion (Animate Motion)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

a. *The standard does not state a default value for the origin attribute.*

PowerPoint uses a default value of parent for the origin attribute.

b. *The standard states that the path attribute of the animMotion element specifies a path primitive for the animation motion.*

In Office, the path is specified by defining an action, and typically some coordinates that go along with the action.

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The allowed action types that are understood within a path are listed in the following table. If the action is expressed in UPPERCASE, the following point(s) are to be interpreted as absolute coordinates, or a point on the slide. If in lowercase, the point(s) are to be interpreted as relative coordinates, or an offset from the current position.

Action Types	
M = move to	This action requires a point (two coordinates). Move to will move the object to the specified point. It does not animate the object to that point; rather, the object will snap to the given point.
L = line to	This action requires a point (two coordinates). Line to will move the object to the specified point along the shortest line between the current point and the specified point.
C = curve to	This action requires three points (six coordinates). Curve to will move the object along a cubic Bezier curve specified by the current point and the three provided points.
Z=close loop	This action requires no points. Close loop will move the object back to where it was before the path began along the shortest line between the current point and the starting point. The relative (lowercase) and absolute (uppercase) versions of this action are identical.
E=end	This action requires no points. End will terminate the motion path. Any action specified in the string after the End action is ignored. The specification of this action is not required. If this action is not present at the end of a string and the string ends, this action will be implied. The relative and absolute versions of this action are identical.

Points are expressed as percentages of the slide size; 1,1 means the lower-right corner of the slide in absolute coordinates, or the slide width & height in relative coordinates. Expressing a coordinate less than 1 but greater than 0 must be prefixed with 0 before the decimal point. If the leading zero is left off, the decimal is thrown away and the coordinate is read without it.

Formulas can also be used here. To use a formula, the entire formula must be inside parentheses. Parentheses can be used inside the formula, but no greater than a depth of 255. Formula syntax is further detailed in the entry for tav (Time Animate Value) ("[ISO/IEC-29500-1] §19.5.79; tav").

If the requirements for an action are not met (that is, too many or too few points are specified,) the entire path shall be thrown away.

If the path string is left empty or not specified, the animation will do nothing, but shall take up the required amount of time as specified by the behavior.

c. *The standard does not state a default value for the pathEditMode attribute.*

PowerPoint uses a default value of relative for the pathEditMode attribute.

d. *The standard states that the ptsTypes attribute specifies the types of points in the path attribute.*

In Office, the ptsTypes attribute additionally describes what the motion path should look like around the current point. This attribute has no effect on the playing of the animation. It is only used when the motion path is edited in Office.

Each character in this string sequentially maps to a point defined in the path string. If there are more entries than points, the extra entries are ignored. If there are fewer entries than points, the extra

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points are to be treated as follows: If the action *after* the point is a Line To, then the point is treated as an ‘F’ (corner line). Otherwise, the point will be treated as an ‘f’ (corner curve).

e. *The standard does not state a default value for the rAng attribute.*

PowerPoint uses a default value of 0 for the rAng attribute.

f. *The standard states that the animMotion element provides an abstract way to move positioned elements via a set of attributes and child elements.*

The attrNameLst element in the cBhvr child is permitted to contain up to two attributes to be animated. If the first attribute is not specified, the ppt_x attribute will be used. If the second attribute is not specified, the ppt_y attribute will be used. If more than two attributes are specified, only the first two shall be used. The attributes used must be one of the following: ppt_x, ppt_y, ppt_w, ppt_h, ppt_r, style.fontSize, xskew, yskew, xshear, yshear, scaleX, or scaleY.

2.1.1142 Part 1 Section 19.5.5, animRot (Animate Rotation)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

a. *The standard places no restrictions on the value of the attrName element when inside the animRot element.*

PowerPoint requires that the value of the attrName element be ppt_r, r, or style.rotation when inside an animRot element.

b. *The standard states that the animRot element specifies the rotation animation on an element with a combination of from, to and by attributes.*

In Office, the three attributes, from(From), to(To), and by(By), shall be used in one of the following combinations:

from_to: when from(From) and to(To) are defined;

from_by: when from(From) and by(By) are defined but to(To) is undefined;

to_only: when to(To) is defined but from(From) is undefined;

by_only: when by(By) is defined but from(From) and to(To) are undefined.

All other combinations are invalid.

For to_only and by_only combinations, the starting value of the animation shall be 0. The attribute by(By) is not used in from_to and to_only combinations.

c. *The standard places no restrictions on the number of attrName child elements parented by the attrNameLst element when inside the animRot element.*

PowerPoint requires that there be at least one attrName child element of the attrNameLst element when inside an animRot element; if more than one attrName child element exists, only the first will be used.

2.1.1143 Part 1 Section 19.5.6, animScale (Animate Scale)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

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a. *The standard places no restrictions on the number of attrName child elements parented by the attrNameLst element when inside the animScale element, nor what the values of those attrName elements should be.*

   PowerPoint requires that there be at least two attrName child elements of the attrNameLst element when inside an animScale element; their values should be ScaleX and ScaleY.

b. *The standard states that the zoomContents attribute specifies whether to zoom the contents of an object when doing a scaling animation.*

   PowerPoint does not support the zoomContents attribute.

c. *The standard states that the animScale element specifies the scale animation of an object.*

In Office, the three attributes from(From), to(To), and by(By) must be used in one of the following combinations:

from_to: when from(From) and to(To) are defined;

from_by: when from(From) and by(By) are defined but to(To) is undefined;

to_only: when to(To) is defined but from(From) is undefined;

by_only: when by(By) is defined but from(From) and to(To) are undefined.

All other combinations are invalid.

For to_only, the starting value of animation is (0, 0) for "ScaleX" and "ScaleY". For by_only, the starting value of animation is (1, 1) for "ScaleX" and "ScaleY". The attribute by(By) is ignored in from_to and to_only combinations.

2.1.1144 Part 1 Section 19.5.7, attrName (Attribute Name)

a. *The standard specifies a list of allowed property values for the attrName element.*

   PowerPoint also allows the following values for this element.

- ppt_x
- ppt_y
- ppt_w
- ppt_h
- ppt_c
- ppt_r
- xshear
- yshear
- image
- ScaleX
- ScaleY
- r
- fillcolor

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- 3d.object.rotation.x
- 3d.object.rotation.y
- 3d.object.rotation.z
- 3d.view.rotation.x
- 3d.view.rotation.y
- 3d.view.rotation.z
- 3d.object.scale.x
- 3d.object.scale.y
- 3d.object.scale.z
- 3d.view.scale.x
- 3d.view.scale.y
- 3d.view.scale.z
- 3d.object.translation.x
- 3d.object.translation.y
- 3d.object.translation.z
- 3d.view.translation.x
- 3d.view.translation.y
- 3d.view.translation.z
- drawProgress
- drawProgressAllAtOnce

b. *The standard does not specify whether the attrName values are case-sensitive.*

PowerPoint treats these values as case-insensitive.

2.1.1145 Part 1 Section 19.5.9, audio (Audio)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

a. *The standard allows the isNarration attribute to be set to true on any audio element.*

The isNarration attribute can only be true if the **<audio>** element contains a child **<cMediaNode>** ("[ISO/IEC-29500-1] §19.5.29; cMediaNode") with a child **<tgtEl>** ("[ISO/IEC-29500-1] §19.5.81; tgtEl") that contains a **<spTgt>** element ("[ISO/IEC-29500-1] §19.5.72; spTgt") that points to a valid sound shape. A valid sound shape is a shape that includes as a child of the **<nvPr>** element ("[ISO/IEC-29500-1] §19.3.1.33; nvPr") one of the following elements: **<wavAudioFile>** ("[ISO/IEC-29500-1] §20.1.3.7; wavAudioFile") or **<audioFile>** ("[ISO/IEC-29500-1] §20.1.3.2; audioFile").

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2.1.1146 Part 1 Section 19.5.12, bldDgm (Build Diagram)

a. *The standard implies that the bldDgm element specifies how to build animation for any diagram.*

PowerPoint only uses this element for OLE diagrams.

b. *The standard places no restrictions on what the spid attribute refers to.*

PowerPoint requires that the spid attribute reference a valid OLE diagram that is present on the slide.

c. *The standard places no restrictions on the relationship between the spid attribute, the grpId attribute, and the parent bldLst element.*

PowerPoint requires that the combination of the spid attribute and the grpId attribute on a given bldDgm element form a unique pair within the parent bldLst element.

d. *The standard places no restrictions on what the grpId attribute refers to.*

PowerPoint requires that the grpId attribute reference a group that is present in the timing tree.

2.1.1147 Part 1 Section 19.5.13, bldGraphic (Build Graphics)

a. *The standard places no restrictions on what the spid attribute refers to.*

PowerPoint requires that the spid attribute reference a chart or diagram that is present on the slide.

b. *The standard places no restrictions on what the grpId attribute refers to.*

PowerPoint requires that the grpID attribute reference a group that is present in the timing tree.

c. *The standard places no restrictions on the relationship between the spid attribute, the grpId attribute, and the parent bldLst element.*

PowerPoint requires that the combination of the spid attribute and the grpId attribute on a given bldGraphic element form a unique pair within the parent bldLst element.

2.1.1148 Part 1 Section 19.5.15, bldOleChart (Build Embedded Chart)

a. *The standard places no restrictions on what the spid attribute refers to.*

PowerPoint requires that the spid attribute reference a shape that is present on the slide.

b. *The standard places no restrictions on the relationship between the spid attribute, the grpId attribute, and the parent bldLst element.*

PowerPoint requires that the combination of the spid attribute and the grpId attribute on a given bldOleChart element form a unique pair within the parent bldLst element.

c. *The standard places no restrictions on what the grpId attribute refers to.*

PowerPoint requires that the grpId attribute reference a group that is present in the timing tree.

2.1.1149 Part 1 Section 19.5.16, bldP (Build Paragraph)

a. *The standard places no restrictions on what the spid attribute refers to.*

PowerPoint requires that the spid attribute reference a shape that is present on the slide.

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b. *The standard places no restrictions on the relationship between the spid attribute, the grpId attribute, and the parent bldLst element.*

PowerPoint requires that the combination of the spid attribute and the grpId attribute on a given bldP element form a unique pair within the parent bldLst element.

c. *The standard places no restrictions on the shape to which the spid attribute refers.*

PowerPoint requires that the spid attribute refer to an sp element that contains a t element with valid textual data.

d. *The standard does not specify how to interpret an advAuto attribute value of indefinite.*

PowerPoint interprets a value of indefinite on the advAuto attribute as being equal to 0.

e. *The standard states that the autoUpdateAnimBg attribute indicates whether to automatically update the animateBg setting to true when the shape associated with the text has a fill or line.*

PowerPoint does not support the autoUpdateAnimBg attribute.

f. *The standard places no restrictions on the tgtEl target element when the value of the animBg attribute is false.*

PowerPoint requires that the charRg child element inside the tgtEl target element be zero-length if the animBg attribute is set to false.

g. *The standard states that the bldLvl attribute is only supported when the build attribute is set to byParagraph.*

PowerPoint only supports the bldLvl attribute when the build attribute is set to p.

2.1.1150 Part 1 Section 19.5.17, bldSub (Build Sub Elements)

a. *The standard places no restrictions on the relationship between the bldSub's parent and child elements.*

PowerPoint requires that the spid attribute of the bldGraphic parent element must match the type of the bldSub child element.

2.1.1151 Part 1 Section 19.5.21, by (By)

For additional notes that apply to this portion of the standard, please see the notes for rCtr, §19.5.62(a).

a. *The standard states that the x attribute describes the X coordinate.*

PowerPoint uses the x attribute to specify the slide width percentage change when the by element is parented by the animMotion element, and the animated object width percentage change when the by element is parented by the animScale element.

b. *The standard states that the y attribute describes the Y coordinate.*

PowerPoint uses the y attribute to specify the slide height percentage change when the by element is parented by the animMotion element, and the animated object height percentage change when the by element is parented by the animScale element.

2.1.1152 Part 1 Section 19.5.22, cBhvr (Common Behavior)

a. *The standard states that the by attribute specifies a relative offset value for the animation.*

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The string value represents a 2D point, for example "0.5 0.5" or "(#ppt_x-0.1, #ppt_w)". The two elements can be real numbers, or formula. They are separated either by space or by comma. When using a formula, it must be enclosed in parentheses. The format is specified as follows:

2d_point = 2d_point_number | 2d_point_formula ;

2d_point_number = real_number , (` ` | ’,’) , real_number ;

2d_point_formula = ‘(‘ , formula , (` ` | ‘,‘) , formula , ‘)’ ;

real_number is further specified in "[ISO/IEC-29500-1] §19.5.89; to"

formula is further specified in "[ISO/IEC-29500-1] §19.5.79; tav"

b. *The standard states that the from attribute specifies a relative offset value for the animation.*

The string value represents a 2D point, for example "0.5 0.5" or "(#ppt_x-0.1, #ppt_w)". The two elements can be real numbers, or formula. They are separated either by space or by comma. When using a formula, it must be enclosed within parentheses. The format is specified as follows:

2d_point = 2d_point_number | 2d_point_formula ;

2d_point_number = real_number , (` ` | ’,’) , real_number ;

2d_point_formula = ‘(‘ , formula , (` ` | ‘,‘) , formula , ‘)’ ;

real_number is further specified in "[ISO/IEC-29500-1] §19.5.89; to"

formula is further specified in "[ISO/IEC-29500-1] §19.5.79; tav"

c. *The standard states that the to attribute specifies a relative offset value for the animation.*

The string value represents a 2D point, for example "0.5 0.5" or "(#ppt_x-0.1, #ppt_w)". The two elements can be real numbers, or formula. They are separated either by space or by comma. When a using formula, it must be enclosed within parentheses. The format is specified as follows:

2d_point = 2d_point_number | 2d_point_formula ;

2d_point_number = real_number , (` ` | ’,’) , real_number ;

2d_point_formula = ‘(‘ , formula , (` ` | ‘,‘) , formula , ‘)’ ;

real_number is further specified in "[ISO/IEC-29500-1] §19.5.89; to"

formula is further specified in "[ISO/IEC-29500-1] §19.5.79; tav"

d. *The standard does not state a default value for the additive attribute.*

   PowerPoint uses a default value of base for the additive attribute.

e. *The standard does not state a default value for the accumulate attribute.*

   PowerPoint uses a default value of none for the accumulate attribute.

f. *The standard does not state a default value for the xfrmType attribute.*

   PowerPoint uses a default value of pt for the xfrmType attribute.

g. *The standard states that the rctx attribute describes the runtime context of the animation and that the understood values are PPT and IE.*

Office places additional restrictions on the format for the value of the rctx attribute as follows:

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runtime_context = context_atom, { ';', context_atom } [';'];

context_atom = [relation_operator, Space], app_abbrev, [Space , version];

relation_operator = gte | gt | lte | lt | not;

app_abbrev = PPT_abbrev | IE_abbrev;

PPT_abbrev = ('p' | 'P'), ('p' | 'P'), ('t' | 'T');

IE_abbrev = ('i' | 'I'), ('e' | 'E');

version = dec_number, ['.'], [dec_number];

dec_number = Digit, { Digit };

gte = 'g', 't', 'e';

gt = 'g', 't';

lte = 'l', 't', 'e';

lt = 'l', 't';

not = '!';

Space = ' ', { ' ' };

Digit = '0' | '1' | '2' | '3' | '4' | '5' | '6' | '7' | '8' | '9';

2.1.1153 Part 1 Section 19.5.23, charRg (Character Range)

For additional notes that apply to this portion of the standard, please see the notes for pRg, §19.5.56(b).

a. *The standard places no restrictions on the values of the st and end attributes.*

PowerPoint requires the end attribute to be greater than the value of the st attribute and less than or equal to the length of the animated text.

2.1.1154 Part 1 Section 19.5.28, cmd (Command)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

a. *The standard does not state a default value for the type attribute.*

PowerPoint uses a default value of call for the type attribute.

2.1.1155 Part 1 Section 19.5.29, cMediaNode (Common Media Node Properties)

a. *The standard states that the cMediaNode describes the behavior of media elements within an animation.*

The child **tgtEl** element ("[ISO/IEC-29500-1] §19.5.81; tgtEl") shall contain either a **spTgt** element ("[ISO/IEC-29500-1] §19.5.72; spTgt") that points to a valid media shape or a **sndTgt element** ("[ISO/IEC-29500-1] §19.5.70; sndTgt"). A valid media shape is a shape that includes as a child of the **nvPr** element ("[ISO/IEC-29500-1] §19.3.1.33; nvPr") one of the following elements:

- **videoFile** ("[ISO/IEC-29500-1] §20.1.3.6; videoFile")

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- **wavAudioFile** ("[ISO/IEC-29500-1] §20.1.3.7; wavAudioFile")
- **audioFile** ("[ISO/IEC-29500-1] §20.1.3.2; audioFile")
- **audioCd** ("[ISO/IEC-29500-1] §20.1.3.1; audioCd")
- **quickTimeFile** ("[ISO/IEC-29500-1] §20.1.3.4; quickTimeFile")

2.1.1156 Part 1 Section 19.5.31, cond (Condition)

a. *The standard does not state a default value for the delay attribute.*

PowerPoint uses a default value of 0 for the delay attribute.

b. *The standard places no restrictions on the relationship between the value of the evt attribute and the child elements of the cond element.*

PowerPoint does not support the rtn, tgtEl, or tn child elements when the value of the evt attribute is none; if the evt attribute has any other value, the child element specifies the target of the event.

2.1.1157 Part 1 Section 19.5.33, cTn (Common Time Node Properties)

a. *The standard does not specify how to interpret a presetID attribute value of 0.*

PowerPoint interprets the value of 0 on the presetID attribute as being equivalent to the custom setting.

b. *The standard does not state a default value for the dur attribute.*

PowerPoint uses a default value of 0 for the dur attribute.

c. *The standard states that the values of the repeatCount attribute are defined by the ST_TLTime simple type.*

PowerPoint will not run the time node to completion if the value of the repeatCount attribute is less than 1000.

d. *The standard does not state a default value for the restart attribute.*

PowerPoint uses a default value of always for the restart attribute.

e. *The standard states that the restart attribute specifies if a node is to restart when it completes its action.*

PowerPoint uses the restart attribute to specify whether a node is able to restart when it completes its action.

f. *The standard does not state a default value for the display attribute.*

PowerPoint uses a default value of true for the display attribute.

g. *The standard states that the display attribute describes whether the state of the time node is visible or hidden.*

PowerPoint uses the display attribute to specify whether the time node is visible in the user interface.

h. *The standard places no restrictions on the value of the grpId attribute.*

PowerPoint requires that value of the grpId attribute match the grpId attribute of a child element contained within the bldLst element.

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i. *The standard does not state a default value for the afterEffect attribute.*

PowerPoint uses a default value of false for the afterEffect attribute.

j. *The standard states that the afterEffect attribute specifies whether there is an after effect applied to the time node.*

PowerPoint uses the afterEffect attribute to specify whether this time node is an after-effect.

k. *The standard does not state a default value for the nodePh attribute.*

PowerPoint uses a default value of false for the nodePh attribute.

l. *The standard states that the tmFilter attribute can be of type string.*

In PowerPoint, the string value is expected to be a list of semicolon separated time value pairs, such as "t1, t1';t2,t2';…". In this example, each t is the normalized local time for the element (values range from 0.0 – 1.0), and t' is the warped time to be used for the element's local time.

m. *The standard places no restrictions on the value of the evtFilter attribute.*

PowerPoint requires that the value of the evtFilter attribute be cancelBubble for triggered sequences.

n. *The standard states that the syncBehavior attribute specifies how the time node synchronizes to its group.*

PowerPoint does not support the syncBehavior attribute.

2.1.1158 Part 1 Section 19.5.39, endSync (EndSync)

For additional notes that apply to this portion of the standard, please see the notes for cond, §19.5.31(a, b).

2.1.1159 Part 1 Section 19.5.40, excl (Exclusive)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

2.1.1160 Part 1 Section 19.5.43, from (From)

a. *The standard does not place any restrictions on the color values used when the schemeClr element is a child of the from element.*

PowerPoint requires that the color values dk1, lt1, dk2, lt2, accent3, accent4, accent5, accent6 and phClr not be used when the schemeClr element is a child of the from element.

2.1.1161 Part 1 Section 19.5.44, from (From)

For additional notes that apply to this portion of the standard, please see the notes for rCtr, §19.5.62(a).

a. *The standard states that the x attribute describes the X coordinate.*

PowerPoint uses the x attribute to specify the slide width percentage change when the from element is parented by the animMotion element, and the animated object width percentage change when the from element is parented by the animScale element.

b. *The standard states that the y attribute describes the Y coordinate.*

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PowerPoint uses the y attribute to specify the slide height percentage change when the from element is parented by the animMotion element, and the animated object height percentage change when the from element is parented by the animScale element.

c. *The standard states that the from element specifies an x/y co-ordinate to start the animation from.*

When this element is contained within animMotion ("[ISO/IEC-29500-1] §19.5.4; animMotion"), the attributes x and y are interpreted as slide percentage and shall be greater than or equal to -2147483625 and less than or equal to 2147483625. When this element is contained within animScale ("[ISO/IEC-29500-1] §19.5.6; animScale"), the attributes x and y are interpreted as size percentage and shall be greater than or equal to 0 and less than or equal to 2147483625.

If the value of either the x or y attribute is greater than 16384000 or less than -16384000 there will be loss of precision due to internal calculations.

2.1.1162 Part 1 Section 19.5.45, graphicEl (Graphic Element)

a. *The standard places no restrictions on the element referred to by the graphicEl element.*

PowerPoint requires that the referred element be on the same slide and of the same type (chart vs. dgm) as the graphicEl's child element.

2.1.1163 Part 1 Section 19.5.46, hsl (HSL)

a. *The standard does not state how to interpret a negative s attribute value.*

PowerPoint reverses the direction of the color interpolation when the s attribute's value is negative.

b. *The standard does not state how to interpret a negative l attribute value.*

PowerPoint reverses the direction of the color interpolation when the l attribute's value is negative.

2.1.1164 Part 1 Section 19.5.47, inkTgt (Ink Target)

a. *The standard places no restrictions on what type of shape the spid attribute references.*

PowerPoint requires the spid attribute to reference a valid ink shape. PowerPoint will read inkTgt elements, but on read the ink shape will be converted to a contentPart and its corresponding inkTgt will be written out as a spTgt.

2.1.1165 Part 1 Section 19.5.49, iterate (Iterate)

a. *The standard states that the backwards attribute specifies whether to go backwards in the timeline to the previous node.*

PowerPoint uses the backwards attribute to specify whether to iterate from the beginning or the end of the target element.

2.1.1166 Part 1 Section 19.5.51, nextCondLst (Next Conditions List)

a. *The standard states that the nextCondLst element describes a list of conditions that must be met to advance to the next animation sequence.*

PowerPoint will advance to the next animation sequence if any of the conditions in the list are met.

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2.1.1167 Part 1 Section 19.5.52, oleChartEl (Embedded Chart Element)

a. *The standard places no restrictions on the relationship between the lvl attribute and the type attribute.*

PowerPoint requires the lvl attribute be 0 if the type attribute is gridLegend.

b. *The standard places no restrictions on the ordering and relationship of oleChartEl elements with respect to one another.*

PowerPoint requires that all oleChartEl elements be stored in incremental ascending order (with no omissions) under one common par element for the animation to play properly.

2.1.1168 Part 1 Section 19.5.55, prevCondLst (Previous Conditions List)

a. *The standard states that the prevCondLst element describes a list of conditions that must be met in order to go backwards in an animation sequence.*

PowerPoint will advance to the previous animation sequence if any of the conditions in the list are met.

2.1.1169 Part 1 Section 19.5.56, pRg (Paragraph Text Range)

a. *The standard places no restrictions on the values of the st attribute and the end attribute with relation to one another.*

PowerPoint requires the values of the st attribute and the end attribute be equal to each other.

b. *The standard places no restrictions on the values of the st attribute and the end attribute with relation to the paragraphs.*

PowerPoint requires that the st attribute and the end attribute be less than the number of paragraphs.

2.1.1170 Part 1 Section 19.5.57, progress (Progress)

a. *The standard states that the boolVal, clrVal, intVal, and strVal elements are all valid child elements of the progress element.*

PowerPoint does not allow these elements as child elements of the progress element.

b. *The standard places no restrictions on the val attribute of the fltVal element when parented by the progress element.*

PowerPoint requires that the val attribute of the fltVal element be greater than or equal to 0 and less than or equal to 1 when parented by the progress element.

2.1.1171 Part 1 Section 19.5.62, rCtr (Rotation Center)

a. *The standard states that the x attribute and the y attribute describe coordinates.*

PowerPoint uses these attributes to specify slide percentages.

2.1.1172 Part 1 Section 19.5.63, rgb (RGB)

a. *The standard does not state how to interpret a negative r attribute value.*

PowerPoint decreases the red color value when the r attribute's value is negative.

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b. *The standard does not state how to interpret a negative g attribute value.*

PowerPoint decreases the green color value when the g attribute's value is negative.

c. *The standard does not state how to interpret a negative b attribute value.*

PowerPoint decreases the blue color value when the b attribute's value is negative.

2.1.1173 Part 1 Section 19.5.65, seq (Sequence Time Node)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

2.1.1174 Part 1 Section 19.5.66, set (Set Time Node Behavior)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

a. *The standard places no restrictions on the number of attrName child elements parented by the attrNameLst element when inside the set element.*

PowerPoint requires that there be at least one attrName child element of the attrNameLst element when inside a set element; if more than one attrName child element exists, only the first will be used.

2.1.1175 Part 1 Section 19.5.67, sldTgt (Slide Target)

a. *The standard places no restrictions on when the sldTgt element is to be used.*

PowerPoint will only use this element when it is grandparented by a cond element with its evt attribute set to onPrev, onNext, or onStopAudio.

2.1.1176 Part 1 Section 19.5.72, spTgt (Shape Target)

a. *The standard places no restrictions on what the spid attribute refers to.*

PowerPoint requires that the spid attribute refer to a cxnSp element, a graphicFrame element, a grpSp element, a pic element, or an sp element on the current slide.

b. *The standard does not specify how the graphicEl, oleChartEl, subSp, and txtEl child elements are to be used.*

PowerPoint uses the graphicEl, oleChartEl, and subSp child elements to specify graphical elements to animate within a graphicFrame element; it uses the txtEl child element to specify the text elements to animate within an sp element.

2.1.1177 Part 1 Section 19.5.77, subSp (Subshape)

For additional notes that apply to this portion of the standard, please see the notes for inkTgt, §19.5.47(a).

a. *The standard places no restrictions on what the spid attribute refers to.*

PowerPoint requires that the spid attribute reference a valid shape that is present both on the current slide and on the diagram referred to by the spid attribute of the parent spTgt element.

b. *The standard places no restrictions on the parent spTgt element of the subSp element.*

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PowerPoint requires that the parent element target a legacy diagram.

2.1.1178 Part 1 Section 19.5.78, subTnLst (Sub-TimeNodes List)

a. *The standard states that the subTnLst element describes time nodes that have a start time which is not based on the containing timenode.*

In PowerPoint, this element is only used when applied to nodes of depth 5 within the Slide Timing tree ("[ISO/IEC-29500-1] §19.3.1.48; timing"). The root element within the Time Node List ("[ISO/IEC-29500-1] §19.5.87; tnLst") shall be a par element and this subTnLst element shall only be used when contained within seq child element of this root element.

The Target Element ("[ISO/IEC-29500-1] §19.5.81; tgtEl") contained within any anim, animClr, animEffect, animMotion, animRot, animScale, or set child element of subTnLst shall have either a Sound Target ("[ISO/IEC-29500-1] §19.5.70; sndTgt") or a Shape Target ("[ISO/IEC-29500-1] §19.5.72; spTgt") child element.

The Target Element ("[ISO/IEC-29500-1] §19.5.81; tgtEl") contained within an audio or video child element shall have either a Shape Target ("[ISO/IEC-29500-1] §19.5.72; spTgt") child element that references a valid media shape or a Sound Target ("[ISO/IEC-29500-1] §19.5.70; sndTgt") that references a valid sound target.

Any excl, par or seq child element shall have at least one cmd, anim, animClr, animEffect, animMotion, animRot, animScale, set, audio, or video child element. The first of these child elements shall have either a Sound Target ("[ISO/IEC-29500-1] §19.5.70; sndTgt") or a Shape Target ("[ISO/IEC-29500-1] §19.5.72; spTgt") child element.

2.1.1179 Part 1 Section 19.5.84, tmpl (Template Effects)

a. *The standard places no restrictions on the relationship between tmpl elements parented by the same tmplLst element.*

PowerPoint requires that each tmpl element within the same parent tmplLst element have a unique lvl attribute value.

2.1.1180 Part 1 Section 19.5.85, tmplLst (Template effects)

a. *The standard places no restrictions on when the tmpLst element is to be used.*

PowerPoint will only use this element when it refers to a ph element inside a sldLayout element or a sldMaster element.

2.1.1181 Part 1 Section 19.5.87, tnLst (Time Node List)

a. *The standard states that the child list of the tnLst element is unbounded.*

PowerPoint does not support more than one child element in the tnLst.

b. *The standard states that the anim, animClr, animEffect, animMotion, animRot, animScale, audio, cmd, excl, seq, set, and video elements are valid child elements of the tnLst element.*

PowerPoint does not allow these elements to be child elements of the tnLst element.

c. *The standard places no restrictions on the time nodes at a depth of five in the timing tree defined by the child element of the tnLst element.*

The child of this element is the root time node in the timing tree. A node at depth 5 in the timing tree shall meet at least one of the following criteria:

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- Be a behavior node (a node with cBhvr ("[ISO/IEC-29500-1] §19.5.22; cBhvr") as a child element) and contain a valid reference to a <tgtEl>.
- Have at least one child element that is a behavior node, the first of which shall contain a valid reference to a <tgtEl>.

2.1.1182 Part 1 Section 19.5.88, to (To)

For additional notes that apply to this portion of the standard, please see the notes for rCtr, §19.5.62(a).

a. *The standard states that the x attribute and the y attribute describe coordinates.*

PowerPoint uses these attributes to specify the slide size percentage change when the to element is parented by the animMotion element, and the animated object size percentage change when the to element is parented by the animScale element.

b. *The standard states that the x and y attribute values are defined as simple type ST_Percentage.*

When used in animMotion, the attributes, x and y, are values of slide percentage and the valid range is between -2147483625 and 2147483625. When used in animScale, the attributes, x and y, are values of size percentage and the valid range is between 0 and 2147483625.

If the x or y values are less than -16384000 or greater than 16384000 there will be some loss of precision due to internal calculations.

2.1.1183 Part 1 Section 19.5.89, to (To)

a. *The standard states that the to element specifies the attribute of the time node after the animation.*

For PowerPoint, the following table specifies the strVal value presets that must be used when the corresponding attribute names are used. The supported attribute names are listed in the attrName element ("[ISO/IEC-29500-1] §19.5.7; attrName").

attrName(Attribute Name)	strVal Value Preset
style.visibility	“hidden”, “visible”
style.fontWeight	“none”, “normal”, “bold”
style.fontStyle	“none”, “normal”, “italic”
style.textEffectEmboss	“none”, “normal”, “emboss”
style.textShadow	“none”, “normal”, “auto”
style.textTransform	“none”, “normal”, “sub”, “super”
style.textDecorationUnderline	“false”, “true”
style.textEffectOutline	“false”, “true”
style.textDecorationLineThrough	“false”, “true”
imageData.grayscale	“false”, “true”
fill.on	“false”, “f”, “t”, “true”
fill.type	“solid”, “pattern”, “tile”, “frame”, “gradientUnscaled”, “gradient”, “gradientCenter”, “gradientRadial”, “gradientTile”, “background”

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attrName(Attribute Name)	strVal Value Preset
fill.method	“none”, “linear”, “sigma”, “any”
stroke.on	“false”, “f”, “t”, “true”
stroke.linestyle	“single”, “thinThin”, “thinThick”, “thickThin”, “thickBetweenThin”
stroke.dashstyle	“solid”, “dot”, “dash”, “dashDot”, “longDash”, “longDashDot”, “longDashDotDot”
stroke.filltype	“solid”, “tile”, “pattern”, “frame”
stroke.startArrow	“none”, “block”, “classic”, “diamond”, “oval”, “open”, “chevron”, “doublechevron”
stroke.endArrow	“none”, “block”, “classic”, “diamond”, “oval”, “open”, “chevron”, “doublechevron”
stroke.startArrowWidth	“narrow”, “medium”, “wide”
stroke.startArrowLength	“short”, “medium”, “long”
stroke.endArrowWidth	“narrow”, “medium”, “wide”
stroke.endArrowLength	“short”, “medium”, “long”
shadow.on	“false”, “f”, “t”, “true”
shadow.type	“single”, “double”, “emboss”, “perspective”
skew.on	“false”, “f”, “t”, “true”
extrusion.on	“false”, “f”, “t”, “true”
extrusion.type	“parallel”, “perspective”
extrusion.render	“solid”, “wireframe”, “boundingcube”
extrusion.plane	“xy”, “zx”, “yz”
extrusion.lockrotationcenter	“false”, “true”
extrusion.autorotationcenter	“false”, “true”
extrusion.colormode	“false”, “true”

b. *The standard states that the to element specifies the attribute of the time node after the animation.*

In PowerPoint, the child element strVal can be used as a string that represents a parenthesized formula whose format is described in the fmla attribute specified in the tav element ("[ISO/IEC-29500-1] §19.5.79; tav"). The format is specified as:

strFormula = '(' , formula , ')' ;

Where formula is a string formula specified as described within tav ("[ISO/IEC-29500-1] §19.5.79; tav").

c. *The standard states that the strVal child of the to element is used to specify an attribute that the animation applies to.*

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In PowerPoint, the child element strVal can be used to represent a real number. The number shall be either a decimal number (for example 2.0, -3.4e-5), a hexadecimal number (for example 0x4A.F, -0X5FE5), an octal number (for example 0o56.4e5, -0O.56), or a binary number (for example 10.01, -11.01e110). This real number format is also used to define color values, in which the percentage is a real number with a postfix '%'. The required format is specified as follows:

real_number = value;

percentage = value , '%' ;

value = dec_value | oct_value | hex_value | bin_value ;

dec_value = dec_regular_value | dec_pure_floating ;

dec_regular_value = ['-'] , dec_number , ['.'] , [dec_number] , [dec_exponent] ;

dec_pure_float = ['-'] , '.' , dec_number , [dec_exponent] ;

oct_value = oct_regular_value | oct_pure_floating ;

oct_regular_value = ['-'] , oct_number , ['.'] , [oct_number] , [oct_exponent] ;

oct_pure_floating = ['-'] , '.' , oct_number , [oct_exponent] ;

hex_value = hex_regular_value | hex_pure_floating ;

hex_regular_value = ['-'] , hex_number , ['.'] , [hex_number]

hex_pure_floating = ['-'] , '.' , hex_number;

bin_value = bin_regular_value | bin_pure_floating ;

bin_regular_value = ['-'] , bin_number , ['.'] , [bin_number] , [bin_exponent] ;

bin_pure_floating = ['-'] , '.' , bin_number , [bin_exponent] ;

DecDigit = '0' | '1' | '2' | '3' | '4' | '5' | '6' | '7' | '8' | '9' ;

OctDigit = '0' | '1' | '2' | '3' | '4' | '5' | '6' | '7';

HexDigit = '0' | '1' | '2' | '3' | '4' | '5' | '6' | '7' | '8' | '9' | 'A' | 'a' | 'B' | 'b' | 'C' | 'c' | 'D' | 'd' | 'E' | 'e' | 'F' | 'f' ;

BinDigit = '0' | '1' ;

dec_number = Digit , { Digit } ;

oct_number = '0' , ('o' | 'O') , OctDigit , { OctDigit } ;

hex_number = '0' , ('x' | 'X'), HexDigit , { HexDigit } ;

bin_number = '0' , ('b' | 'B') , BinDigit , { BinDigit } ;

dec_exponent = ['-'] , ('e' | 'E') , dec_number ;

oct_exponent = ['-'] , ('e' | 'E') , oct_number ;

bin_exponent = ['-'] , ('e' | 'E') , bin_number ;

d. *The standard states that the strVal child of the to element is used to specify an attribute that the animation applies to.*

In PowerPoint, the child element strVal can be used to represent a color as follows:

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- rgb(*r_value*, *g_value*, *b_value*). *r_value*, *g_value*, and *b_value* are values for red, green, and blue spectrum, respectively. The values are either real numbers or percentages. For example, "rgb(255, 0, 0)" and "rgb(100%, 0, 0)" both defines a red color.
- rgb*(r_value*, *g_value*, *b_value*, *a_value*). *r_value*, *g_value*, *b_value*, and *a_value* are values for red, green, blue, and alpha spectrum, respectively. The values are either real numbers or percentages. For example, "rgb(255, 0, 0, 255)" and "rgb(100%, 0, 0, 100%)" are red with a full opacity.
- hsl(*h_value*, *s_value*, *l_value*). *h_value*, *s_value*, and *l_value* are values for hue, saturation, and lightness, respectively. The values are either real numbers or percentages. For example, "hsl(0, 255, 127.5)" and "hsl(0,100%, 50%)" are red, equivalent to "rgb(255, 0, 0)".
- hsl(*h_value*, *s_value*, *l_value, a_value*). *h_value*, *s_value*, *l_value, and a_value* are values for hue, saturation, lightness, and alpha, respectively. The values are either real numbers or percentages. For example, "hsl(0, 255, 127.5, 255)" and "hsl(0,100%, 50%, 100%)" are red with a full opacity, equivalent to "rgb(255, 0, 0, 255)".
- *#rrggbb. rr*, *gg*, and *bb* are hexadecimal values for red, green, and blue spectrum, respectively. For example, "#FF0000" is red, equivalent to "rgb(255, 0, 0)".
- *#aarrggbb.aa, rr*, *gg*, and *bb* are hexadecimal values for alpha, red, green, and blue spectrum, respectively. For example, "#FFFF0000" is red with a full opacity, equivalent to "rgb(255, 0, 0, 255)".
- *#rgb. r*, *g*, and *b* are hexadecimal values for red, green, and blue spectrum, respectively. It is equivalent to *#r*0*g*0*b*0. For example, "#F00" is equal to "#F00000".
- *#argb.a, r*, *g*, and *b* are hexadecimal values for alpha, red, green, and blue spectrum, respectively. It is equivalent to *# a*0*r*0*g*0*b*0*.* For example, "#F00F" is equal to "#F00000F0".

2.1.1184 Part 1 Section 19.5.90, to (To)

a. *The standard does not place any restrictions on the color values used when the schemeClr element is a child of the to element.*

PowerPoint requires that the color values dk1, lt1, dk2, lt2, accent3, accent4, accent5, accent6 and phClr not be used when the schemeClr element is a child of the to element.

2.1.1185 Part 1 Section 19.5.93, video (Video)

For additional notes that apply to this portion of the standard, please see the notes for tnLst, §19.5.87(b).

2.1.1186 Part 1 Section 19.5.95, wheel (Wheel Slide Transition)

a. *The standard states that the values of the spokes attribute are defined by the XML Schema unsignedInt datatype.*

PowerPoint maps values other than 1, 2, 3, 4, and 8 to the nearest supported value.

2.1.1187 Part 1 Section 19.7.7, ST_PhotoAlbumFrameShape (Photo Album Shape for Photo Mask)

a. *The standard only documents one description per enumeration value.*

Each enumeration value has two possible meanings which will be referred to as "Legacy" and "Standard" in the description section.

Legacy: If the application detects one or more shapes with a blipfill and isPhoto set to true within the non-visual properties for that shape, then the legacy meanings of each enumeration shall be implied.

Standard: For all other cases, the standard meaning shall be implied.

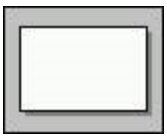
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[*Example:* Consider the shape that has a blip fill applied to it and isPhoto set to true.

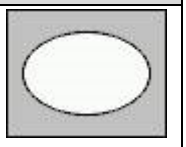
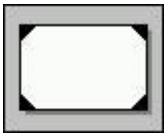
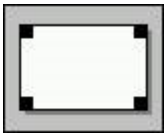
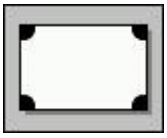
```
<p:sp>
<p:nvSpPr>
..
<p:nvPr isPhoto="1"/>
</p:nvSpPr>
<p:spPr bwMode="auto">
<a:blipFill dpi="0" rotWithShape="1">
      ..
</a:blipFill>
</p:spPr>
</p:sp>
```

end example]

The following are possible enumeration values for this type:

Enumeration Value	Description
frameStyle1 (Rectangle Photo Frame)	Standard:  Legacy: 
frameStyle2 (Rounded Rectangle Photo Frame)	Standard:  Legacy: 
frameStyle3 (Simple White Photo Frame)	Standard:  Legacy: 
frameStyle4 (Simple Black Photo Frame)	Standard: 

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Enumeration Value	Description
	Legacy: 
frameStyle5 (Compound Black Photo Frame)	Standard:  Legacy: 
frameStyle6 (Center Shadow Photo Frame)	Standard:  Legacy: 
frameStyle7 (Soft Edge Photo Frame)	Standard:  Legacy: 

2.1.1188 Part 1 Section 19.7.24, ST_TLAnimateEffectTransition (Time List Animate Effect Transition)

a. *The standard does not specify how to interpret a transition value of none.*

PowerPoint interprets a value of none as being equal to in.

2.1.1189 Part 1 Section 19.7.25, ST_TLAnimateMotionBehaviorOrigin (Time List Animate Motion Behavior Origin)

a. *The standard does not specify how to interpret the origin values.*

PowerPoint interprets the layout origin as being the center of the object and the parent origin as being the upper left corner of the slide.

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2.1.1190 Part 1 Section 19.7.28, ST_TLBehaviorAdditiveType (Behavior Additive Type)

a. *The standard states that base, mult, and none are valid behavior additive type values.*

PowerPoint does not support these values.

2.1.1191 Part 1 Section 19.7.30, ST_TLBehaviorTransformType (Behavior Transform Type)

a. *The standard states that a behavior transform type with a value of pt specifies a point transform.*

PowerPoint uses this value to specify a property transform.

2.1.1192 Part 1 Section 19.7.38, ST_TLTime (Time)

a. *The standard states that the ST_TLTime simple type specifies the time after which to automatically advance the build to the next step.*

PowerPoint lets the parent define how to use this simple type.

2.1.1193 Part 1 Section 19.7.41, ST_TLTimeNodeFillType (Time Node Fill Type)

a. *The standard does not specify how to interpret the transition fill type.*

PowerPoint uses this value to signify that an element's properties reset to their original values after the element becomes inactive.

b. *The standard does not specify how to interpret the freeze fill type.*

PowerPoint uses this value to signify that an element's properties should remain at their ending values while their parent is still running or holding, or until another sibling element is started under a seq element or an excl element.

c. *The standard does not specify how to interpret the hold fill type.*

PowerPoint uses this value to signify that an element's properties remain at their ending values while their parent is still running or holding.

d. *The standard does not specify how to interpret the remove fill type.*

PowerPoint uses this value to signify that an element's properties reset to their original values after the element becomes inactive.

2.1.1194 Part 1 Section 19.7.43, ST_TLTimeNodeMasterRelation (Time Node Master Relation)

a. *The standard states that lastClick is a valid master relation value.*

PowerPoint does not support this value.

b. *The standard places no restrictions on when the playback behavior applies.*

PowerPoint only applies the playback behavior when the time node is contained within a subTnLst element.

c. *The standard does not specify how to interpret the sameClick master relation.*

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PowerPoint uses this value to signify that the time node will start at the same time as its master time node.

d. *The standard does not specify how to interpret the nextClick master relation.*

PowerPoint uses this value to signify that the time node will start when the next time node group starts.

2.1.1195 Part 1 Section 19.7.45, ST_TLTimeNodeRestartType (Time Node Restart Type)

a. *The standard states that the ST_TLTimeNodeRestartType simple type determines whether an effect can play more than once.*

PowerPoint uses this simple type to signify when a time node can restart.

2.1.1196 Part 1 Section 19.7.48, ST_TLTriggerEvent (Trigger Event)

a. *The standard implies that the begin value and the onBegin value are equivalent.*

PowerPoint interprets the begin value to specify that a trigger should be fired when the specified time node begins, and the onBegin value to specify that a trigger should be fired when the onBegin event occurs on the specified target.

b. *The standard implies that the end value and the onEnd value are equivalent.*

PowerPoint interprets the end value to specify that a trigger should be fired when the specified time node ends, and the onEnd value to specify that a trigger should be fired when the onEnd event occurs on the specified target.

c. *The standard states that the onNext value specifies that a trigger should be fired on the next node.*

PowerPoint uses this value to specify that a trigger should be fired when the onNext event occurs on the specified target.

d. *The standard states that the onPrev value specifies that a trigger should be fired on the previous node.*

PowerPoint uses this value to specify that a trigger should be fired when the onPrevious event occurs on the specified target.

e. *The standard states that the onStopAudio value specifies that a trigger should be fired on stop audio.*

PowerPoint uses this value to specify that a trigger should be fired when the onstopaudio command is fired from a cmd time node.

2.1.1197 Part 1 Section 19.7.55, ST_ViewType (List of View Types)

a. *The standard states that the outlineView value specifies that outline view mode should be used.*

PowerPoint uses this value to specify that normal slide view mode should be used.

2.1.1198 Part 1 Section 20.1.2.2.1, bldChart (Build Chart)

a. *The standard does not clearly describe whether the bld attribute is a controller or an indicator of behavior.*

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In Office, the bld attribute is an indicator rather than a controller of behavior.

2.1.1199 Part 1 Section 20.1.2.2.2, bldDgm (Build Diagram)

a. *The standard does not clearly describe whether attributes are controllers or indicators of a behavior.*

In Office, attributes are indicators rather than controllers of a behavior.

2.1.1200 Part 1 Section 20.1.2.2.4, cNvCxnSpPr (Non-Visual Connector Shape Drawing Properties)

a. *The standard implies that the cNvCxnSpPr element can only be used when rendering a slide.*

In Office, the cNvCxnSpPr element is used in rendering presentations, spreadsheets and documents.

2.1.1201 Part 1 Section 20.1.2.2.5, cNvGraphicFramePr (Non-Visual Graphic Frame Drawing Properties)

a. *The standard implies that the cNvGraphicsFramePr element can only be used when rendering a slide.*

In Office, the cNvGraphicsFramePr element is used in rendering presentations, spreadsheets and documents.

2.1.1202 Part 1 Section 20.1.2.2.6, cNvGrpSpPr (Non-Visual Group Shape Drawing Properties)

a. *The standard implies that the cNvGrpSpPr element can only be used when rendering a slide.*

In Office, the cNvGrpSpPr element is used in rendering presentations, spreadsheets and documents.

2.1.1203 Part 1 Section 20.1.2.2.11, cxnSpLocks (Connection Shape Locks)

For additional notes that apply to this portion of the standard, please see the notes for picLocks, §20.1.2.2.31(a)*.*

a. *The standard uses a shared attribute group for the locking attributes of shapes, pictures and other graphic objects.*

Office ignores attributes noChangeShapeType, noEditPoints and noRot when applied to a connection shape.

2.1.1204 Part 1 Section 20.1.2.2.12, dgm (Diagram to Animate)

a. *The standard states that attribute bldStep allows the entire diagram to be animated as one object.*

PowerPoint supports only build steps that animate diagram shapes.

2.1.1205 Part 1 Section 20.1.2.2.13, endCxn (Connection End)

a. *The standard states that attributes id and idx only apply to the final connection.*

In Office, the id and idx attributes apply to all connections, not just the final connections.

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2.1.1206 Part 1 Section 20.1.2.2.14, ext (Extension)

a. *The standard implies that the uri attribute is optional.*

Office requires the uri attribute.

2.1.1207 Part 1 Section 20.1.2.2.17, graphicData (Graphic Object Data)

a. *The standard implies that the uri attribute is optional.*

Office requires the uri attribute.

b. *The standard does not enumerate any known servers for processing the contents of the graphicData element.*

Office implements a finite set of servers for processing the contents of the graphicData element. Office uses the uri attribute to determine the contents of the graphicData element, as described in the following table:

URI	Root Element	Ref
http://schemas.openxmlformats.org/drawingml/2006/table	tbl	"[ISO/IEC-29500-1] §21.1.3.13; tbl"
http://schemas.openxmlformats.org/drawingml/2006/diagram	relIds	"[ISO/IEC-29500-1] §21.4.2.22; relIds"
http://schemas.openxmlformats.org/drawingml/2006/chart	chart	"[ISO/IEC-29500-1] §21.2.2.26; chart"
http://schemas.openxmlformats.org/drawingml/2006/picture	pic	"[ISO/IEC-29500-1] §20.2.2.5; pic"
http://schemas.openxmlformats.org/drawingml/2006/compatibility	legacyDrawing	"[ISO/IEC-29500-4] §17.2.2.1; legacyDrawing (Legacy Drawing Object)"
http://schemas.openxmlformats.org/drawingml/2006/lockedCanvas	lockedCanvas	"[ISO/IEC-29500-1] §20.3.2.1; lockedCanvas"
http://schemas.openxmlformats.org/presentationml/2006/ole	oleObj	"[ISO/IEC-29500-1] §19.3.2.4; oleObj"

2.1.1208 Part 1 Section 20.1.2.2.19, graphicFrameLocks (Graphic Frame Locks)

a. *The standard specifies that an implementing application should lock the aspect ratio of the graphic frame if the value of the noChangeAspect attribute is true.*

When a user resizes a graphicFrame by direct manipulation (by dragging with the mouse, for example), Office ignores the noChangeAspect attribute. When a user resizes the frame by entering the desired dimensions, this attribute is taken into account.

b. *The standard includes noMove and noResize as attributes of the element graphicFrame.*

Office does not implement and will ignore the attributes noMove and noResize for graphicFrame elements.

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c. *The standard states that the noSelect attribute of element graphicFrameLocks disallows the selection of the corresponding picture.*

In Office, the noSelect attribute of element graphicFrameLocks disallows the selection of the corresponding graphic frame.

2.1.1209 Part 1 Section 20.1.2.2.21, grpSpLocks (Group Shape Locks)

a. *The standard states that grpSpLocks specifies the locking properties for a connection shape.*

In Office, grpSpLocks specifies the locking properties for a group shape.

2.1.1210 Part 1 Section 20.1.2.2.22, grpSpPr (Visual Group Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for grpSpPr, §20.5.2.18(a-c)*.*

2.1.1211 Part 1 Section 20.1.2.2.23, hlinkHover (Hyperlink for Hover)

For additional notes that apply to this portion of the standard, please see the notes for hlinkClick, §21.1.2.3.5(a)*.*

2.1.1212 Part 1 Section 20.1.2.2.24, ln (Outline)

a. *The standard does not specify a default value for the algn attribute.*

Office uses a default value of ctr for the algn attribute.

b. *The standard states that sq is the default value for the cap attribute.*

Office uses flat as the default value for cap.

c. *The standard allows for the specifying of the tailEnd child element, headEnd child element and cap attribute within the ln element.*

Office does not use the tailEnd child element, headEnd child element and cap attribute when the parent element is the rPr element.

d. *The standard does not specify conditions under which this element might be superseded.*

In Microsoft Office 2016, when this element is omitted from the spPr element nested inside a dataPoint element in a CT_ChartStyle ([MS-ODRAWXML] Section 2.8.3.1), and when the dataPoint CT_StyleEntry is formatting a CT_Series ([MS-ODRAWXML] Section 2.24.3.75) with at least one complex formatting property (such as pattern fill, gradient fill, glow, shadow, 3D effect, or line dashing), and when the CT_ChartStyle is used to style a chart in a part using the relationship type of "http://schemas.microsoft.com/office/drawing/2014/chartex" ([MS-ODRAWXML] Section 2.24), the ln element under the spPr element in dataPointLine is used in place of this element.

e. *The standard states that if the w (Line Width) attribute is omitted, then a value of 0 is assumed.*

The interpretation of the line width is further determined by the line's fill properties (EG_LineFillProperties). Unless the line fill type is <noFill>, a line width value of 0 or omission of the w attribute indicates that a resolution-dependent line thickness of 1 device unit should be drawn, where a device unit is a pixel on a screen, or a single dot width on a printer. For line fill type <noFill>, the width value is ignored and no line should be drawn.

f. *The standard does not specify what happens if the fill property EG_LineFillProperties are omitted from the Outline properties.*

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If line fill property EG_LineFillProperties is not provided, Office assumes the line fill to be <solidFill>.

2.1.1213 Part 1 Section 20.1.2.2.31, picLocks (Picture Locks)

a. *The standard references only connection shapes as a part of the picLocks element attribute descriptions for the AG_Locking attribute group.*

In Office, AG_Locking attribute group attributes also applies to shapes and pictures.

b. *The standard uses a shared attribute group for the locking attributes of shapes, pictures and other graphic objects.*

Office ignores attributes noChangeArrowheads, noChageShapeType, noEditPoints and noRot when applied to a picture object. Additionally, PowerPoint ignores noAdjustHandles and Word ignores noMove and noResize when applied to a picture object.

2.1.1214 Part 1 Section 20.1.2.2.34, spLocks (Shape Locks)

For additional notes that apply to this portion of the standard, please see the notes for picLocks, §20.1.2.2.31(a)*.*

a. *The standard uses a shared attribute group for the locking attributes of shapes, pictures and other graphic objects.*

Office ignores attributes noChangeArrowheads and noRot when applied to a shape. PowerPoint additionally ignores the attribute noAdjustHandles when applied to a shape and noChangeShapeType when the converting the shape to a freeform.

2.1.1215 Part 1 Section 20.1.2.2.35, spPr (Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for spPr, §20.5.2.30(a-c)*.*

2.1.1216 Part 1 Section 20.1.2.2.36, stCxn (Connection Start)

For additional notes that apply to this portion of the standard, please see the notes for endCxn, §20.1.2.2.13(a)*.*

2.1.1217 Part 1 Section 20.1.2.2.37, style (Shape Style)

a. *The standard states that the fontRef attribute applies to parent elements pic, cxnSp and sp.*

In Office, the fontRef attribute is not used for parent elements pic and cxnSp.

b. *The standard allows a sp, pic or cxnSp element to have similar formatting options defined in both the style and spPr elements.*

In Office, shape properties (spPr) defined on the parent element will override similar style components (lnRef, effectRef, fillRef, fontRef) defined for this element.

c. *The standard allows similar text formatting properties to be defined for parent element sp by style or txBody.*

In Office, child elements from txBody for parent element sp will override similar style properties defined in the fontRef child element in this element.

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2.1.1218 Part 1 Section 20.1.2.3.1, alpha (Alpha)

a. *The standard states that the val attribute specifies the opacity as expressed by a percentage value.*

Office uses the val attribute to specify a percentage value for several elements.

b. *The standard states that ST_PositiveFixedPercentage is read and written as a floating point value with a trailing percent sign.*

Office will read in percentages formatted as floating point value with a trailing percent sign or as an integer 1000th of a percent without trailing percent sign, but only write out percentages as the latter.

2.1.1219 Part 1 Section 20.1.2.3.2, alphaMod (Alpha Modulation)

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1220 Part 1 Section 20.1.2.3.3, alphaOff (Alpha Offset)

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1221 Part 1 Section 20.1.2.3.4, blue (Blue)

a. *The standard states that the val attribute specifies the blue component as expressed by a percentage value.*

Office uses the val attribute to specify a percentage value for several elements.

b. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1222 Part 1 Section 20.1.2.3.5, blueMod (Blue Modification)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

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2.1.1223 Part 1 Section 20.1.2.3.6, blueOff (Blue Offset)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1224 Part 1 Section 20.1.2.3.10, green (Green)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that the ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1225 Part 1 Section 20.1.2.3.11, greenMod (Green Modification)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1226 Part 1 Section 20.1.2.3.12, greenOff (Green Offset)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1227 Part 1 Section 20.1.2.3.13, hslClr (Hue, Saturation, Luminance Color Model)

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

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2.1.1228 Part 1 Section 20.1.2.3.14, hue (Hue)

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1229 Part 1 Section 20.1.2.3.15, hueMod (Hue Modulate)

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1230 Part 1 Section 20.1.2.3.16, hueOff (Hue Offset)

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1231 Part 1 Section 20.1.2.3.19, lum (Luminance)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a).

a. *The standard allows luminance to be specified either as an attribute of a parent element or as a child element.*

In Office, using child element lum will override the corresponding value specified in a parent element and may produce unexpected color.

b. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1232 Part 1 Section 20.1.2.3.20, lumMod (Luminance Modulation)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a).

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

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2.1.1233 Part 1 Section 20.1.2.3.21, lumOff (Luminance Offset)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that element lumOff shifts the input color's luminance while leaving hue and saturation unchanged.*

This element is not supported by Office and may produce unexpected color.

b. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1234 Part 1 Section 20.1.2.3.22, prstClr (Preset Color)

a. *The standard implies that the val attribute is optional.*

Office requires the val attribute.

2.1.1235 Part 1 Section 20.1.2.3.23, red (Red)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1236 Part 1 Section 20.1.2.3.24, redMod (Red Modulation)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1237 Part 1 Section 20.1.2.3.25, redOff (Red Offset)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

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2.1.1238 Part 1 Section 20.1.2.3.26, sat (Saturation)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard allows saturation to be specified either as an attribute of a parent element or as a child element.*

In Office, using child element sat will override the corresponding value specified in a parent element and may produce unexpected color.

b. *The standard states that ST_Percentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1239 Part 1 Section 20.1.2.3.27, satMod (Saturation Modulation)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that ST_Percentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1240 Part 1 Section 20.1.2.3.28, satOff (Saturation Offset)

For additional notes that apply to this portion of the standard, please see the notes for blue, §20.1.2.3.4(a)*.*

a. *The standard states that element satOff shifts the input color's saturation while leaving hue and luminance unchanged.*

This element is not supported by Office and may produce unexpected color.

b. *The standard states that ST_Percentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1241 Part 1 Section 20.1.2.3.31, shade (Shade)

For additional notes that apply to this portion of the standard, please see the notes for alpha, §20.1.2.3.1(a)*.*

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

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2.1.1242 Part 1 Section 20.1.2.3.33, sysClr (System Color)

a. *The standard does not fully describe the lastClr attribute.*

In Office, lastClr is an optional attribute that stores the RGB value of the last sysClr used.

2.1.1243 Part 1 Section 20.1.2.3.34, tint (Tint)

For additional notes that apply to this portion of the standard, please see the notes for alpha, §20.1.2.3.1(a).

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1244 Part 1 Section 20.1.3.2, audioFile (Audio from File)

a. *The standard specifies the optional contentType attribute for videoFile element.*

Office ignores the optional contentType attribute and does not round trip the attribute on saving a file that contains the attribute at load time.

2.1.1245 Part 1 Section 20.1.3.3, end (Audio End Time)

a. *The standard uses common attribute descriptions for 'time' and 'track' that are shared by both 'st' and 'end' elements.*

In Office, the time attribute specifies the time in seconds that the CD audio should be started on at or stopped at while the track attribute specifies the track of the CD the audio will begin on or stop at.

2.1.1246 Part 1 Section 20.1.3.5, st (Audio Start Time)

For additional notes that apply to this portion of the standard, please see the notes for end, §20.1.3.3(a).

2.1.1247 Part 1 Section 20.1.3.6, videoFile (Video from File)

a. *The standard specifies the optional contentType attribute for videoFile element.*

Office ignores the optional contentType attribute and does not round trip the attribute on saving a file that contains the attribute at load time.

2.1.1248 Part 1 Section 20.1.4.1.1, accent1 (Accent 1)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1249 Part 1 Section 20.1.4.1.2, accent2 (Accent 2)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

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Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1250 Part 1 Section 20.1.4.1.3, accent3 (Accent 3)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1251 Part 1 Section 20.1.4.1.4, accent4 (Accent 4)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1252 Part 1 Section 20.1.4.1.5, accent5 (Accent 5)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1253 Part 1 Section 20.1.4.1.6, accent6 (Accent 6)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1254 Part 1 Section 20.1.4.1.9, dk1 (Dark 1)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1255 Part 1 Section 20.1.4.1.10, dk2 (Dark 2)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1256 Part 1 Section 20.1.4.1.15, folHlink (Followed Hyperlink)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1257 Part 1 Section 20.1.4.1.17, fontRef (Font Reference)

a. *The standard does not state how to handle an undefined theme.*

Excel uses a default value of minor for the idx attribute on this element and a default value of tx1 for the val attribute on the schemeClr element when a theme is not provided.

2.1.1258 Part 1 Section 20.1.4.1.19, hlink (Hyperlink)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

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2.1.1259 Part 1 Section 20.1.4.1.22, lt1 (Light 1)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1260 Part 1 Section 20.1.4.1.23, lt2 (Light 2)

a. *The standard allows the element schemeClr as a child of the parent element clrScheme.*

Office does not allow schemeClr as a child of the parent element clrScheme.

2.1.1261 Part 1 Section 20.1.4.2.2, band1V (Band 1 Vertical)

a. *The standard states that the band1V element applies to rows.*

Office applies this element to columns.

2.1.1262 Part 1 Section 20.1.4.2.4, band2V (Band 2 Vertical)

a. *The standard states that the band2V element applies to rows.*

Office applies this element to columns.

2.1.1263 Part 1 Section 20.1.4.2.9, fill (Fill)

a. *The standard states that the fill element defines the fill that is applied to the table as a whole.*

Office uses this element to affect the table as a whole only if parented by tblBg.

b. *The standard allows group fills to be applied to a table.*

Office does not apply group fills to tables but instead uses a white background.

2.1.1264 Part 1 Section 20.1.4.2.19, lnRef (Line Reference)

a. *The standard states that the idx attribute of the lnRef element references the index of a line style within the fillStyleLst element.*

In Office, the idx attribute of this element references the index of a line style within the lnStyleList element.

2.1.1265 Part 1 Section 20.1.4.2.26, tblStyle (Table Style)

a. *The standard states that the tblStyle element specifies the formatting for the table.*

There is a well defined order to the table part styles that are applied because a cell can belong to many cell part styles (for example, the top left cell is part of the first column as well as the first row). Table part styles are applied in the following order:

1. Apply whole table part
2. Apply odd banded row cells
3. Apply even banded row cells
4. Apply odd banded column cells
5. Apply even banded column cells
6. Apply right column cells
7. Apply left column cells

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8. Apply bottom row cells
9. Apply bottom right cell
10. Apply bottom left cell
11. Apply top row cells
12. Apply top right cell
13. Apply top left cell

2.1.1266 Part 1 Section 20.1.5.1, anchor (Anchor Point)

a. *The standard implies that the anchor element anchors the backdrop plane.*

This element specifies a point in 3D space that is the offset to the origin of the backdrop plane. By moving this anchor point, the image of shadows, glows, and reflections can be moved and can be rotated from its default position on a plane parallel to the x-y plane to any location and orientation in 3D space, providing it remains viewable in the viewing frustum of the scene camera.

2.1.1267 Part 1 Section 20.1.5.2, backdrop (Backdrop Plane)

a. *The standard allows the up and normal vectors to be collinear.*

Office requires that the up and normal vectors not be collinear.

2.1.1268 Part 1 Section 20.1.5.3, bevelB (Bottom Bevel)

a. *The standard does not specify a reference plane for height measurement.*

Office measures the height from the bottom face of the shape; if the shape has an extrusion height, the bevel height is measured from the base of the extrusion.

2.1.1269 Part 1 Section 20.1.5.4, bevelT (Top Bevel)

a. *The standard does not specify a reference plane for height measurement.*

Office measures the height from the top face of the shape; if the shape has an extrusion height, the bevel height is measured from the top of the extrusion.

2.1.1270 Part 1 Section 20.1.5.5, camera (Camera)

a. *The standard allows the fov attribute to be used with all camera types.*

In Office, the fov attribute is ignored for non-perspective camera types.

2.1.1271 Part 1 Section 20.1.5.6, contourClr (Contour Color)

a. *The standard allows contour width to be zero.*

In Office, if the contour width is zero, the color specified by this element is ignored.

b. *The standard does not describe the interaction between contours and extrusions.*

In Office, the contour of a shape is a solid filled line which surrounds the outer edges of the shape, and the outline edges of the extrusion.

2.1.1272 Part 1 Section 20.1.5.7, extrusionClr (Extrusion Color)

a. *The standard does not clarify default behavior for the extrusionClr element.*

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In Office, if extrusion color is not specified, the front face color will be used as the extrusion color. If the extrusion height is zero, this element is ignored.

2.1.1273 Part 1 Section 20.1.5.8, flatTx (No text in 3D scene)

a. *The standard states that the flatTx element specifies the Z coordinate to be used in positioning the flat text within the 3D scene.*

In Office, this element is used only when the text or shape is part of a 3D rotated group.

b. *The standard states that the flatTx element is used to keep text out of a 3D scene.*

In Office, the text will not be subjected to the 3D camera rotation, but will instead remain in a plane orthogonal to the viewing direction.

2.1.1274 Part 1 Section 20.1.5.9, lightRig (Light Rig)

a. *The standard states that the lightRig element defines the light rig associated with a table.*

In Office and the schema, the lightRig element is used to specify the lighting for any 3D scene.

b. *The standard does not describe any interplay between attribute dir and child element rot.*

In Office, if the child element rot is specified, it will override the dir attribute of this element.

c. *The standard does not provide preset values for lightRig variables.*

The following table lists the preset variables for lightRig. To transform the values to a 3D-scene coordinate system, rotate each vector by multiplying the light direction by 90 degrees, which can be accomplished with the matrix:

$$\begin{bmatrix} 0 & -1 & 0 \\ -1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

Name	Ambient color (RGBA)	Light Colors (RGBA)	Light Directions (XYZ)	Scale	Offset	Specular	Diffuse
ThreePoint	None	(1.141, 1.141, 1.141, 1.0) (0.500, 0.500, 0.500, 1.0) (1.000, 1.000, 1.000, 1.0)	(-0.6515, -0.2693, -0.7093) (0.8482, 0.2469, -0.4686) (0.5634, -0.2812, 0.7769)	1.0 1.0 1.0	0.0 0.0 0.0	Yes Yes Yes	Yes Yes Yes
Balanced	(0.130, 0.130, 0.130, 1.0)	(1.050, 1.050, 1.050, 1.0) (1.000, 1.000, 1.000, 1.0) (0.500, 0.500, 0.500, 1.0)	(0.5263, -0.4092, -0.7453) (-0.9386, 0.3426, -0.0410) (0.0934, 0.7630, 0.6396)	1.0 1.0 1.0	0.0 0.0 0.0	Yes Yes Yes	Yes Yes Yes
Soft	(0.300, 0.300, 0.300, 1.0)	(0.800, 0.800, 0.800 1.0)	(-0.6897, 0.2484 -0.6802)	0.5	0.5	Yes	Yes

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Name	Ambient color (RGBA)	Light Colors (RGBA)	Light Directions (XYZ)	Scale	Offset	Specular	Diffuse
Harsh	(0.280, 0.280, 0.280, 1.0)	(0.880, 0.880, 0.880, 1.0) (0.880, 0.880, 0.880, 1.0)	(0.6689, -0.6755, -0.3104) (-0.5920, -0.7371, -0.3260)	1.0 1.0	0.0 0.0	Yes Yes	Yes Yes
Flood	(0.130, 0.130, 0.130, 1.0)	(1.100, 1.100, 1.100, 1.0) (1.100, 1.100, 1.100, 1.0) (0.550, 0.550, 0.550, 1.0)	(0.5685, -0.7651, -0.3022) (-0.2366, -0.9595, -0.1531) (-0.8982, 0.1386, -0.4171)	1.0 1.0 1.0	0.0 0.0 0.0	Yes Yes Yes	Yes Yes Yes
Contrasting	(1.000, 1.000, 1.000, 1.0)	(1.000, 1.000, 1.000, 1.0) (1.000, 1.000, 1.000, 1.0)	(0.0000, -1.0000, 0.0000) (0.0000, 1.0000, 0.0000)	1.0 1.0	0.0 0.0	Yes Yes	No No
Morning	None	(0.669, 0.648, 0.596, 1.0) (0.459, 0.454, 0.385, 1.0) (0.900, 0.860, 0.830, 1.0) (0.911, 0.846, 0.728, 1.0)	(0.6574, -0.7316, -0.1806) (-0.2781, -0.4509, -0.8482) (0.6720, -0.6185, -0.4073) (-0.1825, 0.9680, 0.1722)	1.0 1.0 1.0 1.0	0.0 0.0 0.0 0.0	Yes No No Yes	Yes Yes Yes Yes
Sunrise	None	(0.667, 0.630, 0.527, 1.0) (0.459, 0.459, 0.371, 1.0) (0.826, 0.712, 0.638, 1.0) (1.511, 1.319, 0.994, 1.0)	(0.6574, -0.7316, -0.1806) (-0.2781, -0.4509, -0.8482) (0.6720, -0.6185, -0.4073) (-0.1825, 0.9680, 0.1722)	1.0 1.0 1.0 1.0	0.0 0.0 0.0 0.0	Yes No No No	Yes Yes Yes Yes
Sunset	None	(0.672, 0.169, 0.169, 1.0) (0.459, 0.448, 0.327, 1.0) (0.775, 0.612, 0.502, 1.0)	(0.6574, -0.7316, -0.1806) (0.0922, -0.3551, -0.9303) (0.6720, -0.6185, -0.4073) (-0.4240, 0.8891, 0.1722)	1.0 1.0 1.0 1.0	0.0 0.0 0.0 0.0	Yes No No No	Yes Yes Yes Yes

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Name	Ambient color (RGBA)	Light Colors (RGBA)	Light Directions (XYZ)	Scale	Offset	Specular	Diffuse
		(0.761, 0.690, 0.397, 1.0)					
Chilly	(0.110, 0.110, 0.110, 1.0)	(0.310, 0.320, 0.320, 1.0) (0.450, 0.450, 0.450, 1.0) (1.030, 1.020, 1.150, 1.0) (0.410, 0.450, 0.480, 1.0)	(0.6574, -0.7316, -0.1806) (-0.3539, -0.1505, -0.9231) (0.6720, -0.6185, -0.4073) (-0.5781, 0.7976, 0.1722)	1.0 1.0 1.0 1.0	0.0 0.0 0.0 0.0	Yes No No Yes	Yes Yes Yes Yes
Freezing	None	(0.530, 0.567, 0.661, 1.0) (0.370, 0.461, 0.461, 1.0) (0.649, 0.638, 0.904, 1.0) (0.971, 1.190, 1.363, 1.0)	(0.6574, -0.7316, -0.1806) (-0.2781, -0.4509, -0.8482) (0.6720, -0.6185, -0.4073) (-0.1825, 0.9680, 0.1722)	1.0 1.0 1.0 1.0	0.0 0.0 0.0 0.0	Yes No No Yes	Yes Yes Yes Yes
Flat	(1.000, 1.000, 1.000, 1.0)	(0.821, 0.821, 0.821, 1.0) (2.072, 2.540, 2.910, 1.0) (3.843, 3.843, 3.843, 1.0)	(-0.9546, -0.1619, -0.2502) (0.0009, 0.8605, 0.5095) (0.6574, -0.7316, -0.1806)	1.0 1.0 1.0	0.0 0.0 0.0	Yes Yes Yes	No No No
TwoPoint	(0.250, 0.250, 0.250, 1.0)	(0.840, 0.840, 0.840, 1.0) (0.300, 0.300, 0.300, 1.0)	(0.5266, -0.4089, -0.7454) (-0.8983, 0.2365, -0.3704)	1.0 1.0	0.0 0.0	Yes Yes	Yes Yes
Glow	(1.000, 1.000, 1.000, 1.0)	(1.000, 1.000, 1.000, 1.0) (0.700, 0.700, 0.700, 1.0)	(0.0000, -1.0000, 0.0000) (0.0000, 1.0000, 0.0000)	1.0 1.0	0.0 0.0	Yes Yes	Yes Yes
BrightRoom	(1.500, 1.500, 1.500, 1.0)	(1.000, 1.000, 1.000, 1.0) (1.000, 1.000, 1.000, 1.0)	(0.0000, -1.0000, 0.0000) (0.8227, -0.1882, -0.5364) (0.0000, 0.0000, -1.0000)	1.0 1.0 1.0 1.0	0.0 0.0 0.0 0.0	No Yes No No	Yes No Yes Yes

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Name	Ambient color (RGBA)	Light Colors (RGBA)	Light Directions (XYZ)	Scale	Offset	Specular	Diffuse
		(-0.500, -0.500, -0.500, 1.0) (0.500, 0.500, 0.500, 1.0)	(0.0000, 1.0000, 0.0000)				

2.1.1275 Part 1 Section 20.1.5.10, norm (Normal)

a. *The standard accepts any vector for the backdrop plane normal vector.*

Office requires that the normal vector be nonzero in length.

2.1.1276 Part 1 Section 20.1.5.12, sp3d (Apply 3D shape properties)

a. *The standard does not describe default behavior when contourClr and extrusionClr child elements are unspecified.*

In Office, child element contourClr defaults to black and child element extrusionClr defaults to the front face color.

b. *The standard does not describe default behavior when contour width is zero.*

In Office, if the contour width is zero, then no contour is presumed and contour color is ignored.

2.1.1277 Part 1 Section 20.1.5.13, up (Up Vector)

a. *The standard accepts any vector for backdrop plane up vector.*

Office requires that the up vector be nonzero in length.

2.1.1278 Part 1 Section 20.1.7.1, chExt (Child Extents)

For additional notes that apply to this portion of the standard, please see the notes for ext, §21.3.2.10(a).

a. *The standard states that the child extents defined by the chExt element are used for calculations of grouping, scaling and rotating.*

In Office, this element additionally defines the group scaling factor which is the ratio of the extents to child extents when the size of the child extents is nonzero. If the size of the child extents is zero or omitted, there is no group scaling.

2.1.1279 Part 1 Section 20.1.7.2, chOff (Child Offset)

a. *The standard states that the child offset defined by the chOff element specifies the location of the child extents rectangle, which is used for calculations of grouping, scaling and rotating.*

In Office, the child extents and offset are used to determine the center for scaling, rotation and flipping.

b. *The standard states that the y attribute specifies a coordinate on the x-axis.*

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In Office, the y attribute specifies a coordinate on the y-axis.

2.1.1280 Part 1 Section 20.1.7.3, ext (Extents)

For additional notes that apply to this portion of the standard, please see the notes for ext, §21.3.2.10(a).

a. *The standard states that the ext element specifies the size of the bounding box enclosing the referenced object.*

In Office, the extents also determine the size and center of the object for most geometry definitions. If the geometry data is independent of these extents, they are only used to determine the center for rotation and flipping.

2.1.1281 Part 1 Section 20.1.7.4, off (Offset)

For additional notes that apply to this portion of the standard, please see the notes for chOff, §20.1.7.2(b).

a. *The standard states that the offset element specifies the location of the bounding box of an object.*

In Office, the offset element specifies the location of a bounding box of an object as defined by the ext element.

2.1.1282 Part 1 Section 20.1.7.5, xfrm (2D Transform for Grouped Objects)

a. *The standard states that the rot attribute specifies the clockwise rotation in 1/64000ths of a degree.*

In Office and the schema, the rot attribute specifies the clockwise rotation in 1/60000ths of a degree.

b. *The standard does not describe role of the child bounding box as defined by elements chExt and chOff.*

In Office, the child bounding box is the center for scaling, rotating and flipping. Additionally, if the child extents are nonzero, then a group scaling is applied equal to the ratio of the extents to the child extents.

2.1.1283 Part 1 Section 20.1.7.6, xfrm (2D Transform for Individual Objects)

a. *The standard states that the rot attribute specifies the rotation of a graphic frame.*

In Office, rot specifies the clockwise rotation of a shape.

b. *The standard allows attributes flipH, flipV and rot to be applied to a graphicFrame.*

In Office, attributes FlipH, flipV and rot are ignored when applied to a graphicFrame.

2.1.1284 Part 1 Section 20.1.8, Shape, Fills, Effects and Line Properties

a. *The standard supplies no default values for the optional attributes.*

Within this portion of the DrawingML framework, you will note that most attributes are denoted as optional, yet have no default explicitly called out in the XML schema fragment. The reason no default is specified for these attributes is that the default can come from any of three sources.

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In general, when an optional attribute is not specified, it will incorporate the corresponding attribute value from one of the following sources if available. Not all of these levels will be used in every scenario.

Style link

Master shape (PresentationML only)

DrawingML hard coded default

This inheritance is done in multiple passes. Each level will fill in gaps not specified by previous levels.

The following elements are subjected to resolution. Unless otherwise noted, at any level, the absence of an element type in the target indicates the element is to come from the inheritance chain. For example, if the target property set has no fill element, it will inherit al l the fill properties in the next level of inheritance that has fill properties. When the elements are merged, all unspecified attributes and children of the element, will come from the first inheritance source with one specified.

Where attributes and elements are merged, the values in parentheses are used as the base defaults, with any applicable footnote number in angle brackets:

Fill (noFill) <1>

noFill

solidFill (color = schemeColor (bg1))

gradFill (gsList(black, white), shade(lin), flip = none, rotWithShape = true)

gsList <2>

tileRect <3>

Shade (lin) <1>

lin (ang=0, scaled=false)

path (path=shape)

fillToRect (l,r,t,b=50%)

blipFill (dpi=0, rotWithShape=true)

blip (compression=none)

srcRect <1>

fillMode (tile) <1>

tile (algn=tl, flip=none, sx=100%, sy=100%, tx=0, ty=0)

stretch

fillRect <3>

pattFill (prst=pct5)

bgClr(white)

fgClr(black)

ln (w=.75pt, cap=flat, cmpd=sng, algn=ctr)

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fill(same as 1) <1>

dash (prstDash(solid))

custDash <2>

join (round)

miter(lim=800%)

headEnd (type=none, w=med, len=med)

tailEnd (type=none, w=med, len=med)

effect <2>

shape3D <2>

scene3D <2>

<1> Merging only occurs if elements are of the same type, or if element does not exist in the target property set.

<2> Merging only occurs as a whole. If the element does not exist, the secondary default is used in its entirety. Even a valid empty element will block the inheritance. For example, an empty effect list will not be merged with an inherited effect list.

<3> Simple type has schema defaults.

2.1.1285 Part 1 Section 20.1.8.4, alphaInv (Alpha Inverse Effect)

a. *The standard does not include information on the optional color element.*

In Office, other color channels are modified only if a color is specified. If a color is specified, all effect colors are replaced by the constant color value and the alpha values are inverted. If no color is specified, only the alpha values are modified and the other color channels are unchanged.

2.1.1286 Part 1 Section 20.1.8.5, alphaMod (Alpha Modulate Effect)

a. *The standard states that alpha is multiplied by a fixed percent.*

In Office, alpha is multiplied by the alpha of another effect.

2.1.1287 Part 1 Section 20.1.8.6, alphaModFix (Alpha Modulate Fixed Effect)

a. *The standard specifies that the alphaModFix value is clamped, so any value greater than 100 percent is interpreted as 100 percent, and any value less than 0 percent is interpreted as 0 percent.*

Office modulates the alphaModFix value, so the value is interpreted as value modulo 100.

2.1.1288 Part 1 Section 20.1.8.14, blipFill (Picture Fill)

For additional notes that apply to this portion of the standard, please see the notes for blipFill, §21.3.2.2(a).

a. *The standard states that the attribute blipFill specifies the picture fill for pic object.*

In Office, the attribute blipFill specifies the image fill for an object.

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2.1.1289 Part 1 Section 20.1.8.15, blur (Blur Effect)

a. *The standard states that if attribute grow is true, blur may extend beyond object bounds.*

In Office, if blur is applied to blip in a blipFill, fill constraints will keep the blur from extending beyond object bounds.

b. *The standard states that attribute rad will specify radius of blur.*

Office interprets the radius of blur as destination pixels, rather than source pixels. For other effect contexts, it is device independent.

2.1.1290 Part 1 Section 20.1.8.16, clrChange (Color Change Effect)

a. *The standard states that attribute useA specifies whether alpha values are considered for the effect.*

In Office, if the value of useA is true, alpha is considered for finding a match for clrFrom, and the alpha is replaced with the alpha value in clrTo. If useA is false, no alpha values are changed.

2.1.1291 Part 1 Section 20.1.8.20, cont (Effect Container)

a. *The standard states that the name attribute specifies an optional name for this list of effects.*

In Office, the name attribute specifies an optional name for the container. This name can be used by an effect ("[ISO/IEC-29500-1] §20.1.8.24; effect") within the same top level container. The name must be unique throughout the top level effect container.

2.1.1292 Part 1 Section 20.1.8.22, ds (Dash Stop)

a. *The standard makes no restriction regarding the value of the dash length percentage.*

In Office, the dash length must be greater than zero.

b. *The standard makes no restriction regarding the value of the space length percentage.*

In Office, the space length percentage must be greater than zero.

2.1.1293 Part 1 Section 20.1.8.23, duotone (Duotone Effect)

a. *The standard states that colors are combined through linear interpolation.*

In Office, the interpolation is based on the luminance of the pixel.

2.1.1294 Part 1 Section 20.1.8.24, effect (Effect)

a. *The standard states that the value of the ref attribute may be the name of an effect container, or one of four special references.*

Office requires this to be the case.

2.1.1295 Part 1 Section 20.1.8.25, effectDag (Effect Container)

For additional notes that apply to this portion of the standard, please see the notes for cont, §20.1.8.20(a).

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a. *The standard allows the user to create contradictory shape properties by using similar tags under effectDag and spPr at the same time.*

In Office, the behavior is unspecified if effectDag is used in conjunction with the following sibling elements: blipFill, gradFill, grpFill, noFill, pattFill, solidFill, effectLst.

2.1.1296 Part 1 Section 20.1.8.31, fillToRect (Fill To Rectangle)

a. *The standard states that the center shade fills the entire tile except the margins specified by each attribute.*

In Office the center shade fills the entire gradient path inscribed in this rectangle.

b. *The standard states that the Rectangle is defined relative to the tile rect.*

In Office the rectangle is defined relative to shape bounding box.

2.1.1297 Part 1 Section 20.1.8.33, gradFill (Gradient Fill)

a. *The standard states that the flip (Tile flip) attribute specifies the direction(s) in which to flip the gradient while tiling.*

In Office the flip (Tile flip) attribute is ignored and flip mode xy is used.

b. *The standard states that a gradient fill encompasses the entire bounding box of the shape that contains the fill.*

In Office, a gradient fill encompasses a region larger than the bounding box of a shape when the shape contains arrowheads. The size of the region varies depending on the type of arrowhead.

Office uses different values to calculate the size of the region depending on the arrowhead. To calculate the size of the region, Office uses the radiusScale value from the table below for a given arrowhead. Office then updates the bounds of the connector to include a circle of the specified radius.

radius = lineWidth / 2 * radiusScale

bounds |= Rect(endPoint.x - radius, endPoint.y - radius, endPoint.x + radius, endPoint.y + radius)

none			
	small	medium	large
capWidth			
capLength			
radiusScale	1.0		

triangle			
	small	medium	large
capWidth	2.0	3.0	5.0
capLength	2.0	3.0	5.0
radiusScale	sqrt((capWidth / 2.0)^2 + capHeight^2) * 1.8		

stealth			
	small	medium	large
capWidth	1.0	1.5	2.5
capLength	2.0	3.0	5.0
radiusScale	sqrt(capWidth^2 + capHeight^2) * 1.8		

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diamond			
	small	medium	large
capWidth	1.0	1.5	2.5
capLength	1.0	1.5	2.5
radiusScale	max(capWidth, capHeight) * 2.0		

oval			
	small	medium	large
capWidth	2.0	3.0	5.0
capLength	2.0	3.0	5.0
radiusScale	max(capWidth, capHeight)		

arrow			
	small	medium	large
capWidth	2.5	3.5	5.0
capLength	2.0	3.0	4.5
capInset *	[0.94f, 1.30f, 1.87f]	[0.76f, 0.99f, 1.38f]	[0.64f, 0.78f, 1.03f]
radiusScale	sqrt((capWidth / 2)^2 + (capHeight + capInset)^2) + 4.6 * capInset		

*				
	Width			
Height		**Small**	**Medium**	**Large**
	Small	0.94	0.76	0.64
	Medium	1.30	0.99	0.78
	Large	1.87	1.38	1.03

2.1.1298 Part 1 Section 20.1.8.35, grpFill (Group Fill)

a. *The standard states the grpFill works in all context.*

Office treats the grpFill element as noFill ("[ISO/IEC-29500-1] §20.1.8.44; noFill") when grpFill appears in a text context (that is as a descendant of defRPr ("[ISO/IEC-29500-1] §21.1.2.3.2; defRPr"), endParaRPr ("[ISO/IEC-29500-1] §21.1.2.2.3; endParaRPr"), or rPr ("[ISO/IEC-29500-1] §21.1.2.3.9; rPr").

2.1.1299 Part 1 Section 20.1.8.39, hsl (Hue Saturation Luminance Effect)

a. *The standard states that the hue, saturation, and luminance may be adjusted relative to its current value.*

In Office the hsl element adjusts the value of the hue, saturation, and luminance attributes by specified amounts.

b. *The standard states that hue, lum and sat are adjusted by the given percentage.*

Office modulates hue, lum and sat by the given percentage.

2.1.1300 Part 1 Section 20.1.8.40, innerShdw (Inner Shadow Effect)

a. *The standard does not specify the frame of reference for the offset angle defined in the dir attribute.*

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In Office, the angle defined in the dir attribute is measured clockwise from the left.

2.1.1301 Part 1 Section 20.1.8.42, lum (Luminance Effect)

a. *The standard states that brightness linearly shifts all colors closer to white or black and contrast scales all colors to be either closer or further apart.*

In Office, brightness linearly shifts all colors closer to white (positive brightness), or black (negative brightness) and contrast scales all colors to be further apart (positive contrast), or closer together (negative contrast).

2.1.1302 Part 1 Section 20.1.8.43, miter (Miter Line Join)

a. *The standard suggests that without the lim attribute, line join can extend infinitely.*

In Office, the limit that lines will extend to form a miter join is the maximum distance between the inner and outer corners expressed as a percentage of line width.

2.1.1303 Part 1 Section 20.1.8.45, outerShdw (Outer Shadow Effect)

a. *The standard does not state that the behavior of the sx and sy attributes depends on the parent container of the effectLst element that contains the outerShdw element.*

If the parent element of the effectLst element that contains the outerShdw is an spPr element, the shadow will only be rendered if the sx and sy attribute values are 100%. To use any other value, the effectLst must be contained within a grpSpPr element.

2.1.1304 Part 1 Section 20.1.8.50, reflection (Reflection Effect)

a. *The standard states that the algn and dist attributes describe shadow properties.*

In Office, the algn and dist attributes describe reflection properties.

b. *In the standard the attribute dir specifies the direction of the alpha gradient ramp relative to the shape itself, and the attribute fadeDir specifies the direction to offset the reflection.*

In Office, the attribute fadeDir specifies the direction of the alpha gradient ramp relative to the shape itself, and attribute dir specifies the direction to offset the reflection.

2.1.1305 Part 1 Section 20.1.8.52, round (Round Line Join)

a. *The standard states that line joins will be round.*

In Office, the following preset shapes ("[ISO/IEC-29500-1] §20.1.10.55; ST_ShapeType (Preset Shape Types)") will use a mitered line join ("[ISO/IEC-29500-1] §20.1.8.43; miter (Miter Line Join)") even if round is specified:

cube, moon, chevron, ellipseRibbon, ellipseRibbon2, plus, rightArrow, stripedRightArrow, notchedRightArrow, leftArrowCallout, leftRightArrowCallout, upDownArrowCallout, quadArrowCallout, star4, star5, star8, star10, star12, star16, star24, star32, upArrow, downArrow, upDownArrow, leftUpArrow, bentUpArrow, mathPlus, mathMinus, mathMultiply, mathEqual, mathNotEqual

2.1.1306 Part 1 Section 20.1.8.53, softEdge (Soft Edge Effect)

a. *The standard states that the softEdge element specifies a soft edge effect where the edges of the shape are blurred while the fill is not affected.*

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In Office, this element specifies an inset radius for blur. Only the area between the shape boundary and the inset specified by the rad attribute is affected.

2.1.1307 Part 1 Section 20.1.8.55, srcRect (Source Rectangle)

a. *The standard states that a negative percentage specifies an outset.*

In Office, a negative offset specifies an outset only if the blip is not tiled.

2.1.1308 Part 1 Section 20.1.8.59, tileRect (Tile Rectangle)

a. *The standard states that the tileRect element applies to all gradient fills.*

In Office, if the gradient is used as a group fill, the tiling rectangle specified by this element is ignored.

2.1.1309 Part 1 Section 20.1.9.2, ahPolar (PolarAdjustHandle)

a. *The standard does not specify how a consumer should interpret the element, when present, if both related pairs of attributes (e.g. both @maxAng and @minAng) are omitted.*

Office will use a default value of zero if both attributes in a pair are omitted.

2.1.1310 Part 1 Section 20.1.9.3, ahXY (XYAdjustHandle)

a. *The standard does not specify how a consumer should interpret the element, when present, if both related pairs of attributes (e.g. both @maxX and @minX) are omitted.*

Office will use a default value of zero if both attributes in a pair are omitted.

2.1.1311 Part 1 Section 20.1.9.11, gd (Shape Guide)

a. *The standard uses incorrect terms and symbols to describe shape guide formula mod in the fmla attribute.*

In Office, mod x y z equals sqrt(x^2 + y^2 + z^2).

b. *The standard defines sqrt x = sqrt(x) in the fmla attribute.*

In Office, sqrt x = sqrt(abs(x)).

c. *The standard does not specify the unit of measurement implied when a trigonometric formula is used in the fmla attribute.*

In PowerPoint when a trigonometric formula is specified in the fmla attribute, the angle is measured in 60000ths of a degree.

d. *The standard defines at2 x y = arctan(y/x) in the fmla attribute.*

In PowerPoint at2 x y is treated as atan2(y,x) in the fmla attribute. When y == 0 and x == 0, Powerpoint returns 0.

2.1.1312 Part 1 Section 20.1.9.15, path (Shape Path)

a. *The standard states that if the extrusionOk attribute is omitted then a value of 0, or false, is assumed.*

In Office and the schema, if the extrusionOk attribute is omitted then a value of true is assumed.

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2.1.1313 Part 1 Section 20.1.9.17, pos (Shape Position Coordinate)

a. *The standard defines x and y coordinates as path relative coordinates.*

Office defines x and y coordinates as absolute EMU coordinates.

2.1.1314 Part 1 Section 20.1.9.20, pt (Shape Path Point)

For additional notes that apply to this portion of the standard, please see the notes for pos, §20.1.9.17(a).

2.1.1315 Part 1 Section 20.1.9.22, Rect (Shape Text Rectangle)

The 2D Transform ("[ISO/IEC-29500-1] §20.4.2.43; xfrm") modifies Shape Text Rectangle and is required in order to calculate the correct value. Office will ignore the value of Shape Text Rectangle if the 2D Transform is omitted.

2.1.1316 Part 1 Section 20.1.10.9, ST_BevelPresetType (Bevel Presets)

a. *The standard contains a table with examples of the enumeration values, but the examples do not describe how the bevels are defined.*

Office defines each bevel as 2D curves in a square unit space ({0, 0} to {1, 1}). Unlike a real-world bevel which cuts away from a surface, these conceptually extend a flat face perpendicular to that face.

The schema also has bevel width and bevel height attributes. The point (0,0) in this "bevel space" is at the outer edge of the face, the x-coordinate moves away from the face (along the "bevel height"), while the y-coordinate moves inwards towards the interior of the face (along the "bevel width"). The two dimensions in the bevel space are also treated differently in that Office stretches the x-axis to fully fill the bevel height.

[Example:

Bevel type "cross" ends with x == 0.6, but the geometry created is as tall as with bevel type "angle" which ends at x == 1.0. But for the y-axis Office scales the bevel from {0..1} to {0..bevelWidth}, so that a bevel ending with a point at y < 1 will not move as deeply towards the interior of the shape.

end example]

Below is pseudocode to assemble geometry for each of the bevel types.

```
angle:
   BeginFigure( { 0, 0 } );
   LineTo( { 1, 1 } );

artDeco:
   BeginFigure( { 0, 0 } );
   BezierTo( { 0.000000, 0.184095 }, { 0.149238, 0.333333 }, { 0.333333, 0.333333 } );
   BezierTo( { 0.333333, 0.701523 }, { 0.631810, 1.000000 }, { 1.000000, 1.000000 } );

circle:
   BeginFigure( { 0, 0 } );
   BezierTo( { 0.00000, 0.55627 }, { 0.44373, 1.00000 }, { 1.00000, 1.00000 } );

convex:
   BeginFigure( { 0, 0 } );
   BezierTo( { 0.0000000, 0.070820 }, { 0.0297458, 0.100000 }, { 0.1014160, 0.100000 } );
   BezierTo( { 0.5014160, 0.100000 }, { 0.9000000, 0.700000 }, { 0.9014160, 0.899999 } );
```


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```
      BezierTo( { 0.9000000, 0.971670 }, { 0.9334300, 1.000000 }, { 1.0000000, 1.000000 } );

   coolSlant:
      BeginFigure( { 0, 0 } );
      BezierTo( { 0.000000, 0.138122 }, { 0.000000, 0.200000 }, { 0.271356, 0.775535 } );
      BezierTo( { 0.377654, 1.000000 }, { 0.519455, 1.000000 }, { 0.583589, 1.000000 } );

   cross:
      BeginFigure( { 0, 0 } );
      BezierTo( { 0.00000, 0.05563 }, { 0.04437, 0.10000 }, { 0.10000, 0.10000 } );
      LineTo( { 0.40000, 0.10000 } );
      BezierTo( { 0.45563, 0.10000 }, { 0.50000, 0.14437 }, { 0.50000, 0.20000 } );
      LineTo( { 0.50000, 0.90000 } );
      BezierTo( { 0.50000, 0.95563 }, { 0.54437, 1.00000 }, { 0.60000, 1.00000 } );


   divot:
      BeginFigure( { 0, 0 } );
      BezierTo( { 0.000000, 0.236604 }, { 0.119276, 0.607024 }, { 0.263046, 0.760235 } );
      BezierTo( { 0.361098, 0.864726 }, { 0.457934, 0.909567 }, { 0.537806, 0.925082 } );
      BezierTo( { 0.559245, 0.929246 }, { 0.567625, 0.897930 }, { 0.542066, 0.845567 } );
      BezierTo( { 0.484073, 0.726757 }, { 0.477103, 0.393693 }, { 0.551651, 0.393693 } );
      LineTo( { 0.899894, 0.393693 } );
      BezierTo( { 0.991480, 0.393693 }, { 0.958466, 0.746659 }, { 0.907348, 0.779629 } );
      LineTo( { 0.879394, 0.797658 } );
      BezierTo( { 0.845545, 0.819489 }, { 0.848775, 0.954172 }, { 0.874334, 0.971627 } );
      QuadraticBezierTo( { 0.915883, 1.000000 }, { 1.000000, 1.000000 } );

   hardEdge:
      BeginFigure( { 0, 0 } );
      QuadraticBezierTo( { 0.000000, 0.092437 }, { 0.042353, 0.305322 } );
      LineTo( { 0.170124, 0.947558 } );
      BezierTo( { 0.177203, 0.983142 }, { 0.200000, 1.000000 }, { 0.268235, 0.998599 } );
      LineTo( { 0.614118, 0.998599 } );
      BezierTo( { 0.647059, 0.998599 }, { 0.656471, 0.987395 }, { 0.663529, 0.969188 } );
      BezierTo( { 0.687006, 0.908633 }, { 0.802353, 0.822129 }, { 1.000000, 0.822129 } );

   relaxedInset:
      BeginFigure( { 0, 0 } );
      BezierTo( { 0.000000, 0.367 }, { 0.124605, 0.820 }, { 0.507899, 1.000 } );
      BezierTo( { 0.724115, 0.737 }, { 0.790455, 0.640 }, { 1.000000, 0.640 } );

   riblet:

      BeginFigure( { 0, 0 } );
      BezierTo( { 0.000000, 0.238519 }, { 0.132047, 0.500741 }, { 0.357567, 0.731852 } );
      BezierTo( { 0.513167, 0.891311 }, { 0.563798, 0.912593 }, { 0.735905, 0.912593 } );
      LineTo( { 0.873887, 0.912593 } );
      BezierTo( { 0.956973, 0.912593 }, { 0.878338, 1.000000 }, { 1.000000, 1.000000 } );

   slope:
      BeginFigure( { 0, 0 } );
      QuadraticBezierTo( { 0.00000, 0.12500 }, { 0.02500, 0.25000 } );
      LineTo( { 0.12500, 0.75000 } );
      BezierTo( { 0.17500, 1.00000 }, { 0.25000, 1.00000 }, { 0.37500, 1.00000 } );
      LineTo( { 0.50000, 1.00000 } );
      BezierTo( { 0.62500, 1.00000 }, { 0.70000, 1.00000 }, { 0.75000, 0.75000 } );
      LineTo( { 0.87500, 0.12500 } );
      BezierTo( { 0.90000, 0.01000 }, { 0.98000, 0.01000 }, { 1.00000, 0.01000 } );

   softRound:
      BeginFigure( { 0, 0 } );
      BezierTo( { 0.0000000, 0.47750 }, { 0.0968736, 1.00000 }, { 0.1563010, 1.00000 } );
      BezierTo( { 0.2641790, 1.00000 }, { 0.3769190, 0.33333 }, { 1.0000000, 0.33333 } );
```


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2.1.1317 Part 1 Section 20.1.10.12, ST_BlipCompression (Blip Compression Type)

a. *The standard states that ST_BlipCompression includes a high quality printing compression type (hqprint).*

Office does not implement High Quality Printing Compression mode (hqprint).

2.1.1318 Part 1 Section 20.1.10.15, ST_CompoundLine (Compound Line Type)

a. *The standard implies that the ST_CompoundLine simple type is only applicable to text with lines.*

Office also uses this simple type for text outlines, text underlines and shape outlines.

2.1.1319 Part 1 Section 20.1.10.16, ST_Coordinate (Coordinate)

a. *The standard states that the contents of the ST_Coordinate simple type can be at least -27273042329600 and at most 27273042316900.*

Word and PowerPoint restrict the contents of this simple type to be at least -2147483648 and at most 2147483647.

b. *The standard states that ST_Coordinate is read and written as either a length followed by a unit, or EMUs with no unit present.*

Office will read either a length followed by a unit or EMUs with no unit present, but will write only EMUs when no units are present.

2.1.1320 Part 1 Section 20.1.10.17, ST_Coordinate32 (Coordinate Point)

a. *The standard states that ST_Coordinate32 is read and written as either a length followed by a unit, or EMUs with no unit present.*

Office will read either a length followed by a unit or EMUs with no unit present, but will write only EMUs when no units are present.

2.1.1321 Part 1 Section 20.1.10.21, ST_DrawingElementId (Drawing Element ID)

a. *The standard specifies that the ST_DrawingElementId type is an unsigned 32-bit integer.*

Office treats the ST_DrawingElementId type as a signed 32-bit integer.

2.1.1322 Part 1 Section 20.1.10.24, ST_FixedPercentage (Fixed Percentage)

a. *The standard states that ST_FixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read percentages formatted with a trailing percent sign or formatted as 1000th of a percent without a trailing percent sign, but only write percentages as 1000th's of a percent without a trailing percent sign.

2.1.1323 Part 1 Section 20.1.10.29, ST_LightRigDirection (Light Rig Direction)

a. *The standard states that the informative images in this enumeration use a Three Point light rig type with an orthographicFront camera preset.*

In Office, the informative images in this enumeration use a flood light rig type with a perspectiveContrastingRightFacing camera preset.

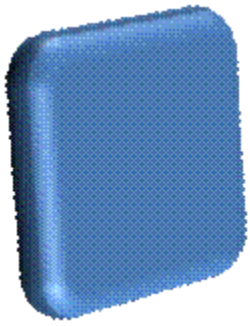
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2.1.1324 Part 1 Section 20.1.10.30, ST_LightRigType (Light Rig Type)

a. *The standard does not contain an informative example for the balanced value.*

In Office, the balanced enumeration value produces the following result:

[Example: Consider the following example of the `balanced` light rig applied to a basic shape:



end example]

In Office, the enumeration definitions for legacy lights are in the following table.

All Key lights make a specular and diffuse contribution, and all Fill lights make a diffuse contribution but no specular contribution.

	KeyLightDirection	FillLightDirection
Legacy*1	(0.0f, 0.0f, -0.2f)	(0.0f, 0.0f, -0.2f)
Legacy*2	(-1.0f, -1.0f, -0.2f)	(0.0f, 1.0f, -0.2f)
Legacy*3	(0.0f, -1.0f, -0.2f)	(0.0f, 1.0f, -0.2f)
Legacy*4	(1.0f, -1.0f, -0.2f)	(0.0f, 1.0f, -0.2f)

	KeyLightColor	FillLightColor	AmbientLightColor	KeyLightScale	KeyLightOffset	FillLightScale	FillLightOffset
LegacyFlat*	(0.580f, 0.580f, 0.580f, 1.0f)	(0.580f, 0.580f, 0.580f, 1.0f)	(0.305f, 0.305f, 0.305f, 1.0f)	1.0	0.0	0.5	0.5
LegacyNormal*	(0.671f, 0.671f, 0.671f, 1.0f)	(0.366f, 0.366f, 0.366f, 1.0f)	(0.153f, 0.153f, 0.153f, 1.0f)	1.0	0.0	0.5	0.5
LegacyHarsh*	(0.793f, 0.793f, 0.793f, 1.0f)	(0.214f, 0.214f, 0.214f, 1.0f)	(0.061f, 0.061f, 0.061f, 1.0f)	1.0	0.0	1.0	0.0

2.1.1325 Part 1 Section 20.1.10.32, ST_LineEndLength (Line End Length)

a. *The standard provides identical pictures for the images associated with the med and sm enumeration values.*

In Office, the enumeration values produce the following results for the line end decoration:

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Enumeration Value	Description
lg (Large)	 Large
med (Medium)	 Medium
sm (Small)	 Small

2.1.1326 Part 1 Section 20.1.10.35, ST_LineWidth (Line Width)

a. *The standard does not explain how a zero-width line will be rendered.*

In Office, a zero width line is interpreted as the minimum width line that can be rendered on the target device.

2.1.1327 Part 1 Section 20.1.10.37, ST_PathFillMode (Path Fill Mode)

a. *The standard does not describe how the darken, darkenLess, lighten and lightenLess enumerations are calculated.*

Office implements a specific set of calculations for the darken, darkenLess, lighten and lightenLess enumeration values, as described in the following table:

Enumeration Value	Description
darken (Darken Path Fill)	This specifies that the corresponding path should have its fill blended with 40% black.
darkenLess (Darken Path Fill Less)	This specifies that the corresponding path should have its fill blended with 20% black. darkenLess does not use a scale factor of exactly 0.2. It uses 50/255 or approximately 0.1960.
lighten (Lighten Path Fill)	This specifies that the corresponding path should have its fill blended with 40% white.
lightenLess (Lighten Path Fill Less)	This specifies that the corresponding path should have its fill blended with 20% white. lightenLess does not use a scale factor of exactly 0.2. It uses 50/255 or approximately 0.1960.

2.1.1328 Part 1 Section 20.1.10.39, ST_PenAlignment (Alignment Type)

a. *The standard implies that the ST_PenAlignment simple type is only used within a text body.*

Office uses this simple type for lines on text, shapes, and other graphical objects.

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2.1.1329 Part 1 Section 20.1.10.40, ST_Percentage (Percentage)

a. *The standard states that ST_Percentage is read and written as a percent with a trailing percent sign.*

Office will read percentages formatted with a trailing percent sign or formatted as 1000th of a percent without a trailing percent sign, but only write percentages as 1000th's of a percent without a trailing percent sign.

2.1.1330 Part 1 Section 20.1.10.42, ST_PositiveCoordinate (Positive Coordinate)

a. *The standard states that the contents of the ST_PositiveCoordinate simple type can be at most 27273042316900.*

Word and PowerPoint restrict the contents of this simple type to be at most 2147483647.

2.1.1331 Part 1 Section 20.1.10.45 ST_PositiveFixedPercentage (Positive Fixed Percentage)

a. *The standard states that ST_PositiveFixedPercentage is read and written as a percent with a trailing percent sign.*

Office will read percentages formatted with a trailing percent sign or formatted as 1000th of a percent without a trailing percent sign, but only write percentages as 1000th's of a percent without a trailing percent sign.

2.1.1332 Part 1 Section 20.1.10.46, ST_PositivePercentage (Positive Percentage)

a. *The standard states that ST_PositivePercentage is read and written as a percent with a trailing percent sign.*

Office will read percentages formatted with a trailing percent sign or formatted as 1000th of a percent without a trailing percent sign, but only write percentages as 1000th's of a percent without a trailing percent sign.

2.1.1333 Part 1 Section 20.1.10.48, ST_PresetColorVal (Preset Color Value)

a. *The standard specifies RGB values for each value in the enum.*

Office also supports a value of "transparent" interpreted as RGB value (255,255,255). The value "transparent" will be persisted by Office if it appears in a file.

2.1.1334 Part 1 Section 20.1.10.50, ST_PresetMaterialType (Preset Material Type)

a. *The standard indicates the legacyMatte enumeration value has a Diffuse Fresnel value of -4.*

In Office, the legacyMatte enumeration value has a Diffuse Fresnel value of 0.

b. Office defines the enumeration values listed in the standard in the following *manner:*

Enumeration Value	Specular Color	Diffuse Color	Ambient Color	Emissive Color	Specular Power	Blinn Highlight	Diffuse Fresnel	Alpha Fresnel	Metal
legacyMatte (Legacy Matte)	Black	Shape	Shape	Black	0	Yes	0	0	No

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Enumeration Value	Specular Color	Diffuse Color	Ambient Color	Emissive Color	Specular Power	Blinn Highlight	Diffuse Fresnel	Alpha Fresnel	Metal
legacyPlastic (Legacy Plastic)	White	Shape	Shape	Black	32	Yes	0	0	No
legacyMetal (Legacy Metal)	Shape	Lerp(Shape, Black, 1.0f / 3.0f)	Lerp(Shape, Black, 1.0f / 3.0f)	Black	32	Yes	0	0	Yes
matte (Matte)	Black	Shape	Shape	Black	0	No	0	0	No
plastic (Plastic)	(0.6f, 0.6f, 0.6f, 1.0f)	Shape	Shape	Black	12	No	0	0	No
metal (Metal)	Brighten(Lerp(Shape, White, 0.2f), 1.4f)	Shape	Shape	Black	12	No	4	0	Yes
warmMatte (Warm Matte)	(0.3f, 0.3f, 0.3f, 1.0f)	Shape	Shape	Black	8	No	0	0	No
translucentPowder (Translucent Powder)	(0.3f, 0.3f, 0.3f, 1.0f)	(Shape.rgb, 0.7f)	(Shape.rgb, 0.7f)	Black	10	Yes	2	-1	No
powder (Powder)	(0.3f, 0.3f, 0.3f, 1.0f)	Lerp(Shape-color, White, 0.5f)	Lerp(Shape-color, White, 0.5f)	Black	10	Yes	2	0	No
dkEdge (Dark Edge)	White	Shape	Shape	Black	35	No	-2	0	No
softEdge (Soft Edge)	White	Shape	Shape	Black	35	No	4	-10	No
clear (Clear)	(0.6f, 0.6f, 0.6f, 1.0f)	(Shape.rgb, 0.1f)	(Shape.rgb, 1.0f)	Black	20	No	-8	1	No
Flat (Flat)	(0.8f, 0.8f, 0.8f, 1.0f)	(0.0f, 0.0f, 0.0f, Shape.a)	Black	Shape	50	No	-4	0	No
softMetal (Soft Metal)	Lerp(Shape, White,	Shape	Shape	Black	8	No	0	0	Yes

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Enumeration Value	Specular Color	Diffuse Color	Ambient Color	Emissive Color	Specular Power	Blinn Highlight	Diffuse Fresnel	Alpha Fresnel	Metal
	0.5f)								

The following functions are referenced in the table above:
Shape = <color selected by the user>
Black = (0.0f, 0.0f, 0.0f, 1.0f)
White = (1.0f, 1.0f, 1.0f, 1.0f)

```
// Linear interpolation between two colors
Color Lerp( Color color0, Color color1, float t )
{
  return Color(
      color0.r * ( 1.0f - t ) + color1.r * t,
      color0.g * ( 1.0f - t ) + color1.g * t,
      color0.b * ( 1.0f - t ) + color1.b * t,
      color0.a * ( 1.0f - t ) + color1.a * t );
}

// Brighten/darken a color by some factor
Color Brighten( Color color, float factor )
{
   if( factor > 0.0f )
   {
      // So at 1.0  it's (component * 0) + 1
      return Color(
         color.r * ( 1.0f - factor ) + factor,
         color.g * ( 1.0f - factor ) + factor,
         color.b * ( 1.0f - factor ) + factor,
         color.a );
   }
   else // Darken
   {
      // So at -1.0 it's (component * 0)
      return Color(
         color.r * ( 1.0f + factor ),
         color.g * ( 1.0f + factor ),
         color.b * ( 1.0f + factor ),
         color.a );
   }

}
```

2.1.1335 Part 1 Section 20.1.10.55, ST_ShapeID (Shape ID)

a. *The standard does not limit the length of the value of the ST_ShapeID simple type.*

   Office restricts the value of this simple type to be at most 255 characters.

b. *The standard states that the ST_ShapeID contents are a restriction of the XML Schema token datatype.*

In Office, the ST_ShapeID simple type represents an object ID number. An ID number has the following format characteristics:

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Each ID number has a preface of "_x0000_" followed by 1 character and a number, in the general form _x0000_[c]<num>

The character [c] is:

- 't' or 'm' when used for a **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)").
- 's' when used for a shape.
- Shape IDs always start at 1025.
- Shape IDs are clustered together, and each cluster has 1024 values. The first cluster ranges from 1025 to 2048.
- Shape IDs within the same cluster may only exist in:
- one worksheet, for Excel.
- one slide, for PowerPoint.
- one document, for Word.
- the header, for Word.
- 's' or 'i' for shapes that are inline (not floating) in Word.

__<num> must be between 1 and 268435456.

An ID number should not contain any Numeric Character Reference (NCR) markup characters.

Office does not guarantee that the same Object ID number that is loaded is round tripped on file save.

2.1.1336 Part 1 Section 20.1.10.56, ST_ShapeType (Preset Shape Types)

a. *The standard does not define the calculate values for the wd3 and hd3 preset guides.*

The wd3 preset guide represents 1/3 of the shape's width. The hd3 preset guide represents 1/3 of the shape's height.

2.1.1337 Part 1 Section 20.1.10.60, ST_TextAnchoringType (Text Anchoring Types)

a. *The standard states that dist is a valid value of the ST_TextAnchoringType simple type.*

Office does not allow this value on this simple type.

b. *The standard states that just is a valid value of the ST_TextAnchoringType simple type.*

Office does not allow this value on this simple type.

2.1.1338 Part 1 Section 20.1.10.61, ST_TextAutonumberScheme (Text Auto-number Schemes)

1. *The standard does not clearly define TypeA and TypeC for the ea1ChsPlain and the ea1ChtPlain values of the ST_TextAutonumberScheme simple type.*

In Office, TypeA: The Chinese character "十" is used to represent 10. For example, 20 is represented as 二十 and 99 is represented as 九十九.

TypeC: each digit is written out separately and zero is represented by the ideographic Chinese character "〇". For example, 20 is represented as 二〇, 99 is represented as 九九 and 102 is represented as 一〇二.

2.1.1339 Part 1 Section 20.1.10.64, ST_TextCapsType (Text Cap Types)

a. *The standard states that the small value converts all letters to lower case.*

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In Office, the small value converts all lower-case letters into upper-case letters of a smaller font size. The actual point size in the backing store is not affected.

b. *The standard does not clearly define the none value of the ST_TextCapsType simple type.*

Office uses this value to specify that no capitalization effects should be applied during text display and to override capitalization effects specified in styles.

c. *The standard states that the all value converts all letters to upper case.*

In Office, the all value causes text to be displayed as upper case and the original text remains unchanged in the file.

2.1.1340 Part 1 Section 20.1.10.67, ST_TextFontScalePercentOrPercentString (Text Font Scale Percentage)

a. *The standard states that ST_TextFontScalePercentOrPercentString is read and written as a percent with a trailing percent sign.*

Office will read percentages formatted with a trailing percent sign or formatted as 1000th of a percent without a trailing percent sign, but only write percentages as 1000th's of a percent without a trailing percent sign.

2.1.1341 Part 1 Section 20.1.10.73, ST_TextNonNegativePoint (Text Non-Negative Point)

a. *The standard states that the ST_TextNonNegativePoint simple type specifies a non-negative font size in hundredths of a point.*

Office uses this type to store a non-negative size in hundredths of a point.

2.1.1342 Part 1 Section 20.1.10.74, ST_TextPoint (Text Point)

a. *The standard states that the ST_TextPoint simple type specifies a font size in hundredths of a point.*

Office uses this simple type to store a size in hundredths of a point.

b. *The standard states that ST_TextPoint is read and written as a length followed by a unit, or as hundredths of a point with no unit present.*

Office will read either a length followed by a unit or hundredths of a point with no unit present, but will write only as hundredths of a point when no units are present.

2.1.1343 Part 1 Section 20.1.10.76, ST_TextShapeType (Preset Text Shape Types)

a. *The standard does not provide corresponding illustrations for preset text shape types textCircle and textDeflateTop.*

In Office, the textCircle and textDeflateTop enumeration values use the following descriptions and illustrations:

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Enumeration Value	Description
textCircle (Circle Text Shape)	 Specifies a text shape that shall match the normative shape shown here.
textDeflateTop (Top Deflate Text Shape)	 Specifies a text shape that shall match the normative shape shown here.

b. *The standard does not define the calculate values for the wd3 and hd3 preset guides.*

The wd3 preset guide represents 1/3 of the shape's width. The hd3 preset guide represents 1/3 of the shape's height.

2.1.1344 Part 1 Section 20.1.10.77, ST_TextSpacingPercentOrPercentString (Text Spacing Percent)

a. *The standard states that ST_TextSpacingPercentOrPercentString is read and written as a percent with a trailing percent sign.*

Office will read percentages formatted with a trailing percent sign or formatted as 1000th of a percent without a trailing percent sign, but only write percentages as 1000th's of a percent without a trailing percent sign.

2.1.1345 Part 1 Section 20.1.10.78, ST_TextSpacingPoint (Text Spacing Point)

a. *The standard states that the ST_TextSpacingPoint simple type specifies the text spacing that will be used in terms of font point size.*

Office uses this simple type to specify the size, in hundredths of a point, to be used for text spacing.

2.1.1346 Part 1 Section 20.1.10.82, ST_TextUnderlineType (Text Underline Types)

a. *The standard states that the words underline type will underline only the words and not the spaces in a text run.*

Office does not support the words underline type. When loaded, Office displays this as a single underline.

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2.1.1347 Part 1 Section 20.1.10.85, ST_TextWrappingType (Text Wrapping Types)

1. *The standard states that for text wrapping type enum value none, "words spill out without paying attention to the bounding rectangle bodies."*

   Word allows the text to flow to the maximum width of the shape's anchor's parent container and then draws any bounding boxes around the text. For example, a parent container can be, but is not limited to, a page column or a page.

2.1.1348 Part 1 Section 20.2.2.1, blipFill (Picture Fill)

For additional notes that apply to this portion of the standard, please see the notes for blipFill, §21.3.2.2(a).

2.1.1349 Part 1 Section 20.2.2.6, spPr (Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for spPr, §20.5.2.30(a-c).

2.1.1350 Part 1 Section 20.4.2.3, anchor (Anchor for Floating DrawingML Object)

a. *The standard states that when the hidden attribute is true the object is not displayed.*

   Word does not support this attribute and its value is not retained on save.

2.1.1351 Part 1 Section 20.4.2.5, docPr (Drawing Object Non-Visual Properties)

a. *The standard states that 0 is a valid value for the id attribute.*

   Word will fail to load a file if the id attribute is a value of 0.

b. *The standard states that the id attribute is an unsigned integer.*

   Word will fail to load a file if the id attribute is a value is greater than 2147483646 (the largest 32-bit signed integer minus one).

2.1.1352 Part 1 Section 20.4.2.6, effectExtent (Object Extents Including Effects)

a. *The standard states that the l, r, and t attributes specify the additional length that shall be added to the bottom edge of the DrawingML object to determine its actual bottom edge.*

   Office uses these attributes to specify the additional length that shall be added to the left, right, and top edges, respectively, of the DrawingML object to determine its actual left, right, and top edges, respectively.

2.1.1353 Part 1 Section 20.4.2.7, extent (Drawing Object Size)

For additional notes that apply to this portion of the standard, please see the notes for ext, §21.3.2.10(a).

2.1.1354 Part 1 Section 20.4.2.9, lineTo (Wrapping Polygon Line End Position)

For additional notes that apply to this portion of the standard, please see the notes for chOff, §20.1.7.2(b).

a. *The standard states that the x and y attributes are represented in EMUs.*

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Office interprets the x and y attributes in a fixed coordinate space of 21600x21600.

2.1.1355 Part 1 Section 20.4.2.11, positionV (Vertical Positioning)

a. *The standard states that paragraph is a valid value of the relativeFrom attribute.*

Word does not allow this value on this attribute.

2.1.1356 Part 1 Section 20.4.2.13, simplePos (Simple Positioning Coordinates)

For additional notes that apply to this portion of the standard, please see the notes for chOff, §20.1.7.2(b)*.*

2.1.1357 Part 1 Section 20.4.2.14, start (Wrapping Polygon Start)

For additional notes that apply to this portion of the standard, please see the notes for chOff, §20.1.7.2(b)*.*

a. *The standard states that the x and y attributes are represented in EMUs.*

Office interprets the x and y attributes in a fixed coordinate space of 21600x21600.

2.1.1358 Part 1 Section 20.5.2.2, blipFill (Picture Fill)

For additional notes that apply to this portion of the standard, please see the notes for blipFill, §21.3.2.2(a)*.*

2.1.1359 Part 1 Section 20.5.2.8, cNvPr (Non-Visual Drawing Properties)

a. *The standard includes hlinkHover as a child of cNvPr.*

Excel does not support child element hlinkHover.

2.1.1360 Part 1 Section 20.5.2.9, cNvSpPr (Connection Non-Visual Shape Properties)

a. *The standard implies that the cNvSpPr element describes the non-visual properties for a connection shape.*

In Office and the schema, this element describes the non-visual properties for a shape.

2.1.1361 Part 1 Section 20.5.2.10, col (Column))

a. *The standard specifies the maximum number of columns as unbounded.*

In Excel, the maximum number of columns is 16383.

2.1.1362 Part 1 Section 20.5.2.11, colOff (Column Offset)

a. *The standard states that the colOff element accepts any value up to 27273042316900.*

Office does not draw the shape if colOff has a value over 20454781742437.

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2.1.1363 Part 1 Section 20.5.2.13, cxnSp (Connection Shape)

a. *The standard states that the values of the macro attribute are defined by the XML Schema string datatype.*

Office requires that the macro attribute value follow the same grammar as name-references ("[ISO/IEC-29500-1] §18.17.2.5") with a minimum length of 0 characters and a maximum length of 256 characters.

2.1.1364 Part 1 Section 20.5.2.14, ext (Shape Extent)

For additional notes that apply to this portion of the standard, please see the notes for ext, §21.3.2.10(a).

2.1.1365 Part 1 Section 20.5.2.15, from (Starting Anchor Point)

a. *The standard does not define any relationship between top/left and bottom/right, respectively.*

In Excel, top/left should be smaller than or equal to bottom/right. If these conditions are not met, the shape is not rendered.

2.1.1366 Part 1 Section 20.5.2.16, graphicFrame (Graphic Frame)

a. *The standard states that the values of the macro attribute are defined by the XML Schema string datatype.*

Office requires that the macro attribute value follow the same grammar as name-references ("[ISO/IEC-29500-1] §18.17.2.5") with a minimum length of 0 characters and a maximum length of 256 characters.

2.1.1367 Part 1 Section 20.5.2.18, grpSpPr (Group Shape Properties)

a. *The standard states that bwMode is a valid attribute on the grpSpPr element.*

Excel and Word do not support the bwMode attribute on this element.

b. *The standard does not describe the relationship between group shapes and their child shapes with respect to bwMode.*

In Office, bwMode set at the group level should set bwMode for child shapes.

c. *The standard states that the bwMode attribute specifies that the group shape should be rendered using only black and white coloring.*

Office uses this attribute to specify how the group shape should be rendered when in black and white mode.

2.1.1368 Part 1 Section 20.5.2.25, pic (Picture)

a. *The standard states that the values of the macro attribute are defined by the XML Schema string datatype.*

Office requires that the macro attribute value follow the same grammar as name-references ("[ISO/IEC-29500-1] §18.17.2.5") with a minimum length of 0 characters and a maximum length of 256 characters.

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2.1.1369 Part 1 Section 20.5.2.26, pos (Position)

For additional notes that apply to this portion of the standard, please see the notes for chOff, §20.1.7.2(b).

2.1.1370 Part 1 Section 20.5.2.27, row (Row)

a. *The standard allows the number of rows to be unbounded.*

The maximum number of rows allowed by Office is 1048575.

2.1.1371 Part 1 Section 20.5.2.28, rowOff (Row Offset)

a. *The standard states that the rowOff element accepts any value up to 27273042316900.*

Office does not draw the shape if rowOff has a value over 20454781742437.

2.1.1372 Part 1 Section 20.5.2.29, sp (Shape)

a. *The standard states that textlink is a formula linking to spreadsheet cell data.*

Excel requires that the value of the textlink attribute be a string referencing a cell or a cell range. It should reference a unique cell, as only the first cell in a cell range will be considered.

b. *In the standard, child element txBody has minOccurs equal to zero.*

In Excel, if optional attribute textlink is specified, child element txBody is required.

c. *The standard states that the values of the macro attribute are defined by the XML Schema string datatype.*

Office requires that the macro attribute value follow the same grammar as name-references ("[ISO/IEC-29500-1] §18.17.2.5") with a minimum length of 0 characters and a maximum length of 256 characters.

2.1.1373 Part 1 Section 20.5.2.30, spPr (Shape Properties)

a. *The standard states that bwMode is a valid attribute on the spPr element.*

Excel and Word do not support this attribute on this element.

b. *The standard states that the spPr element specifies the visual shape properties that can be applied to a special shape such as a connector shape or picture.*

Office uses this element to specify the visual shape properties that can be applied to shapes, connector shapes, or pictures.

c. *The standard states that the bwMode attribute specifies that the group shape should be rendered using only black and white coloring.*

Office uses this attribute to specify how the group shape should be rendered when in black and white mode.

2.1.1374 Part 1 Section 20.5.2.31, style (Shape Style)

a. *The standard allows a sp, pic or cxnSp to have similar formatting options defined in both the style and spPr elements.*

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In Office, shape properties defined on the parent element will override similar style components (lnRef, effectRef, fillRef, fontRef) defined in this element.

b. *The standard allows similar text formatting properties to be defined for parent element sp by style or txBody.*

In Office, child elements in txBody will override similar style properties defined by attribute fontRef.

c. *The standard states that child element fontRef applies to parent elements pic, cxnSp and sp.*

In Office, child element fontRef is not used for parent elements pic and cxnSp.

2.1.1375 Part 1 Section 20.5.2.32, to (Ending Anchor Point)

a. *The standard allows shapes to be defined where the right edge is to the left of the left edge or where the bottom edge is above the top edge.*

Excel does not support shapes where the right edge is to the left of the left edge or where the bottom edge is above the top edge.

2.1.1376 Part 1 Section 20.5.2.34, txBody (Shape Text Body)

a. *The standard does not describe the relationship between similar properties in child elements p (text paragraphs) and lstStyle (text list styles).*

In Office, if no text list styles are defined in a paragraph, styles from lstStyle are used. If no list styles are defined and there is no lstStyle defined, the text in the list defaults to the current text style.

2.1.1377 Part 1 Section 20.5.2.36, xfrm (2D Transform for Graphic Frames)

For additional notes that apply to this portion of the standard, please see the notes for xfrm, §20.1.7.6(a)*.*

a. *The standard includes attributes flipH, flipV and rot for the xfrm element.*

Excel does not support these attributes for graphic frames. Any value loaded for these attributes will not be written to the file when saved.

b. *The standard includes ext and off as child elements of xfrm.*

The ext and off elements are used by Excel only if the graphic frame is inside of a group. If the graphic frame is not inside of a group, Excel will always output 0 for the attribute values of both elements.

2.1.1378 Part 1 Section 21.1.2.1, Body Formatting

a. *The standard states that ST_TextFontScalePercent is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

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2.1.1379 Part 1 Section 21.1.2.1.1, bodyPr (Body Properties)

a. *The standard specifies that the attributes anchorCtr, forceAA, fromWordArt, and rtlCol have an implied value of off.*

Office interprets the attributes anchorCtr, forceAA, fromWordArt, and rtlCol as having an implied value of false.

b. *The standard does not fully describe the process for resolving missing attribute values.*

In Office, attributes not specified explicitly within the bodyPr element shall have their values determined by inheritance. Attribute values will be resolved using an applicable ancestor element of the same type as the bodyPr element. The inheritance order in which applicable attribute value shall be applied is as follows:

A corresponding ancestor element which is a child element of the txDef element ("[ISO/IEC-29500-1] §20.1.4.1.28; txDef") of the theme part.

A corresponding ancestor element which is a child element of the lnDef element ("[ISO/IEC-29500-1] §20.1.4.1.20; lnDef") of the theme part.

A corresponding ancestor element which is a child element of the spDef element ("[ISO/IEC-29500-1] §20.1.4.1.27; spDef") of the theme part.

If the value of an attribute is not determined via this process, the default value specified within the bodyPr element shall be used.

PowerPoint uses a corresponding child element which is contained within the corresponding sldMaster element ("[ISO/IEC-29500-1] §19.3.1.42; sldMaster") if the value of an attribute is not determined by this inheritance order. If the corresponding sldMaster element ("[ISO/IEC-29500-1] §19.3.1.42; sldMaster") does not specify the value of the attribute and the value was not determined from the inheritance order, then the default value specified within the bodyPr element shall be used.

Word does not evaluate the rot attribute for text rotation in builds before 15609.10000 (Windows)/65.22080801 (Mac).

2.1.1380 Part 1 Section 21.1.2.1.2, noAutofit (No AutoFit)

a. *The standard states if the noAutofit element is omitted, no autofit or autofit off is implied.*

Office uses a hierarchy of text styles to determine if the text should be autofit or not.

2.1.1381 Part 1 Section 21.1.2.1.3, normAutofit (Normal AutoFit)

1. *The standard states that if the normAutofit element is omitted then no autofit or autofit off is implied.*

PowerPoint follows *normAutofit* as described above, however other Office apps like Word or Excel do not follow this and instead use a hierarchy of text styles to determine if the text should be autofit or not.

2.1.1382 Part 1 Section 21.1.2.1.4, spAutoFit (Shape AutoFit)

a. *The standard states that if the spAutoFit element is omitted then noAutofit or auto-fit off is implied.*

Office does not follow this and instead uses a hierarchy of text styles to determine if the text should be autofit or not.

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b. *The standard states that the spAutofit element specifies that text within a shape is scaled in order to contain all the text inside the bounds of the shape.*

Office uses the spAutoFit element to specify that the containing shape should be resized to contain text.

2.1.1383 Part 1 Section 21.1.2.2.2, defPPr (Default Paragraph Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

a. *The standard describes the defPPr element as specifying paragraph properties.*

Office ignores this element and does not use it to determine paragraph properties.

2.1.1384 Part 1 Section 21.1.2.2.3, endParaRPr (End Paragraph Run Properties)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §21.1.2.3.9(a, b,d-g).

2.1.1385 Part 1 Section 21.1.2.2.4, fld (Text Field)

a. *The standard states that the type attribute of the fld element specifies the type of update text that should be used within the text field.*

In Office, the type attribute specifies the type of text that should be used to update this text field. This is used to inform Office what text it should use to update this text field. There are no specific syntax restrictions placed on this attribute. The generating application may use it to represent any text that should be updated before rendering the presentation.

Reserved Values:

Value	Description
slidenum	presentation slide number
datetime	default date time format for the rendering application
datetimeFigureOut	equivalent to *datetime1*
datetime1	MM/DD/YYYY date time format [Example: 10/12/2007 end example]
datetime2	Day, Month DD, YYYY date time format [Example: Friday, October 12, 2007 end example]
datetime3	DD Month YYYY date time format [Example: 12 October 2007 end example]
datetime4	Month DD, YYYY date time format [Example: October 12, 2007 end example]
datetime5	DD-Mon-YY date time format [Example: 12-Oct-07 end example]
datetime6	Month YY date time format [Example: October 07 end example]
datetime7	Mon-YY date time format [Example: Oct-07 end example]
datetime8	MM/DD/YYYY hh:mm AM/PM date time format [Example: 10/12/2007 4:28 PM end example]
datetime9	MM/DD/YYYY hh:mm:ss AM/PM date time format [Example: 10/12/2007 4:28:34 PM end example]
datetime10	hh:mm date time format [Example: 16:28 end example]

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Value	Description
datetime11	hh:mm:ss date time format [Example: 16:28:34 end example]
datetime12	hh:mm AM/PM date time format [Example: 4:28 PM end example]
datetime13	hh:mm:ss: AM/PM date time format [Example: 4:28:34 PM end example]

This note applies to the following products: Office 2010, Office 2010 Server, Office 2010 SP1.

b. *The standard states that the type attribute of the fld element specifies the type of update text that should be used within the text field.*

In Office, the type attribute specifies the type of text that should be used to update this text field. This is used to inform Office what text it should use to update this text field. There are no specific syntax restrictions placed on this attribute. The generating application may use it to represent any text that should be updated before rendering the presentation.

Reserved Values:

Value	Description
slidenum	presentation slide number
datetime	default date time format for the rendering application
datetime1	MM/DD/YYYY date time format [Example: 10/12/2007 end example]
datetime2	Day, Month DD, YYYY date time format [Example: Friday, October 12, 2007 end example]
datetime3	DD Month YYYY date time format [Example: 12 October 2007 end example]
datetime4	Month DD, YYYY date time format [Example: October 12, 2007 end example]
datetime5	DD-Mon-YY date time format [Example: 12-Oct-07 end example]
datetime6	Month YY date time format [Example: October 07 end example]
datetime7	Mon-YY date time format [Example: Oct-07 end example]
datetime8	MM/DD/YYYY hh:mm AM/PM date time format [Example: 10/12/2007 4:28 PM end example]
datetime9	MM/DD/YYYY hh:mm:ss AM/PM date time format [Example: 10/12/2007 4:28:34 PM end example]
datetime10	hh:mm date time format [Example: 16:28 end example]
datetime11	hh:mm:ss date time format [Example: 16:28:34 end example]
datetime12	hh:mm AM/PM date time format [Example: 4:28 PM end example]
datetime13	hh:mm:ss: AM/PM date time format [Example: 4:28:34 PM end example]
uaqdatetime1	DD/MM/YYYY date time format using the Umm al-Qura calendar [*Example:* 10/12/1432 *end example*]
uaqdatetime2	Day, DD Month, YYYY date time format using the Umm al-Qura calendar [*Example:* الثلاثاء، 10 ربيع الثاني، 1432]

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Value	Description
	end example]
uaqdatetime3	DD Month, YYYY date time format using the Umm al-Qura calendar [*Example:* 10ربيع الثاني، 1432 *end example*]
uaqdatetime4	DD/MM/YY date time format using the Umm al-Qura calendar [*Example:* 10/04/32 *end example*]
uaqdatetime5	YYYY-DD-MM date time format using the Umm al-Qura calendar [*Example:* 1432-04-10 *end example*]
uaqdatetime6	DD-Month-YY date time format using the Umm al-Qura calendar [*Example:* 10-ربيع الثاني-32 *end example*]
uaqdatetime7	DD Month YYYY date time format using the Umm al-Qura calendar [*Example:* 10ربيع الثاني 1432 *end example*]

This note applies to the following products: Office 2013 Client (Strict), Office 2013 Server (Strict), Office 2013 Client (Transitional), Office 2013 Server (Transitional).

2.1.1386 Part 1 Section 21.1.2.2.5, lnSpc (Line Spacing)

a. *The standard states that the lnSpc element describes the vertical line spacing that is to be used within a paragraph.*

In Office, the lnSpc element describes the vertical line spacing for horizontal text and horizontal line spacing for vertical text that is to be used within a paragraph.

b. *The standard states that ST_TextSpacingPercent is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1387 Part 1 Section 21.1.2.2.6, p (Text Paragraphs)

a. *The standard states that if no text paragraph properties are listed, then the properties specified in the defPPr element are used.*

Office ignores the defPPr element. If no paragraph properties are listed, then properties specified in the appropriate child element of the lstStyle element are used as described in child element pPr.

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2.1.1388 Part 1 Section 21.1.2.2.7, pPr (Text Paragraph Properties)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g)*.*

a. *The standard does not fully describe the process for resolving missing attribute values.*

In Office, attributes not specified explicitly within this element shall have their values determined by inheritance. Attribute values will be resolved using an applicable ancestor element of the same type as this element. The inheritance order in which applicable attribute value shall be applied is as follows:

A corresponding ancestor element which is a child element of the lstStyle element ("[ISO/IEC-29500-1] §21.1.2.4.12; lstStyle (Text List Styles)") and has a matching paragraph level and is contained within the same package part as the text to which the attribute values shall apply.

A corresponding child element of the element ("[ISO/IEC-29500-1] §21.1.2.4.12; lstStyle (Text List Styles)") and contained within the theme element ("[ISO/IEC-29500-1] §20.1.6.9; theme (Theme)").

If the value of an attribute is not determined via this process, the default value specified within this element shall be used.

PowerPoint uses a corresponding child element which is contained within the corresponding sldMaster element ("[ISO/IEC-29500-1] §19.3.1.42; sldMaster (Slide Master)") if the value of an attribute is not determined by this inheritance order. If the corresponding sldMaster element ("[ISO/IEC-29500-1] §19.3.1.42; sldMaster (Slide Master)") does not specify the value of the attribute and the value was not determined from the inheritance order, then the default value specified within this element shall be used.

2.1.1389 Part 1 Section 21.1.2.2.9, spcAft (Space After)

a. *The standard states that the spcAft element specifies the amount of vertical white space that will be present after a paragraph.*

Office uses the spcAft element to determine the amount of white space that will be present after a paragraph.

2.1.1390 Part 1 Section 21.1.2.2.10, spcBef (Space Before)

a. *The standard states that the spcBef element specifies the amount of vertical white space that will be present before a paragraph.*

Office uses the spcBef element to determine the amount of white space that will be present before a paragraph.

2.1.1391 Part 1 Section 21.1.2.2.11, spcPct (Spacing Percent)

a. *The standard states that ST_TextSpacingPercent is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1392 Part 1 Section 21.1.2.3.1, cs (Complex Script Font)

For additional notes that apply to this portion of the standard, please see the notes for latin, §21.1.2.3.7(a-d)*.*

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2.1.1393 Part 1 Section 21.1.2.3.2, defRPr (Default Text Run Properties)

For additional notes that apply to this portion of the standard, please see the notes for rPr, §21.1.2.3.9(a, b,d-g).

2.1.1394 Part 1 Section 21.1.2.3.3, ea (East Asian Font)

For additional notes that apply to this portion of the standard, please see the notes for latin, §21.1.2.3.7(a-d).

2.1.1395 Part 1 Section 21.1.2.3.5, hlinkClick (Click Hyperlink)

a. *The standard states that the action attribute of the hlinkClick, hlinkHover and hlinkMouseOver elements may use an unrestricted string.*

PowerPoint reserves the following values for the action attribute:

Value	Description
ppaction://customshow?id=SHOW_ID	Specifies that the link shall launch a custom show from the custShowLst element ("[ISO/IEC-29500-1] §19.2.1.7; custShowLst (List of Custom Shows)"). The SHOW_ID variable shall be replaced with the custom show id as specified in the custShow element ("[ISO/IEC-29500-1] §19.2.1.6; custShow (Custom Show)").
ppaction://customshow?id=SHOW_ID&return=true	Specifies that the link shall launch a custom show from the custShowLst element ("[ISO/IEC-29500-1] §19.2.1.7; custShowLst (List of Custom Shows)"). After the end of the custom show, viewing of this presentation package shall resume. The SHOW_ID variable shall be replaced with the custom show id as specified in the custShow element ("[ISO/IEC-29500-1] §19.2.1.6; custShow (Custom Show)").
ppaction://hlinkfile	Specifies that the link shall open a file external to this presentation package. The r:id attribute for this element specifies the corresponding relationship containing the reference to the external file.
ppaction://hlinkpres?slideindex=SLIDE_NUM	Specifies that the link shall launch a presentation external to this presentation package. The r:id attribute for this element specifies the corresponding relationship containing the reference to the external file. The SLIDE_NUM variable shall be replaced with a slide number in the external presentation that the viewing shall be started on.
ppaction://hlinkshowjump?jump=endshow	Specifies that the link shall end the presentation.
ppaction://hlinkshowjump?jump=firstslide	Specifies that the link shall target the viewing of the first slide within this presentation package.
ppaction://hlinkshowjump?jump=lastslide	Specifies that the link shall target the viewing of the last slide within this presentation package.
ppaction://hlinkshowjump?jump=lastslideviewed	Specifies that the link shall target the viewing of the slide previously visited within this presentation package.
ppaction://hlinkshowjump?jump=nextslide	Specifies that the link shall target the viewing of the next slide within this presentation package.
ppaction://hlinkshowjump?jump=previousslide	Specifies that the link shall target the viewing of the

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Value	Description
	previous slide within this presentation package.
ppaction://hlinkshowjump?jump=SLIDE_NUM	Specifies that the link shall target the viewing of the slide in within this presentation package specified by SLIDE_NUM. The SLIDE_NUM variable shall be replaced with a slide number in this presentation package that will be targeted.
ppaction://hlinksldjump	Specifies that the link shall target the viewing of a specific slide within this presentation package. The r:id attribute for this element specifies the corresponding relationship containing the reference to the slide part which shall be viewed.
ppaction://macro?name=MACRO_NAME	Specifies that the link shall run a macro contained within this presentation. The MACRO_NAME variable shall be replaced with the name of the macro module.
ppaction://program	Specifies that the link shall run an application external to this presentation package. The r:id attribute for this element specifies the corresponding relationship containing the reference to the application.
ppaction://noaction	This value of the action attribute does not specify any action performed by the link. The link will continue to respect highlight attribute and snd element if present.
ppaction://media	Specifies that the link shall initiate playback of the media object specified by the parent element.
ppaction://ole?verb=OLE_VERB_INDEX	Specifies that the link shall execute the verb on an OLE object specified by OLE_VERB_INDEX. The OLE_VERB_INDEX variable shall be replaced with the verb number of the verb registered by the OLE object that shall be executed.

2.1.1396 Part 1 Section 21.1.2.3.6, hlinkMouseOver (Mouse-Over Hyperlink)

For additional notes that apply to this portion of the standard, please see the notes for hlinkClick, §21.1.2.3.5(a).

2.1.1397 Part 1 Section 21.1.2.3.7, latin (Latin Font)

a. *The standard includes panose as an optional attribute of this element.*

Office does not implement the panose attribute.

b. *The standard states that the charset attribute of the buFont, cs, ea, font, latin and sym elements specifies the most similar character set.*

Office uses this attribute to specify the character set that is supported by the parent font. This information may be used in font substitution logic to locate an appropriate substitute font when this font is not available. This information is determined by querying the font when present and shall not be modified when the font is not available.

The value of this attribute shall be interpreted as follows:

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Value	Description
0x00	Specifies the ANSI character set. (IANA name iso-8859-1)
0x01	Specifies the default character set.
0x02	Specifies the Symbol character set. This value specifies that the characters in the Unicode private use area (U+FF00 to U+FFFF) of the font should be used to display characters in the range U+0000 to U+00FF.
0x4D	Specifies a Macintosh (Standard Roman) character set. (IANA name macintosh)
0x80	Specifies the JIS character set. (IANA name shift_jis)
0x81	Specifies the Hangul character set. (IANA name ks_c_5601-1987)
0x82	Specifies a Johab character set. (IANA name KS C-5601-1992)
0x86	Specifies the GB-2312 character set. (IANA name GBK)
0x88	Specifies the Chinese Big Five character set. (IANA name Big5)
0xA1	Specifies a Greek character set. (IANA name windows-1253)
0xA2	Specifies a Turkish character set. (IANA name iso-8859-9)
0xA3	Specifies a Vietnamese character set. (IANA name windows-1258)
0xB1	Specifies a Hebrew character set. (IANA name windows-1255)
0xB2	Specifies an Arabic character set. (IANA name windows-1256)
0xBA	Specifies a Baltic character set. (IANA name windows-1257)
0xCC	Specifies a Russian character set. (IANA name windows-1251)
0xDE	Specifies a Thai character set. (IANA name windows-874)
0xEE	Specifies an Eastern European character set. (IANA name windows-1250)
0xFF	Specifies an OEM character set not defined by the standard.
Any other value	Application-defined, may be ignored.

c. *The standard states that the pitchFamily attribute of the buFont, cs, ea, font, latin and sym elements specifies the most similar font family.*

In Office, the pitchFamily attribute specifies the font pitch as well as the font family for the corresponding font. Because the value of this attribute is determined by a byte variable this value shall be interpreted as follows:

Value	Description
0x00	DEFAULT PITCH + UNKNOWN FONT FAMILY
0x01	FIXED PITCH + UNKNOWN FONT FAMILY
0x02	VARIABLE PITCH + UNKNOWN FONT FAMILY

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Value	Description
0x10	DEFAULT PITCH + ROMAN FONT FAMILY
0x11	FIXED PITCH + ROMAN FONT FAMILY
0x12	VARIABLE PITCH + ROMAN FONT FAMILY
0x20	DEFAULT PITCH + SWISS FONT FAMILY
0x21	FIXED PITCH + SWISS FONT FAMILY
0x22	VARIABLE PITCH + SWISS FONT FAMILY
0x30	DEFAULT PITCH + MODERN FONT FAMILY
0x31	FIXED PITCH + MODERN FONT FAMILY
0x32	VARIABLE PITCH + MODERN FONT FAMILY
0x40	DEFAULT PITCH + SCRIPT FONT FAMILY
0x41	FIXED PITCH + SCRIPT FONT FAMILY
0x42	VARIABLE PITCH + SCRIPT FONT FAMILY
0x50	DEFAULT PITCH + DECORATIVE FONT FAMILY
0x51	FIXED PITCH + DECORATIVE FONT FAMILY
0x52	VARIABLE PITCH + DECORATIVE FONT FAMILY

This information is determined by querying the font when present and shall not be modified when the font is not available. This information may be used in font substitution logic to locate an appropriate substitute font when this font is not available.

d. *The standard states that the typeface attribute of the buFont, cs, ea, font, latin and sym elements specifies the typeface of the font to be used for a bullet.*

   Office uses this typeface attribute for all text when a typeface is available, and uses font substitution logic when the typeface is not available.

2.1.1398 Part 1 Section 21.1.2.3.8, r (Text Run)

a. *The standard states that if no text run properties are specified, then properties in the defRPr element are used.*

   In Office, if no text run properties are specified, then properties will be assigned values as described in child element rPr (Text Run Properties).

2.1.1399 Part 1 Section 21.1.2.3.9, rPr (Text Run Properties)

a. *The standard specifies a default kerning for fonts down to a 0 point for the kern attribute of the rPr, defRpr and endParaRPr elements.*

   Office uses a default value of no kerning if the kern attribute is not specified.

b. *The standard states that the smtClean attribute of the rPr, defRpr and endParaRPr elements has a default value of 0 or false.*

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In Office, the smtClean attribute of the rPr, defRpr and endParaRPr elements has a default value of true.

c. *The standard does not fully describe the process for resolving missing attribute values.*

In Office, attributes not specified explicitly within this element shall have their values determined by inheritance. Attribute values will be resolved using an applicable ancestor element of the same type as this element. The inheritance order in which another applicable attribute value shall be applied is as follows:

A corresponding ancestor element which is a child element of the lstStyle element ("[ISO/IEC-29500-1] §21.1.2.4.12; lstStyle") contained within the same package part as the text to which it applies that also has a matching paragraph level value.

A corresponding ancestor element which is a child element of the lstStyle element ("[ISO/IEC-29500-1] §21.1.2.4.12; lstStyle") contained within the theme element ("[ISO/IEC-29500-1] §20.1.6.9; theme").

If the value of an attribute is not determined via this process, the default value specified within this element shall be used.

PowerPoint uses a corresponding child element which is contained within the corresponding sldMaster element ("[ISO/IEC-29500-1] §19.3.1.42; sldMaster") if the value of an attribute is not determined by this inheritance order. If the corresponding sldMaster element ("[ISO/IEC-29500-1] §19.3.1.42; sldMaster") does not specify the value of the attribute and the value was not determined from the inheritance order, then the default value specified within this element shall be used.

d. *The standard does not specify usage with negative versus positive values or a default value for the baseline attribute of the rPr, defRPr and endParaRpr elements.*

Office uses negative attribute values for subscript text, positive values for superscript text and a default value of 0.

e. *The standard states that the sz attribute of the rPr, defRpr and endParaRPr elements retrieve its default value from the defRpr element.*

Office uses a default value of 1800 for this attribute.

f. *The standard does not specify a default value for the noProof attribute of the rPr, defRpr and endParaRPr elements.*

Office uses a default value of 0, or false, for this attribute.

g. *The standard does not specify a default value for the cap attribute of the rPr, defRpr and endParaRPr elements.*

Office uses a default value of none for this attribute.

2.1.1400 Part 1 Section 21.1.2.3.10, sym (Symbol Font)

For additional notes that apply to this portion of the standard, please see the notes for latin, §21.1.2.3.7(a-d)*.*

2.1.1401 Part 1 Section 21.1.2.3.13, uFillTx (Underline Fill Properties Follow Text)

a. *The standard states that the uFillTx element specifies the fill color of an underline and should be the same color as the run of text within which it is contained.*

In Office, the uFillTx element specifies that the fill color and all other fill properties of an underline are the same as the run of text within which it is contained.

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2.1.1402 Part 1 Section 21.1.2.3.14, uLn (Underline Stroke)

For additional notes that apply to this portion of the standard, please see the notes for ln, §20.1.2.2.24(a, b).

a. *The standard allows for the specifying of the tailEnd child element, headEnd child element and cap attribute within the uLn element.*

Office does not use the tailEnd child element, headEnd child element and cap attribute when the parent element is the rPr element.

2.1.1403 Part 1 Section 21.1.2.4.6, buFont (Specified)

For additional notes that apply to this portion of the standard, please see the notes for latin, §21.1.2.3.7(a-d).

2.1.1404 Part 1 Section 21.1.2.4.9, buSzPct (Bullet Size Percentage)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

2.1.1405 Part 1 Section 21.1.2.4.10, buSzPts (Bullet Size Points)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

2.1.1406 Part 1 Section 21.1.2.4.13, lvl1pPr (List Level 1 Text Style)

a. *The standard implies a default value of 347663 for the marL attribute of the pPr, lvl1pPr, lvl2pPr, lvl3pPr, lvl4pPr, lvl5pPr, lvl6pPr, lvl7pPr, lvl8pPr, lvl9pPr and defpPr elements.*

Office uses a default value of 0 for the marL attribute.

b. *The standard states that the lvl attribute of the pPr, lvl1pPr, lvl2pPr, lvl3pPr, lvl4pPr, lvl5pPr, lvl6pPr, lvl7pPr, lvl8pPr, lvl9pPr and defpPr elements specifies the text property level that the corresponding paragraph will follow.*

Office does not use the lvl attribute if it is specified within the lvl1pPr, lvl2pPr, lvl3pPr, lvl4pPr, lvl5pPr, lvl6pPr, lvl7pPr, lvl8pPr, or lvl9pPr elements.

c. *The standard describes the use of a hyphen when a word is broken across multiple lines for the eaLnBrk attribute of the pPr, lvl1pPr, lvl2pPr, lvl3pPr, lvl4pPr, lvl5pPr, lvl6pPr, lvl7pPr, lvl8pPr, lvl9pPr and defpPr elements.*

In Office, the eaLnBrk attribute specifies whether East Asian typography and line-breaking rules shall be applied to text in a paragraph to determine which characters may begin and end each line when lines get too long. To determine whether an East Asian word can be broken, the presentation application would use the kinsoku settings. If this attribute is omitted, then a value of **1**, or true, is implied.

d. *The standard implies a default value of 0 or false for the hangingPunct attribute of the pPr, lvl1pPr, lvl2pPr, lvl3pPr, lvl4pPr, lvl5pPr, lvl6pPr, lvl7pPr, lvl8pPr, lvl9pPr and defpPr elements.*

Office uses a default value of 1, or true, for the hangingPunct attribute.

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e. *The standard specifies no default value for the defTabSz attribute of the pPr, lvl1pPr, lvl2pPr, lvl3pPr, lvl4pPr, lvl5pPr, lv61pPr, lvl7pPr, lvl8pPr, lvl9pPr and defpPr elements.*

Office uses a default value of 914400 EMUs.

f. *The standard implies a default value of -342900 for the indent attribute of the pPr, lvl1pPr, lvl2pPr, lvl3pPr, lvl4pPr, lvl5pPr, lvl6pPr, lvl7pPr, lvl8pPr, lvl9pPr and defpPr elements.*

Office uses a default value of 0 for the indent attribute.

g. *The standard implies a default value of 1 or true for the latinLnBrk attribute of the pPr, lvl1pPr, lvl2pPr, lvl3pPr, lvl4pPr, lvl5pPr, lvl6pPr, lvl7pPr, lvl8pPr, lvl9pPr and defpPr elements.*

Office uses a default value of 0, or false, for the latinLnBrk attribute.

2.1.1407 Part 1 Section 21.1.2.4.14, lvl2pPr (List Level 2 Text Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

2.1.1408 Part 1 Section 21.1.2.4.15, lvl3pPr (List Level 3 Text Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

2.1.1409 Part 1 Section 21.1.2.4.16, lvl4pPr (List Level 4 Text Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

2.1.1410 Part 1 Section 21.1.2.4.17, lvl5pPr (List Level 5 Text Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

2.1.1411 Part 1 Section 21.1.2.4.18, lvl6pPr (List Level 6 Text Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

2.1.1412 Part 1 Section 21.1.2.4.19, lvl7pPr (List Level 7 Text Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

2.1.1413 Part 1 Section 21.1.2.4.20, lvl8pPr (List Level 8 Text Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

2.1.1414 Part 1 Section 21.1.2.4.21, lvl9pPr (List Level 9 Text Style)

For additional notes that apply to this portion of the standard, please see the notes for lvl1pPr, §21.1.2.4.13(a-g).

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2.1.1415 Part 1 Section 21.1.3.1, cell3D (Cell 3-D)

a. *The standard states that the default value of the prstMaterial attribute is plastic.*

Office uses a default value of dkEdge for this attribute.

b. *The standard does not specify the default value for the rig attribute if no lightRig element is specified.*

Office uses "flood" for the rig attribute of lightRig in cell3D if no lightRig is specified.

2.1.1416 Part 1 Section 21.1.3.2, gridCol (Table Grid Column)

a. *The standard specifies that the w attribute defines the width of the column in EMUs.*

In Office, the width of the column is equal to or greater than the sum of the marL and marR attributes of the tcPr element plus two points for each cell in the column. One point is equal to 12700 EMUs.

2.1.1417 Part 1 Section 21.1.3.5, lnB (Bottom Border Line Properties)

For additional notes that apply to this portion of the standard, please see the notes for ln, §20.1.2.2.24(a, b).

2.1.1418 Part 1 Section 21.1.3.6, lnBlToTr (Bottom-Left to Top-Right Border Line Properties)

For additional notes that apply to this portion of the standard, please see the notes for ln, §20.1.2.2.24(a, b).

2.1.1419 Part 1 Section 21.1.3.7, lnL (Left Border Line Properties)

For additional notes that apply to this portion of the standard, please see the notes for ln, §20.1.2.2.24(a, b).

2.1.1420 Part 1 Section 21.1.3.8, lnR (Right Border Line Properties)

For additional notes that apply to this portion of the standard, please see the notes for ln, §20.1.2.2.24(a, b).

2.1.1421 Part 1 Section 21.1.3.9, lnT (Top Border Line Properties)

For additional notes that apply to this portion of the standard, please see the notes for ln, §20.1.2.2.24(a, b).

2.1.1422 Part 1 Section 21.1.3.10, lnTlToBr (Top-Left to Bottom-Right Border Line Properties)

For additional notes that apply to this portion of the standard, please see the notes for ln, §20.1.2.2.24(a, b).

2.1.1423 Part 1 Section 21.1.3.12, tableStyleId (Table Style ID)

a. *The standard does not state how to interpret an invalid table style defined by the tableStyleId element.*

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Office does not apply a style to the table if this element does not point to a valid built-in or user-specified table style.

2.1.1424 Part 1 Section 21.1.3.13, tbl (Table)

a. *The standard specifies that the number of rows is between 0 and unbounded.*

In Office, the number of rows is greater than 0 and less than or equal to 1000.

b. *The standard specifies that the number of columns, as defined in child element tblGrid, is between 0 and unbounded.*

In Office, the number of columns is greater than 0 and less than or equal to 1000.

c. *The standard does not indicate that the number of cells in each row is dependent on the number of columns.*

In Office, the number of cells in each table row is equal to the number of columns defined in child element tblGrid.

d. *The standard does not describe how the tbl element merges cells horizontally and vertically.*

A Table merge describes the merging relationships between conjoint cells in a table. The gridSpan and rowSpan attributes of the tc elements ("[ISO/IEC-29500-1] §21.1.3.16; tc (Table Cell)") are used to define a table merge. The gridSpan and rowSpan of the top-left cell of a table merge decide the width and height of the table merge. For example, if the following cell is the top-left cell of a table merge, its merge size is width = 3 columns, and height = 5 rows; or when written out, <a:tc gridSpan="3" rowSpan="5">.

1). All cells in the first row in this table merge must have the same rowSpan as the first one (5 in the preceding example). And their corresponding gridSpan, except the first one must be 1.

2). All cells in the first column in this table merge must have the same gridSpan as the first one (3 in the preceding example). And their corresponding rowSpan, except the first one must be equal to 1.

3). All other cells in this table merge must have their rowSpan and gridSpan being equal to 1.

4). Two merges shall not overlap.

e. *The standard allows the neighboring interior borders of two neighboring table merges to have different line properties.*

Office requires the neighboring interior borders of two neighboring table merges to have matching border line properties as defined by the lnL, lnR, lnT and lnB elements.

f. *The standard does not put any restriction on the usage of the lnL, lnR, lnT and lnB elements.*

Office ignores the lnL and lnT elements for interior borders.

2.1.1425 Part 1 Section 21.1.3.14, tblGrid (Table Grid)

a. *The standard states that the tblGrid element defines the columns that are within the table.*

Office requires there be at least 1 and at most 1000 gridCol child elements to tblGrid.

2.1.1426 Part 1 Section 21.1.3.16, tc (Table Cell)

a. *The standard allows the value of the rowSpan attribute to be any 32-bit integer.*

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In Office, the value of rowSpan shall be equal to or greater than 1. For a table with R rows, the value of rowSpan for cells in the first row shall be at most R; the value of rowSpan for cells in the second row can be at most R − 1; and so on.

b. *The standard states that the gridSpan attribute is allowed to be any 32-bit integer.*

In Office, the value of gridSpan shall be equal to or greater than 1. For a table with C columns, the value of gridSpan for cells in the first column can be at most C; the value of gridSpan for cells in the second column can be at most C − 1; and so on.

c. *The standard does not describe how the hMerge or vMerge attributes work.*

Information about Table Merge is contained within the tbl element ("[ISO/IEC-29500-1] §21.1.3.13; tbl").

All cells in the first column of a table merge shall have hMerge equal to 0 or false. All other cells of a table merge shall have hMerge equal to 1 or true.

All cells in the first row of a table merge shall have vMerge equal to 0 or false. All other cells of a table merge shall have vMerge equal to 1 or true.

2.1.1427 Part 1 Section 21.1.3.18, tr (Table Row)

a. *The standard states that the height attribute specifies the row height.*

In Office, the height of the row in the table is specified in EMUs. Additionally:

The height shall not be negative.

The height shall be either 0, or greater than the minimal row height.

The height shall be equal to or less than 0x3FFFFFFF.

The minimal row height of a row is defined as: the sum of the minimal heights which can hold the top margin and the bottom margin plus 2 extra points for each cell in the row.

b. *The standard states that the tr element specifies a row in a table.*

In Office, the number of table cells in a table row is greater than 1 and less than or equal to 1000. Additionally, the number of table cells in a table row is equal to the number of columns in the table.

2.1.1428 Part 1 Section 21.2.2.2, applyToFront (Apply To Front)

a. *The standard states that the applyToFront element specifies that the picture shall be applied to the front of the point or series.*

In Office, this element also specifies that the picture should be applied to the backWall and Office ignores this element on the floor and sideWall elements.

2.1.1429 Part 1 Section 21.2.2.3, applyToSides (Apply To Sides)

a. *The standard states that the applyToSides element specifies that the picture shall be applied to the sides of the point or series.*

In Office this element also specifies that the picture shall be applied to the floor or the side wall but is ignored on the back wall of a 3D chart.

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2.1.1430 Part 1 Section 21.2.2.5, areaChart (Area Charts)

a. *The standard states that the maxOccurs value for the ser child element is unbounded.*

Office limits the occurrences of this element to 255.

2.1.1431 Part 1 Section 21.2.2.7, autoTitleDeleted (Auto Title Is Deleted)

a. *The standard does not state any exceptions that cause the autoTitleDeleted element to be ignored.*

In Office, this element only applies if a title element ("[ISO/IEC-29500-1] §21.2.2.210; title") is not present on the parent chart element ("[ISO/IEC-29500-1] §21.2.2.27; chart").

2.1.1432 Part 1 Section 21.2.2.9, axId (Axis ID)

a. *The standard states that values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

b. *The standard does not place any restrictions on the val attribute of the axId element.*

Office requires that the val attribute of this element matches the val attribute of an axId element on a catAx, dateAx, serAx, or valAx element on the chart.

2.1.1433 Part 1 Section 21.2.2.10, axPos (Axis Position)

a. *The standard states that the axpos element specifies the position of the axis on the chart.*

Office ignores this element, always using the crosses element on a valAx, the crossesAt element on a catAx or dateAx, and the orientation element of the scaling element on the perpendicular axis to specify the axis position.

2.1.1434 Part 1 Section 21.2.2.11, backWall (Back Wall)

a. *The standard states that the backWall element is valid for any chart type.*

Office only allows this element for 3D charts (bar3dChart, line3dChart, area3dChart, surface3dChart, pie3Dchart).

2.1.1435 Part 1 Section 21.2.2.12, backward (Backward)

a. *The standard states that the value of the val attribute on non-scatter charts must be 0 or 0.5.*

Office allows the data range to include any non-negative number.

b. *The standard states that the values of the val attribute are defined by the XML Schema double datatype.*

Office restricts the values of this attribute to be greater than 0 and not equal to INF, -INF, or Nan.

2.1.1436 Part 1 Section 21.2.2.14, bandFmts (Band Formats)

a. *The standard states that bands are indexed from low to high.*

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The bands within this collection are indexed with increasing index values that correspond to increasing values in the chart. The lowest index value for a band is 0, regardless of whether it is present in the collection of formatting bands. Bands with no explicit formatting may be omitted from the collection.

2.1.1437 Part 1 Section 21.2.2.15, bar3DChart (3D Bar Charts)

a. *The standard states that the maxOccurs value for the ser child element is unbounded.*

Office limits the occurrences of this element to 255.

2.1.1438 Part 1 Section 21.2.2.16, barChart (Bar Charts)

For additional notes that apply to this portion of the standard, please see the notes for axId, §21.2.2.9(a).

a. *The standard states that the maxOccurs value for the serLines child element is unbounded.*

Office limits the occurrences of this element to 1.

2.1.1439 Part 1 Section 21.2.2.17, barDir (Bar Direction)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

2.1.1440 Part 1 Section 21.2.2.19, bubble3D (3D Bubble)

For additional notes that apply to this portion of the standard, please see the notes for bubbleChart, §21.2.2.20(b).

2.1.1441 Part 1 Section 21.2.2.20, bubbleChart (Bubble Charts)

For additional notes that apply to this portion of the standard, please see the notes for axId, §21.2.2.9(a).

a. *The standard states that the maxOccurs value for the ser child element is unbounded.*

Office limits the occurrences of this element to 255.

b. *The standard states that the bubble3D element is a valid child of the bubbleChart element.*

Office does not allow the bubble3D element to be a child of the bubbleChart element.

2.1.1442 Part 1 Section 21.2.2.23, builtInUnit (Built in Display Unit Value)

a. *The standard states that the builtInUnit element specifies that the display unit is one of the built in values.*

In Office, this element specifies the display unit for the axis and also the text shown by sibling element dispUnitsLbl when the dispUnitLbl does not contain a tx child element.

2.1.1443 Part 1 Section 21.2.2.24, cat (Category Axis Data)

a. *The standard does not define the behavior when the cat element is omitted.*

Office uses the one-based index value of the corresponding data point as the default category axis data when this element is omitted on a series.

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2.1.1444 Part 1 Section 21.2.2.25, catAx (Category Axis Data)

a. *The standard does place any restrictions on the val attribute of the axId element.*

Office requires that the val attribute of the axId element matches the val attribute of an axId element in the parent chart.

b. *The standard does place any restrictions on the val attribute of the crossAx element.*

Office requires that the val attribute of the crossAx element matches the val attribute of an axId element in the parent chart.

2.1.1445 Part 1 Section 21.2.2.28, chartObject (Chart Object)

a. *The standard states that the chartObject element specifies that the chart cannot be edited by the user.*

Office does not respect this element and allows editing regardless of the value.

2.1.1446 Part 1 Section 21.2.2.31, crossAx (Crossing Axis ID)

a. *The standard states that the values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

b. *The standard does not place any restrictions on the val attribute of the crossAx element.*

Office requires that the val attribute of the crossAx element matches the val attribute of an axId element in the parent chart.

2.1.1447 Part 1 Section 21.2.2.34, crossesAt (Crossing Value)

For additional notes that apply to this portion of the standard, please see the notes for custUnit, §21.2.2.36(a); splitPos, §21.2.2.195(c).

a. *The standard states the value's data type is determined by the parent element.*

In Office, the value data type is inferred from the type of axis being crossed, as follows:

When the axis to cross is specified by a **valAx** element, the value is a decimal number on the value axis.

When the axis to cross is specified by a **dateAx element**, the date is defined as an integer number on the date axis.

When the axis to cross is specified by a **catAx** element, the value is an integer category number, starting with 1 as the first category.

b. *The standard states that the possible values for the val attribute are defined by the XML Schema double datatype.*

In Office, INF, -INF, and NaN are not supported values.

2.1.1448 Part 1 Section 21.2.2.36, custUnit (Custom Display Unit)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b); splitPos, §21.2.2.195(c).

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a. *The standard states that the possible values for the val attribute are defined by the XML Schema double datatype.*

   In Office, INF, -INF, and NaN are not supported values.

b. *The standard states that the custUnit element specifies a custom value for the display unit.*

   In Office, this element specifies a custom value for the display unit for the axis. This element specifies the text shown by sibling element dispUnitsLbl when the dispUnitLbl does not contain a tx child element.

2.1.1449 Part 1 Section 21.2.2.37, data (Data Cannot Be Changed)

a. *The standard states that the data element prevents the user from changing the choice of data used for the chart".*

   Office does not respect this element and allows the user to change the choice of data.

2.1.1450 Part 1 Section 21.2.2.39, dateAx (Date Axis)

a. *The standard does not place any restrictions on the val attribute of the axId element.*

   Office requires that the val attribute of the axId element matches the val attribute of an axId element in the parent chart.

b. *The standard does not place any restrictions on the val attribute of the crossAx element.*

   Office requires that the val attribute of the crossAx element matches the val attribute of an axId element in the parent chart.

2.1.1451 Part 1 Section 21.2.2.41, depthPercent (Depth Percent)

a. *The standard states that the depthpercent element specifies the depth of a 3-D chart as a percentage of the chart width.*

   In Office, this element specifies the depth of a 3-D chart as a percentage of the 3-D plot area width.

2.1.1452 Part 1 Section 21.2.2.42, dispBlanksAs (Display Blanks As)

a. *The standard places no restriction on @val beyond ST_DisplayBlanksAs.*

The following table shows which chart types support which methods of displaying blank cells. The supported methods often depend on the chart's grouping ("[ISO/IEC-29500-1] §21.2.2.76; grouping") **type.**

Chart Type	Gap	Span	Zero	Default
("[ISO/IEC-29500-1] §21.2.2.16; barChart (Bar Charts)")	▪ •		▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.15; bar3DChart (3D Bar Charts)")	▪ •		▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.5; areaChart (Area Charts)") where **grouping** is *standard*	▪ •		▪ •	*gap*

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Chart Type	Gap	Span	Zero	Default
("[ISO/IEC-29500-1] §21.2.2.5; areaChart (Area Charts)") where **grouping** is not *standard*			▪ •	*zero*
("[ISO/IEC-29500-1] §21.2.2.4; area3DChart (3D Area Charts)")			▪ •	*zero*
("[ISO/IEC-29500-1] §21.2.2.97; lineChart (Line Charts)") where **grouping** is *standard*	▪ •	▪ •	▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.97; lineChart (Line Charts)") where **grouping** is not *standard*			▪ •	*zero*
("[ISO/IEC-29500-1] §21.2.2.96; line3DChart (3D Line Charts)")	▪ •		▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.141; pieChart (Pie Charts)")	▪ •		▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.140; pie3DChart (3D Pie Charts)")	▪ •		▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.50; doughnutChart (Doughnut Charts)")	▪ •		▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.20; bubbleChart (Bubble Charts)")	▪ •	▪ •	▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.161; scatterChart (Scatter Charts)")	▪ •	▪ •	▪ •	*gap*
("[ISO/IEC-29500-1] §21.2.2.153; radarChart (Radar Charts)")	▪ •	▪ •	▪ •	*gap*

If a method of displaying blank cells not supported by the chart type is specified, the chart uses its default method of displaying blank cells.

2.1.1453 Part 1 Section 21.2.2.43, dispEq (Display Equation)

a. *The standard does not state any exceptions that cause the dispEq element to be ignored.*

Office ignores this element if the trendlineLbl sibling element contains a tx element or if the value attribute of trendlineType sibling element is equal to movingAvg.

2.1.1454 Part 1 Section 21.2.2.44, dispRSqr (Display R Squared Value)

a. *The standard does not state any exceptions that cause the dispRSqr element to be ignored.*

Office ignores this element if the trendlineLbl sibling element contains a tx element or if the val attribute of trendlineType sibling element is equal to movingAvg.

2.1.1455 Part 1 Section 21.2.2.47, dLbl (Data Label)

a. *The standard states that the dLbl element can be a child of any pivotFmt or dLbls element.*

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In Office, this element is only specified if the parent element is a pivotFmt or if the parent element is a dLbls with a series parent element.

b. *The standard does not state any exceptions that cause child elements of the dLbl element to be ignored.*

Office ignores the numFmt, separator, showBubbleSize, showCatName, showPercent, showSerName, and showVal child elements if this element contains a tx child element.

2.1.1456 Part 1 Section 21.2.2.48, dLblPos (Data Label Position)

a. *The standard places no restriction on @val beyond ST_DLblPos.*

In Office, if the ancestor does not include a **ser** element any position value is allowed. However, if a **ser** element is an ancestor the following rules apply based on the chart group ancestor:

- For chart groups **ofPieChart** ("[ISO/IEC-29500-1] §21.2.2.126; ofPieChart (Pie of Pie or Bar of Pie Charts)"), **pie3DChart** ("[ISO/IEC-29500-1] §21.2.2.140; pie3DChart (3D Pie Charts)"), and **pieChart** ("[ISO/IEC-29500-1] §21.2.2.141; pieChart (Pie Charts)") the valid positions are *BestFit*, *OutsideEnd*, *InsideEnd*, *Center*.
- For the chart groups **barChart** ("[ISO/IEC-29500-1] §21.2.2.16; barChart (Bar Charts)") where **grouping** is *clustered* the valid positions are *InsideBase*, *InsideEnd*, *OutsideEnd*, *Center*.
- For the chart groups **barChart** ("[ISO/IEC-29500-1] §21.2.2.16; barChart (Bar Charts)") where **grouping** is *stacked* or *percentStacked* the valid positions are *InsideBase*, *InsideEnd*, *Center*.
- For chart groups **bubbleChart** ("[ISO/IEC-29500-1] §21.2.2.20; bubbleChart (Bubble Charts)"), **lineChart** ("[ISO/IEC-29500-1] §21.2.2.97; lineChart (Line Charts)"), **scatterChart** ("[ISO/IEC-29500-1] §21.2.2.161; scatterChart (Scatter Charts)"), and **stockChart** ("[ISO/IEC-29500-1] §21.2.2.161; scatterChart (Scatter Charts)") the valid positions are *left*, *right*, *bottom*, *top*, *center*.

For chart groups areaChart "[ISO/IEC-29500-1] §21.2.2.5; areaChart (Area Charts)"), **area3DChart** ("[ISO/IEC-29500-1] §21.2.2.4; area3DChart (3D Area Charts)"), **bar3DChart** ("[ISO/IEC-29500-1] §21.2.2.15; bar3DChart (3D Bar Charts)"), **doughnutChart** ("[ISO/IEC-29500-1] §21.2.2.50; doughnutChart (Doughnut Charts)"), **line3DChart** ("[ISO/IEC-29500-1] §21.2.2.96; line3DChart (3D Line Charts)"), **radarChart** ("[ISO/IEC-29500-1] §21.2.2.153; radarChart (Radar Charts)") this element shall not be specified.

b. *The standard does not define the behavior when the dLblPos element is omitted.*

For Office, the following lists the chart types and their default position based on the chart group ancestor:

- For chart groups **ofPieChart** ("[ISO/IEC-29500-1] §21.2.2.126; ofPieChart (Pie of Pie or Bar of Pie Charts)"), **pie3DChart** ("[ISO/IEC-29500-1] §21.2.2.140; pie3DChart (3D Pie Charts)"), and **pieChart** ("[ISO/IEC-29500-1] §21.2.2.141; pieChart (Pie Charts)") the automatic position is *BestFit*.
- For chart groups **areaChart** "[ISO/IEC-29500-1] §21.2.2.5; areaChart (Area Charts)"), **area3DChart** ("[ISO/IEC-29500-1] §21.2.2.4; area3DChart (3D Area Charts)"), and **doughnutChart** ("[ISO/IEC-29500-1] §21.2.2.50; doughnutChart (Doughnut Charts)") the automatic position is *Center*.
- For chart groups **barChart** ("[ISO/IEC-29500-1] §21.2.2.16; barChart (Bar Charts)") and **bar3DChart** ("[ISO/IEC-29500-1] §21.2.2.15; bar3DChart (3D Bar Charts)") where **grouping** ("[ISO/IEC-29500-1] §21.2.2.77; grouping") is *stacked* or *percentStacked*; the automatic position is *Center*.
- For chart groups **barChart**, and **bar3Dchart** where **grouping** is *clustered*, and **radarChart** ("[ISO/IEC-29500-1] §21.2.2.153; radarChart (Radar Charts)") the automatic position is *OutsideEnd*.
- For chart groups **bubbleChart** ("[ISO/IEC-29500-1] §21.2.2.20; bubbleChart (Bubble Charts)"), **scatterChart** ("[ISO/IEC-29500-1] §21.2.2.161; scatterChart (Scatter Charts)"), **stockChart**

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("[ISO/IEC-29500-1] §21.2.2.161; scatterChart (Scatter Charts)"), **lineChart** ("[ISO/IEC-29500-1] §21.2.2.97; lineChart (Line Charts)"), and **line3DChart** ("[ISO/IEC-29500-1] §21.2.2.96; line3DChart (3D Line Charts)") the automatic position is *Right*.

2.1.1457 Part 1 Section 21.2.2.49, dLbls (Data Labels)

a. *The standard does not place any restrictions on when the child elements of the dLbls element can be specified.*

Office does not allow delete, dLbl, leaderLines, numFmt, showLeaderLines, spPr or txPr child elements when the parent is not ser.

b. *The standard does not specify an override behavior for data labels.*

Office interprets data labels to have a hierarchical order of overrides. A dLbls child element of a series overrides the dLbls element of the ancestor chart group. A dLbl element overrides the dLbls element of the ancestor series or chart group.

2.1.1458 Part 1 Section 21.2.2.50, doughnutChart (Doughnut Charts)

a. *The standard states that the minOccurs value for the holeSize child element is 0.*

Office requires an occurrence of this element.

2.1.1459 Part 1 Section 21.2.2.55, errBars (Error Bars)

a. *The standard does not state any exceptions that cause the errBars element to be ignored.*

Office ignores this element if the chart is a 3D style chart.

2.1.1460 Part 1 Section 21.2.2.56, errBarType (Error Bar Type)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

2.1.1461 Part 1 Section 21.2.2.57, errDir (Error Bar Direction)

a. *The standard does not define the behavior when the errDir element is omitted.*

In Office, if this element is not defined the default behavior is x for horizontal bar charts. For all other chart types, the default behavior is y.

b. *The standard states errDir can be a child of any errBars element.*

Office loads and respects this element on any errBars parent element; however, this element is only saved back out on line or scatter series.

2.1.1462 Part 1 Section 21.2.2.58, errValType (Error Bar Value Type)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

2.1.1463 Part 1 Section 21.2.2.59, evenFooter (Even Footer)

a. *The standard does not state any exceptions that cause the evenFooter element to be ignored.*

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Office ignores this element if the val attribute of the differentOddEven sibling element is not set to true.

b. *The standard states that the evenFooter element is of type ST_XString.*

Office does not attempt to decode the character escape sequences defined in ST_XString.

2.1.1464 Part 1 Section 21.2.2.60, evenHeader (Even Header)

a. *The standard does not state any exceptions that cause the evenHeader element to be ignored.*

Office ignores this element if the val attribute of the differentOddEven sibling element is not set to true.

b. *The standard states that the evenHeader element is of type ST_XString.*

Office does not attempt to decode the character escape sequences defined in ST_XString.

2.1.1465 Part 1 Section 21.2.2.61, explosion (Explosion)

a. *The standard states that the values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

2.1.1466 Part 1 Section 21.2.2.63, externalData (External Data Relationship)

a. *The standard states the relationship explicitly targeted by the id attribute shall be of type http://schemas.openxmlformats.org/officeDocument/2006/relationships/package.*

In Office, the relationship specified by the id attribute shall be present in the set of relationships associated with the chart's part in the package.

2.1.1467 Part 1 Section 21.2.2.65, f (Formula)

a. *The standard states that the values of the f element are defined by the XML Schema string datatype.*

Office requires the f element be a formula as defined in Formulas ("[ISO/IEC-29500-1] §18.17"). The maximum length of the decoded string shall not exceed 8192 characters.

2.1.1468 Part 1 Section 21.2.2.66, firstFooter (First Footer)

a. *The standard does not state any exceptions that cause the firstFooter element to be ignored.*

Office ignores this element if the differentOddEven attribute of the parent headerFooter element is not set to true.

b. *The standard states that the firstFooter element is of type ST_Xstring.*

Office does not attempt to decode the character escape sequences defined in ST_XString.

2.1.1469 Part 1 Section 21.2.2.67, firstHeader (First Header)

a. *The standard does not state any exceptions that cause the firstHeader element to be ignored.*

Office ignores this element if the differentOddEven attribute of the parent headerFooter element is not set to true.

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b. *The standard states that the firstHeader element is of type ST_Xstring.*

Office does not attempt to decode the character escape sequences defined in ST_XString.

2.1.1470 Part 1 Section 21.2.2.69, floor (Floor)

a. *The standard states that the floor element can be a child of any chart element.*

Office requires that the chart contain a 3D chart group (bar3DChart, line3DChart, area3DChart, surface3DChart, or pie3DChart) when this element is specified.

2.1.1471 Part 1 Section 21.2.2.70, fmtId (Format ID)

a. *The standard states that values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

2.1.1472 Part 1 Section 21.2.2.72, formatting (Formatting)

a. *The standard states that the formatting element prevents a user from changing formatting on chart elements.*

Office does not fully respect this element and does not protect the chart from formatting changes in all scenarios.

2.1.1473 Part 1 Section 21.2.2.73, forward (Forward)

a. *The standard states that the value of the val attribute on non-scatter charts must be a multiple of 0.5.*

Office allows the data range to include any non-negative number.

b. *The standard states that attribute val is of type xsd:double.*

Office does not allow INF, -INF, and NaN as supported values. For scatterChart and bubbleChart, the value is in units, otherwise the value is in number of categories. The value of this attribute has a minimum value greater than 0.

2.1.1474 Part 1 Section 21.2.2.74, gapDepth (Gap Depth)

a. *The standard states that the gapDepth element specifies the space between bar or column clusters, as a percentage of the bar or column width.*

In Office, this element specifies the space between adjacent categories in the depth axis direction, as a percentage of the bar, column, line, or base depth.

2.1.1475 Part 1 Section 21.2.2.75, gapWidth (Gap Width)

a. *The standard does not state how to interpret a gapWidth element on an ofPieChart element.*

In Office, the gapWidth element on an ofPieChart element specifies the radius of the primary pie for an ofPieChart.

b. *The standard states that the gapWidth element specifies the space between bar or column clusters, as a percentage of the bar or column width.*

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In Office, this element specifies the space between adjacent series clusters in the category axis direction, as a percentage of the bar or column width for bar3DChart, barChart, and upDownBars.

2.1.1476 Part 1 Section 21.2.2.76, grouping (Grouping)

a. *The standard states that the grouping element specifies the type of grouping for a column, line, or area chart.*

In Office, this element specifies the type of grouping for a line or area chart.

2.1.1477 Part 1 Section 21.2.2.78, h (Height)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b)*;* custUnit, §21.2.2.36(a)*;* splitPos, §21.2.2.195(c)*.*

a. *The standard does not state any exceptions that cause the h element to be ignored.*

Office ignores this element when a descendant of dispUnitsLbl, dLbl, title, or trendline and instead fits the element to the size of the text.

b. *The standard does not state any exceptions that cause the h element to be ignored or interpreted differently.*

In Office, if the value of the val attribute is greater than 1 or less than 0, this element and the parent element manualLayout are ignored. Instead, the parent of manualLayout shall use its default size and position.

2.1.1478 Part 1 Section 21.2.2.79, headerFooter (Header and Footer)

a. *The standard states that the alignWithMargins attribute specifies that the header and footer should align with the left and right margins of the chart.*

In Office, a value of true for this attribute specifies that the left and right edges of the header and footer align with the left and right margins of chart. A value of false specifies the application will determine the alignment.

2.1.1479 Part 1 Section 21.2.2.81, hMode (Height Mode)

For additional notes that apply to this portion of the standard, please see the notes for wMode, §21.2.2.231(a)*.*

a. *The standard states that edge is a valid value for the val attribute of hMode.*

Office only saves a value of factor for the val attribute. Files opened with val equal to edge will be changed to factor on save and the val of sibling element h will be updated to reflect this mode change and correctly preserve the manual size.

2.1.1480 Part 1 Section 21.2.2.82, holeSize (Hole Size)

a. *The standard states that the val attribute specifies that the contents of this attribute will contain a hole size between 10 and 90.*

In Office, the val attribute specifies that the contents of this attribute will contain a hole size as defined by the ST_HoleSize simple type.

b. *The standard implies that the val attribute is optional.*

Office requires this attribute.

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2.1.1481 Part 1 Section 21.2.2.83, hPercent (Height Percent)

a. *The standard does not define the behavior when the hPercent element is omitted.*

If this element is omitted, Office uses automatic scaling. If automatic scaling is enabled, the height of the 3-D chart expressed as a percentage of the chart width shall be the ratio of plot area height to plot area width.

b. *The standard does not specify how to interpret the hPercent element on a pie3Dchart.*

In Office, this element on a pie3DChart specifies that the thickness of the 3-D pie chart shall be the default thickness (defined by the SpreadsheetML application) multiplied by the height percent.

c. *The standard states that the hPercent element specifies the height of a 3-D chart as a percentage of the chart width.*

In Office, this element specifies the height of a 3-D chart as a percentage of the 3-D plot area width, and disables automatic scaling for the chart height.

2.1.1482 Part 1 Section 21.2.2.84, idx (Index)

a. *The standard places no restrictions on the val attribute beyond type information.*

Office requires that the value of the val attribute be unique amongst idx elements within the same collection.

b. *The standard states that the values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

2.1.1483 Part 1 Section 21.2.2.85, intercept (Intercept)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b)*;* custUnit, §21.2.2.36(a)*;* splitPos, §21.2.2.195(c)*.*

2.1.1484 Part 1 Section 21.2.2.86, invertIfNegative (Invert if Negative)

a. *The standard does not state any exceptions that cause this element to be ignored.*

Office ignores this element and always inverts the negative values if the ancestors include bubbleChart.

2.1.1485 Part 1 Section 21.2.2.88, layout (Layout)

a. *The standard states that the manualLayout and extLst child elements both have a minOccurs=0.*

Office will not save this element if the manualLayout child element is not present when the parent element is dLbl or trendlineLbl, even if this element has an extLst child element.

2.1.1486 Part 1 Section 21.2.2.89, layoutTarget (Layout Target)

a. *The standard states that this element can be a child of any manualLayout element.*

Office requires that the ancestors not include dispUnitsLbl, dLbl, legend, title, and trendlineLbl when this element is specified.

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2.1.1487 Part 1 Section 21.2.2.92, leaderLines (Leader Lines)

a. *The standard states that this element can be a child of any dLbls element.*

Office requires that the value of the val attribute of sibling element showLeaderLines is true when this element is specified.

b. *The standard states that this element can be a child of any dLbls element.*

Office requires that the ancestor include doughnutChart, ofPieChart, pie3DChart, or pieChart when this element is specified.

2.1.1488 Part 1 Section 21.2.2.95, legendPos (Legend Position)

a. *The standard does not state any exceptions that cause this element to be ignored.*

In Office, when this element is specified along with the manualLayout child element of the layout sibling element the exact position of the legend is overridden by the manual layout.

2.1.1489 Part 1 Section 21.2.2.96, line3DChart (3D Line Charts)

a. *The standard states that the values of the child element axId are defined by the XML Schem unsignedInt datatype.*

In Office, child element axId has a maximum value of 2147483647.

b. *The standard states that the maxOccurs value for the ser child element is unbounded.*

Office limits the occurrences of this element to 255.

2.1.1490 Part 1 Section 21.2.2.97, lineChart (Line Charts)

For additional notes that apply to this portion of the standard, please see the notes for line3DChart, §21.2.2.96(b)*.*

2.1.1491 Part 1 Section 21.2.2.99, lvl (Level)

a. *The standard states that the maxOccurs value for the pt child element is unbounded.*

Office limits the occurrences of this element to 2147483647; occurrences greater than 1048576 will be ignored on load and discarded on save.

2.1.1492 Part 1 Section 21.2.2.101, majorTickMark (Major Tick Mark)

a. *The standard states that the val attribute of this element specifies the minor tick mark position.*

In Office, the val attribute of this element specifies the major tick mark position.

2.1.1493 Part 1 Section 21.2.2.103, majorUnit (Major Unit)

a. *The standard states that the minimum value of the val attribute is equal to 0.*

Office requires that the value of the val attribute be greater than or equal to 1 when the parent element is dateAx.

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2.1.1494 Part 1 Section 21.2.2.104, manualLayout (Manual Layout)

a. *The standard does not place any restrictions on when the attributes can be specified.*

Office requires that attributes h, w, x, and y all be specified if one is specified and the ancestors include legend or plotArea. If x or y are specified and the ancestors include dispUnitsLbl, dLbl, title, or trendlineLbl, both shall be specified.

2.1.1495 Part 1 Section 21.2.2.105, marker (Show Marker)

a. *The standard states this element is a boolean that, when true, specifies that the marker shall be shown.*

Office always ignores and does not use this element to define if markers shall be shown.

2.1.1496 Part 1 Section 21.2.2.106, marker (Marker)

a. *The standard states this element can be a child of any ser (Line Chart Series) element.*

Office requires that the ancestors not include line3DChart when this element is specified.

2.1.1497 Part 1 Section 21.2.2.107, max (Maximum)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b)*;* custUnit, §21.2.2.36(a)*;* splitPos, §21.2.2.195(c)*.*

2.1.1498 Part 1 Section 21.2.2.108, min (Minimum)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b)*;* custUnit, §21.2.2.36(a)*;* splitPos, §21.2.2.195(c)*.*

2.1.1499 Part 1 Section 21.2.2.112, minorUnit (Minor Unit)

a. *The standard states that the minimum value of the val attribute is equal to 0.*

Office requires that the value of the val attribute be greater than or equal to 1 when the parent element is dateAx.

2.1.1500 Part 1 Section 21.2.2.113, minus (Minus)

a. *The standard states that this element shall be used only when the errValType is cust.*

Office also saves out this element if the errValType is stdErr and the error bar value had been custom type during the current workbook session.

2.1.1501 Part 1 Section 21.2.2.114, multiLvlStrCache (Multi Level String Cache)

a. *The standard states that this element specifies the last data shown on the chart for a category axis.*

In Office, this element specifies a cache of the labels on the category axis, or the x-values in a bubble or scatter chart.

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2.1.1502 Part 1 Section 21.2.2.115, multiLvlStrRef (Multi Level String Reference)

a. *The standard states that this element specifies a reference to data for the category axis with a cache of the last values used.*

In Office, this element specifies a reference to data for the category axis (or for the x-values in a bubble or scatter chart), along with a cache of the last values used.

2.1.1503 Part 1 Section 21.2.2.117, name (Pivot Name)

a. *The standard states that this element specifies the name of the PivotTable to get the data for the chart from.*

In Office, the name of the PivotTable is defined using the following format:

[*filename*]*sheet*!*pivottable*

filename is the name of the SpreadsheetML file containing the PivotTable, *sheet* is the name of the worksheet containing the PivotTable, and *pivottable* is the name of the PivotTable itself. The name of the PivotTable matches the **name** attribute of the pivotTableDefinition element ("[ISO/IEC-29500-1] §18.10.1.73; pivotTableDefinition (PivotTable Definition)") of the associated PivotTable.

If the name is not specified in the correct format or refers to an object that does not exist, no association between the chart and the PivotTable is made.

2.1.1504 Part 1 Section 21.2.2.121, numFmt (Number Format)

a. *The standard states that the sourceLinked attribute should be respected when the parent is TrendlineLbl.*

In Office, if this element is parented by a TrendlineLbl element, the sourceLinked attribute is not used.

2.1.1505 Part 1 Section 21.2.2.124, oddFooter (Odd Footer)

a. *The standard states that this element defines the footer to use on odd numbered pages.*

Office applies this footer to all pages if the differentOddEven attribute of the parent element equals false. Office does not apply this footer to the first page if the differentFirst attribute of the parent element equals true.

b. *The standard states that this element is of type ST_XString.*

Office does not attempt to decode the character escape sequences defined in ST_XString.

2.1.1506 Part 1 Section 21.2.2.125, oddHeader (Odd Header)

a. *The standard states that this element defines the header to use on odd numbered pages.*

Office applies this header to all pages if the differentOddEven attribute of the parent element equals false. Office does not apply this header to the first page if the differentFirst attribute of the parent element equals true.

b. *The standard states that this element is of type ST_XString.*

Office does not attempt to decode the character escape sequences defined in ST_XString.

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2.1.1507 Part 1 Section 21.2.2.126, ofPieChart (Pie of Pie or Bar of Pie Charts)

For additional notes that apply to this portion of the standard, please see the notes for pie3DChart, §21.2.2.140(b).

a. *The standard states that this element contains the pie of pie or bar of pie series on this chart.*

In Office, this element specifies an ofPieChart that has a primary pie chart and a secondary bar (Bar of Pie) or pie (Pie of Pie) chart. The data in the secondary chart are aggregated into an additional "Other" slice in the primary chart.

2.1.1508 Part 1 Section 21.2.2.127, ofPieType (Pie of Pie or Bar of Pie Type)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

2.1.1509 Part 1 Section 21.2.2.128, order (Order)

a. *The standard states that the values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

b. *The standard does not have any uniqueness restrictions on the order element.*

Office requires the value of this element to be unique amongst any other order elements of the same collection containing the parent series element.

2.1.1510 Part 1 Section 21.2.2.129, order (Polynomial Trendline Order)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

b. *The standard states that this element is ignored for non-polynomial trendlines.*

Office requires this element to be specified when the val attribute of trendlineType sibling element is equal to poly.

2.1.1511 Part 1 Section 21.2.2.130, orientation (Axis Orientation)

a. *The standard states that this element specifies the stretching and stacking of the picture on the data point, series, wall, or floor.*

In Office, this element specifies whether the values on an axis are increasing or decreasing.

2.1.1512 Part 1 Section 21.2.2.131, overlap (Overlap)

a. *The standard does not specify how bars and columns overlap.*

In Office, this element specifies how much the bars and columns of adjacent series within the same category shall overlap each other.

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2.1.1513 Part 1 Section 21.2.2.133, pageMargins (Page Margins)

a. *The standard states that the possible values for the b attribute are defined by the XML Schema double datatype.*

   Office requires the value of the b attribute to be greater than or equal to 0 and less than 49.

b. *The standard states that the possible values for the t attribute are defined by the XML Schema double datatype.*

   Office requires the value of the t attribute to be greater than or equal to 0 and less than 49.

c. *The standard states that the possible values for the l attribute are defined by the XML Schema double datatype.*

   Office requires the value of the l attribute to be greater than or equal to 0 and less than 49.

d. *The standard states that the possible values for the r attribute are defined by the XML Schema double datatype.*

   Office requires the value of the r attribute to be greater than or equal to 0 and less than 49.

e. *The standard states that the possible values for the header attribute are defined by the XML Schema double datatype.*

   Office requires the value of the header attribute to be greater than or equal to 0 and less than 49.

f. *The standard states that the possible values for the footer attribute are defined by the XML Schema double datatype.*

   Office requires the value of the footer attribute to be greater than or equal to 0 and less than 49.

g. *The standard states that the header attribute specifies the header margin and the footer attribute specifies the footer margin.*

   Office switches the header and footer attribute values on save, writing out the chart object's header margin to the footer attribute and vice versa.

2.1.1514 Part 1 Section 21.2.2.134, pageSetup (Page Setup)

a. *The standard states that the possible values for the firstPageNumber attribute are defined by the XML Schema unisgnedInt datatype.*

   In Office, the possible values for the firstPageNumber attribute are defined by the XML Schema datatype int.

b. *The standard states that the values of the paperSize attribute are defined by the XML Schema unsignedInt datatype.*

   Excel restricts the value of this attribute to be at most 2147483647.

c. *The standard states that the possible values for the copies attribute are defined by the XML Schema unisgnedInt datatype.*

   In Office, the copies attribute has a maximum value of 2147483647.

d. *The standard states a table of values allowed for @paperSize.*

Office specifies the paper size according to the following table. Values larger than or equal to 256 specify custom printer paper sizes.

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Value	Meaning
1	US Letter 8 1/2 x 11 in
2	US Letter Small 8 1/2 x 11 in
3	US Tabloid 11 x 17 in
4	US Ledger 17 x 11 in
5	US Legal 8 1/2 x 14 in
6	US Statement 5 1/2 x 8 1/2 in
7	US Executive 7 1/4 x 10 1/2 in
8	A3 297 x 420 mm
9	A4 210 x 297 mm
10	A4 Small 210 x 297 mm
11	A5 148 x 210 mm
12	B4 (JIS) 250 x 354
13	B5 (JIS) 182 x 257 mm
14	Folio 8 1/2 x 13 in
15	Quarto 215 x 275 mm
16	10 x 14 in
17	11 x 17 in
18	US Note 8 1/2 x 11 in
19	US Envelope #9 3 7/8 x 8 7/8
20	US Envelope #10 4 1/8 x 9 1/2
21	US Envelope #11 4 1/2 x 10 3/8
22	US Envelope #12 4 \276 x 11
23	US Envelope #14 5 x 11 1/2
24	C size sheet
25	D size sheet
26	E size sheet
27	Envelope DL 110 x 220mm
28	Envelope C5 162 x 229 mm
29	Envelope C3 324 x 458 mm
30	Envelope C4 229 x 324 mm
31	Envelope C6 114 x 162 mm
32	Envelope C65 114 x 229 mm

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Value	Meaning
33	Envelope B4 250 x 353 mm
34	Envelope B5 176 x 250 mm
35	Envelope B6 176 x 125 mm
36	Envelope 110 x 230 mm
37	US Envelope Monarch 3.875 x 7.5 in
38	6 3/4 US Envelope 3 5/8 x 6 1/2 in
39	US Std Fanfold 14 7/8 x 11 in
40	German Std Fanfold 8 1/2 x 12 in
41	German Legal Fanfold 8 1/2 x 13 in
42	B4 (ISO) 250 x 353 mm
43	Japanese Postcard 100 x 148 mm
44	9 x 11 in
45	10 x 11 in
46	15 x 11 in
47	Envelope Invite 220 x 220 mm
48	RESERVED--DO NOT USE
49	RESERVED--DO NOT USE
50	US Letter Extra 9 \275 x 12 in
51	US Legal Extra 9 \275 x 15 in
52	US Tabloid Extra 11.69 x 18 in
53	A4 Extra 9.27 x 12.69 in
54	Letter Transverse 8 \275 x 11 in
55	A4 Transverse 210 x 297 mm
56	Letter Extra Transverse 9\275 x 12 in
57	SuperA/SuperA/A4 227 x 356 mm
58	SuperB/SuperB/A3 305 x 487 mm
59	US Letter Plus 8.5 x 12.69 in
60	A4 Plus 210 x 330 mm
61	A5 Transverse 148 x 210 mm
62	B5 (JIS) Transverse 182 x 257 mm
63	A3 Extra 322 x 445 mm
64	A5 Extra 174 x 235 mm

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Value	Meaning
65	B5 (ISO) Extra 201 x 276 mm
66	A2 420 x 594 mm
67	A3 Transverse 297 x 420 mm
68	A3 Extra Transverse 322 x 445 mm
69	Japanese Double Postcard 200 x 148 mm
70	A6 105 x 148 mm
71	Japanese Envelope Kaku #2
72	Japanese Envelope Kaku #3
73	Japanese Envelope Chou #3
74	Japanese Envelope Chou #4
75	Letter Rotated 11 x 8 1/2 11 in
76	A3 Rotated 420 x 297 mm
77	A4 Rotated 297 x 210 mm
78	A5 Rotated 210 x 148 mm
79	B4 (JIS) Rotated 364 x 257 mm
80	B5 (JIS) Rotated 257 x 182 mm
81	Japanese Postcard Rotated 148 x 100 mm
82	Double Japanese Postcard Rotated 148 x 200 mm
83	A6 Rotated 148 x 105 mm
84	Japanese Envelope Kaku #2 Rotated
85	Japanese Envelope Kaku #3 Rotated
86	Japanese Envelope Chou #3 Rotated
87	Japanese Envelope Chou #4 Rotated
88	B6 (JIS) 128 x 182 mm
89	B6 (JIS) Rotated 182 x 128 mm
90	12 x 11 in
91	Japanese Envelope You #4
92	Japanese Envelope You #4 Rotated
93	PRC 16K 146 x 215 mm
94	PRC 32K 97 x 151 mm
95	PRC 32K(Big) 97 x 151 mm
96	PRC Envelope #1 102 x 165 mm

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Value	Meaning
97	PRC Envelope #2 102 x 176 mm
98	PRC Envelope #3 125 x 176 mm
99	PRC Envelope #4 110 x 208 mm
100	PRC Envelope #5 110 x 220 mm
101	PRC Envelope #6 120 x 230 mm
102	PRC Envelope #7 160 x 230 mm
103	PRC Envelope #8 120 x 309 mm
104	PRC Envelope #9 229 x 324 mm
105	PRC Envelope #10 324 x 458 mm
106	PRC 16K Rotated
107	PRC 32K Rotated
108	PRC 32K(Big) Rotated
109	PRC Envelope #1 Rotated 165 x 102 mm
110	PRC Envelope #2 Rotated 176 x 102 mm
111	PRC Envelope #3 Rotated 176 x 125 mm
112	PRC Envelope #4 Rotated 208 x 110 mm
113	PRC Envelope #5 Rotated 220 x 110 mm
114	PRC Envelope #6 Rotated 230 x 120 mm
115	PRC Envelope #7 Rotated 230 x 160 mm
116	PRC Envelope #8 Rotated 309 x 120 mm
117	PRC Envelope #9 Rotated 324 x 229 mm
118	PRC Envelope #10 Rotated 458 x 324 mm

e. *The standard states that the useFirstPageNumber attribute specifies to use the first page number instead of automatically generating a page number.*

Office ignores this attribute and does not use the value of the firstPageNumber attribute when useFirstPageNumber is true.

2.1.1515 Part 1 Section 21.2.2.135, period (Period)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

b. *The standard states that this element is ignored for non-moving average trendlines.*

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Office requires this element to be included when the val attribute of trendlineType equals movingAvg and not otherwise.

c. *The standard states that the val attribute has a maximum value of less than or equal to 255.*

Office requires that the upper bound of @val is the number of categories on the series minus 1. If the @val is greater than the number of categories minus 1 but less than 256 the file loads and saves correctly but the trendline will not be displayed

2.1.1516 Part 1 Section 21.2.2.136, perspective (Perspective)

a. *The standard states that this element specifies the field of view angle for the 3-D chart.*

In Office, this element specifies the field of view angle multiplied by a factor of 2 for the 3-D chart. When the val attribute is zero, the field of view angle is 0.1 degrees.

b. *The standard states that this element is ignored if Right Angle Axes is true.*

Office gives sibling element rAngAx precedence over this element when the field of view is rendered.

2.1.1517 Part 1 Section 21.2.2.138, pictureOptions (Picture Options)

a. *The standard does not specify a relationship between the pictureFormat and pictureStackUnit child elements.*

Office requires pictureStackUnit only be specified if pictureFormat is present with the val attribute equal to "stackScale", otherwise the chart will fail to load.

b. *The standard does not specify a relationship between this element and blipFill.*

Office ignores this element when a blipFill child element is not specified on the sibling spPr element.

c. *The standard does not specify special behavior for individual parents.*

Office ignores the pictureStackUnit child element when the parent of pictureOptions is the floor element.

2.1.1518 Part 1 Section 21.2.2.140, pie3DChart (3D Pie Charts)

a. *The standard states that multiple ser elements may be specified on this element.*

Office only displays the first series if there are multiple ser child elements.

b. *The standard states that the maxOccurs value for the ser child element is unbounded.*

Office limits the occurrences of this element to 255.

2.1.1519 Part 1 Section 21.2.2.141, pieChart (Pie Charts)

For additional notes that apply to this portion of the standard, please see the notes for pie3DChart, §21.2.2.140(b).

a. *The standard states that multiple ser elements may be specified on this element.*

Office only displays the first series if there are multiple ser child elements.

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2.1.1520 Part 1 Section 21.2.2.142, pivotFmt (Pivot Format)

a. *The standard states that the txPr element is a valid child of the pivotFmt element.*

Office does not allow the txPr element to be a child of the pivotFmt element.

2.1.1521 Part 1 Section 21.2.2.143, pivotFmts (Pivot Formats)

a. *The standard states that this element contains a collection of formatting bands for a surface chart indexed from low to high.*

In Office, this element is used to contain a collection of formats to be applied to a chart that is based on a PivotTable.

2.1.1522 Part 1 Section 21.2.2.144, pivotSource (Pivot Source)

a. *The standard states that the maxOccurs value for the extLst child element is unbounded.*

Office limits the occurrences of this element to 1.

b. *The standard states that possible values for child element fmtId are defined by type xsd:unsignedInt.*

In Office, child element fmtId has a maximum value of 2147483647.

2.1.1523 Part 1 Section 21.2.2.145, plotArea (Plot Area)

a. *The standard states that the maxOccurs value for the choice statement including the valAx, catAx, dateAx, and serAx elements is unbounded.*

Office limits the occurrences of this choice to 4.

2.1.1524 Part 1 Section 21.2.2.147, plus (Plus)

a. *The standard states that this element shall be used only when the errValType is cust.*

Office also saves out this element if the errValType is stdErr and the error bar value had been custom type during the current workbook session.

2.1.1525 Part 1 Section 21.2.2.148, printSettings (Print Settings)

a. *The standard states that the pageMargins child element is optional.*

In Office, if no child pageMargins element is defined, a pageMargins element is created with application defined values.

2.1.1526 Part 1 Section 21.2.2.149, protection (Protection)

a. *The standard states that if the chart is on a protected worksheet or chart sheet, then these settings shall control how a user is able to interact with the chart.*

In Office, this element to controls how a user is permitted to interact with the chart regardless of whether the chart is on a protected worksheet or chart sheet.

b. *The standard states the protection element supports the child elements specified.*

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Office only successfully writes out the selection child element. The other child elements have not been implemented.

2.1.1527 Part 1 Section 21.2.2.150, pt (Numeric Point)

a. *The standard does not state uniqueness or maximum value restrictions for the idx attribute.*

Office requires that the idx attribute be unique amongst siblings and be between 0 and the total points in the parent element minus one.

b. *The standard states that the values of the idx attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

c. *The standard states that the idx attribute is the index of the series in the collection.*

In Office, the idx attribute is the index of the points in the collection.

2.1.1528 Part 1 Section 21.2.2.151, pt (String Point)

a. *The standard states that the values of the idx attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

b. *The standard does not state uniqueness or maximum value restrictions for the idx attribute.*

Office requires that the idx attribute be unique amongst siblings and be between 0 and the total points in the parent element minus one.

2.1.1529 Part 1 Section 21.2.2.152, ptCount (Point Count)

a. *The standard states that the values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

2.1.1530 Part 1 Section 21.2.2.153, radarChart (Radar Charts)

a. *The standard states that the maxOccurs value for the ser child element is unbounded.*

Office limits the occurrences of this element to 255.

2.1.1531 Part 1 Section 21.2.2.154, radarStyle (Radar Style)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

2.1.1532 Part 1 Section 21.2.2.155, rAngAx (Right Angle Axes)

a. *The standard does not describe any interplay between this element and the rotX, rotY elements.*

Office only calculates the default extrude angles with the rotX and rotY values when the rAngAx element is specified.

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2.1.1533 Part 1 Section 21.2.2.156, rich (Rich Text)

a. *The standard states that the maxOccurs value for the child element p is unbounded.*

Office limits the number of p child elements to the total character count of all p elements under rich, which can be a maximum of 255.

2.1.1534 Part 1 Section 21.2.2.161, scatterChart (Scatter Charts)

a. *The standard states that the maxOccurs value for the ser child element is unbounded.*

Office limits the occurrences of this element to 255.

2.1.1535 Part 1 Section 21.2.2.163, secondPiePt (Second Pie Point)

a. *The standard states that the contents of the val attribute are interpreted based on the context of the parent element.*

In Office, the val attribute is a zero-based index into the chart's data series that must be unique amongst secondPiePt elements within the same collection.

b. *The standard states that the values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 2147483647.

2.1.1536 Part 1 Section 21.2.2.166, separator (Separator)

a. *The standard states that the default separator is a comma.*

In Office, the default separator is region/language specific.

2.1.1537 Part 1 Section 21.2.2.167, ser (Scatter Chart Series)

For additional notes that apply to this portion of the standard, please see the notes for ser, §21.2.2.174(b).

a. *The standard states that the maxOccurs value for the trendline child element is unbounded.*

Office limits the occurrences of this element to 254.

b. *The standard states that the maxOccurs value for the dPt child element is unbounded.*

Office limits the occurrences of this element to 32000.

2.1.1538 Part 1 Section 21.2.2.168, ser (Area Chart Series)

a. *The standard states that the maxOccurs value for the trendline child element is unbounded.*

Office limits the occurrences of this element to 254.

b. *The standard states that the minOccurs value for the val child element is 0.*

Office requires an occurrence of this element.

c. *The standard states that the maxOccurs value for the dPt child element is unbounded.*

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Office limits the occurrences of this element to 4000 when inside an area3DChart and 32000 otherwise.

2.1.1539 Part 1 Section 21.2.2.169, ser (Radar Chart Series)

a. *The standard states that the maxOccurs value for the dPt child element is unbounded.*

Office limits the occurrences of this element to 32000.

2.1.1540 Part 1 Section 21.2.2.170, ser (Bar Chart Series)

a. *The standard states that the maxOccurs value for the trendline child element is unbounded.*

Office limits the occurrences of this element to 254.

b. *The standard states that the maxOccurs value for the dPt child element is unbounded.*

Office limits the occurrences of this element to 4000 when inside a bar3DChart and 32000 otherwise.

2.1.1541 Part 1 Section 21.2.2.171, ser (Line Chart Series)

a. *The standard states that the maxOccurs value for the trendline child element is unbounded.*

Office limits the occurrences of this element to 254.

b. *The standard states that the maxOccurs value for the dPt child element is unbounded.*

Office limits the occurrences of this element to 4000 when inside a line3DChart and 32000 otherwise.

2.1.1542 Part 1 Section 21.2.2.172, ser (Pie Chart Series)

a. *The standard states that the maxOccurs value for the dPt child element is unbounded.*

Office limits the occurrences of this element to 4000 when inside a pie3DChart element and 32000 otherwise.

2.1.1543 Part 1 Section 21.2.2.174, ser (Bubble Chart Series)

a. *The standard states that the maxOccurs value for the trendline child element is unbounded.*

Office limits the occurrences of this element to 254.

b. *The standard states that the minOccurs value for the yVal child element is 0.*

Office requires an occurrence of this element.

c. *The standard states that the maxOccurs value for the dPt child element is unbounded.*

Office limits the occurrences of this element to 32000.

2.1.1544 Part 1 Section 21.2.2.175, serAx (Series Axis)

a. *The standard does not place any restrictions on the val attribute of the axId element.*

Office requires that the val attribute of the axId element match the val attribute of an axId element in the parent chart.

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b. *The standard does not state any exceptions that cause the numFmt child element to be ignored.*

Office ignores the numFmt child element but will load and save the element.

2.1.1545 Part 1 Section 21.2.2.176, serLines (Series Lines)

a. *The standard states that this element specifies series lines for the chart.*

In Office, if the parent is barChart, the series lines connect the top of adjacent data points within the same series; if the parent is ofPieChart, the series lines connect the secondary pie or column to the other slice.

b. *The standard states that this element can be a child of any barChart element.*

Office requires that the val attribute of sibling element grouping equal percentStacked or stacked when this element is specified.

2.1.1546 Part 1 Section 21.2.2.177, shape (Shape)

a. *The standard states that this element specifies the shape of a series or a 3-D bar chart.*

In Office, this element specifies the default series shape when this element is a child of bar3DChart.

b. *The standard does not place any restrictions on when this element can be a child of ser.*

Office requires that the ancestor include bar3DChart when this element is a child of ser.

2.1.1547 Part 1 Section 21.2.2.178, showBubbleSize (Show Bubble Size)

a. *The standard states that this element can be a child of any dLbl or dLbls element.*

Office requires that the ancestor include bubbleChart when this element is specified.

2.1.1548 Part 1 Section 21.2.2.180, showDLblsOverMax (Show Data Labels over Maximum)

a. *The standard states that this element specifies that data labels over the maximum of the chart shall be shown.*

In Office, this element specifies that data labels with data whose value is over the axis maximum or under the axis minimum shall be shown.

2.1.1549 Part 1 Section 21.2.2.183, showLeaderLines (Show Leader Lines)

a. *The standard states that this element can be a child of any dLbls element.*

Office requires that the ancestor include doughnutChart, ofPieChart, pie3DChart, or pieChart when this element is specified.

b. *The standard states that this element can be a child of any dLbls element.*

Office requires that the val attribute equals true on one or more of the showCatName, showSerName, showVal, or showPercent sibling elements when this element is specified.

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2.1.1550 Part 1 Section 21.2.2.184, showLegendKey (Show Legend Key)

a. *The standard does not specify what occurs when legend keys are shown in the data label.*

In Office, this element specifies if legend keys shall be shown in the data label(s) indicated by the parent element. The data label legend key has the same formatting as that of the corresponding data's legend key in the chart legend.

b. *The standard does not specify a relationship between sibling elements.*

Office only displays the legend key when that val attribute equals true on one or more of the showBubbleSize, showCatName, showSerName, showVal, or showPercent sibling elements or dLbl contains a sibling tx element.

2.1.1551 Part 1 Section 21.2.2.187, showPercent (Show Percent)

a. *The standard states that this element can be a child of any dLbl or dLbls element.*

Office requires that the ancestor include doughnutChart, ofPieChart, pie3DChart, or pieChart when this element is specified.

2.1.1552 Part 1 Section 21.2.2.191, sideWall (Side Wall)

a. *The standard states that this element can be a child of any chart element.*

Office requires that the chart contain a 3D chart group (bar3DChart, line3DChart, area3DChart, surface3DChart, or pie3DChart) when this element is specified.

2.1.1553 Part 1 Section 21.2.2.195, splitPos (Split Position)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b)*;* custUnit, §21.2.2.36(a)*.*

a. *The standard does not state any interplay between sibling element splitType and the val attribute.*

In Office, if splitType is equal to pos, the value of the val attribute shall be an integer in the range of 0 to 32000, inclusive. If splitType is equal to percent, the value shall be in the range of 0.0 to 100.0, inclusive.

b. *The standard states that this element can be a child of any ofPieChart element.*

Office requires that the ofPieChart parent contain a splitType element with a val attribute equal to percent, pos, or val when this element is specified.

c. *The standard states that attribute val is of type xsd:double.*

Office does not allow INF, -INF, and NaN as supported values.

2.1.1554 Part 1 Section 21.2.2.196, splitType (Split Type)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

b. *The standard does not define the behavior when this element is omitted.*

In Office, if this element is not specified the default behavior is to split by position with a split position value equal to the number of data points in the series divided by 3, rounded up.

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2.1.1555 Part 1 Section 21.2.2.197, spPr (Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for spPr, §20.5.2.30(a-c).

a. *The standard states grpFill can be a child of the spPr element.*

Office does not allow grpFill to be a child of spPr.

b. *The standard states blipFill, gradFill, grpFill, noFill, patFill, and solidFill can be a child of any spPr element.*

Office does not persist the *Fill child elements if the parent element is dropLines, hiLowLines, leaderLines, majorGridlines, minorGridlines, ser (line, scatter, or radar with radarStyle not equal to filled), or trendline.

c. *The standard states effectDag and effectLst can be a child of any spPr element.*

Office does not persist the effectDag and effectLst child elements if the parent element is leaderLines.

d. *The standard does not specify parent elements of spPr that do not persist the scene3d child element.*

Office does not persist the scene3d child element if the parent element is *Ax, dropLines, dTable, hiLowLines, leaderLines, majorGridLines, minorGridlines, ser (line, scatter, or radar with radarStyle not equal to filled), seriesLines, or trendline.

e. *The standard states sp3d can be a child of any spPr element.*

Office does not persist the sp3d child element if the parent element is *Ax, dropLines, dTable, hiLowLines, leaderLines, majorGridLines, minorGridlines, ser (line, scatter, or radar with radarStyle not equal to filled), seriesLines, or trendline.

2.1.1556 Part 1 Section 21.2.2.203, surface3DChart (3D Surface Charts)

a. *The standard states that the maxOccurs value for the ser child element is unbounded.*

Office limits the occurrences of this element to 255.

2.1.1557 Part 1 Section 21.2.2.204, surfaceChart (Surface Charts)

For additional notes that apply to this portion of the standard, please see the notes for surface3DChart, §21.2.2.203(a).

2.1.1558 Part 1 Section 21.2.2.206, thickness (Thickness)

a. *The standard states that the values of the val attribute are defined by the XML Schema unsignedInt datatype.*

Office restricts the value of this attribute to be at most 100.

b. *The standard states that thickness is a percentage of the largest dimension of the plot volume.*

In Office, thickness is a percentage of the smaller of the height and width of the 3D chart. The height of the 3D chart relative to the width is specified by hPercent.

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2.1.1559 Part 1 Section 21.2.2.208, tickLblSkip (Tick Label Skip)

a. *The standard states that this element specifies how many tick labels to skip between label that is drawn.*

In Office, this element specifies the interval at which tick labels are drawn.

2.1.1560 Part 1 Section 21.2.2.209, tickMarkSkip (Tick Mark Skip)

a. *The standard states that this element specifies how many tick marks shall be skipped before the next one shall be drawn.*

In Office, this element specifies the interval at which tick marks are drawn.

2.1.1561 Part 1 Section 21.2.2.210, title (Title)

a. *The standard describes the tx child element as optional but does not state default value.*

In Office, the default text in the title is a localized string specific to the parent element type, except when this element is the child of a chart that has a single series with a name, in which case the text shall be that series' name.

b. *The standard describes the tx child element but does not state a requirement for a default character property.*

In Office, the title element requires default character properties or direct formatting character properties. See rPr ("[ISO/IEC-29500-1] §21.1.2.3.9; rPr") and defRPr ("[ISO/IEC-29500-1] §21.1.2.3.2; defRPr") elements.

2.1.1562 Part 1 Section 21.2.2.211, trendline (Trendlines)

a. *The standard states that this element can be a child of ser elements.*

Office requires that when this element is specified, the ancestor include an areaChart or lineChart with the grouping element equal to standard, a barChart with grouping element equal to clustered, or a bubbleChart, scatterChart or stockChart.

2.1.1563 Part 1 Section 21.2.2.212, trendlineLbl (Trendline Label)

a. *The standard does not fully specify the trendlineLbl element.*

Office interprets this element to specify the formatting of the trendline label which annotates the parent trendline. The default text is determined by the dispEq and dispRSqr sibling elements.

b. *The standard does not state additional restrictions on when a trendline label is displayed.*

Office does not display the trendline label if the val attribute of sibling element trendlineType is equal to movingAvg.

c. *The standard does not define the trendline label contents.*

Office displays the text specified by the tx child element when tx element exists on the trendlineLbl, replacing the text generated by the dispEq and dispRSqr sibling elements.

d. *The standard states that this element can be a child of any trendline element.*

In Office, this element shall only be specified if sibling element dispEq or dispRSqr is true.

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2.1.1564 Part 1 Section 21.2.2.213, trendlineType (Trendline Type)

a. *The standard implies that the val attribute is optional.*

Office requires this attribute.

2.1.1565 Part 1 Section 21.2.2.215, tx (Series Text)

a. *The standard does not define the behavior when the tx element is omitted.*

If the tx element is omitted, Office uses a default text of the localized version of string "Series#", where # is the value of the idx for the corresponding series + 1.

2.1.1566 Part 1 Section 21.2.2.216, txPr (Text Properties)

For additional notes that apply to this portion of the standard, please see the notes for pivotFmt, §21.2.2.142(a).

a. *The standard does not state any exceptions that cause this element to be ignored.*

Office ignores this element on load and removes this element on save if the tx sibling element contains a rich child element.

b. *The standard states that the maxOccurs for child element p is unbounded.*

Office ignores all but the first p child elements on load and only saves the first p child element.

2.1.1567 Part 1 Section 21.2.2.219, userInterface (User Interface)

a. *The standard states that when this element is true, protection applies to the user interface only.*

Office always applies protection to the user interface when this element is present, regardless of the value the val attribute.

b. *The standard states that this element specifies that the protection applies to the user interface only, and not to changes made through the object model.*

Office does not provide a way to set this property or save a file with this element. On load this element is treated as specifying standard protection.

2.1.1568 Part 1 Section 21.2.2.222, v (Numeric Value)

a. *The standard states that the values of the val attribute are defined by the ST_Xstring simple type.*

Office restricts the string values of this attribute to be a double, an integer, or the value #N/A.

2.1.1569 Part 1 Section 21.2.2.225, val (Error Bar Value)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b); custUnit, §21.2.2.36(a); splitPos, §21.2.2.195(c).

a. *The standard does not state any exceptions that cause this element to be ignored.*

Office ignores this element if the val attribute of sibling element errBarType is equal to stdErr.

2.1.1570 Part 1 Section 21.2.2.226, valAx (Value Axis)

a. *The standard does place any restrictions on the val attribute of the axId child element.*

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Office requires that the val attribute of the axId child element match the val attribute of an axId element in the parent chart.

b. *The standard does place any restrictions on the val attribute of the crossAx child element.*

Office requires that the val attribute of the crossAx child element matches the val attribute of an axId element in the parent chart.

2.1.1571 Part 1 Section 21.2.2.227, varyColors (Vary Colors by Point)

a. *The standard states that each point shall have a different color.*

In Office, this element also specifies that marker types shall vary by point.

b. *The standard states that each data marker in the series shall have a different color.*

In Office, this element specifies that each data point, marker, and slice in the series shall vary by color.

c. *The standard states that parent elements include area3DChart, areaChart, stockChart, and radarChart.*

Office ignores this element and does not vary colors by point when the parent is area3DChart, areaChart, or stockChart or when the parent is radarChart with the val attribute of sibling element radarStyle set to filled.

d. *The standard does not state any exceptions as to when the vary colors by point is applied.*

Office ignores this element and does not vary colors by point when multiple series are specified on the chart.

2.1.1572 Part 1 Section 21.2.2.228, view3D (View In 3D)

a. *The standard states view3D is a child of any chart element.*

In Office, view3D applies when the descendants of the parent chart include area3DChart, bar3DChart, line3DChart, pie3DChart, surface3DChart, or surfaceChart.

2.1.1573 Part 1 Section 21.2.2.229, w (Width)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b)*;* custUnit, §21.2.2.36(a)*;* splitPos, §21.2.2.195(c)*.*

a. *The standard does not state any exceptions that cause this element to be ignored.*

Office ignores this element when a descendant of dispUnitsLbl, dLbl, title, or trendline and instead fits the element to the size of the text.

b. *The standard does not state any exceptions that cause this element to be ignored or interpreted differently.*

Office ignores this element and the parent element manualLayout if the val attribute is greater than 1 or less than 0. Instead, the parent of manualLayout shall use its default size and position.

2.1.1574 Part 1 Section 21.2.2.231, wMode (Width Mode)

a. *The standard states the val attribute specifies the layout mode for the width.*

In Office, the val attribute specifies the layout mode for the parent element.

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b. *The standard states that edge is a valid value of the val attribute for wMode.*

Office only saves a val of factor. Files opened with val equal to edge will be changed to factor on save and the val of sibling element w will be updated to reflect this mode change and correctly preserve the manual size.

2.1.1575 Part 1 Section 21.2.2.232, x (Left)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b)*;* custUnit, §21.2.2.36(a)*;* splitPos, §21.2.2.195(c)*.*

a. *The standard does not state any exceptions that cause this element to be ignored or interpreted differently.*

Office ignores this element and parent manualLayout if val is greater than 1, less than 0 when the val of sibling xMode equals edge, or less than -1 when the val of sibling xMode equals factor, Instead, default size and position are used.

b. *The standard does not state any exceptions that cause this element to be ignored or interpreted differently.*

Office places the element inside the chart at the point closest to the location specified while still retaining the specified width if val is in the allowed range but the specified width and location would place the element outside the chart.

2.1.1576 Part 1 Section 21.2.2.233, xMode (Left Mode)

For additional notes that apply to this portion of the standard, please see the notes for wMode, §21.2.2.231(a)*.*

a. *The standard states that factor is a valid value of the val attribute for xMode.*

Office only saves a val of edge, changing files with factor on save and updating x to reflect this change and preserve the position. This may result in the manualLayout being ignored on subsequent loads if val of x is >1 or <0 after conversion.

2.1.1577 Part 1 Section 21.2.2.235, y (Top)

For additional notes that apply to this portion of the standard, please see the notes for crossesAt, §21.2.2.34(b)*;* custUnit, §21.2.2.36(a)*;* splitPos, §21.2.2.195(c)*.*

a. *The standard does not state any exceptions that cause this element to be ignored or interpreted differently.*

Office places the element inside the chart at the point closest to the location specified while still retaining the specified height if val is in the allowed range but the specified height and location would place the element outside the chart.

b. *The standard does not state any exceptions that cause this element to be ignored or interpreted differently.*

Office ignores this element and parent manualLayout if val is greater than 1, less than 0 when the val of sibling yMode equals edge, or less than -1 when the val of sibling yMode equals factor, Instead, default size and position are used.

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2.1.1578 Part 1 Section 21.2.2.236, yMode (Top Mode)

For additional notes that apply to this portion of the standard, please see the notes for wMode, §21.2.2.231(a).

a. *The standard states that factor is a valid value of the val attribute for yMode.*

Office only saves a val of edge, changing files with factor on save and updating y to reflect this change and preserve the position. This may result in the manualLayout being ignored on subsequent loads if val of y is > 1 or < 0 after conversion.

2.1.1579 Part 1 Section 21.2.3.1, ST_AxisUnit (Axis Unit)

a. *The standard states that the contents of the ST_AxisUnit simple type are a restriction on the XML Schema double datatype, with a minimum value of greater than 0.*

Office does not allow the values of INF, -INF, or NaN.

2.1.1580 Part 1 Section 21.2.3.3, ST_BarDir (Bar Direction)

a. *The standard states that each enumeration specifies that if the chart is a bar or column chart, the data markers are horizontal or vertical rectangles, respectively.*

Office interprets each enumeration to specify that if the chart is a bar or column chart, the data markers are horizontally or vertically oriented. For 2D charts these are rectangles. For 3D charts, the shape is specified by the shape element.

2.1.1581 Part 1 Section 21.2.3.4, ST_BarGrouping (Bar Grouping)

a. *The standard states that the enumeration value standard specifies that the chart series are drawn next to each other on the depth axis.*

In Office, the data markers for each category are drawn in clusters containing one marker from each series. The markers in each cluster are lined up on the depth axis in a 3D chart. On 2d charts, standard grouping behaves like clustered grouping.

2.1.1582 Part 1 Section 21.2.3.6, ST_BuiltInUnit (Built-In Unit)

a. *The standard states that the trillions enumeration value specifies that the values on the chart shall be divided by 1,000,000,000.*

In Office, the trillions enumeration value specifies that the values on the chart shall be divided by 1,000,000,000,000.

2.1.1583 Part 1 Section 21.2.3.8, ST_Crosses (Crosses)

a. *The standard states that the autoZero value specifies that the category axis crosses at the zero point of the value axis (if possible), or the minimum value (if the minimum is greater than zero) or the maximum (if the maximum is less than zero).*

Office uses this value to specify that one axis crosses the other at the zero point, if a zero point exists; at the minimum value, if the minimum is greater than 0 or the axis is not numerical; or at the maximum value, if the maximum is less than 0.

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2.1.1584 Part 1 Section 21.2.3.14, ST_ErrValType (Error Value Type)

a. *The standard states that the enumeration value stdDev specifies that the length of the error bars shall be Error Bar Value standard deviations of the data.*

In Office, the enumeration valuestdDev specifies that the length of the error bars shall be the standard deviation for each data point and then multiplied by the val (Error Bar Value).

2.1.1585 Part 1 Section 21.2.3.17, ST_Grouping (Grouping)

a. *The standard states that the ST_Grouping simple type specifies the possible groupings for a bar chart.*

Office uses this simple type to specify the possible methods for grouping the data series on a chart.

2.1.1586 Part 1 Section 21.2.3.18, ST_HoleSize (Hole Size)

a. *The standard states that the ST_HoleSize simple type has a minimum value of greater than or equal to 10.*

Office defines this simple type to have a minimum value of greater than or equal to 1.

2.1.1587 Part 1 Section 21.2.3.20, ST_LayoutMode (Layout Mode)

a. *The standard defines edge as "Specifies that the Width or Height shall be interpreted as the Right or Bottom of the chart element".*

Office additionally specifies the following behaviors for the edge attribute:

For **hMode**/**wMode** element, the **edge** attribute specifies that the value of sibling element **h** ("[ISO/IEC-29500-1] §21.2.2.78; h (Height)") /**w** ("[ISO/IEC-29500-1] §21.2.2.229; w (Width)") is interpreted as the distance to the bottom/right edge of the chart element from the top/left edge of the chart as a percentage of the chart height/width.

For **xMode**/**yMode** element, the **edge** attribute specifies that the value of sibling element **x** ("[ISO/IEC-29500-1] §21.2.2.232; x (Left)") / **y** ("[ISO/IEC-29500-1] §21.2.2.235; y (Top)") is interpreted as the distance to the left/top edge of the chart element from the left/top edge of the chart as a percentage of the chart width/height.

b. *The standard defines factor as "Specifies that the Width or Height shall be interpreted as the Width or Height of the chart element".*

Office additionally specifies the following behaviors for the factor attribute:

For **hMode**/**wMode** element, the **factor** attribute specifies that the value of sibling element **h** ("[ISO/IEC-29500-1] §21.2.2.78; h (Height)") /**w** ("[ISO/IEC-29500-1] §21.2.2.229; w (Width)") is interpreted as the height/width of the chart element as a percentage of the chart height/width.

For **xMode**/**yMode** element, the **factor** attribute specifies that the value of sibling element **x** ("[ISO/IEC-29500-1] §21.2.2.232; x (Left)") / **y** ("[ISO/IEC-29500-1] §21.2.2.235; y (Top)") is interpreted as the distance to the left/top edge of the chart element from the left/top edge of default position of the chart element as a percentage of the chart width/height.

2.1.1588 Part 1 Section 21.2.3.27, ST_MarkerStyle (Marker Style)

a. *The standard does not specify auto as a valid enumeration value.*

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Office allows auto as an enumeration value that specifies that the marker style shall be determined by the application.

2.1.1589 Part 1 Section 21.2.3.30, ST_Orientation (Orientation)

a. *The standard states that the ST_Orientation simple type specifies the possible ways to place a picture on a data point, series, wall, or floor.*

Office uses this simple type to specify whether the values on an axis are increasing or decreasing.

2.1.1590 Part 1 Section 21.2.3.33, ST_Period (Period)

a. *The standard states that the contents of the ST_Period simple type are a restriction on the XML Schema unsignedByte datatype, ranging from 2 to 255.*

Excel defines this simple type as being a restriction on the XML Schema unsignedInt datatype, with a minimum value of 2 and an unbounded maximum value.

2.1.1591 Part 1 Section 21.2.3.34, ST_Perspective (Perspective)

a. *The standard states that the ST_Perspective simple type specifies an integer between 0 and 100 whose contents are a percentage.*

Office uses this simple type to specify an integer between 0 and 240, inclusive, whose contents are a measurement in degrees.

2.1.1592 Part 1 Section 21.2.3.35, ST_PictureFormat (Picture Format)

a. *The standard states that the stretch enumeration value specifies that the picture shall be anisotropic stretched to fill the data point, series, wall or floor.*

Office does not use anisotropic stretch when stretching the picture fill.

2.1.1593 Part 1 Section 21.2.3.37, ST_RadarStyle (Radar Style)

a. *The standard does not state that the styles specified by the ST_RadarStyle simple type can be overridden.*

Office allows theses styles to be overridden by the line and marker settings on the individual data series in the chart.

2.1.1594 Part 1 Section 21.2.3.40, ST_ScatterStyle (Scatter Style)

a. *The standard states that none is a valid enumeration value.*

Office does not allow this enumeration value. If this enumeration value is present the file will fail to load.

b. *The standard states that the smooth enumeration value specifies that the points on the scatter chart shall be connected with smoothed lines and markers shall not be drawn.*

Office treats this enumeration as if it were smoothMarker on load. Office will never save out this enumeration, instead using smoothMarker and specifying that no markers are to be drawn.

c. *The standard states that the line enumeration value specifies the points on the scatter chart shall be connected with straight lines but markers shall not be drawn.*

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Office treats this enumeration as if it were lineMarker on load. Office will never save out this enumeration, instead using lineMarker and specifying that no markers are to be drawn.

d. *The standard states that the marker enumeration value specifies the points on the scatter chart shall not be connected with lines and markers shall be drawn.*

Office treats this enumeration as if it were lineMarker on load. Office will never save out this enumeration, instead using lineMarker and specifying that no lines are to be drawn.

e. *The standard does not state any exceptions that cause the ST_ScatterStyle to be overridden.*

In Office, scatter chart styles can be overridden by line and marker settings on the individual data series in the chart.

2.1.1595 Part 1 Section 21.2.3.42, ST_Shape (Shape)

a. *The standard states that the pyramidToMax enumeration value specifies the chart shall be drawn with truncated cones such that the point of the cone would be the maximum data value.*

In Office, pyramidToMax specifies that the chart shall be drawn as truncated rectangular pyramids such that the point of the pyramid would be at the highest value in the chart. The pyramid is truncated at the data marker's value.

b. *The standard states that coneToMax enumeration value specifies that the chart shall be drawn with truncated cones such that the point of the cone would be the maximum data value.*

In Office, coneToMax to specifies that the chart shall be drawn as truncated cones, such that the point of the cone would be at the highest value in the chart. The cone is truncated at the data marker's value.

2.1.1596 Part 1 Section 21.2.3.44, ST_Skip (Skip)

a. *The standard states that the contents of the ST_Skip simple type are a restriction of the XML Schema unsignedShort datatype.*

Office defines this simple type as being a restriction on the XML Schema int datatype.

2.1.1597 Part 1 Section 21.2.3.45, ST_SplitType (Split Type)

a. *The standard states that auto is a valid enumeration value.*

Office does not allow the auto enumeration value.

2.1.1598 Part 1 Section 21.2.3.46, ST_Style (Style)

a. *The standard makes an unclear reference to accent1-6 in Table 3.*

In Office, the color listed as accent1-6 means that the first style uses accent1, the next uses accent2, up to the sixth, which uses accent6.

b. *The standard does not specify the color of the effect in Tables 4 and 5.*

In Office, if the style has an effect applied, the color of the effect is dk1.

2.1.1599 Part 1 Section 21.2.3.50, ST_TrendlineType (Trendline Type)

a. *The standard states that the exp enumeration value specifies the trendline shall be an exponential curve in the form y=ab^x.*

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In Office, this enumeration value specifies that the trendline shall be an exponential curve in the form y=ae^(bx).

2.1.1600 Part 1 Section 21.3.2.1, absSizeAnchor (Absolute Anchor Shape Size)

a. *The standard states that the from element specifies the top left corner of the shape bounding box in a RTL (right to left) implementation. The ext element specifies the bottom right corner of the shape bounding box in a RTL implementation.*

In Office, the from element specifies the top left corner relative to the chart and the ext element specifies the size of the shape in EMUs.

2.1.1601 Part 1 Section 21.3.2.2, blipFill (Picture Fill)

a. *The standard allows the dpi attribute to be used with this element.*

The dpi attribute is not supported by Office.

2.1.1602 Part 1 Section 21.3.2.7, cNvPr (Non-Visual Drawing Properties)

a. *The standard implies that hyperlinks can be used on objects inside of charts.*

PowerPoint does not support hyperlinks in objects inside charts.

2.1.1603 Part 1 Section 21.3.2.9, cxnSp (Connection Shape)

a. *The standard states that cxnSp connects two sp elements.*

In Office, cxnSp connects two sp or pic elements.

b. *The standard states that the values of the macro attribute are defined by the XML Schema string datatype.*

Office requires that the macro attribute value follow the same grammar as name-references ("[ISO/IEC-29500-1] §18.17.2.5") with a minimum length of 0 characters and a maximum length of 256 characters.

c. *The standard states that cxnSp can be any geometry element.*

In Office, a connection shape can only be a preset geometry element; a custom geometry element is not allowed.

2.1.1604 Part 1 Section 21.3.2.10, ext (Shape Extent)

a. *The standard inverts the terms width and height when describing attributes cx and cy.*

In Office, the cx attribute represents the extent width (horizontal size) and the cy attribute represents the extents height (vertical size).

b. *The standard allows the value of attributes cx and cy to be zero.*

If the value of either the cx or cy attribute is zero, Office will ignore it and use the object transform (xfrm). If the object transform is also invalid, the object will not be shown

2.1.1605 Part 1 Section 21.3.2.12, graphicFrame (Graphic Frame)

a. *The standard allows a graphicFrame to be specified within a Chart Drawing.*

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Office does not support the display of graphic frames inside charts.

b. *The standard states that the values of the macro attribute are defined by the XML Schema string datatype.*

Office requires that the macro attribute value follow the same grammar as name-references ("[ISO/IEC-29500-1] §18.17.2.5") with a minimum length of 0 characters and a maximum length of 256 characters.

2.1.1606 Part 1 Section 21.3.2.14, grpSpPr (Group Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for grpSpPr, §20.5.2.18(a-c).

2.1.1607 Part 1 Section 21.3.2.20, pic (Picture)

a. *The standard states that the values of the macro attribute are defined by the XML Schema string datatype.*

Office requires that the macro attribute value follow the same grammar as name-references ("[ISO/IEC-29500-1] §18.17.2.5") with a minimum length of 0 characters and a maximum length of 256 characters.

2.1.1608 Part 1 Section 21.3.2.21, relSizeAnchor (Relative Anchor Shape Size)

a. *The standard allows shapes to be defined where the right edge is to the left of the left edge or where the bottom edge is above the top edge.*

Office places additional restrictions on the relative size of 'from x' and 'from y' as follows:

The left side (**from** x) should be less than or equal to the right side (**to** x).

The top side (**from** y) should be less than or equal to the bottom side (**to** y).

If these restrictions are not met, Office uses the values described in the 2D transform (**xfrm**), if they are valid. If these values are not valid, Office does not render the shape.

b. *The standard states that the from element specifies the top left corner of the shape bounding box in a RTL (right to left) implementation and the to element specifies the bottom right corner of the shape bounding box in a RTL implementation.*

In Office, the from element specifies the top left corner of the shape bounding box relative to the chart and the to element specifies the bottom right corner of the shape bounding box relative to the chart.

2.1.1609 Part 1 Section 21.3.2.22, sp (Shape)

a. *The standard states that textlink is a formula linking to spreadsheet cell data.*

Excel requires that the value of the textlink attribute be a string referencing a cell or a cell range. This reference should be to a unique cell. Excel accepts a cell range but only considers the first cell in the range.

b. *The standard states that that the minOccurs of child element txBody is 0.*

Office requires txBody if textlink is specified. Chart drawing content will not load if txBody is not provided and textlink is valid.

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c. *The standard allows attribute fLocksText on a shape in a chart drawing.*

Office does not support attribute fLocksText on a shape within a chart drawing.

d. *The standard states that the values of the macro attribute are defined by the XML Schema string datatype.*

Office requires that the macro attribute value follow the same grammar as name-references ("[ISO/IEC-29500-1] §18.17.2.5") with a minimum length of 0 characters and a maximum length of 256 characters.

2.1.1610 Part 1 Section 21.3.2.23, spPr (Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for spPr, §20.5.2.30(a-c).

2.1.1611 Part 1 Section 21.3.2.24, style (Shape Style)

a. *The standard states that child element fontRef applies to parent elements pic, cxnSp and sp.*

In Office, the fontRef child element is not used for parent elements pic and cxnSp.

b. *The standard allows a sp, pic or cxnSp element to have similar formatting options defined in both the style and spPr elements.*

In Office, shape properties defined on the parent element will override similar style components (lnRef, effectRef, fillRef, fontRef) defined in this element.

c. *The standard allows similar text formatting properties to be defined for parent element sp by the style or txBody element.*

In Office, child elements in the txBody element will override similar style properties defined by child element fontRef.

2.1.1612 Part 1 Section 21.3.2.25, to (Ending Anchor Point)

a. *The standard does not include restrictions regarding the relative size of 'from x' and 'from y' with respect to 'to x' and 'to y'.*

Office places additional restrictions on the relative size of 'from x' and 'from y' as follows:

The left side (from x) should be less than or equal to the right side (to x).

The top side (from y) should be less than or equal to the bottom side (to y).

If these restrictions are not met, Office uses the values described in the 2D transform (xfrm), if they are valid. If these values are not valid, Office does not render the shape.

2.1.1613 Part 1 Section 21.3.2.26, txBody (Shape Text Body)

a. *The standard does not describe the relationship between similar properties in child elements p (text paragraphs) and lstStyle (text list styles).*

In Office, if no text list styles are defined in a paragraph, styles from lstStyle are used. If no list styles are defined in a paragraph, and there is no lstStyle defined, the text in the list defaults to the current text style.

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2.1.1614 Part 1 Section 21.3.2.28, xfrm (Graphic Frame Transform)

For additional notes that apply to this portion of the standard, please see the notes for xfrm, §20.1.7.6(a).

a. *The standard includes attributes flipH, flipV and rot for the xfrm element.*

Office does not support the flipH, flipV and rot attributes for graphic frames in chart drawings. Any value loaded will not be written back to the file on save.

b. *The standard includes ext and off as child elements of xfrm.*

Elements ext (Extents) and off (Offset) are used by Excel only if the graphic frame is inside of a group. If the graphic frame is not inside a group, the application will always write 0 for the attribute values of both elements.

2.1.1615 Part 1 Section 21.4.2.1, adj (Shape Adjust)

a. *The standard is unclear on what the @idx attribute is a reference to.*

The @idx is an index to the list of shape adjust guides defined for the parent shape. These guides are listed under the avLst element in the shape definitions, defined in the preset shape geometries electronic addenda of Annex D.

b. *The standard is unclear on the types of values acceptable in the @val attribute.*

If the adj element refers to a shape adjust handle based on rotation, the @val attribute accepts values in degrees.

2.1.1616 Part 1 Section 21.4.2.7, clrData (Color Transform Sample Data)

For additional notes that apply to this portion of the standard, please see the notes for sampData, §21.4.2.26(a).

2.1.1617 Part 1 Section 21.4.2.13, extLst (Extension List)

a. *The standard implies that the extLst element cannot have any child elements.*

Office requires this element to have at least one child element.

2.1.1618 Part 1 Section 21.4.2.14, forEach (For Each)

a. *The standard states that the name attribute specifies a unique identifier for the layout node.*

Office uses this attribute to specify a unique identifier for the iteration.

b. *The standard describes the forEach element as a simple iteration.*

For Office, it is assumed that forEach describes a pattern for iterating through elements in the data model. The way the data model tree is walked is specified by a forEach expression. The attributes axis, cnt, hideLastTrans, ptType, st and step can each be a single value or list of values. Use an array of values to perform multiple iterations in the same forEach that will iterate elements in the data model like nested forEach elements.

2.1.1619 Part 1 Section 21.4.2.20, param (Parameter)

a. *The standard states that the val attribute is required.*

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Office does not require this attribute; default values are assigned to it based on the value of the type attribute.

2.1.1620 Part 1 Section 21.4.2.26, sampData (Sample Data)

a. *The standard states that the useDef attribute specifies whether or not the data model defined in the clrData element should be used.*

Office uses the useDef attribute to specify whether or not the data model defined in the styleData element should be used.

2.1.1621 Part 1 Section 21.4.2.27, shape (Shape)

a. *The standard states that the lkTxEntry attribute prevents text editing on a shape.*

Office ignores this attribute.

2.1.1622 Part 1 Section 21.4.2.29, styleData (Style Data)

For additional notes that apply to this portion of the standard, please see the notes for sampData, §21.4.2.26(a).

2.1.1623 Part 1 Section 21.4.3.2, cxn (Connection)

a. *The standard places no restrictions on the number of parents associated with a node.*

Office requires that there be no more than one parent for any given node; for example, no more than one connection of type parOf or presParOf for any given destId. As a result, destOrd is ignored.

b. *The standard states that the parTransId attribute is optional.*

Office requires this attribute when the type attribute is set to parOf and ignores this attribute otherwise.

c. *The standard states that the presId attribute is optional.*

Office requires this attribute when the type attribute is set to presOf and ignores this attribute otherwise.

d. *The standard states that the sibTransId attribute is optional.*

Office requires this attribute when the type attribute is set to parOf and ignores this attribute otherwise.

2.1.1624 Part 1 Section 21.4.3.4, prSet (Property Set)

a. *The standard states that the presAssocID attribute is optional.*

Office requires this attribute.

b. *The standard states that the presName attribute is optional.*

Office requires this attribute on the root presentation element.

2.1.1625 Part 1 Section 21.4.3.5, pt (Point)

a. *The standard states that the cxnId attribute is optional.*

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Office requires this attribute when the type attribute is set to parTrans or sibTrans and ignores this attribute otherwise.

2.1.1626 Part 1 Section 21.4.3.7, spPr (Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for spPr, §20.5.2.30(a-c)*.*

a. *The standard states that the grpFill element is a valid child of the spPr element.*

Office will display an empty (invisible) shape fill for any diagram shape with a group fill, regardless of the fill of the parent group.

2.1.1627 Part 1 Section 21.4.3.8, t (Text Body)

a. *The standard restricts a text body to single paragraph and no text runs.*

Office does not enforce this restriction.

2.1.1628 Part 1 Section 21.4.4.3, colorsDef (Color Transform Definitions)

a. *The standard states that the values of the minVer attribute are defined by the XML Schema string datatype.*

Office requires the value of this attribute to be 12.0.

2.1.1629 Part 1 Section 21.4.4.7, effectClrLst (Effect Color List)

For additional notes that apply to this portion of the standard, please see the notes for fillClrLst, §21.4.4.8(b)*.*

2.1.1630 Part 1 Section 21.4.4.8, fillClrLst (Fill Color List)

a. *The standard states that the fillClrLst element defines a list of colors which are used as fill colors in the color transform, and that those fill colors define the colors of the nodes in a diagram.*

Office uses this element to specify a color sequence to be applied to the fill of the associated presentation elements of a diagram.

b. *The standard places no restrictions on the relationship between the meth attribute and the hueDir attribute.*

Office ignores the hueDir attribute if the value of the meth attribute is repeat.

2.1.1631 Part 1 Section 21.4.4.9, linClrLst (Line Color List)

For additional notes that apply to this portion of the standard, please see the notes for fillClrLst, §21.4.4.8(b)*.*

a. *The standard states that the linClrLst element defines a list of colors which are used as line colors in the color transform, and that the line colors define the color of the lines used on a given node in a diagram.*

Office uses this element to specify a color sequence to be applied to the lines of the associated presentation elements of a diagram.

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2.1.1632 Part 1 Section 21.4.4.12, txEffectClrLst (Text Effect Color List)

For additional notes that apply to this portion of the standard, please see the notes for fillClrLst, §21.4.4.8(b).

2.1.1633 Part 1 Section 21.4.4.13, txFillClrLst (Text Fill Color List)

For additional notes that apply to this portion of the standard, please see the notes for fillClrLst, §21.4.4.8(b).

2.1.1634 Part 1 Section 21.4.4.14, txLinClrLst (Text Line Color List)

For additional notes that apply to this portion of the standard, please see the notes for fillClrLst, §21.4.4.8(b).

2.1.1635 Part 1 Section 21.4.5.6, sp3d (3-D Shape Properties)

For additional notes that apply to this portion of the standard, please see the notes for sp3d, §20.1.5.12(b).

a. *The standard places no restrictions on the relationship between the properties of the sp3d element and the parent styleLbl element.*

Office ignores the properties of the sp3d element if the parent styleLbl element is identical to a preset style in all other respects.

2.1.1636 Part 1 Section 21.4.5.10, styleLbl (Style Label)

a. *The standard states that the name attribute is used for tooltips in the user interface.*

Office uses the name attribute to map to nodes in the layout.

2.1.1637 Part 1 Section 21.4.7.3, ST_AnimOneStr (One by One Animation Value Definition)

a. *The standard states that the default value of the ST_AnimOneStr simple type is one.*

Office does not provide a default value for this simple type.

2.1.1638 Part 1 Section 21.4.7.6, ST_AxisType (Axis Type)

a. *The standard states that the ST_AxisType simple type is referenced by itself.*

Office defines the ST_AxisType simple type to be referenced by ST_AxisTypes, not itself.

2.1.1639 Part 1 Section 21.4.7.49, ST_ParameterId (Parameter Identifier)

a. *The standard does not specify default values or the range of values for parameters.*

Office defines the following default values and ranges for each parameter:

Enumeration Value	Description
alignTx (Text Alignment)	Office uses true as a default value to correspond to this parameter identifier.

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Enumeration Value	Description
	Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema boolean data type.
ar (Aspect Ratio)	Office uses 0 as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema double data type.
autoTxRot (Auto Text Rotation)	Office uses upr as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_AutoTextRotation.
begPts (Beginning Points)	Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema string data type.
begSty (Beginning Arrowhead Style)	Office uses noArr as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_ArrowheadStyle.
bendPt (Bend Point)	Office uses def as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_BendPoint.
bkPtFixedVal (Breakpoint Fixed Value)	Office uses 2 as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be of type integer in the range [1, 32766].
bkpt (Breakpoint)	Office uses endCnv as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_Breakpoint.
chAlign (Child Alignment)	Office uses l as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_ChildAlignment.
chDir (Child Direction)	Office uses horz as a default value to correspond to this parameter identifier.

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Enumeration Value	Description
	Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_ChildDirection.
connRout (Connection Route)	Office uses stra as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_ConnectorRouting.
contDir (Continue Direction)	Office uses sameDir as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_ContinueDirection.
ctrShpMap (Center Shape Mapping)	Office uses none as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_CenterShapeMapping.
dim (Connector Dimension)	Office uses 2D as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_ConnectorDimension.
dstNode (Destination Node)	Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema string data type.
endPts (End Points)	Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema string data type.
endSty (End Style)	Office uses arr as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_ArrowheadStyle.
fallback (Fallback Scale)	Office uses 1D as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_FallbackDimension.
flowDir (Flow Direction)	Office uses row as a default value to correspond to this parameter

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Enumeration Value	Description
	identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_FlowDirection.
grDir (Grow Direction)	Office uses tL as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_GrowDirection.
hierAlign (Hierarchy Alignment)	Office uses tCtrCh as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_HierarchyAlignment.
horzAlign (Horizontal Alignment)	Office uses ctr as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_HorizontalAlignment.
linDir (Linear Direction)	Office uses fromL as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_LinearDirection.
lnSpAfChP (Line Spacing After Children Paragraph)	Office uses 15 as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be of type XML schema double in the range [0, 1000].
lnSpAfParP (Line Spacing After Parent Paragraph)	Office uses 35 as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be of type XML schema double in the range [0, 1000].
lnSpCh (Line Spacing Children)	Office uses 90 as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be of type XML schema double in the range [0, 1000].
lnSpPar (Line Spacing Parent)	Office uses 90 as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be of type XML schema double in the range [0, 1000].

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Enumeration Value	Description
nodeHorzAlign (Node Horizontal Alignment)	Office uses ctr as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_NodeHorizontalAlignment.
nodeVertAlign (Node Vertical Alignment)	Office uses mid as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_NodeVerticalAlignment.
off (Offset)	Office uses off as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_Offset.
parTxLTRAlign (Parent Text Left-to-Right Alignment)	Office uses ctr as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextAlignment.
parTxRTLAlign (Parent Text Right-to-Left Alignment)	Office uses ctr as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextAlignment.
pyraAcctBkgdNode (Pyramid Accent Background Node)	Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema string data type.
pyraAcctPos (Pyramid Accent Position)	Office uses bef as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_PyramidAccentPosition.
pyraAcctTxMar (Pyramid Accent Text Margin)	Office uses step as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_PyramidAccentTextMargin.
pyraAcctTxNode (Pyramid Accent Text Node)	Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema string data type.
pyraLvlNode (Pyramid Level	Office expects the value corresponding to this parameter identifier to be in

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Enumeration Value	Description
Node)	the range defined by the XML schema string data type.
rotPath (Rotation Path)	Office uses none as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_RotationPath.
rtShortDist (Route Shortest Distance)	Office uses true as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema boolean data type.
secChAlign (Secondary Child Alignment)	Office uses none as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_SecondaryChildAlignment.
secLinDir (Secondary Linear Direction)	Office uses none as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_SecondaryChildAlignment.
shpTxLTRAlignCh (Shape Text Left-to-Right Alignment)	Office uses l as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextAlignment.
shpTxRTLAlignCh (Shape Text Right-to-Left Alignment)	Office uses r as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextAlignment.
spanAng (Span Angle)	Office uses 360 as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be of type XML schema double in the range [-360, 360].
srcNode (Source Node)	Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema string data type.
stAng (Start Angle)	Office uses 0 as a default value to correspond to this parameter identifier.

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Enumeration Value	Description
	Office expects the value corresponding to this parameter identifier to be in the range defined by the XML schema double data type.
stBulletLvl (Start Bullets At Level)	Office uses 2 as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be of type integer in the range [1, 2].
stElem (Start Element)	Office uses node as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_StartingElement.
txAnchorHorz (Text Anchor Horizontal)	Office uses none as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextAnchorHorizontal.
txAnchorHorzCh (Text Anchor Horizontal With Children)	Office uses none as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextAnchorHorizontal.
txAnchorVert (Text Anchor Vertical)	Office uses mid as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextAnchorVertical.
txAnchorVertCh (Text Anchor Vertical With Children)	Office uses t as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextAnchorVertical.
txBlDir (Text Block Direction)	Office uses horz as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextBlockDirection.
txDir (Text Direction)	Office uses fromT as a default value to correspond to this parameter identifier.

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Enumeration Value	Description
	Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_TextDirection.
vertAlign (Vertical Alignment)	Office uses mid as a default value to correspond to this parameter identifier. Office expects the value corresponding to this parameter identifier to be in the range defined by simple type ST_VerticalAlignment.

2.1.1640 Part 1 Section 21.4.7.56, ST_SecondaryChildAlignment (Secondary Child Alignment)

a. *The standard states that the ST_SecondaryChildAlignment simple type defines different alignment properties of the both hanging layout type of the hierarchy algorithm.*

Office uses this simple type to define secondary alignment preferences to be used in a layout algorithm.

2.1.1641 Part 1 Section 21.4.7.57, ST_SecondaryLinearDirection (Secondary Linear Direction)

a. *The standard states that the ST_SecondaryLinearDirection simple type defines different directions for the nodes in a both hanging layout in the hierarchy algorithm.*

Office uses this simple type to define different directions for the nodes in a layout algorithm.

2.1.1642 Part 1 Section 22.1, Math

a. *The standard specifies that the ruby element is allowed inside math.*

Word exhibits unpredictable behavior if the ruby element is included inside math, including failing to open the document.

b. *The standard specifies that comments are allowed inside math.*

In Office, unpredictable behavior occurs when comments are included inside math.

c. *The standard specifies that the pict element is allowed inside math.*

Word exhibits unpredictable behavior when the pict element is included inside math, including failing to open the document.

2.1.1643 Part 1 Section 22.1.2.1, acc (Accent)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1644 Part 1 Section 22.1.2.3, aln (Alignment)

a. *The standard states that aln is not used when applied to a box which is not an operator emulator.*

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Office does not allow aln to be applied to a box which is not an operator emulator.

b. *The standard says aln applies only to the box function even though the schema allows it as a child of math runs.*

In Word, the aln element applies to the box function and to math runs.

2.1.1645 Part 1 Section 22.1.2.7, bar (Bar)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1646 Part 1 Section 22.1.2.8, barPr (Bar Properties)

a. *The standard states that the bar assumes its default location of top (the mathematical overbar) when this element is omitted.*

Word uses a default location of bottom (the mathematical underbar) when this element is omitted.

2.1.1647 Part 1 Section 22.1.2.9, baseJc (Matrix Base Justification)

a. *The standard says that baseJc applies only to matrices even though the schema allows it as a child of equation arrays.*

In Word, baseJc applies to matrices and equation arrays.

b. *The standard does not specify in detail how to align the matrix with the surrounding content.*

Word uses baseline alignment to align the matrix with the surrounding content.

2.1.1648 Part 1 Section 22.1.2.11, borderBox (Border-Box Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1649 Part 1 Section 22.1.2.13, box (Box Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1650 Part 1 Section 22.1.2.15, brk (Break)

a. *The standard allows any value for alnAt between 1 and 255.*

Word requires the value of alnAt to be less than the index of the first operator in the equation with a manual break.

b. *The standard allows brk element to be specified for any math run.*

Word ignores brk if it is specified for a math run which does not begin with an operator.

c. *The standard says the alignAt attribute specifies how to align the current line of the equation with the previous line of the equation.*

In Word, the alignAt attribute specifies how to align the current line of the equation with the first line of the equation.

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2.1.1651 Part 1 Section 22.1.2.18, cGp (Matrix Column Gap)

For additional notes that apply to this portion of the standard, please see the notes for ST_UnSignedInteger, §22.1.3.14(a).

2.1.1652 Part 1 Section 22.1.2.19, cGpRule (Matrix Column Gap Rule)

For additional notes that apply to this portion of the standard, please see the notes for rSpRule, §22.1.2.93(a).

2.1.1653 Part 1 Section 22.1.2.21, count (Matrix Column Count)

For additional notes that apply to this portion of the standard, please see the notes for mr, §22.1.2.69(a).

a. *The standard does not specify how to interpret the matrix column count when the count element is omitted.*

   Office assumes the matrix column count is 1 when this element is omitted.

b. *The standard states that the values of the val attribute are defined by ST_Integer255 simple type.*

   Office restricts the value of this attribute to be at least 1 and at most 64.

2.1.1654 Part 1 Section 22.1.2.22, cSp (Minimum Matrix Column Width)

a. *The standard states that the values of the val attribute are defined by the XML unsignedInt datatype.*

   Office restricts the value of this attribute to be at most 31680 (22").

2.1.1655 Part 1 Section 22.1.2.23, ctrlPr (Control Properties)

a. *The standard does not specify where character properties of each control character of a math object are saved.*

   Word saves the character properties of the first control character inside the math object properties tag, while the character properties of the rest of the control characters are saved inside the tags of the arguments of the math object.

2.1.1656 Part 1 Section 22.1.2.24, d (Delimiter Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c).

a. *The standard states that the maxOccurs value for the e child element is unbounded.*

   Word limits the occurrences of this element to 1651564.

2.1.1657 Part 1 Section 22.1.2.25, defJc (Default Justification)

a. *The standard implies that the val attribute is optional.*

   Word requires this attribute.

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2.1.1658 Part 1 Section 22.1.2.26, deg (Degree)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1659 Part 1 Section 22.1.2.27, degHide (Hide Degree)

a. *The standard allows degHide to be on when the degree is not empty.*

If degHide is on and the degree is not empty, Word displays the contents of the degree in an unexpected place.

2.1.1660 Part 1 Section 22.1.2.28, den (Denominator)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1661 Part 1 Section 22.1.2.30, dispDef (Use Display Math Defaults)

a. *The standard does not specify any effect of the dispDef element.*

If dispDef is off, Word ignores the following math elements: defJc, lMargin, rMargin, wrapRight, and wrapIndent. When these elements are ignored, Word will use the properties that are specified by the paragraph settings.

2.1.1662 Part 1 Section 22.1.2.32, e (Element (Argument))

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1663 Part 1 Section 22.1.2.34, eqArr (Array Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

a. *The standard states that the maxOccurs value for the e child element is unbounded.*

Word limits the occurrences of this element to 64.

2.1.1664 Part 1 Section 22.1.2.36, f (Fraction Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1665 Part 1 Section 22.1.2.37, fName (Function Name)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1666 Part 1 Section 22.1.2.39, func (Function Apply Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

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2.1.1667 Part 1 Section 22.1.2.41, groupChr (Group-Character Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c).

2.1.1668 Part 1 Section 22.1.2.43, grow (n-ary Grow)

a. *The standard states that the grow element applies only to n-ary objects.*

Office applies the grow element to n-ary objects and delimiter objects.

b. *The standard states that the grow element operates at the document level.*

In Office, the grow element operates at the object level.

2.1.1669 Part 1 Section 22.1.2.48, interSp (Inter-Equation Spacing)

a. *The standard specifies the presence of the interSp attribute.*

Word ignores the interSp attribute and fails to write it back out.

2.1.1670 Part 1 Section 22.1.2.49, intLim (Integral Limit Locations)

a. *The standard says intLim specifies limit placement when converting from linear format.*

In Word, naryLim specifies limit placement when limLoc is omitted as well as limit placement when converting from linear format.

2.1.1671 Part 1 Section 22.1.2.50, intraSp (Intra-Equation Spacing)

a. *The standard states that the intraSp element specifies the spacing between adjacent display math paragraphs, in twips.*

Word does not implement this feature and does not write the intraSp element.

2.1.1672 Part 1 Section 22.1.2.51, jc (Justification)

For additional notes that apply to this portion of the standard, please see the notes for defJc, §22.1.2.25(a).

a. *The standard says that if jc is omitted, the math paragraph is Centered as Group.*

In Word, if jc is omitted, the value is taken from the document default defJc.

2.1.1673 Part 1 Section 22.1.2.52, lim (Limit)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c).

a. *The standard states that lim specifies the lower limit even though the schema also includes it as a child of the upper limit.*

In Word, lim specifies the lower limit or upper limit.

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2.1.1674 Part 1 Section 22.1.2.54, limLow (Lower-Limit Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1675 Part 1 Section 22.1.2.56, limUpp (Upper-Limit Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1676 Part 1 Section 22.1.2.60, m (Matrix Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

a. *The standard states that the maxOccurs value for the mr child element is unbounded.*

Word limits the occurrences of this element to 256.

2.1.1677 Part 1 Section 22.1.2.61, mathFont (Math Font)

a. *The standard does not limit the length of the value of the val attribute.*

Word restricts the value of this attribute to be at most 31 characters.

b. *The standard says that the mathFont property is the default math font.*

Word uses this setting when math is created while editing within the application, but not when loading math from a file.

c. *The standard does not specify conditions under which the default math font should be ignored.*

Word ignores the default math font if it is set to an empty string or font which is not appropriate for displaying math.

d. *The standard implies that the val attribute is optional.*

Word requires this attribute.

2.1.1678 Part 1 Section 22.1.2.63, maxDist (Maximum Distribution)

a. *The standard allows maxDist to be used in an equation array without alignment points, but does not specify where that space should be added.*

In Word, maxDist only affects eqArr contents if alignment points are used to specify where space should be added.

2.1.1679 Part 1 Section 22.1.2.64, mc (Matrix Column)

a. *The standard says the mc element specifies the properties of a single column in a matrix.*

Word uses mc to specify the properties of a set of adjacent columns in a matrix.

2.1.1680 Part 1 Section 22.1.2.67, mcs (Matrix Columns)

a. *The standard allows an unbounded number of columns in a matrix.*

Word allows at most 64 columns in a matrix.

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2.1.1681 Part 1 Section 22.1.2.69, mr (Matrix Row)

a. *The standard states that the maxOccurs value for the mc child element is unbounded.*

Word limits the occurrences of this element to 64.

2.1.1682 Part 1 Section 22.1.2.70, nary (n-ary Operator Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1683 Part 1 Section 22.1.2.71, naryLim (n-ary Limit Location)

a. *The standard says naryLim specifies limit placement when converting from linear format.*

In Word, naryLim specifies limit placement when limLoc is omitted as well as limit placement when converting from linear format.

2.1.1684 Part 1 Section 22.1.2.73, noBreak (No Break)

a. *The standard does not specify conditions under which noBreak is ignored.*

If opEmu is set, Word ignores noBreak and never breaks.

b. *The standard says the default is off.*

In Word the default is on.

2.1.1685 Part 1 Section 22.1.2.75, num (Numerator)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1686 Part 1 Section 22.1.2.76, objDist (Object Distribution)

a. *The standard does not specify how to expand an equation to object width in absence of the maxObj element.*

Word ignores objDist unless maxObj is present and on.

2.1.1687 Part 1 Section 22.1.2.77, oMath (Office Math)

a. *The standard allows adjacent oMath elements without any separation between them.*

Word merges together adjacent oMath elements if they are not separated by a WordprocessingML br element.

b. *The standard allows nesting of oMath elements inside a math object argument or inside another oMath element.*

Word fails to open a file with an oMath element inside a math object argument or inside another oMath element.

c. *The standard does not state that the hyperlink and smartTag elements are valid child elements of the oMath element.*

Word allows these elements to be child elements of the oMath element.

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d. *The standard allows math content to exist outside of any oMath element.*

Word will not open a file which contains math content outside of any oMath element.

e. *The standard allows oMath to occur outside of any p element.*

Word will not open a file where oMath occurs outside of any p element.

f. *The standard states that the oMath element is allowed where block level content is required.*

Word does not allow the oMath element to be a child of the body, comment, customXml (Block-Level Custom XML Element), customXml (Cell-Level Custom XML Element), customXml (Row-Level Custom XML Element), docPartBody, endnote, footnote, ftr, hdr, sdtContent (Block-Level Structured Document Tag Content), sdtContent (Cell-Level Structured Document Tag Content), sdtContent (Row-Level Structured Document Tag Content), tbl, tc, tr, or txbxContent elements.

2.1.1688 Part 1 Section 22.1.2.78, oMathPara (Office Math Paragraph)

a. *The standard allows adjacent oMathPara elements within the same paragraph.*

Word merges adjacent oMathPara elements within the same paragraph into a single oMathPara element.

b. *The standard allows oMathPara as a descendant of math elements.*

Word fails to open a file with oMathPara as a descendant of any math element.

c. *The standard states that the oMathPara element is allowed where block level content is required.*

Word does not allow the oMathPara element to be a child of the body, comment, customXml (Block-Level Custom XML Element), customXml (Cell-Level Custom XML Element), customXml (Row-Level Custom XML Element), docPartBody, endnote, footnote, ftr, hdr, sdtContent (Block-Level Structured Document Tag Content), sdtContent (Cell-Level Structured Document Tag Content), sdtContent (Row-Level Structured Document Tag Content), tbl, tc, tr, or txbxContent elements.

d. *The standard allows oMathPara to occur outside of any p element.*

Word will not open a file where oMathPara occurs outside of any p element.

2.1.1689 Part 1 Section 22.1.2.80, opEmu (Operator Emulator)

a. *The standard says when opEmu is on, the box behaves as an operator, but does not specify what kind of operator.*

In Word when opEmu is on, the box behaves as a binary operator.

2.1.1690 Part 1 Section 22.1.2.81, phant (Phantom Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1691 Part 1 Section 22.1.2.84, pos (Position)

a. *The standard states that the pos element specifies the position of the bar in the bar object.*

Word uses the pos element to specify the position of the bar in the bar object or the position of the character in the groupChr object.

b. *The standard states that the default value for position of the bar in the bar object is top.*

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Office implements the default value for the position of the bar in the bar object as bot.

2.1.1692 Part 1 Section 22.1.2.85, postSp (Post-Paragraph Spacing)

a. *The standard specifies postSp to set post-equation spacing.*

Word ignores and discards postSp.

2.1.1693 Part 1 Section 22.1.2.86, preSp (Pre-Paragraph Spacing)

a. *The standard specifies preSp to set pre-equation spacing.*

Word ignores preSp and fails to write it back out.

2.1.1694 Part 1 Section 22.1.2.87, r (Run)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

a. *The standard allows bold and italic to be set in a math run in the rPr of both Math and WordprocessingML.*

If Word reads a math run where bold or italic properties are set in the rPr of WordprocessingML, it ignores those properties during display but then moves them into the Math rPr on save.

b. *The standard allows br elements inside a math object.*

Word does not allow br elements inside a math object.

c. *The standard allows cr elements as a child of a math run.*

Word does not allow the cr element inside a math run.

d. *The standard allows tab elements as a child of a math run.*

Word ignores a tab element if it occurs inside a math run.

e. *The standard does not allow w:ins or w:del elements as a child of a math run.*

Word supports the w:ins and w:del elements inside a math run.

2.1.1695 Part 1 Section 22.1.2.88, rad (Radical Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1696 Part 1 Section 22.1.2.92, rSp (Row Spacing (Array))

For additional notes that apply to this portion of the standard, please see the notes for ST_UnSignedInteger, §22.1.3.14(a)*.*

a. *The standard says rSp is used only to set row spacing in equation arrays even though it is also allowed as a child of the matrix element.*

In Word, rSp is used to set row spacing in both equations arrays and matrices.

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b. *The standard states that rSp "specifies spacing between rows of an array eqArr; it is used only when rSpRule is set to 3 or 4. If this element is omitted, single line spacing is used in the array ..."*

Word interprets the phrase "this element" in the statement to refer to "rSpRule", as in "if rSpRule is omitted, single line spacing is used in the array ..."

2.1.1697 Part 1 Section 22.1.2.93, rSpRule (Row Spacing Rule)

a. *The standard says the column gaps and row spacing are measured in points or lines.*

In Word, column gaps and row spacing are measured in twips, 0.5 em increments, or 0.5 line increments.

b. *The standard does not state the default value for rSpRule.*

In Word, the default value for rSpRule is 0.

c. *The standard states that rSpRule specifies the vertical spacing between columns.*

In Word, the rSpRule specifies the vertical spacing between rows.

d. *The standard says that rSpRule only specifies the vertical spacing in mPr even though the schema also allows it as a child of eqArrPr.*

In Word, rSpRule specifies the vertical spacing in mPr and eqArrPr.

2.1.1698 Part 1 Section 22.1.2.94, scr (Script)

a. *The standard says that the script element is used to map ASCII values to the appropriate Unicode range.*

Word uses the script element and the style element to map Unicode values to Math Alphanumeric Unicode values.

b. *The standard implies that the val attribute is optional.*

Word requires this attribute.

c. *The standard does not specify a default value for scr.*

In Word, the default value for scr is roman.

2.1.1699 Part 1 Section 22.1.2.97, shp (Shape (Delimiters))

a. *The standard places no restrictions on when this element is applicable.*

Office will ignore this element if the parent dPr element contains a child grow element whose val attribute has a value of off.

2.1.1700 Part 1 Section 22.1.2.98, smallFrac (Small Fraction)

a. *The standard states that the smallFrac element specifies a reduced fraction size display math, such that the numerator and denominator are written in script size instead of at the size of regular text.*

Word uses this element to specify a reduced size for fractions of type bar or noBar that are nested within other fractions that are of type bar, noBar, or skw. This option only applies in display math,

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such that the numerator and denominator are written in script size instead of at the size of regular text.

2.1.1701 Part 1 Section 22.1.2.99, sPre (Pre-Sub-Superscript Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1702 Part 1 Section 22.1.2.101, sSub (Subscript Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1703 Part 1 Section 22.1.2.103, sSubSup (Sub-Superscript Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

2.1.1704 Part 1 Section 22.1.2.105, sSup (Superscript Object)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

a. *The standard states that the sSup element specifies the subscript function sSub, which consists of a base e and a reduced-size scr placed below and to the right.*

   Word uses the sSup element to specify the superscript function sSup, which consists of a base e and a reduced-size scr placed above and to the right.

2.1.1705 Part 1 Section 22.1.2.111, sty (style)

a. *The standard says that style is used to map ASCII values to the appropriate Unicode range.*

   Word uses the style and script to map Unicode values to Math Alphanumeric Unicode values.

b. *The standard implies that the val attribute is optional.*

   Word requires this attribute.

c. *The standard does not specify a default value for sty.*

   In Word, the default value for sty is italic.

2.1.1706 Part 1 Section 22.1.2.112, sub (Subscript (Pre-Sub-Superscript))

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c)*.*

a. *The standard says sub only specifies the subscript of sPre even though the schema also allows it as a child of sSub, sSubSup, and nary.*

   In Word, sub specifies the subscript of sPre, sSub, and sSubSup and specifies the lower limit of nary.

2.1.1707 Part 1 Section 22.1.2.113, subHide (Hide Subscript (n-ary))

a. *The standard allows subHide to be on while the lower limit is not empty.*

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If subHide is on while the lower limit is not empty, Word displays the contents of the lower limit in an unexpected place.

2.1.1708 Part 1 Section 22.1.2.114, sup (Superscript (Superscript object))

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(c).

a. *The standard says sup only specifies the superscript of sSup even though the schema also allows it as a child of sPre, sSubSup, and nary.*

In Word, sup specifies the superscript of sSup, sPre, and sSubSup, and specifies the upper limit of nary.

2.1.1709 Part 1 Section 22.1.2.115, supHide (Hide Superscript (n-ary))

a. *The standard says that if supHide is omitted the lower limit will appear.*

In Word, if supHide is omitted, the upper limit will appear.

b. *The standard allows supHide to be set when the upper limit is not empty.*

In Word, if the supHide attribute is on while the upper limit of the n-ary function is not empty, the application will display this argument next to the base argument of the n-ary function.

2.1.1710 Part 1 Section 22.1.2.116, t (Text)

a. *The standard says the xml:space attribute specifies whether to preserve spaces while reading text inside math text.*

Word ignores this attribute and always preserves spaces inside math text.

2.1.1711 Part 1 Section 22.1.2.117, transp (Transparent (Phantom))

a. *The standard says if transparency is off, then the contents of the phantom are ignored during layout.*

In Word, if transparency is off, special spacing is not added before and after the phantom, but the contents are not ignored during layout.

b. *The standard allows transparency to be set on a phantom with any contents.*

In Word, transparency does not work as specified unless the phantom contains another math function and does not start or end with a math operator.

2.1.1712 Part 1 Section 22.1.3.1, ST_BreakBin (Break Binary Operators)

a. *The standard says that after means the operator appears after the break and before means the operator appears before the break.*

In Word, after means the break occurs after the operator (the binary operator appears before the break) and before means the break occurs before the operator (the binary operator appears after the break).

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2.1.1713 Part 1 Section 22.1.3.7, ST_Jc (Justification)

a. *The standard says centerGroup alignment takes place relative to the page even though the equation might be inside an object like a table cell.*

In Word, centerGroup alignment takes place relative to the equation margins just like center alignment.

b. *The standard says centerGroup means that equations are justified with respect to each other and then the group is centered, but it does not specify how to justify the equations respect to each other.*

In Word, centerGroup means that equations are left justified with respect to each other, and then group is centered.

2.1.1714 Part 1 Section 22.1.3.10, ST_Shp (Shape (Delimiters))

a. *The standard says the match value means the delimiters match the shape of the argument.*

In Word, the match value means the delimiters match the height of the argument.

2.1.1715 Part 1 Section 22.1.3.13, ST_TopBot (Top-Bottom)

a. *The standard describes the values of the ST_TopBot simple type in terms of the vertJc element.*

Word defines the values of this simple type to take on the meanings appropriate to the parent element.

2.1.1716 Part 1 Section 22.1.3.14, ST_UnSignedInteger (Unsigned integer.)

a. *The standard states that the values of the val attribute are defined by the XML unsignedInt datatype.*

Word defines the values of this attribute with the XML unsignedShort datatype.

2.1.1717 Part 1 Section 22.2.2.2, AppVersion (Application Version)

a. *The standard does not constrain the app version.*

Office constrains the app version to strings matching the XSD pattern value "[0-9]{1,2}\.[0-9]{1,4}".

2.1.1718 Part 1 Section 22.2.2.6, DigSig (Digital Signature)

a. *The standard does not specify the format of the digital signature blob.*

Office expects that the structure of the decoded binary blob is specified as follows:

Offset in bytes	Description
0	Specifies the byte size of the digital signature data blob that starts at offset 8
4	Specifies digital signature data offset from the beginning of the blob. This shall always be 8
8	Digital signature data

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2.1.1719 Part 1 Section 22.2.2.7, DocSecurity (Document Security)

a. *The standard states that the valid values of the DocSecurity element are 1, 2, 4, and 8.*

Office also supports a value of 0, signifying that no security level is defined.

b. *The standard states that the valid values of the DocSecurity element are 1, 2, 4, and 8.*

Excel does not support the values 4 or 8.

c. *The standard does not state that the values of this element can be combined.*

Office allows the values of this element to be combined.

2.1.1720 Part 1 Section 22.2.2.8, HeadingPairs (Heading Pairs)

a. *The standard does not document restrictions.*

In Office, a specific order and variant type is required for each heading pair. The baseType of the vector should be "variant". The following table specifies the order and the variant type of each heading pair:

Variant type	Description
lpstr or lpwstr	Specifies the heading for the group
i4	Specifies the number of parts in the group. This value should be a positive integer.

b. *The standard does not include HeadingPairs for SpreadsheetML.*

In Excel, the following heading pair values are specified:

Value Pair	Meaning
SheetType, n	There are **n** of these types of sheets in the workbook. SheetType can be one of the following: Worksheet, Charts, and Dialogs.
Named Ranges, n	There are **n** named ranges in the workbook.

2.1.1721 Part 1 Section 22.2.2.10, HLinks (Hyperlink List)

a. *The standard does not specify the constraints on the HLinks type.*

Each hyperlink in the document is represented by a set of 6 variants and hence the size of the vector should be multiples of 6. The following table specifies the order and the type of variants for a hyperlink:

Variant type	Description
i4	Application specific data associated with the hyperlink
i4	Application specific data associated with the hyperlink
i4	Application specific data associated with the hyperlink

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Variant type	Description
i4	This specifies information about the hyperlink. The lower 16 bits specify hyperlink type with one of the possible values: 0 - Graphic shown as background of document 1 - Graphic shown in document 2 - Graphic used to fill a shape 3 - Graphic used for shape outline 4 - Hyperlink attached to a shape 5 - Hyperlink attached to a WordprocessingML field 6 - Hyperlink attached to a SpreadsheetML range The high 16 bits store hyperlink action with one of the possible values: 0 - None 1 - Change the link to new hyperlink value 2 - Remove hyperlink from object
lpwstr	This specifies the hyperlink target
lpwstr	This specifies the location of the hyperlink

2.1.1722 Part 1 Section 22.2.2.26, TitlesOfParts (Part Titles)

a. *The standard specifies the TitlesOfParts element but provides no direction on application specific part titles.*

   In Excel, the TitlesOfParts element can contain Worksheet names, Dialogsheet names, Chart names and Named ranges.

b. *The standard does not state the relationship with the HeadingPairs property.*

In Office, the part titles specified in the HeadingPairs property are linked to HeadingPairs ("[ISO/IEC-29500-1] §22.2.2.8; HeadingPairs") entries. Hence there shall not be more document part titles listed here than the sum of all parts listed in HeadingPairs property.

[Example: A presentation composed of three slides with an applied theme "Currency" may have the following TitlesofParts and HeadingPairs representation:

```
<TitlesofParts>
  <vt:vector size="4" baseType="lpstr">
    <vt:lpstr>Currency</vt:lpstr>
    <vt:lpstr>Slide 1</vt:lpstr>
    <vt:lpstr>Slide 2</vt:lpstr>
    <vt:lpstr>Slide 3</vt:lpstr>
  </vt:vector>
</TitlesofParts>
<HeadingPairs>
  <vt:vector size="4" baseType="variant">
    <vt:variant>
      <vt:lpstr>Theme</vt:lpstr>
    </vt:variant>
```


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```
        <vt:variant>
          <vt:i4>1</vt:i4>
        </vt:variant>
        <vt:variant>
          <vt:lpstr>Slide Titles</vt:lpstr>
        </vt:variant>
```

```
      <vt:variant>
        <vt:i4>3</vt:i4>
      </vt:variant>
    </vt:vector>
  </HeadingPairs>
```

end example]

2.1.1723 Part 1 Section 22.2.2.27, TotalTime (Total Edit Time Metadata Element)

a. *The standard states that the value of this element can be any integer.*

Office disallows any negative value on this element.

2.1.1724 Part 1 Section 22.3.2.2, property (Custom File Property)

a. *The standard does not reserve a unique property name for the property editor's content type ID.*

Office reserves the following unique property names for the following purposes:

Name	Description
ContentTypeId	A custom property with this name contains the id of the content type associated with the Windows SharePoint Services document library where this document belongs. Its value is the same as the **ma:contentTypeID** attribute on the Schema for Content Type element (§3.5.2.1.1.1, contentTypeSchema).

b. *The standard does not reserve unique property names for document workspaces.*

Office reserves the following unique property names for the following purposes:

Name	Description
_CheckOutSrcUrl	A custom property with this name specifies the document workspace from which the document was checked out. The child element of this property shall be a **lpwstr** specifying the URL of the document workspace where this document belongs. This URL shall not exceed 256 characters.
_LiveCopyIndex	A custom property with this name provides a time stamp for comparing the current state of a server document to a local copy of that document. The child element of this property shall be an **i4** containing a hashed value of the **modified** property when the original document was first added to the document workspace. This value is computed by multiplying the high-order part of the **modified filetime** property by three

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Name	Description
	and adding that to the low-order part of the **filetime**. This information can be used to resolve potential conflicts between two different copies of a document stored in a document workspace. If the *_LiveCopyIndex* value of a particular document matches the **modified** property value, then that document is considered to be equivalent to the original shared version of the file on the server. If one of the two copies of a document is the original shared version and the two copies of the document differ, then the other document shall be newer.
_SharedFileIndex	A custom property with this name identifies the workspace that the document belongs to. The child element of this property shall be an **lpwstr** comprised of three parts: a version number, followed by a GUID, followed by the URL of the workspace. The version number shall be *0000020000000000*. The GUID shall uniquely identify the document. The URL shall define the requested location of the file on the server. If the location is already occupied by a document with a different GUID, then the document might be relocated. If the value of this property extends beyond 256 characters, it shall be segmented across multiple properties with the root name of *_SharedFileIndex*. The subsequent properties will be named *_SharedFileIndex1*, *_SharedFileIndex2*, *_SharedFileIndex3*, and so on. The value of each property shall be at most 256 characters; only when those 256 characters have been exceeded shall the next *_SharedFileIndex* property be created. [Example: The shared file index of a document with a workspace location of http://www.contoso.com/documentschemas/schemaexamples/ documentworkspaces/documents/shareddocuments/collaboration/ customfileproperties/serverproperties/ DocumentWithAReallyReallyLongNameAndAReallyReally LongServerLocationWhichRequiresSegmentationOfTheShared FileIndexProperty.docx can be defined as follows: `<property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="2" name="_SharedFileIndex"> <vt:lpwstr>0000020000000000{E9AB9F47-8925-4F17-A0B3-A8E86720E301} http://www.contoso.com/documentschemas/schemaexamples/ documentworkspaces/documents/shareddocuments/ collaboration/customfileproperties/serverproperties/ DocumentWithAReallyReallyLongName AndAReallyReallyL</vt:lpwstr> </property> <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="3" name="_SharedFileIndex1"> <vt:lpwstr> ongServerLocationWhichRequiresSegmentationOfTheShared FileIndexProperty.docx</vt:lpwstr> </property>` end example]

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c. *The standard does not define any custom document properties used to convey input parameters for a SpreadsheetML document.*

Office reserves the following unique property names for the following purposes:

Name	Description
PROP_MULTVAL_ParameterName	A custom property with this name specifies a filter parameter, where ParameterName is a name given by the user.
PROP_ParameterName	A custom property with this name specifies a parameter, where ParameterName is a name given by the user.

d. *The standard lists 21 variant types as possible child elements.*

Office only allows **bool**, **filetime**, **empty**, **i4**, **lpstr**, **lpwstr** and **r8** as valid child elements for custom properties where **fmtid** has a value of *{D5CDD505-2E9C-101B-9397-08002B2CF9AE}*.

e. *The standard states that the values of the pid attribute are defined by the XML Schema int datatype.*

Office restricts the value of this attribute to be at least 2.

f. *The standard does not document any restrictions on the FmtId attribute.*

The following GUIDs shall not be used in a custom property.

Summary Information

{f29f85e0-4ff9-1068-ab91-08002b27b3d9}

Document Summary Information

{d5cdd502-2e9c-101b-9397-08002b2cf9ae}

g. *The standard specifies that the name attribute is defined by the XML Schema string datatype.*

Office requires that the name attribute be a case-insensitive unique name.

2.1.1725 Part 1 Section 22.4.2.1, array (Array)

a. *The standard states that the values of the lbound attribute are defined by the XML Schema int datatype.*

Office defines the values of this attribute to be a collection in the format #, #, # ... #, where each # represents an integer and the attribute's value matches the regular expression pattern \s*[\+\-]?[0-9]+\s*(\,\s*[\+\-]?[0-9]+\s*)*.

b. *The standard states that the values of the ubound attribute are defined by the XML Schema int datatype.*

Office defines the values of this attribute to be a collection in the format #, #, # ... #, where each # represents an integer and the attribute's value matches the regular expression pattern \s*[\+\-]?[0-9]+\s*(\,\s*[\+\-]?[0-9]+\s*)*.

2.1.1726 Part 1 Section 22.4.2.5, clsid (Class ID)

a. *The standard permits leading or trailing white spaces in the pattern of the simple type.*

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Office does not permit leading or trailing white spaces.

2.1.1727 Part 1 Section 22.4.2.7, date (Date and Time)

a. *The standard states that the date element is compliant with RFC 3339.*

Office is compliant with [ISO-8601] for the XML schema date-time.

2.1.1728 Part 1 Section 22.4.2.11, filetime (File Time)

a. *The standard refers to the filetime format as RFC3339.*

Office is compliant with [ISO-8601] for the XML schema date-time.

2.1.1729 Part 1 Section 22.4.2.19, null (Null)

a. *The standard requires an empty-element tag.*

Office writes a start-element and end-element with white space content.

2.1.1730 Part 1 Section 22.4.2.21, ostorage (Binary Storage Object)

a. *The standard specifies that files are permitted to contain an ostorage tag.*

In Office, the base64binary data contained in the ostorage element must be a compound doc as specified in the Compound File Binary File Format Specification [MS-CFB].

2.1.1731 Part 1 Section 22.4.2.25, storage (Binary Storage)

a. *The standard specifies that files are permitted to contain storage tags.*

In Office, the base64binary data contained in the storage element must be a compound doc as specified in the Compound File Binary File Format Specification [MS-CFB].

2.1.1732 Part 1 Section 22.4.2.34, vstream (Binary Versioned Stream)

a. *The standard implies that the version attribute is optional.*

Office requires this attribute.

2.1.1733 Part 1 Section 22.4.3.3, ST_Error (Error Status Code Simple Type)

a. *The standard allows letters A-Z as hexadecimal digits.*

Office only permits the letters A-F as hexadecimal digits.

b. *The standard permits white space characters.*

Office does not allow white space characters.

2.1.1734 Part 1 Section 22.6.2.4, Author (Contributors List)

a. *The standard states that this element can contain any number of child elements in any order.*

Word only allows a single instance, the first instance in document order, of each child element; the elements, when present, must be in the order specified in the schema.

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2.1.1735 Part 1 Section 22.6.2.30, Guid (GUID)

a. *The standard states that this element is a unique identifier for the source.*

When copying a source entry from a source document to a destination document, Word checks to see if the destination document has an entry with the same tag ("[ISO/IEC-29500-1] §22.6.2.65; Tag") as the entry being copied. If a match is found, Word then compares the GUID of the matching entry in the destination document with that of the entry being copied. If the GUIDs are identical, or if the destination document has an entry with the same GUID as the entry being copied, Word assumes the source entry to be already present in the destination document and no new entry is created.

2.1.1736 Part 1 Section 22.6.2.39, LCID (Locale ID)

a. *The standard says LCID represents the source's language.*

Word uses LCID as the language to format the source when the documentation style in use has language-dependent variability.

2.1.1737 Part 1 Section 22.6.2.50, Person (Person)

a. *The standard states that the person element can contain any number of each of its child elements.*

Word only reads the first instance of each child element.

2.1.1738 Part 1 Section 22.6.2.59, Source (Source)

a. *The standard states that this element can contain any number of child elements in any order.*

Word only allows a single instance, the first instance in document order, of each child element.

2.1.1739 Part 1 Section 22.6.2.65, Tag (Tag)

a. *The standard states that the value of this element has a minimum of 0 and a maximum of 255 characters.*

Word restricts the value of this element to have a minimum of 1 and a maximum of 32 characters.

2.1.1740 Part 1 Section 22.6.2.76, YearAccessed (Year Accessed)

a. *The standard states that the YearAccessed element stores the month in which a source was accessed.*

Office interprets this element as the year in which the source was accessed.

2.1.1741 Part 1 Section 22.8.2.1, ST_RelationshipId (Explicit Relationship ID)

a. *The standard does not limit the length of the contents of the ST_RelationshipId simple type.*

Office restricts the contents of this simple type to be at most 255 characters.

b. *The standard states that the values of the ST_RelationshipId simple type are a restriction on the XML Schema string datatype.*

Office defines this simple type as being a restriction on the XML Schema id datatype.

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2.1.1742 Part 1 Section 22.9.2.1, ST_CalendarType (Calendar Types)

a. *The standard includes gregorianUs, gregorianMeFrench, and gregorianArabic as enumeration values for the calendar types.*

Word treats gregorianUs, gregorianMeFrench, and gregorianArabic as gregorian.

b. *The standard states that saka is a valid enumeration value.*

Excel interprets an enumeration value of saka as a value of none.

2.1.1743 Part 1 Section 22.9.2.6, ST_Lang (Language Reference)

a. *The standard allows an unbounded string for ST_Lang.*

Word allows strings of length at most 84.

b. *The standard states that the ST_TextLanguageID specifies an ID representing a particular language.*

In Office, the language ID consists of an ISO 639-1 letter code followed by a dash and then an ISO 3166-1 alpha-2 letter code. The contents of this language shall be interpreted based on the context of the parent element.

c. *The standard states that language identifiers can be specified with strings or hexadecimal values.*

Word does not allow a hexadecimal language code.

d. *The standard states that any valid BCP47 value is a valid value for elements and attributes of this type.*

Word will ignore any value that is not listed in the following table:

Description (informative)	BCP 47 Code
Afrikaans - South Africa	af-ZA
Amharic - Ethiopia	am-ET
Arabic - U.A.E.	ar-AE
Arabic - Bahrain	ar-BH
Arabic - Algeria	ar-DZ
Arabic - Egypt	ar-EG
Arabic - Iraq	ar-IQ
Arabic - Jordan	ar-JO
Arabic - Kuwait	ar-KW
Arabic - Lebanon	ar-LB
Arabic - Libya	ar-LY
Arabic - Morocco	ar-MO
Arabic - Oman	ar-OM
Arabic - Qatar	ar-QA

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Description (informative)	BCP 47 Code
Arabic - Saudi Arabia	ar-SA
Arabic - Syria	ar-SY
Arabic - Tunisia	ar-TN
Arabic - Yemen	ar-YE
Assamese	as-IN
Azerbaijani (Cyrillic)	az-Cyrl-AZ
Azerbaijani (Latin)	az-Latn-AZ
Belarusian	be-BY
Bulgarian	bg-BG
Edo	bin-NG
Bangla (Bangladesh)	bn-BD
Bangla (India)	bn-IN
Tibetan - Bhutan	bo-BT
Tibetan - People's Republic of China	bo-CN
Bosnian (Bosnia and Herzegovina)	bs-Latn-BA
Catalan	ca-ES
Cherokee - United States	chr-US
Czech	cs-CZ
Welsh	cy-GB
Danish	da-DK
German - Austria	de-AT
German - Switzerland	de-CH
German - Germany	de-DE
German - Liechtenstein	de-LI
German - Luxembourg	de-LU
Divehi	dv-MV
Greek	el-GR
English - Caribbean	en-029
English - Australia	en-AU
English - Belize	en-BZ
English - Canada	en-CA
English - United Kingdom	en-GB

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Description (informative)	BCP 47 Code
English - Hong Kong SAR	en-HK
English - Indonesia	en-ID
English - Ireland	en-IE
English - India	en-IN
English - Jamaica	en-JM
English - Malaysia	en-MY
English - New Zealand	en-NZ
English - Philippines	en-PH
English - Singapore	en-SG
English - Trinidad	en-TT
English - United States	en-US
English - South Africa	en-ZA
English - Zimbabwe	en-ZW
Spanish - Latin America	es-419
Spanish - Argentina	es-AR
Spanish - Bolivia	es-BO
Spanish - Chile	es-CL
Spanish - Colombia	es-CO
Spanish - Costa Rica	es-CR
Spanish - Dominican Republic	es-DO
Spanish - Ecuador	es-EC
Spanish - Spain (Traditional Sort)	es-ES
Spanish - Spain (Modern Sort)	es-ES
Spanish - Guatemala	es-GT
Spanish - Honduras	es-HN
Spanish - Mexico	es-MX
Spanish - Nicaragua	es-NI
Spanish - Panama	es-PA
Spanish - Peru	es-PE
Spanish - Puerto Rico	es-PR
Spanish - Paraguay	es-PY
Spanish - El Salvador	es-SV

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Description (informative)	BCP 47 Code
Spanish - United States	es-US
Spanish - Uruguay	es-UY
Spanish - Venezuela	es-VE
Estonian	et-EE
Basque	eu-ES
Persian	fa-IR
Finnish	fi-FI
Filipino	fil-PH
Faroese	fo-FO
French - North Africa	fr-015
French - West Indies	fr-029
French - Belgium	fr-BE
French - Canada	fr-CA
French - Democratic Republic of the Congo	fr-CG
French - Switzerland	fr-CH
French - Cote d'Ivoire	fr-CI
French - Cameroon	fr-CM
French - France	fr-FR
French - Haiti	fr-HT
French - Luxembourg	fr-LU
French - Morocco	fr-MA
French - Monaco	fr-MC
French - Mali	fr-ML
French - Réunion	fr-RE
French - Senegal	fr-SN
Fulfulde - Nigeria	fuv-NG
Frisian - Netherlands	fy-NL
Irish (Ireland)	ga-IE
Oromo	gaz-ET
Scottish Gaelic (United Kingdom)	gd-GB
Galician	gl-ES
Guarani - Paraguay	gn-PY

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Description (informative)	BCP 47 Code
Gujarati	gu-IN
Hausa - Nigeria	ha-Latn-NG
Hawaiian - United States	haw-US
Hebrew	he-IL
Hindi	hi-IN
Croatian (Bosnia and Herzegovina)	hr-BA
Croatian	hr-HR
Hungarian	hu-HU
Armenian - Armenia	hy-AM
Ibibio - Nigeria	ibb-NG
Indonesian	id-ID
Igbo - Nigeria	ig-NG
Yi	ii-CN
Icelandic	is-IS
Italian - Switzerland	it-CH
Italian - Italy	it-IT
Inuktitut	iu-Cans-CA
Japanese	ja-JP
Georgian	ka-GE
Kazakh	kk-KZ
Khmer	km-KH
Kannada	kn-IN
Konkani	kok-IN
Korean	ko-KR
Kanuri - Nigeria	kr-NG
Kashmiri (Arabic)	ks-Arab-IN
Kashmiri (Devanagari)	ks-Deva-IN
Kyrgyz (Cyrillic)	ky-KG
Latin	la
Luxembourgish (Luxembourg)	lb-LU
Lao	lo-LA
Lithuanian	lt-LT

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Description (informative)	BCP 47 Code
Latvian	lv-LV
Maori - New Zealand	mi-NZ
Macedonian - North Macedonia	mk-MK
Malayalam	ml-IN
Manipuri	mni
Mongolian (Cyrillic)	mn-MN
Mongolian (Mongolian)	mn-Mong-CN
Marathi	mr-IN
Malay - Brunei Darussalam	ms-BN
Malay - Malaysia	ms-MY
Maltese	mt-MT
Burmese	my-MM
Norwegian (Bokmål)	nb-NO
Nepali - India	ne-IN
Nepali	ne-NP
Dutch - Belgium	nl-BE
Dutch - Netherlands	nl-NL
Norwegian (Nynorsk)	nn-NO
Sepedi	nso-ZA
Odia	or-IN
Punjabi	pa-IN
Papiamentu	pap-AN
Punjabi (Pakistan)	pa-PK
Polish	pl-PL
Pashto	ps-AF
Portuguese - Brazil	pt-BR
Portuguese - Portugal	pt-PT
Quecha - Bolivia	quz-BO
Quecha - Ecuador	quz-EC
Quecha - Peru	quz-PE
Rhaeto-Romanic	rm-CH
Romanian - Moldova	ro-MD

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Description (informative)	BCP 47 Code
Romanian	ro-RO
Russian - Moldova	ru-MD
Russian	ru-RU
Sanskrit	sa-IN
Sindhi - India	sd-IN
Sindhi - Pakistan	sd-PK
Sami	se-NO
Sinhalese - Sri Lanka	si-LK
Slovak	sk-SK
Slovenian	sl-SI
Somali	so-SO
Albanian - Albania	sq-AL
Serbian (Cyrillic)	sr-Cyrl-CS+C44
Serbian (Latin)	sr-Latn-CS
Sutu	st-ZA
Swedish - Finland	sv-FI
Swedish	sv-SE
Swahili	sw-KE
Syriac	syr-SY
Tamil	ta-IN
Telugu	te-IN
Tajik	tg-Cyrl-TJ
Thai	th-TH
Tigrigna - Ethiopia	ti-ER
Tigrigna - Eritrea	ti-ET
Turkmen	tk-TM
Tamazight (Arabic)	tmz
Tswana	tn-ZA
Turkish	tr-TR
Tsonga	ts-ZA
Tatar	tt-RU
Tamazight (Latin)	tzm-Latn-DZ

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Description (informative)	BCP 47 Code
Uighur - China	ug-Arab-CN
Ukrainian	uk-UA
Urdu - India	ur-IN
Urdu - Pakistan	ur-PK
Uzbek (Cyrillic)	uz-Cyrl-UZ
Uzbek (Latin)	uz-Latn-UZ
Venda	ven-ZA
Vietnamese	vi-VN
Sorbian	wen-DE
Xhosa	xh-ZA
Yiddish	yi
Yoruba	yo-NG
Chinese - People's Republic of China	zh-CN
Chinese - Hong Kong SAR	zh-HK
Chinese - Macao SAR	zh-MO
Chinese - Singapore	zh-SG
Chinese - Taiwan	zh-TW
Zulu	zu-ZA

2.1.1744 Part 1 Section 22.9.2.7, ST_OnOff (On/Off Value)

a. *The standard states that the default value for the ST_OnOff simple type is 1 or true.*

Word uses the default value specified by the element, if the element specifies a default value.

2.1.1745 Part 1 Section 22.9.2.14, ST_TwipsMeasure (Measurement in Twentieths of a Point)

a. *The standard states that any unsigned 32-bit integer is allowed.*

Word allows only values up to 31,680 when this simple type is used in Math elements ("[ISO/IEC-29500-1] §22").

2.1.1746 Part 1 Section 22.9.2.16, ST_UnsignedDecimalNumber (Unsigned Decimal Number Value)

a. *The standard states that the contents of the ST_UnsignedDecimalNumber simple type are a restriction on the XML Schema unsignedLong datatype.*

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Word defines the contents of this simple type as being a restriction on the XML Schema unsignedInt datatype.

2.1.1747 Part 1 Section 22.9.2.19, ST_Xstring (Escaped String)

a. *The standard places no restrictions on the characters that can be escaped in the contents of the ST_Xstring simple type.*

Office does not allow the newline (0x000A) or tab (0x0009) characters to be escaped in this simple type's contents.

b. *The standard implies that the only characters that can be Xstring encoded are invalid XML characters.*

The following four cases represent valid XML characters that should be escaped:

- Carriage Return (0x000D): This character shall be escaped.
- Line Feed (0x000A): This character shall be escaped only when used in an attribute.
- Tab (0x0009): This character shall be escaped only when used in an attribute.
- Underscore (0x005f): This character shall be escaped only when used to escape the first underscore character in the format _xHHHH_.

c. *The standard allows Xstring to encode underscores using _x005f_.*

In Excel, Xstrings may only contain the escape sequence _x005f_ when escaping the lead underscore from a string in the form _xHHHH_.

2.1.1748 Part 1 Section 23.2.1, schema (Custom XML Schema Reference)

a. *The standard places no restrictions on the length of the uri attribute.*

Word restricts the length of this attribute to 255 characters.

b. *The standard places no restrictions on the length of the manifestLocation or the schemaLocation attribute.*

Word restricts the length of these attributes to 2083 characters.

c. *The standard does not state that the schema and schemaLibrary information might not be round-tripped.*

Word does not guarantee that the schema or schemaLibrary elements will be round-tripped; validation or security verification might result in this data being removed.

d. *The standard specifies the schemaLanguage attribute as a valid attribute of the schema element.*

Word ignores this attribute.

2.1.1749 Part 2 Section 6.2.2.2, Syntax

a. *The standard describes a mechanism for including non-ASCII characters in part names.*

Office will not load a package containing parts with non-ASCII characters in their names.

2.1.1750 Part 2 Section 7.3.6, ZIP package limitations

a. *The standard states that keyword element can have an xml:lang attribute.*

Office ignores this attribute on load, and discards it on save.

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b. *The standard states that keyword element can have a value subelement.*

Office ignores this element on load, and concatenates its content with the content of the parent element on save.

2.1.1751 Part 2 Section 8, Core Properties

a. *The standard states that package implementer shall not use any compression algorithm other than DEFLATE.*

Office uses the STORE algorithm, in addition to DEFLATE.

2.1.1752 Part 2 Section 10.6, Relationships transform algorithm

a. *The standard specifies that a Relationship element shall be used for signing if the Id value matches any SourceId value or if the Type value matches any SourceType value.*

Office will only use Relationship elements for signing if the Id value matches any SourceId value.

The relationship transform should set **TargetMode**="Internal" before doing a c14n transform.

2.1.1753 Part 3 Section 7, MCE Elements and Attributes

a. *The standard does not state that extensibility is optional per part.*

Office does not permit markup compatibility attributes or elements in document property parts.

2.1.1754 Part 4 Section 8.2, VML Drawing Part

a. *The standard implies that the VML Drawing part is not an XML part but contains XML-style markup.*

In Office, the VML Drawing part closely resembles XML. An XML parser designed to read and write VML ("[ISO/IEC-29500-4] §19.1; VML") markup can parse the contents of a VML Drawing part by consuming the XML root element and then handling the contained VML markup normally.

2.1.1755 Part 4 Section 14.3.1.1, Additional attribute for cnfStyle element (Part 1, 17.3.1.8)

a. *The standard specifies the val attribute.*

Word ignores this attribute if any of the attributes specified in "[ISO/IEC-29500-1] §17.3.1.8; cnfStyle" are present.

2.1.1756 Part 4 Section 14.3.2.1, control (Floating Embedded Control)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.5.1(a).

a. *The standard allows strings of unbounded length for the value of the shapeid attribute.*

Word restricts the value of the shapeid attribute to at most 254 characters.

b. *The standard specifies that this element is resolved by looking for a DrawingML object whose id attribute matches the value specified by the shapeid attribute.*

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Word looks for a VML shape element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)"), whose id attribute matches the value specified by the shapeid attribute.

2.1.1757 Part 4 Section 14.3.2.2, pict (VML Object)

a. *The standard states that any element from the VML namespace or the Office VML Drawing namespace is allowed as a child element.*

Word only allows the following child elements: arc, curve, group, image, line, OLEObject, oval, polyline, rect, roundrect, shape, and shapetype.

2.1.1758 Part 4 Section 14.4.1, left (Table Cell Leading Edge Border)

a. *The standard specifies "left" as an additional element, semantically equivalent to the start element ("[ISO/IEC-29500-1] §17.4.33; start").*

Word ignores this element if the start element ("[ISO/IEC-29500-1] §17.4.33; start") is present as a sibling.

2.1.1759 Part 4 Section 14.4.2, left (Table Leading Edge Border)

a. *The standard specifies this additional element, semantically equivalent to the start element ("[ISO/IEC-29500-1] §17.4.36; start").*

Word ignores this element if the start element ("[ISO/IEC-29500-1] §17.4.36; start") is present as a sibling.

2.1.1760 Part 4 Section 14.4.3, left (Table Cell Leading Margin Exception)

a. *The standard specifies this additional element, semantically equivalent to the start element ("[ISO/IEC-29500-1] §17.4.35; start").*

Word ignores this element if the start element ("[ISO/IEC-29500-1] §17.4.35; start") is present as a sibling.

2.1.1761 Part 4 Section 14.4.4, left (Table Cell Leading Margin Default)

a. *The standard specifies this additional element, semantically equivalent to the start element (("[ISO/IEC-29500-1] §17.4.34; start")).*

Word ignores this element if the start element ("[ISO/IEC-29500-1] §17.4.34; start") is present as a sibling.

2.1.1762 Part 4 Section 14.4.5, right (Table Cell Trailing Edge Border)

a. *The standard specifies this additional element, semantically equivalent to the end element ("[ISO/IEC-29500-1] §17.4.12; end").*

Word ignores this element if the end element ("[ISO/IEC-29500-1] §17.4.12; end") is present as a sibling.

2.1.1763 Part 4 Section 14.4.6, right (Table Trailing Edge Border)

a. *The standard specifies this additional element, semantically equivalent to the end element("[ISO/IEC-29500-1] §17.4.13; end").*

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Word ignores this element if the end element ("[ISO/IEC-29500-1] §17.4.13; end") is present as a sibling.

2.1.1764 Part 4 Section 14.4.7, right (Table Cell Trailing Margin Default)

a. *The standard specifies this additional element semantically equivalent to the end element ("[ISO/IEC-29500-1] §17.4.11; end").*

Word ignores this element if the end element ("[ISO/IEC-29500-1] §17.4.11; end") is present as a sibling.

2.1.1765 Part 4 Section 14.4.8, right (Table Cell Trailing Margin Exception)

a. *The standard specifies this additional element semantically equivalent to the end element ("[ISO/IEC-29500-1] §17.4.10; end").*

Word ignores this element if the end element ("[ISO/IEC-29500-1] §17.4.10; end") is present as a sibling.

2.1.1766 Part 4 Section 14.4.9, Additional attribute for cnfStyle element (Part 1, 17.4.7)

a. *The standard specifies the val attribute.*

Word ignores the val attribute specified here if any of the attributes, specified in "[ISO/IEC-29500-1] §17.4.7; cnfStyle", are present.

2.1.1767 Part 4 Section 14.4.10, Additional attribute for cnfStyle element (Part 1, 17.4.8)

a. *The standard specifies the val attribute.*

Word ignores the val attribute specified here if any of the attributes, specified in "[ISO/IEC-29500-1] §17.4.8; cnfStyle", are present.

2.1.1768 Part 4 Section 14.4.13, hMerge (Horizontally Merged Cell)

For additional notes that apply to this portion of the standard, please see the notes for tcPr, §17.7.6.8(b); tcPr, §17.7.6.9(a).

2.1.1769 Part 4 Section 14.6.1, pict (Picture Numbering Symbol Properties)

a. *The standard states that any element from the VML namespace or the Office VML Drawing namespace is a valid child of the pict element.*

Word only allows the group, image, line, oval, polyline, rect, roundrect, shape, and shapetype elements from these namespaces to be child elements of the pict element.

b. *The standard states that the control and movie elements are valid child elements of the pict element.*

Word does not allow the control and movie elements to be child elements of the pict element.

2.1.1770 Part 4 Section 14.6.2, legacy (Legacy Numbering Level Properties)

a. *The standard allows negative values for legacyIndent.*

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Word will ignore the level definition if the value of legacyIndent is negative.

b. *The standard says the default value for the legacy attribute is on.*

In Word, the default value for the legacy attribute is off.

2.1.1771 Part 4 Section 14.7.1.1, numberingChange (Previous Numbering Field Properties)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard allows any length string for the original attribute.*

Word only allows strings of length 15 at most for the original attribute.

2.1.1772 Part 4 Section 14.7.1.2, numberingChange (Previous Paragraph Numbering Properties)

For additional notes that apply to this portion of the standard, please see the notes for comment, §17.13.4.2(c); cellDel, §17.13.5.1(a); ins, §17.13.5.18(b).

a. *The standard states that the numbering level in the original attribute starts with %.*

In Word, the value of **original** is represented as separate numbering level definitions defined as follows:

```
<[numbering prefix]%[numbering level]:[nfc value]:[numbering format]:[separator]>[repeat if more than one level]
```

where:

- `numbering prefix` – Optional text which should precede the number.
- `numbering level` – The level for which the numbering definition is defined.
- `nfc value` – The value of the numbering style at the specific numbering level.
- `numbering format` – The nfc value of the numbering format, as referenced in the following table.
- `separator` – The separator used to separate the numbering level definitions.
- If the **numbering** prefix or `separator` includes a pair of consecutive % characters, then that pair of characters shall be treated as a single % character rather than the start of a new `numbering` level.
- The total length of **original**, omitting all instances of `nfc value` and `numbering format` and all ':' characters used to separate the pieces of the number level definitions, shall be at most 31.

The numbering format values are mapped as follows:

nfc Value	ST_NumberFormat enumeration equivalent
0	*decimal*
1	*upperRoman*
2	*lowerRoman*
3	*upperLetter*
4	*lowerLetter*
5	*ordinal*

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nfc Value	ST_NumberFormat enumeration equivalent
6	*cardinalText*
7	*ordinalText*
8	*hex*
9	*chicago*
10	*ideographDigital*
11	*japaneseCounting*
12	*Aiueo*
13	*Iroha*
14	*decimalFullWidth*
15	*decimalHalfWidth*
16	*japaneseLegal*
17	*japaneseDigitalTenThousand*
18	*decimalEnclosedCircle*
19	*decimalFullWidth2*
20	*aiueoFullWidth*
21	*irohaFullWidth*
22	*decimalZero*
23	*bullet*
24	*ganada*
25	*chosung*
26	*decimalEnclosedFullstop*
27	*decimalEnclosedParen*
28	*decimalEnclosedCircleChinese*
29	*ideographEnclosedCircle*
30	*ideographTraditional*
31	*ideographZodiac*
32	*ideographZodiacTraditional*
33	*taiwaneseCounting*
34	*ideographLegalTraditional*
35	*taiwaneseCountingThousand*
36	*taiwaneseDigital*
37	*chineseCounting*

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nfc Value	ST_NumberFormat enumeration equivalent
38	*chineseLegalSimplified*
39	*chineseCountingThousand*
40	Application-defined. May be ignored.
41	*koreanDigital*
42	*koreanCounting*
43	*koreanLegal*
44	*koreanDigital2*
45	*hebrew1*
46	*arabicAlpha*
47	*hebrew2*
48	*arabicAbjad*
49	*hindiVowels*
50	*hindiConsonants*
51	*hindiNumbers*
52	*hindiCounting*
53	*thaiLetters*
54	*thaiNumbers*
55	*thaiCounting*
56	*vietnameseCounting*
57	*numberInDash*
58	*russianLower*
59	*russianUpper*
60 or higher	Application-defined. May be ignored.

b. *The standard does not state how to interpret a pair of consecutive percent characters in the value of the original attribute.*

   Word treats a pair of consecutive percent characters in this attribute as a single percent character.

c. *The standard does not restrict the length of the original attribute.*

   Word requires that the total length of original, omitting all instances of nfc_value and numbering_format and all ':' characters used to separate the pieces of the number level definitions, shall be at most 31 characters.

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2.1.1773 Part 4 Section 14.8.2.1, hdrShapeDefaults (Default Properties for VML Objects in Header and Footer)

a. *The standard states that any element from the VML namespace is a valid child element of the hdrShapeDefaults element.*

Word only allows the shapedefaults and shapelayout elements from the VML namespace to be child elements of the hdrShapeDefaults element.

2.1.1774 Part 4 Section 14.8.2.2, shapeDefaults (Default Properties for VML Objects in Main Document)

a. *The standard states that any element from the VML namespace is a valid child of the shapeDefaults element.*

Word only allows the shapedefaults and shapelayout elements from the VML namespace to be child elements of the shapeDefaults element.

2.1.1775 Part 4 Section 14.8.2.5, Additional attributes for writeProtection element (Part 1, 17.15.1.93)

a. *The standard specifies additional attributes for the writeProtection element.*

Word ignores the additional attributes (algorithmName, hasValue, saltValue, and spinCount) when attributes from "[ISO/IEC-29500-1] §17.15.1.93; writeProtection" are present.

2.1.1776 Part 4 Section 14.8.3.6, convMailMergeEsc (Treat Backslash Quotation Delimiter as Two Quotation Marks)

a. *The standard states that applications shall interpret delimiters composed of a backslash and quotation mark (\") as two quotation marks ("").*

Word interprets delimiters composed of a backslash and quotation mark (\") as a single quotation mark (").

b. *The standard does not state any constraints for the usage of this property.*

Word only uses this property in the document that serves as the external data source to be a WordprocessingML document through an ODSO connection.

2.1.1777 Part 4 Section 14.8.3.8, doNotAutofitConstrainedTables (Do Not AutoFit Tables To Fit Next To Wrapped Objects)

a. *The standard states that a table that is AutoFit and has a preferred width typically has its width reduced in order to allow a floating shape to wrap.*

Word only reduces the width of tables that have no preferred width in order to allow a floating shape to wrap.

b. *The standard states that when this element is present with a val attribute value of true, tables shall never have any preferred width overridden to allow them to wrap.*

Word never allows tables to have their width reduced to allow them to wrap, even if they have no preferred width.

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2.1.1778 Part 4 Section 14.8.3.13, doNotSuppressParagraphBorders (Do Not Suppress Paragraph Borders Next To Frames)

a. *The standard states that specific paragraph borders should not be suppressed if this setting is on.*

Word suppresses those paragraph borders when this setting is on unless the doNotSuppressIndentation setting is also on.

2.1.1779 Part 4 Section 14.9.1.1, txbxContent (Rich Text Box Content Container)

For additional notes that apply to this portion of the standard, please see the notes for oMath, §22.1.2.77(f)*;* oMathPara, §22.1.2.78(c)*.*

a. *The standard states that text box content can be placed inside endnotes, footnotes, comments, or other textboxes.*

Word does not allow textbox content inside endnotes, footnotes, comments, or other textboxes.

b. *The standard specifies this element as part of the WordprocessingML namespace.*

Word will save an mce choice for VML content. txbxContent elements written in that choice will be written in with a namespace value of http://schemas.microsoft.com/office/word/2006/wordml.

This note applies to the following products: Office 2013 Client (Strict), Office 2013 Server (Strict).

2.1.1780 Part 4 Section 14.10.4.1, AUTONUM

a. *The standard says the \s switch specifies the separator character to use in the field result.*

In Word, if the primary editing language is East Asian, then no separator character is used, even if the \s switch is used.

b. *The standard allows the AUTONUM field to be nested inside other fields.*

In Word, if the AUTONUM field is nested inside another field no result is displayed.

2.1.1781 Part 4 Section 14.10.4.2, AUTONUMLGL

a. *The standard says the \s switch specifies the trailing separator to use.*

In Word, if the primary editing language is East Asian, then no trailing separator character is used even if the \s switch is specified.

b. *The standard allows the AUTONUMLGL field to be nested inside another field.*

In Word, if the AUTONUMLGL field is nested inside another field, no result is displayed.

2.1.1782 Part 4 Section 14.10.4.3, AUTONUMOUT

a. *The standard allows the AUTONUMOUT field to be nested inside another field.*

In Word, if the AUTONUMOUT field is nested inside another field, no result is displayed.

2.1.1783 Part 4 Section 14.10.4.4, BARCODE

a. *The standard allows the BARCODE field to be nested inside another field.*

In Word, if the BARCODE field is nested inside another field, no result is displayed.

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2.1.1784 Part 4 Section 14.10.4.5, BIDIOUTLINE

a. *The standard does not specify when to use Arabic numbering or Hebrew numbering for the BIDIOUTLINE field.*

In Word, if no right-to-left editing language is enabled, no result is displayed. If Hebrew is enabled, then Hebrew numbering is used, otherwise Arabic numbering is used.

b. *The standard allows the BIDIOUTLINE field to be nested inside another field.*

In Word, if the BIDIOUTLINE field is nested inside another field, no result is displayed.

2.1.1785 Part 4 Section 14.10.4.6, EQ

a. *The standard does not specify what the default alignment is for the \a switch.*

In Word, the default alignment for the \a switch is center alignment.

b. *The standard says that the \o switch allows switches \ac, \al, and \ar.*

In Word, the \o switch allows switches \ac, \al, \ar, and \ad, where the \ad switch specifies justified alignment of the character boxes.

c. *The standard says that for the \s switch, default for \ai switch is 2 points and no default is listed for \up switch.*

In Word, for the \s switch, there is no default value for \ai switch and the default value for \up switch is 2 points.

d. *The standard says that switch \lf creates a list from an arbitrary number of arguments.*

In Word, switch \l creates a list from an arbitrary number of arguments.

e. *The standard says that description says that the EQ field computes a mathematical equation.*

In Word, the EQ field is used to display a mathematical equation.

f. *The standard does not restrict the integer argument of spacing switches \hs and \vs used with \a and spacing switches \ai and \di used with \s.*

Word allows integer arguments between 0 and 127 inclusive for the spacing switches \hs and \vs used with \a and spacing switches \ai and \di used with \s.

g. *The standard says that the \x switch draws a border segment around a single argument, but then says no arguments are allowed.*

In Word, the \x switch draws a border segment around a single argument and at most one argument is allowed.

h. *The standard allows the EQ field to be nested inside other fields.*

In Word, if the EQ field is nested inside a field which is not an EQ field, no value is displayed.

2.1.1786 Part 4 Section 14.11.5, Additional enumeration values for ST_StyleSort (Part 1, 17.18.82)

a. *The standard states that there are additional values for this simple type.*

Word treats value '0002' as equivalent to 'font' ("[ISO/IEC-29500-1] §17.18.82; ST_StyleSort (Style Sort Settings)"), '0003' as equivalent to 'basedOn' ("[ISO/IEC-29500-1] §17.18.82;

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ST_StyleSort (Style Sort Settings)"), '0004' as equivalent to 'type' ("[ISO/IEC-29500-1] §17.18.82; ST_StyleSort (Style Sort Settings)"), and '0005' as equivalent to 'default' ("[ISO/IEC-29500-1] §17.18.82; ST_StyleSort (Style Sort Settings)").

2.1.1787 Part 4 Section 17.2.2.10, ST_TextFontScalePercent (Text Font Scale Percentage)

a. *The standard states that ST_TextFontScalePercent is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1788 Part 4 Section 17.2.2.11, ST_TextSpacingPercent (Text Spacing Percent)

a. *The standard states that the ST_TextSpacingPercent simple type specifies the range that the spacing percent in terms of line in hundredths.*

Office uses this type to specify the percent of a line height in thousands of a percent.

b. *The standard states that ST_TextSpacingPercent is read and written as a percent with a trailing percent sign.*

Office will read in percentages formatted with a trailing percent sign or as 1000th of a percent without trailing percent sign, but only write out percentages as 1000th's of a percent without trailing percent sign.

2.1.1789 Part 4 Section 19.1, VML

a. *The standard indicates the unit systems used throughout VML, but does not specify their bounds.*

Office has restrictions for each of the units used in the standard.

The following table documents Office limits for each unit. Office also uses EMUs throughout VML as a valid unit system. Individual elements and attributes may impose further limits on any particular quantity based on its context.

Unit	Min	Max
EMU	-2147483644	2147483647
Pixels	-2147483648	2147483647
Inches	-2348	2348
Centimeters	-5965	5965
Millimeters	-59652	59652
Points	-169093	169093
Picas	-14091	14091

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2.1.1790 Part 4 Section 19.1.2.1, arc (Arc Segment)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.5.1(a); curve, §19.1.2.3(d); image, §19.1.2.10(b-f).

a. *The standard defines the attribute endAngle in camel case.*

Office writes out the attribute endangle in lowercase.

b. *The standard defines the attribute startAngle in camel case.*

Office writes out the attribute startangle in lowercase.

c. *The standard states that xy and yx are valid values of the flip property on the style attribute.*

Office does not allow these values; instead, it allows values of "x y" and "y x" (minus the quotes, but including the spaces) for the same purpose.

d. *The standard implies that the height and mso-height-percent properties on the style attribute are optional.*

Office requires that at least one of these properties be set when an anchor element is not present; the height property is ignored when either the mso-height-percent property or an anchor element is specified.

e. *The standard implies that the left, margin-left, mso-position-horizontal, and mso-left-percent properties on the style attribute are optional.*

Office requires that at least one of these properties be set when the value of the position property is absolute and an anchor element is not present; all of these properties are ignored when the value of the position property is static.

f. *The standard states that the margin-bottom property on the style attribute specifies the position of the bottom of the containing block of the shape relative to the shape anchor.*

Office does not support this property.

g. *The standard states that the margin-right property on the style attribute specifies the position of the right of the containing block of the shape relative to the shape anchor.*

Office does not support this property.

h. *The standard implies that the top, margin-top, mso-position-vertical, and mso-top-percent properties on the style attribute are optional.*

Office requires that at least one of these properties be set when the value of the position property is absolute and an anchor element is not present; all of these properties are ignored when the value of the position property is static.

i. *The standard implies that the mso-position-horizontal-relative property on the style attribute is optional.*

Office requires this property to be specified when the value of the mso-position-horizontal property on the style attribute is not absolute.

j. *The standard states that the only valid values for the mso-position-horizontal-relative property on the style attribute are margin, page, text, and char.*

Office also allows values of left-margin-area, right-margin-area, inner-margin-area, and outer-margin area when the value of the mso-position-horizontal property on the style attribute is neither inside nor outside.

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k. *The standard states that the default value of the mso-position-horizontal-relative property on the style attribute is text.*

Office requires this property to be set.

l. *The standard states that the default value of the mso-position-vertical-relative property on the style attribute is text.*

Office requires this property to be set.

m. *The standard states that the only valid values for the mso-position-vertical-relative property on the style attribute are margin, page, text, and line.*

Office also allows values of top-margin-area, bottom-margin-area, inner-margin-area, and outer-margin area.

n. *The standard does not state how the mso-wrap-distance-bottom, mso-wrap-distance-left, mso-wrap-distance-right, and mso-wrap-distance-top properties on the style attribute are to be measured.*

Office allows these properties to be measured using the absolute units designator cm, mm, in, pt, or pc; or using the relative units designator px.

o. *The standard states that the default value of the mso-wrap-distance-left and mso-wrap-distance-right properties on the style attribute is 0 pt.*

Office uses a default value of 9 pt for these properties.

p. *The standard states that relative is a valid value for the position property on the style attribute.*

Office does not support this value on this property.

q. *The standard states that auto is a valid value for the margin-left, margin-top, left, top, width, height, and z-index properties on the style attribute.*

Office does not support this value on these properties.

r. *The standard states that the value of the margin-left, margin-top, left, top, width, and height properties on the style attribute may be specified as a percentage.*

Office does not allow the value of these properties to be specified as a percentage.

s. *The standard states that the value of the margin-left, margin-top, left, top, width, and height properties on the style attribute may be specified in em or ex units.*

Office does not allow the value of these properties to be specified in this way.

t. *The standard places no restrictions on the relationship between the top, margin-top, mso-position-vertical, or mso-top-percent properties on the style attribute.*

Office ignores the top and margin-top properties when either the mso-position-vertical or mso-top-percent property on the style attribute is set, or when an anchor element is present.

u. *The standard implies that the width and mso-width-percent properties on the style attribute are optional.*

Office requires that at least one of these properties be set when an anchor element is not present; the width property is ignored when either the mso-width-percent property or an anchor element is specified.

v. *The standard makes no mention of an mso-width-percent property on the style attribute.*

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Word uses this property to specify the width of the shape as a percentage of the layout object defined by the mso-width-relative property; its value is expressed as an integer between 10 and 10,000, inclusive, where each unit is a tenth of a percent.

w. *The standard makes no mention of an mso-height-percent property on the style attribute.*

Word uses this property to specify the height of a shape as a percentage of the layout object defined by the mso-height-relative property; its value is expressed as an integer between 10 and 10,000, inclusive, where each unit is a tenth of a percent.

x. *The standard makes no mention of an mso-width-relative property on the style attribute.*

Word uses this property to specify the layout object referred to by the mso-width-percent property; its allowed values are margin, page, left-margin-area, right-margin-area, inner-margin-area, and outer-margin-area, with page being the default.

y. *The standard makes no mention of an mso-height-relative property on the style attribute.*

Word uses this property to specify the layout object referred to by the mso-height-percent property; its allowed values are margin, page, top-margin-area, bottom-margin-area, inner-margin-area, and outer-margin-area.

z. *The standard makes no mention of an mso-left-percent property on the style attribute.*

Word uses this property to specify the location of the left edge of the shape as a percentage of the width of the layout object defined by the mso-position-horizontal-relative property; its value is expressed as an integer between -10,000 and 10,000, inclusive, where each unit is a tenth of a percent. This property cannot be used in combination with the mso-position-horizontal attribute on the style attribute.

aa. *The standard makes no mention of an mso-top-percent property on the style attribute.*

Word uses this property to specify the location of the top edge of the shape as a percentage of the height of the layout object defined by the mso-position-vertical-relative property; its value is expressed as an integer between -10,000 and 10,000, inclusive, where each unit is a tenth of a percent. This property cannot be used in combination with the mso-position-vertical attribute on the style attribute.

bb. *The standard states that the v-text-anchor property on the style attribute is only used by the textbox element, where it specifies the vertical anchoring of text within the textbox.*

Office instead applies this property to the shape containing the textbox element, where it specifies the anchor point of the text contained within the shape.

cc. *The standard states that the default value of the allowincell attribute is false.*

Office uses a default value of true for this attribute.

dd. *The standard states that the allowincell attribute specifies whether a shape can be placed in a table.*

Office uses this attribute to specify whether a shape's anchor can be placed in a table.

ee. *The standard places no restrictions on how values of the z-index property on the style attribute be preserved.*

Office preserves relative ordering and sign but not absolute values of this property.

ff. *The standard states that the default value of the z-index property on the style attribute is 0.*

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Office requires this property to be specified unless the element is shapedefaults, shapetype, textbox, or textpath.

gg. *The standard places no restrictions on the relationship between the top and margin-top properties on the style attribute.*

Office combines the values from these two properties into the margin-top property.

hh. *The standard places no restrictions on the relationship between the left and margin-left properties on the style attribute.*

Office combines the values from these two properties into the margin-left property.

ii. *The standard states that the values of the borderbottomcolor attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_ColorType simple type.

jj. *The standard states that the values of the bordertopcolor attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_ColorType simple type.

kk. *The standard states that the values of the borderrightcolor attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_ColorType simple type.

ll. *The standard states that the values of the borderleftcolor attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_ColorType simple type.

mm. *The standard does not state a valid value range for the mso-wrap-distance-bottom, mso-wrap-distance-left, mso-wrap-distance-right, mso-wrap-distance-top, width, and height properties on the style attribute.*

Office requires the values of these properties to be non-negative.

nn. *The standard states that chromakey and opacity are valid attributes on the arc element.*

Office does not support these attributes on this element.

oo. *The standard states that class is a valid attribute.*

Office does not support this attribute.

pp. *The standard states that the default value of the connectortype attribute is straight.*

Office uses a default value of none for this attribute.

qq. *The standard states that coordsize is a valid attribute on the image and roundrect elements.*

Office does not support this attribute on these elements.

rr. *The standard states that the dgmnodekind attribute specifies an optional, application-specific parameter that is intended to be used by the application to tag different types of nodes in a diagram.*

Office uses this attribute to indicate which type of position in an organization chart the shape represents.

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ss. *The standard does not state how to interpret the value of the hrpct attribute.*

Office interprets this attribute as tenths of a percentage point of the page width, where the page width is the width of the page without the margins.

tt. *The standard states that the values of the hrpct attribute are defined by the XML Schema float datatype.*

Office restricts the value of this attribute to be at least 0 and at most 1000.

uu. *The standard states that the default value of the hrpct attribute is 0.*

Office uses a default value of 1000 for this attribute.

vv. *The standard places no restrictions on when the ole attribute is preserved.*

Office only preserves this attribute when the value of the spt attribute is 75 and a related OLEObject element exists.

ww. *The standard does not state how to interpret the locations specified in the wrapcoords attribute.*

Office interprets these locations to be in terms of a 21,600-coordinate unit square, scaled anisotropically to fit the shape's dimensions, that maps to the bounding rectangle of the shape, with an origin at the top, left corner.

xx. *The standard states that the wrapcoords attribute is specified using a comma-delimited list of x and y coordinates.*

Office uses a space-delimited list to specify this attribute, both when delimiting the x and y coordinates in a point and when delimiting points in the list.

yy. *The standard places no restrictions on the relationship between the borderbottomcolor attribute and the borderbottom child element.*

Office ignores the borderbottomcolor attribute if there is no borderbottom child element.

zz. *The standard places no restrictions on the relationship between the bordertopcolor attribute and the bordertop child element.*

Office ignores the bordertopcolor attribute if there is no bordertop child element.

aaa. *The standard places no restrictions on the relationship between the borderrightcolor attribute and the borderright child element.*

Office ignores the borderrightcolor attribute if there is no borderright child element.

bbb. *The standard places no restrictions on the relationship between the borderleftcolor attribute and the borderleft child element.*

Office ignores the borderleftcolor attribute if there is no borderleft child element.

ccc. *The standard states that the default value of the strokeweight attribute is 1 point.*

Office uses a default value of 0.75 points for this attribute.

ddd. *The standard states that pixels are an absolute unit designator in the description for the margin-left, margin-top, margin-right, margin-bottom, left, top, width, and height properties on the style attribute.*

Office treats pixels as a relative unit designator.

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eee. *The standard implies that the mso-position-vertical-relative property on the style attribute is optional.*

Office requires this property to be specified when the value of the mso-position-vertical property on the style attribute is not absolute.

fff. *The standard does not state how to interpret a value of 0 on the hrpct attribute.*

Office interprets a value of 0 on this attribute to indicate that the size of the object is not expressed in terms of percentage of the page width.

ggg. *The standard does not state how to interpret multiple occurrences of a given property on the style attribute.*

Office ignores all but the last occurrence of a property that is specified more than once.

hhh. *The standard places no restrictions on when the units specified in the margin-left, margin-top, left, top, width, and height properties on the style attribute will be used.*

Office ignores the units specified on these properties when the element is a child in a group; the values are considered to be specified in the coordinate space of the parent, defined by the coordsize and coordorigin attributes.

iii. *The standard states that the left property on the style attribute specifies the position of the left of the containing block of the shape relative to the element left of it in the flow of the page.*

Office uses this property to specify the position of the left edge of the content block from the left margin or, if the left margin is not set, from the anchor.

jjj. *The standard states that the margin-left property on the style attribute specifies the position of the left of the containing block of the shape relative to the shape anchor.*

Office uses this property to specify the position of the left margin of the content block from the anchor.

kkk. *The standard states that the mso-position-horizontal-relative property on the style attribute allows values of text and char, without restriction.*

Office does not allow these values when this property is modifying the mso-left-percent property on the style attribute, or when the value of the mso-position-horizontal property on the style attribute is inside or outside.

lll. *The standard states that the mso-position-vertical-relative property on the style attribute allows a value of text, without restriction.*

Office only allows this value when this property is modifying the mso-position-vertical property on the style attribute and the value of that property is absolute.

mmm. *The standard states that the default value of the spt attribute is 0.*

Office uses a default value of 19 for the arc element.

nnn. *The standard places no restrictions on the relationship between the connectortype and spt attributes.*

Office ignores the connectortype attribute if the spt attribute does not indicate that the element is a connector.

ooo. *The standard implies that text can be added to the arc element via the textbox child element.*

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Office may generate such content but subsequent open/save operations will not preserve that content on this element.

ppp. *The standard implies that the arc element will preserve text wrapping information on the wrap child element.*

Office will not preserve this information on this child element.

qqq. *The standard states that the possible values for the ole attribute are defined by the ST_TrueFalseBlank simple type.*

Office considers the existence of the ole attribute, regardless of its value, to indicate a value of true.

rrr. *The standard does not state a default value for the insetpen attribute.*

Office uses default value of false for this attribute.

sss. *The standard states that the background element is a valid parent for the arc element.*

Office does not support the background element as a parent of the arc element.

ttt. *The standard states that the mso-position-horizontal-relative property on the style attribute modifies the mso-position-horizontal property on the style attribute.*

Office uses the mso-position-horizontal-relative property to modify either the mso-position-horizontal property or the mso-left-percent property on the style attribute.

uuu. *The standard states that the mso-position-vertical-relative property on the style attribute allows a value of line, without restriction.*

Office does not allow this value when this property is modifying the mso-top-percent property on the style attribute.

vvv. *The standard states that the mso-position-vertical-relative property on the style attribute modifies the mso-position-vertical property on the style attribute.*

Office uses the mso-position-vertical-relative property to modify either the mso-position-vertical property or the mso-top-percent property on the style attribute.

www. *The standard states that top-center, middle-center, bottom-center, top-baseline, bottom-baseline, top-center-baseline, and bottom-center-baseline are valid values for the v-text-anchor property on the style attribute.*

Office does not support these values on this property.

xxx. *The standard places no restrictions on when the allowincell attribute is applicable.*

Excel and PowerPoint do not support this attribute; Word does not support this attribute on inline shapes.

yyy. *The standard places no restrictions on when the coordorigin attribute is preserved.*

Office does not preserve this attribute on a shape that references, via the type attribute, a shapetype element with the same coordorigin value.

zzz. *The standard places no restrictions on when the coordorigin and coordsize attributes are preserved on the arc element.*

Office preserves these attributes only when this element has at least one of the following child elements: a path with connection points specified in its connectlocs attribute; a path with a textbox specified in its textboxrect attribute; or handles.

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aaaa. *The standard states that values of the dgmnodekind attribute are defined by the XML Schema integer datatype.*

Office restricts the values of this attribute to be at least 0 and at most 6, where the values represent regular, root, assistant, co-worker, subordinate, auxiliary, and default, respectively.

bbbb. *The standard places no restrictions on when the coordsize attribute is preserved.*

Office does not preserve this attribute on a shape that references, via the type attribute, a shapetype element with the same coordorigin value.

cccc. *The standard places no restrictions on the value of the spt attribute.*

Office requires that the spt attribute on an arc element have a value of 19.

dddd. *The standard places no restrictions on the relationship between the left, margin-left, mso-position-horizontal, and mso-left-percent properties on the style attribute.*

Office ignores the left and margin-left properties when either the mso-position-horizontal or mso-left-percent property on the style attribute is set, or when an anchor element is present.

eeee. *The standard states that the top property on the style attribute specifies the position of the top of the containing block of the shape relative to the element above it in the flow of the page.*

Office uses this property to specify the position of the top edge of the content block from the top margin or, if the top margin is not set, from the anchor.

ffff. *The standard states that the margin-top property on the style attribute specifies the position of the left of the containing block of the shape relative to the shape anchor.*

Office uses this property to specify the position of the top margin of the content block from the anchor.

gggg. *The standard states that the values of the id attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_ObjID (§3.9.3, ST_ObjID) simple type.

hhhh. *The standard states that the values of the spid attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_SpId (§3.9.6, ST_SpId) simple type.

iiii. *The standard states that the height property on the style attribute specifies the height of the containing block of the shape.*

Office uses this property to specify the height of the content block.

jjjj. *The standard states that the width property on the style attribute specifies the width of the containing block of the shape.*

Office uses this property to specify the width of the content block.

kkkk. *The standard does not mention the gfxdata attribute.*

Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

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2.1.1791 Part 4 Section 19.1.2.2, background (Document Background)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); arc, §19.1.2.1(gggg).

a. *The standard indicates how the targetscreensize attribute is used.*

Office does not preserve the current value of the targetscreensize attribute and always writes 800,600 on file save.

b. *The standard states that the name of the attribute that specifies whether the closed path will be filled is filled.*

Office uses the name fill for this attribute.

c. *The standard states that the values of the id attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_ObjID (§3.9.3, ST_ObjID) simple type.

2.1.1792 Part 4 Section 19.1.2.3, curve (Bezier Curve)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.5.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); image, §19.1.2.10(b-f).

a. *The standard indicates the default value of the control1 attribute is "10,10".*

Office uses a default value of "0,0" for the control1 attribute.

b. *The standard indicates the default value of the control2 attribute is "20,20".*

Office uses a default value of "0,0" for the control2 attribute.

c. *The standard indicates the default value of the to attribute is "30,20".*

Office uses a default value of "0,0" for the to attribute.

d. *The standard states that the line, polyline, and curve elements only ignore the top, left, width, and height properties on the style attribute.*

Office also ignores the margin-top, margin-left, mso-left-percent, mso-position-horizontal, mso-position-horizontal-relative, mso-top-percent, mso-position-vertical and mso-position-vertical-relative properties when applied to these elements.

e. *The standard indicates that background is a parent element for the element curve.*

In Office the background element is not supported as a parent for the element curve.

f. *The standard places no restrictions on the value of the spt attribute.*

Office requires that the spt attribute on a curve element have a value of 0. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements which can handle any valid spt value.

g. *The standard states that chromakey and opacity are valid attributes on the curve element.*

Office does not support these attributes on this element.

h. *The standard does not mention the gfxdata attribute.*

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Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

2.1.1793 Part 4 Section 19.1.2.4, f (Single Formula)

a. *The standard indicates the formula for the mod operation of the eqn attribute is the square root of (v^2 + P1^2 + P1^2).*

Office implements the mod operation of the eqn attribute as the square root of (v^2 + P1^2 + P2^2).

b. *The standard indicates the set of valid arguments for the operations in the eqn attribute.*

Office supports an additional value lineDrawn as an argument for formula evaluation:

Value	**Description**
lineDrawn	1 if the shape is stroked, 0 if it is not. A shape is not stroked if one of the following conditions is true: ▪ The value of the **on** attribute of the **stroke** element ("[ISO/IEC-29500-4] §19.1.2.21; stroke (Line Stroke Settings)") is *false*. ▪ The **on** attribute of the **stroke** element is absent and the value of the shape's **stroked** attribute is *false*. ▪ The **on** attribute of the **stroke** element is absent, the shape's **stroked** attribute is absent and the value of the **stroked** attribute of the **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)") is *false*.

c. *The standard indicates that hasfill is a valid argument for the operations in the eqn attribute.*

Office does not support the hasfill argument for the operations in the eqn attribute.

d. *The standard indicates that hasstroke is a valid argument for the operations in the eqn attribute.*

Office does not support the hasstroke argument for the operations in the eqn attribute.

2.1.1794 Part 4 Section 19.1.2.5, fill (Shape Fill Properties)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); arc, §19.1.2.1(gggg); background, §19.1.2.2(c); group, §19.1.2.7(a).

a. *The standard does not define a default value for the detectmouseclick attribute.*

Office uses a default value of false for the detectmouseclick attribute.

b. *The standard indicates how the alignshape attribute is used.*

Office also requires that the value of the type attribute is tile if the alignshape attribute is used.

c. *The standard does not specify bounds for the angle attribute.*

Office specifies the bounds for the angle attribute of -32767 and 32767.

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d. *The standard states that o:relid is a valid attribute.*

Office does not support this attribute.

e. *The standard does not specify bounds for the origin attribute.*

Office uses bounds of -32767 and 32767 for the origin attribute.

f. *The standard indicates that the default value for the origin attribute is the center of the image.*

Office uses a default value of 0,0 for the origin attribute.

g. *The standard implies that positive values are to the right and down for the origin attribute.*

In Office, negative values for the origin attribute are to the right and down, so the bottom right corner is -1,-1.

h. *The standard implies that only absolute numbers may be used for the size attribute.*

In Office, values are specified as either an absolute measurement or a fractional value of the shape dimensions. A fractional value may be specified in 1/65536-ths if a trailing "f" is supplied. [Example: A value of "52429f" represents 52429/65536, or 0.8. end example] The minimum and maximum values are 0f to 2147483647f.

i. *The standard indicates how the type attribute is used.*

If this attribute value is *tile*, *pattern* or *frame*, Office requires that the image attributes be specified. If this attribute value is *gradient* or *gradientradial*, Office requires that the gradient attributes be specified.

j. *The standard allows any string to be used for title attribute.*

Office does not allow slashes or colons in the title attribute string.

k. *The standard indicates how the title attribute is used.*

Office only supports the type attribute if the value of the type attribute is tile, pattern or frame.

l. *The standard indicates how the althref attribute is used.*

Office does not support the althref attribute.

m. *The standard indicates how the href attribute is used.*

Office does not support the href attribute.

n. *The standard indicates how the src attribute is used.*

Office does not support the src attribute.

o. *The standard does not restrict the number of instances of the fill element.*

Office allows at most only one instance of the fill element in each place where it can be used.

p. *The standard states that values of the opacity attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

q. *The standard states that values of the opacity2 attribute are defined by the XML Schema string datatype.*

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Office defines the values of the opacity2 attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

2.1.1795 Part 4 Section 19.1.2.6, formulas (Set of Formulas)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); group, §19.1.2.7(a).

a. *The standard states that the maxOccurs value for the f child element is unbounded.*

Office limits the occurrences of this element to 128.

b. *The standard does not restrict the number of instances of the formulas element.*

Office allows at most one instance of this element in each place where it can be used.

2.1.1796 Part 4 Section 19.1.2.7, group (Shape Group)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-hh,mm,oo,qq-uu,ww, xx,ddd-lll,ttt-yyy,aaaa, bbbb,dddd-jjjj); background, §19.1.2.2(c); curve, §19.1.2.3(d); image, §19.1.2.10(b,e).

a. *The standard states that borderbottom, borderleft, borderright, bordertop, callout, extrusion, fill, formulas, handles, imagedata, path, shadow, signatureline, skew, stroke, textbox, textpath, and textdata are valid child elements of the group element.*

Office does not allow these elements to be child elements of the group element.

b. *The standard states that the borderbottomcolor, borderleftcolor, borderrightcolor, bordertopcolor, fillcolor, and filled attributes are valid attributes on the group element.*

Office does not support these attributes on this element.

c. *The standard does not mention the gfxdata attribute.*

Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

2.1.1797 Part 4 Section 19.1.2.8, h (Shape Handle)

a. *The standard indicates how the switch attribute is used.*

Office ignores the switch attribute and writes false or a blank string value on file save.

b. *The standard indicates that a true or false value is saved to the file for the invx attribute.*

Office ignores the value of the invx attribute and writes an empty string whenever the attribute is written to the file.

c. *The standard indicates that a true or false value is saved to the file for the invy attribute.*

Office ignores the value of the invy attribute and writes an empty string whenever the attribute is written to the file.

d. *The standard indicates how the map attribute is used.*

Office does not support the map attribute and using it may result in unpredictable runtime behavior.

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2.1.1798 Part 4 Section 19.1.2.9, handles (Set of Handles)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); group, §19.1.2.7(a).

a. *The standard states that the maxOccurs value for the h child element is unbounded.*

Office limits the occurrences of this element to 4.

b. *The standard does not restrict the number of instances of the handles element.*

Office allows at most one instance of this element in each place where it can be used.

2.1.1799 Part 4 Section 19.1.2.10, image (Image File)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); curve, §19.1.2.3(d); imagedata, §19.1.2.11(d,h-o).

a. *The standard indicates that color images should be reduced to 8 colors if the bilevel attribute is true.*

Office interprets the bilevel attribute as a toggle between color and black and white and converts all images, color or greyscale, to pure black and white if the value of the bilevel attribute is true.

b. *The standard implies that the bullet attribute may be used to specify that the element is a bullet.*

Office sets this attribute when the element is being used as a bullet, but ignores it on file load; this attribute does not make the element a bullet.

c. *The standard states that the bwnormal attribute specifies the black-and-white mode for normal black-and-white output devices.*

Word and Excel do not support this attribute.

d. *The standard states that the bwpure attribute specifies the black-and-white mode for pure black-and-white output devices.*

Word and Excel do not support this attribute.

e. *The standard places no restrictions on when the target attribute is preserved.*

Office does not preserve this attribute when the href attribute is not set.

f. *The standard states that the bwmode attribute specifies how a shape will render for black-and-white output devices.*

Word and Excel do not support this attribute.

g. *The standard places no restrictions on the value of the spt attribute.*

Office requires the spt attribute on an image element have a value of 75. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements, which can handle any valid spt value.

h. *The standard states that chromakey, coordorigin, and opacity are valid attributes on the image element.*

Office does not support these attributes on this element.

i. *The standard states that the default value of the spt attribute is 0.*

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Office uses a default value of 75 for the image element.

j. *The standard does not mention the gfxdata attribute.*

Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

2.1.1800 Part 4 Section 19.1.2.11, imagedata (Image Data)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a)*;* pict, §14.5.1(a)*;* background, §17.2.1(a)*;* arc, §19.1.2.1(gggg)*;* background, §19.1.2.2(c)*;* group, §19.1.2.7(a)*;* image, §19.1.2.10(a)*.*

a. *The standard does not restrict the number of instances of the imagedata element.*

Office allows at most only one instance of the imagedata element in each place where it can be used.

b. *The standard states that althref is a valid attribute.*

Office does not support this attribute.

c. *The standard states that movie is a valid attribute.*

Office does not support this attribute.

d. *The standard states that src is a valid attribute.*

Office does not support this attribute.

e. *The standard indicates that the pict attribute is used to specify the relationship with alternate image data.*

Office does not preserve the pict attribute for imagedata elements.

f. *The standard states that oleid is valid attribute.*

Office does not support this attribute.

g. *The standard does not specify a default value for the detectmouseclick attribute.*

In Office, the default value of the detectmouseclick attribute is true for imagedata elements.

h. *The standard states that the values of the cropleft attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

i. *The standard states that the values of the cropright attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

j. *The standard states that the values of the blacklevel attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

k. *The standard states that the values of the gain attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

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l. *The standard states that the values of the gamma attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

m. *The standard states that the values of the croptop attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

n. *The standard states that the values of the cropbottom attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

o. *The standard does not specify bounds for the blacklevel attribute.*

Office uses a range of [-0.5, 0.5] for the blacklevel attribute for the imagedata element.

p. *The standard supports the relid attribute in all contexts.*

Office only supports the relid attribute in the SpreadsheetML context.

q. *The standard supports the attribute Id in all contexts.*

Office only supports the Id attribute in the WordprocessingML context.

r. *The standard does not explicitly define the interaction between the detectmouseclick attributes and the fill and imagedata child elements.*

Office treats detectmouseclick as false only if the detectmouseclick attributes of both the fill and imagedata child elements are set to false.

s. *The standard states that o:href is a valid attribute.*

Office does not support this attribute.

2.1.1801 Part 4 Section 19.1.2.12, line (Line)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); curve, §19.1.2.3(d); image, §19.1.2.10(b-f).

a. *The standard indicates that the default value for the to attribute is "10,10".*

Office uses a default value of "50pt,50pt" for the to attribute.

b. *The standard places no restrictions on the value of the spt attribute.*

Office requires that the spt attribute on a line element have a value of 20. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements, which can handle any valid spt value.

c. *The standard states that chromakey and opacity are valid attributes on the line element.*

Office does not support these attributes on this element.

d. *The standard states that the default value of the spt attribute is 0.*

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Office uses a default value of 20 for the line element. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements which can handle any valid spt value.

e. *The standard places no restrictions on when the coordorigin and coordsize attributes are preserved on the line element.*

Office only preserves these attributes when this element has at least one of the following child elements: a path with connection points specified in its connectlocs attribute; a path with a textbox specified in its textboxrect attribute; or handles.

f. *The standard does not mention the gfxdata attribute.*

Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

2.1.1802 Part 4 Section 19.1.2.13, oval (Oval)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); curve, §19.1.2.3(d); image, §19.1.2.10(b-f).

a. *The standard places no restrictions on the value of the spt attribute.*

Office requires that the spt attribute on an oval element have a value of 3. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements, which can handle any valid spt value.

b. *The standard states that chromakey and opacity are valid attributes on the oval element.*

Office does not support these attributes on this element.

c. *The standard states that the default value of the spt attribute is 0.*

Office uses a default value of 3 for the oval element. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements, which can handle any valid spt value.

d. *The standard places no restrictions on when the coordorigin and coordsize attributes are preserved on the oval element.*

Office only preserves these attributes when this element has at least one of the following child elements: a path with connection points specified in its connectlocs attribute; a path with a textbox specified in its textboxrect attribute; or handles.

e. *The standard does not mention the gfxdata attribute.*

Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

2.1.1803 Part 4 Section 19.1.2.14, path (Shape Path)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); arc, §19.1.2.1(gggg); group, §19.1.2.7(a).

a. *The standard does not define the coordinate space for the pen positions.*

In Office, the coordinate space for pen movements is defined by the shape's coordinate space rectangle, as given by the coordsize and coordorigin attributes.

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b. *The standard does not define units for the angle parameters for ellipses defined using the ae property of the v attribute.*

   Office uses units of 1/65536 of a degree for the angle parameters for ellipses defined using the ae property of the v attribute.

c. *The standard defines the properties for the v attribute.*

Office uses additional commands to indicate desired application behavior when the object is edited by the user. An application that does not understand these commands may ignore, rewrite or remove them.

The following commands describe the desired application behavior for all points that follow the command during operations that move the object's points or associated line segments. These behaviors apply to vertices in the path (end points, not associated control points) depending on whether the associated line segment is a line or a curve.

Command	**Name**	**Parameters**	**Description**	
			Vertex behavior	**Line segment type**
Ha	AutoLine	0	auto	Line
Hb	AutoCurve	0	auto	curve
Hc	CornerLine	0	corner	line
Hd	CornerCurve	0	corner	curve
He	SmoothLine	0	smooth	line
Hf	SmoothCurve	0	smooth	curve
Hg	SymmetricLine	0	symmetric	line
Hh	SymmetricCurve	0	symmetric	curve
Hi	Freeform	0	freeform	any

The line segment type defines whether the command applies to points which are adjacent to lines or to points adjacent to curves. The vertex behavior specifies how the two line segments on either side of a point should behave as the point is moved.

Vertex behavior	**Curve control points should be calculated automatically**	**Control points should be equidistant from vertex**	**Control points should be co-linear with vertex**	**Control points should be visible to the user**
Auto	Yes	N/A	N/A	No
Symmetric	No	Yes	Yes	Yes
Smooth	No	No	Yes	Yes
Corner	No	No	No	Yes
Freeform	No	No	No	Yes

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The auto vertex behavior is effectively the default behavior as it requires the application to provide the control points for the curve. The freeform vertex behavior is effectively user-defined as the application does not calculate control points.

d. *The standard indicates that the last four values of the at property of the v attribute are radial vectors.*

   In Office, the last four values of the at property of the v attribute are points that define radial vectors with origins at the center of the bounding box.

e. *The standard does not fully explain how the qb property of the v attribute is used.*

   Office requires that the qb property of the v attribute have a closed path. If the path is not closed, a new subpath shall exist after qb.

f. *The standard indicates how the limo attribute is used.*

   Office does not support the limo attribute.

g. *The standard indicates how the textboxrect attribute is used.*

The following describes the Office requirements for this attribute:

Only one textbox is created for each shape. The rectangles defined by this attribute are used with text layout options to define the position of the textbox inside the shape.

If 4, 5 or more than 6 rectangles are defined, Office defaults to the shape's bounding box.

If the shape has no adjust handles, the rectangle chosen depends on the layout defined by the *layout-flow* property of the **style** attribute:

Layout-flow	Number of Rectangles	Chosen Rectangle
Horizontal or Vertical	1	#1
Horizontal	2	#1
Vertical	2	#2
Horizontal or Vertical	3	#1
Horizontal	6	#1
Vertical	6	#4

If the shape has adjust handles, the position of the textbox takes into account one or more rectangles defined here, the layout of the text and the position and range of the adjust handles. Office uses this data to choose a textbox position that conflicts least with the shape's path.

If more than one adjust handle is defined, only the first one is used. However, Office requires that the first handle defined in the file for the shape reference the first two values of the **adj** attribute of the shape.

[Note: For more information about adjust handles, see the **handles** element ("[ISO/IEC-29500-4] §19.1.2.9; handles (Set of Handles)") and the **adj** attribute, such as on the **shape** element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)"). For more information about text layout, see the text layout properties in the **style** attribute of the **textbox** element ("[ISO/IEC-29500-4] §19.1.2.22; textbox (Text Box)"). end note]

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h. *The standard does not restrict the number of instances of the path element.*

Office allows at most only one instance of the path element in each place where it can be used.

2.1.1804 Part 4 Section 19.1.2.15, polyline (Multiple Path Line)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); curve, §19.1.2.3(d); image, §19.1.2.10(b-f).

a. *The standard places no restrictions on the value of the spt attribute.*

Office requires that the spt attribute on a polyline element have a value of 0. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements which can handle any valid spt value.

b. *The standard states that chromakey and opacity are valid attributes on the polyline element.*

Office does not support these attributes on this element.

c. *The standard does not mention the gfxdata attribute.*

Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

2.1.1805 Part 4 Section 19.1.2.16, rect (Rectangle)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); curve, §19.1.2.3(d); image, §19.1.2.10(b-f).

a. *The standard places no restrictions on the value of the spt attribute.*

Office requires that the spt attribute on a rect element have a value of 1. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements which can handle any valid spt value.

b. *The standard states that chromakey and opacity are valid attributes on the rect element.*

Office does not support these attributes on this element.

c. *The standard states that the default value of the spt attribute is 0.*

Office uses a default value of 1 for the rect element.

d. *The standard places no restrictions on when the coordorigin and coordsize attributes are preserved on the rect element.*

Office only preserves these attributes when this element has at least one of the following child elements: a path with connection points specified in its connectlocs attribute; a path with a textbox specified in its textboxrect attribute; or handles.

e. *The standard does not mention the gfxdata attribute.*

Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

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2.1.1806 Part 4 Section 19.1.2.17, roundrect (Rounded Rectangle)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); curve, §19.1.2.3(d); image, §19.1.2.10(b-f).

a. *The standard places no restrictions on the value of the spt attribute.*

Office requires that the spt attribute on a roundrect element have a value of 2. It is an error to specify this attribute as anything other than the default value, except for the shape and shapetype elements which can handle any valid spt value.

b. *The standard states that chromakey, coordorigin, and opacity are valid attributes on the roundrect element.*

Office does not support these attributes on this element.

c. *The standard states that the default value of the spt attribute is 0.*

Office uses a default value of 2 for the roundrect element.

d. *The standard does not mention the gfxdata attribute.*

Office uses an gfxdata attribute. The definition is the same as the gfxdata attribute defined in Section 14.1.2.19.

2.1.1807 Part 4 Section 19.1.2.18, shadow (Shadow Effect)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); arc, §19.1.2.1(gggg); group, §19.1.2.7(a).

a. *The standard states that the values of the type attribute are defined by the ST_ShadowType simple type and some additional values.*

Office only allows the values defined in the ST_ShadowType simple type for this attribute.

b. *The standard does not specify bounds for the matrix attribute.*

In Office, these numeric values may be specified in 1/65536-ths if a trailing "f" is supplied. [*Example:* A value of "52429f" represents 52429/65536, or 0.8. *end example*] The minimum and maximum values for s_{xx}, s_{xy}, s_{yx}, s_{yy}, p_x, p_y are -2147483644f to 2147483647f.

c. *The standard does not indicate how the matrix attribute is applied to the shadow.*

Office applies this matrix to a point in the following way.

Let Q be a point in the object (after rotation, if the shape is rotated) described by $Q = [x \quad y \quad 1]$.

Let $f = Q \cdot \begin{bmatrix} 1/p_x \\ 1/p_y \\ 1 \end{bmatrix}$ and $M = \begin{bmatrix} s_{xx} & s_{yx} & 0 \\ s_{xy} & s_{yy} & 0 \\ xoffset & yoffset & 1 \end{bmatrix}$.

A new point Q' is calculated as $Q' = f \cdot (Q \cdot M)$.

In Office, if $p_x = 0$ and $p_y = 0$ then $f = 1$.

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The origin for the coordinate system used here is defined by the **origin** attribute, which is dependent on the height and width of the shape.

d. *The standard indicates that drawingRelative and shapeRelative are valid simple type values for the type attribute.*

   If the value of the type attribute is drawingRelative or shapeRelative, Office transforms the shadow to use a value of perspective on file save.

e. *The standard indicates that emboss is a valid simple type values for the type attribute.*

   If the value of the type attribute is emboss and the offset or offset2 attribute is defined using fractional values of the shape dimensions, Office transforms the shadow to use a value of perspective on file save.

f. *The standard indicates how the obscured attribute is used.*

   In Office, if the value of the obscured attribute is false, then the shadow is transparent if there is no fill on the shape.

g. *The standard indicates that the default value for the on attribute is true.*

   In Office, if the on attribute value is blank, it is considered to be true. If it is absent, it defaults to false.

h. *The standard does not restrict the number of instances of this element.*

   Office allows at most only one instance of the shadow element in each place where it can be used.

i. *The standard states that values of the opacity attribute are defined by the XML Schema string datatype.*

   Office defines the values of the opacity attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

2.1.1808 Part 4 Section 19.1.2.19, shape (Shape Definition)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); curve, §19.1.2.3(d); image, §19.1.2.10(b-f).

a. *The standard does not document the format of the equationxml attribute.*

   Word uses a specific format for the equationxml attribute as defined by Equation XML (§3.8, Equation XML).

b. *The standard indicates that the format of the gfxdata attribute is application-defined.*

   Office formats this attribute as specified in the DrawingML Persistence Part (§3.1.4, DrawingML Persistence Part).

c. *The standard states that chromakey and opacity are valid attributes on the shape element.*

   Office does not support these attributes on this element.

d. *The standard states that the values of the spt attribute are defined by the XML Schema float datatype.*

   Office defines the values of this attribute with the ST_ShapeType (§3.9.5, ST_ShapeType) simple type.

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e. *The standard states that the style attribute has a number of name/value pairs, but doesn't fully define the WordprocessingML object positioning ones.*

Word recognizes the following name/value pairs:

mso-position-horizontal: the relative horizontal position of the object

- absolute = an absolute measurement defined by margin-left
- left = on the left side of the object in mso-position-horizontal-relative
- center = centered within the object in mso-position-horizontal-relative
- right = on the right side of the object in mso-position-horizontal-relative
- inside = inside the object in mso-position-horizontal-relative; only valid for values of "margin" and "page"
- outside = outside of the object in mso-position-horizontal-relative; only valid for values of "margin" and "page"

mso-position-horizontal-relative: the basis of the relative horizontal position of the object

- margin = relative to the leading margin
- page = relative to page with the object's anchor
- text = relative to the text column
- char = relative to the location of the anchor for the object
- left-margin = relative to the left margin
- right-margin = relative to the right margin
- inner-margin-area = relative to the inner margin (the right margin for odd-numbered pages, the left margin for even-numbered pages)
- outer-margin-area = relative to the outer margin (the left margin for odd-numbered pages, the right margin for even-numbered pages)

mso-position-vertical: the relative vertical position of the object

- absolute = an absolute measurement defined by margin-top
- center = centered on the object in mso-position-vertical-relative; not valid for value of "text"
- bottom = at the bottom of the object in mso-position-vertical-relative; not valid for value of "text"
- top = at the top of the object in mso-position-vertical-relative; not valid for value of "text"
- inside = inside the object in mso-position-vertical-relative; not valid for value of "text"
- outside = outside of the object in mso-position-vertical-relative; not valid for value of "text"

mso-position-vertical-relative: the basis of the relative vertical position of the object

- margin = relative to the leading margin
- page = relative to page with the object's anchor
- text = relative to the paragraph with the object's anchor
- line = relative to the line with the anchor
- top-margin = relative to the top margin
- bottom-margin = relative to the bottom margin
- inner-margin-area = relative to the inner margin (the right margin for odd-numbered pages, the left margin for even-numbered pages)
- outer-margin-area = relative to the outer margin (the left margin for odd-numbered pages, the right margin for even-numbered pages)

margin-left: the horizontal offset from the base position specified in mso-position-horizontal-relative. if 0, need to check mso-left-percent for a percentage value.

margin-top: the vertical offset from the base position specified in mso-position-vertical-relative. if 0, need to check mso-top-percent for a percentage value.

mso-left-percent: a value in tenths of a percent (e.g. 250 = 25%) that specifies starting position relative to the axis specified in mso-position-horizontal-relative; not valid if that parameter has a value of "text" or "char"

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mso-top-percent: a value in tenths of a percent (e.g. 250 = 25%) that specifies starting position relative to the axis specified in mso-position-vertical-relative; not valid if that parameter has a value of "text" or "line"

2.1.1809 Part 4 Section 19.1.2.20, shapetype (Shape Template)

For additional notes that apply to this portion of the standard, please see the notes for background, §17.2.1(a); arc, §19.1.2.1(c-mm,oo-xx,ccc-lll,nnn,qqq, rrr,ttt-yyy,aaaa, bbbb,dddd-jjjj); curve, §19.1.2.3(d); image, §19.1.2.10(b-f).

a. *The standard indicates how the master attribute is used.*

Office considers the presence and absence of this attribute to represent true and false values, respectively. If this attribute exists and is set to any value, including an empty string, Office considers it to be true.

b. *The standard states that chromakey and opacity are valid attributes on the shapetype element.*

Office does not support these attributes on this element.

2.1.1810 Part 4 Section 19.1.2.21, stroke (Line Stroke Settings)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); arc, §19.1.2.1(gggg); group, §19.1.2.7(a).

a. *The standard indicates the endcap attribute is used for any path.*

Office requires that the shape's path is open for the endcap attribute to work.

b. *The standard indicates how the althref attribute is used.*

Office does not persist the althref value on file save. The value of althref replaces the value of the src attribute on file save if the href attribute is not defined.

c. *The standard indicates how the href attribute is used.*

Office does not persist the href value on file save. The value of href replaces the value of the src attribute on file save if the href attribute is not defined.

d. *The standard does not specify bounds for the miterlimit attribute.*

Office has a maximum allowed value of 32767 for the miterlimit attribute.

e. *The standard indicates how the src attribute is used.*

On file save, Office replaces the value of the src attribute with the value of the href attribute, if defined, or the althref attribute href is not defined.

f. *The standard does not specify bounds for the weight attribute.*

In Office, the minimum value is zero and the maximum value is 20116800 EMU for the weight attribute.

g. *The standard states that the values of the filltype attribute are defined by the ST_FillType simple type.*

Office does not support the values of gradient or gradientRadial.

h. *The standard indicates that the default value for the weight attribute is 1 pt.*

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Office uses a default value of 0.75 pt for the weight attribute.

i. *The standard indicates that relid is a valid attribute.*

Office does not support the relid attribute.

j. *The standard does not restrict the number of instances of the stroke element.*

Office allows at most only one instance of the stroke element in each place where it can be used.

k. *The standard states that values of the opacity attribute are defined by the XML Schema string datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

l. *The standard states that the values of the miterlimit attribute are defined by the XML Schema decimal datatype.*

Office defines the values of this attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

2.1.1811 Part 4 Section 19.1.2.22, textbox (Text Box)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); arc, §19.1.2.1(gggg); background, §19.1.2.2(c); group, §19.1.2.7(a).

a. *The standard indicates that the only allowed value for the mso-direction-alt property of the style attribute is context.*

Only Excel supports the mso-direction-alt property and it only supports the value auto.

b. *The standard indicates how the mso-next-textbox property of the style attribute is used.*

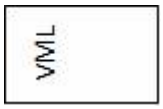
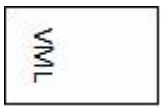
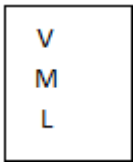
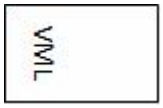
Only Word supports the mso-next-textbox property.

c. *The standard indicates that the only valid value for the mso-layout-flow-alt property of the style attribute is bottom-to-top.*

In Office, the mso-layout-flow-alt property of the style attribute supports the following additional property values:

Property	Description
mso-layout-flow-alt	This property is used for specifying vertical text direction instead of *layout-flow* when the layout flow is from bottom to top or from top to bottom for non-ideographic languages. Allowed values are: ▪ *bottom-to-top* - Text is displayed ▪ *top-to-bottom* - Text is displayed Excel interprets *top-to-bottom* to indicate stacked text; this is handled in a different manner than in Word. [Example: Text flowing from bottom to top: <v:textbox style="layout-flow:vertical; mso-layout-flow-alt:bottom-to-top">

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Property	Description
	 end example] [Example: Text flowing from top to bottom: <v:textbox style="layout-flow:vertical; mso-layout-flow-alt:top-to-bottom">  end example] [Example: Text flowing from top to bottom in Excel: <v:textbox style="layout-flow:vertical; mso-layout-flow-alt:top-to-bottom">  end example] [Example: Text flowing vertically in Excel: <v:textbox style="layout-flow:vertical">  end example]

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d. *The standard indicates the values for the mso-rotate property of the style attribute.*

Office does not support the mso-rotate property and does not preserve the value -90 on file save.

e. *The standard indicates states that any element in the ##local namespace is a valid child of the textbox element without explaining how this is used.*

Excel writes text and text formatting as HTML within the textbox element.

f. *The standard indicates that the inset attribute is used if the value of insetmode attribute is "custom".*

Excel uses the value of the insetmode attribute on the parent element to determine if the inset attribute is used. Word always uses the inset attribute regardless of the value of the insetmode attribute.

g. *The standard indicates how the singleclick attribute is used.*

Office does not support the singleclick attribute.

h. *The standard implies that all properties on the style attribute apply to the textbox element.*

Office only supports the following properties on the textbox element: direction, layout-flow, mso-direction-alt, mso-fit-shape-to-text, mso-fit-text-to-shape, mso-layout-flow-alt, mso-next-textbox, mso-rotate, mso-text-scale, and v-text-anchor.

i. *The standard states that insetmode is a valid attribute.*

Office does not support this attribute.

j. *The standard does not restrict the number of instances of the textbox element.*

Office allows at most only one instance of the textbox element in each place where it can be used.

k. *The standard indicates how the mso-fit-text-to-shape property of the style attribute is used.*

Office does not support the mso-fit-text-to-shape property.

2.1.1812 Part 4 Section 19.1.2.23, textpath (Text Layout Path)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); arc, §19.1.2.1(gggg); background, §19.1.2.2(c); group, §19.1.2.7(a).

a. *The standard indicates that the default value for the v-text-align property of the style attribute is left.*

Office uses a default value of center for the v-text-align property of the style attribute.

b. *The standard implies that all properties on the style attribute apply to the textpath element.*

Office only supports the following properties on the textbox element: font, font-family, font-size, font-style, font-variant, font-weight, mso-text-shadow, text-direction, v-rotate-letters, v-same-letter-heights, v-text-align, v-text-kern, v-text-reverse, v-text-spacing-mode, and v-text-spacing.

c. *The standard indicates that the default value for the mso-text-shadow property of the style attribute is false.*

Office uses a default value of none for the mso-text-shadow property of the style attribute.

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d. *The standard implies that changing the value of the font-size property of the style attribute changes the size of the textpath.*

Office uses the *width* and *height* properties of the parent shape's **style** attribute to determine the area into which the text path is rendered. If the value of *font*-size is increased, then the *width* and *height* on the parent shape are also required to be increased to accommodate the larger *font*-size value.

e. *The standard indicates how the text-decoration property of the style attribute is used.*

Office does not support the text-decoration property, but does preserve its value on file save.

f. *The standard indicates how the font-variant property of the style attribute is used.*

Office does not support the font-variant property, but does preserve its value on file save.

g. *The standard indicates that the default value for the v-text-spacing property of the style attribute is 100.*

Office uses a default value of 1 or the v-text-spacing property of the style attribute.

h. *The standard indicates that the default value for the v-text-spacing-mode property of the style attribute is tightening.*

Office uses a default value of tracking for the v-text-spacing-mode property of the style attribute.

i. *The standard does not restrict the number of instances of the textpath element.*

Office allows at most only one instance of the textpath element in each place where it can be used.

j. *The standard implies the valid values for the mso-text-shadow property of the style attribute.*

Office supports the values auto and none for the mso-text-shadow property of the style attribute.

k. *The standard does not specify bounds for the v-text-spacing property of the style attribute.*

Office supports a minimum value of 0 and a maximum value of 5. A value larger than 1.0 means expanded spacing while a value less than 1.0 means condensed spacing.

l. *The standard implies that the v-text-spacing property of the style attribute is specified using unitless numbers.*

Office also supports specifying this property as a percentage in the range 0% through 500%. This numeric value may also be specified in 1/65536-ths if a trailing "f" is supplied. For example, a value of "52429f" represents 52429/65536 or 0.8. Using this notation, the range of acceptable values is from 0f through 327680f.

2.1.1813 Part 4 Section 19.1.3.2, ST_Ext (VML Extension Handling Behaviors)

a. *The standard indicates the valid values for the ST_Ext simple type.*

In Office, the following elements support only the *View* value:

- **top** ("[ISO/IEC-29500-4] §19.2.2.32; top (Text Box Top Stroke)")
- **bottom** ("[ISO/IEC-29500-4] §19.2.2.1; bottom (Text Box Bottom Stroke)")
- **left** ("[ISO/IEC-29500-4] §19.2.2.16; left (Text Box Left Stroke)")
- **right** ("[ISO/IEC-29500-4] §19.2.2.26; right (Text Box Right Stroke)")
- **column** ("[ISO/IEC-29500-4] §19.2.2.6; column (Text Box Interior Stroke)")
- **complex** ("[ISO/IEC-29500-4] §19.2.2.7; complex (Complex)")
- **extrusion** ("[ISO/IEC-29500-4] §19.2.2.11; extrusion (3D Extrusion)")
- **fill** ("[ISO/IEC-29500-4] §19.2.2.13; fill (Shape Fill Extended Properties)")

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- **skew** ("[ISO/IEC-29500-4] §19.2.2.31; skew (Skew Transform)")

b. *The standard indicates the valid values for the ST_Ext simple type.*

In Office, the following elements support only the *Edit* value:

- **callout** ("[ISO/IEC-29500-4] §19.2.2.2; callout (Callout)")
- **colormenu** ("[ISO/IEC-29500-4] §19.2.2.4; colormenu (UI Default Colors)")
- **colormru** ("[ISO/IEC-29500-4] §19.2.2.5; colormru (Most Recently Used Colors)")
- **diagram** ("[ISO/IEC-29500-4] §19.2.2.8; diagram (VML Diagram)")
- **idmap** ("[ISO/IEC-29500-4] §19.2.2.14; idmap (Shape ID Map)")
- **lock** ("[ISO/IEC-29500-4] §19.2.2.18; lock (Shape Protections)")
- **regrouptable** ("[ISO/IEC-29500-4] §19.2.2.23; regrouptable (Shape Grouping History)")
- **rel** ("[ISO/IEC-29500-4] §19.2.2.24; rel (Diagram Relationship)")
- **relationtable** ("[ISO/IEC-29500-4] §19.2.2.25; relationtable (Diagram Relationship Table)")
- **rules** ("[ISO/IEC-29500-4] §19.2.2.27; rules (Rule Set)")
- **shapedefaults** ("[ISO/IEC-29500-4] §19.2.2.28; shapedefaults (New Shape Defaults)")
- **shapelayout** ("[ISO/IEC-29500-4] §19.2.2.29; shapelayout (Shape Layout Properties)")
- **signatureline** ("[ISO/IEC-29500-4] §19.2.2.30; signatureline (Digital Signature Line)")

2.1.1814 Part 4 Section 19.1.3.3, ST_FillMethod (Gradient Fill Computation Type)

a. *The standard indicates that the any value is an application default fill.*

Office uses linear sigma as its application default fill.

2.1.1815 Part 4 Section 19.1.3.4, ST_FillType (Shape Fill Type)

a. *The standard indicates how the pattern enumeration value is used.*

Office uses the fill colors but also tiles the fill image.

2.1.1816 Part 4 Section 19.1.3.6, ST_ShadowType (Shadow Type)

a. *The standard lists four valid values for the ST_ShadowType simple type.*

In addition to the four values specified by the standard, Office supports the following additional enumeration values for the ST_ShadowType simple type:

Enumeration Value	Description
drawingRelative (Drawing Shadow)	A perspective shadow is cast relative to the drawing space of the shape.
shapeRelative (Shape Shadow)	A perspective shadow is cast and scaled relative to the shape.

2.1.1817 Part 4 Section 19.2.2.1, bottom (Text Box Bottom Stroke)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a); column, §19.2.2.6(a).

a. *The standard indicates the conditions under which the bottom element is displayed.*

In Office, the bottom element will only be displayed if all of the following conditions are met:

- The **on** attribute is *true*.

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- The shape's path is closed with the *x* command. [Note: This implies that arrow heads should be defined on the stroke attribute. end note]
- The shape's path defines a rectangle with corner coordinates exactly equal to 0,0; 21600,0; 21600,21600; 0,21600. [Example: For example, the following value on the **path** attribute of the **shape** element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)") satisfies this condition: `path="m,l,21600r21600,l21600,xe"` end example]
- The value of the shape's **spt** attribute is *202*.
- The shape is not stroked.

[Note: The shape is not stroked if one of the following conditions is true:

- The value of the **on** attribute of the **stroke** element ("[ISO/IEC-29500-4] §19.1.2.21; stroke (Line Stroke Settings)") is *false*.
- The **on** attribute of the **stroke** element is absent and the value of the shape's **stroked** attribute is *false*.
- The **on** attribute of the **stroke** element is absent, the shape's **stroked** attribute is absent and the value of the **stroked** attribute of the **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)") is *false*.

end note]

b. *The standard indicates how the src attribute is used.*

Office replaces the value of the src attribute with the value of the href attribute, if defined, or the althref attribute if href is not defined.

c. *The standard indicates in the on attribute the conditions under which the bottom element is displayed.*

In Office the bottom element is only displayed if the on attribute is true, if the shape's path is closed with the x command, and the shape is not stroked.

d. *The standard indicates how the href attribute is used.*

Office does not persist this value on file save. The href attribute value replaces the value of the src attribute on file save.

e. *The standard indicates how the althref attribute is used.*

Office does not persist the althref value on file save. The althref attribute value replaces the value of the src attribute on file save if the href attribute is not defined.

f. *The standard states that imageaspect is a valid attribute on this element.*

Office does not support this attribute on this element; if a value other than ignore is specified, a value of 0,0 will be applied to the imagesize attribute.

g. *The standard indicates how the imagesize attribute is used.*

This attribute is specified as a string of two numbers separated by a space, colon, semicolon or comma. The valid unit ranges for the numbers are defined in section 6.1. If these limits are not respected, Office writes a value of "0,0" on file save.

If more than two values are defined, only the two first values are used and saved.

h. *The standard does not specify bounds for the weight attribute.*

In Office, the minimum value for the weight attribute is zero and the maximum value is 20116800 EMU.

i. *The standard does not specify bounds for the miterlimit attribute.*

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Office uses a maximum value of 32767 for the miterlimit attribute.

j. *The standard indicates that the default value for the weight attribute is 1 pt.*

Office uses a default of 0.75 pt for the weight attribute.

k. *The standard states that values of the opacity attribute are defined by the XML Schema string datatype.*

Office defines the values of the opacity attribute with the ST_Fraction §3.9.1, ST_Fraction) simple type.

2.1.1818 Part 4 Section 19.2.2.2, callout (Callout)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a); group, §19.1.2.7(a).

a. *The standard does not imply a relationship between the callout element and the spt attribute.*

In Office, this element specifies the automatic behavior and layout parameters of callout shapes. In Office, objects that have this attribute shall be made of one to three segments plus the shape itself. The number of segments is defined by the **type** attribute. See additional restrictions defined in the **type** attribute description. Shapes with callouts shall define values for the **spt** attribute of the **shape** element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)") or **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)") as follows:

Attribute value		**Value of type attribute**			
accentbar	**textborder**	*oneSegment*	*twoSegment*	*threeSegment*	*rightAngle*
False	False	spt="41"	spt="42"	spt="43"	spt="178"
True	False	spt="44"	spt="45"	spt="46"	spt="179"
False	True	spt="47"	spt="48"	spt="49"	spt="180"
True	True	spt="50"	spt="51"	spt="52"	spt="181"

b. *The standard indicates how the type attribute is used.*

For Office, the type attribute specifies the design of the callout extension. The allowed values are:

- *rightAngle*
- *oneSegment*
- *twoSegment* (default value)
- *threeSegment*

Callout shapes that contain the **callout** *element work only if the first sub-path in the shape's path is used to model the callout extension. This sub-path shall contain references to N formulas that reference N adjust values, where N = 2M + 2, and M is the number of segments in the callout.*

[Example: *The callout has two values for every vertex in the extension's segments – one for the x coordinate and one for the y coordinate. If the value of the* **type** *attribute is rightAngle, there are two segments.* end example]

Office also requires one handle for every segment vertex. The number of handles should be at least N/2.

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See also the **path** *element* ("[ISO/IEC-29500-4] §19.1.2.14; path (Shape Path)") *and the* **handles** *element* ("[ISO/IEC-29500-4] §19.1.2.9; handles (Set of Handles)").

c. *The standard indicates how the accentbar attribute is used.*

Office requires that the accent bar be a line sub-path, added after the first callout segment (see the **type** attribute). The segment is defined in the shape's path.

[Example: Consider the following shape that consists of a single segment callout and a vertical accent bar.



The following snippet is one possible way to describe the shape's path:

```
<v:shape ... coordsize="21600,21600" o:spt="44" adj="-8280,24300,-1800,4050"
path="m@0@1l@2@3nfem@2,l@2,21600nfem,l21600,r,21600l,21600nsxe" ... >
</v:shape>
```

The first subpath, `m@0@1l@2@3nfe`, describes the callout segment and the second, `m@2,l@2,21600nfe`, describes the accent bar. The third subpath describes the rectangle. end example]

See also the **path** *element ("*[ISO/IEC-29500-4] *§19.1.2.14; path (Shape Path)").*

d. *The standard indicates how the angle attribute is used.*

Office applies the angle attribute value only to the first segment of the callout extension and enforces this only during user interaction at runtime when the user interacts with the application UI.

e. *The standard indicates how the drop attribute is used.*

Office only enforces the drop attribute during user interaction at runtime.

f. *The standard indicates how the dropauto attribute is used.*

The dropauto attribute is only supported by Word and only when the value of the drop attribute is user and the value of the type attribute is not rightAngle.

g. *The standard does not define a default value for the drop attribute.*

Office uses a default value of user for the drop attribute.

h. *The standard indicates how the gap attribute is used.*

In Office, the gap attribute is only enforced at runtime when the user interacts with the application UI.

i. *The standard indicates how the textborder attribute is used.*

In Office, the textborder attribute reflects the type of stroke used for the textbox. If it is set to false, the shape's path shall also contain ns (no stroke). For more information, see the v attribute of the path element.

j. *The standard indicates how the distance attribute is used.*

Office only enforces the distance attribute during user interaction at runtime.

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k. *The standard indicates how the length attribute is used.*

Office only enforces the length attribute during user interaction at runtime.

l. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the callout element in each place where it can be used.

m. *The standard does not define a default value for the dropauto attribute.*

Office uses a default value of false for the dropauto attribute.

2.1.1819 Part 4 Section 19.2.2.3, clippath (Shape Clipping Path)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a).

a. *The standard describes how the v attribute is used.*

Office treats this attribute the same as the v attribute in the path element.

b. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the clippath element in each place where it can be used.

2.1.1820 Part 4 Section 19.2.2.4, colormenu (UI Default Colors)

a. *The standard provides the default value for the extrusioncolor attribute.*

Office uses the default value of fillThenLine for the extrusioncolor attribute.

b. *The standard provides the default value for the fillcolor attribute.*

Office uses a default value of FFFF00 for the fillcolor attribute.

c. *The standard provides the default value for the shadowcolor attribute.*

Office uses a default value of 808080 for the shadowcolor attribute.

d. *The standard provides the default value for the strokecolor attribute.*

Office uses a default value of 0000FF for the strokecolor attribute.

e. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the colormenu element in each place where it can be used.

2.1.1821 Part 4 Section 19.2.2.5, colormru (Most Recently Used Colors)

a. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the colormru element in each place where it can be used.

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2.1.1822 Part 4 Section 19.2.2.6, column (Text Box Interior Stroke)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a); bottom, §19.2.2.1(b,d-k).

a. *The standard indicates the conditions under which the column element is displayed.*

In Office, this element is only displayed if all of the following conditions are met:

- The **on** attribute is *true*.
- The shape's path is closed with the *x* command. [Note: This implies that arrow heads should be defined on the stroke attribute. end note]
- The shape's path defines a rectangle with corner coordinates exactly equal to 0,0; 21600,0; 21600,21600; 0,21600. [Example: For example, the following value on the **path** attribute of the **shape** element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)") satisfies this condition: `path="m,l,21600r21600,l21600,xe"` end example]
- The value of the shape's **spt** attribute is *202*.
- The shape is not stroked.

If the **on** attribute is *false* or not specified, the border is not shown.

[*Note:* The shape is not stroked if one of the following conditions is true:

- The value of the **on** attribute of the **stroke** element ("[ISO/IEC-29500-4] §19.1.2.21; stroke (Line Stroke Settings)") is *false*.
- The **on** attribute of the **stroke** element is absent and the value of the shape's **stroked** attribute is *false*.
- The **on** attribute of the **stroke** element is absent, the shape's **stroked** attribute is absent and the value of the **stroked** attribute of the **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)") is *false*.

end note]

2.1.1823 Part 4 Section 19.2.2.7, complex (Complex)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a).

2.1.1824 Part 4 Section 19.2.2.8, diagram (VML Diagram)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a).

a. *The standard indicates that the dgmscalex attribute behavior is application-specific.*

In Office, dgmscalex informs the horizontal distance between shapes when the diagram is resized. Office considers this value in conjunction with the dgmscaley attribute to determine the position of shapes during a resize action.

b. *The standard indicates that the dgmscalex attribute behavior is application-specific, and does not specify a default value.*

In Office the dgmscalex attribute uses a default of 65536, which means a 1:1 scale in x. Larger values indicate a larger distance between shapes, and smaller values indicate a smaller distance.

c. *The standard indicates that the dgmscaley attribute behavior is application-specific.*

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In Office, dgmscaley informs the vertical distance between shapes when the diagram is resized. Office considers this value in conjunction with the dgmscalex attribute to determine the position of shapes during a resize action.

d. *The standard indicates that the dgmscaley attribute behavior is application-specific, and does not specify a default value.*

In Office the dgmscaley attribute uses a default of 65536, which means a 1:1 scale in y. Larger values indicate a larger distance between shapes, and smaller values indicate a smaller distance.

e. *The standard does not define a default value for the dgmbasetextscale attribute.*

In Office the dgmbasetextscale attribute uses a default value of 65536, which means a 1:1 scale.

f. *The standard indicates how the dgmbasetextscale attribute is used.*

Office uses the dgmbasetextscale attribute to specify the new font size relative to the default font size.

g. *The standard indicates that the constrainbounds attribute behavior is application-specific.*

Office uses the constrainbounds attribute to fit the diagram to its container bounds. The rectangle defined by this attribute shall be inside the current diagram bounds defined by the coordorigin and coordsize attributes.

h. *The standard indicates that the dgmstyle attribute behavior is application-specific.*

Office ignores the dgmstyle attribute on file load and does not guarantee preserving it on file save. Office relies on the regular formatting markup on the shape to determine if formatting properties exist on the shape.

i. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the diagram element in each place where it can be used.

2.1.1825 Part 4 Section 19.2.2.11, extrusion (3D Extrusion)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a)*;* pict, §14.5.1(a)*;* hdrShapeDefaults, §14.7.2.1(a)*;* shapeDefaults, §14.7.2.2(a)*;* background, §17.2.1(a)*;* group, §19.1.2.7(a)*.*

a. *The standard does not specify bounds for the backdepth attribute.*

In Office the minimum value for the backdepth attribute is 0 pt and the maximum value is 9600 pt.

b. *The standard does not specify bounds for the foredepth attribute.*

In Office the minimum value for the foredepth attribute is 0 pt and the maximum value is 600 pt.

c. *The standard indicates that the color attribute is only used when colormode is custom.*

Office uses the color attribute when colormode is custom or auto.

d. *The standard indicates that the colormode attribute determines where the extrusion color is defined.*

Office does not support the colormode attribute. The extrusion color is the color defined by the color attribute. If the color attribute is not defined, the shape’s fill color is used.

e. *The standard does not specify bounds for the edge attribute.*

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In Office the minimum value for the edge attribute is 0 pt and the maximum value is 169093 pt.

f. *The standard indicates the meaning of the range of values for the facet attribute.*

In Office, a lower facet value produces shapes with smoother curves. A higher value reduces smoothing, resulting in curves with sharper, jagged edges. This value may be specified in 1/65536-ths if a trailing "f" is supplied. The default is 30000f.

Values should be from 1f to 32767f, where 1f implies extremely high quality curve approximation and 32767f implies extremely low quality.

[Example:

```
<o:extrusion on="true" facet="1f">
</o:extrusion>
```



facet="1f"



facet="32767f"

end example]

g. *The standard does not specify bounds for the orientationangle attribute.*

In Office the value of the orientationangle attribute may be specified in 1/65536-ths if a trailing "f" is supplied. The minimum value is -32767f and the maximum value is 32767f.

h. *The standard does not specify bounds for the rotationangle attribute.*

In Office the minimum value for the rotationangle attribute is -90 and the maximum value is 90.

i. *The standard indicates that the plane attribute determines the extrusion direction.*

Office does not support the plane attribute.

j. *The standard does not specify bounds for the axes specified in the rotationcenter attribute.*

In Office, the minimum and maximum numeric values for the x- and y-axes are -32767 and 32767, regardless of which units are used. The limits for the z-axis value are given by the table in ("[ISO/IEC-29500-4] §19.1; VML").

k. *The standard does not specify bounds for the skewangle attribute.*

In Office the minimum value for the skewangle attribute is -32767 and the maximum value is 32767.

l. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the extrusion element in each place where it can be used.

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m. *The standard states that values of the brightness attribute are defined by the XML Schema string datatype.*

Office defines the values of the brightness attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

n. *The standard states that values of the diffusity attribute are defined by the XML Schema string datatype.*

Office defines the values of the diffusity attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

o. *The standard states that values of the lightlevel attribute are defined by the XML Schema string datatype.*

Office defines the values of the lightlevel attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

p. *The standard states that values of the lightlevel2 attribute are defined by the XML Schema string datatype.*

Office defines the values of the lightlevel2 attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

q. *The standard states that values of the specularity attribute are defined by the XML Schema string datatype.*

Office defines the values of the specularity attribute with the ST_Fraction (§3.9.1, ST_Fraction) simple type.

2.1.1826 Part 4 Section 19.2.2.12, FieldCodes (WordprocessingML Field Switches)

a. *The standard does not specify a default value for the FieldCodes element.*

Office uses a default of no value for the FieldCodes element.

2.1.1827 Part 4 Section 19.2.2.13, fill (Shape Fill Extended Properties)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a).

a. *The standard indicates how the type attribute is used.*

Office has the following behavior:

- If the value of this attribute is *background*, then the value of the **type** attribute on the parent **fill** element ("[ISO/IEC-29500-4] §19.1.2.5; fill (Shape Fill Properties)") is set to *solid* on file save.
- If the value of this attribute is *gradientCenter*, then the value of the **type** attribute on the parent **fill** element ("[ISO/IEC-29500-4] §19.1.2.5; fill (Shape Fill Properties)") is set to *gradientRadial* on file save.
- If the value of this attribute is *gradientUnscaled*, then the value of the **type** attribute on the parent **fill** element ("[ISO/IEC-29500-4] §19.1.2.5; fill (Shape Fill Properties)") is set to *gradient* on file save.
- If the value of this attribute is *solid*, then neither this **fill** element nor the **type** attribute on the parent **fill** element ("[ISO/IEC-29500-4] §19.1.2.5; fill (Shape Fill Properties)") are preserved on file save.

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If the value of this attribute is *gradient*, *gradientRadial*, *tile*, *pattern*, or *frame*, then this value is applied to the **type** attribute on the parent **fill** element ("[ISO/IEC-29500-4] §19.1.2.5; fill (Shape Fill Properties)") on file save. Additionally, this **fill** element is not preserved.

2.1.1828 Part 4 Section 19.2.2.14, idmap (Shape ID Map)

a. *The standard allows for application-dependent behavior.*

Office ignores this value on file read. The value indicates ID blocks of 1024 values, where a value of 0 means IDs 0 to 1024, a value of 1 means IDs 1025 to 2048, and so on. If Office has at least one shape which has an ID contained in a specific block, it writes out the index for that block.

2.1.1829 Part 4 Section 19.2.2.15, ink (Ink)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a).

a. *The standard indicates that the i attribute is of type XSD:base64Binary.*

In Office, the value of the i attribute is defined by the Ink Serialized Format specification [MC-ISF].

b. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the ink element in each place where it can be used.

c. *The standard indicates how the annotation attribute is used.*

Office only writes out the value t and does not preserve other values on file save.

d. *The standard specifies contentType as an optional attribute of the ink element.*

Office ignores this attribute on load and does not round trip it.

2.1.1830 Part 4 Section 19.2.2.16, left (Text Box Left Stroke)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a); bottom, §19.2.2.1(b,d-k); column, §19.2.2.6(a).

a. *The standard indicates the conditions under which the left element is displayed.*

In Office, this element is only displayed if all of the following conditions are met:

- The **on** attribute is *true*.
- The shape's path is closed with the *x* command. [Note: This implies that arrow heads should be defined on the stroke attribute. end note]
- The shape's path defines a rectangle with corner coordinates exactly equal to 0,0; 21600,0; 21600,21600; 0,21600. [Example: For example, the following value on the **path** attribute of the **shape** element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)") satisfies this condition: `path="m,l,21600r21600,l21600,xe"` end example]
- The value of the shape's **spt** attribute is *202*.
- The shape is not stroked.

If the **on** attribute is *false* or not specified, the border is not shown.

[Note: The shape is not stroked if one of the following conditions is true:

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- The value of the **on** attribute of the **stroke** element ("[ISO/IEC-29500-4] §19.1.2.21; stroke (Line Stroke Settings)") is *false*.
- The **on** attribute of the **stroke** element is absent and the value of the shape's **stroked** attribute is *false*.
- The **on** attribute of the **stroke** element is absent, the shape's **stroked** attribute is absent and the value of the **stroked** attribute of the **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)") is *false*.

end note]

2.1.1831 Part 4 Section 19.2.2.17, LinkType (Embedded Object Alternate Image Request)

a. *The standard does not specify a default value for the LinkType element.*

Office uses a default value of Bitmap for the LinkType element.

b. *The standard indicates how the LinkType element is used.*

n Office, the LinkType element only works for linked objects, which are objects for which the value of the Type attribute on the OLEObject element is Link.

2.1.1832 Part 4 Section 19.2.2.18, lock (Shape Protections)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a).

a. *The standard indicates that the aspectratio attribute specifies whether the aspect ratio of a shape is locked from being edited in an application's UI.*

Office does not enforce the aspectratio attribute lock in all UI.

b. *The standard implies that the cropping attribute specifies whether a shape may be cropped in the application's UI.*

Office only allows cropping for pictures.

c. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the lock element in each place where it can be used.

2.1.1833 Part 4 Section 19.2.2.19, LockedField (Embedded Object Cannot Be Refreshed)

a. *The standard indicates that the LockedField element contains no content, but also has a type of ST_TrueFalseBlank.*

Office considers the values true and blank ("") to mean true and all other values to mean false for the LockedField element.

b. *The standard does not specify a default value for the LockedField element.*

Office uses a default value of false for the LockedField element.

c. *The standard indicates how the LockedField element is used.*

Office only supports the LockedField element if the embedded object is linked.

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d. *The standard indicates that the value blank ("") for the LockedField element means false.*

Office considers blank to be true for the LockedField element.

e. *The standard indicates that the value t means true.*

Office considers the value t to mean false for the LockedField element.

2.1.1834 Part 4 Section 19.2.2.20, OLEObject (Embedded OLE Object)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a).

a. *The standard implies that the ObjectID attribute is used for all embedded objects.*

Office does not support the ObjectID attribute for linked objects.

b. *The standard indicates that the value of the ObjectID attribute is a string, but does not specify a format.*

Office formats the string value for the ObjectID attribute as starting with "_" followed by a number in the range 0-2147483647.

c. *The standard indicates how the ObjectID attribute is used.*

Office generates a new value for the ObjectID attribute on each file save.

d. *The standard indicates that the id, ObjectID, ProgID and ShapeID attributes are optional.*

Office requires that the id, ObjectID, ProgID, and ShapeID attributes be specified for the OLEObject element, or else the embedded object is converted to a static image.

2.1.1835 Part 4 Section 19.2.2.21, proxy (Shape Reference)

a. *The standard states that the values of the start and end attributes are defined by the ST_TrueFalseBlank simple type.*

Office restricts the value of these attributes type to be blank.

b. *The standard states that the default value of the start and end attributes is false.*

Office uses a default value of no value for these attributes.

c. *The standard states that the connectloc attribute is optional.*

Office requires this attribute.

d. *The standard states that values of the idref attribute are defined by the XML Schema string datatype.*

Office defines the values of the idref attribute with the ST_ObjIDRef (§3.9.4, ST_ObjIDRef) simple type.

e. *The standard states that the idref attribute is optional.*

Office requires this attribute.

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2.1.1836 Part 4 Section 19.2.2.22, r (Rule)

a. *The standard indicates how the how attribute is used.*

Office does not support the how attribute.

b. *The standard places no restrictions on how the type attribute is used.*

Office requires that the shape referenced by the **idref** attribute match the rule type specified by this attribute. If the value is *arc*, **idref** shall reference a valid shape that is an arc (the value of the shape's **spt** attribute is 19). If the value is *callout*, **idref** shall reference a valid shape that is a callout. If the value is *connector*, **idref** shall reference a valid shape that is a connector.

c. *The standard indicates that align is valid value for the type attribute.*

Office does not support the align value for the type attribute.

d. *The standard states that values of the idref attribute are defined by the XML Schema string datatype.*

Office defines the values of the idref attribute with the ST_ObjIDRef (§3.9.4, ST_ObjIDRef) simple type.

2.1.1837 Part 4 Section 19.2.2.24, rel (Diagram Relationship)

a. *The standard places no restrictions on the kind of shape that is defined by the idcntr attribute.*

Office requires that this shape be a connector.

b. *The standard does not explicitly state that the shape identified by the idcntr attribute must exist.*

Office requires the shape identified by the idcntr attribute to exist.

c. *The standard does not explicitly state that the shape identified by the idsrc attribute must exist.*

Office requires the shape identified by the idsrc attribute to exist.

d. *The standard does not explicitly state that the shape identified by the iddest attribute must exist.*

Office requires the shape identified by the iddest attribute must exist.

e. *The standard indicates that the idsrc, iddest and idcntr attributes are specified as a string.*

Office requires these attributes use a reference to an object ID in the form of an object name, as described in the ST_ObjIDRef (§3.9.4, ST_ObjIDRef) simple type.

2.1.1838 Part 4 Section 19.2.2.26, right (Text Box Right Stroke)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a); bottom, §19.2.2.1(b,d-k); column, §19.2.2.6(a).

a. *The standard indicates the conditions under which the right element is displayed.*

In Office, this element is only displayed if all of the following conditions are met:

- The **on** attribute is *true*.
- The shape's path is closed with the *x* command. [Note: This implies that arrow heads should be defined on the stroke attribute. end note]

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- The shape's path defines a rectangle with corner coordinates exactly equal to 0,0; 21600,0; 21600,21600; 0,21600. [Example: For example, the following value on the **path** attribute of the **shape** element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)") satisfies this condition: `path="m,l,21600r21600,l21600,xe"` end example]
- The value of the shape's **spt** attribute is *202*.
- The shape is not stroked.

If the **on** attribute is *false* or not specified, the border is not shown.

[Note: The shape is not stroked if one of the following conditions is true:

- The value of the **on** attribute of the **stroke** element ("[ISO/IEC-29500-4] §19.1.2.21; stroke (Line Stroke Settings)") is *false*.
- The **on** attribute of the **stroke** element is absent and the value of the shape's **stroked** attribute is *false*.
- The **on** attribute of the **stroke** element is absent, the shape's **stroked** attribute is absent and the value of the **stroked** attribute of the **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)") is *false*.

end note]

2.1.1839 Part 4 Section 19.2.2.28, shapedefaults (New Shape Defaults)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a); arc, §19.1.2.1(c-bb,ee-hh,mm,ddd, eee,ggg-lll,ttt-www,dddd-ffff,iiii, jjjj); curve, §19.1.2.3(d).

a. *The standard makes no mention of an insetmode attribute.*

Office uses this attribute to specify how inner text margins are obtained; its allowed values are defined by the ST_InsetMode simple type, with a default value of custom.

b. *The standard makes no mention of an allowoverlap attribute.*

Office uses this attribute to specify whether a shape can overlap another shape; its allowed values are true and false, where false will cause the shape to shift left or right to avoid an overlap.

c. *The standard does not state that the imagedata element is a valid child of the shapedefaults element.*

Office allows the imagedata element to be a child of the shapedefaults element.

2.1.1840 Part 4 Section 19.2.2.29, shapelayout (Shape Layout Properties)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); background, §17.2.1(a).

2.1.1841 Part 4 Section 19.2.2.30, signatureline (Digital Signature Line)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a); group, §19.1.2.7(a).

a. *The standard indicates the default value for the issignatureline attribute is true.*

In Office, the default value or the issignatureline attribute is false.

b. *The standard does not restrict the number of instances of this element.*

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Office allows at most only one instance of the signatureline element in each place where it can be used.

2.1.1842 Part 4 Section 19.2.2.31, skew (Skew Transform)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a); group, §19.1.2.7(a).

a. *The standard does not specify bounds for the matrix attribute.*

Office uses bounds of -2147483644f and 2147483647f for the matrix attribute.

b. *The standard does not indicate how the matrix attribute is applied to the shape.*

Office applies this matrix to a point in the following way.

Let Q be a point in the object (after rotation, if the shape is rotated) described by $Q = [x \quad y \quad 1]$.

Let $f = Q \cdot \begin{bmatrix} 1/p_x \\ 1/p_y \\ 1 \end{bmatrix}$ and $M = \begin{bmatrix} s_{xx} & s_{yx} & 0 \\ s_{xy} & s_{yy} & 0 \\ xoffset & yoffset & 1 \end{bmatrix}$.

A new point Q' is calculated as $Q' = f \cdot (Q \cdot M)$.

The origin for the coordinate system used here is defined by the **origin** attribute, which is dependent on the height and width of the shape.

c. *The standard does not restrict the number of instances of this element.*

Office allows at most only one instance of the skew element in each place where it can be used.

d. *The standard does not state how to handle the case where p_x and p_y are both 0.*

Office sets $f = 1$ when if p_x and p_y are 0.

2.1.1843 Part 4 Section 19.2.2.32, top (Text Box Top Stroke)

For additional notes that apply to this portion of the standard, please see the notes for pict, §14.2.2.2(a); pict, §14.5.1(a); hdrShapeDefaults, §14.7.2.1(a); shapeDefaults, §14.7.2.2(a); background, §17.2.1(a); bottom, §19.2.2.1(b,d-k); column, §19.2.2.6(a).

a. *The standard indicates the conditions under which the top element is displayed.*

In Office, this element is only displayed if all of the following conditions are met:

- The **on** attribute is *true*.
- The shape's path is closed with the *x* command. [Note: This implies that arrow heads should be defined on the stroke attribute. end note]
- The shape's path defines a rectangle with corner coordinates exactly equal to 0,0; 21600,0; 21600,21600; 0,21600. [Example: For example, the following value on the **path** attribute of the **shape** element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)") satisfies this condition: `path="m,l,21600r21600,l21600,xe"` end example]
- The value of the shape's **spt** attribute is *202*.
- The shape is not stroked.

If the **on** attribute is *false* or not specified, the border is not shown.

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[Note: The shape is not stroked if one of the following conditions is true:

- The value of the **on** attribute of the **stroke** element ("[ISO/IEC-29500-4] §19.1.2.21; stroke (Line Stroke Settings)") is *false*.
- The **on** attribute of the **stroke** element is absent and the value of the shape's **stroked** attribute is *false*.
- The **on** attribute of the **stroke** element is absent, the shape's **stroked** attribute is absent and the value of the **stroked** attribute of the **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)") is *false*.

end note]

2.1.1844 Part 4 Section 19.2.3.3, ST_BWMode (Black And White Modes)

a. *The standard lists hide as a valid value.*

Office does not support the hide enumeration value.

b. *The standard states the name of the value that specifies light shades of gray only is lightGrayscale.*

Office uses the name lightGrayScale for this value.

2.1.1845 Part 4 Section 19.2.3.4, ST_CalloutDrop (Callout Drop Location)

a. *The standard does not specify enumeration values.*

Office supports the following enumeration values:

Enumeration Value	Description
bottom (Bottom placement)	Specifies that the drop is positioned at the bottom of the shape.
center (Center placement)	Specifies that the drop is positioned at the vertical center of the shape.
top (Top placement)	Specifies that the drop is positioned at the top of the shape.
user (User-defined placement)	Specifies that the drop position is determined by the user.

2.1.1846 Part 4 Section 19.2.3.14, ST_FillType (Shape Fill Type)

a. *The standard indicates how the pattern enumeration value is used.*

Office uses the fill colors but also tiles the fill image.

2.1.1847 Part 4 Section 19.2.3.19, ST_OLELinkType (Embedded Object Alternate Image Request Types)

a. *The standard specifies these supported enumeration values: Bitmap, EnhancedMetaFile, Picture, Jpeg, Png*

Office supports only Bitmap, EnhancedMetaFile and Picture enumeration values, not Jpeg or Png.

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2.1.1848 Part 4 Section 19.3.2.2, borderbottom (Bottom Border)

For additional notes that apply to this portion of the standard, please see the notes for group, §19.1.2.7(a).

2.1.1849 Part 4 Section 19.3.2.3, borderleft (Left Border)

For additional notes that apply to this portion of the standard, please see the notes for group, §19.1.2.7(a).

2.1.1850 Part 4 Section 19.3.2.4, borderright (Right Border)

For additional notes that apply to this portion of the standard, please see the notes for group, §19.1.2.7(a).

2.1.1851 Part 4 Section 19.3.2.5, bordertop (Top Border)

For additional notes that apply to this portion of the standard, please see the notes for group, §19.1.2.7(a).

2.1.1852 Part 4 Section 19.3.2.6, wrap (Text Wrapping)

a. *The standard indicates that the default value for the anchorx and anchory attributes is page.*

Office uses text as the default value for the anchorx and anchory attributes.

b. *The standard does not specify a default value for the type attribute.*

Word will use a wrap type of none if one is not specified.

2.1.1853 Part 4 Section 19.3.3.3, ST_HorizontalAnchor (Horizontal Anchor Type)

a. *The standard states that char is a valid value for the ST_HorizontalAnchor simple type.*

Office does not support this value for this simple type.

2.1.1854 Part 4 Section 19.3.3.4, ST_VerticalAnchor (Vertical Anchor Type)

a. *The standard states that line is a valid value for the ST_VerticalAnchor simple type.*

Office does not support this value for this simple type.

2.1.1855 Part 4 Section 19.4.2.1, Accel (Primary Keyboard Accelerator)

a. *The standard states that the values of this element are defined by the XML Schema integer datatype.*

Excel defines the values of this element with the XML Schema unsignedByte datatype.

2.1.1856 Part 4 Section 19.4.2.2, Accel2 (Secondary Keyboard Accelerator)

a. *The standard states that the values of this element are defined by the XML Schema integer datatype.*

Excel defines the values of this element with the XML Schema unsignedByte datatype.

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2.1.1857 Part 4 Section 19.4.2.3, Anchor (Anchor)

a. *The standard describes the TopRow and BottomRow values of the Anchor element in terms of a column.*

Office considers the TopRow and BottomRow values of the Anchor element in terms of the row, rather than column, and considers the top-most row to be 0.

b. *The standard indicates that the BottomOffset value of the Anchor element is the offset of the object's bottom edge from the bottom edge of the bottom anchor row.*

Office considers that the BottomOffset value of the Anchor element is the offset of the object's bottom edge from the top edge of the bottom anchor row.

c. *The standard indicates that the Anchor element is specified using a comma-separated list of values, but does not require constraints on the list.*

Office requires the string value of the Anchor element to be a comma-delimited list of 8 non-negative integers.

2.1.1858 Part 4 Section 19.4.2.4, AutoFill (AutoFill)

a. *The standard implies that the AutoFill element represents a type of object, but does not describe it.*

Office uses this element to indicate that the object's fill properties are automatically provided by the application and are not overridden with a specific fill color or style.

2.1.1859 Part 4 Section 19.4.2.5, AutoLine (AutoLine)

a. *The standard implies that the AutoLine element represents a type of object, but does not describe it.*

Office uses this element to indicate to that the object’s line properties are automatically provided by the application and are not overridden with a specific line color, style, or width.

2.1.1860 Part 4 Section 19.4.2.7, AutoScale (Font AutoScale)

a. *The standard indicates that the element is used for attached text.*

Excel ignores the value of the AutoScale element and does not preserve it on file save.

2.1.1861 Part 4 Section 19.4.2.8, Camera (Camera Tool)

a. *The standard indicates that the Camera element is used for cameras, but does not define how a camera object is represented.*

In Office, a camera object is a shape that is filled with a live view of a cell range in the same spreadsheet, including all applied styles. The cell range is defined by the **fmlaPict** element ("[ISO/IEC-29500-4] §19.4.2.28; FmlaPict (Camera Source Range)"), which shall be present. Shape properties such as the position and size of the camera object are defined by the shape. The shape shall be a rectangle. The view of the cell range is scaled vertically and horizontally to fill the rectangle exactly.

If this element is specified without a value, it is assumed to be *true*. This element is used only on objects for which the value of the **ObjectType** attribute on the **ClientData** element ("[ISO/IEC-29500-4] §19.4.2.12; ClientData (Attached Object Data)") is *Pict*. Excel ignores this element on all other object types.

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2.1.1862 Part 4 Section 19.4.2.10, CF (Clipboard Format)

a. *The standard implies which objects the CF element applies to, but does not list a definitive set.*

Excel supports this element for objects for which the value of the ObjectType attribute on the ClientData element is Pict. Excel ignores the element if it is used with any other objects.

2.1.1863 Part 4 Section 19.4.2.12, ClientData (Attached Object Data)

a. *The standard implies that Movie is a valid value for the ObjectType attribute.*

Excel does not support the Movie value for the ObjectType attribute.

b. *The standard implies that LineA and RectA are valid values.*

Excel does not support the LineA and RectA values for the ObjectType attribute and does not save them to the file.

2.1.1864 Part 4 Section 19.4.2.13, ColHidden (Comment's Column is Hidden)

a. *The standard could imply that the ColHidden element may be used to hide a column.*

Excel uses the hidden attribute of the col element as an whether the column of the cell to which this comment points is hidden and cannot be used for hiding a column.

2.1.1865 Part 4 Section 19.4.2.14, Colored (Dropdown Color Toggle)

a. *The standard implies that the entire dropdown is colored.*

Excel only colors the downward pointing arrow on the dropdown, not the entire control.

2.1.1866 Part 4 Section 19.4.2.16, DDE (Dynamic Data Exchange)

a. *The standard indicates that the DDE element applies to all object types.*

Excel only supports the DDE element for embedded objects.

2.1.1867 Part 4 Section 19.4.2.18, DefaultSize (Default Size Toggle)

a. *The standard implies the DefaultSize element always indicates whether an object is at its default size.*

Excel writes the value of the DefaultSize element when an object is inserted at default size, but ignores it on file load.

2.1.1868 Part 4 Section 19.4.2.21, DropLines (Dropdown Maximum Lines)

a. *The standard states that the values of this element are defined by the XML Schema integer datatype.*

Excel restricts the value of this element to be at least 0 and at most 30000.

2.1.1869 Part 4 Section 19.4.2.22, DropStyle (Dropdown Style)

a. *The standard indicates that the schema for the DropStyle element allows any xsd:string, but the prose restricts this to a few values.*

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Office enforces the restriction that the DropStyle element allows any xsd:string at the schema level.

2.1.1870 Part 4 Section 19.4.2.23, Dx (Scroll Bar Width)

a. *The standard indicates that the element is used for scroll bars and spinners.*

Excel also uses the Dx element to specify width for scroll bars on combo boxes and list boxes.

2.1.1871 Part 4 Section 19.4.2.25, FmlaGroup (Linked Formula - Group Box)

a. *The standard implies that the cell reference specified by this element is saved into the file.*

Excel removes this element and saves the cell reference it specifies on the FmlaLink element of the first radio button in the group. If no radio buttons exist in the group, the value is not saved in the file.

2.1.1872 Part 4 Section 19.4.2.27, FmlaMacro (Reference to Custom Function)

a. *The standard indicates that the FmlaMacro element applies to an object but does not explicitly define a set of valid objects.*

Excel supports FmlaMacro on objects defined by all values of the ST_ObjectType simple type except LineA, Note and RectA.

b. *The standard states that the values of this element are defined by the XML Schema string datatype.*

Office defines the values of this element with the ST_Macro (§3.9.2, ST_Macro) simple type.

2.1.1873 Part 4 Section 19.4.2.29, FmlaRange (List Items Source Range)

a. *The standard indicates that the element is used for list boxes.*

Excel also uses the FmlaRange element for dropdowns.

2.1.1874 Part 4 Section 19.4.2.30, FmlaTxbx (Text Formula)

a. *The standard does not define the format for the value of the FmlaTxbx element.*

In Office, the value of the FmlaTxbx element shall be a string identifying a cell or a cell range in a spreadsheet. The cell reference syntax is described in Cell References ("[ISO/IEC-29500-1] §18.17.2.3"). Excel accepts a cell range but only considers the first cell in the range.

2.1.1875 Part 4 Section 19.4.2.32, Horiz (Scroll Bar Orientation)

a. *The standard indicates that the element is used for scroll bars and spinners.*

Excel uses the Horiz element for scroll bars only.

2.1.1876 Part 4 Section 19.4.2.33, Inc (Scroll Bar Increment)

a. *The standard states that the values of this element are defined by the XML Schema integer datatype.*

Excel restricts the value of this element to be at least 0 and at most 30000.

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2.1.1877 Part 4 Section 19.4.2.35, LCT (Callback Type)

a. *The standard indicates that the element is used for list boxes.*

Excel also uses the LCT element for list boxes and dropdowns.

2.1.1878 Part 4 Section 19.4.2.36, ListItem (Non-linked List Item)

a. *The standard implies the ListItem element is always used.*

Excel ignores the ListItem element when the FmlaRange element is present.

2.1.1879 Part 4 Section 19.4.2.40, Max (Scroll Bar Maximum)

a. *The standard states that the values of this element are defined by the XML Schema integer datatype.*

Excel restricts the value of this element to be at least 0 and at most 30000.

2.1.1880 Part 4 Section 19.4.2.41, Min (Scroll Bar Minimum)

a. *The standard states that the values of this element are defined by the XML Schema integer datatype.*

Excel restricts the value of this element to be at least 0 and at most 30000.

2.1.1881 Part 4 Section 19.4.2.42, MoveWithCells (Move with Cells)

a. *The standard defines the meaning of the values true and false for the MoveWithCells element.*

Excel reverses the meaning of the values true and false for the MoveWithCells element.

2.1.1882 Part 4 Section 19.4.2.45, NoThreeD (Disable 3D)

a. *The standard indicates that the element is used for checkboxes, radio buttons, group boxes and scroll bars.*

Excel also uses the NoThreeD element for spinners.

2.1.1883 Part 4 Section 19.4.2.47, Page (Scroll Bar Page Increment)

a. *The standard states that the values of this element are defined by the XML Schema integer datatype.*

Excel restricts the value of this element to be at least 0 and at most 30000.

2.1.1884 Part 4 Section 19.4.2.49, RecalcAlways (Recalculation Toggle)

a. *The standard states that this element defines whether the object is always included in recalculation.*

Office does not implement the behavior associated with this element and removes the element on save.

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2.1.1885 Part 4 Section 19.4.2.51, RowHidden (Comment's Row is Hidden)

a. *The standard could imply that the RowHidden element may be used to hide a row.*

Office uses RowHidden as an indicator of whether the row of the cell to which this comment points is hidden and cannot be used for hiding a row. The hidden attribute of the row element ("[ISO/IEC-29500-1] §18.3.1.73; row") is used for hiding a row.

2.1.1886 Part 4 Section 19.4.2.59, SizeWithCells (Resize with Cells)

a. *The standard defines the meaning of the values true and false for the element.*

Excel reverses the meaning of the values true and false for the SizeWithCells element.

2.1.1887 Part 4 Section 19.4.2.61, TextVAlign (Vertical Text Alignment)

a. *The standard describes a vertical alignment property in terms of horizontal alignment.*

Excel considers the TextVAlign element to specify vertical alignment.

2.1.1888 Part 4 Section 19.4.2.62, UIObj (UI Object Toggle)

a. *The standard doesn't define what a UI Object is.*

Excel considers a UI Object to be a graphical object that the user is not able to interact with.

2.1.1889 Part 4 Section 19.4.2.63, Val (Scroll bar position)

a. *The standard states that the values of this element are defined by the XML Schema integer datatype.*

Excel restricts the value of this element to be at least 0 and at most 30000.

b. *The standard indicates that the Val element is used for scroll bars and spinners.*

Excel also uses the Val element for scroll bars on combo boxes and list boxes.

2.1.1890 Part 4 Section 19.4.2.64, ValidIds (Valid ID)

a. *The standard indicates how the ValidIds element is used.*

Excel ignores the ValidIds element and does not preserve it on file save.

2.1.1891 Part 4 Section 19.4.2.68, WidthMin (Minimum Width)

a. *The standard indicates the WidthMin element is used for list boxes and dropdowns.*

Excel uses the element WidthMin for dropdowns only.

2.1.1892 Part 4 Section 19.5.2.2, textdata (VML Diagram Text)

For additional notes that apply to this portion of the standard, please see the notes for group, §19.1.2.7(a).

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2.1.1893 Part 4 Section 20.1.2.3, ST_ColorType (Color Type)

a. *The standard does not indicate the valid color palette entry names for the ST_ColorType simple type.*

In Office, the following color palette entries are supported:

ButtonFace

WindowText

Menu

Highlight

HighlightText

CaptionText

ActiveCaption

ButtonHighlight

ButtonShadow

ButtonText

GrayText

InactiveCaption

InactiveCaptionText

InfoBackground

InfoText

MenuText

Scrollbar

Window

WindowFrame

ThreeDLightShadow

ThreeDDarkShadow

ActiveBorder

InactiveBorder

Background

AppWorkspace

*ThreeDFace (*represents the same color as *ButtonFace)*

*ThreeDShadow (*represents the same color as *ButtonShadow)*

*ThreeDHighlight (*represents the same color as *ButtonHighlight)*

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[Example:

```
<... color="InactiveCaption" ... >
```

end example]

b. *The standard indicates the kinds of values that the ST_ColorType simple type uses.*

In Office, decimal RGB is specified using "rgb" followed by three comma-separated values in parentheses. These values are an ordered set in the range 0-255 and represent the red, green, and blue components of the color.

[Example:

```
< ... color="rgb(95,39,38)" ... >
```

end example]

c. *The standard describes the kinds of values that the ST_ColorType simple type uses.*

In Office, decimal RGB is specified using rgb followed by three comma-separated values in parentheses. These values are an ordered set in the range 0-255 and represent the red, green, and blue components of the color.

[Example:

```
< ... color="rgb(95,39,38)" ... >
```

end example]

d. *The standard does not state that the value of the ST_ColorType simple type can be specified using three-character hexadecimal RGB notation.*

   Office does allow this simple type to be specified in this way.

e. *The standard does not indicate the valid color palette entry names for the ST_ColorType simple type.*

In Office, the following color palette entries are supported:

ButtonFace

WindowText

Menu

Highlight

HighlightText

CaptionText

ActiveCaption

ButtonHighlight

ButtonShadow

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ButtonText

GrayText

InactiveCaption

InactiveCaptionText

InfoBackground

InfoText

MenuText

Scrollbar

Window

WindowFrame

ThreeDLightShadow

ThreeDDarkShadow

ActiveBorder

InactiveBorder

Background

AppWorkspace

ThreeDFace (represents the same color as *ButtonFace*)

ThreeDShadow (represents the same color as *ButtonShadow*)

ThreeDHighlight (represents the same color as *ButtonHighlight*)

[Example:

```
<... color="InactiveCaption" ... >
```

end example]

f. *The standard indicates the kinds of values that the ST_ColorType simple type uses.*

In Office, a color palette entry is specified using wincolor followed by a number in parentheses. The number is the zero-based index of a color in the palette as described in the preceding section.

[Example:

```
<... color="wincolor(11)" ... >
```

end example]

g. *The standard does not state that the value of the ST_ColorType simple type can be specified using a named shape property notation.*

Office supports a named shape property notation as a value for the simple type. A property is specified using the name of the shape color property. The following properties are supported:

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Property	Description
fill	Fill color
line	Line color
lineOrFill	Line color if specified, otherwise, the fill color
fillThenLine	Fill color if specified, otherwise, the line color
fillBack	Fill background color
lineBack	Line background color
shadow	Shadow color
none	No color

[Example:

```
<... color="lineOrFill" ... >
```

end example]

h. *The standard indicates that the recoloring instruction behavior is application-specific.*

Office supports recoloring instructions in the following way. Let A represent the amount argument to the recoloring instruction.

Instruction	Description
darken	Scale each color component by A/256.
lighten	Scale the inverse of each color component by A/256, then invert the result.
add	Add A to each color component, limited to a maximum value of 255.
subtract	Subtract A from each color component, limited to a minimum value of 0.
reverseSubtract	Subtract each color component from A, limited to a minimum value of 0.
blackWhite	A color component is 0 if less than A, otherwise 255.
invert	Subtract each color component from 255.
invert128	For each color component less than 128, add 128 to it, otherwise subtract 128 from it.
grayScale	Convert the color to a grayscale equivalent.

Office does not save an amount argument for the *invert*, *invert128* and *grayScale* recoloring instructions.

i. *The standard indicates how a recoloring instruction is formatted.*

Office does not save a recoloring amount argument for the invert, invert128 and grayScale instructions.

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j. *The standard indicates the kinds of values that the ST_ColorType simple type uses.*

In Office, a color palette entry is specified using "wincolor" followed by a number in parentheses. The number is the zero-based index of a color in the supported color palette.

[Example:

```
<... color="wincolor(11)" ... >
```

end example]

k. *The standard indicates the kinds of values that the ST_ColorType simple type uses.*

In Office, a shape property is specified using the name of the shape color property. The following properties are supported:

Property	Description
fill	Fill color
line	Line color
lineOrFill	Line color if specified, otherwise, the fill color
fillThenLine	Fill color if specified, otherwise, the line color
fillBack	Fill background color
lineBack	Line background color
shadow	Shadow color
none	No color

[Example:

```
<... color="lineOrFill" ... >
```

end example]

l. *The standard indicates the kinds of values that the ST_ColorType simple type uses.*

In Office, recoloring instructions indicate that the given color is to be modified a particular amount. The instruction consists of a named instruction followed by the amount, a number in the range 0-255, in parenthesis. The instructions are:

- *darken*
- *lighten*
- *add*
- *subtract*
- *reverseSubtract*
- *blackWhite*
- *invert*
- *invert128*
- *grayScale*

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Office supports recoloring instructions in the following way. Let A represent the amount argument to the recoloring instruction.

Instruction	Description
darken	Scale each color component by A/256.
lighten	Scale the inverse of each color component by A/256, then invert the result.
add	Add A to each color component, limited to a maximum value of 255.
subtract	Subtract A from each color component, limited to a minimum value of 0.
reverseSubtract	Subtract each color component from A, limited to a minimum value of 0.
blackWhite	A color component is 0 if less than A, otherwise 255.
invert	Subtract each color component from 255.
invert128	For each color component less than 128, subtract 128 from it, otherwise add 128 to it.
grayScale	Convert the color to a grayscale equivalent.

Office does not save the amount argument for the *invert*, *invert128* and *grayScale* recoloring instructions.

[*Example:* The color is darker than the fill color by 50 units:

```
<... color="fill darken(50)">
```

end example]

2.1.1894 Part 4 Section 20.1.2.6, ST_TrueFalseBlank (Boolean Value with Blank [False] State)

a. *The standard says that blank is to be treated as logical false.*

Office will use the default true or false value as defined by the element. If an element does not define a specific value for this state, it is assumed to be true.

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3 Appendix A: Additional Information

3.1 Word

This section contains additional information used to describe more fully how Word implements Office Open XML File Formats [ISO/IEC-29500-1].

3.1.1 Additional Parts

The subclauses subordinate to this one describe in detail each of the part types specific to Word, in addition to those listed as part of Office Open XML File Formats ("[ISO/IEC-29500-1] §11").

3.1.1.1 Word Attached Toolbars Part

Content Type

application/vnd.ms-word.attachedToolbars

Root Namespace

Not applicable

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/attachedToolbars

This binary part supports the storage of custom toolbars created by the user.

A package shall contain at most one Attached Toolbars part, and that part shall be the target of an implicit relationship from the Customizations part (§3.1.1.2, Customizations Part).

[Example: The following Customizations part-relationship item contains a relationship to the Attached Toolbars part, which is stored in the ZIP item attachedToolbars.bin:

```
<Relationships xmlns="…">
  <Relationship Id="rId1"
    Type="http://…/attachedToolbars" Target="attachedToolbars.bin"/>
</Relationships>
```

end example]

An Attached Toolbars part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

An Attached Toolbars part shall not have implicit or explicit relationships to any part defined by Office Open XML File Formats [ISO/IEC-29500-1].

The ZIP item attachedToolbars.bin contains a single binary stream with a single CTBWRAPPER structure as specified in the Word 97-2003 Binary File Format (.doc) Structure Specification ("[MS-DOC] section 2.9.49; CTBWRAPPER") book.

3.1.1.2 Customizations Part

Content Type

application/vnd.ms-word.keyMapCustomizations+xml

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Root Namespace

http://schemas.openxmlformats.org/wordprocessingml/2006/main

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/keyMapCustomizations

An instance of this part type contains the document's template command group (TCG), which consists of key mapping and toolbar customizations.

A package shall contain no more than two Customizations parts. If it exists, one instance of that part shall be the target of an implicit relationship from the Main Document part ("[ISO/IEC-29500-1] §11.3.10"), and the other instance shall be the target of an implicit relationship from the Glossary Document part ("[ISO/IEC-29500-1] §11.3.8").

[Example: The following Main Document part-relationship item contains a relationship to a Customizations part, which is stored in the ZIP item customizations.xml:

```
<Relationships xmlns="…">
  <Relationship Id="rId4"
    Type="http://…/keyMapCustomizations" Target="customizations.xml"/>
</Relationships>
```

end example]

The root element for a part of this content type shall be **tcg**.

[Example:

```
<wne:tcg …>
    <wne:keymaps>
        <wne:keymap wne:kcmPrimary="0341">
            <wne:fci wne:fciName="CssLinks" wne:swArg="0000"/>
        </wne:keymap>
    </wne:keymaps>
    <wne:toolbars>
        <wne:toolbarData r:id="rId1"/>
    </wne:toolbars>
</wne:tcg>
```

end example]

A Customizations part is permitted to contain explicit relationships to the following parts defined by Office Open XML File Formats [ISO/IEC-29500-1]:

- Word Attached Toolbars Part (§3.1.1.1, Word Attached Toolbars Part)

A Customizations part shall not have any implicit or explicit relationships to any other part defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.1.1.3 Mail Merge Recipient Data Part

Content Type

application/vnd.openxmlformats-officedocument.wordprocessingml.mailMergeRecipientData+xml

or

application/vnd.ms-word.mailMergeRecipientData+xml

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Root Namespace

http://schemas.openxmlformats.org/wordprocessingml/2006/main

or

http://schemas.microsoft.com/office/word/2006/wordml

Source Relationship

http://schemas.openxmlformats.org/officeDocument/2006/relationships/recipientData

An instance of this part type contains the document's Mail Merge Recipient Data.

A package shall contain no more than one Mail Merge Recipient Data part. If it exists, the instance of that part shall be the target of an explicit relationship from the Document Settings part.

[Example:

```
<Relationships xmlns="…">
  <Relationship Id="rId2"
    Type="http://…/recipientData" Target="recipientData.xml"/>
</Relationships>
```

end example]

The root element for a Mail Merge Recipient Data part shall be **recipients**.

[Example:

```
<w:recipients xmlns:w="http://schemas.openxmlformats.org/wordprocessingml/2006/main" …>
  <w:recipientData>
    <w:active w:val="0" />
    <w:column w:val="62">
    <w:uniqueTag
w:val="KnmjIQAAA
```

A Mail Merge Recipient Data part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

A Mail Merge Recipient Data part shall not contain implicit or explicit relationships to any other part defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.1.2 Word Schema

The following clauses define additional information used by Word to help implement Office Open XML File Formats [ISO/IEC-29500-1].

3.1.2.1 Keyboard and Toolbar Customizations

The following clauses specify the semantics used by Word to customize keyboard and toolbar commands.

3.1.2.1.1 Elements

3.1.2.1.1.1 acd (Allocated Command)

This element is used to declare an allocated command for use elsewhere in the Keyboard and Toolbar customization XML part. While ordinary fixed commands (§3.1.2.1.1.7, fci) can take an optional numeric argument, allocated commands are fixed commands that take a Base64 MIME transfer content encoded argument.

[Example: Consider the following allocated command declaration:

```
<wne:acd wne:argValue="AAA=" wne:acdName="acd0" wne:fciBasedOn="Color"/>
```

In this example, the WordprocessingML declares that the allocated command identified as `acd0` is based on the `Color` fixed command and takes the Base64 encoded argument specified in the *argValue* attribute that decodes to the integer value `0`. When this allocated command is executed, it has the effect of causing Word to color the currently selected text according to its default color. end example]

Parent Elements
acds (§3.1.2.1.1.5, acds)

Attributes	Description
acdName (Allocated command name)	Specifies the friendly name for identifying this allocated command. While any valid string can be used for this name, Word writes out allocated command names in sequence of the form `acd0`, `acd1`, `acd2`, regardless of any name the allocated command may have been given. Consequently, a name like `myacd` could be specified in a file for a lone allocated command but would be written out as `acd0` upon resaving the document. The possible values for this attribute are defined by the ST_String simple type (§3.1.2.3.5, ST_String).
argValue (Allocated Command Arguments)	Specifies the argument that should be passed to the fixed command given by the *fciBasedOn* and *fciIndexBasedOn* attributes. Its contents are Base64 MIME content

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Attributes	Description
	transfer encoded. While there is no strict limit on the length of this Base64 encoded string, only the first 510 bytes of decoded data will be used. Invalid Base64 characters in the string (such as carriage returns or white space) are ignored on read, but Word may produce them on write. If this attribute is not specified, an empty argument is passed to the associated fixed command, which may cause the command to do nothing on execution. The possible values for this attribute are defined by the ST_String simple type (§3.1.2.3.5, ST_String).
fciBasedOn (Fixed command based on)	Specifies the friendly name of the fixed command that shall be used for this allocated command. If both this attribute and *fciIndexBasedOn* are specified, this attribute will be used. Only 11 fixed commands shall be used as allocated commands in Word: *Borders*, *Color*, *Columns*, *Condensed*, *Expanded*, *FileOpenFile*, *FontSize*, *Lowered*, *Raised*, *Shading* and *Symbol*. The possible values for this attribute are defined by the ST_String simple type (§3.1.2.3.5, ST_String).
fciIndexBasedOn (Index of fixed command)	Specifies the numeric index of the fixed command that shall be used for this allocated command. A table mapping the friendly names of all fixed commands (including those mentioned in *fciBasedOn*--the only valid fixed commands that may be used for allocated commands) may be found in Fixed Commands (§3.1.2.1.2, Fixed Commands). If both this attribute and *fciBasedOn* are specified, *fciBasedOn* will be used. The **fciIndexBasedOn** attribute may be converted to **fciBasedOn** upon resaving of the document. The possible values for this attribute are defined by the ST_ShortHexNumber simple type (§3.1.2.3.4, ST_ShortHexNumber).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Acd">
  <attribute name="argValue" type="ST_String"/>
  <attribute name="fciBasedOn" type="ST_String"/>
  <attribute name="fciIndexBasedOn" type="ST_ShortHexNumber"/>
  <attribute name="acdName" type="ST_String" use="required"/>
</complexType>
```

3.1.2.1.1.2 acd (Allocated Command Keyboard Customization Action)

This element specifies that an allocated command should be executed by the enclosing key map.

[Example: Consider the following key map:

```
<wne:keymap wne:kcmPrimary="0238">
    <wne:acd wne:acdName="acd0" />
</wne:keymap>
```


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In this example, the WordprocessingML fragment specifies that pressing Control-8 (the meaning of a KCM of `0238`) will execute the allocated command identified by `acd0`. end example]

Parent Elements
keymap (§3.1.2.1.1.8, keymap)

Attributes	Description
acdName (Allocated command name)	Specifies the friendly name of the allocated command to execute. The possible values for this attribute are defined by the ST_String simple type (§3.1.2.3.5, ST_String).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_AcdKeymap">
  <attribute name="acdName" type="ST String" use="required"/>
</complexType>
```

3.1.2.1.1.3 acdEntry (Allocated Command Manifest Entry)

This element identifies the allocated command that is associated with the numeric index specified by its order under the enclosing **acdManifest** element.

Parent Elements
acdManifest (§3.1.2.1.1.4, acdManifest)

Attributes	Description
acdName (Allocated command name)	Specifies the friendly name of the allocated command to execute. The possible values for this attribute are defined by the ST_String simple type (§3.1.2.3.5, ST_String).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_AcdKeymap">
  <attribute name="acdName" type="ST_String" use="required"/>
</complexType>
```

3.1.2.1.1.4 acdManifest (Allocated Command Manifest)

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The binary toolbar customization information identifies allocated commands by a numeric index while this XML file format identifies allocated commands by a friendly string-based name. This element provides a mapping between the numeric indices and friendly names for allocated commands. The order of an entry specifies its numeric index for use in the attached binary toolbar data.

[Example: Consider the following allocated command manifest:

```
<wne:toolbars>
    <wne:acdManifest>
        <wne:acdEntry wne:acdName="acd2"/>
        <wne:acdEntry wne:acdName="acd3"/>
    </wne:acdManifest>
</wne:toolbars>
```

In this example, the WordprocessingML fragment specifies that `acd2` holds index 0 and `acd3` holds index 1. end example]

Parent Elements
toolbars (§3.1.2.1.1.14, toolbars)

Child Elements	Subclause
acdEntry (Allocated Command Manifest Entry)	§3.1.2.1.1.3, acdEntry

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT AcdManifest">
  <sequence>
    <element name="acdEntry" type="CT_AcdKeymap" minOccurs="1" maxOccurs="unbounded"/>
  </sequence>
</complexType>
```

3.1.2.1.1.5 acds (Allocated Commands)

This element serves as a container for the declaration of allocated commands.

Parent Elements
tcg (§3.1.2.1.1.12, tcg)

Child Elements	Subclause
acd (Allocated Command)	§3.1.2.1.1.1, acd

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The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Acds">
  <sequence>
    <element name="acd" type="CT Acd" minOccurs="1" maxOccurs="unbounded"/>
  </sequence>
</complexType>
```

3.1.2.1.1.6 active (Record Is Included in Mail Merge)

This element specifies whether a specific record from the specified external data source shall be imported into a merged WordprocessingML document when the mail merge defined for a source document is performed. If this element's **val** attribute is *false*, then the record specified by the parent element shall not be used to create a merged document.

If this element is omitted for a given record, the data record associated with it shall be imported into a merged WordprocessingML document when the mail merge is performed.

[Example: Consider the following fragment from a source WordprocessingML document that is connected to an external data source containing two records, one of which will not be imported into a merged WordprocessingML document when the conforming hosting application performs the data import.

```
<w:recipients>
  <w:recipientData>
    <w:active w:val="false" />
    <w:hash w:val="1126664175" />
  </w:recipientData>
  <w:recipientData>
    <w:hash w:val="1530576378" />
  </w:recipientData>
</w:recipients>
```

In this XML fragment, the external data record that is identified by the **hash** element (§3.1.2.2.1.1, hash) with a **val** attribute equal to *1126664175* will not be imported into a merged document because the **active** element associated with it has a **val** attribute equal to *false*. Conversely, the external data record associated with the **hash** element with a **val** attribute equal to *1530576378* will be imported into a merged document because its **active** element has been omitted, implying the default value of *true*. end example]

Parent Elements
recipientData (§3.1.2.2.1.2, recipientData)

Attributes	Description
val ()	The possible values for this attribute are defined by the ST_OnOff simple type (§3.1.2.3.3, ST_OnOff).

The following XML Schema fragment defines the contents of this element:

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```
<complexType name="CT_OnOff">
  <attribute name="val" type="ST_OnOff"/>
</complexType>
```

3.1.2.1.1.7 fci (Fixed Command Keyboard Customization Action)

The **fci** element specifies the command that will be executed for the keyboard shortcut specified in the enclosing **keymap** element. This element must reference either an identifying name or index by using the *fciName* or *fciIndex* attribute, respectively. If both attributes are specified, *fciName* takes precedence for determining the command to execute. When writing a document, *fciName* will be used if a name can be determined for the command. If a name cannot be determined, *fciIndex* will be used instead.

For a list of public fixed command names and corresponding indices available in Word, refer to Fixed Commands (§3.1.2.1.2, Fixed Commands).

[Example: Consider the following key mapping fragment:

```
<wne:keymap wne:kcmPrimary="0342">
   <wne:fci wne:fciName="Bold" />
</wne:keymap>
```

In this example, the WordprocessingML assigns the `Bold` fixed command to the keyboard shortcut mapping to KCM `0342` (Ctrl-Shift-B).

Alternately, the same effect can be achieved using the *fciIndex* instead of *fciName*:

```
<wne:keymap wne:kcmPrimary="0342">
  <wne:fci wne:fciIndex="002D" />
</wne:keymap>
```

end example]

Parent Elements
keymap (§3.1.2.1.1.8, keymap)

Attributes	Description
fciIndex (Index of fixed command)	Specifies numeric identifier for a fixed command. For a list of public fixed command names and their indices available in Word, refer to Fixed Commands (§3.1.2.1.2, Fixed Commands). The possible values for this attribute are defined by the ST_ShortHexNumber simple type (§3.1.2.3.4, ST_ShortHexNumber).
fciName (Fixed command name)	Specifies friendly identifier for a fixed command. For a list of public fixed command names available in Word, refer to Fixed Commands (§3.1.2.1.2, Fixed Commands).

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Attributes	Description
	The possible values for this attribute are defined by the ST_String simple type (§3.1.2.3.5, ST_String).
swArg (Fixed command argument)	Specifies an optional numeric argument for a fixed command, as specified in the Word 97-2003 Binary File Format (.doc) Structure Specification ("[MS-DOC] section 2.9.36; CidFci") book. The possible values for this attribute are defined by the ST_ShortHexNumber simple type (§3.1.2.3.4, ST_ShortHexNumber).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Fci">
  <attribute name="fciName" type="ST_String"/>
  <attribute name="fciIndex" type="ST_ShortHexNumber"/>
  <attribute name="swArg" type="ST ShortHexNumber"/>
</complexType>
```

3.1.2.1.1.8 keymap (Key Map Entry)

This element describes an individual key mapping. Its attributes collectively specify a sequence of key combinations that, when pressed, will cause the execution of an action such as a fixed command or macro. The action to execute is described by a single child element. A built-in key mapping can also be blocked.

The key combination for the mapping may be specified using KCM- (key code with modifiers) and CHM- (character with modifiers) based attributes. Both use a set of binary flags for the first (or left) byte to designate the modifier keys for a key combination. Starting at the least significant bit, these take the order Shift, Control, Alt and Command (where the operating system distinguishes between Command and Control). These flags may be used individually or combined. For example, using Control as the only modifier would be represented by 02 (only the second bit is on) while using Control and Alt simultaneously would be 06 (the second and third bits are on).

If a secondary key combination attribute is omitted and a primary key combination has already been defined, the associated action will be executed as soon as the primary key combination has been pressed; otherwise, if both are specified, the action will not execute until both key combinations have been pressed in sequence.

[Example: Consider the following key mapping fragment:

```
<wne:keymap wne:kcmPrimary="0342" wne:kcmSecondary="0441">
   <wne:fci … />
</wne:keymap>
```

In this example, the WordprocessingML describes a mapping for a sequence of two key combinations given by the KCMs of `0342` and `0441`. A KCM of `0342` represents Ctrl-Shift-B and `0441` represents Alt-A, meaning that the user needs to type Control-Shift-B followed by Alt-A to trigger this mapping's action. The `fci` child element signifies that a fixed command will be executed when the specified key sequence is pressed. end example]

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Parent Elements
keymaps (§3.1.2.1.1.9, keymaps); **keymapsBad** (§3.1.2.1.1.10, keymapsBad)

Child Elements	Subclause
acd (Allocated Command Keyboard Customization Action)	§3.1.2.1.1.2, acd
fci (Fixed Command Keyboard Customization Action)	§3.1.2.1.1.7, fci
macro (Macro Keyboard Customization Action)	§3.1.2.1.1.11, macro
wch (Character Insertion Keyboard Customization Action)	§3.1.2.1.1.15, wch
wll (WLL Macro Keyboard Customization Action)	§3.1.2.1.1.16, wll

Attributes	Description
chmPrimary (Keyboard Shortcut Primary Character Code)	Specifies the first CHM key combination in the sequence. The left byte contains modifiers described in keymap (§3.1.2.1.1.8, keymap) and the right byte specifies the ASCII value of the character of this key combination. [Note: When specifying CHM values, the case of the letter is significant with respect to shift acting as a modifier or not.] [Example: Consider this list of example key combinations and their corresponding CHM in parentheses: Shift-Control-Alt-C (0643) Alt-C (0463) Control-K (026B) end example] The possible values for this attribute are defined by the ST_ShortHexNumber simple type (§3.1.2.3.4, ST_ShortHexNumber).
chmSecondary (Keyboard Shortcut Secondary Character Code)	Specifies the second CHM key combination in the sequence. The CHM value here is defined the same as for **chmPrimary**. The possible values for this attribute are defined by the ST_ShortHexNumber simple type (§3.1.2.3.4, ST_ShortHexNumber).
kcmPrimary (Primary keycode with modifier)	Specifies the first key combination in the sequence.

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Attributes	Description
	The left byte contains modifiers described in keymap (§3.1.2.1.1.8, keymap), and the right byte specifies the standard Windows virtual key code of this key combination. [Example: Consider this list of example key combinations and their corresponding KCM in parentheses: Shift-Control-Alt-C (0743) Alt-F9 (0478) Control-K (024B) end example] The possible values for this attribute are defined by the ST_ShortHexNumber simple type (§3.1.2.3.4, ST_ShortHexNumber).
kcmSecondary (Secondary keycode with modifier)	Specifies the second key combination in the sequence. The KCM value here is defined the same as for **kcmPrimary**. The possible values for this attribute are defined by the ST_ShortHexNumber simple type (§3.1.2.3.4, ST_ShortHexNumber).

mask (Built-in Command Masking Flag)	If this Boolean attribute is set to an on value, the specified built-in key mapping will be masked out. In such a case, any child element specified shall be ignored because the masking of a key mapping does not involve specifying either a replacement action or the action being blocked. If this attribute is omitted or given an off value, a child element must be specified or the key map will be ignored.
	
	[Example: Consider the case where Control-B (the built-in key mapping for the Bold fixed command) has been masked:
	
	`<wne:keymaps>`
	`  <wne:keymap wne:mask="1" wne:kcmPrimary="0242"/>`
	`</wne:keymaps>`
	
	KCM 0242 has been masked or blocked from its built-in behavior. The effect is that pressing Control-B will no longer execute the built-in command (in this case bold). end example]
	
	The possible values for this attribute are defined by the ST_OnOff simple type (§3.1.2.3.3, ST_OnOff).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Keymap">
  <choice minOccurs="0" maxOccurs="1">
    <element name="fci" type="CT_Fci"/>
    <element name="macro" type="CT_MacroWll"/>
```


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```
      <element name="acd" type="CT_AcdKeymap"/>
      <element name="wll" type="CT_MacroWll"/>
      <element name="wch" type="CT_LongHexNumber"/>
    </choice>
    <attribute name="chmPrimary" type="ST_ShortHexNumber"/>
    <attribute name="chmSecondary" type="ST_ShortHexNumber"/>
    <attribute name="kcmPrimary" type="ST_ShortHexNumber"/>
    <attribute name="kcmSecondary" type="ST_ShortHexNumber"/>
    <attribute name="mask" type="ST_OnOff"/>
  </complexType>
```

3.1.2.1.1.9 keymaps (Key Map Customizations)

This element serves as a container for individual **key map** customization entries that can be described on the current keyboard. See keymapsBad (§3.1.2.1.1.10, keymapsBad) for more information on key map entries that cannot be described on the current keyboard.

On write, key maps are placed under **keymaps** or **keymapsBad** elements based on the current keyboard, not based on the element they were specified under originally. Key map elements can therefore be moved between these two parent elements depending on the current keyboard. Moreover, either type of key map may be validly defined under either element, but upon resaving each will be moved under the correct element.

If a conflict occurs between a KCM and CHM for a given key mapping, then the KCM will be used. Upon writing a file, Word will also add a valid KCM attribute for any key map entries that have specified a CHM.

[Example: Consider the following key mapping fragment:

```
<wne:keymaps>
   <wne:keymap wne:kcmPrimary="0342">
      <wne:fci wne:fciName="Bold" />
   </wne:keymap>
   <wne:keymap wne:kcmPrimary="0237">
      <wne:wch wne:val="000020AC" />
   </wne:keymap>
</wne:keymaps>
```

In this example, the fragment specifies two key maps. The first will make the selected text bold when the key combination Control-Shift-B is pressed. The second inserts the Euro currency symbol when Control-7 is pressed. end example]

Parent Elements
tcg (§3.1.2.1.1.12, tcg)

Child Elements	Subclause
keymap (Key Map Entry)	§3.1.2.1.1.8, keymap

The following XML Schema fragment defines the contents of this element:

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```
<complexType name="CT Keymaps">
  <sequence>
    <element name="keymap" type="CT_Keymap" minOccurs="1" maxOccurs="unbounded"/>
  </sequence>
</complexType>
```

3.1.2.1.1.10 keymapsBad (Key Map Customizations for Mismatched Keyboards)

This element serves as a container for individual key map customization entries whose key combinations cannot be described on the current keyboard. See **keymaps** (§3.1.2.1.1.9, keymaps) for more information about key maps that can be described on the current keyboard.

On write, key maps are placed under **keymaps** or **keymapsBad** elements based on the current keyboard, not based on the element they were specified under originally. Key map elements can therefore be moved between these two parent elements depending on the current keyboard. Moreover, either type of key map may be validly defined under either element, but upon resaving each will be moved under the correct element.

The key combinations for key maps placed under the **keymapsBad** element cannot be executed by Word. Key maps placed under the **keymapsBad** element are not removed from the file, because they can become operational again when the document is opened on a computer where the specified characters are present on the current keyboard.

Because of their nature, CHM attributes will not be converted to KCM attributes if no such conversion is possible on the current keyboard.

[Example: Consider the following key mapping fragment:

```
<wne:keymapsBad>
    <wne:keymap wne:chmPrimary="06DF">
        <wne:fci wne:fciName="Bold" wne:swArg="0000"/>
    </wne:keymap>
</wne:keymapsBad>
```

In this example, the fragment specifies a single key map that executes the Bold fixed command when Control-Alt-ß is pressed. Because this character is typically only available on German-language keyboards, the key mapping will be under the **keymapsBad** element on non-German-language keyboards. end example]

Parent Elements
tcg (§3.1.2.1.1.12, tcg)

Child Elements	Subclause
keymap (Key Map Entry)	§3.1.2.1.1.8, keymap

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Keymaps">
  <sequence>
    <element name="keymap" type="CT_Keymap" minOccurs="1" maxOccurs="unbounded"/>
```


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```
  </sequence>
</complexType>
```

3.1.2.1.1.11 macro (Macro Keyboard Customization Action)

This element specifies that a macro should be executed by the enclosing key map.

[Example: Consider the following key map:

```
<wne:keymap wne:kcmPrimary="0238">
    <wne:macro wne:macroName="PROJECT.NEWMACROS.SOMEMACRO"/>
</wne:keymap>
```

In this example, the WordprocessingML fragment specifies that pressing Control-8 (the meaning of a KCM of `0238`) will run the macro named `"PROJECT.NEWMACROS.SOMEMACRO"`. end example]

Parent Elements
keymap (§3.1.2.1.1.8, keymap)

Attributes	Description
macroName (Macro name)	Specifies the name of the macro to run. The possible values for this attribute are defined by the ST_String simple type (§3.1.2.3.5, ST_String).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_MacroWll">
  <attribute name="macroName" type="ST_String" use="required"/>
</complexType>
```

3.1.2.1.1.12 tcg (Keyboard and Toolbar Customizations)

This element specifies the document's template command group (TCG), which contains customizations for keyboard shortcuts and toolbars.

[Example: Consider a document with both a toolbar customization and key map customization:

```
<wne:tcg …>
    <wne:keymaps>
        <wne:keymap wne:kcmPrimary="0341">
            <wne:fci wne:fciName="CssLinks" wne:swArg="0000"/>
        </wne:keymap>
    </wne:keymaps>
    <wne:toolbars>
        <wne:toolbarData r:id="rId1"/>
    </wne:toolbars>
</wne:tcg>
```


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In this example, the WordprocessingML describes a single key map customization and customized toolbar information stored in a binary part referenced as `rId1`. end example]

Child Elements	Subclause
acds (Allocated Commands)	§3.1.2.1.1.5, acds
keymaps (Key Map Customizations)	§3.1.2.1.1.9, keymaps
keymapsBad (Key Map Customizations for Mismatched Keyboards)	§3.1.2.1.1.10, keymapsBad
toolbars (Legacy Toolbar Customizations)	§3.1.2.1.1.14, toolbars

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Tcg">
  <sequence>
    <element name="keymaps" type="CT_Keymaps" minOccurs="0" maxOccurs="1"/>
    <element name="keymapsBad" type="CT_Keymaps" minOccurs="0" maxOccurs="1"/>
    <element name="toolbars" type="CT_Toolbars" minOccurs="0" maxOccurs="1"/>
    <element name="acds" type="CT_Acds" minOccurs="0" maxOccurs="1"/>
  </sequence>
</complexType>
```

3.1.2.1.1.13 toolbarData (Toolbar data)

The **toolbarData** element is used to reference a binary toolbar customization part.

[Example: Consider a document with a toolbar customization:

```
<wne:tcg …>
    <wne:toolbars>
        <wne:toolbarData r:id="rId1"/>
    </wne:toolbars>
</wne:tcg>
```

Where `rId1` is defined in customization.xml.rels as:

```
<Relationships …>
    <Relationship Id="rId1" … Target="attachedToolbars.bin"/>
</Relationships>
```

In this example, the WordprocessingML specifies that the information in the attachedToolbars.bin binary part should be used for toolbar customization purposes. end example]

Parent Elements
toolbars (§3.1.2.1.1.14, toolbars)

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Attributes	Description
id (binary toolbar part relationship identifier) Namespace: .../officeDocument/2006/relationships	Specifies the relationship identifier associated with a binary toolbar customization part as described in the relationships file for the part in which this attribute is used. The possible values for this attribute are defined by the ST_RelationshipId simple type ("[ISO/IEC-29500-1] §22.8.2.1").

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Rel">
  <attribute ref="r:id" use="required"/>
</complexType>
```

3.1.2.1.1.14 toolbars (Legacy Toolbar Customizations)

The **toolbars** element is used as a container for **toolbarData** and **acdManifest** elements.

Parent Elements
tcg (§3.1.2.1.1.12, tcg)

Child Elements	Subclause
acdManifest (Allocated Command Manifest)	§3.1.2.1.1.4, acdManifest
toolbarData (Toolbar data)	§3.1.2.1.1.13, toolbarData

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Toolbars">
  <sequence>
    <element name="acdManifest" minOccurs="0" maxOccurs="1" type="CT_AcdManifest"/>
    <element name="toolbarData" minOccurs="0" maxOccurs="1" type="CT_Rel"/>
  </sequence>
</complexType>
```

3.1.2.1.1.15 wch (Character Insertion Keyboard Customization Action)

This element specifies that the action for an enclosed key map is to insert a certain character into the document.

[Example: Consider the following key map:

```
  <wne:keymap wne:kcmPrimary="0237">
   <wne:wch wne:val="000020AC" />
</wne:keymap>
```


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In this example, the WordprocessingML fragment specifies that pressing Control-7 (represented by KCM `0237`) shall insert the Euro currency symbol (€, represented by the hexadecimal-encoded 4-byte Unicode of `000020AC`). end example]

Parent Elements
keymap (§3.1.2.1.1.8, keymap)

Attributes	Description
val (character to insert)	This attribute specifies the hexadecimal encoded 4-byte Unicode character that should be inserted into the document. The possible values for this attribute are defined by the ST_LongHexNumber simple type (§3.1.2.3.2, ST_LongHexNumber).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_LongHexNumber">
  <attribute name="val" type="ST_LongHexNumber" use="required"/>
</complexType>
```

3.1.2.1.1.16 wll (WLL Macro Keyboard Customization Action)

This element specifies that a macro defined in a WLL (a legacy Word DLL add-in) should be run by the enclosing key map.

Parent Elements
keymap (§3.1.2.1.1.8, keymap)

Attributes	Description
macroName (Macro name)	Specifies the name of the macro to run. The possible values for this attribute are defined by the ST_String simple type (§3.1.2.3.5, ST_String).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_MacroWll">
  <attribute name="macroName" type="ST_String" use="required"/>
</complexType>
```


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3.1.2.1.2 Fixed Commands

Commands can be identified either by a name or by an index.

Fixed Command Name	Fixed Command Index
AcceptAllChangesInDoc	0511
AcceptAllChangesShown	0510
AcceptChangesAndAdvance	0837
AcceptChangesOrAdvance	0989
AcceptChangesSelected	050F
ActivateObject	007E
AddDigitalSignature	0845
AddToContacts	087C
AdjustListIndents	0778
AdvancedBrightnessContrast	08C5
AdvertisePublishAs	0790
AlignBottom	1BE2
AlignCenterHorizontal	1BDE
AlignCenterVertical	1BE1
AlignLeft	1BDD
AlignRight	1BDF
AlignTop	1BE0
AllCaps	0030
AllShapesGallery	07B4
AnnotInkEraser	05C1
AnnotInkPen	05C0
AnnotationEdit	0535
AppMaximize	0118
AppMinimize	0117
AppMove	01A2
AppRestore	0119
AppSize	01A3
ApplyFormattingOfOriginal	052A
ApplyFormattingOfSurrounding	0529
ApplyHeading1	0251

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Fixed Command Name	Fixed Command Index
ApplyHeading2	0252
ApplyHeading3	0253
ApplyListBullet	0254
ApplyQFSetInitial	0935
ApplyQFSetTemplate	0936
ApplyQuickFormat	0887
ApplyQuickStyleSet	0888
ApplyStructure	05B2
ApplyTableStyle	08F7
ApplyXMLStructureMenu	16B8
ArrowStyleGallery	07B8
AsianLayoutFlyout	08A4
AutoFitContent	0475
AutoFitFixed	0478
AutoFitWindow	0476
AutoMarkIndexEntries	0268
AutoScroll	03E2
AutoSignatureList	167D
AutoSummarizeClose	038A
AutoSummarizePercentOfOriginal	038D
AutoSummarizeToggleView	038E
AutoSummarizeUpdateFileProperties	038C
AutoText	028D
AutoTextGallery	08DE
AutomaticChange	0FE6
BBPropertiesDlg	095A
BackHistoryItem	05CE
BackgroundColorPicker	08BA
BarCodeGroup	08A3
BibInsertSource	0848
BibUpdateLang	09A1
BibliographyBibliographyToText	0985

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Fixed Command Name	Fixed Command Index
BibliographyCitationToText	093B
BibliographyCreateSource	0782
BibliographyEditCitationButton	0979
BibliographyEditCitationToolbar	097B
BibliographyEditSource	093C
BibliographyEditSourceButton	097A
BibliographyEditSourceToolbar	097C
BibliographyFilterLanguages	099C
BibliographyGallery	08E0
BibliographySourceManager	0780
BlogBlogAccountOptionsDlg	07C1
BlogBlogInsertCategories	05AF
BlogBlogInsertCategory	0355
BlogBlogOpenBlogSite	0826
BlogBlogOpenExistingDlg	0354
BlogBlogPublish	0352
BlogBlogPublishDraft	0353
Bold	002D
BoldRun	0424
BorderAll	03D1
BorderBottom	0FE0
BorderColorPicker	08B9
BorderHoriz	03C2
BorderInside	0FE2
BorderLeft	0FDF
BorderLineColor	03C4
BorderLineStyle	01C3
BorderLineWeight	03C1
BorderNone	01C2
BorderOutside	01C1
BorderRight	0FE1
BorderTLtoBR	0314

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Fixed Command Name	Fixed Command Index
BorderTRtoBL	0315
BorderTop	0FDE
BorderVert	03C3
Borders	0223
BottomAlign	0321
BottomCenterAlign	0480
BottomLeftAlign	0481
BottomRightAlign	047F
BreaksGallery	0830
BrightnessGallery	0851
BringForward	0857
BringToFront	0858
BrowseForThemes	0877
BrowseNext	0342
BrowsePrev	0337
BrowseSel	0336
BuildingBlockOrganizer	0813
BulletsGallery	07AB
BulletsNumberingStyleDialog	08DA
Cancel	0048
CancelHighlightMode	08BE
CellAlignmentGallery	08C2
CellOptions	0439
CenterAlign	0320
CenterPara	003B
ChangeByte	02DA
ChangeCase	0011
ChangeCaseGallery	0853
ChangeKana	02DB
ChangeMailFormat	1BC9
ChangeShapesGallery	07B9
CharColor	0039

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Fixed Command Name	Fixed Command Index
CharLeft	0FA0
CharLeftExtend	0FB2
CharRight	0FA1
CharRightExtend	0FB3
CharScale	031D
CharScaleDialog	07B2
CharacterClearFormatting	076F
CharacterRemoveStyle	076D
CheckBoxFormField	015E
CheckCompatibility	08F9
CheckDocumentParts	099B
ChineseTranslationGroup	0976
ChooseButtonImage	0273
ClearAllFormatting	07A9
ClearFormField	02C2
ClearFormatting	054A
ClearTableStyle	08F6
ClosePane	00F3
CloseParaAbove	0995
CloseParaBelow	0997
ClosePreview	01B5
CloseReadingMode	05C8
CloseUpPara	0041
CloseViewHeaderFooter	0280
Color	0224
ColorPicker3DE1o	08A1
ColorPickerShadowE1o	08A0
ColorSchemePicker	08FC
ColumnSelect	001B
Columns	0212
ColumnsGallery	07BC
CommaAccent	02FE

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Fixed Command Name	Fixed Command Index
CompareDocumentsCombine	0815
CompareDocumentsCompare	0814
CompareDocumentsLastMajor	0816
CompareDocumentsLastMinor	0817
CompareDocumentsVersion	0818
CompareTranslationBaseDocuments	08FA
CompatChkr	0987
Condensed	0213
Connect	01A4
ContentControlBuildingBlockGallery	0954
ContentControlComboBox	0952
ContentControlDate	0955
ContentControlDropdownList	0953
ContentControlGroup	094A
ContentControlPicture	0951
ContentControlRichText	094F
ContentControlText	0950
ContentControlUngroup	0978
ContextHelp	032D
ContinueMacro	010A
ContinueNumbering	04E7
ContrastGallery	0852
ControlProperties	0849
ControlRun	00EB
ConvertObject	0188
ConvertTextBoxToFrame	0394
CopyButtonImage	020E
CopyFile	012C
CopyFormat	0049
CopyInkAsText	05C2
CopyText	0013
CoverPageGallery	07E5

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Fixed Command Name	Fixed Command Index
CreateAutoText	0368
CreateAutoTextBlockFromSel	08E1
CreateBibliographyFromSel	0971
CreateBuildingBlockFromSel	07E2
CreateCommonFieldBlockFromSel	07F3
CreateCoverPageBlockFromSel	07F4
CreateEquationBlockFromSel	07F5
CreateFooterBlockFromSel	07F6
CreateHeaderBlockFromSel	07F7
CreateLayoutBlockFromSel	08E3
CreateNewColorScheme	0909
CreateNewFontScheme	0937
CreatePageNumBottomFromSel	07FB
CreatePageNumFromSel	07F9
CreatePageNumPageBlockFromSel	07FD
CreatePageNumTopFromSel	07FA
CreateSharedWorkspace	0839
CreateSubdocument	01EB
CreateTable	031C
CreateTableBlockFromSel	07FC
CreateTableOfContentsFromSel	0915
CreateTask	0384
CreateTextBoxBlockFromSel	08E2
CreateWaterMarkBlockFromSel	07FF
CssLinks	04ED
Custom1Gallery	096C
Custom2Gallery	096D
Custom3Gallery	096E
Custom4Gallery	096F
Custom5Gallery	0970
CustomAutoTextGallery	0968
CustomBibliographyGallery	096B

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Fixed Command Name	Fixed Command Index
CustomCoverPageGallery	095F
CustomEquationsGallery	0965
CustomFooterGallery	095E
CustomHeaderGallery	095D
CustomPageNumBottomGallery	0962
CustomPageNumGallery	0960
CustomPageNumPageGallery	0963
CustomPageNumTopGallery	0961
CustomQuickPartsGallery	0967
CustomTableOfContentsGallery	096A
CustomTablesGallery	0966
CustomTextBoxGallery	0969
CustomWatermarkGallery	0964
DecreaseIndent	03F3
DecreaseParagraphSpacing	053F
DefaultCharBorder	03E5
DefaultCharShading	03F7
DefaultCondensed	0801
DefaultExpanded	0802
DefineNewBullet	07E0
DefineNewList	087A
DefineNewListStyle	087B
DefineNewNumber	07E1
DeleteAllCommentsInDoc	0516
DeleteAllCommentsShown	0515
DeleteAllInkAnnotations	05AB
DeleteAnnotation	03CD
DeleteBackWord	001D
DeleteBuildingBlock	088A
DeleteHyperlink	0381
DeleteSchema	1BD1
DeleteStructure	0568

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Fixed Command Name	Fixed Command Index
DeleteStyle	0555
DeleteWord	001C
DemoteList	0250
DemoteToBodyText	016E
DepthGallery	08CB
DiacriticColor	0458
DialogEditor	0228
Direction3DGallery	08CA
DisplayDetails	0385
DisplayDocumentManagementPane	083B
DisplayFinalDoc	0505
DisplayForReview	0534
DisplayOriginalDoc	0506
DisplaySharedWorkspacePane	0532
DistributeColumn	0327
DistributeGeneral	0362
DistributePara	02E4
DistributeRow	037D
DoFieldClick	011A
DoNotDistribute	05A0
DocClose	00EA
DocEncryption	07C0
DocExport	092D
DocInspector	05CA
DocMaximize	00E8
DocMinimize	0140
DocMove	00E7
DocRestore	00E9
DocSize	00E6
DocSplit	00E5
DocumentActionsPane	05BE
DocumentStatistics	004E

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Fixed Command Name	Fixed Command Index
DotAccent	02FD
DottedUnderline	026C
DoubleStrikethrough	031E
DoubleUnderline	0034
DownloadPictures	07A2
DrawAlign	027A
DrawArc	01C7
DrawBrace	0317
DrawBracket	0318
DrawBringForward	01F4
DrawBringInFrontOfText	01D5
DrawBringToFront	01D2
DrawCallout	0263
DrawDisassemblePicture	023F
DrawDuplicate	03BB
DrawEllipse	01C6
DrawFlipHorizontal	022F
DrawFlipVertical	0230
DrawFreeformPolygon	021A
DrawGroup	01D1
DrawInsertWordPicture	0288
DrawLine	0178
DrawMenu3D	1662
DrawMenu3DColor	1677
DrawMenu3DDepth	1675
DrawMenu3DDirection	1676
DrawMenu3DLighting	1678
DrawMenu3DSurface	1679
DrawMenuAlignDistribute	1659
DrawMenuArrows	1661
DrawMenuAutoShapes	166B
DrawMenuChangeShape	1665

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Fixed Command Name	Fixed Command Index
DrawMenuChangeShape0	1666
DrawMenuChangeShape1	1667
DrawMenuChangeShape2	1668
DrawMenuChangeShape3	1669
DrawMenuChangeShape4	166A
DrawMenuGrouping	1658
DrawMenuImageControl	1664
DrawMenuLineDash	1660
DrawMenuMoreShapes1	166C
DrawMenuMoreShapes2	166D
DrawMenuMoreShapes3	166E
DrawMenuMoreShapes4	166F
DrawMenuMoreShapes5	1670
DrawMenuMoreShapes6	1671
DrawMenuMoreShapes7	16AC
DrawMenuNudge	165B
DrawMenuOrder	1657
DrawMenuRotateFlip	165A
DrawMenuShadowColor	1663
DrawMenuShadows	165E
DrawMenuTextAlignment	1673
DrawMenuTextShape	1672
DrawMenuTextTracking	1674
DrawMenuTextWrapping	1656
DrawNudgeDown	029F
DrawNudgeDownPixel	02BD
DrawNudgeLeft	02A0
DrawNudgeLeftPixel	02BE
DrawNudgeRight	02A1
DrawNudgeRightPixel	02BF
DrawNudgeUp	029E
DrawNudgeUpPixel	02BC

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Fixed Command Name	Fixed Command Index
DrawRectangle	0179
DrawResetWordPicture	02B8
DrawReshape	0260
DrawRotateLeft	0232
DrawRotateRight	0231
DrawRoundRectangle	0219
DrawSelectNext	02C5
DrawSelectPrevious	02C6
DrawSendBackward	01F5
DrawSendBehindText	01D4
DrawSendToBack	01D3
DrawSnapToGrid	0279
DrawTextBox	03B3
DrawTextBox2	0959
DrawToggleLayer	022C
DrawUngroup	01E5
DrawUnselect	02C4
DrawVerticalTextBox	03E4
DrawVerticalTextBox2	094C
DrawingAdvancedLayout	0901
DrawingGrid	0490
DropCapGallery	0799
DropDownFormField	015F
EATextBoxMenu	0958
EditAutoText	03D9
EditBookmark	00A8
EditButtonImage	0266
EditCitation	0939
EditClear	001E
EditConvertAllEndnotes	01B8
EditConvertAllFootnotes	01B7
EditConvertNotes	01CE

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Fixed Command Name	Fixed Command Index
EditCopy	006D
EditCopyAsPicture	02EF
EditCreatePublisher	02DC
EditCut	006C
EditFind	0070
EditFindBorder	01BF
EditFindClearFormatting	0074
EditFindFont	0071
EditFindFrame	01C0
EditFindHighlight	030C
EditFindLang	01AC
EditFindNotHighlight	030E
EditFindPara	0072
EditFindReadingMode	05A6
EditFindStyle	0073
EditFindTabs	01BE
EditGoTo	0380
EditHyperlink	039E
EditIMEReconversion	0359
EditLinks	007C
EditObject	007D
EditOfficeClipboard	01CB
EditPaste	006E
EditPaste2	049C
EditPasteAppendTable	054E
EditPasteAsHyperlink	03D0
EditPasteAsNestedTable	0388
EditPasteFromExcel	0575
EditPasteOption	04DF
EditPasteSpecial	006F
EditPicture	0128
EditPictureEdit	0500

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Fixed Command Name	Fixed Command Index
EditPubOrSubOptions	02DE
EditPublishOptions	02DF
EditRedo	0149
EditRedoOrRepeat	014A
EditRepeat	0044
EditReplace	0075
EditReplaceBorder	01C9
EditReplaceClearFormatting	0079
EditReplaceFont	0076
EditReplaceFrame	01CA
EditReplaceHighlight	030D
EditReplaceLang	01AD
EditReplaceNotHighlight	030F
EditReplacePara	0077
EditReplaceStyle	0078
EditReplaceTabs	01C8
EditSelectAll	00ED
EditSource	093A
EditSubscribeOptions	02E0
EditSubscribeTo	02DD
EditSwapAllNotes	01B9
EditTOACategory	0271
EditUndo	006B
EditUpdateIMEDic	027E
EditWrapBoundary	03E3
EmailAttachmentOptions	05C5
EmailCheckNames	043C
EmailChooseAccount	05C4
EmailEnvelope	036B
EmailFlag	0442
EmailFocusIntroduction	0574
EmailFocusSubject	0440

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Fixed Command Name	Fixed Command Index
EmailMessageOptions	0441
EmailOptions	035F
EmailSaveAttachment	0443
EmailSelectBccNames	043F
EmailSelectCcNames	043E
EmailSelectNames	043B
EmailSelectToNames	043D
EmailSend	043A
EmailSignatureOptions	035E
EmailStationeryOptions	0884
EndOfColumn	0113
EndOfDocExtend	0FC3
EndOfDocument	0FB1
EndOfLine	0FAD
EndOfLineExtend	0FBF
EndOfRow	0111
EndOfWindow	0FAF
EndOfWindowExtend	0FC1
EndReview	04F6
EngWritingAssistant	0910
EnvelopeSetup	0558
EnvelopeWizard	0497
EquationAccentGallery	088D
EquationAlignAtEquals	0883
EquationAlignThisCharacter	0882
EquationArrayExpansion	0871
EquationAutoProfessionalFormat	07D4
EquationBarLocation	086E
EquationBorderPropertiesMenu	16CA
EquationCenteredAsGroupJustification	08EE
EquationCenteredJustification	08ED
EquationChangeStyle	07BF

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Fixed Command Name	Fixed Command Index
EquationDecreaseAlignment	07BE
EquationDecreaseArgumentSize	0874
EquationDeleteArgument	085E
EquationDeleteColumn	07C8
EquationDeleteMenu	16C9
EquationDeleteRow	07C7
EquationDelimiterGallery	07DC
EquationEdit	0800
EquationEquationArraySpacing	0900
EquationExpansion	0872
EquationFractionGallery	07D8
EquationFunctionGallery	088C
EquationGroupingCharacterLocation	0870
EquationHorizontalCenter	07CC
EquationHorizontalLeft	07CD
EquationHorizontalMenu	16C3
EquationHorizontalRight	07CE
EquationIncreaseAlignment	07BD
EquationIncreaseArgumentSize	0873
EquationInsert	0797
EquationInsertArgumentAfter	085D
EquationInsertArgumentBefore	085C
EquationInsertColumnAfter	07C6
EquationInsertColumnBefore	07C5
EquationInsertEmptyStructure	082C
EquationInsertMenu	16C8
EquationInsertRowAfter	07C3
EquationInsertRowBefore	07C2
EquationInsertStructure	08D9
EquationInsertSymbol	0781
EquationIntegralGallery	07D9
EquationJustificationMenu	16C7

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Fixed Command Name	Fixed Command Index
EquationLeftJustification	08EB
EquationLimitGallery	088E
EquationLimitLocation	086C
EquationLinearFormat	0777
EquationLinearFraction	0865
EquationManualBreak	0881
EquationMatchDelimiters	086A
EquationMathAutoCorrect	077B
EquationMatrixGallery	0890
EquationMatrixSpacing	08FF
EquationNaryGallery	07DB
EquationNaryLimitLocation	086B
EquationNoBarFraction	0863
EquationNormalText	088B
EquationOperatorGallery	088F
EquationProfessionalFormat	0776
EquationRadicalGallery	07DA
EquationRecognizedFunctions	0875
EquationRemoveStructure	085F
EquationRemoveSubscript	0860
EquationRemoveSuperscript	0861
EquationRightJustification	08EC
EquationScriptAlignment	0868
EquationScriptGallery	07DD
EquationScriptLocation	08D8
EquationShowHideBorderBLTRStrike	0984
EquationShowHideBorderBottom	097E
EquationShowHideBorderHorizontalStrike	0981
EquationShowHideBorderLeft	097F
EquationShowHideBorderRight	0980
EquationShowHideBorderTLBRStrike	0983
EquationShowHideBorderTop	097D

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Fixed Command Name	Fixed Command Index
EquationShowHideBorderVerticalStrike	0982
EquationShowHideClosingDelimiter	07D3
EquationShowHideLowerLimit	07CF
EquationShowHideOpeningDelimiter	07D2
EquationShowHidePlaceholders	0867
EquationShowHideRadicalDegree	07D1
EquationShowHideUpperLimit	07D0
EquationSkewedFraction	0864
EquationStackedFraction	0862
EquationStretchDelimiters	0866
EquationStretchNaryOperator	086F
EquationSymbolsGallery	0803
EquationToggle	0775
EquationVerticalBottom	07CB
EquationVerticalCenter	07C9
EquationVerticalMenu	16C2
EquationVerticalTop	07CA
EquationsOptions	095B
Expanded	0214
ExtendSelection	000E
FPConfidential	0598
FPSelectUser	05B5
FPUnprotected	0597
FaxService	05BB
File1	0FC5
File10	10CC
File11	10CD
File12	10CE
File13	10CF
File14	10D0
File15	10D1
File16	10D2

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Fixed Command Name	Fixed Command Index
File17	10D3
File18	10D4
File19	10D5
File2	0FC6
File20	10D6
File21	10D7
File22	10D8
File23	10D9
File24	10DA
File25	10DB
File26	10DC
File27	10DD
File28	10DE
File29	10DF
File3	0FC7
File30	10E0
File31	10E1
File32	10E2
File33	10E3
File34	10E4
File35	10E5
File36	10E6
File37	10E7
File38	10E8
File39	10E9
File4	0FC8
File40	10EA
File41	10EB
File42	10EC
File43	10ED
File44	10EE
File45	10EF

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Fixed Command Name	Fixed Command Index
File46	10F0
File47	10F1
File48	10F2
File49	10F3
File5	0FC9
File50	10F4
File6	0FCA
File7	0FCB
File8	0FCC
File9	0FCD
FileAOCEAddMailer	0137
FileAOCEDeleteMailer	0138
FileAOCEExpandMailer	0139
FileAOCEForwardMail	013E
FileAOCENextLetter	013F
FileAOCEReplyAllMail	013D
FileAOCEReplyMail	013C
FileAOCESendMail	013B
FileCheckin	04FE
FileCheckout	04FD
FileClose	011B
FileCloseAll	020C
FileCloseOrCloseAll	020B
FileCloseOrExit	03A4
FileClosePicture	02B6
FileConfirmConversions	02AF
FileExit	0062
FileFind	0063
FileMacPageSetup	02AD
FileNew	004F
FileNewContext	04F1
FileNewDefault	012D

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Fixed Command Name	Fixed Command Index
FileNewDialog	045C
FileNewEmail	0444
FileNewPrint	045B
FileNewWeb	0459
FileOpen	0050
FileOpenFile	0218
FilePageSetup	00B2
FilePermission	05BD
FilePermissionMenu	0596
FilePost	02F8
FilePreview	167F
FilePrint	0058
FilePrintDefault	012E
FilePrintPreview	0059
FilePrintPreviewFullScreen	0204
FilePrintSetup	0061
FileProperties	02EE
FileRoutingSlip	0270
FileSave	0053
FileSaveAll	0055
FileSaveAs	0054
FileSaveAsOtherFormats	0912
FileSaveAsWebPage	048C
FileSaveFrameAs	0455
FileSaveHtml	03F4
FileSaveVersion	03EF
FileSaveWord11	090C
FileSaveWordDocx	090B
FileSaveWordDotx	090A
FileSearch	0553
FileSendBlog	07C4
FileSendMail	0265

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Fixed Command Name	Fixed Command Index
FileSendPdf	0905
FileSendXps	0906
FileSummaryInfo	0056
FileTemplates	0057
FileUndoCheckout	04D9
FileVersions	03B1
FileVersionsLocal	04F5
FileVersionsServer	0533
FillColorPicker	084A
FillPolicyLabel	0786
FixBrokenText	0577
FixHHCMenu	1699
FixMe	02C1
FixSpellingChange	02E8
FixSpellingLang	0383
FixSynonymMenu	16A0
FixUIMChange	0547
FixUIMDeleteWord	0549
Font	002A
FontColor	0372
FontColorPicker	07BB
FontSchemePicker	08FB
FontSize	0215
FontSizeSelect	002B
FontSubstitution	0245
FooterGallery	07E3
FooterPositionSpinner	08B2
FormFieldOptions	0161
FormShading	027C
FormatAddrFonts	0067
FormatAutoFormat	0181
FormatAutoFormatBegin	0141

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Fixed Command Name	Fixed Command Index
FormatBackground	0392
FormatBackgroundColor	08BD
FormatBackgroundFillEffect	03EE
FormatBackgroundMoreColors	03ED
FormatBackgroundNone	03EC
FormatBackgroundSwatch	03EB
FormatBackgroundWatermark	03B2
FormatBordersAndShading	00BD
FormatBullet	0185
FormatBulletDefault	018F
FormatBulletsAndNumbering	0338
FormatCallout	0262
FormatChangeCase	0142
FormatChangeCaseFareast	03D4
FormatColumns	00B1
FormatCombineCharacters	03DB
FormatConsistencyCheck	0562
FormatDefineStyleBorders	00B9
FormatDefineStyleFont	00B5
FormatDefineStyleFrame	00B8
FormatDefineStyleLang	00BA
FormatDefineStyleNumbers	025A
FormatDefineStylePara	00B6
FormatDefineStyleStripes	0503
FormatDefineStyleTable	0502
FormatDefineStyleTabs	00B7
FormatDrawingObject	03C0
FormatDrawingObjectWrapBehind	1010
FormatDrawingObjectWrapFront	100F
FormatDrawingObjectWrapInline	1011
FormatDrawingObjectWrapNone	0FFB
FormatDrawingObjectWrapSquare	0FF8

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Fixed Command Name	Fixed Command Index
FormatDrawingObjectWrapThrough	0FFA
FormatDrawingObjectWrapTight	0FF9
FormatDrawingObjectWrapTopBottom	0FFC
FormatDropCap	01E8
FormatEncloseCharacters	048A
FormatField	053C
FormatFillColor	165C
FormatFitText	03D7
FormatFont	00AE
FormatFrame	00BE
FormatFrameOrFramePicture	015A
FormatHeaderFooterLink	00F2
FormatHeadingNumber	025E
FormatHeadingNumbering	025B
FormatHorizontalInVertical	0488
FormatInkAnnotColor	16BB
FormatInkColor	16B9
FormatLineColor	165D
FormatLineStyle	165F
FormatMultilevel	0187
FormatMultilevelDefault	03B7
FormatNumber	0186
FormatNumberDefault	03B6
FormatObjectCore	0396
FormatPageBordersAndShading	094B
FormatPageNumber	012A
FormatParagraph	00AF
FormatPhoneticGuide	03DA
FormatPicture	00BB
FormatRetAddrFonts	00DD
FormatSectionLayout	00B0
FormatSimpleNumberDefault	018E

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Fixed Command Name	Fixed Command Index
FormatStyle	00B4
FormatStyleByExample	0544
FormatStyleGallery	01F9
FormatStyleManagement	079C
FormatStyleModify	0543
FormatStyleVisibility	04E0
FormatTabs	00B3
FormatTextFlow	0234
FormatTheme	0357
FormatThemeName	045A
FormatTwoLinesInOne	0489
FormattingPane	0554
FormattingPaneCurrent	079F
FormattingProperties	0426
FormattingRestrictions	0593
ForwardHistoryItem	05CF
FrameProperties	0432
FrameRemoveSplit	0431
FrameSplitAbove	042D
FrameSplitBelow	042E
FrameSplitLeft	042F
FrameSplitRight	0430
FramesetTOC	0457
FramesetWizard	042C
FreezeLayout	083C
GettingStartedPane	05BC
GoBack	0045
GoToFirstPg	05CC
GoToFooter	08BC
GoToFurthestReadPg	05CB
GoToHeader	08BB
GoToHeaderFooter	024E

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Fixed Command Name	Fixed Command Index
GoToLastPg	05CD
GoToNextComment	019C
GoToNextEndnote	019A
GoToNextFootnote	0198
GoToNextPage	0194
GoToNextReadingPage	0892
GoToNextSection	0196
GoToPrevReadingPage	0893
GoToPreviousComment	019D
GoToPreviousEndnote	019B
GoToPreviousFootnote	0199
GoToPreviousPage	0195
GoToPreviousSection	0197
GotoCommentScope	0255
GotoNextLinkedTextBox	034A
GotoPrevLinkedTextBox	034B
GotoTableOfContents	056D
GradientGallery	08A2
GreetingSentence	0498
GrowFont	000B
GrowFontOnePoint	0201
HTMLSourceDoNotRefresh	0460
HTMLSourceRefresh	045E
HangingIndent	0028
HanjaDictionary	0486
HeadFootDiffFirstPage	084D
HeadFootDiffOddEvenPage	084E
HeaderGallery	07E4
HeaderPositionSpinner	08B1
Help	0001
HelpAW	031A
HelpAbout	0009

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Fixed Command Name	Fixed Command Index
HelpActiveWindow	0004
HelpCheckForUpdates	05AE
HelpContactUs	05AD
HelpContents	02B0
HelpContentsArabic	0427
HelpExamplesAndDemos	0008
HelpIchitaroHelp	02D8
HelpIndex	0006
HelpKeyboard	0005
HelpMSN	031B
HelpPSSHelp	0168
HelpQuickPreview	0007
HelpSearch	01FE
HelpShowHide	035A
HelpTipOfTheDay	027B
HelpTool	0002
HelpUsingHelp	0003
HelpWordPerfectHelp	000A
HelpWordPerfectHelpOptions	01FF
Hidden	0032
HideOutline	0850
Highlight	02E6
HighlightColorPicker	08B8
HtmlResAnchor	03C7
HyperlinkOpen	0398
IMEControl	0286
IgnoreAllConsistenceError	04FA
IgnoreConsistenceError	04F9
IncreaseIndent	03F2
IncreaseParagraphSpacing	053E
Indent	0026
IndentChar	02CF

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Fixed Command Name	Fixed Command Index
IndentFirstChar	02D1
IndentFirstLine	02F2
IndentLabel	08B4
IndentLeftSpinner	08AD
IndentLine	02F4
IndentRightSpinner	08AE
InkAnnotationEraser	05C9
InkColorPicker	0957
InkEraser	05C6
InkingGroup	08C4
InsertAddCaption	0192
InsertAddress	02F6
InsertAlignmentTab	05DB
InsertAnnotation	00A1
InsertAutoCaption	0167
InsertAutoText	0014
InsertBibliography	077D
InsertBreak	009F
InsertBuildingBlockBeginDocument	078E
InsertBuildingBlockBeginSection	078C
InsertBuildingBlockEndDocument	078F
InsertBuildingBlockEndSection	078D
InsertBuildingBlockFooter	078B
InsertBuildingBlockHeader	078A
InsertBuildingBlockIP	0789
InsertCaption	0165
InsertCaptionNumbering	0166
InsertChart	011D
InsertCitation	077C
InsertColumnBreak	033F
InsertCrossReference	016F
InsertDatabase	0155

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Fixed Command Name	Fixed Command Index
InsertDateField	00F0
InsertDateTime	00A5
InsertDrawing	011C
InsertEmSpace	026B
InsertEnSpace	026A
InsertEndnoteNow	0171
InsertEquation	02AB
InsertExcelTable	0237
InsertField	00A6
InsertFieldChars	001F
InsertFile	00A4
InsertFootnote	0172
InsertFootnoteNow	0170
InsertFormControlsGallery	08B5
InsertFormField	01E3
InsertFrame	009E
InsertGraphicalHorizontalLine	042B
InsertHTMLBGSound	046E
InsertHTMLCheckBox	0462
InsertHTMLDropdownBox	0464
InsertHTMLHidden	046B
InsertHTMLImageSubmit	0469
InsertHTMLListBox	0465
InsertHTMLMarquee	046F
InsertHTMLMovie	046D
InsertHTMLOptionButton	0463
InsertHTMLPassword	046C
InsertHTMLReset	046A
InsertHTMLSubmit	0468
InsertHTMLTextArea	0467
InsertHTMLTextBox	0466
InsertHorizontalLine	042A

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Fixed Command Name	Fixed Command Index
InsertHyperlink	039D
InsertImagerScan	03D5
InsertIndex	00AA
InsertIndexAndTables	01D9
InsertInkAnnotations	05C3
InsertInkComment	058D
InsertInkSplitMenu	16BD
InsertListNumField	03C6
InsertMergeField	00A7
InsertNewComment	0517
InsertNewPage	084F
InsertNumber	032C
InsertNumberOfPages	0343
InsertOCX	0391
InsertOCXButton	1BAA
InsertOCXCheckbox	1BA5
InsertOCXDialog	080E
InsertOCXDropdownCombo	1BAD
InsertOCXFrame	1BB1
InsertOCXImage	1BB2
InsertOCXLabel	1BA8
InsertOCXListBox	1BAC
InsertOCXOptionButton	1BAB
InsertOCXScrollbar	1BA7
InsertOCXSpin	1BA6
InsertOCXTextBox	1BA9
InsertOCXToggleButton	1BAE
InsertObject	00AC
InsertOfficeDrawing	032F
InsertPageBreak	033E
InsertPageField	00EF
InsertPageNumbers	0126

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Fixed Command Name	Fixed Command Index
InsertPicture	00A3
InsertPicture3	090D
InsertPictureBullet	035C
InsertPolicyBarcode	0787
InsertPolicyLabel	0785
InsertSectionBreak	02C3
InsertSignatureLine	077A
InsertSignatureLineMenuItem	0819
InsertSound	0207
InsertSoundComment	05A5
InsertSpike	0010
InsertStyleSeparator	0576
InsertSubdocument	0247
InsertSymbol	00A2
InsertTableGallery	08D1
InsertTableOfAuthorities	01D7
InsertTableOfContents	00AB
InsertTableOfContentsMenu	0923
InsertTableOfFigures	01D8
InsertTimeField	00F1
InsertVerticalFrame	0313
InsertWebComponent	052C
InsertWordArt	02AA
InsertWordArtGallery	08CF
Italic	002E
ItalicRun	0425
JapaneseGreetingClosingSentence	04E2
JapaneseGreetingFlyout	08A7
JapaneseGreetingOpeningSentence	04E1
JapaneseGreetingPreviousGreeting	04E3
JoinToPreviousList	0771
JumpToHeading	05D1

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Fixed Command Name	Fixed Command Index
JumpToScrn	05D0
JustifyFlyout	08A5
JustifyPara	003D
JustifyParaHigh	08AB
JustifyParaLow	08A9
JustifyParaMedium	08AA
JustifyParaSpecial	08A8
JustifyParaThai	08AC
LTRMacroDialogs	0429
LabelOptions	0557
Language	0358
LearnWords	04FF
LeftPara	003A
LegoCommonPartsGallery	07F0
LegoEquationsGallery	07EC
LegoPageNumBottomGallery	07EB
LegoPageNumGallery	07E7
LegoPageNumPageGallery	07E8
LegoPageNumTopGallery	07EA
LegoTablesGallery	07EE
LegoWatermarkGallery	07E9
LettersWizardJToolbar	052B
LicenseVerification	0561
Lighting3DGallery	08CD
LineColorPicker	084B
LineDown	0FA9
LineDownExtend	0FBB
LineSpacing	04EF
LineSpacingMenu	0904
LineStyleGallery	07B6
LineUp	0FA8
LineUpExtend	0FBA

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Fixed Command Name	Fixed Command Index
LineWidthGallery	07B7
ListAdvanceToVBA	07A0
ListCommands	02D3
ListIndent	033A
ListLevelGallery	0878
ListMacros	0298
ListOutdent	0339
LoadOssThemeFromTemplate	093E
LockDocument	0258
LockFields	0023
LockPolicyLabel	0783
LowerTextBaseline	09A0
Lowered	0216
LtrPara	041E
LtrRun	0423
MMEmailOptions	051D
MMFaxOptions	0520
MMNewDocOptions	051E
MMPrintOptions	051F
MSWordBibAddNewPlaceholder	092C
MacroREM	0229
Magnifier	0203
MailAsHTML	04EC
MailAsPlainText	04EB
MailAsRTF	04F0
MailCheckNames	0306
MailHideMessageHeader	02FB
MailMerge	02A4
MailMergeAddressBlock	0519
MailMergeAskToConvertChevrons	0261
MailMergeCheck	02A5
MailMergeClearDocumentType	081E

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Fixed Command Name	Fixed Command Index
MailMergeConvertChevrons	0200
MailMergeCreateDataSource	0282
MailMergeCreateHeaderSource	0283
MailMergeCreateList	055C
MailMergeDataForm	0154
MailMergeEditAddressBlock	0523
MailMergeEditDataSource	0068
MailMergeEditGreetingLine	0524
MailMergeEditHeaderSource	02A3
MailMergeEditList	055D
MailMergeEditMainDocument	00DB
MailMergeFieldMapping	0518
MailMergeFindEntry	052E
MailMergeFindRecord	0239
MailMergeFirstRecord	01E0
MailMergeGoToRecord	01E2
MailMergeGreetingLine	051A
MailMergeHelper	02A8
MailMergeInsertAsk	0FCF
MailMergeInsertFields	051B
MailMergeInsertFieldsFlyout	0988
MailMergeInsertFillIn	0FD0
MailMergeInsertIf	0FD1
MailMergeInsertMergeKeyword	0922
MailMergeInsertMergeRec	0FD2
MailMergeInsertMergeSeq	0FD3
MailMergeInsertNext	0FD4
MailMergeInsertNextIf	0FD5
MailMergeInsertSet	0FD6
MailMergeInsertSkipIf	0FD7
MailMergeLastRecord	01E1
MailMergeListWordFields	0238

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Fixed Command Name	Fixed Command Index
MailMergeNextRecord	01DE
MailMergeOpenDataSource	0051
MailMergeOpenHeaderSource	0052
MailMergePrevRecord	01DF
MailMergePropagateLabel	052D
MailMergeQueryOptions	02A9
MailMergeRecipients	051C
MailMergeReset	0060
MailMergeSetDocTypeDirectory	0824
MailMergeSetDocTypeEmail	0820
MailMergeSetDocTypeEnvelope	0822
MailMergeSetDocTypeFax	0821
MailMergeSetDocTypeFormLetter	081F
MailMergeSetDocTypeLabel	0823
MailMergeSetDocumentType	053B
MailMergeShadeFields	04DD
MailMergeToDoc	02A6
MailMergeToEMail	0559
MailMergeToFax	055A
MailMergeToPrinter	02A7
MailMergeToolbar	055B
MailMergeUseAddressBook	030B
MailMergeUseOutlookContacts	0974
MailMergeViewData	01AF
MailMergeWizard	04DE
MailMessageDelete	0303
MailMessageForward	0308
MailMessageMove	0302
MailMessageNext	0305
MailMessagePrevious	0304
MailMessageProperties	02FC
MailMessageReply	0300

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Fixed Command Name	Fixed Command Index
MailMessageReplyAll	0301
MailSelectNames	0307
MarkAsReadOnly	0843
MarkCitation	01CF
MarkIndexEntry	00A9
MarkTableOfContentsEntry	01BA
MenuAsianLayout	169F
MenuAutoText	1685
MenuAutoTextList	168D
MenuBorder	1652
MenuCellAlignment	169C
MenuCellAlignmentNoTearoff	16C6
MenuCellVerticalAlign	1689
MenuClear	16B0
MenuDiagramConvertTo	16B7
MenuDiagramLayout	16B1
MenuDraw	1655
MenuEdit	1645
MenuEditObject	168A
MenuFile	1644
MenuFinalizeDocument	0841
MenuFixSpellingAC	1683
MenuFixSpellingLang	1680
MenuFont	164E
MenuFormat	1648
MenuFormatBackground	1682
MenuFrameset	167E
MenuHelp	164C
MenuHyperlinkSub	1688
MenuInsert	1647
MenuInsertFrame	1654
MenuLanguage	1650

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Fixed Command Name	Fixed Command Index
MenuLettersMail	16AF
MenuMacro	1686
MenuManageDocument	083F
MenuMicrosoftOnTheWeb	1651
MenuMode	0125
MenuNotesFlow	036F
MenuOrgChartInsert	16B6
MenuOrgChartLayout	16AB
MenuOrgChartSelect	167A
MenuPicture	1684
MenuPowerTalk	1687
MenuReadingTools	0891
MenuReadingViewOptions	0896
MenuReference	16AE
MenuRevisions	1681
MenuSendTo	168B
MenuShareDocument	0840
MenuShowBalloons	16BC
MenuShowChanges	16B3
MenuShowSourceDocuments	07AD
MenuSignaturesDocument	0842
MenuTable	164A
MenuTableAutoFitLong	169B
MenuTableAutoFitShort	169A
MenuTableConvert	1697
MenuTableDelete	167C
MenuTableInsert	167B
MenuTableInsertIntoTable	16C5
MenuTableInsertLong	169D
MenuTableInsertPalette	1698
MenuTableSelect	1696
MenuTools	1649

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Fixed Command Name	Fixed Command Index
MenuVersion	16BA
MenuView	1646
MenuWebFavorites	03A9
MenuWebGo	03E6
MenuWindow	164B
MenuWordQFStyles	16CB
MenuWork	164D
MergeSplitGeneral	0363
MergeSubdocument	0248
MicrosoftAccess	0292
MicrosoftExcel	0291
MicrosoftFoxPro	0294
MicrosoftMail	0290
MicrosoftOnTheWeb1	0FFE
MicrosoftOnTheWeb10	1007
MicrosoftOnTheWeb11	1008
MicrosoftOnTheWeb12	1009
MicrosoftOnTheWeb13	100A
MicrosoftOnTheWeb14	100B
MicrosoftOnTheWeb15	100C
MicrosoftOnTheWeb16	100D
MicrosoftOnTheWeb17	100E
MicrosoftOnTheWeb2	0FFF
MicrosoftOnTheWeb3	1000
MicrosoftOnTheWeb4	1001
MicrosoftOnTheWeb5	1002
MicrosoftOnTheWeb6	1003
MicrosoftOnTheWeb7	1004
MicrosoftOnTheWeb8	1005
MicrosoftOnTheWeb9	1006
MicrosoftPowerPoint	0295
MicrosoftProject	0297

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Fixed Command Name	Fixed Command Index
MicrosoftPublisher	0296
MicrosoftSchedule	0293
MicrosoftScriptEditor	041C
MicrosoftSystemInfo	02C7
MiddleCenterAlign	047D
MiddleLeftAlign	047E
MiddleRightAlign	047C
ModifyTableStyle	08F8
MoveText	0012
MyPermission	059D
NavBack	083D
NavBackMenu	098B
NavForward	083E
NavForwardMenu	098C
NavigateMove	0949
NeverUseBalloons	05A8
NewStyle	079E
NewToolbar	024A
NextCell	010E
NextChangeOrComment	050E
NextComment	07DE
NextField	0019
NextInsert	0344
NextMisspelling	02F7
NextObject	004C
NextPage	004B
NextPane	0999
NextWindow	0016
NoInsertionDeletionBalloons	05A9
NormalFontPosition	023C
NormalFontSpacing	023B
NormalStyle	00F8

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Fixed Command Name	Fixed Command Index
NormalViewHeaderArea	009B
NormalizeText	04F8
NoteOptions	0175
NumberingGallery	07AC
OK	0047
OartCommand	0812
OfficeCenter	17D0
OfficeDrawingCommand	0395
OfficeOnTheWeb	0243
OnlineMeeting	0470
OpenOrCloseParaAbove	0992
OpenOrCloseParaBelow	0993
OpenOrCloseUpPara	02BA
OpenParaAbove	0994
OpenParaBelow	0996
OpenSubdocument	0257
OpenUpPara	0042
Organizer	00DE
OtherPane	0015
OutlineCollapse	00FA
OutlineDemote	00F5
OutlineExpand	00F9
OutlineLevel	056F
OutlineLevelGallery	082F
OutlineMoveDown	00F7
OutlineMoveUp	00F6
OutlineNumberingGallery	0879
OutlinePromote	00F4
OutlinePromoteHeading1	0550
OutlineShowFirstLine	0105
OutlineShowFormat	0106
OutlookInsertFile	0869

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Fixed Command Name	Fixed Command Index
OutlookInsertFile2	093F
OutlookViewZoom	0889
Overtype	000D
PPPropertyEditorDlg	1BE3
PageDown	0FAB
PageDownExtend	0FBD
PageMarginsGallery	07B1
PageOrientationGallery	079B
PageSetupLayout	10F7
PageSetupMargins	10F5
PageSetupPaper	10F6
PageSizeGallery	08D0
PageUp	0FAA
PageUpExtend	0FBC
ParaDown	0FA7
ParaDownExtend	0FB9
ParaKeepLinesTogether	026D
ParaKeepWithNext	026E
ParaPageBreakBefore	026F
ParaUp	0FA6
ParaUpExtend	0FB8
ParaWidowOrphanControl	0274
ParagraphRemoveStyle	092A
PasteButtonImage	020F
PasteFormat	01E6
PauseRecorder	00D8
PicturePositionGallery	08C3
PostcardWizard	03DC
PresentIt	03C9
PrevCell	010F
PrevField	001A
PrevObject	004D

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Fixed Command Name	Fixed Command Index
PrevPage	004A
PrevPane	099A
PrevWindow	0017
PreviousChangeOrComment	050D
PreviousComment	07DF
PrivFunctionkey1	0449
PrivFunctionkey10	0452
PrivFunctionkey11	0453
PrivFunctionkey12	0454
PrivFunctionkey2	044A
PrivFunctionkey3	044B
PrivFunctionkey4	044C
PrivFunctionkey5	044D
PrivFunctionkey6	044E
PrivFunctionkey7	044F
PrivFunctionkey8	0450
PrivFunctionkey9	0451
PromoteList	024F
PropertiesGallery	087D
ProtectForm	0162
QFSetAsDefault	0986
QuickFormatsGallery	07A7
QuickFormatsThemeGallery	07A8
RTLMacroDialogs	0428
RaiseTextBaseline	099F
Raised	0217
ReadModeMarkupFinal	098E
ReadModeMarkupFinalMarkup	098F
ReadModeMarkupOriginal	0990
ReadModeMarkupOriginalMarkup	0991
ReadModeShowMarkup	098D
ReadingFlyoutAnchorShowAcetateMarkup	0927

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Fixed Command Name	Fixed Command Index
ReadingInkTools	0928
ReadingMode	05B1
ReadingMode1Page	0894
ReadingMode2Pages	0895
ReadingModeAllowEditing	0795
ReadingModeGrowFont	05B9
ReadingModeInkOff	05A4
ReadingModeLayout	05BF
ReadingModeLookup	05B8
ReadingModeMini	05B7
ReadingModePageAutoMargins	089A
ReadingModePageMargins	0898
ReadingModePageMarginsType	0796
ReadingModePageNoMargins	0899
ReadingModePageview	0587
ReadingModeShrinkFont	05BA
ReadingModeToPrintView	0902
ReadingModeViewAllMenu	16C0
ReadingTrackChanges	0926
ReapplyTableStyle	095C
RecolorGallery	08C7
RecordNextCommand	00E2
RedefineStyle	0330
RefTipLangGallery	0828
RefTipLangMenu	16C4
RefTipSelectLang	0829
RejectAllChangesInDoc	0514
RejectAllChangesShown	0513
RejectChangesAndAdvance	0838
RejectChangesOrAdvance	098A
RejectChangesSelected	0512
RemoveAllScripts	041B

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Fixed Command Name	Fixed Command Index
RemoveBulletsNumbers	020A
RemoveCellPartition	0378
RemoveCitation	0938
RemoveCoverPage	092F
RemoveCurrentBuildingBlock	0933
RemoveFooter	0931
RemoveFrames	0124
RemoveHeader	0930
RemovePageNumbers	0932
RemoveSimilarFormatting	082D
RemoveSubdocument	027F
RemoveTableOfContents	0934
RemoveWatermark	092E
RenameStyle	0556
RepeatFind	0018
ReplaceEmailSignature	053D
ReplyToAnnotation	0540
Research	05B3
ResearchLookup	058A
ResetAdvanceToVBA	07A1
ResetButtonImage	0210
ResetChar	0038
ResetFormField	0531
ResetNoteSepOrNotice	0184
ResetPara	0043
ResetParagraphFormatting	076C
ResetSideBySide	0590
ResolveMenu	16B5
RestartNumbering	0546
RestoreCharacterStyle	076E
RestoreParagraphStyle	092B
ReturnReview	04F4

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Fixed Command Name	Fixed Command Index
ReviewingPane	054F
ReviewingPaneHorizontal	08D6
ReviewingPaneVertical	08D7
RibbonFilePermissionMenu	0921
RibbonReviewProtectDocumentMenu	09A7
RibbonReviewRestrictFormatting	09A8
RightPara	003C
RotateObjectGallery	07B5
RtlPara	041F
RtlRun	0422
RunPrintManager	02AC
RunToggle	041D
SaveAsQuickFormatSet	05D5
SaveBibliographyBlock	0972
SaveCoverPageBlock	08E4
SaveCurrentTheme	08DB
SaveEquation	090E
SaveFooterBlock	08E6
SaveHeaderBlock	08E5
SaveOssThemeToTemplate	093D
SavePageNumBlock	08E9
SavePageNumBottomBlock	08E8
SavePageNumTopBlock	08E7
SaveTableOfContentsBlock	0919
SaveTemplate	0046
SaveToDocMgmtServer	083A
ScheduleMeeting	049A
SchemaLibrary	0589
ScreenRefresh	0299
ScrnNav	0897
SearchOfficeOnline	0876
SelectBibliographyStyle	077E

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Fixed Command Name	Fixed Command Index
SelectCurAlignment	011F
SelectCurColor	0123
SelectCurFont	011E
SelectCurIndent	0121
SelectCurSpacing	0120
SelectCurTabs	0122
SelectDrawingObjects	0221
SelectNumber	0545
SelectSimilarFormatting	04DC
SendBackward	0859
SendForReview	0563
SendToBack	085A
SendToFax	03AC
SendToOnlineMeetingParticipants	03CF
SentLeft	0FA4
SentLeftExtend	0FB6
SentRight	0FA5
SentRightExtend	0FB7
SeparateList	0770
SetDrawingDefaults	03E1
SetListLevelVBA	0885
SetNumberingValue	0774
Shading	0222
ShadingColor	0361
ShadingColorPicker	0856
ShadingPattern	01C4
ShadowStyleGallery	08C8
ShapeHeightSpinner	08B6
ShapeStyleGallery	08D2
ShapeWidthSpinner	08B7
ShowAddInsXDialog	03A8
ShowAll	0114

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Fixed Command Name	Fixed Command Index
ShowAllAuthors	0539
ShowAllConsistency	0494
ShowAllHeadings	0104
ShowChangesAndComments	0508
ShowComments	0509
ShowConsistency	0461
ShowFormatting	050B
ShowHeading1	00FB
ShowHeading2	00FC
ShowHeading3	00FD
ShowHeading4	00FE
ShowHeading5	00FF
ShowHeading6	0100
ShowHeading7	0101
ShowHeading8	0102
ShowHeading9	0103
ShowInkAnnotations	05AA
ShowInsertionsAndDeletions	050A
ShowLevel	0570
ShowMarkupArea	0791
ShowMe	0FE4
ShowNextHeaderFooter	024D
ShowPara	037A
ShowPictureTools	04DB
ShowPrevHeaderFooter	024C
ShowPropertyBrowser	1BB0
ShowRepairs	0565
ShowReviewerFilter	0846
ShowScriptAnchor	0456
ShowSmPane	052F
ShowTableGridlines	0351
ShowTableTools	04DA

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Fixed Command Name	Fixed Command Index
ShowTasks	0779
ShowVars	0107
ShrinkFont	000C
ShrinkFontOnePoint	0202
ShrinkMultiSel	04FB
ShrinkSelection	00EC
SignDocument	0844
SignOutOfPassport	0564
SigningServices	0847
SkipNumbering	01B6
SmallCaps	002F
SpacePara1	003E
SpacePara15	003F
SpacePara2	0040
SpacingAfterSpinner	08B0
SpacingBeforeSpinner	08AF
SpacingLabel	08B3
SpellingAndAutoCorrect	0387
Spike	000F
SplitSubdocument	0249
SqmDialog	058C
StartMacro	022A
StartOfColumn	0112
StartOfDocExtend	0FC2
StartOfDocument	0FB0
StartOfLine	0FAC
StartOfLineExtend	0FBE
StartOfRow	0110
StartOfWindow	0FAE
StartOfWindowExtend	0FC0
StartWorkflow	0798
StepIn	0109

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Fixed Command Name	Fixed Command Index
StepOver	0108
StopMacro	029C
StopMacroRunning	0285
Strikethrough	0031
Style	0097
Style3DGallery	08C9
StyleApplyPane	087F
StyleLockDown	058E
StyleMatrixPicker	08FD
StylePaneNewStyle	094E
StyleQuickFormat	0827
Subscript	0037
Superscript	0036
SurfaceMatGallery	08CC
SwitchNavigationWindow	0793
Symbol	022B
SymbolFont	028B
SymbolMRUGallery	07A6
SyncScrollSideBySide	058F
TOAGroup	08A6
TableAutoFormat	0233
TableAutoFormatStyle	055F
TableAutoSum	0281
TableColumnWidth	008F
TableColumnWidthSpinner	091F
TableDeleteCells	0085
TableDeleteColumn	0087
TableDeleteGeneral	0145
TableDeleteRow	0086
TableDeleteTable	0436
TableFormatCell	0264
TableFormula	015C

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Fixed Command Name	Fixed Command Index
TableGridlines	0090
TableHeadings	0256
TableInsertCells	0082
TableInsertCells2	0977
TableInsertColumn	0084
TableInsertColumnRight	0435
TableInsertGeneral	0144
TableInsertRow	0083
TableInsertRowAbove	0448
TableInsertRowBelow	0434
TableInsertTable	0081
TableInsertTableEG	0437
TableMergeCells	0088
TableOfContentsGallery	0911
TableOptions	0438
TableProperties	035D
TableRowHeight	008E
TableRowHeightSpinner	0920
TableSelectCell	0433
TableSelectColumn	008D
TableSelectRow	008C
TableSelectTable	008B
TableSort	00C7
TableSortAToZ	0189
TableSortZToA	018A
TableSplit	008A
TableSplitCells	0089
TableStyleNew	09A2
TableToOrFromText	0147
TableToText	0080
TableUpdateAutoFormat	0272
TableWizard	0485

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Fixed Command Name	Fixed Command Index
TableWrapping	0356
TextBoxGallery	08DF
TextBoxLinking	0348
TextBoxUnlinking	0349
TextFlowGallery	08C1
TextFormField	015D
TextToTable	007F
TextboxPositionGallery	091D
TextboxStyleGallery	091E
TexturesGallery	07BA
ThemeGallery	08FE
TocOutlineLevelGallery	0836
ToggleCharacterCode	0571
ToggleDocumentActionBar	087E
ToggleDocumentText	084C
ToggleDontOpenAttachInFullScreen	089C
ToggleFieldDisplay	0022
ToggleFormsDesign	0369
ToggleFull	0246
ToggleHeaderFooterLink	028C
ToggleMacroRun	029D
ToggleMainTextLayer	024B
ToggleMasterSubdocs	0374
ToggleOptimizeForLayout	09A9
TogglePanningHand	07AA
TogglePortrait	0132
TogglePropertyPanel	082E
ToggleReadingMode2Pages	05A2
ToggleReadingModeHelp	05AC
ToggleReadingModeInk	05A3
ToggleRibbon	0956
ToggleScribbleMode	0134

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Fixed Command Name	Fixed Command Index
ToggleTextFlow	03F1
ToggleThumbnail	059E
ToggleToolbars	05B0
ToggleWebDesign	045F
ToggleXMLStructure	080F
ToggleXMLTagView	0588
ToolsAddRecordDefault	0275
ToolsAdvancedSettings	00CE
ToolsAutoCorrect	017A
ToolsAutoCorrectCapsLockOff	02FF
ToolsAutoCorrectDays	0180
ToolsAutoCorrectExceptions	02FA
ToolsAutoCorrectHECorrect	03E9
ToolsAutoCorrectInitialCaps	017D
ToolsAutoCorrectManager	0794
ToolsAutoCorrectReplaceText	017C
ToolsAutoCorrectSentenceCaps	017F
ToolsAutoCorrectSmartQuotes	00E3
ToolsAutoManager	0393
ToolsAutoSummarize	0389
ToolsAutoSummarizeBegin	036A
ToolsBookshelfDefineReference	03BE
ToolsBookshelfLookupReference	03BD
ToolsBulletListDefault	0133
ToolsBulletsNumbers	00C4
ToolsBusu	03AB
ToolsCalculate	00C8
ToolsCompareVersions	00C6
ToolsConsistency	03E0
ToolsCreateDirectory	0341
ToolsCreateEnvelope	00AD
ToolsCreateLabels	01E9

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Fixed Command Name	Fixed Command Index
ToolsCustomize	0098
ToolsCustomizeAddMenuShortcut	022E
ToolsCustomizeKeyboard	01B0
ToolsCustomizeKeyboardShortcut	022D
ToolsCustomizeMenuBar	0267
ToolsCustomizeMenus	01B1
ToolsCustomizeRemoveMenuShortcut	0259
ToolsCustomizeToolbar	02CC
ToolsDictionary	03DD
ToolsEServices	0567
ToolsEnvelopesAndLabels	025F
ToolsFixHHC	04EE
ToolsGramSettings	0375
ToolsGrammar	00C1
ToolsGrammarHide	03D3
ToolsGrammarRange	034F
ToolsHHC	0310
ToolsHyphenation	00C3
ToolsHyphenationAutoOff	081D
ToolsHyphenationAutoOn	081C
ToolsHyphenationManual	02C0
ToolsInsertScript	041A
ToolsLanguage	00BC
ToolsLineNumContinuous	0832
ToolsLineNumOff	0831
ToolsLineNumResetSection	0834
ToolsLineNumRestPage	0833
ToolsLineNumSuppress	0835
ToolsMacro	00D7
ToolsManageFields	0277
ToolsMergeRevisions	01B3
ToolsNumberListDefault	0135

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Fixed Command Name	Fixed Command Index
ToolsOptions	03CE
ToolsOptionsAutoFormat	03BF
ToolsOptionsAutoFormatAsYouType	030A
ToolsOptionsBidi	0405
ToolsOptionsCompatibility	020D
ToolsOptionsEdit	00E0
ToolsOptionsEditCopyPaste	054C
ToolsOptionsFileLocations	00E1
ToolsOptionsFuzzy	0316
ToolsOptionsGeneral	00CB
ToolsOptionsGrammar	00D4
ToolsOptionsHHC	0312
ToolsOptionsPrint	00D0
ToolsOptionsRevisions	0182
ToolsOptionsSave	00D1
ToolsOptionsSecurity	0551
ToolsOptionsSmartTag	0573
ToolsOptionsSpelling	00D3
ToolsOptionsTypography	02E3
ToolsOptionsUserInfo	00D5
ToolsOptionsView	00CC
ToolsProofing	033C
ToolsProtect	04D8
ToolsProtectDocument	01F7
ToolsProtectSection	0242
ToolsProtectUnprotectDocument	0208
ToolsRecordMacroStart	029A
ToolsRecordMacroStop	029B
ToolsRecordMacroToggle	00D6
ToolsRemoveRecordDefault	0276
ToolsRepaginate	00C9
ToolsReviewRevisions	01FA

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Fixed Command Name	Fixed Command Index
ToolsRevisionMarksAccept	03AE
ToolsRevisionMarksNext	03CB
ToolsRevisionMarksPrev	03CA
ToolsRevisionMarksReject	03AF
ToolsRevisionMarksToggle	03BC
ToolsRevisions	00C5
ToolsSCTCTranslate	0492
ToolsShrinkToFit	01F8
ToolsSpellSelection	00C0
ToolsSpelling	00BF
ToolsSpellingHide	03D2
ToolsSpellingRange	034E
ToolsSpellingRecheckDocument	0309
ToolsTCSCTranslate	0491
ToolsTCSCTranslation	0484
ToolsThesaurus	00C2
ToolsThesaurusRR	059F
ToolsTranslateChinese	0493
ToolsUnprotectDocument	0209
ToolsWordCount	00E4
ToolsWordCountList	0542
ToolsWordCountRecount	0541
TopAlign	031F
TopCenterAlign	047A
TopLeftAlign	047B
TopRightAlign	0479
TraceMacro	010B
TrackChangesOptions	089F
Translate	053A
TranslatePane	04E6
TrustCenter	17C7
TxbxAutosize	054D

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Fixed Command Name	Fixed Command Index
UIMCorrectionUI	0548
UnHang	0029
UnIndent	0027
UnIndentChar	02D0
UnIndentFirstChar	02D2
UnIndentFirstLine	02F3
UnIndentLine	02F5
Underline	0033
UnderlineColor	0311
UnderlineColorPicker	08C0
UnderlineGallery	08BF
UnderlineStyle	048B
UnlinkFields	0021
UnlinkFieldsVBA	0373
UnlockFields	0024
UnlockPolicyLabel	0784
UpdateBibliography	09A6
UpdateFields	0020
UpdateFieldsIndex	081B
UpdateFieldsTable	081A
UpdateFieldsToa	0947
UpdateFieldsTof	0948
UpdateFieldsVBA	0370
UpdatePolicyLabels	0825
UpdateSource	0025
UpdateStyle	079D
UpdateTableOfContents	056E
UpdateToc	014B
UpdateTocFull	03AD
UpgradeDocument	0940
UseBalloons	05A7
UserDialog	0129

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Fixed Command Name	Fixed Command Index
UxGalWordTableStyles	08EF
ViewAnnotations	009D
ViewBorderToolbar	025C
ViewChanges	0504
ViewCode	036E
ViewControlToolbox	1BAF
ViewDocumentMap	03B0
ViewDocumentMapReadingMode	05B6
ViewDraft	0095
ViewDrawingToolbar	025D
ViewEmailSource	0929
ViewEndnoteArea	0152
ViewEndnoteContNotice	01F2
ViewEndnoteContSeparator	01F1
ViewEndnoteSeparator	01F0
ViewFieldCodes	0096
ViewFooter	028E
ViewFooterOnly	090F
ViewFootnoteArea	009C
ViewFootnoteContNotice	01EF
ViewFootnoteContSeparator	01EE
ViewFootnoteSeparator	01ED
ViewFootnotes	01F6
ViewFormatExToolbar	032B
ViewGridlines	02E5
ViewHTMLSource	0482
ViewHeader	01E4
ViewHeaderOnly	08EA
ViewMasterDocument	01EA
ViewNormal	0091
ViewOnline	0334
ViewOutline	0092

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Fixed Command Name	Fixed Command Index
ViewOutlineMaster	0499
ViewOutlineSplitToolbar	0324
ViewPage	0093
ViewPageFromOutline	094D
ViewRuler	0099
ViewSecurity	0419
ViewSignatures	04F3
ViewStatusBar	009A
ViewTaskPane	0521
ViewToggleMasterDocument	0278
ViewTogglePageBoundaries	0367
ViewToolbars	0143
ViewVBCode	03B4
ViewWeb	0350
ViewWebToolbox	1BC4
ViewXMLStructure	056C
ViewZoom	0241
ViewZoom100	0131
ViewZoom200	023D
ViewZoom75	023E
ViewZoomPageWidth	0130
ViewZoomTwoPage	07A3
ViewZoomWholePage	012F
WW2_ChangeRulerMode	0127
WW2_EditFind	01A5
WW2_EditFindChar	019F
WW2_EditReplace	01A6
WW2_EditReplaceChar	01A0
WW2_FileTemplates	17A6
WW2_FootnoteOptions	012B
WW2_FormatBordersAndShading	02B9
WW2_FormatCharacter	0176

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Fixed Command Name	Fixed Command Index
WW2_FormatDefineStyleChar	019E
WW2_InsertFootnote	00A0
WW2_InsertIndex	02B7
WW2_InsertSymbol	02B5
WW2_InsertTableOfContents	0158
WW2_PrintMerge	005A
WW2_PrintMergeCheck	005B
WW2_PrintMergeCreateDataSource	0069
WW2_PrintMergeCreateHeaderSource	006A
WW2_PrintMergeHelper	005F
WW2_PrintMergeSelection	005E
WW2_PrintMergeToDoc	005C
WW2_PrintMergeToPrinter	005D
WW2_RulerMode	002C
WW2_TableColumnWidth	00DF
WW2_TableRowHeight	0146
WW2_ToolsHyphenation	0159
WW2_ToolsMacro	02A2
WW2_ToolsOptionsGeneral	0183
WW2_ToolsOptionsKeyboard	01B2
WW2_ToolsOptionsMenus	01E7
WW2_ToolsOptionsPrint	015B
WW2_ToolsOptionsToolbar	00D2
WW2_ToolsOptionsView	01F3
WW2_ToolsRevisionsMark	01D0
WW2_ViewZoom	0094
WW7_DecreaseIndent	028A
WW7_DrawTextBox	016B
WW7_DrawVerticalTextBox	02E2
WW7_EditAutoText	007B
WW7_EditGoTo	007A
WW7_FormatBulletsAndNumbering	018D

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Fixed Command Name	Fixed Command Index
WW7_FormatDrawingObject	0235
WW7_IncreaseIndent	0289
WW7_InsertColumnBreak	0116
WW7_InsertPageBreak	0115
WW7_ToolsGrammar	03E8
WW7_ToolsOptions	00CA
WW7_ToolsOptionsAutoFormat	016D
WebAddHyperlnkToFavorites	03EA
WebAddToFavorites	039C
WebAddress	03AA
WebCopyHyperlink	039B
WebDiscussions	049B
WebGoBack	03A3
WebGoForward	03A5
WebHideToolbars	03A1
WebOpenFavorites	03A0
WebOpenHyperlink	0399
WebOpenInNewWindow	039A
WebOpenSearchPage	03C8
WebOpenStartPage	03A2
WebOptions	0382
WebPagePreview	0445
WebRefresh	03A7
WebSelectHyperlink	039F
WebStopLoading	03A6
WebToolbar	03F0
WindowArrangeAll	00DA
WindowArrangeSideBySide	058B
WindowList	00DC
WindowNewWindow	00D9
WordArtGallery	08CE
WordArtShapeGallery	08D3

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Fixed Command Name	Fixed Command Index
WordLeft	0FA2
WordLeftExtend	0FB4
WordRight	0FA3
WordRightExtend	0FB5
WordSearchLibraries	080D
WordSetDefaultPaste	0924
WordTableStylesBandedColumns	08F5
WordTableStylesBandedRows	08F4
WordTableStylesFirstColumn	08F2
WordTableStylesHeaderRow	08F0
WordTableStylesLastColumn	08F3
WordTableStylesTotalRow	08F1
WordUnderline	0035
XMLDocument	0592
XMLGroup	08D4
XMLOptions	0591
XmlAttr	05B4
XmlExpansionPacks	0811
XmlSchema	0810
Zoom100	09A3

3.1.2.1.3 Statements

Statements can only be identified by name for key mapping purposes.

Statement Name
AOCEAddRecipient
AOCEAuthenticateUser
AOCEClearMailerField
AOCECountRecipients
AOCESendMail
AOCESetSubject
Abs

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Statement Name
Activate
AddAddIn
AddAddress
AddAutoText
AddButton
AddDropDownItem
AddInState
AllCaps
AppActivate
AppClose
AppCount
AppGetNames
AppHide
AppIsRunning
AppMaximize
AppMinimize
AppMove
AppRestore
AppSendMessage
AppShow
AppSize
AppWindowHeight
AppWindowPosLeft
AppWindowPosTop
AppWindowWidth
Asc
AssertOutput
AtEndOfDocument
AtStartOfDocument
AutoMarkIndexEntries
BatchMode
Beep

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Statement Name
Bold
BoldRun
BorderAll
BorderBottom
BorderInside
BorderLeft
BorderLineStyle
BorderLineWeight
BorderNone
BorderOutside
BorderRight
BorderTLtoBR
BorderTRtoBL
BorderTop
BytePos
CInsertDateField
CInsertTimeField
CancelButton
CenterPara
ChDefaultDir
ChDir
ChangeByte
ChangeCase
ChangeKana
CharColor
CharColorRGB
CharLeft
CharRight
CharScale
CheckBox
ClearAddIns
CloseUpPara

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Statement Name
CmpBookmarks
ColumnSelect
ComboBox
CommaAccent
CommandValid
ContextHelp
ConverterLookup
CopyBookmark
CopyButtonImage
CountAddIns
CountAutoCorrectExceptions
CountAutoTextEntries
CountBookmarks
CountDirectories
CountDocumentProperties
CountDocumentVars
CountFiles
CountFonts
CountFoundFiles
CountKeys
CountLanguages
CountMacros
CountMenuItems
CountMenus
CountMergeFields
CountSdAlloc
CountStyles
CountToolbarButtons
CountToolbars
CountToolsGrammarStatistics
CountWindows
CrashOnNextEmailDisplay

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Statement Name
CrashOnNextEmailLayout
CrashOnNextEmailLoad
DDEExecute
DDEInitiate
DDEPoke
DDETerminate
DDETerminateAll
DateSerial
DateValue
Day
Days360
DeleteAddIn
DeleteButton
DeleteDocumentProperty
DisableAutoMacros
DisableInput
DistributePara
DistributeRow
DlgControlId
DlgEnable
DlgFilePreview
DlgFocus
DlgListBoxArray
DlgLoadValues
DlgSetPicture
DlgStoreValues
DlgText
DlgUpdateFilePreview
DlgValue
DlgVisible
DocClose
DocMaximize

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Statement Name
DocMinimize
DocMove
DocSize
DocSplit
DocWindowHeight
DocWindowPosLeft
DocWindowPosTop
DocWindowWidth
DocumentHasMisspellings
DocumentPropertyExists
DocumentPropertyType
DocumentProtection
DotAccent
DottedUnderline
DoubleStrikethrough
DoubleUnderline
DrawClearRange
DrawCount
DrawCountPolyPoints
DrawExtendSelect
DrawGetCalloutTextbox
DrawGetPolyPoints
DrawGetType
DrawSelect
DrawSetCalloutTextbox
DrawSetInsertToAnchor
DrawSetInsertToTextbox
DrawSetPolyPoints
DrawSetRange
DropListBox
EditButtonImage
EditClear

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Statement Name
EditFindFound
EditRedo
EditUndo
EmptyBookmark
EnableFormField
EndOfColumn
EndOfDocument
EndOfLine
EndOfRow
EndOfWindow
Eof
ExistingBookmark
ExitWindows
ExtendMode
ExtendSelection
File1
File2
File3
File4
File5
File6
File7
File8
File9
FileClose
FileCloseAll
FileConfirmConversions
FileExit
FileList
FileNFib
FilePost
FilePreview

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Statement Name
FilePrintPreview
FilePrintPreviewPages
FileQuit
FileSaveAll
Font
FontSize
FormShading
FormatBulletDefault
FormatNumberDefault
FuzzyCompare
GetAddInId
GetAttr
GetDocumentProperty
GetFormResult
GetSelEndPos
GetSelStartPos
GetSystemInfo
GoToNextSubdocument
GoToPreviousSubdocument
GroupBox
HLine
HPage
HScroll
Hidden
HighlightColor
Hour
IMEControl
InStr
InStrB
Insert
InsertPara
Int

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Statement Name
InvalAllDocs
InvalAllDocsRepagOnly
IsAutoCorrectException
IsCustomDocumentProperty
IsDocumentDirty
IsDocumentPropertyReadOnly
IsExecuteOnly
IsMacro
IsTemplateDirty
Italic
ItalicRun
JustifyPara
KeyCode
Kill
Language
LeftPara
Len
LenB
LineDown
LineSpacing
LineUp
ListBox
LockDocument
Lof
LtrKeyb
LtrPara
LtrRun
MacScript
MacroCopy
Magnifier
MailMergeAskToConvertChevrons
MailMergeConvertChevrons

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Statement Name
MailMergeFoundRecord
MailMergeGoToRecord
MailMergeMainDocumentType
MailMergeState
MailMergeViewData
MainTextFlow
MemAllocFail
MenuDirection
Minute
MkDir
Month
MountVolume
MoveButton
MoveToolbar
MsgBox
NextCell
NextField
NextObject
NextPage
NextTab
Now
OKButton
OnTime
OpenUpPara
OptionButton
OptionGroup
Outline
OutlineLevel
OutlineShowFirstLine
Overtype
PageDown
PageUp

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Statement Name
ParaDown
ParaKeepLinesTogether
ParaKeepWithNext
ParaPageBreakBefore
ParaUp
ParaWidowOrphanControl
PasteButtonImage
Picture
PrevCell
PrevField
PrevObject
PrevPage
PrevTab
PushButton
PutFieldData
RefreshRate
RemoveAllDropDownItems
RemoveDropDownItem
Rename
RenameMenu
ResetButtonImage
ResetChar
ResetPara
RightPara
RmDir
Rnd
RtlKeyb
RtlPara
RtlRun
ScreenUpdating
Second
Seek

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Statement Name
SelInfo
SelType
SelectCurLine
SelectCurPara
SelectCurSentence
SelectCurWord
SendKeys
SentLeft
SentRight
SetAttr
SetAutoText
SetDocumentDirty
SetDocumentProperty
SetDocumentPropertyLink
SetDocumentVar
SetEndOfBookmark
SetFileCreatorAndType
SetFormResult
SetPrivateProfileString
SetProfileString
SetSelRange
SetStartOfBookmark
SetTemplateDirty
Sgn
ShadingPattern
Shadow
Shell
ShowAlerts
ShowAll
ShowAnnotationBy
SizeToolbar
SkipNumbering

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Statement Name
SmallCaps
SortArray
SpacePara1
SpacePara15
SpacePara2
SpellChecked
StartOfColumn
StartOfDocument
StartOfLine
StartOfRow
StartOfWindow
Stop
Strikethrough
Style
Subscript
Superscript
SymbolFont
TabType
TableGridlines
TableHeadings
Text
TextBox
TimeSerial
TimeValue
Today
ToolbarState
ToolsAutoCorrectCapsLockOff
ToolsAutoCorrectDays
ToolsAutoCorrectInitialCaps
ToolsAutoCorrectReplaceText
ToolsAutoCorrectReplaceTextFromSpellingChecker
ToolsAutoCorrectSentenceCaps

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Statement Name
ToolsAutoCorrectSmartQuotes
ToolsCalculate
ToolsGrammarStatisticsArray
ToolsRevisionDate
ToolsRevisionType
Underline
UnderlineColor
UnderlineStyle
VLine
VPage
VScroll
Val
ViewAnnotations
ViewDraft
ViewEndnoteArea
ViewFieldCodes
ViewFooter
ViewFootnoteArea
ViewFootnotes
ViewGridlines
ViewHeader
ViewMasterDocument
ViewMenus
ViewNormal
ViewOutline
ViewPage
ViewRibbon
ViewRuler
ViewStatusBar
ViewToolbar
WW1_InsertPara
WW2CallingConvention

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Statement Name
WW2_Asc
WW2_ChangeCase
WW2_CountMenuItems
WW2_GetToolButton
WW2_Insert
WW2_KeyCode
WW2_RenameMenu
WW2_Underlines
WW6_EditClear
WaitCursor
Weekday
WinAllocFail
Window
Window1
Window2
Window3
Window4
Window5
Window6
Window7
Window8
Window9
WindowList
WindowPane
WordLeft
WordRight
WordUnderline
WriteDBS
XAsc
Year
ZoomMouseSettings
wdAddCommand

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Statement Name
wdCaptureKeyDown
wdCloseWindow
wdEndDialog
wdFontWidth
wdGetHwnd
wdGetInst
wdOpenWindow
wdPrint
wdReleaseKeyDown
wdSetTimer
wdToolsGetHHC
wdToolsGetSpelling
wdToolsGetSpellingXtra
wdToolsGetSynonyms

3.1.2.2 Mail Merge

The following clauses specify the semantics used to facilitate the mail merge feature in Word.

3.1.2.2.1 Elements

3.1.2.2.1.1 hash (Hash Code for Record)

This element specifies the unique hash value of a given record within the specified external data source. This element is used to maintain a relationship between the records within an external data source and a given source WordprocessingML document.

The contents of this element's **val** attribute shall be a hash value that will uniquely identify the record in the external data source. The hash value for a record is computed using the following algorithm:

Utility function 1:

```
#define nPrimeLast 4294967291

__int32 LHashMM( __int32 l, __int32 dl )

{

	l = 131 * l + dl;

	if (l >= nPrimeLast) {

		l -= nPrimeLast;

	}
```


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```
	return l;
}
```

Utility function 2:

```
__int32 LGetHashWz(const WCHAR *wzText)
{
	int cch = lstrlen(wzText);
	__int32 lhash = 0L;
	for (int i = 0; i < cch; i++) {
		lhash = LHashMM(lhash, wzText[i]);
	}
	return lhash;
}
```

Hash Algorithm:

```
__int32 lwHash = 0L;
for(int i = 0; i < TotalNumberOfColumnsInTheDataSource; i++) {
	Retrieve the value in the i-th column of this record as a Unicode String wzData;
	__int32 l = LGetHashWz(wzData);
	if(l) {
		lwHash = LHashMM(lwHash, l);
	}
}
return lwHash as the computed hash for this record;
```

[Note: This information is necessary as part of a mail merge because records may be added or deleted from external data sources, and a means must be provided to maintain record-specific inclusion or exclusion data using the **active** element (§3.1.2.1.1.6, active) and the affected external data record when the WordprocessingML document is reconnected to the external data source irrespective of the ordering of the records within the external data source. end note]

[Example: Consider the following WordprocessingML fragment for the information about a single record in a source document for a mail merge:

```
<w:recipientData>
  <w:active w:val="0" />
  <w:hash w:val="258865469" />
</w:recipientData>
```

The external data record associated with this information is specified via the hash value 258865469. This record will not be imported into the merged WordprocessingML document because the **active** element (§3.1.2.1.1.6, active) associated with the given external data record has a **val** attribute equal

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to *0*; for example, when the specified external data source is connected, the record that has the hash value *258865469* will not be used to populate mapped fields in a merged document with data from that record. end example]

Parent Elements
recipientData (§3.1.2.2.1.2, recipientData)

Attributes	Description
val ()	The possible values for this attribute are defined by the ST_DecimalNumber simple type (§3.1.2.3.1, ST_DecimalNumber).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_DecimalNumber">
  <attribute name="val" type="ST_DecimalNumber" use="required"/>
</complexType>
```

3.1.2.2.1.2 recipientData (Data About Single Data Source Record)

This element specifies information about a single record within an external data source. If a record shall be merged into a merged document, then no information is needed about the record within this part. However, if a record shall not be merged into a merged document, then the hash value for the record shall be stored within the **hash** element as a child of this element, along with the **active** element, to indicate this exclusion.

[Note: This mapping is necessary in place of simply using the element order to correspond to the record indices in the external data source because records may be added or deleted from external data sources, and a means must be provided to maintain specific external record WordprocessingML data, like that specified in the **active** element (§3.1.2.1.1.6, active) and the corresponding external data record, when the WordprocessingML document is reconnected to the external data source, irrespective of the ordering of the records within the external data source. In other words, this element, and its child elements enable merged WordprocessingML documents to maintain the relationship between the records within an external data and record-specific WordprocessingML parameters. end note]

[Example: Consider a mail merge source WordprocessingML document that:

Has been connected to a specified external data source containing three records; and

Has been configured by the hosting application to not populate a merged document with the record pertaining to *John Smith* in the external data source.

Consider also that the first time the given WordprocessingML document was connected to the external data source, *John Smith*'s record was in the second record in the data source.

When this merged document is connected to the external data source the **recipientData** element may be used to store the hash value for each data record in the external data source, including *John Smith*'s. This setting is represented using the following WordprocessingML to use the hash codes

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within the **recipientData** element to uniquely identify the three records within the external data source.

```
<w:recipientData>
  <w:hash w:val="1408613399" />
</w:recipientData>
<w:recipientData>
  <w:active w:val="0" />
  <w:hash w:val="870254691" />
</w:recipientData>
<w:recipientData>
  <w:hash w:val="1107777181" />
</w:recipientData>
```

Here, the first, second (John Smith record), and third records within the specified data source whose hash values are *1408613399*, *870254691*, and *1107777181* have been associated with recipient data via the **active** element to specify that the record associated with the given record (*John Smith*'s record) shall not be used to populate a merged WordprocessingML document.

With these associations in place, if a fourth record is added to the given external data source and that record precedes John Smith's record, when the given merged WordprocessingML document is reconnected to the external data source, the hosting application will still know that John Smith's record shall not be used to populate a merged WordprocessingML document as it is associated via its hash value and is not dependent on the given record's ordinal position within the external data source. end example]

Parent Elements
recipients (§3.1.2.2.1.3, recipients)

Child Elements	Subclause
active (Record Is Included in Mail Merge)	§3.1.2.1.1.6, active
hash (Hash Code for Record)	§3.1.2.2.1.1, hash

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_HashedRecipientData">
  <sequence>
    <element name="active" type="CT_OnOff" minOccurs="0"/>
    <element name="hash" type="CT DecimalNumber" minOccurs="1"/>
  </sequence>
</complexType>
```

3.1.2.2.1.3 recipients (Inclusion/Exclusion Data for Data Source)

This element specifies all of the inclusion/exclusion data for the contents of the specified mail merge data source. It is the root element for the Mail Merge Recipient Data part.

[Example: Consider a document which is the source document for a mail merge operation. If two records of the three specified by the data source were excluded from the mail merge, the resulting recipient data part would appear as follows:

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```
<w:recipients>
  <w:recipientData>
    <w:active w:val="false"/>
    …
  </w:recipientData>
  <w:recipientData>
    <w:active w:val="false"/>
    …
  </w:recipientData>
  <w:recipientData>
    …
  </w:recipientData>
</w:recipients>
```

The **recipients** element contains all of the recipient inclusion/exclusion data for this mail merge document. end example]

Child Elements	Subclause
recipientData (Data About Single Data Source Record)	§3.1.2.2.1.2, recipientData

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_HashedRecipients">
  <sequence>
    <element name="recipientData" type="CT HashedRecipientData" minOccurs="1"
maxOccurs="unbounded"/>
  </sequence>
</complexType>
```

3.1.2.3 Simple Types

This is the complete list of simple types in the http://schemas.microsoft.com/office/word/2006/wordml namespace.

3.1.2.3.1 ST_DecimalNumber (Decimal Number Value)

This simple type specifies that its contents will contain a whole decimal number (positive or negative), whose contents are interpreted based on the context of the parent XML element.

[Example: Consider the following WordprocessingML fragment:

```
<w:pPr>
  <w:divId w:val="1512645511" />
</w:pPr>
```

The value of the **val** attribute is the ID of the associated HTML `div`.

However, consider the following fragment:

```
<w:ilvl w:val="1">
  ...
</w:ilvl>
```


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In this case, the decimal number in the **val** attribute is the ID of the associated numbering level. In each case, the value is interpreted in the context of the parent element. end example]

This simple type's contents are a restriction of the XML Schema int datatype.

Referenced By
hash@val (§3.1.2.2.1.1, hash)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_DecimalNumber">
  <restriction base="xsd:int"/>
</simpleType>
```

3.1.2.3.2 ST_LongHexNumber (Four Digit Hexadecimal Number Value)

This simple type specifies a number value specified as a four-octet (eight-digit) hexadecimal number), whose contents are interpreted based on the context of the parent XML element.

[Example: Consider the following value for a node of type **ST_LongHexNumber**: *00BE2C6C*.

This value is valid, as it contains four hexadecimal octets, each an encoding of an octet of the actual decimal number value. end example]

This simple type's contents are a restriction of the XML Schema hexBinary datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a length of exactly 8 hexadecimal digit(s).

Referenced By
wch@val (§3.1.2.1.1.15, wch)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_LongHexNumber">
  <restriction base="xsd:hexBinary">
    <length value="4"/>
  </restriction>
</simpleType>
```

3.1.2.3.3 ST_OnOff (On/Off Value)

This simple type specifies a set of values for any binary (on or off) property defined in a WordprocessingML document.

A value of *on*, *1*, or *true* specifies that the property shall be turned on.

A value of *off*, *0*, or *false* specifies that the property shall be explicitly turned off.

This simple type's contents are a restriction of the XML Schema string datatype.

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The following are possible enumeration values for this type:

Enumeration Value	Description
0 ()	Specifies that the binary state of this property is off (parent property is explicitly not applied).
1 ()	Specifies that the binary state of this property is on (parent property is explicitly applied).
false ()	Specifies that the binary state of this property is off (parent property is explicitly not applied).
off ()	Specifies that the binary state of this property is off (parent property is explicitly not applied).
on ()	Specifies that the binary state of this property is on (parent property is explicitly applied).
true ()	Specifies that the binary state of this property is on (parent property is explicitly applied).

Referenced By
active@val (§3.1.2.1.1.6, active); **keymap@mask** (§3.1.2.1.1.8, keymap)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_OnOff">
  <restriction base="xsd:string">
    <enumeration value="true"/>
    <enumeration value="false"/>
    <enumeration value="on"/>
    <enumeration value="off"/>
    <enumeration value="0"/>
    <enumeration value="1"/>
  </restriction>
</simpleType>
```

3.1.2.3.4 ST_ShortHexNumber (Two Digit Hexadecimal Number Value)

This simple type specifies a two-octet hexadecimal number whose value is interpreted based on the context of the parent XML element.

[Example: Consider the following value for a node of type **ST_ShortHexNumber**: *2F6C*.

This value is valid, as it contains two hexadecimal octets, each an encoding of an octet of the actual decimal number value. end example]

This simple type's contents are a restriction of the XML Schema hexBinary datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a length of exactly 4 hexadecimal digit(s).

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Referenced By
acd@fciIndexBasedOn (§3.1.2.1.1.1, acd); **fci@fciIndex** (§3.1.2.1.1.7, fci); **fci@swArg** (§3.1.2.1.1.7, fci); **keymap@chmPrimary** (§3.1.2.1.1.8, keymap); **keymap@chmSecondary** (§3.1.2.1.1.8, keymap); **keymap@kcmPrimary** (§3.1.2.1.1.8, keymap); **keymap@kcmSecondary** (§3.1.2.1.1.8, keymap)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_ShortHexNumber">
  <restriction base="xsd:hexBinary">
    <length value="2"/>
  </restriction>
</simpleType>
```

3.1.2.3.5 ST_String (String)

This simple type specifies that its contents will contain a string. The contents of this string are interpreted based on the context of the parent XML element.

[Example: Consider the following WordprocessingML fragment:

```
<w:pPr>
  <w:pStyle w:val="heading1" />
</w:pPr>
```

The value of the **val** attribute is the ID of the associated paragraph style's `styleId`. However, consider the following fragment:

```
<w:sdtPr>
  <w:alias w:val="SDT Title Example" />
  ...
</w:sdtPr>
```

In this case, the decimal number in the **val** attribute is the caption of the parent-structured document tag. In each case, the value is of type **ST_String**, and therefore must be interpreted in the context of the parent element. end example]

This simple type's contents are a restriction of the XML Schema string datatype.

Referenced By
acd@acdName (§3.1.2.1.1.1, acd); **acd@acdName** (§3.1.2.1.1.2, acd); **acd@argValue** (§3.1.2.1.1.1, acd); **acd@fciBasedOn** (§3.1.2.1.1.1, acd); **acdEntry@acdName** (§3.1.2.1.1.3, acdEntry); **fci@fciName** (§3.1.2.1.1.7, fci); **macro@macroName** (§3.1.2.1.1.11, macro); **wll@macroName** (§3.1.2.1.1.16, wll)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_String">
  <restriction base="xsd:string"/>
</simpleType>
```


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3.1.3 Additional WordprocessingML Schema

The subordinate clauses define additional information in the WordprocessingML schema used by Word.

3.1.3.1 Additional Elements

3.1.3.1.1 customXml (Ruby Inline-Level Custom XML Element)

This element specifies the presence of a custom XML element around one or more inline-level structures (runs, images, fields, and so on) within a paragraph. The attributes on this element shall be used to specify the name and namespace URI of the current custom XML element.

[Example: Consider a custom XML element with the name *firstName* that shall be located around two text runs in a WordprocessingML document. This requirement would be specified as follows in the WordprocessingML:

```
<w:p>
  <w:customXml w:element="firstName" … >
    <w:r>
      …
    </w:r>
    <w:r>
      …
    </w:r>
  </w:customXml>
  …
</w:p>
```

The **customXml** element specifies that the name of the custom XML element is *firstName*, and the custom XML element contains two text runs (it is an inline-level element). end example]

Parent Elements
customXml (§3.1.3.1.1, customXml); **fldSimple** (§3.1.3.1.2, fldSimple); **hyperlink** (§3.1.3.1.3, hyperlink); **rt** ("[ISO/IEC-29500-1] §17.3.3.24"); **rubyBase** ("[ISO/IEC-29500-1] §17.3.3.27"); **sdtContent** (§3.1.3.1.7, sdtContent)

Child Elements	**Subclause**
acc (Accent)	"[ISO/IEC-29500-1] §22.1.2.1"
bar (Bar)	"[ISO/IEC-29500-1] §22.1.2.7"
bookmarkEnd (Bookmark End)	"[ISO/IEC-29500-1] §17.13.6.1"
bookmarkStart (Bookmark Start)	"[ISO/IEC-29500-1] §17.13.6.2"
borderBox (Border-Box Object)	"[ISO/IEC-29500-1] §22.1.2.11"
box (Box Object)	"[ISO/IEC-29500-1] §22.1.2.13"

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Child Elements	Subclause
commentRangeEnd (Comment Anchor Range End)	"[ISO/IEC-29500-1] §17.13.4.3"
commentRangeStart (Comment Anchor Range Start)	"[ISO/IEC-29500-1] §17.13.4.4"
customXml (Ruby Inline-Level Custom XML Element)	§3.1.3.1.1, customXml
customXmlDelRangeEnd (Custom XML Markup Deletion End)	"[ISO/IEC-29500-1] §17.13.5.4"
customXmlDelRangeStart (Custom XML Markup Deletion Start)	"[ISO/IEC-29500-1] §17.13.5.5"
customXmlInsRangeEnd (Custom XML Markup Insertion End)	"[ISO/IEC-29500-1] §17.13.5.6"
customXmlInsRangeStart (Custom XML Markup Insertion Start)	"[ISO/IEC-29500-1] §17.13.5.7"
customXmlMoveFromRangeEnd (Custom XML Markup Move Source End)	"[ISO/IEC-29500-1] §17.13.5.8"
customXmlMoveFromRangeStart (Custom XML Markup Move Source Start)	"[ISO/IEC-29500-1] §17.13.5.9"
customXmlMoveToRangeEnd (Custom XML Markup Move Destination Location End)	"[ISO/IEC-29500-1] §17.13.5.10"
customXmlMoveToRangeStart (Custom XML Markup Move Destination Location Start)	"[ISO/IEC-29500-1] §17.13.5.11"
customXmlPr (Custom XML Element Properties)	"[ISO/IEC-29500-1] §17.5.1.7"
d (Delimiter Object)	"[ISO/IEC-29500-1] §22.1.2.24"
del (Deleted Run Content)	"[ISO/IEC-29500-1] §17.13.5.14"
eqArr (Array Object)	"[ISO/IEC-29500-1] §22.1.2.34"
f (Fraction Object)	"[ISO/IEC-29500-1] §22.1.2.36"
fldSimple (Ruby Simple Field)	§3.1.3.1.2, fldSimple
func (Function Apply Object)	"[ISO/IEC-29500-1] §22.1.2.39"
groupChr (Group-Character Object)	"[ISO/IEC-29500-1] §22.1.2.41"
hyperlink (Ruby Hyperlink)	§3.1.3.1.3, hyperlink
ins (Inserted Run Content)	"[ISO/IEC-29500-1] §17.13.5.18"
limLow (Lower-Limit Object)	"[ISO/IEC-29500-1] §22.1.2.54"

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Child Elements	Subclause
limUpp (Upper-Limit Object)	"[ISO/IEC-29500-1] §22.1.2.56"
m (Matrix Object)	"[ISO/IEC-29500-1] §22.1.2.60"
moveFrom (Move Source Run Content)	"[ISO/IEC-29500-1] §17.13.5.22"
moveFromRangeEnd (Move Source Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.23"
moveFromRangeStart (Move Source Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.24"
moveTo (Move Destination Run Content)	"[ISO/IEC-29500-1] §17.13.5.25"
moveToRangeEnd (Move Destination Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.27"
moveToRangeStart (Move Destination Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.28"
nary (n-ary Operator Object)	"[ISO/IEC-29500-1] §22.1.2.70"
oMath (Office Math)	"[ISO/IEC-29500-1] §22.1.2.77"
oMathPara (Office Math Paragraph)	"[ISO/IEC-29500-1] §22.1.2.78"
permEnd (Range Permission End)	"[ISO/IEC-29500-1] §17.13.7.1"
permStart (Range Permission Start)	"[ISO/IEC-29500-1] §17.13.7.2"
phant (Phantom Object)	"[ISO/IEC-29500-1] §22.1.2.81"
proofErr (Proofing Error Anchor)	"[ISO/IEC-29500-1] §17.13.8.1"
r (Run)	"[ISO/IEC-29500-1] §22.1.2.87"
r (Text Run)	"[ISO/IEC-29500-1] §17.3.2.25"
rad (Radical Object)	"[ISO/IEC-29500-1] §22.1.2.88"
sdt (Ruby Inline-Level Structured Document Tag)	§3.1.3.1.6, sdt
sPre (Pre-Sub-Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.99"
sSub (Subscript Object)	"[ISO/IEC-29500-1] §22.1.2.101"
sSubSup (Sub-Superscript Object)	"[ISO/IEC-29500-1]

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Child Elements	Subclause
	§22.1.2.103"
sSup (Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.105"

Attributes	Description
element (Custom XML Element)	Specifies the name of the current custom XML element or smart tag within the document. [Example: Consider a custom XML element which shall have a name of *companyName*. This requirement would be specified using the following WordprocessingML: `<w:customXml w:element="companyName" … > … </w:customXml>` The **element** attribute specifies that the name for this element shall be *companyName*. end example] The possible values for this attribute are defined by the ST_NcName255 simple type (§3.1.3.3.4, ST_NcName255).
uri (Custom XML Element Namespace)	Specifies the namespace URI of the current custom XML element or smart tag. If this attribute is omitted, the URI shall be assumed to be null (no associated URI). [Example: Consider a custom XML element which shall have a namespace URI of *urn:customXmlExample*. This requirement would be specified using the following WordprocessingML: `<w:customXml … w:uri="urn:customXmlExample" /> … </w:customXml>` The **uri** attribute specifies that the namespace for this element shall be *urn:customXmlExample*. end example] The possible values for this attribute are defined by the ST_CustomXmlURI simple type (§3.1.3.3.1, ST_CustomXmlURI).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_CustomXmlRuby">
  <sequence>
```


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```
      <element name="customXmlPr" type="CT_CustomXmlPr" minOccurs="0" maxOccurs="1"/>
      <group ref="EG_RubyContent" minOccurs="0" maxOccurs="unbounded"/>
    </sequence>
    <attribute name="uri" type="ST_CustomXmlURI"/>
    <attribute name="element" type="ST_NcName255" use="required"/>
  </complexType>
```

3.1.3.1.2 fldSimple (Ruby Simple Field)

This element specifies the presence of a simple field at the current location in the document. The semantics of this field are defined via its field codes ("[ISO/IEC-29500-1] §17.16.5").

[Example: Consider the following WordprocessingML fragment for a simple field:

```
<w:fldSimple w:instr="FILENAME">
  <w:r>
    <w:t>Example Document.docx</w:t>
  </w:r>
</w:fldSimple>
```

The **fldSimple** element defines a *FILENAME* field ("[ISO/IEC-29500-1] §17.16.5.17; FILENAME") using the simple field syntax. The current field result for the field is *Example Document.docx*. end example]

Parent Elements
customXml (§3.1.3.1.1, customXml); **fldSimple** (§3.1.3.1.2, fldSimple); **hyperlink** (§3.1.3.1.3, hyperlink); **rt** ("[ISO/IEC-29500-1] §17.3.3.24"); **rubyBase** ("[ISO/IEC-29500-1] §17.3.3.27"); **sdtContent** (§3.1.3.1.7, sdtContent)

Child Elements	Subclause
acc (Accent)	"[ISO/IEC-29500-1] §22.1.2.1"
bar (Bar)	"[ISO/IEC-29500-1] §22.1.2.7"
bookmarkEnd (Bookmark End)	"[ISO/IEC-29500-1] §17.13.6.1"
bookmarkStart (Bookmark Start)	"[ISO/IEC-29500-1] §17.13.6.2"
borderBox (Border-Box Object)	"[ISO/IEC-29500-1] §22.1.2.11"
box (Box Object)	"[ISO/IEC-29500-1] §22.1.2.13"
commentRangeEnd (Comment Anchor Range End)	"[ISO/IEC-29500-1] §17.13.4.3"
commentRangeStart (Comment Anchor Range Start)	"[ISO/IEC-29500-1] §17.13.4.4"

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Child Elements	Subclause
customXml (Ruby Inline-Level Custom XML Element)	§3.1.3.1.1, customXml
customXmlDelRangeEnd (Custom XML Markup Deletion End)	"[ISO/IEC-29500-1] §17.13.5.4"
customXmlDelRangeStart (Custom XML Markup Deletion Start)	"[ISO/IEC-29500-1] §17.13.5.5"
customXmlInsRangeEnd (Custom XML Markup Insertion End)	"[ISO/IEC-29500-1] §17.13.5.6"
customXmlInsRangeStart (Custom XML Markup Insertion Start)	"[ISO/IEC-29500-1] §17.13.5.7"
customXmlMoveFromRangeEnd (Custom XML Markup Move Source End)	"[ISO/IEC-29500-1] §17.13.5.8"
customXmlMoveFromRangeStart (Custom XML Markup Move Source Start)	"[ISO/IEC-29500-1] §17.13.5.9"
customXmlMoveToRangeEnd (Custom XML Markup Move Destination Location End)	"[ISO/IEC-29500-1] §17.13.5.10"
customXmlMoveToRangeStart (Custom XML Markup Move Destination Location Start)	"[ISO/IEC-29500-1] §17.13.5.11"
d (Delimiter Object)	"[ISO/IEC-29500-1] §22.1.2.24"
del (Deleted Run Content)	"[ISO/IEC-29500-1] §17.13.5.14"
eqArr (Array Object)	"[ISO/IEC-29500-1] §22.1.2.34"
f (Fraction Object)	"[ISO/IEC-29500-1] §22.1.2.36"
fldData (Custom Field Data)	"[ISO/IEC-29500-4] §14.9.6"
fldSimple (Ruby Simple Field)	§3.1.3.1.2, fldSimple
func (Function Apply Object)	"[ISO/IEC-29500-1] §22.1.2.39"
groupChr (Group-Character Object)	"[ISO/IEC-29500-1] §22.1.2.41"
hyperlink (Ruby Hyperlink)	§3.1.3.1.3, hyperlink
ins (Inserted Run Content)	"[ISO/IEC-29500-1] §17.13.5.18"
limLow (Lower-Limit Object)	"[ISO/IEC-29500-1] §22.1.2.54"
limUpp (Upper-Limit Object)	"[ISO/IEC-29500-1] §22.1.2.56"
m (Matrix Object)	"[ISO/IEC-29500-1] §22.1.2.60"
moveFrom (Move Source Run Content)	"[ISO/IEC-29500-1]

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Child Elements	Subclause
	§17.13.5.22"
moveFromRangeEnd (Move Source Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.23"
moveFromRangeStart (Move Source Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.24"
moveTo (Move Destination Run Content)	"[ISO/IEC-29500-1] §17.13.5.25"
moveToRangeEnd (Move Destination Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.27"
moveToRangeStart (Move Destination Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.28"
nary (n-ary Operator Object)	"[ISO/IEC-29500-1] §22.1.2.70"
oMath (Office Math)	"[ISO/IEC-29500-1] §22.1.2.77"
oMathPara (Office Math Paragraph)	"[ISO/IEC-29500-1] §22.1.2.78"
permEnd (Range Permission End)	"[ISO/IEC-29500-1] §17.13.7.1"
permStart (Range Permission Start)	"[ISO/IEC-29500-1] §17.13.7.2"
phant (Phantom Object)	"[ISO/IEC-29500-1] §22.1.2.81"
proofErr (Proofing Error Anchor)	"[ISO/IEC-29500-1] §17.13.8.1"
r (Run)	"[ISO/IEC-29500-1] §22.1.2.87"
r (Text Run)	"[ISO/IEC-29500-1] §17.3.2.25"
rad (Radical Object)	"[ISO/IEC-29500-1] §22.1.2.88"
sdt (Ruby Inline-Level Structured Document Tag)	§3.1.3.1.6, sdt
sPre (Pre-Sub-Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.99"
sSub (Subscript Object)	"[ISO/IEC-29500-1] §22.1.2.101"
sSubSup (Sub-Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.103"
sSup (Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.105"

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Attributes	Description
dirty (Field Result Invalidated)	Specifies that this field has been flagged by an application to indicate that its current results are invalid (stale) due to other modifications made to the document, and these contents should be updated before they are displayed if this functionality is supported by the next processing application. [Rationale: This functionality allows applications with limited subsets of the full functionality of ISO/IEC-29500 Office Open XML File Formats [ISO/IEC-29500-1] to process documents without needing to understand and update all fields based on the semantics for their field codes. For example, an application can add a new paragraph and flag the table of contents as dirty, without needing to understand anything about how to recalculate that field's content. end rationale] If this attribute is omitted, then its value shall be assumed to be *false*. [Example: Consider the following WordprocessingML for a simple field: `<w:fldSimple w:instr="AUTHOR" w:dirty="true"/>` The **dirty** attribute value of *true* specifies that the contents of this field are no longer current based on the contents of the document, and should be recalculated whenever an application with this functionality reads the document. end example] The possible values for this attribute are defined by the ST_OnOff simple type (§3.1.3.3.6, ST_OnOff).

fldLock (Field Should Not be Recalculated)	Specifies that the parent field shall not have its field result recalculated, even if an application attempts to recalculate the results of all fields in the document or a recalculation is explicitly requested.
	
	If this attribute is omitted, then its value shall be assumed to be *false*.
	
	[Example: Consider the following WordprocessingML for a simple field:
	
	`<w:fldSimple w:instr="AUTHOR" w:fldLock="true">`
	`  <w:r>`
	`  <w:t>Rex Jaeschke</w:t>`
	`  </w:r>`
	`</w:fldSimple>`
	
	The **fldLock** attribute value of *true* specifies that the contents of this field shall remain *Rex Jaeschke* regardless of the actual result of the current field codes. end example]
	
	The possible values for this attribute are defined by the ST_OnOff simple type (§3.1.3.3.6, ST_OnOff).

instr (Field Codes)	Specifies the field codes for the simple field. The possible field codes are defined in "[ISO/IEC-29500-1] §17.16.5".

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Attributes	Description

	[Example: Consider the following WordprocessingML for a simple field:
	
	`<w:fldSimple w:instr="AUTHOR" w:fldLock="true">`
	`  <w:r>`
	`  <w:t>Rex Jaeschke</w:t>`
	`  </w:r>`
	`</w:fldSimple>`
	
	The **instr** attribute specifies the field codes for this simple field to be *AUTHOR*. end example]
	
	The possible values for this attribute are defined by the ST_String simple type (§3.1.3.3.8, ST_String).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_SimpleFieldRuby">
  <sequence>
    <element name="fldData" type="CT_Text" minOccurs="0" maxOccurs="1"/>
    <group ref="EG_RubyContent" minOccurs="0" maxOccurs="unbounded"/>
  </sequence>
  <attribute name="instr" type="ST String" use="required"/>
  <attribute name="fldLock" type="ST_OnOff"/>
  <attribute name="dirty" type="ST_OnOff"/>
</complexType>
```

3.1.3.1.3 hyperlink (Ruby Hyperlink)

This element specifies the presence of a hyperlink at the current location in the document.

[Example: Consider the following WordprocessingML fragment for a hyperlink:

```
<w:hyperlink r:id="rId10">
  <w:r>
    <w:t>Click here</w:t>
  </w:r>
</w:hyperlink>
```

The **hyperlink** element defines a hyperlink whose display text is *Click here*, and whose target is specified by the relationship with an **Id** attribute value of *rId10*. end example]

Parent Elements
customXml (§3.1.3.1.1, customXml); **fldSimple** (§3.1.3.1.2, fldSimple); **hyperlink** (§3.1.3.1.3, hyperlink); **rt** ("[ISO/IEC-29500-1] §17.3.3.24"); **rubyBase** ("[ISO/IEC-29500-1] §17.3.3.27"); **sdtContent** (§3.1.3.1.7, sdtContent)

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Child Elements	Subclause
acc (Accent)	"[ISO/IEC-29500-1] §22.1.2.1"
bar (Bar)	"[ISO/IEC-29500-1] §22.1.2.7"
bookmarkEnd (Bookmark End)	"[ISO/IEC-29500-1] §17.13.6.1"
bookmarkStart (Bookmark Start)	"[ISO/IEC-29500-1] §17.13.6.2"
borderBox (Border-Box Object)	"[ISO/IEC-29500-1] §22.1.2.11"
box (Box Object)	"[ISO/IEC-29500-1] §22.1.2.13"
commentRangeEnd (Comment Anchor Range End)	"[ISO/IEC-29500-1] §17.13.4.3"
commentRangeStart (Comment Anchor Range Start)	"[ISO/IEC-29500-1] §17.13.4.4"
customXml (Ruby Inline-Level Custom XML Element)	§3.1.3.1.1, customXml
customXmlDelRangeEnd (Custom XML Markup Deletion End)	"[ISO/IEC-29500-1] §17.13.5.4"
customXmlDelRangeStart (Custom XML Markup Deletion Start)	"[ISO/IEC-29500-1] §17.13.5.5"
customXmlInsRangeEnd (Custom XML Markup Insertion End)	"[ISO/IEC-29500-1] §17.13.5.6"
customXmlInsRangeStart (Custom XML Markup Insertion Start)	"[ISO/IEC-29500-1] §17.13.5.7"
customXmlMoveFromRangeEnd (Custom XML Markup Move Source End)	"[ISO/IEC-29500-1] §17.13.5.8"
customXmlMoveFromRangeStart (Custom XML Markup Move Source Start)	"[ISO/IEC-29500-1] §17.13.5.9"
customXmlMoveToRangeEnd (Custom XML Markup Move Destination Location End)	"[ISO/IEC-29500-1] §17.13.5.10"
customXmlMoveToRangeStart (Custom XML Markup Move Destination Location Start)	"[ISO/IEC-29500-1] §17.13.5.11"
d (Delimiter Object)	"[ISO/IEC-29500-1] §22.1.2.24"
del (Deleted Run Content)	"[ISO/IEC-29500-1] §17.13.5.14"
eqArr (Array Object)	"[ISO/IEC-29500-1] §22.1.2.34"
f (Fraction Object)	"[ISO/IEC-29500-1] §22.1.2.36"
fldSimple (Ruby Simple Field)	§3.1.3.1.2, fldSimple

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Child Elements	Subclause
func (Function Apply Object)	"[ISO/IEC-29500-1] §22.1.2.39"
groupChr (Group-Character Object)	"[ISO/IEC-29500-1] §22.1.2.41"
hyperlink (Ruby Hyperlink)	§3.1.3.1.3, hyperlink
ins (Inserted Run Content)	"[ISO/IEC-29500-1] §17.13.5.18"
limLow (Lower-Limit Object)	"[ISO/IEC-29500-1] §22.1.2.54"
limUpp (Upper-Limit Object)	"[ISO/IEC-29500-1] §22.1.2.56"
m (Matrix Object)	"[ISO/IEC-29500-1] §22.1.2.60"
moveFrom (Move Source Run Content)	"[ISO/IEC-29500-1] §17.13.5.22"
moveFromRangeEnd (Move Source Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.23"
moveFromRangeStart (Move Source Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.24"
moveTo (Move Destination Run Content)	"[ISO/IEC-29500-1] §17.13.5.25"
moveToRangeEnd (Move Destination Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.27"
moveToRangeStart (Move Destination Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.28"
nary (n-ary Operator Object)	"[ISO/IEC-29500-1] §22.1.2.70"
oMath (Office Math)	"[ISO/IEC-29500-1] §22.1.2.77"
oMathPara (Office Math Paragraph)	"[ISO/IEC-29500-1] §22.1.2.78"
permEnd (Range Permission End)	"[ISO/IEC-29500-1] §17.13.7.1"
permStart (Range Permission Start)	"[ISO/IEC-29500-1] §17.13.7.2"
phant (Phantom Object)	"[ISO/IEC-29500-1] §22.1.2.81"
proofErr (Proofing Error Anchor)	"[ISO/IEC-29500-1] §17.13.8.1"
r (Run)	"[ISO/IEC-29500-1] §22.1.2.87"
r (Text Run)	"[ISO/IEC-29500-1]

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Child Elements	Subclause
	§17.3.2.25"
rad (Radical Object)	"[ISO/IEC-29500-1] §22.1.2.88"
sdt (Ruby Inline-Level Structured Document Tag)	§3.1.3.1.6, sdt
sPre (Pre-Sub-Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.99"
sSub (Subscript Object)	"[ISO/IEC-29500-1] §22.1.2.101"
sSubSup (Sub-Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.103"
sSup (Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.105"

Attributes	Description

anchor (Hyperlink Anchor)	Specifies the name of a bookmark in the current document which shall be the target of this hyperlink.
	
	If this attribute is omitted, then the default behavior shall be to navigate to the start of the document. If a hyperlink target is also specified using the **r:id** attribute, then this attribute shall be ignored. If no bookmark exists in the current document with the given bookmark name, then the default behavior shall be to navigate to the start of the document.
	
	[Example: Consider the following WordprocessingML fragment for a hyperlink:
	
	`<w:hyperlink w:anchor="chapter3">`
	`  <w:r>`
	`  <w:t>Go to Chapter Three</w:t>`
	`  </w:r>`
	`</w:hyperlink>`
	
	The **anchor** attribute specifies that the target of the current hyperlink shall be the text contained within the bookmark *chapter3* within the document. end example]
	
	The possible values for this attribute are defined by the ST_String255 simple type (§3.1.3.3.9, ST_String255).

docLocation (Location in Target Document)	Specifies a location in the target of the hyperlink that has no bookmarks. If this attribute is omitted, then no location shall be associated with the parent hyperlink. If the **anchor** attribute is also specified, then this

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Attributes	Description

	attribute may be ignored when the hyperlink is invoked.
	
	[Example: Consider the following WordprocessingML fragment for a hyperlink:
	
	`<w:hyperlink r:id="rId9" w:docLocation="table">`
	`  <w:r>`
	`  <w:t>Click Here</w:t>`
	`  </w:r>`
	`</w:hyperlink>`
	
	The **docLocation** attribute specifies that the target of the current hyperlink shall be a region targeted by the string *table* within the target document. end example]
	
	The possible values for this attribute are defined by the ST_String255 simple type (§3.1.3.3.9, ST_String255).

history (Add to Viewed Hyperlinks)	Specifies whether the target of the parent hyperlink (as specified via the **r:id** attribute) shall be added to a list of viewed hyperlinks when it is invoked.
	
	If this attribute is omitted, then its value shall be assumed to be *false*.
	
	[Example: Consider the following WordprocessingML fragment for a hyperlink:
	
	`<w:hyperlink r:id="rId9" w:history="true">`
	`  <w:r>`
	`  <w:t>http://example.com</w:t>`
	`  </w:r>`
	`</w:hyperlink>`
	
	The **history** attribute value of *true* specifies that the target of the current hyperlink shall be added to a list of visited hyperlinks when invoked within the document. end example]
	
	The possible values for this attribute are defined by the ST_OnOff simple type (§3.1.3.3.6, ST_OnOff).

id (Hyperlink Target) Namespace: .../officeDocument/2006/relationships	Specifies the ID of the relationship whose target shall be used as the target for this hyperlink. If the **id** attribute is omitted, then there shall be no external target for the current hyperlink, although a location in the current document may still be specified as a target via the **anchor** attribute. If the **id** attribute exists, it shall supersede the value in the **anchor** attribute. [Example: Consider the following WordprocessingML fragment for a hyperlink:

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Attributes	Description
	<w:hyperlink r:id="rId9"> <w:r> <w:t>http://example.com</w:t> </w:r> </w:hyperlink> An **id** attribute value of *rId9* specifies that the relationship in the associated relationship part item with a corresponding **Id** attribute value shall be navigated to when this hyperlink is invoked. For example, if the following XML is present in the associated relationship part item: <Relationships xmlns="…"> <Relationship Id="rId9" Mode="External" Target=http://www.contoso.com /> </Relationships> The target of this hyperlink would therefore be the target of relationship *rId9* - in this case, *http://www.contoso.com*. end example] The possible values for this attribute are defined by the ST_RelationshipId simple type ("[ISO/IEC-29500-1] §22.8.2.1").
tgtFrame (Hyperlink Target Frame)	Specifies a frame within the parent HTML frameset for the target of the parent hyperlink when one exists. Values shall be handled as follows: _top Open hyperlink target in the full region of the current window. _self Open hyperlink target in the same frame as the hyperlink appears. _parent Open hyperlink target in the parent of the current frame, or the current frame if this frame has no parent. _blank Open hyperlink target in a new window. all other values Open hyperlink target in the frame with the specified name. If no frame exists with this name, open in the current frame. If this string does not begin with an alphabetic character, it shall be ignored. If this attribute is omitted, then no target frame information shall be associated with the parent hyperlink. If the current document is not part of a frameset, then this information may be ignored. [Example: Consider the following WordprocessingML fragment for a hyperlink: <w:hyperlink r:id="rId9" w:tgtFrame="_top"> <w:r>

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Attributes	Description
	<w:t>http://example.com</w:t> </w:r> </w:hyperlink> The **tgtFrame** attribute value of *_top* specifies that the target of this hyperlink shall be displayed in the full extents of the current window. end example] The possible values for this attribute are defined by the ST_String255 simple type (§3.1.3.3.9, ST_String255).
tooltip (Associated String)	Specifies a string that may be surfaced in a user interface as associated with the parent hyperlink. If this attribute is omitted, then no associated string shall be linked to the parent hyperlink in the document. [Example: Consider the following WordprocessingML fragment for a hyperlink: <w:hyperlink r:id="rId9" w:tooltip="Click here!"> <w:r> <w:t>http://example.com</w:t> </w:r> </w:hyperlink> The value of this attribute specifies that the parent hyperlink has the associated string of *Click here!*, which may be used as desired. end example] The possible values for this attribute are defined by the ST_String260 simple type (§3.1.3.3.10, ST_String260).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_HyperlinkRuby">
  <group ref="EG_RubyContent" minOccurs="0" maxOccurs="unbounded"/>
  <attribute name="tgtFrame" type="ST_String255" use="optional"/>
  <attribute name="tooltip" type="ST_String260" use="optional"/>
  <attribute name="docLocation" type="ST_String255" use="optional"/>
  <attribute name="history" type="ST_OnOff" use="optional"/>
  <attribute name="anchor" type="ST_String255" use="optional"/>

  <attribute ref="r:id"/>
</complexType>
```

3.1.3.1.4 moveFrom (Move Source Math Control Character)

This element specifies that the Office Open XML Math control character contained within it shall be treated as content that has been moved away from this location and tracked as a revision.

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The following restrictions shall be applied to this content:

- If this element occurs outside of a valid move source container (§"[ISO/IEC-29500-1] §17.13.5.24; moveFromRangeStart"; §"[ISO/IEC-29500-1] §17.13.5.23; moveFromRangeEnd") for which a matching move destination container (§"[ISO/IEC-29500-1] §17.13.5.28; moveToRangeStart"; §"[ISO/IEC-29500-1] §17.13.5.27; moveToRangeEnd") exists in the document, then the math control character shall be treated as deleted, rather than moved.

Word ignores this element.

Parent Elements
ctrlPr ("[ISO/IEC-29500-1] §22.1.2.23")

Child Elements	Subclause
del (Deleted Math Control Character)	"[ISO/IEC-29500-1] §17.13.5.13"
ins (Inserted Math Control Character)	"[ISO/IEC-29500-1] §17.13.5.16"
rPr (Run Properties)	"[ISO/IEC-29500-1] §17.3.2.28"

Attributes	Description

author (Annotation Author)	Specifies the author for an annotation within a WordprocessingML document.
	
	[Example: Consider a comment represented using the following WordprocessingML fragment:
	
	`<w:… w:id="1" w:author="Example Author">`
	`…`
	`</w:…>`
	
	The **author** attribute specifies that the author of the current annotation is *Example Author*, which may be used as desired. end example]
	
	The possible values for this attribute are defined by the ST_String255 simple type (§3.1.3.3.9, ST_String255).

date (Annotation Date)	Specifies the date information for an annotation within a WordprocessingML document. If this attribute is omitted, then no date information shall be associated with the parent annotation type. [Example: Consider a comment represented using the following WordprocessingML fragment:

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Attributes	Description
	<w:… w:id="1" w:date="2006-01-01T10:00:00"> … </w:…> The **date** attribute specifies that the date of the current annotation is January 1st 2006 at 10:00 AM, which may be used as desired. end example] The possible values for this attribute are defined by the ST_DateTime simple type (§3.1.3.3.2, ST_DateTime).
id (Annotation Identifier)	Specifies a unique identifier for an annotation within a WordprocessingML document. The restrictions on the **id** attribute, if any, are defined by the parent XML element. If this attribute is omitted, then the document is non-conformant. [Example: Consider an annotation represented using the following WordprocessingML fragment: <w:… w:id="1" … > … </w:…> The **id** attribute specifies that the ID of the current annotation is *1*. This value is used to uniquely identify this annotation within the document content. end example] The possible values for this attribute are defined by the ST_MarkupId simple type (§3.1.3.3.3, ST_MarkupId).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_MathCtrlMove">
  <complexContent>
    <extension base="CT_TrackChange">
      <choice minOccurs="0">
        <group ref="EG_RPr"/>
        <group ref="EG_MathCtrlIns"/>
        <group ref="EG_MathCtrlDel"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
```

3.1.3.1.5 moveTo (Move Destination Math Control Character)

This element specifies that the Office Open XML Math control character contained within it shall be treated as content that has been moved to this location and tracked as a revision.

The following restrictions shall be applied to this content:

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- If this element occurs outside of a valid move destination container (§"[ISO/IEC-29500-1] §17.13.5.28; moveToRangeStart"; §"[ISO/IEC-29500-1] §17.13.5.27; moveToRangeEnd") for which a matching move source container (§"[ISO/IEC-29500-1] §17.13.5.24; moveFromRangeStart"; §"[ISO/IEC-29500-1] §17.13.5.23; moveFromRangeEnd") exists in the document, then content in this region shall be treated as inserted, rather than moved.

Word ignores this element.

Parent Elements
ctrlPr ("[ISO/IEC-29500-1] §22.1.2.23")

Child Elements	Subclause
del (Deleted Math Control Character)	"[ISO/IEC-29500-1] §17.13.5.13"
ins (Inserted Math Control Character)	"[ISO/IEC-29500-1] §17.13.5.16"
rPr (Run Properties)	"[ISO/IEC-29500-1] §17.3.2.28"

Attributes	Description

author (Annotation Author)	Specifies the author for an annotation within a WordprocessingML document.
	
	[Example: Consider a comment represented using the following WordprocessingML fragment:
	
	`<w:… w:id="1" w:author="Example Author">`
	`…`
	`</w:…>`
	
	The **author** attribute specifies that the author of the current annotation is *Example Author*, which may be used as desired. end example]
	
	The possible values for this attribute are defined by the ST_String255 simple type (§3.1.3.3.9, ST_String255).

date (Annotation Date)	Specifies the date information for an annotation within a WordprocessingML document.
	
	If this attribute is omitted, then no date information shall be associated with the parent annotation type.
	
	[Example: Consider a comment represented using the following WordprocessingML fragment:
	
	`<w:… w:id="1" w:date="2006-01-01T10:00:00">`
	`…`

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Attributes	Description
	</w:…> The **date** attribute specifies that the date of the current annotation is January 1st 2006 at 10:00 AM, which may be used as desired. end example] The possible values for this attribute are defined by the ST_DateTime simple type (§3.1.3.3.2, ST_DateTime).
id (Annotation Identifier)	Specifies a unique identifier for an annotation within a WordprocessingML document. The restrictions on the **id** attribute, if any, are defined by the parent XML element. If this attribute is omitted, then the document is non-conformant. [Example: Consider an annotation represented using the following WordprocessingML fragment: <w:… w:id="1" … > … </w:…> The **id** attribute specifies that the ID of the current annotation is *1*. This value is used to uniquely identify this annotation within the document content. end example] The possible values for this attribute are defined by the ST_MarkupId simple type (§3.1.3.3.3, ST_MarkupId).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_MathCtrlMove">
  <complexContent>
    <extension base="CT_TrackChange">
      <choice minOccurs="0">
        <group ref="EG_RPr"/>
        <group ref="EG_MathCtrlIns"/>
        <group ref="EG_MathCtrlDel"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
```

3.1.3.1.6 sdt (Ruby Inline-Level Structured Document Tag)

This element specifies the presence of a structured document tag around one or more inline-level structures (runs, DrawingML objects, fields, and so on) in the current paragraph. The two child elements of this element shall be used to specify the properties and content of the current structured document tag via the **sdtPr** and **sdtContent** elements, respectively.

[Example: Consider a structured document tag with the friendly name *firstName* that shall be located around two runs in a WordprocessingML document. This requirement would be specified as follows in the WordprocessingML:

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```
<w:p>
  <w:sdt>
    <w:sdtPr>
      <w:alias w:val="firstName"/>
    </w:sdtPr>
    <w:sdtContent>
      <w:r>
        …
      </w:r>
      <w:r>
        …
      </w:r>
    </w:sdtContent>
  </w:sdt>
  …
</w:tr>
```

The **sdt** element specifies the structured document tag, the child **sdtPr** element contains the friendly name property set to *firstName*, and the **sdtContent** element contains two runs (it is an inline-level structured document tag). end example]

Parent Elements
customXml (§3.1.3.1.1, customXml); **fldSimple** (§3.1.3.1.2, fldSimple); **hyperlink** (§3.1.3.1.3, hyperlink); **rt** ("[ISO/IEC-29500-1] §17.3.3.24"); **rubyBase** ("[ISO/IEC-29500-1] §17.3.3.27"); **sdtContent** (§3.1.3.1.7, sdtContent)

Child Elements	**Subclause**
bookmarkEnd (Bookmark End)	"[ISO/IEC-29500-1] §17.13.6.1"
bookmarkStart (Bookmark Start)	"[ISO/IEC-29500-1] §17.13.6.2"
commentRangeEnd (Comment Anchor Range End)	"[ISO/IEC-29500-1] §17.13.4.3"
commentRangeStart (Comment Anchor Range Start)	"[ISO/IEC-29500-1] §17.13.4.4"
customXmlDelRangeEnd (Custom XML Markup Deletion End)	"[ISO/IEC-29500-1] §17.13.5.4"
customXmlDelRangeStart (Custom XML Markup Deletion Start)	"[ISO/IEC-29500-1] §17.13.5.5"
customXmlInsRangeEnd (Custom XML Markup Insertion End)	"[ISO/IEC-29500-1] §17.13.5.6"
customXmlInsRangeStart (Custom XML Markup Insertion Start)	"[ISO/IEC-29500-1] §17.13.5.7"
customXmlMoveFromRangeEnd (Custom XML Markup Move Source End)	"[ISO/IEC-29500-1] §17.13.5.8"
customXmlMoveFromRangeStart (Custom XML Markup Move Source Start)	"[ISO/IEC-29500-1] §17.13.5.9"

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Child Elements	Subclause
customXmlMoveToRangeEnd (Custom XML Markup Move Destination Location End)	"[ISO/IEC-29500-1] §17.13.5.10"
customXmlMoveToRangeStart (Custom XML Markup Move Destination Location Start)	"[ISO/IEC-29500-1] §17.13.5.11"
moveFromRangeEnd (Move Source Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.23"
moveFromRangeStart (Move Source Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.24"
moveToRangeEnd (Move Destination Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.27"
moveToRangeStart (Move Destination Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.28"
sdtContent (Ruby Inline-Level Structured Document Tag Content)	§3.1.3.1.7, sdtContent
sdtEndPr (Structured Document Tag End Character Properties)	"[ISO/IEC-29500-1] §17.5.2.37"
sdtPr (Structured Document Tag Properties)	"[ISO/IEC-29500-1] §17.5.2.38"

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_SdtRunRuby">
  <sequence>
    <element name="sdtPr" type="CT SdtPr" minOccurs="0" maxOccurs="1"/>
    <element name="sdtEndPr" type="CT_SdtEndPr" minOccurs="0" maxOccurs="1"/>
    <element name="sdtContent" type="CT SdtContentRunRuby" minOccurs="0" maxOccurs="1"/>
    <group ref="EG_RangeMarkupElements" minOccurs="0" maxOccurs="unbounded"/>
  </sequence>
</complexType>
```

3.1.3.1.7 sdtContent (Ruby Inline-Level Structured Document Tag Content)

This element specifies the last known contents of a structured document tag around one or more inline-level structures (runs, DrawingML objects, fields, and so on). This element's contents shall be treated as a cache of the contents to be displayed in the structured document tag for the following reasons:

- If the structured document tag specifies an XML mapping via the **dataBinding** element (§"[ISO/IEC-29500-1] §17.5.2.6; dataBinding"), changes to the custom XML data part shall be reflected in the structured document tag as needed
- If the contents of the structured document tag are placeholder text via the **showingPlcHdr** element (§"[ISO/IEC-29500-1] §17.5.2.39; showingPlcHdr"), then this content may be updated with the placeholder text stored in the Glossary Document part

[Example: Consider a structured document tag with the friendly name *firstName* that shall be located around two runs in a WordprocessingML document. This requirement would be specified as follows in the WordprocessingML:

```
<w:p>
  <w:sdt>
```


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```
      <w:sdtPr>
        <w:alias w:val="firstName"/>
      </w:sdtPr>
      <w:sdtContent>
        <w:r>
          …
        </w:r>
        <w:r>
          …
        </w:r>
      </w:sdtContent>
    </w:sdt>
    …
  </w:p>
```

The **sdtContent** element contains two adjacent runs (it is an inline-level structured document tag content container). end example]

Parent Elements
sdt (§3.1.3.1.6, sdt)

Child Elements	Subclause
acc (Accent)	"[ISO/IEC-29500-1] §22.1.2.1"
bar (Bar)	"[ISO/IEC-29500-1] §22.1.2.7"
bookmarkEnd (Bookmark End)	"[ISO/IEC-29500-1] §17.13.6.1"
bookmarkStart (Bookmark Start)	"[ISO/IEC-29500-1] §17.13.6.2"
borderBox (Border-Box Object)	"[ISO/IEC-29500-1] §22.1.2.11"
box (Box Object)	"[ISO/IEC-29500-1] §22.1.2.13"
commentRangeEnd (Comment Anchor Range End)	"[ISO/IEC-29500-1] §17.13.4.3"
commentRangeStart (Comment Anchor Range Start)	"[ISO/IEC-29500-1] §17.13.4.4"
customXml (Ruby Inline-Level Custom XML Element)	§3.1.3.1.1, customXml
customXmlDelRangeEnd (Custom XML Markup Deletion End)	"[ISO/IEC-29500-1] §17.13.5.4"
customXmlDelRangeStart (Custom XML Markup Deletion Start)	"[ISO/IEC-29500-1] §17.13.5.5"
customXmlInsRangeEnd (Custom XML Markup Insertion End)	"[ISO/IEC-29500-1] §17.13.5.6"

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Child Elements	Subclause
customXmlInsRangeStart (Custom XML Markup Insertion Start)	"[ISO/IEC-29500-1] §17.13.5.7"
customXmlMoveFromRangeEnd (Custom XML Markup Move Source End)	"[ISO/IEC-29500-1] §17.13.5.8"
customXmlMoveFromRangeStart (Custom XML Markup Move Source Start)	"[ISO/IEC-29500-1] §17.13.5.9"
customXmlMoveToRangeEnd (Custom XML Markup Move Destination Location End)	"[ISO/IEC-29500-1] §17.13.5.10"
customXmlMoveToRangeStart (Custom XML Markup Move Destination Location Start)	"[ISO/IEC-29500-1] §17.13.5.11"
d (Delimiter Object)	"[ISO/IEC-29500-1] §22.1.2.24"
del (Deleted Run Content)	"[ISO/IEC-29500-1] §17.13.5.14"
eqArr (Array Object)	"[ISO/IEC-29500-1] §22.1.2.34"
f (Fraction Object)	"[ISO/IEC-29500-1] §22.1.2.36"
fldSimple (Ruby Simple Field)	§3.1.3.1.2, fldSimple
func (Function Apply Object)	"[ISO/IEC-29500-1] §22.1.2.39"
groupChr (Group-Character Object)	"[ISO/IEC-29500-1] §22.1.2.41"
hyperlink (Ruby Hyperlink)	§3.1.3.1.3, hyperlink
ins (Inserted Run Content)	"[ISO/IEC-29500-1] §17.13.5.18"
limLow (Lower-Limit Object)	"[ISO/IEC-29500-1] §22.1.2.54"
limUpp (Upper-Limit Object)	"[ISO/IEC-29500-1] §22.1.2.56"
m (Matrix Object)	"[ISO/IEC-29500-1] §22.1.2.60"
moveFrom (Move Source Run Content)	"[ISO/IEC-29500-1] §17.13.5.22"
moveFromRangeEnd (Move Source Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.23"
moveFromRangeStart (Move Source Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.24"
moveTo (Move Destination Run Content)	"[ISO/IEC-29500-1] §17.13.5.25"
moveToRangeEnd (Move Destination Location Container - End)	"[ISO/IEC-29500-1] §17.13.5.27"

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Child Elements	Subclause
moveToRangeStart (Move Destination Location Container - Start)	"[ISO/IEC-29500-1] §17.13.5.28"
nary (n-ary Operator Object)	"[ISO/IEC-29500-1] §22.1.2.70"
oMath (Office Math)	"[ISO/IEC-29500-1] §22.1.2.77"
oMathPara (Office Math Paragraph)	"[ISO/IEC-29500-1] §22.1.2.78"
permEnd (Range Permission End)	"[ISO/IEC-29500-1] §17.13.7.1"
permStart (Range Permission Start)	"[ISO/IEC-29500-1] §17.13.7.2"
phant (Phantom Object)	"[ISO/IEC-29500-1] §22.1.2.81"
proofErr (Proofing Error Anchor)	"[ISO/IEC-29500-1] §17.13.8.1"
r (Run)	"[ISO/IEC-29500-1] §22.1.2.87"
r (Text Run)	"[ISO/IEC-29500-1] §17.3.2.25"
rad (Radical Object)	"[ISO/IEC-29500-1] §22.1.2.88"
sdt (Ruby Inline-Level Structured Document Tag)	§3.1.3.1.6, sdt
sPre (Pre-Sub-Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.99"
sSub (Subscript Object)	"[ISO/IEC-29500-1] §22.1.2.101"
sSubSup (Sub-Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.103"
sSup (Superscript Object)	"[ISO/IEC-29500-1] §22.1.2.105"

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_SdtContentRunRuby">
  <group ref="EG RubyContent" minOccurs="0" maxOccurs="unbounded"/>
</complexType>
```

3.1.3.2 Additional Fields

3.1.3.2.1 DDE

Syntax:

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DDE field-argument-1 field-argument-2 [field-argument-3] [switches]

field-argument-1:

field-argument

field-argument-2:

field-argument

field-argument-3:

field-argument

Description: For information copied from another application, this field links that information to its original source file using DDE. The application name shall be specified by field-argument-1; this application shall be running. The name and location of the source file is specified by field-argument-2. The portion of the source file that is being linked is specified by field-argument-3. [Note: This field is supported for legacy reasons, and it is recommended that `LINK` ("[ISO/IEC-29500-1] §17.16.5.32; LINK") be used instead. end note]

[Example: If the source file is a SpreadsheetML document, the reference might be to a cell reference or a named range. For a WordprocessingML document, it might be a bookmark. end example]

Field Value: The DDE object representation of the linked file, or the contents of the file itself depending on the switches used.

Switches: Zero or more of the following field-specific-switches.

Field specific switches	
`\a`	Causes this field to be updated automatically. Word does not support this switch.
`\b`	Requests the linked object as a bitmap. This switch shall not be used in conjunction with any field-specific switches other than `\a`.
`\d`	Specifies that the graphic data shall not be stored with the document, thus reducing the file size. This switch shall not be used in conjunction with any field-specific switches other than `\a`. Word does not support this switch.
`\h`	Requests the linked object as HTML-formatted text. This switch shall not be used in conjunction with any field-specific switches other than `\a`.
`\p`	Requests the linked object as a picture. This switch shall not be used in conjunction with any field-specific switches other than `\a`.
`\r`	Requests the linked object in rich-text format (RTF). This switch shall not be used in conjunction with any field-specific switches other than `\a`.
`\t`	Requests the linked object in text-only format. This switch shall not be used in conjunction with any field-specific switches other than `\a`.
`\u`	Requests the linked object as Unicode text. This switch shall not be used in conjunction with any field-specific switches other than `\a`. Word does not support this switch.

[Example: The following example inserts a range of cells from a SpreadsheetML worksheet.

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```
{ DDE excel "C:\\My Documents\\Profits.xls"
   "Sheet1!R1C1:R4C4" \a \p }
```

end example]

3.1.3.2.2 DDEAUTO

Syntax:

DDEAUTO field-argument-1 field-argument-2 [field-argument-3] [switches]

field-argument-1:

field-argument

field-argument-2:

field-argument

field-argument-3:

field-argument

Description: For information copied from another application, this field links that information to its original source file using DDE and is updated automatically. The application name shall be specified in field-argument-1; this application must be running. The name and location of the source file is specified by field-argument-2. The portion of the source file that is being linked is specified by field-argument-3. [Note: This field is supported for legacy reasons, and it is recommended that `LINK` ("[ISO/IEC-29500-1] §17.16.5.32; LINK") be used instead. end note] [Example: If the source file is a SpreadsheetML document, the reference might be to a cell reference or a named range. For a WordprocessingML document, it might be a bookmark. end example]

Field Value: The DDE object representation of the linked file or the contents of the file itself, depending on the switches used.

Switches: Zero or more of the following field-specific-switches.

Field specific switches	
`\b`	Requests the linked object as a bitmap. This switch shall not be used in conjunction with any field-specific switches.
`\d`	Specifies that the graphic data shall not be stored with the document, thus reducing the file size. This switch shall not be used in conjunction with any field-specific switches. Word does not support this switch.
`\h`	Requests the linked object as HTML-formatted text. This switch shall not be used in conjunction with any field-specific switches.
`\p`	Requests the linked object as a picture. This switch shall not be used in conjunction with any field-specific switches.
`\r`	Requests the linked object in rich-text format (RTF). This switch shall not be used in conjunction with any field-specific switches.
`\t`	Requests the linked object in text-only format. This switch shall not be used in conjunction with any field-specific switches.
`\u`	Requests the linked object as Unicode text. This switch shall not be used in conjunction with any field-specific switches.

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Field specific switches	
	Word does not support this switch.

[Example: The following example inserts a range of cells from a SpreadsheetML worksheet.

```
{ DDEAUTO excel "C:\\My Documents\\Profits.xls"
   "Sheet1!R1C1:R4C4" \p }
```

end example]

3.1.3.2.3 GLOSSARY

Syntax:

GLOSSARY field-argument

Description: Inserts the glossary entry whose name is specified by text in field-argument.

Regarding XML generation, the field result is the value of the glossary. [Note: This can be arbitrarily complex and involve VML. end note]

Field Value: The specified glossary entry.

Switches: None.

[Example: Assume the following entries are defined with values of current page number, salutation, and a notice:

```
GLOSSARY "- PAGE -"
GLOSSARY "Yours truly,"
GLOSSARY Confidential
```

When evaluated, they might produce the following results:

```
 - 13 -
Yours truly,
CONFIDENTIAL
```

end example]

3.1.3.2.4 IMPORT

Syntax:

IMPORT field-argument [switches]

Description: Retrieves the picture contained in the document named by field-argument.

Field Value: The specified picture.

Switches: Zero or more of the following field-specific-switches.

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Field specific switches	
\c field-argument	If text in this switch's field-argument identifies the graphics filter to be used.
\d	Reduce the file size by not storing graphics data with the document.

[Example:

```
IMPORT "G:\\Photos\\Ellen in Oslo.jpg"
```

end example]

3.1.3.2.5 INCLUDE

Syntax:

INCLUDE field-argument-1 [field-argument-2] [switches]

field-argument-1:

field-argument

field-argument-2:

field-argument

Description: Inserts all or part of the text and graphics contained in the document named by field-argument-1. If the document is a WordprocessingML document, the portion marked by the optional bookmark field-argument-2 is inserted. If no such bookmark is specified here, the whole document is inserted.

Field Value: The specified text and graphics.

Switches: Zero or more of the following field-specific-switches.

Field specific switches	
\!	Prevents this field from being updated unless all fields in the inserted text are first updated in their original document.
\c field-argument	Specifies that the file specified by field-argument-2 shall be processed by a document filter whose name matches the corresponding field-argument value. Possible field-argument values are implementation-defined.

[Example: The following field inserts the portion of the WordprocessingML document referred to by the bookmark `Summary`:

```
INCLUDE "C:\\Winword\\Port Development RFP" Summary
```

end example]

3.1.3.2.6 SHAPE

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Syntax:

SHAPE field-argument

Description: Retrieves the text specified by text in field-argument. The text may specify a character whose code point value is specified in decimal or hexadecimal. Three digits shall be used to specify a character using decimal numbers. Up to four digits shall be used to specify a character using hexadecimal (leading 0x or 0X).

Word does not allow insertion of the code point 13.

[Note: This field is supported for legacy reasons, and it is recommended that `QUOTE` ("[ISO/IEC-29500-1] §17.16.5.49; QUOTE") be used instead. end note]

Field Value: The specified text or character.

Switches: Zero or more of the date-and-time-formatting-switch, general-formatting-switch, or numeric-formatting-switches, depending on the type of field-argument.

[Example: When the current month is January and the following field is updated:

```
Last month was SHAPE IF DATE \@ "M" = 1 "12" "= DATE \@ "M" - 1"/1/2000 \@ "MMMM".
```

the result is:

```
Last month was December end example]
```

[Example: When the following field is updated:

```
SHAPE 063 " is code point 63."
```

the result is:

```
? is code point 63. end example]
```

3.1.3.2.7 DISPLAYBARCODE

NOTE: This section is not applicable to Word 2010.

Syntax:

DISPLAYBARCODE field-argument-1 field-argument-2 [switches]

field-argument-1:

field-argument

field-argument-2:

field-argument

Description: Renders a generated barcode symbol using the data in this display field.

field-argument-1 is a quoted string containing the data (barcode-data) used to generate the barcode symbol.

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field-argument-2 is a text string containing the type of barcode (barcode-type) that will be generated. The valid values (case-insensitive) are:
UPCA|UPCE|JAN13|JAN8|EAN13|EAN8|CASE|ITF14|NW7|CODE39|CODE128|JPPOST|QR

The meanings of these values are described in the following table:

Field-argument-2	**Barcode Type Description**
QR	A QR 2D bar code as specified by [ISO/IEC18004:2006].
CODE128	A Code 128 linear bar code as specified by [AIM-BC4-1995-Code128].
CODE39	A Code 39 linear bar code as specified by [AIM-BC1-1995-Code39].
JPPOST	A Japanese Postal Service Customer barcode. JPPost is compliant with CBC (Customer Bar Code), which is also known as RM4SCC.
EAN8|EAN13	An EAN - International Article Number worldwide bar code for product ID's (8 digit/13 digit) as specified in [GS1-BARCODE].
JAN8|JAN13	A JAN: Japanese barcode for product ID's (8 digit/13 digit). JAN8 is an alias of EAN8. JAN13 is an alias of EAN13.
UPCA|UPCE	A UPC (A&E): US barcode for product ID's as specified in [GS1-BARCODE].
ITF14	An ITF-14 item-tracking barcode for shipping as specified in [GS1-BARCODE].
NW7	A NW-7 (CODABAR) serial number bar code as specified by [AIM-BC3-1995-Codabar].
CASE	USPS barcode – FIM/POSTNET (*2) - barcode for tracking USPS mail. CASE is an alias of ITF14.

Switches: Zero or more of the following *field-specific-switches:*

Field Switch	**Description**
\h *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the height of the symbol. The units are in TWIPS (1/1440 inch).
\s *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies a scaling factor for the symbol. The value is in whole percentage points and the valid values are [10, 1000]
\q *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the error correction level of QR Code. Valid values (case insensitive) are [L|M|Q|H].
\p *field-argument*	The *text* in this switch's *field-argument* specifies the style of a Point of Sale barcode (barcode types UPCA|UPCE|EAN13|EAN8). The valid values (case insensitive) are [STD|SUP2|SUP5|CASE].
\x	Fixes the check digit if it's invalid.
\d	Adds Start/Stop characters for barcode types NW7 and CODE39
\c *field-argument*	The *text* in this switch's *field-argument* specifies the style of a Case Code for barcode type ITF14. The valid values are [STD|EXT|ADD]

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Field Switch	Description
\r *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the rotation of the barcode symbol. Valid values are [0, 3]
\f *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the foreground color of the barcode symbol. Valid values are in the range [0, 0xFFFFFF]
\b *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the background color of the barcode symbol. Valid values are in the range [0, 0xFFFFFF]
\t	Display barcode data (text) along with image

[Example: The following field encodes 490123456789 into an EAN-13 barcode symbol:

```
DISPLAYBARCODE "490123456789" EAN13
```

end example]

[Example: The following field encodes "http://www.microsoft.com" into a QR Code symbol with highest error correction level:

```
DISPLAYBARCODE "http://www.microsoft.com" QR \q h
```

end example]

3.1.3.2.8 MERGEBARCODE

NOTE: This section is not applicable to Word 2010.

Syntax:

MERGEBARCODE field-argument-1 field-argument-2 [switches]

field-argument-1:

field-argument

field-argument-2:

field-argument

Description:

This field is analogous to the field code, MERGEFIELD. The main difference is that MERGEBARCODE generates a DISPLAYBARCODE field based on the merge result instead of showing it directly. The syntax of field instruction and supported switches is also different.

The use of field-argument-1 is the same as the data field in the MERGEFIELD field.

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field-argument-2 is a text string containing the type of barcode (barcode-type) that will be generated. The valid values (case-insensitive) are:
UPCA|UPCE|JAN13|JAN8|EAN13|EAN8|CASE|ITF14|NW7|CODE39|CODE128|JPPOST|QR

The meanings of these values are described in the following table:

Field-argument-2	**Barcode Type Description**
QR	A QR 2D bar code as specified by [ISO/IEC18004:2006].
CODE128	A Code 128 linear bar code as specified by [AIM-BC4-1995-Code128].
CODE39	A Code 39 linear bar code as specified by [AIM-BC1-1995-Code39].
JPPOST	Japanese Postal Service Customer barcode. JPPost is compliant with CBC (Customer Bar Code), which is also known as RM4SCC.
EAN8|EAN13	An EAN - International Article Number worldwide bar code for product ID's (8 digit/13 digit) as specified in [GS1-BARCODE].
JAN8|JAN13	A JAN: Japanese barcode for product ID's (8 digit/13 digit). JAN8 is an alias of EAN8. JAN13 is an alias of EAN13.
UPCA|UPCE	A UPC (A&E): US barcode for product ID's as specified in [GS1-BARCODE].
ITF14	An ITF-14 item-tracking barcode for shipping as specified in [GS1-BARCODE].
NW7	A NW-7 (CODABAR) serial number bar code as specified by [AIM-BC3-1995-Codabar].
CASE	USPS barcode – FIM/POSTNET (*2) - barcode for tracking USPS mail. CASE is an alias of ITF14.

Switches: Zero or more of the following field-specific-switches.

Field Switch	**Description**
\h *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the height of the symbol. The units are in TWIPS (1/1440 inch).
\s *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies a scaling factor for the symbol. The value is in whole percentage points and the valid values are [10, 1000]
\q *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the error correction level of QR Code. Valid values are [L|M|Q|H].
\p *field-argument*	The *text* in this switch's *field-argument* specifies the style of a POS barcode (barcode types UPCA|UPCE|EAN13|EAN8). The valid values are [STD|SUP2|SUP5|CASE].
\x	Fixes the check digit if it's invalid.
\d	Adds Start/Stop characters for barcode types NW7 and CODE39
\c *field-argument*	The *text* in this switch's *field-argument* specifies the style of a Case Code for barcode type ITF14. The valid values are [STD|EXT|ADD]

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Field Switch	Description
\r *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the rotation of the barcode symbol. Valid values are [0, 3]
\f *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the foreground color of the barcode symbol. Valid values are in the range [0, 0xFFFFFF]
\b *field-argument*	The *text* in this switch's *field-argument* is an integer that specifies the background color of the barcode symbol. Valid values are in the range [0, 0xFFFFFF]
\t	Display barcode data (text) along with image
\a	Concatenate all mapped address fields to generate a Japanese Postal Customer Barcode. The *field-argument* and *Barcode-Type* arguments and all other switches are ignored when this switch is used.

[Example: The following field uses the data in BarcodeData to generate an EAN-13 barcode with default style:

```
MERGEBARCODE BarcodeData EAN13
```

end example]

[Example: The following field uses the data in URL to generate a QR Code with highest error correction level:

```
MERGEBARCODE URL QR \q h
```

end example]

[Example: The following field concatenates all mapped address fields and uses that data to generate a Japanese Postal Customer Barcode:

```
MERGEBARCODE PLACEHOLDER JPPOST \a
```

end example]

3.1.3.3 Simple Types

This is the complete list of simple types in the http://schemas.openxmlformats.org/wordprocessingml/2006/main namespace.

3.1.3.3.1 ST_CustomXmlURI (URI for Custom XML)

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This simple type specifies the URI of the current custom XML element. Word fails to load the document if the URI is not declared in any of the attached schemas via the element **attachedSchema** ("[ISO/IEC-29500-1] §17.15.1.5; attachedSchema").

This simple type's contents are a restriction of the XML Schema string datatype.

Referenced By
customXml@uri (§3.1.3.1.1, customXml)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_CustomXmlURI">
  <restriction base="xsd:string"/>
</simpleType>
```

3.1.3.3.2 ST_DateTime (Standard Date and Time Storage Format)

This simple type specifies that its contents will contain a date in the standard XML Schema xsd:dateTime format, whose contents are interpreted based on the context of the parent XML element.

[Example: Consider the following WordprocessingML fragment:

```
<w:date w:realDate="01-01-2006T12:00:00Z">
  …
</w:date>
```

In this case, the date in the **realDate** attribute is the full date associated with the parent date-picker structured document. In every case, the value of this type is interpreted in the context of the parent element or attribute. end example]

This simple type's contents are a restriction of the XML Schema dateTime datatype.

Referenced By
moveFrom@date (§3.1.3.1.4, moveFrom); **moveTo@date** (§3.1.3.1.5, moveTo)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_DateTime">
  <restriction base="xsd:dateTime"/>
</simpleType>
```

3.1.3.3.3 ST_MarkupId (Annotation Identifier)

This simple type specifies that its contents shall contain a whole number, whose contents are used to uniquely identify an annotation.

The contents of this identifier are interpreted based on the context of the parent XML element.

This simple type is a union of the following types:

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- The ST_NonNegativeDecimalNumber simple type (§3.1.3.3.5, ST_NonNegativeDecimalNumber).
- The ST_SignedDecimalNumberMax-2 simple type (§3.1.3.3.7, ST_SignedDecimalNumberMax-2).

Referenced By
moveFrom@id (§3.1.3.1.4, moveFrom); **moveTo@id** (§3.1.3.1.5, moveTo)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_MarkupId">
  <union memberTypes="ST_NonNegativeDecimalNumber ST_SignedDecimalNumberMax-2"/>
</simpleType>
```

3.1.3.3.4 ST_NcName255 (Non-colonized Name)

This simple type specifies that its content shall contain a namespace name. The contents of this name are interpreted based on the context of the parent element.

This simple type's contents are a restriction of the XML Schema NCName datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a maximum length of 255 characters.

Referenced By
customXml@element (§3.1.3.1.1, customXml)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_NcName255">
  <restriction base="xsd:NCName">
    <maxLength value="255"/>
  </restriction>
</simpleType>
```

3.1.3.3.5 ST_NonNegativeDecimalNumber (Non-Negative Decimal Number Value)

This simple type specifies that its contents shall contain a number, whose contents are interpreted based on the context of the parent XML element.

This simple type's contents are a restriction of the XML Schema int datatype.

This simple type also specifies the following restrictions:

- This simple type has a minimum value of greater than or equal to 0.

Referenced By
ST_MarkupId (§3.1.3.3.3, ST_MarkupId)

The following XML Schema fragment defines the contents of this simple type:

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```
<simpleType name="ST_NonNegativeDecimalNumber">
  <restriction base="xsd:int">
    <minInclusive value="0"/>
  </restriction>
</simpleType>
```

3.1.3.3.6 ST_OnOff (On/Off Value)

This simple type specifies a set of values for any binary (on or off) property defined in a WordprocessingML document.

A value of *on*, *1*, or *true* specifies that the property shall be turned on.

A value of *off*, *0*, or *false* specifies that the property shall be explicitly turned off.

This simple type's contents are a restriction of the XML Schema string datatype.

The following are possible enumeration values for this type:

Enumeration Value	Description
0 (False)	Specifies that the binary state of this property is off (parent property is explicitly not applied).
1 (True)	Specifies that the binary state of this property is on (parent property is explicitly applied).
false (False)	Specifies that the binary state of this property is off (parent property is explicitly not applied).
off (False)	Specifies that the binary state of this property is off (parent property is explicitly not applied).
on (True)	Specifies that the binary state of this property is on (parent property is explicitly applied).
true (True)	Specifies that the binary state of this property is on (parent property is explicitly applied).

Referenced By
fldSimple@dirty (§3.1.3.1.2, fldSimple); **fldSimple@fldLock** (§3.1.3.1.2, fldSimple); **hyperlink@history** (§3.1.3.1.3, hyperlink)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_OnOff">
  <restriction base="xsd:string">
    <enumeration value="true"/>
    <enumeration value="false"/>
    <enumeration value="on"/>
    <enumeration value="off"/>
    <enumeration value="0"/>
    <enumeration value="1"/>
  </restriction>
</simpleType>
```


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3.1.3.3.7 ST_SignedDecimalNumberMax-2 (Decimal Number Value Max -2)

This simple type specifies that its contents shall contain a number, whose contents are interpreted based on the context of the parent XML element.

This simple type's contents are a restriction of the XML Schema int datatype.

This simple type also specifies the following restrictions:

- This simple type has a maximum value of less than or equal to -2.

Referenced By
ST_MarkupId (§3.1.3.3.3, ST_MarkupId)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_SignedDecimalNumberMax-2">
  <restriction base="xsd:int">
    <maxInclusive value="-2"/>
  </restriction>
</simpleType>
```

3.1.3.3.8 ST_String (String)

This simple type specifies that its contents will contain a string. The contents of this string are interpreted based on the context of the parent XML element.

[Example: Consider the following WordprocessingML fragment:

```
<w:pPr>
  <w:pStyle w:val="heading1" />
</w:pPr>
```

The value of the **val** attribute is the ID of the associated paragraph style's `styleId`. However, consider the following fragment:

```
<w:sdtPr>
  <w:alias w:val="SDT Title Example" />
  ...
</w:sdtPr>
```

In this case, the decimal number in the **val** attribute is the caption of the parent structured document tag. In each case, the value is of type **ST_String**, and therefore must be interpreted in the context of the parent element. end example]

This simple type's contents are a restriction of the XML Schema string datatype.

Referenced By
fldSimple@instr (§3.1.3.1.2, fldSimple)

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The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_String">
  <restriction base="xsd:string"/>
</simpleType>
```

3.1.3.3.9 ST_String255 (String)

This simple type specifies that its contents shall contain a string. The contents of this string are interpreted based on the context of the parent XML element.

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a maximum length of 255 characters.

Referenced By
hyperlink@anchor (§3.1.3.1.3, hyperlink); **hyperlink@docLocation** (§3.1.3.1.3, hyperlink); **hyperlink@tgtFrame** (§3.1.3.1.3, hyperlink); **moveFrom@author** (§3.1.3.1.4, moveFrom); **moveTo@author** (§3.1.3.1.5, moveTo)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_String255">
  <restriction base="xsd:string">
    <maxLength value="255"/>
  </restriction>
</simpleType>
```

3.1.3.3.10 ST_String260 (String)

This simple type specifies that its contents shall contain a string. The contents of this string are interpreted based on the context of the parent XML element.

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a maximum length of 260 characters.

Referenced By
hyperlink@tooltip (§3.1.3.1.3, hyperlink)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_String260">
  <restriction base="xsd:string">
    <maxLength value="260"/>
  </restriction>
</simpleType>
```


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3.1.4 DrawingML Persistence Part

When Word creates a legacy shape from an OfficeArt object, additional information will be stored in the legacy shape to allow Word to reconstruct the original OfficeArt object at a later time. This information is stored in the **gfxdata** attribute ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)").

All this information will be deleted in case the legacy shape is modified after it is loaded by Office.

The contents of the **gfxdata** attribute is an xsd:base64Binary representation of a Package ("[ISO/IEC-29500-2] Open Packaging Conventions"). This package contains information about the original OfficeArt object as well as information about the characteristics of the legacy shape as it was originally created to represent the OfficeArt object.

3.1.4.1 DrawingML Persistence Parts

The DrawingML Persistence Package can contain any part described in Office Open XML File Formats ([ISO/IEC-29500-1]) as well as the parts described in the subclauses subordinate to this clause.

[Note: For convenience, information from those subclauses is summarized in the following table:

Part	Relationship Target of	Root Element	Ref.
Graphic Frame Doc	DrawingML Persistence Package	e2oholder	§3.1.4.3.1.1, e2oholder
Downrev Storage	DrawingML Persistence Package	downRevStg	§3.1.4.2.1.2, downRevStg

end note]

3.1.4.1.1 Graphic Frame Doc

Content Type

application/vnd.ms-office.DrsE2oDoc+xml

Root Namespace

http://schemas.openxmlformats.org/drawingml/2006/wordprocessingDrawing

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/graphicFrameDoc

An instance of this part type contains the information about an OfficeArt object and its effects.

A DrawingML Persistence Package shall contain only 1 Graphic Frame Doc part.

The root element for a Graphic Frame Doc part shall be e2oholder (§3.1.4.3.1.1, e2oholder).

[Example: The following Graphic Frame Doc part contains information about a Diagram Object

```
<wp:e2oholder …>
    <wp:effectOffset l="18288" t="0" r="12887" b="0"/>
    <a:graphic …>
        <a:graphicData uri="http://schemas.openxmlformats.org/drawingml/2006/diagram">
            <dgm:relIds r:dm="rId1" r:lo="rId2" r:qs="rId3" r:cs="rId4" …/>
        </a:graphicData>
    </a:graphic>
```


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```
</wp:e2oholder>
```

end example]

A Graphic Frame Doc part is permitted to contain explicit relationships to the following parts defined by Office Open XML File Formats [ISO/IEC-29500-1]:

- Chart ("[ISO/IEC-29500-1] §14.2.1")
- Diagrams: Diagram Colors ("[ISO/IEC-29500-1] §14.2.3"), Diagram Data ("[ISO/IEC-29500-1] §14.2.4"), Diagram Layout Definition ("[ISO/IEC-29500-1] §14.2.5"), and Diagram Styles ("[ISO/IEC-29500-1] §14.2.6")
- Images ("[ISO/IEC-29500-1] §15.2.13")

A Graphic Frame Doc part shall not have any implicit or explicit relationships to any other part defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.1.4.1.2 Downrev Storage

Content Type

application/vnd.ms-office.DrsDownRev+xml

Root Namespace

http://schemas.openxmlformats.org/drawingml/2006/main

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/downRev

An instance of this part type contains the information about an OfficeArt object's bounds and checksum information for the original legacy shape representation of the OfficeArt object represented in the Graphic Frame Doc part.

A DrawingML Persistence Package shall contain only 1 Downrev Storage part.

The root element for a Downrev Storage part shall be downRevStg (§3.1.4.2.1.2, downRevStg).

[Example: The following Downrev Storage part contains information about a Diagram Object with no text

```
<a:downRevStg shapeCheckSum="gcmnapp+jq1ZXL5rE1CguF==&#xA;" textCheckSum="" ver="1" …>
    <a:bounds l="0" t="0" r="3405" b="3855"/>
</a:downRevStg>
```

end example]

A Downrev Storage part shall not have any implicit or explicit relationships to any parts defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.1.4.2 Additional DrawingML - Main Schema

3.1.4.2.1 Additional Elements

This section specifies the structure of the VML embedded DrawingML (see also **gfxdata** attribute (["[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)"])).

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3.1.4.2.1.1 bounds (Bounds)

This element defines the size and position of the DrawingML graphical object (OfficeArt object). If the OfficeArt object has an inline text wrapping mode, then the bounds shall be relative to the top-left corner of the OfficeArt object itself and the absolute position of the OfficeArt object is determined by its position in the text run. For floating text-wrapping modes, the bounds shall be relative to the top-left corner of the page.

While the range of possible values is defined by the ST_Coordinate simple type, in Office the unit of measure for the attributes of this element is the twip. A twip is equivalent to 1/1440th of an inch (or one-twentieth of a point).

Parent Elements
downRevStg (§3.1.4.2.1.2, downRevStg)

Attributes	Description
b (Bottom)	The position of the bottom side of the OfficeArt object. The possible values for this attribute are defined by the ST_CoordinateUnqualified simple type (§3.1.4.2.2.1, ST_CoordinateUnqualified).
l (Left)	The position of the left side of the OfficeArt object. The possible values for this attribute are defined by the ST_CoordinateUnqualified simple type (§3.1.4.2.2.1, ST_CoordinateUnqualified).
r (Right)	The position of the right side of the OfficeArt object. The possible values for this attribute are defined by the ST_CoordinateUnqualified simple type (§3.1.4.2.2.1, ST_CoordinateUnqualified).
t (Top)	The position of the top side of the OfficeArt object. The possible values for this attribute are defined by the ST_CoordinateUnqualified simple type (§3.1.4.2.2.1, ST_CoordinateUnqualified).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_BoundRect">
  <attribute name="l" type="ST_Coordinate" use="required"/>
  <attribute name="t" type="ST_Coordinate" use="required"/>
  <attribute name="r" type="ST_Coordinate" use="required"/>
  <attribute name="b" type="ST_Coordinate" use="required"/>
</complexType>
```

3.1.4.2.1.2 downRevStg (DownRev Storage)

This is the root element of the VML embedded DrawingML, downrev part. It contains anchoring and other miscellaneous information for the embedded OfficeArt object.

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All this information will be deleted in case the VML shape is modified after it is loaded by Office.

Child Elements	Subclause
bounds (Bounds)	§3.1.4.2.1.1, bounds

Attributes	Description
shapeCheckSum (Shape Checksum)	Contains a base-64 encoded value of the MD4 hash of the shape properties. This value can be used to determine whether the associated VML shape has been modified. If shapeCheckSum is empty Office will ignore the VML shape. Third parties no longer need to generate the checksum. The possible values for this attribute are defined by the XML Schema string datatype.
textCheckSum (Text Checksum)	Contains a base-64 encoded value of the MD4 hash of the text in the OfficeArt object. Office always writes an empty string and ignores this attribute on load. The possible values for this attribute are defined by the XML Schema string datatype.
ver (Version Number)	Version number of this OfficeArt object. The value of this attribute is application-defined. Office expects a value of 0 for Beta 2 files, and a value of 1 for RTM and subsequent versions. The possible values for this attribute are defined by the XML Schema unsignedInt datatype.

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_DownRevStg">
  <sequence>
    <choice minOccurs="0" maxOccurs="1">
      <element name="bounds" type="CT BoundRect"/>
    </choice>
  </sequence>
  <attribute name="shapeCheckSum" type="xsd:string" use="required"/>
  <attribute name="textCheckSum" type="xsd:string" use="optional"/>
  <attribute name="ver" type="xsd:unsignedInt" use="optional" default="0"/>
</complexType>
```

3.1.4.2.2 Simple Types

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This is the complete list of simple types in the http://schemas.openxmlformats.org/drawingml/2006/main namespace.

3.1.4.2.2.1 ST_CoordinateUnqualified (Coordinate)

This simple type represents a one dimensional position or length in EMUs. EMUs (English Metric Units) are a high precision coordinate space (914400 dpi / 360000 dpc).

The restrictions specified in the following section apply only to Excel® 2007. For Word 2007 and PowerPoint® 2007, the simple type has a minimum value of greater than or equal to -2147483648 and a maximum value of less than or equal to 2147483647.

This simple type's contents are a restriction of the XML Schema long datatype.

This simple type also specifies the following restrictions:

- This simple type has a minimum value of greater than or equal to -27273042329600.
- This simple type has a maximum value of less than or equal to 27273042316900.

Note that Office treats these differently in some circumstances. See §20.4.2.9(a), lineTo and §20.4.2.14(a), start.

Referenced By
bounds@b (§3.1.4.2.1.1, bounds); **bounds@l** (§3.1.4.2.1.1, bounds); **bounds@r** (§3.1.4.2.1.1, bounds); **bounds@t** (§3.1.4.2.1.1, bounds); **effectOffset@b** (§3.1.4.3.1.2, effectOffset); **effectOffset@l** (§3.1.4.3.1.2, effectOffset); **effectOffset@r** (§3.1.4.3.1.2, effectOffset); **effectOffset@t** (§3.1.4.3.1.2, effectOffset)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_Coordinate">
  <restriction base="xsd:long">
    <minInclusive value="-27273042329600"/>
    <maxInclusive value="27273042316900"/>
  </restriction>
</simpleType>
```

3.1.4.3 Additional DrawingML - WordprocessingML Schema

3.1.4.3.1 Additional Elements

This section specifies the structure of the VML embedded DrawingML (see also gfxdata attribute ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)").

3.1.4.3.1.1 e2oholder (E2o Holder)

This is the root element of the VML embedded DrawingML, Graphic Frame Doc part. It contains the actual DrawingML graphical object (OfficeArt object) data.

Child Elements	Subclause
effectOffset (Effect Offset)	§3.1.4.3.1.2, effectOffset
graphic (Graphic Object)	"[ISO/IEC-29500-1] §20.1.2.2.16"

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The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_GraphicalObjectWrapper">
  <sequence>
    <element name="effectOffset" type="CT EffectOffsetStg" minOccurs="1" maxOccurs="1"/>
    <element ref="a:graphic" minOccurs="1" maxOccurs="1"/>
  </sequence>
</complexType>
```

3.1.4.3.1.2 effectOffset (Effect Offset)

This element specifies the offset between the OfficeArt object bounds and the bounds of the total area of its visual effects.

Parent Elements
e2oholder (§3.1.4.3.1.1, e2oholder)

Attributes	Description
b (Bottom Offset)	The difference between the bottom border of the effect area and the bottom border of the OfficeArt object. The possible values for this attribute are defined by the ST_CoordinateUnqualified simple type ("[ISO/IEC-29500-1] §20.1.10.19").
l (Left Offset)	The difference between left border of the OfficeArt object and the left border of the effect area. The possible values for this attribute are defined by the ST_CoordinateUnqualified simple type ("[ISO/IEC-29500-1] §20.1.10.19").
r (Right Offset)	The difference between the right border of the effect area and the right border of the OfficeArt object. The possible values for this attribute are defined by the ST_CoordinateUnqualified simple type ("[ISO/IEC-29500-1] §20.1.10.19").
t (Top Offset)	The difference between the top border of the OfficeArt object and the top border of the effect area. The possible values for this attribute are defined by the ST_CoordinateUnqualified simple type ("[ISO/IEC-29500-1] §20.1.10.19").

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_EffectOffsetStg">
  <attribute name="l" type="a:ST_Coordinate" use="required"/>
  <attribute name="t" type="a:ST Coordinate" use="required"/>
  <attribute name="r" type="a:ST Coordinate" use="required"/>
  <attribute name="b" type="a:ST_Coordinate" use="required"/>
</complexType>
```


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3.2 Excel

This section contains additional information used to more fully describe how Excel implements Office Open XML File Formats [ISO/IEC-29500-1].

3.2.1 Additional Parts

The subclauses subordinate to this one describe in detail each of the part types specific to Excel in addition to those listed as part of Office Open XML File Formats ("[ISO/IEC-29500-1] §12").

3.2.1.1 Excel Attached Toolbars Part

Content Type

application/vnd.ms-excel.attachedToolbars

Root Namespace

Not applicable

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/attachedToolbars

This binary part supports the storage of custom toolbars created by the user.

A package shall contain at most one Attached Toolbars part, and that part shall be the target of an implicit relationship from the Workbook part ("[ISO/IEC-29500-1] §12.3.23").

[Example: The following Workbook part-relationship item contains a relationship to the Attached Toolbars part, which is stored in the ZIP item attachedToolbars.bin:

```
<Relationships xmlns="…">
  <Relationship Id="rId6"
    Type="http://…/attachedToolbars" Target="attachedToolbars.bin"/>
</Relationships>
```

end example]

An Attached Toolbars part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

An Attached Toolbars part shall not have implicit or explicit relationships to any part defined by Office Open XML File Formats [ISO/IEC-29500-1].

The internal structure of the ZIP item attachedToolbars.bin is specified in the XCB section of the Excel 97-2003 Binary File Format (.xls) Structure Specification [MS-XLS] book.

3.2.1.2 Worksheet Sort Map Part

Content Type

application/vnd.ms-excel.wsSortMap+xml

Root Namespace

http://schemas.microsoft.com/office/excel/2006/main

Source Relationship

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http://schemas.microsoft.com/office/2006/relationships/wsSortMap

An instance of this part contains information about a series of before and after row or column mapping to resolve different sort operations performed on the same range by different users when the workbook is shared.

A package is permitted to contain zero or one Worksheet Sort Map part for each worksheet, and that part shall be the target of an implicit relationship from the Worksheet part ("[ISO/IEC-29500-1] §12.3.24").

[Example: The following Worksheet part-relationship item contains a relationship to the Worksheet Sort Map part, which is stored in the ZIP item wsSortMap1.xml:

```
<Relationships xmlns="…">
  <Relationship Id="rId1"
    Type="http://…/wsSortMap" Target="wsSortMap1.xml"/>
</Relationships>
```

end example]

The root element for a part of this content type shall be **worksheetSortMap**.

[Example: This Worksheet Sort Map part results from a row sort on a range containing 3 rows:

```
<worksheetSortMap xmlns:st="…">
  <rowSortMap ref="A1:XFD3" count="3">
    <row newVal="0" oldVal="1"/>
    <row newVal="1" oldVal="2"/>
    <row newVal="2" oldVal="0"/>
  </rowSortMap>
</worksheetSortMap>
```

end example]

A Worksheet Sort Map part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

A Worksheet Sort Map part shall not have implicit or explicit relationships to any part defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.2.2 Microsoft Office Excel Sortmap

This part specifies a Sort Map used by Excel to recalculate a shared workbook. This part is present only in files created by Excel SP1 and later.

3.2.2.1 Sortmap Elements

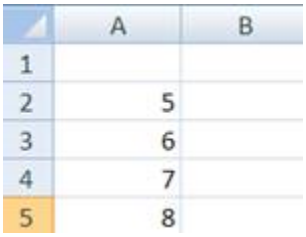
This subclause specifies the elements and simple types that comprise the Sort Map.

A sort map is used in the context of a shared workbook to record the sort order of a range of cells. This information is used to correctly update cells and formulas that depend on the sort order when revision information is applied. There is one sort map per worksheet.

The sort map consists of two components: The row sort map and the column sort map. The row sort map contains a list of row indices that need to be adjusted when revision information is applied. The row sort map is created when a range of cells is sorted top down or bottom up. The column sort map contains a list of column indices that need to be adjusted when revision information is applied. The column sort map is created when a range of cells is sorted left to right or right to left.

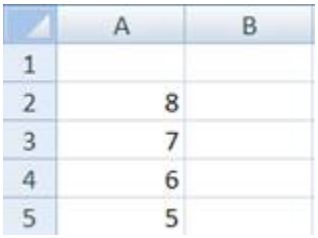
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[Example: Consider the following shared workbook:



	A	B
1		
2	5	
3	6	
4	7	
5	8	

The worksheet contains four rows of data. Once the data is sorted in descending order, the worksheet looks as follows:



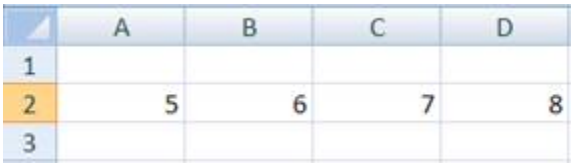
	A	B
1		
2	8	
3	7	
4	6	
5	5	

When this worksheet is saved, the following sort map should be created and saved to the file:

```
<worksheetSortMap xmlns="http://schemas.microsoft.com/office/excel/2006/main">
   <rowSortMap ref="A2:XFD5" count="4">
      <row newVal="1" oldVal="4"/>
      <row newVal="2" oldVal="3"/>
      <row newVal="3" oldVal="2"/>
      <row newVal="4" oldVal="1"/>
   </rowSortMap>
</worksheetSortMap>
```

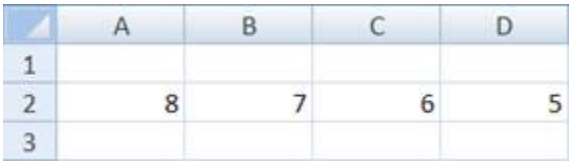
In the context of this example, the sort map implies that the contents of the second row should be replaced with the contents of the fifth row; contents of the third row should be replaced with the contents of the fourth row; and so on.

Now consider the following worksheet:



	A	B	C	D
1				
2	5	6	7	8
3				

This worksheet contains four columns of data. Once the data is sorted left to right in descending order, the worksheet looks as follows:



	A	B	C	D
1				
2	8	7	6	5
3				

When this worksheet is saved, the following sort map should be created and saved to the file:

```
<worksheetSortMap xmlns="http://schemas.microsoft.com/office/excel/2006/main">
   <colSortMap ref="A1:D1048576" count="4">
```


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```
        <col newVal="0" oldVal="3"/>
        <col newVal="1" oldVal="2"/>
        <col newVal="2" oldVal="1"/>
        <col newVal="3" oldVal="0"/>
    </colSortMap>
</worksheetSortMap>
```

In the context of this example, the sort map implies that the contents of the first column should be replaced with the contents of the fourth column; contents of the second column should be replaced with the contents of the third column; and so on.

End Example]

3.2.2.1.1 col (Column)

This element represents a single column mapping in the sort map.

Parent Elements
colSortMap (§3.2.2.1.2, colSortMap)

Attributes	Description
newVal (New Value)	Specifies the zero-based index of the column or row that contains data after a sort operation. In the context of a **row** element, the value of this attribute shall be less than *1048576*. In the context of a **col** element, the value of this attribute shall be less than *16384*. The possible values for this attribute are defined by the XML Schema unsignedInt datatype.
oldVal (Old Value)	Specifies the zero-based index of the column or row that contains data before a sort operation. In the context of a **row** element, the value of this attribute shall be less than *1048576*. In the context of a **col** element, the value of this attribute shall be less than *16384*. The possible values for this attribute are defined by the XML Schema unsignedInt datatype.

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_SortMapItem">
  <attribute name="newVal" type="xsd:unsignedInt" use="required"/>
  <attribute name="oldVal" type="xsd:unsignedInt" use="required"/>
</complexType>
```


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3.2.2.1.2 colSortMap (Column Sort Map)

This element represents the list of column mappings of the sort map.

Parent Elements
worksheetSortMap (§3.2.2.1.5, worksheetSortMap)

Child Elements	Subclause
col (Column)	§3.2.2.1.1, col

Attributes	Description
count (Count)	Specifies the number of **col** elements. The value of this attribute shall match the number of **col** elements. The possible values for this attribute are defined by the ST_SortMapCount simple type (§3.2.2.2.1, ST_SortMapCount).
ref (Reference)	Specifies the row and column bounds of the sort map. The possible values for this attribute are defined by the ST_Ref simple type ("[ISO/IEC-29500-1] §18.18.62").

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_ColSortMap">
  <sequence>
    <element name="col" type="CT_SortMapItem" minOccurs="1" maxOccurs="536870910"/>
  </sequence>
  <attribute name="ref" type="x:ST_Ref" use="required"/>
  <attribute name="count" type="ST_SortMapCount" use="optional" default="20"/>
</complexType>
```

3.2.2.1.3 row (Row)

This element represents a single row mapping in the sort map.

Parent Elements
rowSortMap (§3.2.2.1.4, rowSortMap)

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Attributes	Description
newVal (New Value)	Specifies the zero-based index of the column or row that contains data after a sort operation. In the context of a **row** element, the value of this attribute shall be less than *1048576*. In the context of a **col** element, the value of this attribute shall be less than *16384*. The possible values for this attribute are defined by the XML Schema unsignedInt datatype.
oldVal (Old Value)	Specifies the zero-based index of the column or row that contains data before a sort operation. In the context of a **row** element, the value of this attribute shall be less than *1048576*. In the context of a **col** element, the value of this attribute shall be less than *16384*. The possible values for this attribute are defined by the XML Schema unsignedInt datatype.

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_SortMapItem">
  <attribute name="newVal" type="xsd:unsignedInt" use="required"/>
  <attribute name="oldVal" type="xsd:unsignedInt" use="required"/>
</complexType>
```

3.2.2.1.4 rowSortMap (Row Sort Map)

This element represents a list of row mappings of the sort map.

Parent Elements
worksheetSortMap (§3.2.2.1.5, worksheetSortMap)

Child Elements	Subclause
row (Row)	§3.2.2.1.3, row

Attributes	Description
count (Count)	Specifies the number of **row** elements. The value of this attribute shall match the number of **row** elements.

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Attributes	Description
	The possible values for this attribute are defined by the ST_SortMapCount simple type (§3.2.2.2.1, ST_SortMapCount).
ref (Reference)	Specifies the row and column bounds of the sort map. The possible values for this attribute are defined by the ST_Ref simple type ("[ISO/IEC-29500-1] §18.18.62").

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_RowSortMap">
  <sequence>
    <element name="row" type="CT_SortMapItem" minOccurs="1" maxOccurs="536870910"/>
  </sequence>
  <attribute name="ref" type="x:ST_Ref" use="required"/>
  <attribute name="count" type="ST_SortMapCount" use="optional" default="20"/>
</complexType>
```

3.2.2.1.5 worksheetSortMap (Worksheet Sort Map)

This element represents the row and column sort mappings associated with a worksheet.

Child Elements	Subclause
colSortMap (Column Sort Map)	§3.2.2.1.2, colSortMap
rowSortMap (Row Sort Map)	§3.2.2.1.4, rowSortMap

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT WorksheetSortMap">
  <sequence>
    <element name="rowSortMap" type="CT_RowSortMap" minOccurs="0" maxOccurs="1"/>
    <element name="colSortMap" type="CT_ColSortMap" minOccurs="0" maxOccurs="1"/>

  </sequence>
</complexType>
```

3.2.2.2 Simple Types

This is the complete list of simple types in the http://schemas.microsoft.com/office/excel/2006/main namespace.

3.2.2.2.1 ST_SortMapCount (Sort Map Count)

This simple type represents the count of row or column sort map entries.

This simple type's contents are a restriction of the XML Schema unsignedInt datatype.

This simple type also specifies the following restrictions:

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- This simple type has a maximum value of less than or equal to 536870910.

Referenced By
colSortMap@count (§3.2.2.1.2, colSortMap); **rowSortMap@count** (§3.2.2.1.4, rowSortMap)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_SortMapCount">
  <restriction base="xsd:unsignedInt">
    <maxInclusive value="536870910"/>
  </restriction>
</simpleType>
```

3.2.3 Additional SpreadsheetML Schema

The subordinate clauses define additional information in the SpreadsheetML schema used by Excel.

3.2.3.1 Formulas

3.2.3.1.1 Structure References

A structure reference has the following form:

```
structure-reference=
[table-identifier], intra-table-reference ;
table-identifier=
[book-prefix], table-name ;
table-name=
name ;
intra-table-reference=
spaced-lbracket, inner-reference, spaced-rbracket |
keyword |
'[', [simple-column-name], ']' ;
inner-reference=
keyword-list |
[keyword-list, spaced-comma], column-range ;
keyword=
"[#All]" | "[#Data]" | "[#Headers]" | "[#Totals]" | "[#This Row]" ;
keyword-list=

keyword |
"[#Headers]", spaced-comma, "[#Data]" |
"[#Data]", spaced-comma, "[#Totals]" ;
column-range=
column, [":", column] ;
column=
simple-column-name |
spaced-lbracket, {space}, simple-column-name, {space}, spaced-rbracket ;
simple-column-name=
[any-nospace-column-character, {any-column-character }], any-nospace-column-character ;
escape-column-character=
"'" | "[" | "]" | "#" ;
any-column-character=
character - escape-column-character |
"'", escape-column-character ;
any-nospace-column-character=
any-column-character - space ;
spaced-comma=
[space], ",", [space] ;
```


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```
spaced-lbracket=
"[", [space] ;
spaced-rbracket=
[space], "]" ;
```

Structure references define rectangular sections of tables using special syntax, table column names, and reserved keywords instead of relative or absolute references. Structure references do not need adjustment if tables they refer to have been modified. They also provide a mechanism to define areas using meaningful table column names instead of less helpful cell references.

table-name is the name of the table the structure reference refers to. If it is missing, then the formula containing the structure reference must be entered into a cell that belongs to a table, and that table's name is used as the table-name. table-name must be a name of a table. It must not be any other user-defined name.

table-name[] refers to all cells in table-name except Header Row and Total Row.

table-name[#Data] refers to all table-name's cells except Header Row and Total Row. It is equivalent to the form table-name[].

table-name[#Headers] refers to all cells in table-name's Header Row.

table-name[#Total Row] refers to all cells in the table-name's Total Row

table-name[#All] refers to the entire table area. table-name[#All] is the union of table-name[#Headers], table-name[#Data], and table-name[#Total Row]

table-name[column-name] refers to all cells in the column named column-name except the cells from Header Row and Total Row.

table-name[[column-name]] refers to all cells in the column named column-name except the cells from Header Row and Total Row.

table-name[[column-name1]:[column-name2]] refers to all cells from column named column-name1 through column named column-name2 except the cells from Header Row and Total Row.

table-name[[keyword],[column-name]], where keyword is one of #Headers, #Total Row, #Data, #All, refers to the intersection of the area defined by table-name[keyword] and all cells from the column named column-name.

table-name[[#Data],[column-name]] is equivalent to table-name[column-name]

table-name[[keyword],[column-name1]:[column-name2]], where keyword is one of #Headers, #Total Row, #Data, #All, refers to the intersection of the area defined by table-name[keyword] and all cells from the table from column named column-name1 through column named coumn-name2.

table-name[[#Headers],[#Data],[column-name]] is the union of table-name[[#Headers],[column-name]] and table-name[[#Data],[column-name]]

table-name[[#Data],[#Total Row],[column-name]] is the union of table-name[[#Data],[column-name]] and table-name[[#Total Row],[column-name]]

table-name[[#Headers],[#Data],[column-name1]:[column-name2]] is the union of table-name[[#Headers], [column-name1]:[column-name2]] and table-name[[#Data], [column-name1]:[column-name2]]

table-name[[#Data],[#Total Row], [column-name1]:[column-name2]] is the union of table-name[[#Data], [column-name1]:[column-name2]] and table-name[[#Total Row], [column-name1]:[column-name2]]

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table-name[[#This Row],[column-name]] refers to the cell in the intersection of table-name[column-name] and the current row; for example, the row of the cell that contains the formula with the structure reference. table-name[[#This Row],[column-name1]:[column-name2]]refers to the cells in the intersection of table-name[[column-name]:[column-name2]] and the current row; for example, the row of the cell that contains the formula with such structure reference. These two forms allow formulas to perform implicit intersection using structure references.

#This Row must not be combined with any of #Headers, #Total Row, #Data, #All.

3.2.3.1.2 Conditional Formatting Formulas

Conditional formatting formulas are part of conditional formatting rules.

A conditional formatting formula shall not use array constants.

A conditional formatting formula shall not use structure references.

A conditional formatting formula shall not use union and intersection binary operators.

A conditional formatting formula shall not use 3-D references.

```
CF-formula=
CF-expression ;
CF-expression= {space}, CF-nospace-expression, {space} ;
CF-nospace-expression=
"(", CF-expression, ")" |
CF-constant |
prefix-operator, CF-expression |
CF-expression, CF-infix-operator, CF-expression |
CF-expression, postfix-operator |
A1-reference |
CF-function-call |
name ;
CF-constant=
constant – array-constant ;
CF-infix-operator=
":" | "^" | "*" | "/" | "+" | "-" | "&"|
"=" | "<>" | "<" | "<=" | ">" | ">=" ;
CF-function-call=
CF-function-name, "(", CF-function-argument-list, ")" ;
CF-function-name=
predefined-function-name |
name ;
CF-function-argument-list =
[CF-expression], { comma, CF-function-argument-list } ;
```

3.2.3.1.3 Data Validation Formulas

Data validation formulas are part of Data Validation rules. They shall not use array constants, structure references, or union or intersection binary operators.

```
DV-formula=
DV-expression ;
DV-expression= {space}, DV-nospace-expression, {space} ;
DV-nospace-expression=
"(", DV-expression, ")" |
DV-constant |
prefix-operator, DV-expression |
DV-expression, DV-infix-operator, DV-expression |
DV-expression, postfix-operator |
A1-reference |
function-call |
```


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```
name ;
DV-constant=
constant – array-constant ;
DV-infix-operator=
":" | "^" | "*" | "/" | "+" | "-" | "&"|
"=" | "<>" | "<" | "<=" | ">" | ">=" ;
DV-function-call=
DV-function-name, "(", DV-function-argument-list, ")" ;
DV-function-name=
predefined-function-name |
name ;
DV-function-argument-list=
[DV-expression], { comma, DV-function-argument-list } ;
```

3.2.3.1.4 Name Formulas

If a name is defined as an alias for a formula then that formula shall contain 3-D references only.

```
name-formula=
name-expression ;
name-expression= {space}, name-nospace-expression, {space} ;
name-nospace-expression=
"(", name-expression, ")" |
constant |
prefix-operator, name-expression |
name-expression, infix-operator, name-expression |
name-expression, postfix-operator |
external-cell-reference |
"!", A1-reference |
name-function-call |
name-reference |
"!", name |
structure-reference ;
name-function-call=
function-name, "(", name-function-argument-list, ")" ;
name-function-argument-list=
[name-expression], { comma, name-function-argument-list } ;
```

3.2.3.1.5 External Name Formulas

External name formulas are restricted to cell references within the same external book.

```
external-name-formula=
["="], external-name-expression ;

external-name-expression=
same-book-prefix, A1-reference |
external-name-error-constant ;
same-book-prefix= same-book-single-sheet, "!" |
  same-book-sheet-range, "!" ;
same-book-single-sheet= sheet-name |
  apostrophe,  sheet-name-special,  apostrophe ;
same-book-sheet-range= sheet-name, ":", sheet-name |
apostrophe, sheet-name-special, ":", sheet-name-special,  apostrophe ;

external-name-error-constant=
"#REF!" ;
```

3.2.3.1.6 Chart formulas

Chart formulas define data ranges and values used by charts, such as chart ranges, series ranges, series titles, and axis titles.

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A chart formula shall be either a 3-D reference or a constant.

```
chart-formula=
chart_ref |
"(", chart-ref, ",", chart-ref, {",", chart-ref}, ")"
chart_ref =
external-cell-reference |
external-name ;
```

3.2.3.1.7 R1C1 formulas

In R1C1 formulas, R1C1-style references shall be used instead of A1-style references.

An R1C1 formula has the following form:

```
R1C1-formula=
R1C1-expression ;
R1C1-expression=
{space}, nospace-R1C1-expression, {space};
nospace-R1C1-expression=
"(", R1C1-expression,  ")"  |
constant  |
prefix-operator, R1C1-expression  |
R1C1-expression,  infix-operator, R1C1-expression  |
R1C1-expression,  postfix-operator  |
R1C1-cell-reference  |
R1C1-function-call  |
name-reference  |
structure-reference ;
R1C1-function-call=
  function-name,  "(",  R1C1-argument-list,  ")" ;
R1C1-argument-list=
R1C1-argument,  {  comma,  R1C1-argument  } ;
R1C1-argument=
[R1C1-expression] ;
R1C1-cell-reference=
[sheets-prefix]  R1C1-reference ;
```

3.2.3.1.8 Pivot Formulas

Pivot formulas are used to define calculated items or calculated fields for PivotTables.

Pivot formulas shall not use user-defined names.

A pivot formula shall not use array constants.

A pivot formula shall not use cell references.

A pivot formula shall not use structure references.

A pivot formula shall not use calls to the following worksheet functions: GETPIVOTDATA, DCOUNT, DCOUNTA, DSUM, DAVERAGE, DMIN, DMAX, DPRODUCT, DSTDEV, DSTDEVP, DVAR, DVARP, INDEX, RAND, NOW, AREAS, ROWS, COLUMNS, OFFSET, CELL, INDIRECT, TODAY, INFO, and RANDBETWEEN.

A pivot formula shall not use calls to user-defined functions.

3.2.3.1.8.1 Calculated Field Formulas

A calculated field formula defines calculations using the contents of fields in a PivotTable.

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The only names a calculated field formula shall use are names of fields defined within the PivotTable the formula is used for.

A calculated field formula has the following form:

```
pivot-field-formula=
pivot-field-expression ;
pivot-field-expression=
{space}, pivot-nospace-field-expression, {space} ;
pivot-nospace-field-expression=
"(", pivot-field-expression, ")" |
pivot-constant |
prefix-operator, pivot-field-expression |
pivot-field-expression, pivot-infix-operator, pivot-field-expression |
pivot-field-expression, postfix-operator |
pivot-field-function-call |
pivot-field-name ;
pivot-constant=
constant – array-constant ;
pivot-infix-operator=
"^" | "*" | "/" | "+" | "-" | "&"|
"=" | "<>" | "<" | "<=" | ">" | ">=" ;
pivot-field-function-call=
pivot-function-name, "(", pivot-field-function-argument-list, ")" ;
pivot-field-function-argument-list =
[pivot-field-expression], { comma, pivot-field-function-argument-list} ;
pivot-function-name=
predefined-function-name - pivot-function-invalid-name;
pivot-function-invalid-name=
"GETPIVOTDATA" | "DCOUNT" | "DCOUNTA" | "DSUM" | "DAVERAGE" |
"DMIN" | "MAX" | "DPRODUCT" | "DSTDEV" | "DSTDEVP" | "DVAR" |
"DVARP" | "INDEX" | "RAND" | "NOW" | "AREAS" | "ROWS" | "COLUMNS" |
"OFFSET" | "CELL" | "INDIRECT" | "TODAY" | "INFO" | "RANDBETWEEN" ;
pivot-field-name=
name – pivot-invalid-name |
"'" [pivot-field-string-chars] "'" ;
pivot-invalid-name=
"All" | "Blank" ;
pivot-field-string-chars=
pivot-field-string-char, { pivot-field-string-chars} ;
pivot-field-string-char=
"''" |
character - "'" ;
```

3.2.3.1.8.2 Calculated Item Formulas

A calculated item formula defines calculations using the contents of items in a PivotTable.

The only names calculated item formula shall use are names of fields and items defined within the PivotTable the formula is used for.

A calculated item formula has the following form:

```
pivot-item-formula=
pivot-item-expression ;
pivot-item-expression= {space}, pivot-nospace-item-expression, {space} ;
pivot-nospace-item-expression=
"(", pivot-item-expression, ")" |
pivot-constant |
prefix-operator, pivot-item-expression |
pivot-item-expression, pivot-infix-operator, pivot-item-expression |
pivot-item-expression, postfix-operator |
pivot-item-function-call |
pivot-items ;
pivot-item-function-call=
```


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```
pivot-function-name, "(", pivot-item-function-argument-list, ")" ;
pivot-item-function-argument-list=
[pivot-item-expression], { comma, pivot-item-function-argument-list} ;
pivot-items=
pivot_item, [ space, {space}, pivot-items] ;
pivot-item=
pivot-item-name |
pivot-field-name, "[", pivot-item-value, "]" ;
pivot-item-name=
pivot-field-name
pivot-item-value=
pivot-item-name |
[sign], whole-number-part
```

pivot-item refers to an item either by its name or by position.

pivot-item-name refers to an item by its name.

pivot-field-name [pivot-item-name] refers to an item by its field name and its own name. This notation shall be used to avoid #NAME? errors when two items in two different fields have the same name.

pivot-field-name[whole-number-part] refers to an item by its position in the PivotTable as currently sorted and displayed. The item referred to in this way can change whenever the positions of items change or different items are displayed or hidden. Hidden items are not counted in this index.

pivot-field-name [sign whole-number-part] refers to an item using relative positions. The positions are determined relative to the calculated item that contains the formula.

3.2.3.1.9 OLE Link Formulas

An OLE Link formula is a `name-reference` to an **oleItem** ("[ISO/IEC-29500-1] §18.14.9; oleItem"). The **name** attribute of the **oleItem** element shall be "" (apostrophe, 0x0027).

```
book-prefix, apostrophe, apostrophe, apostrophe, apostrophe ;
```

`book-prefix` refers to an **externalLink** ("[ISO/IEC-29500-1] §18.14.8; externalLink") part containing the **oleItem** element.

3.3 PowerPoint

This section contains additional information used to more fully describe how PowerPoint implements Office Open XML File Formats [ISO/IEC-29500-1].

3.3.1 Additional Parts

The subclauses subordinate to this one describe in detail each of the part types specific to PowerPoint in addition to those listed as part of Office Open XML File Formats ("[ISO/IEC-29500-1] §13").

3.3.1.1 Legacy Diagram Text part

Content Type

application/vnd.ms-office.legacyDiagramText

Root Namespace

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not applicable

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/legacyDiagramText

An instance of this part type contains a portion of text within a legacy diagram. Each instance of this part type shall uniquely represent a portion of text within a single diagram contained within the presentation.

A package shall contain one Legacy Diagram Text part for each portion of legacy diagram text within the presentation. If they exist, those parts shall each be the target of an explicit relationship from the corresponding VML Drawing part ("[ISO/IEC-29500-4] §8.1; VML Drawing Part").

The Legacy Diagram Text part is binary information that is defined in the PowerPoint 97-2003 Binary File Format (.ppt) Structure Specification ("[MS-PPT] Section 2.9.76; OfficeArtClientTextbox").

A Legacy Diagram Text part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

A Legacy Diagram Text part shall not have implicit or explicit relationships to any other part defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.3.1.2 Legacy Diagram Text Info part

Content Type

application/vnd.ms-office.legacyDocTextInfo

Root Namespace

not applicable

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/legacyDocTextInfo

An instance of this part type contains the text styling information for all legacy diagram text contained within the presentation.

A package shall contain at most one Legacy Diagram Text Info part, and that part shall be the target of an implicit relationship from the Presentation part ("[ISO/IEC-29500-1] §13.3.6").

The Legacy Diagram Text Info part is binary information that is defined in the PowerPoint 97-2003 Binary File Format (.ppt) Structure Specification ("[MS-PPT] Section 2.9.1; DocumentTextInfoContainer").

A Legacy Diagram Text part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

A Legacy Diagram Text part shall not have implicit or explicit relationships to any other part defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.3.1.3 SmartTags part

Content Type

application/vnd.ms-powerpoint.smartTags

Root Namespace

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not applicable

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/smartTags

An instance of this part type contains the smart data information for all smart tag-referring text contained within the presentation.

A package shall contain at most one SmartTag part, and that part shall be the target of an explicit relationship from the Presentation part ("[ISO/IEC-29500-1] §13.3.6").

The SmartTags part is binary information that is defined in the PowerPoint 97-2003 Binary File Format (.ppt) Structure Specification ("[MS-PPT] Section 2.11.28; SmartTagStore11Container").

A SmartTags part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

A SmartTags part shall not have implicit or explicit relationships to any other part defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.4 Shared

This section contains additional information used to more fully describe how Office implements Office Open XML File Formats [ISO/IEC-29500-1].

3.4.1 Additional Parts

The subclauses subordinate to this one describe in detail each of the shared part types in addition to those listed in Office Open XML File Formats ("[ISO/IEC-29500-1] §15").

3.4.1.1 Embedded Control Persistence Binary Data Part

Content Type

Binary data representing various properties of an ActiveX control, a standard COM picture object, or a standard COM font object which are persisted using persistStorage, persistStream, or persistStreamInit, as indicated by the persistence attribute of the corresponding Embedded Control Persistence part ("[ISO/IEC-29500-1] §15.2.9").

[Note: The content of the binary data shall be solely determined by the corresponding object. end note]

Root Namespace

not applicable

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/activeXControlBinary

An instance of this part contains information about an embedded control in the package. This information is provided by the specified control when asked to persist.

A package is permitted to contain one or more Embedded Control Persistence Binary Data parts, and each such part shall be the target of an explicit relationship in an Embedded Control Persistence ("[ISO/IEC-29500-1] §15.2.9") part-relationship item in a WordprocessingML package; a Worksheet part ("[ISO/IEC-29500-1] §12.3.24") in a SpreadsheetML package; or a Handout Master ("[ISO/IEC-29500-1] §13.3.3"), Notes Master ("[ISO/IEC-29500-1] §13.3.4"), Notes Slide ("[ISO/IEC-29500-1]

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§13.3.5"), Slide ("[ISO/IEC-29500-1] §13.3.8"), Slide Layout ("[ISO/IEC-29500-1] §13.3.9"), or Slide Master ("[ISO/IEC-29500-1] §13.3.10") part-relationship item in a PresentationML package.

The content type of this part shall determine the internal format and contents of the embedded control.

[Example: The following example shows the persistence that could be used for an embedded ActiveX control within a WordprocessingML document:

```
<ax:ocx ax:classid="{C74190B6-8589-11D1-B16A-00C0F0283628}" ax:license="9368265E-85FE-11d1-
8BE3-0000F8754DA1" ax:persistence="persistStorage" r:id="rId1"
xmlns:ax="http://schemas.microsoft.com/office/2006/activeX"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"/>
```

The relationship type for rId1 is:
`http://schemas.microsoft.com/office/2006/relationships/activeXControlBinary`

The content of the part referenced by rId1 could be any binary data that can be interpreted by the corresponding control. end example]

An Embedded Control Persistence Binary Data part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

An Embedded Control Persistence Binary Data part shall not have any implicit or explicit relationships to other parts defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.4.1.2 Quick Access Toolbar Customizations Part

Content Type

application/xml

Root Namespace

http://schemas.microsoft.com/office/2006/01/customui

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/ui/userCustomization

An instance of this part type contains information about the quick access toolbar customizations ([MS-CUSTOMUI]) specific to this package.

[Example: A user customized the quick access toolbar for his WordProcessingML document to contain the UI controls that they commonly use. end example]

A package is permitted to contain at most one Quick Access Toolbar Customizations part, and that part shall be the target of a relationship in the package-relationship item for the document.

[Example: The following package part-relationship item contains a relationship to a Quick Access Toolbar Customizations part, which is stored in the ZIP item /userCustomization/customUI.xml:

```
<Relationships xmlns="…">
<Relationship Id="rId2"
Type="http://…/2006/relationships/ui/userCustomization"
Target="/userCustomization/customUI.xml" />
</Relationships>
```


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end example]

The root element for a part of this content type shall be **customUI**.

[Example: The following Quick Access Toolbar Customizations content markup would specify that the control with ID *SpellingAndGrammar* should be added to the quick access toolbar for the package:

```
<mso:customUI xmlns:mso="http://schemas.microsoft.com/office/2006/01/customui">
<mso:ribbon>
<mso:qat>
<mso:documentControls>
<mso:control idQ="mso:SpellingAndGrammar" visible="true" />
</mso:documentControls>
</mso:qat>
</mso:ribbon>
</mso:customUI>
```

end example]

A Quick Access Toolbar Customizations part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

A Quick Access Toolbar Customizations part shall not have implicit or explicit relationships to any other part defined by Office Open XML File Formats [ISO/IEC-29500-1].

3.4.1.3 CustomUI Part

Content Type

application/xml

Root Namespace

http://schemas.microsoft.com/office/2006/01/customui

Source Relationship

http://schemas.microsoft.com/office/2006/relationships/ui/extensibility

An instance of this part type contains information about the Ribbon customizations ([MS-CUSTOMUI]) specific to this package.

[Example: A SpreadsheetML document that represents a timecard could contain custom UI controls to guide the user in filling out the timecard. end example]

A package is permitted to contain at most one CustomUI part, and that part shall be the target of a relationship in the package-relationship item for the document.

[Example: The following package part-relationship item contains a relationship to a CustomUI part, which is stored in the ZIP item /customUI/customUI.xml:

```
<Relationships xmlns="…">
<Relationship Id="rId5"
Type="http://…/2006/relationships/ui/extensibility"
Target="/customUI/customUI.xml" />
</Relationships>
```

end example]

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The root element for a part of this content type shall be **customUI**.

[Example: The following CustomUI content markup would specify that the ribbon tab with ID *TabHome* should be hidden for the containing package:

```
<customUI xmlns="http://schemas.microsoft.com/office/2006/01/customui">
<ribbon>
<tabs>
<tab idMso="TabHome" visible="false" />
</tabs>
</ribbon>
</customUI>
```

end example]

A CustomUI part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

A CustomUI part is permitted to have explicit relationships to the following parts defined by Office Open XML File Formats:

- Image Part ("[ISO/IEC-29500-1] §15.2.14")

3.4.1.4 CustomUI2 Part

Content Type

application/xml

Root Namespace

http://schemas.microsoft.com/office/2007/10/customui

Source Relationship

http://schemas.microsoft.com/office/2007/relationships/ui/extensibility

An instance of this part type contains information about the Ribbon and Backstage(TM) view customizations ([MS-CUSTOMUI2]) specific to this package.

[Example: A SpreadsheetML document that is part of a document management system could contain Backstage controls to guide the user in the document workflow process. end example]

A package is permitted to contain at most one CustomUI2 part, and that part shall be the target of a relationship in the package-relationship item for the document. If a package contains both a CustomUI and CustomUI2 part then only the CustomUI2 part is applied. If a package contains a CustomUI part and does not contain a CustomUI2 part then the CustomUI part is applied.

[Example: The following package part-relationship item contains a relationship to a CustomUI2 part, which is stored in the ZIP item /customUI/customUI2.xml:

```
<Relationships xmlns="…">
<Relationship Id="rId6"
Type="http://…/2007/relationships/ui/extensibility"
Target="/customUI/customUI2.xml" />
</Relationships>
```

end example]

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The root element for a part of this content type shall be **customUI**.

[Example: The following CustomUI2 content markup would specify that the print tab in the Backstage view with ID *PlacePrint* should be hidden for the containing package:

```
<customUI xmlns="http://schemas.microsoft.com/office/2007/10/customui">
<outSpace>
<place idMso="PlacePrint" visible="false" />
</outSpace>
</customUI>
```

end example]

A CustomUI2 part shall be located within the package containing the source relationship (expressed syntactically, the **TargetMode** attribute of the **Relationship** element shall be *Internal*).

A CustomUI2 part is permitted to have explicit relationships to the following parts defined by Office Open XML File Formats:

- Image Part ("[ISO/IEC-29500-1] §15.2.14")

3.4.1.5 Sensitivity Label Information Part

Content Type

application/xml

Root Namespace

http://schemas.microsoft.com/office/2020/mipLabelMetadata

Source Relationship

http://schemas.microsoft.com/office/2020/02/relationships/classificationlabels

An instance of this part type contains **sensitivity label metadata** specific to this package.

A package is permitted to contain at most one Sensitivity Label Information part, and that part shall be the target of a relationship in the package-relationship item for the document. If a file contains both a LabelInfo **stream** ([MS-OFFCRYPTO] section 2.6.4) and Sensitivity Label Information part in the encrypted package ([MS-OFFCRYPTO] section 2.3.4.4) then only the LabelInfo stream ([MS-OFFCRYPTO] section 2.6.4) is applied. If a package contains a Sensitivity Label Information part and the file is not encrypted with **Information Rights Management (IRM)** ([MS-OFFCRYPTO]) then the Sensitivity Label Information part is applied.

[Example: The following package part-relationship item contains a relationship to a Sensitivity Label Information part, which is stored in the ZIP item /docMetadata/LabelInfo.xml:

```
<Relationships xmlns="...">
<Relationship Id="rId4"
Type="http://schemas.microsoft.com/office/2020/02/relationships/classificationlabels"
Target="docMetadata/LabelInfo.xml"/></Relationships>
```

end example]

The root element for a part of this content type shall be **labelList** ([MS-OFFCRYPTO] section 2.6.4.3).

Some workflows, for example advanced collaboration features using documents uploaded to Microsoft SharePoint Online, require that writers make the same change to the document. Different

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implementations can lead to subtle syntactic differences between the files. Even though the data represented in the parts are identical (and would resolve as such if read with a standard XML reader), the files would nonetheless fail to compare byte-for-byte. To solve this issue, the two writers involved must be written cooperatively to ensure stricter rules are followed to guarantee identical XML generation. These stricter rules are not a requirement of this schema, but rather in the cooperative generation of XML between two endpoints in this situation. The Microsoft Information Protection SDK version 1.7 ([MSFT-MIPSDK] see class PolicyEngine) implements these stricter writing requirements in order to implement the cooperative XML writing necessary to avoid false conflicts when SharePoint Online and a client implementation both need to make the same edit to the part in a file in parallel.

3.5 Office Well Defined Custom XML Parts

Office reads and writes a set of well-defined Custom XML Parts. Custom XML Parts, in general, are described in Custom XML Data Storage Part ("[ISO/IEC-29500-1] §15.2.5") and Custom XML Data Properties ("[ISO/IEC-29500-1] §22.5"). In addition to implementing the relevant portions of Office Open XML File Formats [ISO/IEC-29500-1], Office understands a predefined set of schemas when applied to Custom XML Parts.

This clause and its subordinate subclauses describe the structure and content of these well-defined parts.

[Note: For convenience, information from those subclauses is summarized in the following table:

Part	Root Element	Namespace	Ref
Cover Page Properties	coverPageProperties	http://schemas.microsoft.com/office/2006/coverPageProps	§3.5.1, Cover Page Properties
Content Type Schema	contentTypeSchema	http://schemas.microsoft.com/office/2006/metadata/contentType	§3.5.2, Content Type Schemas
Custom Document Information Panel	customPropertyEditors	http://schemas.microsoft.com/office/2006/customDocumentInformationPanel	§3.5.3, Custom Document Information Panel
Custom XSN	customXsn	http://schemas.microsoft.com/office/2006/metadata/customXsn	§3.5.4, Custom XSN
Long Properties	longProperties	http://schemas.microsoft.com/office/2006/metadata/longProperties	§3.5.5, Long Properties

end note]

3.5.1 Cover Page Properties

The Cover Page Properties is comprised of a Custom XML Data Storage Part ("[ISO/IEC-29500-1] §15.2.5") which contains the Cover Page Properties information, and a Custom XML Data Storage Properties Part ("[ISO/IEC-29500-1] §15.2.6") which contains the set of properties for the custom XML data.

The XML contents of the data storage part conform to the schema defined in Cover Page Properties Schema (§3.5.1.1, Cover Page Properties Schema).

The root element of the Custom XML Data Storage Part shall be CoverPageProperties (§3.5.1.1.1.6, CoverPageProperties).

The Associated XML Schema ("[ISO/IEC-29500-1] §22.5.2.2; schemaRef") for this Custom XML Data Storage Part shall be “http://schemas.microsoft.com/office/2006/coverPageProps”.

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3.5.1.1 Cover Page Properties Schema

Cover page properties define a set of document properties available for use on a Word cover page.

3.5.1.1.1 Elements

3.5.1.1.1.1 Abstract (Document Abstract)

This element specifies an abstract of the document content.

Parent Elements
CoverPageProperties (§3.5.1.1.1.6, CoverPageProperties)

3.5.1.1.1.2 CompanyAddress (Company Address)

This element specifies the address of the company to be used in the document.

Parent Elements
CoverPageProperties (§3.5.1.1.1.6, CoverPageProperties)

3.5.1.1.1.3 CompanyEmail (Company Email Address)

This element specifies the e-mail address of the company to be used in the document.

Parent Elements
CoverPageProperties (§3.5.1.1.1.6, CoverPageProperties)

3.5.1.1.1.4 CompanyFax (Company Fax Number)

This element specifies the fax number of the company to be used in the document.

Parent Elements
CoverPageProperties (§3.5.1.1.1.6, CoverPageProperties)

3.5.1.1.1.5 CompanyPhone (Company Phone Number)

This element specifies the phone number of the company to be used in the document.

Parent Elements
CoverPageProperties (§3.5.1.1.1.6, CoverPageProperties)

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3.5.1.1.1.6 CoverPageProperties (Cover Page Properties)

This element is the parent element of properties that are typically used for a document cover page.

Child Elements	Subclause
Abstract (Document Abstract)	§3.5.1.1.1.1, Abstract
CompanyAddress (Company Address)	§3.5.1.1.1.2, CompanyAddress
CompanyEmail (Company Email Address)	§3.5.1.1.1.3, CompanyEmail
CompanyFax (Company Fax Number)	§3.5.1.1.1.4, CompanyFax
CompanyPhone (Company Phone Number)	§3.5.1.1.1.5, CompanyPhone
PublishDate (Document Publish Date)	§3.5.1.1.1.7, PublishDate

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_CoverPageProperties">
  <sequence>
    <element name="PublishDate" type="ST_PublishDate"/>
    <element name="Abstract" type="xsd:string"/>
    <element name="CompanyAddress" type="xsd:string"/>
    <element name="CompanyPhone" type="xsd:string"/>
    <element name="CompanyFax" type="xsd:string"/>
    <element name="CompanyEmail" type="xsd:string"/>
  </sequence>
</complexType>
```

3.5.1.1.1.7 PublishDate (Document Publish Date)

Specifies the date this document was published.

The possible values for this element are defined by the ST_PublishDate simple type (§3.5.1.1.2.1, ST_PublishDate).

Parent Elements
CoverPageProperties (§3.5.1.1.1.6, CoverPageProperties)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_PublishDate">
  <union memberTypes="xsd:date xsd:dateTime xsd:string"/>
</simpleType>
```

3.5.1.1.2 Simple Types

This is the complete list of simple types in the http://schemas.microsoft.com/office/2006/coverPageProps namespace.

3.5.1.1.2.1 ST_PublishDate (Publish Date Value)

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The publish date may be specified in either the XML Schema Date format, the XML Schema DateTime format, or simply as a string.

This simple type is a union of the following types:

- The XML Schema date datatype.
- The XML Schema dateTime datatype.
- The XML Schema string datatype.

Referenced By
PublishDate (§3.5.1.1.1.7, PublishDate)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_PublishDate">
  <union memberTypes="xsd:date xsd:dateTime xsd:string"/>
</simpleType>
```

3.5.2 Content Type Schemas

The Content Type Schemas is comprised of a Custom XML Data Storage Part ("[ISO/IEC-29500-1] §15.2.5") which contains the Content Type Schemas information, and a Custom XML Data Storage Properties Part ("[ISO/IEC-29500-1] §15.2.6") which contains the set of properties for the custom XML data.

The XML contents of the data storage part conform to the schema defined in Content Type Schemas Schema (§3.5.2.1, Content Type Schemas Schema).

The root element of the Custom XML Data Storage Part shall be contentTypeSchema (§3.5.2.1.1.1, contentTypeSchema).

The Associated XML Schema ("[ISO/IEC-29500-1] §22.5.2.2; schemaRef") for this Custom XML Data Storage Part shall be “http://schemas.microsoft.com/office/2006/metadata/contentType”.

3.5.2.1 Content Type Schemas Schema

Content Type Schemas define the general look and composition of UI elements presented in a Document Information Panel. Information in the content type schema is derived from a content type associated with documents on Windows SharePoint Services. A Content Type Schema is used in conjunction with a CustomXSN element (§3.5.4.1.1.2, customXsn) data to fully define the behaviors of the Document Information Panel.

3.5.2.1.1 Elements

3.5.2.1.1.1 contentTypeSchema (Schema for Content Type)

The attributes and children of this element collectively specify a schema for the custom XML data part that specifies properties related to the content type associated with the document on Windows SharePoint Services. Each child of this element is an xsd:schema element, possibly decorated with attributes from the http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes namespace, that describes one or more elements that appear in that custom XML data part.

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In the following description, let the term 'content type' refer specifically to the root element of the Content Type Definition Type as described in Collaborative Application Markup Language (CAML) Structure Specification ([MS-WSSCAML] Subclause 2.4.1.1).

The **contentTypeSchema** element shall contain an **xsd:schema** child element which has an **ma:root** attribute (§3.5.2.2.1, Shared Attributes) with a value of *true*. This **xsd:schema** must have a **targetNamespace** attribute whose value is set to *http://schemas.microsoft.com/office/2006/metadata/properties*. The **xsd:schema** must declare and import any namespaces used by its child elements. It must also have an **ma:fieldsID** attribute (§3.5.2.2.1, Shared Attributes).

Additionally, this **xsd:schema** element must declare an element with a **name** attribute whose value is *properties* and which uses the following structure. The children of the **xsd:all** element are not shown, but instead described by the text that follows.

```
<xsd:element name="properties">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="documentManagement">
        <xsd:complexType>
          <xsd:all>
            ...
          </xsd:all>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
```

Let the term "fields" denote the list of all **Field** elements that are children of the **Fields** element, which is in turn a child of the **ContentType** element in the content type. The **Field** elements are the fields used in the content type, as described in Collaborative Application Markup Language (CAML) Structure Specification ([MS-WSSCAML] Subclause 2.3.2.6). Furthermore, let the term "filtered fields" denote the list of all filtered fields to be those **Field** elements from the fields that satisfy all of the following conditions:

The value of the **Type** attribute is not *Computed*, *Calculated*, or *WorkflowStatus*.

The value of the **Name** attribute is not *Modified_x0020_By*, *Created_x0020_By*, *Modified*, *Created* or *FileLeafRef*.

The value of the **StaticName** attribute is not *Title*, *Subject*, *_Author*, *Keywords*, *_Comments*, *_Category*, or *ContentType*.

The xsd:all element from the preceding structure must contain an **xsd:element** element for each **Field** element in the filtered fields set. This **xsd:element** must have a **ref** attribute. The value of the **ref** attribute must be a qualified reference to a type whose name is the value of the **StaticName** attribute of the **Field** element and which resides in the namespace identified by the SourceID attribute of the **Field** element. Furthermore, if the **Required** attribute is not present on the **Field** element; or if the attribute is present but its value is not *TRUE*; or if the value of the Type attribute is *MultiChoice* or *LookupMulti*, then a **minOccurs** attribute with value of *0* must be present on the **xsd:element** element.

For each unique string that appears as the value of the **SourceID** attribute on a **Field** element in the fields, the **contentTypeSchema** element must contain an **xsd:schema** child whose **targetNamespace** attribute has that same value. Each **xsd:schema** must contain one **xsd:element** element for each **Field** whose **SourceID** attribute matches the **targetNamespace** attribute of the **xsd:schema**.

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Each **xsd:element** element must have a **name** attribute whose value is the value of the **StaticName** attribute on the corresponding **Field** element. Each **xsd:element** element must have an **ma:index** attribute (§3.5.2.2, Metadata Attributes) whose value is the number of **Field** elements that appear before the corresponding **Field** element within the **Fields** element in the content type. If the **Required** attribute is not present on the corresponding **Field** element; the **Required** attribute is present but its value is not *TRUE*; or the value of the **Type** attribute is *MultiChoice* or *LookupMulti*, then a nullable attribute with value of *true* must be present on the **xsd:element** element.

The following attributes can appear on each **xsd:element** element: **ma:displayName** (§3.5.2.2, Metadata Attributes); **ma:decimals** (§3.5.2.2, Metadata Attributes); **ma:default** (§3.5.2.2, Metadata Attributes); **ma:description** (§3.5.2.2, Metadata Attributes); **ma:format** (§3.5.2.2, Metadata Attributes); **ma:hidden** (§3.5.2.2, Metadata Attributes); ma:LCID (§3.5.2.2, Metadata Attributes); ma:list (§3.5.2.2, Metadata Attributes); **ma:internalName** (§3.5.2.2, Metadata Attributes); **ma:readOnly** (§3.5.2.2, Metadata Attributes); **ma:showField** (§3.5.2.2, Metadata Attributes); **ma:percentage** (§3.5.2.2, Metadata Attributes); **ma:web** (§3.5.2.2, Metadata Attributes); **ma:requiredMultiChoice** (§3.5.2.2, Metadata Attributes).

The **contentTypeSchema** element must have an **xsd:schema** child whose **targetNamespace** attribute has the value *http://schemas.openxmlformats.org/package/2006/metadata/core-properties*.

Attributes	Description
_ (Reserved)	Shall be empty. The possible values for this attribute are defined by the XML Schema anySimpleType datatype.
_ (Reserved) Namespace: http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes	Shall be empty. The possible values for this attribute are defined by the XML Schema anySimpleType datatype.
contentTypeDescription (Content Type Description) Namespace: http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes	Shall be the same value as the **Description** attribute of the **ContentType** element (as described in Collaborative Application Markup Language (CAML) Structure Specification ([MS-WSSCAML] Subclause 2.4.1.1) for the content type associated with this document. The possible values for this attribute are defined by the XML Schema string datatype.
contentTypeID (Content Type ID) Namespace: http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes	Identifies the content type associated with this document. The possible values for this attribute are defined by the ST_ContentTypeId simple type (§3.5.2.2.2.1, ST_ContentTypeId).
contentTypeName (Content Type Name)	Must be the same value as the

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Attributes	Description
Namespace: http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes	**Name** attribute of the **ContentType** element (as described in Collaborative Application Markup Language (CAML) Structure Specification ([MS-WSSCAML] Subclause 2.4.1.1)) for the content type associated with this document. The possible values for this attribute are defined by the XML Schema string datatype.
contentTypeScope (Content Type Scope) Namespace: http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes	Shall be empty. The possible values for this attribute are defined by the XML Schema string datatype.
contentTypeVersion (Content Type Version) Namespace: http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes	Shall be the same value as the **Version** attribute of the **ContentType** element (as described in Collaborative Application Markup Language (CAML) Structure Specification ([MS-WSSCAML] Subclause 2.4.1.1) for the content type associated with this document. The possible values for this attribute are defined by the ST_IntNonNegative simple type (§3.5.2.2.2.2, ST_IntNonNegative).
versionID (Version ID) Namespace: http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes	A string hash used to determine if the definition of the content type associated with this document has changed since the last time the content type was applied to the document. The value is computed as an MD5 hash of the substring that represents the **ContentType** element (from `<ContentType>` to `</ContentType>`, inclusive) within the SOAP result of the GetListContentType Web service request, as described in Lists Web Service Protocol Specification ([MS-LISTSWS] Subclause 3.1.4.17). The possible values for this attribute are defined by the XML Schema string datatype.

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The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_ContentTypeSchema">
  <sequence>
    <element ref="xsd:schema" maxOccurs="unbounded"/>
  </sequence>
  <attribute name=" "/>
  <attribute ref="ma:_"/>
  <attribute ref="ma:contentTypeName"/>
  <attribute ref="ma:contentTypeID"/>
  <attribute ref="ma:contentTypeVersion"/>
  <attribute ref="ma:contentTypeDescription"/>
  <attribute ref="ma:contentTypeScope"/>
  <attribute ref="ma:versionID"/>
</complexType>
```

3.5.2.2 Metadata Attributes

Metadata attributes are used to provide additional information for each of the schema children of the Content Type Schemas (§3.5.2.1, Content Type Schemas Schema).

3.5.2.2.1 Shared Attributes (Content Type Schemas)

The schemas referred to here (including the root schema and core schema) are the child schemas described in Content Type Schemas (§3.5.2.1, Content Type Schemas Schema, 3.5.2.1, Content Type Schemas Schema).

Attributes	Description
anchorId (Anchor Term ID)	Specifies the term which parents all terms that may be selected as a valid value for the property corresponding to this xsd:element. If set to "00000000-0000-0000-0000-000000000000", specifies that all terms in the term set specified by the termSetId attribute MUST be treated as valid values for the property corresponding to this xsd:element. MUST be present on xsd:elements for which the taxonomy attribute is set to "true". If applied to any other element, this attribute MUST be ignored. The possible values for this attribute are defined by the ST_UniqueIdentifierWithoutBraces simple type (§3.5.2.2.2.5, ST_UniqueIdentifierWithoutBraces).
decimals (Decimal Digits)	Specifies the number of fractional digits to display on the property editing surface for the property corresponding to an **xsd:element** in a schema other than the root schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}Currency or {http://schemas.microsoft.com/office/2006/documentManagement/types}Number. Office handles the integer values *0-9* and *auto*. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
default (Default	When applied to an **xsd:element** in a schema other than the root schema or the core

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Attributes	Description
Value)	schema, specifies the initial value of the property corresponding to the **xsd:element**. When applied to an **xsd:element** in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}DateTime, if set to *[today]*, specifies that the initial value of the property corresponding to the **xsd:element** should be set to the current date and time. When applied to an **xsd:element** in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}Boolean, Office interprets *1* as logical true and all other values as logical false in determining the initial value of the property corresponding to this xsd:element. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
description (Description)	When applied to an **xsd:element** in a schema other than the root schema, specifies information displayed as a part of the tooltip on the property editing surface for the property corresponding to this **xsd:element**. Office displays the first 512 characters of the concatenation of the property name, the ": " delimiter, and the description as the tooltip. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
displayName (Display Name)	When applied to an **xsd:element** in a schema other than the root schema or core schema, specifies the text displayed on the property editing surface and as a part of the tooltip for the property corresponding to the **xsd:element**. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
fieldId (Taxonomy Field ID)	Specifies a unique identifier for the field. MUST be present on xsd:elements for which the taxonomy attribute is set to "true". If applied to any other element, this attribute MUST be ignored. The possible values for this attribute are defined by the ST_UniqueIdentifier simple type (§3.5.2.2.2.4, ST_UniqueIdentifier ()).
fieldsID (Fields ID)	This attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
format (Format)	When applied to an **xsd:element** in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}DateTime, if set to *DateTime*, specifies that the property value displayed in the property editing surface for the property corresponding to this **xsd:element** should include both the date

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Attributes	Description
	and time, and if not present or set to any other value, specifies that the property value displayed in the property editing surface for the property corresponding to this **xsd:element** should include only the date. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
hidden (Hidden)	When applied to an **xsd:element** in a schema other than the root schema or core schema, if set to *true*, specifies that the property corresponding to this **xsd:element** should not be presented for editing on the property editing surface. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
index (Ordering Index)	The value of this attribute is used to determine the ordering on a property editing surface of **xsd:element**s bearing this attribute from schemas other than the root schema. First, the **xsd:element**s are broken into groups, as follows. The first group is composed of any **xsd:element** that: ▪ is not the **description** element in the core properties, and ▪ is not a simpleType restriction based on {http://schemas.microsoft.com/office/2006/documentManagement/types}Note, and ▪ is not a complex content based on any of {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiChoice, {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiChoiceFillIn, or {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiChoiceLookup. The second group is composed of the remaining **xsd:element**s bearing this attribute from schemas other than the root schema. Within each group the order of the index attribute values is ascending. If an **xsd:element** in a schema other than the root schema or core schema does not have this attribute, it will not be presented to the user for editing on the property editing surface. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the ST_IntNonNegative simple type (§3.5.2.2.2.2, ST_IntNonNegative).
indexed (Default Visibility of Taxonomy Field)	When applied to an xsd:element for which neither the hidden nor readOnly attributes are set to "true" in a schema other than the root schema or core schema, if set to "true", specifies that the property corresponding to this xsd:element MUST be presented for editing. If applied to any other element, this attribute MUST be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
internalName	Specifies an internal name.

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Attributes	Description
(Internal Name)	This attribute shall be present on **xsd:element**s in a schema other than the root schema or core schema. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
isKeyword (Keyword Flag)	If set to "true", specifies that the property editing UI for the property corresponding to this xsd:element uses all available term stores and term sets. If set to "false", specifies that the property editing UI for the property corresponding to this xsd:element uses the term set specified by the termSetId attribute. MUST be present on xsd:elements for which the taxonomy attribute is set to "true". If applied to any other element, this attribute MUST be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
LCID (LCID)	When applied to an **xsd:element** in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}Currency, specifies the locale identifier as specified in the Windows Language Code Identifier (LCID) Reference [MS-LCID] to determine the currency symbol used in the display of the property corresponding to this **xsd:element** in the property editing surface. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema int datatype.
list (List Identifier)	Shall be present on **xsd:element**s for which neither the hidden nor read-only attributes are set to *true* in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}Lookup or {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiLookup.When present on such an element, specifies the list from which to get data for display of the property corresponding to this **xsd:element** in the property editing surface. Office will populate this data when the save location of the document is a site that implements the Lists Web Service Protocol Specification [MS-LISTSWS] and the value of this attribute is a valid GUID enclosed in braces corresponding to the ID of a list on the site. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
open (Term Set Open for Addition Flag)	If set to "true", specifies that new terms are allowed to be added to the term set specified by the termSetId attribute. If set to "false", the property editing UI MUST NOT allow new terms to be added to the term set specified by the termSetId attribute. MUST be present on xsd:elements for which the taxonomy attribute is set to "true", and MUST be set to "true" if new terms are allowed to be added to the term set specified by the termSetId attribute. MUST be set to "false" otherwise. If applied to any other element, this attribute MUST be ignored.

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Attributes	Description
	The possible values for this attribute are defined by the XML Schema string datatype.
percentage (Show as Percentage)	When applied to an **xsd:element** in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}Currency or {http://schemas.microsoft.com/office/2006/documentManagement/types}Number, if set to *TRUE*, specifies that the property corresponding to this **xsd:element** should be displayed as a percentage in the property editing surface, and if not present or set to any other value, specifies that the property corresponding to this **xsd:element** should not be displayed as a percentage in the property editing surface. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
readOnly (Read Only)	When applied to an **xsd:element** in a schema other than the root schema or core schema, if set to *true*, specifies that the property corresponding to this **xsd:element** should not be presented for editing on the property editing surface. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
requiredMultiChoice (Required Multiple Choice)	When applied to an **xsd:element** in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiChoice, {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiChoiceFillIn, or {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiChoiceLookup, if set to true, specifies that the property editing surface should indicate an error if no choices are selected for the property corresponding to the **xsd:element**. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
root (Root Schema)	Shall be set to *true* on the root schema element described in Content Type Schemas (§3.5.2.1, Content Type Schemas Schema, 3.5.2.1, Content Type Schemas Schema) for the http://schemas.microsoft.com/office/2006/contentTypeSchema namespace and shall not be applied to any other element. The possible values for this attribute are defined by the ST_TrueOnly simple type (§3.5.2.2.2.3, ST_TrueOnly).
showField (Displayed Field)	Shall be present on **xsd:element**s for which neither the hidden nor read-only attributes are set to *true* in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}Lookup or {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiLookup. When applied to such an element, specifies the text displayed for the lookup options in the property editing surface for the property corresponding to the **xsd:element**. Office handles values corresponding to the **Name** attribute of a field as specified in the response from a GetList request as specified in the Lists Web Service Protocol Specification ([MS-LISTSWS] Subclause 3.1.4.14). If applied to any other element, this attribute should be ignored.

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Attributes	Description
	The possible values for this attribute are defined by the XML Schema string datatype.
sspId (Term Store ID)	Specifies the term store partition used in the property editing UI for the property corresponding to this xsd:element. MUST be present on xsd:elements for which the taxonomy attribute is set to "true", and MUST be set to "00000000-0000-0000-0000-000000000000" on xsd:elements for which the isKeyword attribute is set to "true". If applied to any other element, this attribute MUST be ignored. The possible values for this attribute are defined by the ST_UniqueIdentifierWithoutBraces simple type (§3.5.2.2.2.5, ST_UniqueIdentifierWithoutBraces).
taxonomy (Taxonomy Field Flag)	MUST be set to "true" on xsd:elements in a schema other than the root schema or core schema whose content model has the following structure. <xsd:complexType> <xsd:sequence> <xsd:element ref="pc:Terms" minOccurs="0" maxOccurs="1"> </xsd:element> </xsd:sequence> </xsd:complexType> It MUST NOT be applied to any other element. The possible values for this attribute are defined by the XML Schema boolean datatype.
taxonomyFieldName (Taxonomy Field Name)	Specifies the name of a taxonomy field. MUST be present on xsd:elements for which the taxonomy attribute is set to "true". If applied to any other element, this attribute MUST be ignored. The possible values for this attribute are defined by the XML Schema string datatype.
taxonomyMulti (Allow Multiple Value Flag)	If set to "false", specifies that only single values are displayed as valid in the property editing UI for the property corresponding to this xsd:element. MUST be present on xsd:elements for which the taxonomy attribute is set to "true". If applied to any other element, this attribute MUST be ignored. The possible values for this attribute are defined by the XML Schema boolean datatype.
termSetId (Term Set ID)	Specifies the term set used in the property editing UI for the property corresponding to this xsd:element. MUST be present on xsd:elements for which the taxonomy attribute is set to "true", and MUST be set to "00000000-0000-0000-0000-000000000000" on xsd:elements for which the isKeyword attribute is set to "true".

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Attributes	Description
	If applied to any other element, this attribute MUST be ignored. The possible values for this attribute are defined by the ST_UniqueIdentifierWithoutBraces simple type (§3.5.2.2.2.5, ST_UniqueIdentifierWithoutBraces).
web (Site Identifier)	When applied to an **xsd:element** for which neither the hidden nor read-only attributes are set to *true* in a schema other than the root schema or core schema whose content model is an **xsd:restriction** based on {http://schemas.microsoft.com/office/2006/documentManagement/types}Lookup or {http://schemas.microsoft.com/office/2006/documentManagement/types}MultiLookup, specifies the site of the list from which to get data for display of the property corresponding to this **xsd:element** in the property editing surface. If applied to any other element, this attribute should be ignored. The possible values for this attribute are defined by the ST_UniqueIdentifierWithoutBraces simple type (§3.5.2.2.2.5, ST_UniqueIdentifierWithoutBraces).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Dummy">
  <attribute name="anchorId" type="ST UniqueIdentifierWithoutBraces"/>
  <attribute name="decimals" type="xsd:string"/>
  <attribute name="default" type="xsd:string"/>
  <attribute name="description" type="xsd:string"/>
  <attribute name="displayName" type="xsd:string"/>
  <attribute name="fieldId" type="ST_UniqueIdentifier"/>
  <attribute name="fieldsID" type="xsd:string"/>

  <attribute name="format" type="xsd:string"/>
  <attribute name="hidden" type="xsd:string"/>
  <attribute name="index" type="ST IntNonNegative"/>
  <attribute name="indexed" type="xsd:string"/>
  <attribute name="internalName" type="xsd:string"/>
  <attribute name="isKeyword" type="xsd:string"/>
  <attribute name="LCID" type="xsd:int"/>
  <attribute name="list" type="xsd:string"/>
  <attribute name="open" type="xsd:string"/>
  <attribute name="percentage" type="xsd:string"/>
  <attribute name="readOnly" type="xsd:string"/>
  <attribute name="requiredMultiChoice" type="xsd:string"/>
  <attribute name="root" type="ST_TrueOnly"/>
  <attribute name="showField" type="xsd:string"/>
  <attribute name="sspId" type="ST_UniqueIdentifierWithoutBraces"/>
  <attribute name="taxonomy" type="xsd:boolean"/>
  <attribute name="taxonomyFieldName" type="xsd:string"/>
  <attribute name="taxonomyMulti" type="xsd:boolean"/>
  <attribute name="termSetId" type="ST_UniqueIdentifierWithoutBraces"/>
  <attribute name="web" type="ST UniqueIdentifierWithoutBraces"/>
</complexType>
```

3.5.2.2.2 Simple Types

This is the complete list of simple types in the http://schemas.microsoft.com/office/2006/metadata/properties/metaAttributes namespace.

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3.5.2.2.2.1 ST_ContentTypeId (Content Type ID)

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents shall match the following regular expression pattern: 0x([0-9A-Fa-f][1-9A-Fa-f]|[1-9A-Fa-f][0-9A-Fa-f]|00[0-9A-Fa-f]{32})*.
- This simple type's contents have a maximum length of 1026 characters.
- This simple type's contents have a minimum length of 2 characters.

Referenced By
contentTypeSchema@contentTypeID (§3.5.2.1.1.1, contentTypeSchema)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_ContentTypeId">
  <restriction base="xsd:string">
    <pattern value="0x([0-9A-Fa-f][1-9A-Fa-f]|[1-9A-Fa-f][0-9A-Fa-f]|00[0-9A-Fa-f]{32})*"/>
    <minLength value="2"/>
    <maxLength value="1026"/>
  </restriction>
</simpleType>
```

3.5.2.2.2.2 ST_IntNonNegative (Non-Negative Integer)

This simple type's contents are a restriction of the XML Schema int datatype.

This simple type also specifies the following restrictions:

- This simple type has a minimum value of greater than or equal to 0.

Referenced By
contentTypeSchema@contentTypeVersion (§3.5.2.1.1.1, contentTypeSchema); **Shared Attributes@index** (§3.5.2.2.1, Shared Attributes)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_IntNonNegative">
  <restriction base="xsd:int">
    <minInclusive value="0"/>
  </restriction>
</simpleType>
```

3.5.2.2.2.3 ST_TrueOnly (True Only)

This simple type's contents are a restriction of the XML Schema string datatype.

The following are possible enumeration values for this type:

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Enumeration Value	Description
true ()	

Referenced By
Shared Attributes@root (§3.5.2.2.1, Shared Attributes)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_TrueOnly">
  <restriction base="xsd:string">
    <enumeration value="true"/>
  </restriction>
</simpleType>
```

3.5.2.2.2.4 ST_UniqueIdentifier ()

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents shall match the following regular expression pattern: \{[0-9a-fA-F]{8}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{12}\}.

Referenced By
Shared Attributes@fieldId (§3.5.2.2.1, Shared Attributes)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_UniqueIdentifier">
  <restriction base="xsd:string">
    <pattern value="\{[0-9a-fA-F]{8}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-
fA-F]{12}\}"/>
  </restriction>
</simpleType>
```

3.5.2.2.2.5 ST_UniqueIdentifierWithoutBraces (Unique Identifier without Braces)

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents shall match the following regular expression pattern: [0-9a-fA-F]{8}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{12}.

Referenced By
Shared Attributes@anchorId (§3.5.2.2.1, Shared Attributes); **Shared Attributes@sspId** (§3.5.2.2.1, Shared

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Referenced By
Attributes); **Shared Attributes@termSetId** (§3.5.2.2.1, Shared Attributes); **Shared Attributes@web** (§3.5.2.2.1, Shared Attributes)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_UniqueIdentifierWithoutBraces">
  <restriction base="xsd:string">
    <pattern value="[0-9a-fA-F]{8}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-
F]{12}"/>
  </restriction>
</simpleType>
```

3.5.3 Custom Document Information Panel

The Custom Document Information Panel is comprised of a Custom XML Data Storage Part ("[ISO/IEC-29500-1] §15.2.5") which contains the Custom Document Information Panel information, and a Custom XML Data Storage Properties Part ("[ISO/IEC-29500-1] §15.2.6") which contains the set of properties for the custom XML data.

The XML contents of the data storage part conform to the schema defined in Custom Document Information Panel Schema (§3.5.3.1, Custom Document Information Panel Schema).

The root element of the Custom XML Data Storage Part shall be customPropertyEditors (§3.5.3.1.1.2, customPropertyEditors).

The Associated XML Schema ("[ISO/IEC-29500-1] §22.5.2.2; schemaRef") for this Custom XML Data Storage Part shall be “http://schemas.microsoft.com/office/2006/customDocumentInformationPanel”.

3.5.3.1 Custom Document Information Panel Schema

Custom Document Information Panel information defines the location and behaviors for a customized Document Information Panel based on a standalone XSN file. Unlike a Document Information Panel defined by a Content Type Schema (§3.5.2.1, Content Type Schemas Schema) and a CustomXSN (§3.5.4.1, Custom XSN Schema), Custom Document Information Panels need not be associated directly with a server.

3.5.3.1.1 Elements

3.5.3.1.1.1 customPropertyEditor (Custom Property Editor)

This element associates a namespace with the location of an XSN file (as specified by InfoPath Form Template Format Structure Specification [MS-IPFF]). The specified XSN file can be used to visually edit the information in a custom XML data part in this document. The XMLNamespace child specifies which custom xml data parts are suitable for editing; the XSNLocation child specifies a path to the XSN file.

Parent Elements
customPropertyEditors (§3.5.3.1.1.2, customPropertyEditors)

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Child Elements	Subclause
XMLNamespace (Namespace for Property Editor)	§3.5.3.1.1.5, XMLNamespace
XSNLocation (Location of XSN File)	§3.5.3.1.1.6, XSNLocation

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_CustomPropertyEditor">
  <sequence>
    <element name="XMLNamespace" type="xsd:anyURI"/>
    <element name="XSNLocation" type="xsd:string"/>
  </sequence>
</complexType>
```

3.5.3.1.1.2 customPropertyEditors (Custom Property Editors List)

This element specifies the list of (and settings for) any XSN files (as specified by InfoPath Form Template Format Structure Specification [MS-IPFF]) that may be associated with this document to edit information in its custom XML data parts.

Child Elements	Subclause
customPropertyEditor (Custom Property Editor)	§3.5.3.1.1.1, customPropertyEditor
defaultPropertyEditorNamespace (Default Namespace)	§3.5.3.1.1.3, defaultPropertyEditorNamespace
showOnOpen (Show On Open)	§3.5.3.1.1.4, showOnOpen

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_CustomPropertyEditors">
  <sequence>
    <element name="showOnOpen" type="xsd:boolean"/>
    <element name="defaultPropertyEditorNamespace" type="xsd:anyURI"/>

    <element name="customPropertyEditor" type="CT_CustomPropertyEditor"
maxOccurs="unbounded"/>
  </sequence>
</complexType>
```

3.5.3.1.1.3 defaultPropertyEditorNamespace (Default Namespace)

This element specifies the XML namespace that identifies which XSN is shown by default if the user chooses to edit properties contained in the custom XML data parts of this document. If this element is not present, or if the value of this element does not equal the namespace specified in the XmlNamespace element (§3.5.3.1.1.5, XMLNamespace), the application may choose to display the core properties.

Parent Elements
customPropertyEditors (§3.5.3.1.1.2, customPropertyEditors)

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3.5.3.1.1.4 showOnOpen (Show On Open)

This element specifies whether the user should be presented with a surface to edit either the core properties or properties in one of the custom xml data parts in this document, as informed by the defaultPropertyEditorNamespace. A value of *true* indicates that such a surface shall be provided; any other value indicates such a surface shall not be provided. If this element is not present, a surface shall not be provided.

Parent Elements
customPropertyEditors (§3.5.3.1.1.2, customPropertyEditors)

3.5.3.1.1.5 XMLNamespace (Namespace for Property Editor)

Specifies the root namespace of custom XML data parts that are appropriate for editing by the XSN specified in XSNLocation.

Parent Elements
customPropertyEditor (§3.5.3.1.1.1, customPropertyEditor)

3.5.3.1.1.6 XSNLocation (Location of XSN File)

Specifies the path to the XSN file.

Parent Elements
customPropertyEditor (§3.5.3.1.1.1, customPropertyEditor)

3.5.4 Custom XSN

The Custom XSN is comprised of a Custom XML Data Storage Part ("[ISO/IEC-29500-1] §15.2.5") which contains the Custom XSN information, and a Custom XML Data Storage Properties Part ("[ISO/IEC-29500-1] §15.2.6") which contains the set of properties for the custom XML data.

The XML contents of the data storage part conform to the schema defined in Custom XSN Schema (§3.5.4.1, Custom XSN Schema).

The root element of the Custom XML Data Storage Part shall be customXsn (§3.5.4.1.1.2, customXsn).

The Associated XML Schema ("[ISO/IEC-29500-1] §22.5.2.2; schemaRef") for this Custom XML Data Storage Part shall be “http://schemas.microsoft.com/office/2006/metadata/customXsn”.

3.5.4.1 Custom XSN Schema

A CustomXSN defines the source location and Document Information Panel behaviors for the document. CustomXSN is used in conjunction with Content Type Schema (§3.5.2.1, Content Type Schemas Schema) to fully define the behaviors of the Document Information Panel.

3.5.4.1.1 Elements

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3.5.4.1.1.1 cached (Cached View)

This element indicates whether the XSN specified by xsnLocation should be used to edit properties in this document. A value of *true* indicates that the XSN shall not be used.

Parent Elements
customXsn (§3.5.4.1.1.2, customXsn)

3.5.4.1.1.2 customXsn (Custom XSN)

This element specifies that an XSN file (as specified by InfoPath Form Template Format Structure Specification [MS-IPFF]) should be presented to the user for editing properties of this document.

Child Elements	Subclause
cached (Cached View)	§3.5.4.1.1.1, cached
openByDefault (Open By Default)	§3.5.4.1.1.3, openByDefault
xsnLocation (XSN Location)	§3.5.4.1.1.4, xsnLocation
xsnScope (Scope)	§3.5.4.1.1.5, xsnScope

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_CustomXsn">
  <sequence>
    <element name="xsnLocation" type="xsd:string"/>
    <element name="cached" type="xsd:string"/>
    <element name="openByDefault" type="xsd:string"/>
    <element name="xsnScope" type="xsd:string"/>
  </sequence>
</complexType>
```

3.5.4.1.1.3 openByDefault (Open By Default)

This element specifies whether the user should be presented with a surface to edit properties of this document, immediately after opening it. A value of *true* indicates that such a surface shall be provided; any other value indicates such a surface shall not be provided. If this element is not present, a surface shall not be provided.

Parent Elements
customXsn (§3.5.4.1.1.2, customXsn)

3.5.4.1.1.4 xsnLocation (XSN Location)

This element specifies the location of an XSN file (as specified by InfoPath Form Template Format Structure Specification [MS-IPFF]) to use for editing properties of this document

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Parent Elements
customXsn (§3.5.4.1.1.2, customXsn)

3.5.4.1.1.5 xsnScope (Scope)

Specifies a path to use when resolving any relative paths that appear within the specified XSN.

Parent Elements
customXsn (§3.5.4.1.1.2, customXsn)

3.5.5 Long Properties

The Long Properties is comprised of a Custom XML Data Storage Part ("[ISO/IEC-29500-1] §15.2.5") which contains the Long Properties information, and a Custom XML Data Storage Properties Part ("[ISO/IEC-29500-1] §15.2.6") which contains the set of properties for the custom XML data.

The XML contents of the data storage part conform to the schema defined in Long Properties Schema (§3.5.5.1, Long Properties Schema).

The root element of the Custom XML Data Storage Part shall be LongProperties (§3.5.5.1.1.2, LongProperties).

The Associated XML Schema ("[ISO/IEC-29500-1] §22.5.2.2; schemaRef") for this Custom XML Data Storage Part shall be "http://schemas.microsoft.com/office/2006/metadata/longProperties".

3.5.5.1 Long Properties Schema

Long properties define a set of properties used to store server property values exceeding 255 characters in length.

3.5.5.1.1 Elements

3.5.5.1.1.1 LongProp (Custom XML Server Property - Long Property)

This element specifies the full value of a custom server property that exceeds 255 characters. This property is written out when a document is roundtripped to binary and back, to ensure that the full value of the custom property is not lost. When the first 255 characters of the value of the **LongProp** agrees with the value of the custom property with the corresponding name, it is assumed that the custom property was not modified when roundtripped; in that case, the **LongProp** is considered to contain the correct, full property value. If instead the first 255 characters of the value of the **LongProp** and the custom property of the same name differ, the custom property is assumed to have the more current (and therefore accurate) value for the property.

Parent Elements
LongProperties (§3.5.5.1.1.2, LongProperties)

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Attributes	Description
name (Custom XML Server Property Name)	Specifies the name of the custom property. The possible values for this attribute are defined by the XML Schema string datatype.

3.5.5.1.1.2 LongProperties (Custom XML Server Properties - Long Properties)

This element specifies the full content of custom server properties whose values exceed 255 characters. When a document containing custom server properties is roundtripped to binary and back, any server properties whose values exceed 255 characters can be written out as **LongProperties** to ensure that no data are lost. These long properties are first written when the document is saved to binary (where the custom property values can be truncated).

Child Elements	Subclause
LongProp (Custom XML Server Property - Long Property)	§3.5.5.1.1.1, LongProp

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_LongProperties">
  <sequence>
    <element name="LongProp" minOccurs="0" maxOccurs="unbounded">
      <complexType>
        <simpleContent>
          <extension base="xsd:string">
            <attribute name="name" type="xsd:string"/>
          </extension>
        </simpleContent>
      </complexType>
    </element>
  </sequence>
</complexType>
```

3.5.6 SharePoint Premium High Value Content Solution

SharePoint Premium High Value Content Solution is comprised of a Custom XML Data Storage Part ("[ISO/IEC-29500-1] §15.2.5"), which contains High Value Content Solution information, and a Custom XML Data Storage Properties Part ("[ISO/IEC-29500-1] §15.2.6"), which contains the set of properties for the custom XML data.

SharePoint Premium High Value Content Solution allows users to create/edit high value documents such as contracts, agreements, etc. It consists of various components like templates, snippets, fields etc. Users can create fields, reusable snippets, and create templates using those fields and snippets. Once templates are published, they can be used to generate documents at scale.

The XML contents of the data storage conform to the schema defined in SharePoint Premium High Value Content Solution Schema (§3.5.6.1, SharePoint Premium High Value Content Solution Schema).

The root element of the Custom XML Data Storage shall be Agreements (§3.5.6.1.1.1, Agreements).

The Associated XML schema ("[ISO/IEC-29500-1] §22.5.2.2; schemaRef") for this Custom XML Data Storage Part shall be "https://schemas.microsoft.com/sharepoint/2024/highvaluecontentsolution".

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3.5.6.1 SharePoint Premium High Value Content Solution Schema

SharePoint Premium High Value Content Solution define a set of properties available for managing high value documents.

3.5.6.1.1 Elements

3.5.6.1.1.1 Agreements

This element is the parent element of properties that are typically used for a high value content solution.

3.5.6.1.1.2 SyntexCAMode

This element specifies the document type in High Value Content Solution indicating Template, Snippet, Documents.

3.5.6.1.1.3 SourceTemplateUrl

This element specifies the source template URL of the contract file.

3.5.6.1.1.4 CAAEPlaceholderMetaDataCustomPropertyName

This element specified the user created fields information.

3.5.6.1.1.5 SyntexAgreementStates

This element specifies the configuration related to states that are applicable for a contract, i.e., Draft, Published, InApproval, Approved, Executed, Terminated, Expired, Amended.

3.5.6.1.1.6 SyntexCustomWorkflowsConfigured

This element specifies whether the third-party workflows are configured in the templates for the corresponding generated documents.

3.5.6.1.1.7 SyntexDocMandatoryApprovalReq

This element specifies whether the mandatory approval workflow is configured in the template for the corresponding generated documents.

3.5.6.1.1.8 SyntexFieldAnswers

This element specifies the information related to each filled-in field.

3.5.6.1.1.9 SyntexSnippetMetadata

This element specifies the information related to user created and pre-approved snippets.

3.5.6.1.1.10 SyntexDocumentApprovalConfig

This element specifies the configurations related to approvals for the generated documents.

3.5.6.1.1.11 SyntexSnippetApprovalConfig

This element specifies the configurations related to approvals for the snippets.

3.5.6.1.1.12 SyntexTemplateApprovalConfig

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This element specifies the configurations related to approvals for the templates.

3.6 Office ActiveX Supplemental Information

The subordinate subclauses specify additional semantics written into the Embedded Control Persistence Part ("[ISO/IEC-29500-1] §15.2.9") used to implement ActiveX controls in a Word document.

3.6.1 Elements

3.6.1.1 font (Standard COM Font Object)

This element specifies the details of StdFont object (classid CLSID_StdFont, interface IFont) embedded in the property bag (IPersistPropertyBag interface) of an ActiveX control.

[Example: Consider a font object named "FontPropName" embedded in an ActiveX control.

```
<ax:ocx ....>
   <ax:ocxPr name="FontPropName">
      <ax:font ax:persistence="persistPropertyBag">
         <ax:ocxPr ax:name="Name" ax:value="MS Shell Dlg"/>
         <ax:ocxPr ax:name="Size" ax:value="12"/>
         <ax:ocxPr ax:name="Charset" ax:value="0"/>
         <ax:ocxPr ax:name="Weight" ax:value="400"/>
         <ax:ocxPr ax:name="Underline" ax:value="0"/>
         <ax:ocxPr ax:name="Italic" ax:value="0"/>
         <ax:ocxPr ax:name="Strikethrough" ax:value="0"/>
      </ax:font>
   </ax:ocxPr>
</ax:ocx>
```

In this example, the **persistence** attribute specifies that various properties of the embedded font object are stored using the method persistPropertyBag. The property bag is stored as a collection of child **ocxPr** elements. Each **ocxPr** element contains a single property. end example]

More information about the details of StdFont object can be found in the Office Forms Binary File Format Structure Specification ("[MS-OFORMS] Section 2.4.9").

Parent Elements
ocxPr (§3.6.1.3, ocxPr)

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Child Elements	Subclause
ocxPr (Object Property)	§3.6.1.3, ocxPr

Attributes	Description
persistence (Font Object Property Persistence Style (optional))	Specifies the method used to store properties of the parent element. The possible values for this attribute are defined by the ST_Persistence simple type (§3.6.2.1, ST_Persistence).
id () Namespace: .../officeDocument/2006/relationships	Specifies the relationship ID of the relationship to the font object. The specified relationship shall be of type http://schemas.microsoft.com/office/2006/relationships/activeXControlBinary. The target of the relationship points to the internal location where the persisted font data is stored using the IPersistStream, IPersistStreamInit, or IPersistStorage interface, as indicated by the **persistence attribute or as determined by the default interface query sequence.** The possible values for this attribute are defined by the ST_RelationshipId simple type ("[ISO/IEC-29500-1] §22.8.2.1").

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_Font">
  <sequence>
    <element name="ocxPr" type="CT_OcxPr" minOccurs="0" maxOccurs="unbounded"/>
  </sequence>
  <attribute name="persistence" type="ST_Persistence"/>

  <attribute ref="r:id" use="optional"/>
</complexType>
```

3.6.1.2 ocx (ActiveX Control Data)

This element specifies various information of an ActiveX control embedded in a document.

[Note: This element does not contain placement or application extended properties. The properties stored in this element are those that the ActiveX control can use regardless of container. end note]

[Example: Consider an ActiveX control embedded in a WordprocessingML. Various pieces of information about that control will be specified using the following WordprocessingML:

<ax:ocx ax:classid="{FDD0D569-5B7A-4E3D-820C-5C487DB7796C}"
ax:persistence="persistPropertyBag" …>

<ax:ocxPr ax:name="_Version" ax:value="65536"/>

<ax:ocxPr ax:name="_ExtentX" ax:value="2646"/>

<ax:ocxPr ax:name="_ExtentY" ax:value="1323"/>

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```
    <ax:ocxPr ax:name="_StockProps" ax:value="0"/>
    …
</ax:ocx>
```

Here, the **classid** attribute holds the class ID of the ActiveX control, *{FDD0D569-5B7A-4E3D-820C-5C487DB7796C}*. In this example, the **persistence** attribute indicates the persistPropertyBag method for persisting various properties of the control. The property bag is stored as a collection of child **ocxPr** elements. Each **ocxPr** element contains a single property. end example]

Child Elements	Subclause
ocxPr (Object Property)	§3.6.1.3, ocxPr

Attributes	Description
classid (ActiveX Control CLSID)	Specifies the GUID of the ClassID of the ActiveX control. The possible values for this attribute are defined by the ST_String simple type (§3.6.2.2, ST_String).
license (ActiveX Control License)	Specifies the license string for the ActiveX control. This string is retrieved from the IClassFactory2 interface of the control. The possible values for this attribute are defined by the ST_String simple type (§3.6.2.2, ST_String).
persistence (ActiveX Control Property Persistence Style)	Specifies the explicit method used to persist the properties of the ActiveX control. The possible values for this attribute are defined by the ST_Persistence simple type (§3.6.2.1, ST_Persistence).
id (ActiveX Control Binary Data) Namespace: .../officeDocument/2006/relationships	Specifies the relationship ID, the target of which points to the internal location where the binary data part representing various properties of the ActiveX control is persisted using the **persistStorage, persistStream, or persistStream**Init method, as indicated by the **persistence** attribute of the parent **ocx** element. The specified relationship shall be of type http://schemas.microsoft.com/office/2006/relationships/activeXControlBinary. [Note: The use of this attribute is mutually exclusive with the use of **ocxPr** child elements. end note] The possible values for this attribute are defined by the ST_RelationshipId simple type ("[ISO/IEC-29500-1] §22.8.2.1").

The following XML Schema fragment defines the contents of this element:

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```
<complexType name="CT_Ocx">
  <sequence>
    <element name="ocxPr" type="CT_OcxPr" minOccurs="0" maxOccurs="unbounded"/>
  </sequence>
  <attribute name="classid" type="ST_String" use="required"/>
  <attribute name="license" type="ST_String"/>
  <attribute ref="r:id" use="optional"/>
  <attribute name="persistence" use="required" type="ST_Persistence"/>
</complexType>
```

3.6.1.3 ocxPr (Object Property)

This element specifies the name and value of a persisting property of the parent object persisted using the method **persistPropertyBag. Property values are converted into VT_BSTR using the Windows OLE API VariantChangeType() before getting stored in this element.**

Parent Elements
font (§3.6.1.1, font); **ocx** (§3.6.1.2, ocx)

Child Elements	Subclause
font (Standard COM Font Object)	§3.6.1.1, font
picture (Standard COM Picture Object)	§3.6.1.4, picture

Attributes	Description
name (ActiveX Control Property Name)	Specifies the name of the property. This name shall be unique in its collection. The possible values for this attribute are defined by the ST_String simple type (§3.6.2.2, ST_String).
value (ActiveX Control Property Value)	Specifies the value of the property. The actual p**roperty values are converted into VT_BSTR using the Windows OLE API VariantChangeType() before getting stored in this element. And corresponding string is stored as the value.** This is attribute is only permitted for ocxPr elements (§3.6.1.3, ocxPr) without a font (§3.6.1.1, font) or picture sub-element (§3.6.1.4, picture). The possible values for this attribute are defined by the ST_String simple type (§3.6.2.2, ST_String).

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_OcxPr">
  <sequence>
    <choice>
```


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```
        <element name="font" type="CT_Font" maxOccurs="1" minOccurs="0"/>
        <element name="picture" type="CT_Picture" maxOccurs="1" minOccurs="0"/>
      </choice>
    </sequence>
    <attribute name="name" type="ST_String" use="required"/>
    <attribute name="value" type="ST_String"/>
  </complexType>
```

3.6.1.4 picture (Standard COM Picture Object)

This element specifies the properties of the StdPicture (classid CLSID_StdPicture, interface IPicture) object embedded in the property bag (IPersistPropertyBag interface) of an ActiveX control.

[Example: Consider an embedded picture object named "PicturePropName" embedded in an ActiveX control.

```
<ax:ocx ...>
   <ax:ocxPr ax:name="PicturePropName">
      <ax:picture r:id="rId1"/>
   </ax:ocxPr>
</ax:ocx>
```

This example specifies that binary data representing the picture object can be found at the internal location pointed to by the relation *rID1*, and the data is persisted using an IPersist-derived interface. end example]

More information about the details of the StdPicture object can be found in the Office Forms Binary File Format Structure Specification ("[MS-OFORMS] Section 2.4.5").

Parent Elements
ocxPr (§3.6.1.3, ocxPr)

Attributes	Description
id () Namespace: .../officeDocument/2006/relationships	Specifies the relationship ID of the relationship to the picture. The specified relationship shall be of type http://schemas.microsoft.com/office/2006/relationships/activeXControlBinary. The target of the relationship point to the internal location where the persisted picture data is stored using the IPersist interface. The possible values for this attribute are defined by the ST_RelationshipId simple type ("[ISO/IEC-29500-1] §22.8.2.1").

The following XML Schema fragment defines the contents of this element:

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```
<complexType name="CT_Picture">
  <attribute ref="r:id"/>
</complexType>
```

3.6.2 Simple Types

This is the complete list of simple types in the http://schemas.microsoft.com/office/2006/activeX namespace.

3.6.2.1 ST_Persistence (Control Persistence Attribute Contents)

This simple type specifies the persistence method to persist an ActiveX control.

This simple type's contents are a restriction of the ST_String datatype (§3.6.2.2, ST_String).

The following are possible enumeration values for this type:

Enumeration Value	Description
persistPropertyBag (Control uses IPersistPropertyBag)	Specifies that the data is stored using the IPersistPropertyBag interface. If this value is used, then a child **ocxPr** element shall appear within the parent element.
persistStorage (Control uses IPersistStorage)	Specifies that the data is stored using the IPersistStorage interface. If this value is used, then the parent element's **id** attribute shall reference a relationship storing the necessary binary data.
persistStream (Control uses IPersistStream)	Specifies that the data is stored using the IPersistStream interface. If this value is used, then the parent element's **id** attribute shall reference a relationship storing the necessary binary data.
persistStreamInit (Control uses IPersistStreamInit)	Specifies that the data is stored using the IPersistStreamInit interface. If this value is used, then the parent element's **id** attribute shall reference a relationship storing the necessary binary data.

Referenced By
font@persistence (§3.6.1.1, font); **ocx@persistence** (§3.6.1.2, ocx)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_Persistence">
  <restriction base="ST_String">
    <enumeration value="persistPropertyBag"/>
    <enumeration value="persistStream"/>
    <enumeration value="persistStreamInit"/>
    <enumeration value="persistStorage"/>
```


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```
  </restriction>
</simpleType>
```

3.6.2.2 ST_String (String Type)

This simple type specifies that its contents will contain a string. The contents of this string are interpreted based on the context of the parent XML element.

[Example: Consider the following WordprocessingML fragment:

```
<w:pPr>
  <w:pStyle w:val="heading1" />
</w:pPr>
```

The value of the **val** attribute is the ID of the associated paragraph style's **styleId**. However, consider the following fragment:

```
<w:sdtPr>
  <w:alias w:val="SDT Title Example" />
  ...
</w:sdtPr>
```

In this case, the decimal number in the **val** attribute is the caption of the parent-structured document tag. In each case, the value is of type **ST_String**, and therefore must be interpreted in the context of the parent element. end example]

This simple type's contents are a restriction of the XML Schema string datatype.

Referenced By
ocx@classid (§3.6.1.2, ocx); **ocx@license** (§3.6.1.2, ocx); **ocxPr@name** (§3.6.1.3, ocxPr); **ocxPr@value** (§3.6.1.3, ocxPr); **ST_Persistence** (§3.6.2.1, ST_Persistence)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_String">
  <restriction base="xsd:string"/>
</simpleType>
```

3.7 Office Digital Signature

The Office Digital Signature is a digital signature used by Office to certify the content of a document and to verify the authenticity of its creator or sender.

3.7.1 Elements

Office reserves the **Object Id** of *idOfficeObject* for its digital signature. The child of the **SignatureProperty** in this object shall be a **SignatureInfoV1** element.

3.7.1.1 ApplicationVersion (Application Version)

Specifies the version of the application which created the digital signature.

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The possible values for this element are defined by the ST_Version simple type (§3.7.2.7, ST_Version).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_Version">
  <restriction base="xsd:string">
    <maxLength value="64"/>
  </restriction>
</simpleType>
```

3.7.1.2 ColorDepth (Color Depth)

Specifies the color depth of the primary monitor of the machine on which the digital signature was created.

The possible values for this element are defined by the ST_PositiveInteger simple type (§3.7.2.1, ST_PositiveInteger).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_PositiveInteger">
  <restriction base="xsd:int">
    <minExclusive value="0"/>
  </restriction>
</simpleType>
```

3.7.1.3 DelegateSuggestedSigner (Delegate Suggested Signer)

Specifies the name of a person to whom the signature has been delegated.

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

3.7.1.4 DelegateSuggestedSigner2 (Delegate Suggested Signer)

Specifies the title of a person to whom the signature has been delegated.

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Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

3.7.1.5 DelegateSuggestedSignerEmail (Delegate Suggested Signer E-mail Address)

Specifies the e-mail address of a person to whom the signature has been delegated.

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

3.7.1.6 HorizontalResolution (Horizontal Resolution)

Specifies the horizontal resolution of the primary monitor of the machine on which the digital signature was created.

The possible values for this element are defined by the ST_PositiveInteger simple type (§3.7.2.1, ST_PositiveInteger).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_PositiveInteger">
  <restriction base="xsd:int">
    <minExclusive value="0"/>
  </restriction>
</simpleType>
```

3.7.1.7 ManifestHashAlgorithm (Manifest Hash Algorithm)

Specifies a URI that identifies the particular hash algorithm for the signature. If the signature provider is Office, the algorithm shall be *http://www.w3.org/2000/09/xmldsig#sha1*.

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

3.7.1.8 Monitors (Monitor Count)

Specifies the count of monitors on the machine where the digital signature was created.

The possible values for this element are defined by the ST_PositiveInteger simple type (§3.7.2.1, ST_PositiveInteger).

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Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_PositiveInteger">
  <restriction base="xsd:int">
    <minExclusive value="0"/>
  </restriction>
</simpleType>
```

3.7.1.9 OfficeVersion (Office Version)

Specifies the version of the application suite which created the digital signature.

The possible values for this element are defined by the ST_Version simple type (§3.7.2.7, ST_Version).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_Version">
  <restriction base="xsd:string">
    <maxLength value="64"/>
  </restriction>

</simpleType>
```

3.7.1.10 SetupID (Setup ID)

Specifies a GUID which can be cross-referenced with the GUID of the signature line stored in the document content.

The possible values for this element are defined by the ST_UniqueIdentifierWithBraces simple type (§3.7.2.6, ST_UniqueIdentifierWithBraces).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_UniqueIdentifierWithBraces">
  <restriction base="xsd:string">
    <pattern value="\{[0-9a-fA-F]{8}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-
fA-F]{12}\}|"/>
  </restriction>
```


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```
</simpleType>
```

3.7.1.11 SignatureComments (Signature Comments)

Specifies comments on the digital signature.

The possible values for this element are defined by the ST_SignatureComments simple type (§3.7.2.2, ST_SignatureComments).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_SignatureComments">
  <restriction base="xsd:string">
    <maxLength value="255"/>
  </restriction>
</simpleType>
```

3.7.1.12 SignatureImage (Signature Image)

Specifies an image for the digital signature.

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

3.7.1.13 SignatureInfoV1 (Office Digital Signature V1 Info)

Provides details on a digital signature in a document.

Child Elements	Subclause
ApplicationVersion (Application Version)	§3.7.1.1, ApplicationVersion
ColorDepth (Color Depth)	§3.7.1.2, ColorDepth
DelegateSuggestedSigner (Delegate Suggested Signer)	§3.7.1.3, DelegateSuggestedSigner
DelegateSuggestedSigner2 (Delegate Suggested Signer)	§3.7.1.4, DelegateSuggestedSigner2
DelegateSuggestedSignerEmail (Delegate Suggested Signer E-mail Address)	§3.7.1.5, DelegateSuggestedSignerEmail
HorizontalResolution (Horizontal Resolution)	§3.7.1.6, HorizontalResolution
ManifestHashAlgorithm (Manifest Hash Algorithm)	§3.7.1.7, ManifestHashAlgorithm
Monitors (Monitor Count)	§3.7.1.8, Monitors
OfficeVersion (Office Version)	§3.7.1.9, OfficeVersion

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Child Elements	Subclause
SetupID (Setup ID)	§3.7.1.10, SetupID
SignatureComments (Signature Comments)	§3.7.1.11, SignatureComments
SignatureImage (Signature Image)	§3.7.1.12, SignatureImage
SignatureProviderDetails (Signature Provider Details)	§3.7.1.14, SignatureProviderDetails
SignatureProviderId (Signature Provider ID)	§3.7.1.15, SignatureProviderId
SignatureProviderUrl (Signature Provider URL)	§3.7.1.16, SignatureProviderUrl
SignatureText (Signature Text)	§3.7.1.17, SignatureText
SignatureType (Signature Type)	§3.7.1.18, SignatureType
VerticalResolution (Vertical Resolution)	§3.7.1.19, VerticalResolution
WindowsVersion (Windows Version)	§3.7.1.20, WindowsVersion

The following XML Schema fragment defines the contents of this element:

```
<complexType name="CT_SignatureInfoV1">
  <sequence>
    <group ref="EG RequiredChildren"/>
    <group ref="EG_OptionalChildren" minOccurs="0"/>
  </sequence>
</complexType>
```

3.7.1.14 SignatureProviderDetails (Signature Provider Details)

Specifies details of the signature provider. The value shall be an integer computed from a bitmask of the following flags:

Value	Description
0x00000000	Specifies that there are no restrictions on the provider's usage.
0x00000001	Specifies that the provider shall only be used for the UI.
0x00000002	Specifies that the provider shall only be used for invisible signatures.
0x00000004	Specifies that the provider shall only be used for visible signatures.
0x00000008	Specifies that Office UI shall be used for the provider.
0x00000010	Specifies that Office stamp UI shall be used for the provider.

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

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3.7.1.15 SignatureProviderId (Signature Provider ID)

Specifies the class ID of the signature provider. Office reserves the value of *{00000000-0000-0000-0000-000000000000}* for its default signature provider and *{000CD6A4-0000-0000-C000-000000000046}* for its East Asian signature provider.

The possible values for this element are defined by the ST_UniqueIdentifierWithBraces simple type (§3.7.2.6, ST_UniqueIdentifierWithBraces).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_UniqueIdentifierWithBraces">
  <restriction base="xsd:string">
    <pattern value="\{[0-9a-fA-F]{8}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{12}\}|"/>
  </restriction>
</simpleType>
```

3.7.1.16 SignatureProviderUrl (Signature Provider URL)

Specifies the URL of the software used to generate the digital signature.

The possible values for this element are defined by the ST_SignatureProviderUrl simple type (§3.7.2.3, ST_SignatureProviderUrl).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_SignatureProviderUrl">
  <restriction base="xsd:string">
    <maxLength value="2083"/>
  </restriction>
</simpleType>
```

3.7.1.17 SignatureText (Signature Text)

Specifies the text of actual signature in the digital signature.

The possible values for this element are defined by the ST_SignatureText simple type (§3.7.2.4, ST_SignatureText).

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Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_SignatureText">
  <restriction base="xsd:string">
    <maxLength value="100"/>
  </restriction>
</simpleType>
```

3.7.1.18 SignatureType (Signature Type)

Specifies the type of the digital signature.

When this signature is of type *2* (Signature Line), there shall be two additional objects in the signature: One with an **Id** value of *idValidSigLnImg*, whose value shall define the image of a valid signature; and one with an Id value of *idInvalidSigLnImg*, whose value shall define the image of an invalid signature.

The possible values for this element are defined by the ST_SignatureType simple type (§3.7.2.5, ST_SignatureType).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_SignatureType">
  <restriction base="xsd:int">
    <enumeration value="1"/>
    <enumeration value="2"/>
  </restriction>
</simpleType>
```

3.7.1.19 VerticalResolution (Vertical Resolution)

Specifies the vertical resolution of the primary monitor of the machine on which the digital signature was created.

The possible values for this element are defined by the ST_PositiveInteger simple type (§3.7.2.1, ST_PositiveInteger).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

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```
<simpleType name="ST_PositiveInteger">
  <restriction base="xsd:int">
    <minExclusive value="0"/>
  </restriction>
</simpleType>
```

3.7.1.20 WindowsVersion (Windows Version)

Specifies the version of the operating system on which the digital signature was created.

The possible values for this element are defined by the ST_Version simple type (§3.7.2.7, ST_Version).

Parent Elements
SignatureInfoV1 (§3.7.1.13, SignatureInfoV1)

The following XML Schema fragment defines the contents of this element:

```
<simpleType name="ST_Version">
  <restriction base="xsd:string">
    <maxLength value="64"/>
  </restriction>
</simpleType>
```

3.7.2 Simple Types

This is the complete list of simple types in the http://schemas.microsoft.com/office/2006/digsig namespace.

3.7.2.1 ST_PositiveInteger (Positive Integer)

This simple type's contents are a restriction of the XML Schema int datatype.

This simple type also specifies the following restrictions:

- This simple type has a minimum value of greater than 0.

Referenced By
ColorDepth (§3.7.1.2, ColorDepth); **HorizontalResolution** (§3.7.1.6, HorizontalResolution); **Monitors** (§3.7.1.8, Monitors); **VerticalResolution** (§3.7.1.19, VerticalResolution)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_PositiveInteger">
  <restriction base="xsd:int">
    <minExclusive value="0"/>
  </restriction>
</simpleType>
```


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3.7.2.2 ST_SignatureComments (Signature Comments)

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a maximum length of 255 characters.

Referenced By
SignatureComments (§3.7.1.11, SignatureComments)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_SignatureComments">
  <restriction base="xsd:string">
    <maxLength value="255"/>
  </restriction>
</simpleType>
```

3.7.2.3 ST_SignatureProviderUrl (Signature Provider URL)

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a maximum length of 2083 characters.

Referenced By
SignatureProviderUrl (§3.7.1.16, SignatureProviderUrl)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_SignatureProviderUrl">
  <restriction base="xsd:string">
    <maxLength value="2083"/>
  </restriction>
</simpleType>
```

3.7.2.4 ST_SignatureText (Signature Text)

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a maximum length of 100 characters.

Referenced By
SignatureText (§3.7.1.17, SignatureText)

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The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_SignatureText">
  <restriction base="xsd:string">
    <maxLength value="100"/>
  </restriction>
</simpleType>
```

3.7.2.5 ST_SignatureType (Signature Type)

This simple type's contents are a restriction of the XML Schema int datatype.

The following are possible enumeration values for this type:

Enumeration Value	Description
1 (Invisible)	Specifies that there shall not be a visible representation of the digital signature.
2 (Signature Line)	Specifies that there shall be a visible representation of the digital signature, where the **GUID** of the visible representation (the signature line stored in the document content) shall match the value of the **SetupId** element.

Referenced By
SignatureType (§3.7.1.18, SignatureType)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_SignatureType">
  <restriction base="xsd:int">
    <enumeration value="1"/>
    <enumeration value="2"/>
  </restriction>
</simpleType>
```

3.7.2.6 ST_UniqueIdentifierWithBraces (Unique Identifier with Braces)

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents shall match the following regular expression pattern: \{[0-9a-fA-F]{8}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{12}\}|.

Referenced By
SetupID (§3.7.1.10, SetupID); **SignatureProviderId** (§3.7.1.15, SignatureProviderId)

The following XML Schema fragment defines the contents of this simple type:

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```
<simpleType name="ST_UniqueIdentifierWithBraces">
  <restriction base="xsd:string">
    <pattern value="\{[0-9a-fA-F]{8}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{4}\-[0-9a-fA-F]{12}\}|"/>
  </restriction>
</simpleType>
```

3.7.2.7 ST_Version (Version)

Specifies a version number in the form *X.Y*, where *X* is the major version number and *Y* is the minor version number.

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a maximum length of 64 characters.

Referenced By
ApplicationVersion (§3.7.1.1, ApplicationVersion); **OfficeVersion** (§3.7.1.9, OfficeVersion); **WindowsVersion** (§3.7.1.20, WindowsVersion)

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_Version">
  <restriction base="xsd:string">
    <maxLength value="64"/>
  </restriction>
</simpleType>
```

3.8 Equation XML

3.8.1 Introduction

Word supports a Compatibility Mode in which it disables functionality not compatible with earlier versions of Word. Versions of Word prior to Word 2007 do not have native support for displaying Office Open XML Math. Instances of Office Open XML Math in Word documents are converted to pictures to preserve their visual fidelity when opened in versions of Word earlier than Word 2007. To do this, Word adds additional information to those pictures, using the **equationxml** attribute present on the **shape** element ("[ISO/IEC-29500-4] §19.1.2.19; shape (Shape Definition)"), to store the Office Open XML Math which represents the original equation/expression. If the document is removed from Compatibility Mode, the contents of this attribute are then used to replace the image with the specified equation/expression.

This document describes the format in which Word 2007, Word 2010, or earlier versions of Word with the Compatibility Pack, store Office Open XML Math content inside the **equationxml** attribute.

3.8.2 Basic Format

The **equationXml** attribute's content is a complete Word 2003 XML document (defined here: http://msdn.microsoft.com/en-us/library/aa272680(office.11).aspx) containing Office Open XML Math elements ("[ISO/IEC-29500-1] §22.1"), and properly escaped as needed to be stored within an attribute value.

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This document is subject to the following restrictions:

- This Word 2003 XML document must not contain any comments, headers, footers, endnotes, footnotes, or textboxes.
- This Word 2003 XML document must contains a single paragraph (**p element**).

That p element must contain a single **oMathPara** element ("[ISO/IEC-29500-1] §22.1.2.78; oMathPara") which in turn must contain a single **oMath** element ("[ISO/IEC-29500-1] §22.1.2.77; oMath").

The oMathPara element can contain any valid XML from the Office Open XML Math namespace, but must not contain any markup from any other Office Open XML namespace. Instead, it can contain various elements from the Word 2003 XML namespace (§3.8.5, Office Open XML Math elements which can contain Word 2003 XML elements).

[Example: The following string value represents the encoded contents of the **equationXml** attribute when it contains a mathematic al expression containing only the character x:

```
&lt;w:wordDocument xmlns:m=
&quot;http://schemas.openxmlformats.org/officeDocument/2006/math&quot;
xmlns:w=&quot;http://schemas.microsoft.com/office/word/2003/wordml&quot;
&gt;&lt;w:body&gt;&lt;w:p&gt;&lt;m:oMathPara&gt;&lt;m:oMath&gt;&lt;m:r&gt;
&lt;w:rPr&gt;&lt;w:rFonts w:ascii=&quot;Cambria Math&quot; w:h-ansi= &quot;Cambria
Math&quot;/&gt;&lt;w:i/&gt;&lt;/w:rPr&gt;&lt;m:t&gt;x&lt;/m:t
&gt;&lt;/m:r&gt;&lt;/m:oMath&gt;&lt;/m:oMathPara&gt;&lt;/w:p
&gt;&lt;/w:body&gt;&lt;/w:wordDocument&gt;
```

end example]

The syntax and semantics of elements from Word 2003 XML and of Office Open XML Math are those specified in the corresponding file formats, with the following exceptions:

- There is a specific list of elements from Word 2003 XML which are each allowed to contain a specific set of elements from Office Open XML Math (§3.8.4, Word 2003 XML elements which can contain Office Open XML Math elements).
- Office Open XML Math elements are not allowed to contain any markup from any other Office Open XML namespace. Instead, a specific set of elements from Office Open XML Math are allowed to contain a specific set of elements from Word 2003 XML (§3.8.5, Office Open XML Math elements which can contain Word 2003 XML elements).

3.8.3 Reading the equationXml attribute

The contents of the **equationXml** attribute, as written by Word 2007, Word 2010, or earlier versions of Word with the Compatibility Pack, can be read in two different ways to determine the mathematical equation associated with the image:

To determine the associated equation/expression, read only the Office Open XML Math elements and ignore all other elements.

To determine the associated equation/expression including any additional WordprocessingML formatting (the addition of a bookmark, for example), read all elements.

[Example: The following XML represents the value of the **equationXml** attribute representing a mathematical equation containing a fraction with numerator x and denominator y where the numerator is formatted red and the denominator is enclosed in a bookmark with the name “bookmark_name”:

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```
&lt;w:wordDocument xmlns:aml=&quot;http://schemas.microsoft.com/aml/2001/core&quot; xmlns:m=
&quot;http://schemas.openxmlformats.org/officeDocument/2006/math&quot;
xmlns:w=&quot;http://schemas.microsoft.com/office/word/2003/wordml&quot;
&gt;&lt;w:body&gt;&lt;w:p&gt;&lt;m:oMathPara&gt;&lt;m:oMath&gt;&lt;m:f
&gt;&lt;m:fPr&gt;&lt;m:ctrlPr&gt;&lt;w:rPr&gt;&lt;w:rFonts w:ascii=&quot;Cambria Math&quot;
w:h-ansi=&quot;Cambria Math&quot;/&gt;&lt;w:i/&gt;&lt;/w:rPr&gt;&lt;/m:ctrlPr
&gt;&lt;/m:fPr&gt;&lt;m:num&gt;&lt;m:r&gt;&lt;w:rPr &gt;&lt;w:rFonts w:ascii=&quot;Cambria
Math&quot; w:h-ansi=&quot;Cambria Math&quot;/&gt;&lt;w:i/&gt;&lt;w:color
w:val=&quot;FF0000&quot;/&gt;&lt;/w:rPr&gt;&lt;m:t&gt;x&lt;/m:t
&gt;&lt;/m:r&gt;&lt;/m:num&gt;&lt;m:den&gt;&lt;aml:annotation aml:id=&quot;0&quot;
w:type=&quot;Word.Bookmark.Start&quot;
w:name=&quot;bookmark_name&quot;/&gt;&lt;m:r&gt;&lt;w:rPr &gt;&lt;w:rFonts
w:ascii=&quot;Cambria Math&quot; w:h-ansi=&quot;Cambria
Math&quot;/&gt;&lt;w:i/&gt;&lt;/w:rPr&gt;&lt;m:t&gt;y&lt;/m:t
&gt;&lt;/m:r&gt;&lt;aml:annotation aml:id=&quot;0&quot;
w:type=&quot;Word.Bookmark.End&quot;/&gt;&lt;/m:den&gt;&lt;/m:f
&gt;&lt;/m:oMath&gt;&lt;/m:oMathPara&gt;&lt;/w:p&gt;&lt;/w:body &gt;&lt;/w:wordDocument&gt;
```

An application might choose to read just the Office Open XML math elements, in which case it would display the fraction but would lose the font color applied to the numerator and the bookmark located in the denominator:

$$\frac{x}{y}$$

On the other hand, the application might choose to read all elements in which case it would display the font color and bookmark as well as the fraction:

$$\frac{x}{y}$$

end example]

3.8.4 Word 2003 XML elements which can contain Office Open XML Math elements

3.8.4.1 Containment of the oMathPara element

The Word 2003 XML document must contain a single **p** element which contains a single **oMathPara** element ("[ISO/IEC-29500-1] §22.1.2.78; oMathPara").

3.8.4.2 Containment of Math runs and Math functions and objects

The Word 2003 XML **hlink** element and the AML **content** element can each contain an unbounded number of Office Open XML Math elements from the following list, which includes the Office Open XML Math **r** element and all Office Open XML Math functions/objects:

- **acc** ("[ISO/IEC-29500-1] §22.1.2.1; acc")
- **bar**("[ISO/IEC-29500-1] §22.1.2.7; bar")
- **borderBox** ("[ISO/IEC-29500-1] §22.1.2.11; borderBox")
- **box** ("[ISO/IEC-29500-1] §22.1.2.13; box")
- **d** ("[ISO/IEC-29500-1] §22.1.2.24; d")
- **eqArr** ("[ISO/IEC-29500-1] §22.1.2.34; eqArr")
- **f** ("[ISO/IEC-29500-1] §22.1.2.36; f")
- **func** ("[ISO/IEC-29500-1] §22.1.2.39; func")
- **groupChr** ("[ISO/IEC-29500-1] §22.1.2.41; groupChr")
- **limLow** ("[ISO/IEC-29500-1] §22.1.2.54; limLow")
- **limUpp** ("[ISO/IEC-29500-1] §22.1.2.56; limUpp")
- **m** ("[ISO/IEC-29500-1] §22.1.2.60; m")

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- **nary** ("[ISO/IEC-29500-1] §22.1.2.70; nary")
- **phant** ("[ISO/IEC-29500-1] §22.1.2.81; phant")
- **r** ("[ISO/IEC-29500-1] §22.1.2.87; r")
- **rad** ("[ISO/IEC-29500-1] §22.1.2.88; rad")
- **sPre** ("[ISO/IEC-29500-1] §22.1.2.99; sPre")
- **sSub** ("[ISO/IEC-29500-1] §22.1.2.101; sSub")
- **sSubSup** ("[ISO/IEC-29500-1] §22.1.2.103; sSubSup")
- **sSup** ("[ISO/IEC-29500-1] §22.1.2.105; sSup")

3.8.5 Office Open XML Math elements which can contain Word 2003 XML elements

3.8.5.1 Control Properties

The ctrlPr element ("[ISO/IEC-29500-1] §22.1.2.23; ctrlPr") can contain one of the following elements:

- The AML **annotation** element
- The Word 2003 XML **rPr** element

3.8.5.2 oMath and Math Arguments

The **oMath** element ("[ISO/IEC-29500-1] §22.1.2.78; oMathPara") and the math argument elements **deg** ("[ISO/IEC-29500-1] §22.1.2.26; deg"), **den** ("[ISO/IEC-29500-1] §22.1.2.28; den"), **e** ("[ISO/IEC-29500-1] §22.1.2.32; e"), **fName** ("[ISO/IEC-29500-1] §22.1.2.37; fName"), **lim** ("[ISO/IEC-29500-1] §22.1.2.52; lim"), **num** ("[ISO/IEC-29500-1] §22.1.2.75; num"), **sub** ("[ISO/IEC-29500-1] §22.1.2.112; sub"), and **sup** ("[ISO/IEC-29500-1] §22.1.2.114; sup") can each contain an unbounded number of elements from the following list:

- XML elements in any namespace not defined by Word 2003 XML (which can, in turn, hold any valid child element of the **oMath** element ("[ISO/IEC-29500-1] §22.1.2.77; oMath"))
- The AML **annotation** element
- The Word 2003 XML **hlink** element
- The Word 2003 XML **permEnd** element
- The Word 2003 XML **permStart** element

When included as a child of a math argument element, those elements must occur after any Office Open XML Math **argPr** element ("[ISO/IEC-29500-1] §22.1.2.5; argPr") and before any Office Open XML Math **ctrlPr** element ("[ISO/IEC-29500-1] §22.1.2.23; ctrlPr") which is also a child of that math argument element.

3.8.5.3 Math Run

The Office Open XML math run element r ("[ISO/IEC-29500-1] §22.1.2.87; r") can contain:

- A single Word 2003 XML **rPr** element

If the math run contains both an Office Open XML Math **rPr** element and a Word 2003 XML **rPr** element, the Office Open XML Math **rPr** element must occur first.

The Office Open XML math **r** element can also contain an unbounded number of elements from the following list:

- Word 2003 XML **fldChar** element
- Word 2003 XML **noBreakHyphen** element
- Word 2003 XML **pgNum** element
- Word 2003 XML **pict** element.

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Note: Word is unable to recover the contents of the **equationxml** attribute if it includes a **pict** element.

- Word 2003 XML **softHyphen** element
- Word 2003 XML **sym** element
- Word 2003 XML **tab** element

Those elements must occur after any **rPr** elements.

3.8.6 Limitations in Word

Word ignores character styles, specified using the Word 2003 XML **rStyle** element, when converting the contents of the **equationxml** attribute to Office Open XML Math.

Word is unable to recover the contents of the **equationxml** attribute if it includes the Word 2003 XML **pict** element.

When Word recovers the contents of the **equationxml** attribute and the picture with the **equationxml** attribute is inside a **QUOTE** field, Word will lose any bookmarks represented using AML annotation elements inside the **equationxml attribute**.

3.9 Simple Types

The subordinate clauses describe XML simple types that are used by Office to read and write Office Open XML files.

3.9.1 ST_Fraction (Fraction Type)

This simple type specifies numerical, floating point data in one of three ways.

The first form is the standard decimal form used by the XML Schema decimal datatype. Valid values for this form are all decimals in the range [-32768, 32767].

The second form is an integer number with a postfixed “f” character. Each integer represents 1/65536 so that a value of “65536f” equates to a decimal value of 1.0. Valid values for this form are all integers in the range [-2147483648, 2147418112] followed by the postfixed “f”.

The third form is equivalent to the second, except that the “f” postfixed character is replaced by the string “fd”. This is used when expressing angular measurements.

This simple type's contents are a restriction of the XML Schema string datatype.

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_Fraction">
  <restriction base="xsd:string"/>
</simpleType>
```

3.9.2 ST_Macro (Custom Function Name Type)

This simple type specifies the name of a custom function associated with the object. This string shall follow the same grammar as name-reference in section "[ISO/IEC-29500-1] §18.17.2.5".

This simple type's contents are a restriction of the XML Schema string datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a minimum length of 0 characters.

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- This simple type's contents have a maximum length of 256 characters.

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_Macro">
  <restriction base="xsd:string">
    <minLength value="0"/>
    <maxLength value="256"/>
  </restriction>
</simpleType>
```

3.9.3 ST_ObjID (Object ID)

In Office 2007, Object IDs are either object names or an ID number.

An object name has the following characteristics:

- It is not an ID number.
- There is no shape with the same name in the:
- same worksheet, for Excel.
- same slide, for PowerPoint.
- same document, for Word.
- header, for Word.
- It is not an embedded object, for Excel and Word.

If it is an object name and contains NCR (Numeric Character Reference) characters, they are escaped using the Unicode numerical character representation escape character format `_xHHHH_`, where H represents a hexadecimal character. If the string already contains escaped characters in this format, then the first underscore character (_) of the escape sequence shall be escaped.

An ID number is defined by the **ST_SpId** simple type (§3.9.6, ST_SpId).

This simple type's contents are a restriction of the XML Schema token datatype.

This simple type also specifies the following restrictions:

- This simple type's contents have a maximum length of 255 characters.

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_ObjID">
  <restriction base="xsd:token">
    <maxLength value="255"/>
  </restriction>
</simpleType>
```

3.9.4 ST_ObjIDRef (Object ID Reference)

This simple type specifies a reference to an object ID. It starts with an optional '#' which is followed by an object ID number or an object name as described in the ST_ObjID simple type (§3.9.3, ST_ObjID).

This simple type's contents are a restriction of the XML Schema token datatype.

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_ObjIDRef">
  <restriction base="xsd:token"/>
```


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```
</simpleType>
```

3.9.5 ST_ShapeType (Shape Type)

This simple type specifies the kinds of shapes a VML shape can represent. [Rationale: An application may use this to indicate that a VML shape represents a particular conceptual shape type. end rationale]

Value	Description
0	User-defined shape
1	Rectangle
2	Rounded Rectangle
3	Ellipse
4	Diamond
5	Isosceles Triangle
6	Right Triangle
7	Parallelogram
8	Trapezoid
9	Hexagon
10	Octagon
11	Plus Sign
12	Star
13	Arrow
14	Thick Arrow
15	Home Plate
16	Cube
17	Balloon
18	Seal
19	Arc
20	Line
21	Plaque
22	Can
23	Donut
32	Straight Connector
33-36	Bent Connector

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Value	Description
37-40	Curved Connector
41-43	Callout
44-46	Accent Callout
47-49	Border Callout
50-52	Accent Border Callout
53-54	Ribbon
55	Chevron
56	Pentagon
57	No Smoking
58	8 Pointed Seal
59	16 Pointed Seal
60	32 Pointed Seal
61	Wedge Rectangle Callout
62	Wedge Rounded Rectangle Callout
63	Wedge Ellipse Callout
64	Wave
65	Folded Corner
66	Left Arrow
67	Down Arrow
68	Up Arrow
69	Left-Right Arrow
70	Up-Down Arrow
71-72	Irregular Seal
73	Lightning Bolt
74	Heart
75	Picture Frame
76	Quad Arrow
77	Left Arrow Callout
78	Right Arrow Callout
79	Up Arrow Callout
80	Down Arrow Callout
81	Left-Right Arrow Callout

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Value	Description
82	Up-Down Arrow Callout
83	Quad Arrow Callout
84	Bevel
85	Left Bracket
86	Right Bracket
87	Left Brace
88	Right Brace
89	Left-Up Arrow
90	Bent Up Arrow
91	Bent Arrow
92	24 Pointed Seal
93	Striped Right Arrow
94	Notched Right Arrow
95	Block Arc
96	Smiley Face
97	Vertical Scroll
98	Horizontal Scroll
99	Circular Arrow
100	Notched Circular Arrow
101	U-Turn Arrow
102	Curved Right Arrow
103	Curved Left arrow
104	Curved Up Arrow
105	Curved Down Arrow
106	Cloud Callout
107-108	Ellipse Ribbon
109	Flow Chart Process
110	Flow Chart Decision
111	Flow Chart Input/Output
112	Flow Chart Predefined Process
113	Flow Chart Internal Storage
114	Flow Chart Document

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Value	Description
115	Flow Chart Multi-Document
116	Flow Chart Terminator
117	Flow Chart Preparation
118	Flow Chart Manual Input
119	Flow Chart Manual Operation
120	Flow Chart Connector
121	Flow Chart Punched Card
122	Flow Chart Punched Tape
123	Flow Chart Summing Junction
124	Flow Chart Or
125	Flow Chart Collate
126	Flow Chart Sort
127	Flow Chart Extract
128	Flow Chart Merge
129	Flow Chart Offline Storage
130	Flow Chart Online Storage
131	Flow Chart Magnetic Tape
132	Flow Chart Magnetic Disk
133	Flow Chart Magnetic Drum
134	Flow Chart Display
135	Flow Chart Delay
176	Flow Chart Alternate Process
177	Flow Chart Offpage Connector
178	Callout 90
179	Accent Callout 90
180	Border Callout 90
181	Accent Border Callout 90
182	Left-Right-Up Arrow
183	Sun
184	Moon
185	Bracket Pair
186	Brace Pair

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Value	Description
187	4 Pointed Seal
188	Double Wave
189	Action Button Blank
190	Action Button Home
191	Action Button Help
192	Action Button Information
193	Action Button Forward/Next
194	Action Button Back/Previous
195	Action Button End
196	Action Button Beginning
197	Action Button Return
198	Action Button Document
199	Action Button Sound
200	Action Button Movie
201	Host Control
202	Text Box

This simple type's contents are a restriction of the XML Schema int datatype.

This simple type also specifies the following restrictions:

- This simple type has a minimum value of greater than or equal to 0.
- This simple type has a maximum value of less than or equal to 202.

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_ShapeType">
  <restriction base="xsd:int">
    <minInclusive value="0"/>
    <maxInclusive value="202"/>
  </restriction>
</simpleType>
```

3.9.6 ST_SpId (Shape ID Type)

A shape ID has the following characteristics:

- It begins with "`_x0000_`" followed by 1 character and a number: _x0000_[c]<num>
- The character [c] is:
- '`t`' or '`m`' when used for a **shapetype** element ("[ISO/IEC-29500-4] §19.1.2.20; shapetype (Shape Template)").
- '`s`' when used for a shape.

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- Shape IDs always start at 1025.
- Shape IDs are clustered together, and each cluster has 1024 values. The first cluster ranges from 1025 to 2048.
- Shape IDs within the same cluster may only exist in:
- one worksheet, for Excel.
- one slide, for PowerPoint.
- one document, for Word.
- the header, for Word.
- 's' or 'i' for shapes that are inline (not floating) in Word.
- <num> shall be between 1 and 268435456.
- It does not contain NCR (Numeric Character Reference) characters.

Office 2007 does not guarantee that the same shape ID that is loaded is preserved on file save.

This simple type's contents are a restriction of the XML Schema string datatype.

The following XML Schema fragment defines the contents of this simple type:

```
<simpleType name="ST_SpId">
  <restriction base="xsd:string"/>
</simpleType>
```

3.10 Activating embedded packages in Office (Part 1 Section L.7.2 Embeddings)

When an embedded package (Part 1 Section L.7.2 Embeddings) is encountered and the user requests activation of the object, the following procedure is followed:

1. The content-type for the embedded package is determined by interrogating \[Content_Types].xml in the containing package.
2. The registered file extension for the content-type is determined by enumerating the Windows registry keys under "HKEY_CLASSES_ROOT\MIME\Database\Content Type" for a key value that matches the content-type.
    1. If a matching key is found, then the value data for the REG_SZ value "Extension" is the extension for the embedded package.
    2. If a matching key is not found, then the embedded package cannot be activated.
3. The PROG_ID for the content-type's extensions is determined by querying the Default REG_SZ value for the Windows registry key defined by concatenating HKEY_CLASSES_ROOT with the content-type's extension value [Example: if the content-type's extension is ".xlsx", then the Windows registry key to query is "HKEY_CLASSES_ROOT\.xlsx". The Default REG_SZ value for this key is "Excel.Sheet.12". This is the PROG_ID for this content-type.]
4. The CLSID for the content-type is determined by querying the Default REG_SZ value for the Windows registry key defined by concatenating HKEY_CLASSES_ROOT with the content-type's PROG_ID and "CLSID". [Example: if the content-type's PROG_ID is "Excel.Sheet.12", then the Windows registry key to query is "HKEY_CLASSES_ROOT\Excel.Sheet.12\CLSID". The Default REG_SZ value for this key is "{00020830-0000-0000-C000-000000000046}".]
    1. If the CLSID value is any of the following values, activation will fail:
        1. "{000CEEDB-0000-0000-C000-000000000046}"
        2. "{000CEEDA-0000-0000-C000-000000000046}"
        3. "{637b1c13-8617-4985-8fe7-e66935ba677d}"
5. The MainPartContentType for the content-type is determined by querying the MainPartContentType registry value under the registry key defined by concatenating HKEY_CLASSES_ROOT\CLSID with the CLSID value for the content-type with "MainPartContentType". [Example: if the CLSID value for the content-type is "{00020830-0000-0000-C000-000000000046}", then the Windows registry value to query is "HKEY_CLASSES_ROOT\CLSID\{00020830-0000-0000-C000-000000000046}\MainPartContentType".]
    1. If this value does not exist, this step is skipped and activation will continue.

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2. If this value does exist, then the embedded package MUST meet the following conditions. If any of these conditions are not true, then activation of the embedded package will fail.
    1. A single relationship of type "http://purl.oclc.org/ooxml/officeDocument/relationships/officeDocument" ("http://schemas.openxmlformats.org/officeDocument/2006/relationships/officeDocument" for packages conforming to Part 4, Transitional Migration Features) MUST exist from the root of the package (_rels\.rels) to the part considered to be the Main Part for the package.
    2. The content-type for the Main Part must be the same as the MainPartContentType determined in step 5.
6. With the CLSID identified for the embedded package, and the (optional) validation complete in Step 5, the application will activate the embedded package using Windows OLE technologies.

During Save, when an embedded object is encountered, the following procedure is used:

1. The IPersistStorageType for the object is determined by querying the IPersistStorageType registry value under the registry key defined by concatenating HKEY_CLASSES_ROOT\CLSID with the CLSID value for the content-type with "IPersistStorageType". [Example: if the CLSID value for the content-type is "{00020830-0000-0000-C000-000000000046}", then the Windows registry value to query is "HKEY_CLASSES_ROOT\CLSID\{00020830-0000-0000-C000-000000000046}\IPersistStorageType".]
    1. If the value does not exist, this procedure is skipped and regular object save will continue.
    2. If the value is not 2, this procedure does not apply and regular object save will continue.
    3. The object MUST have a "Package" stream or saving the document will fail.
2. The extension to use for the embedded package part will be determined by querying the (default) registry value under the DefaultExtension key under same CLSID path as above. [Example: if the CLSID value for the content-type is "{00020830-0000-0000-C000-000000000046}", then the Windows registry value to query is "HKEY_CLASSES_ROOT\CLSID\{00020830-0000-0000-C000-000000000046}\DefaultExtension\(default)".]
    1. If the above value does not exist, saving the document will fail.
    2. The registry value will be truncated at the first comma and the first char will be replaced with a '.'. [Example: if the registry value is ".docx, Word Document", the extension will be ".docx"]
3. The content-type to use for the embedded package part will be determined by querying the "Content Type" registry value under the registry key defined by concatenating HKEY_CLASSES_ROOT with the extension determined above. [Example: if the extension is ".docx", then the Windows registry value to query is "HKEY_CLASSES_ROOT\.docx\Content Type".]
    1. If the above value does not exist, saving the document will fail.
4. The "Package" stream in the embedded object is copied into the embedded package part in the main document.

3.11 Reserved Custom File Properties

The standard does not specify any predefined Custom File Properties ("[ISO/IEC-29500-1] §15.2.12.2; Custom File Properties Part"). A number of Custom File Properties are reserved for use by Excel, Word, and PowerPoint. These names must only be used to specify the data for which the names are reserved. All of these properties are optional and can be absent.

3.11.1 Shared Reserved Properties

Many of the properties reserved in documents conforming to the Office Open XML File Formats [ISO/IEC-29500-1] are also reserved in older file formats used by Microsoft Office. The properties enumerated in Reserved Properties ([MS-OSHARED] §2.3.3.2.3.2; Reserved Properties) are also reserved in documents conforming to [ISO/IEC-29500-1].

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3.11.2 Sensitivity Label Properties

Excel, Word, and PowerPoint may add specific Custom File Properties if a sensitivity label is applied.

Excel, Word, and PowerPoint may persist metadata from the Microsoft Information Protection Software Development Kit to Custom File Properties. Additionally, the property name "Sensitivity" is written and set to the GUID of the label ID applied to the file. The label ID is given by the Microsoft Information Protection Software Development Kit corresponding to the applied label.

Word may persist additional Custom File Properties if a sensitivity label is applied, as shown in the table below.

Custom Property Name	Value Description
ClassificationContentMarkingHeaderFontProps	Written if the sensitivity label applied indicates that a header should be applied. The value is a # followed by the header text color in RRGGBB format, where RR, GG, and BB each represent a hexadecimal number indicating the amount of red (RR), green (GG), and blue (BB) to display on a scale of 0 (none) to FF (all). For example, #000000 indicates black and #FFFFFF indicates white. This is followed by a comma and the text font size in points, another comma, and the text font face name.
ClassificationContentMarkingHeaderShapeIds	Written if the sensitivity label applied indicates that a header should be applied. The value is a comma separated list of shape IDs, written in hexadecimal without the leading 0x, which comprise the shapes which are used to render the headers.
ClassificationContentMarkingHeaderShapeIds-***<suffix>***	Written if the ClassificationContentMarkingHeaderShapeIds Custom File Property is written and the value grows too long because of the number of shapes inserted in the file. ***<Suffix>*** is a hexadecimal number without the leading 0x that starts with 1 and increments by 1. For example, ClassificationContentMarkingHeaderShapeIds-1 is written if ClassificationContentMarkingHeaderShapeIds Custom File Property is written and the value is too large because of the number of shapes inserted in the file. ClassificationContentMarkingHeaderShapeIds-2 is written if ClassificationContentMarkingHeaderShapeIds-1 Custom File Property is written and the value is too large because of the number of shapes inserted in the file.
ClassificationContentMarkingHeaderText	Written if the sensitivity label applied indicates that a header should be applied. The value is the header text displayed in the document as part of applying the sensitivity label.
ClassificationContentMarkingFooterFontProps	Written if the sensitivity label applied indicates that a footer should be applied. The value is a # followed by the footer text color in RRGGBB format, where RR, GG, and BB each represent a hexadecimal number indicating the amount of red (RR), green (GG), and blue (BB) to display on a scale of 0 (none) to FF (all). For example, #000000 indicates black and #FFFFFF indicates white. This is followed by a comma and the text font size in points, another comma, and the text

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Custom Property Name	Value Description
	font face name.
ClassificationContentMarkingFooterShapeIds	Written if the sensitivity label applied indicates that a footer should be applied. The value is a comma separated list of shape IDs, written in hexadecimal without the leading 0x, which comprise the shapes which are used to render the footers.
ClassificationContentMarkingFooterShapeIds-***<suffix>***	Written if the ClassificationContentMarkingFooterShapeIds Custom File Property is written and the value grows too long because of the number of shapes inserted in the file. ***<Suffix>*** is a hexadecimal number without the leading 0x that starts with 1 and increments by 1. For example, ClassificationContentMarkingHeaderShapeIds-1 is written if ClassificationContentMarkingFooterShapeIds Custom File Property is written and the value is too large because of the number of shapes inserted in the file. ClassificationContentMarkingFooterShapeIds-2 is written if ClassificationContentMarkingFooterShapeIds-1 Custom File Property is written and the value is too large because of the number of shapes inserted in the file.
ClassificationContentMarkingFooterText	Written if the sensitivity label applied indicates that a footer should be applied. The value is the footer text displayed in the document as part of applying the sensitivity label.
ClassificationWatermarkFontProps	Written if the sensitivity label applied indicates that a watermark should be applied. The value is a # followed by the watermark text color in RRGGBB format, where RR, GG, and BB each represent a hexadecimal number indicating the amount of red (RR), green (GG), and blue (BB) to display on a scale of 0 (none) to FF (all). For example, #000000 indicates black and #FFFFFF indicates white. This is followed by a comma and the text font size in points, another comma, and the text font face name.
ClassificationWatermarkShapeIds	Written if the sensitivity label applied indicates that a watermark should be applied. The value is a comma separated list of shape IDs, written in hexadecimal without the leading 0x, which comprise the shapes which are used to render the watermarks.
ClassificationWatermarkShapeIds-***<suffix>***	Written if the ClassificationWatermarkShapeIds Custom File Property is written and the value grows too long because of the number of shapes inserted in the file. ***<Suffix>*** is a hexadecimal number without the leading 0x that starts with 1 and increments by 1. For example, ClassificationWatermarkShapeIds-1 is written if ClassificationWatermarkShapeIds Custom File Property is written and the value is too large because of the number of shapes inserted in the file. ClassificationWatermarkShapeIds-2 is written if ClassificationWatermarkShapeIds-1 Custom File Property is written and the value is too large because of the number of shapes inserted in the file.
ClassificationWatermarkText	Written if the sensitivity label applied indicates that a watermark should be applied. The value is the

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Custom Property Name	Value Description
	watermark text displayed in the document as part of applying the sensitivity label.

PowerPoint may persist additional Custom File Properties if a sensitivity label is applied, as shown in the table below.

Custom Property Name	Value Description
ClassificationContentMarkingHeaderText	Written if the sensitivity label applied indicates that a header should be applied to the design master. The value is the header text displayed in the presentation as part of applying the sensitivity label.
ClassificationContentMarkingHeaderLocations	Written if the sensitivity label applied indicates that a header should be applied to the design master. The value is the design name, followed by a colon and the shape ID. If there are multiple design masters, they are all listed and are separated by a reverse solidus (\). Colon (:) and reverse solidus (\) characters in the design name are escaped with a reverse solidus to (\:) and (\\) respectively.
ClassificationContentMarkingFooterText	Written if the sensitivity label applied indicates that a footer should be applied to the design master. The value is the footer text displayed in the presentation as part of applying the sensitivity label.
ClassificationContentMarkingFooterLocations	Written if the sensitivity label applied indicates that a footer should be applied to the design master. The value is the design name, followed by a colon and the shape ID. If there are multiple design masters, they are all listed and are separated by a reverse solidus (\). Colon (:) and reverse solidus (\) characters in the design name are escaped with a reverse solidus to (\:) and (\\) respectively.
ClassificationWatermarkText	Written if the sensitivity label applied indicates that a watermark should be applied to the design master. The value is the watermark text displayed in the presentation as part of applying the sensitivity label.
ClassificationWatermarkLocations	Written if the sensitivity label applied indicates that a watermark should be applied to the design master. The value is the watermark name, followed by a colon and the shape ID. If there are multiple design masters, they are all listed and are separated by a reverse solidus (\). Colon (:) and reverse solidus (\) characters in the design name are escaped with a reverse solidus to (\:) and (\\) respectively.

Examples of Custom File Properties

Excel

```
<Properties xmlns="http://schemas.openxmlformats.org/officeDocument/2006/custom-properties"
xmlns:vt="http://schemas.openxmlformats.org/officeDocument/2006/docPropsVTypes">
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="2" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab Enabled"><vt:lpwstr>true</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="3" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_SetDate"><vt:lpwstr>2018-09-24T21:38:47-
0800</vt:lpwstr></property>
```


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```
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="4" name="MSIP Label d9f23ae3-
a239-45ea-bf23-0123456789ab_Method"><vt:lpwstr>Privileged</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="5" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_Name"><vt:lpwstr>Header, Footer, and
Watermark</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="6" name="MSIP Label d9f23ae3-
a239-45ea-bf23-0123456789ab_SiteId"><vt:lpwstr>242d863a-283c-5e0f-ae66-
d99e8a20f526</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="7" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_ActionId"><vt:lpwstr>9808f4bb-209e-4696-8307-
00003bb82621</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="8" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_ContentBits"><vt:lpwstr>7</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="9"
name="Sensitivity"><vt:lpwstr>d9f23ae3-a239-45ea-bf23-0123456789ab</vt:lpwstr></property>
</Properties>
```

PowerPoint

```
<Properties xmlns="http://schemas.openxmlformats.org/officeDocument/2006/custom-properties"
xmlns:vt="http://schemas.openxmlformats.org/officeDocument/2006/docPropsVTypes">
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="2" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_Enabled"><vt:lpwstr>true</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="3" name="MSIP Label d9f23ae3-
a239-45ea-bf23-0123456789ab_SetDate"><vt:lpwstr>2018-09-24T21:33:22-
0800</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="4" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_Method"><vt:lpwstr>Privileged</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="5" name="MSIP Label d9f23ae3-
a239-45ea-bf23-0123456789ab_Name"><vt:lpwstr>Header, Footer, and
Watermark</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="6" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_SiteId"><vt:lpwstr>242d863a-283c-5e0f-ae66-
d99e8a20f526</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="7" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_ActionId"><vt:lpwstr>fc4f85ef-4627-4002-800f-
00005a208e8f</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="8" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_ContentBits"><vt:lpwstr>7</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="9"
name="Sensitivity"><vt:lpwstr>d9f23ae3-a239-45ea-bf23-0123456789ab</vt:lpwstr></property>

 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="10"
name="ClassificationContentMarkingHeaderText"><vt:lpwstr> This is header text with a leading
space.</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="11"
name="ClassificationContentMarkingHeaderLocations"><vt:lpwstr>Office
Theme:10</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="12"
name="ClassificationContentMarkingFooterText"><vt:lpwstr>THIS is a FOOTER with a trailing
space! </vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="13"
name="ClassificationContentMarkingFooterLocations"><vt:lpwstr>Office
Theme:11</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="14"
name="ClassificationWatermarkText"><vt:lpwstr>Once upon a time, there was a watermark. The
watermark was inserted in the document. The End.</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="15"
name="ClassificationWatermarkLocations"><vt:lpwstr>Office Theme:12</vt:lpwstr></property>
</Properties>
```

Word

```
<Properties xmlns="http://schemas.openxmlformats.org/officeDocument/2006/custom-properties"
xmlns:vt="http://schemas.openxmlformats.org/officeDocument/2006/docPropsVTypes">
```


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```
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="2"
name="ClassificationContentMarkingHeaderShapeIds"><vt:lpwstr>1,2,3</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="3"
name="ClassificationContentMarkingHeaderFontProps"><vt:lpwstr>#ffff00,23,Calibri</vt:lpwstr><
/property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="4"
name="ClassificationContentMarkingHeaderText"><vt:lpwstr> This is header text with a leading
space.</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="5"
name="ClassificationContentMarkingFooterShapeIds"><vt:lpwstr>4,5,6</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="6"
name="ClassificationContentMarkingFooterFontProps"><vt:lpwstr>#ff00ff,11,Calibri</vt:lpwstr><
/property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="7"
name="ClassificationContentMarkingFooterText"><vt:lpwstr>THIS is a FOOTER with a trailing
space! </vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="8"
name="ClassificationWatermarkShapeIds"><vt:lpwstr>7,8,9</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="9"
name="ClassificationWatermarkFontProps"><vt:lpwstr>#000000,13,Calibri</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="10"
name="ClassificationWatermarkText"><vt:lpwstr>Once upon a time, there was a watermark. The
watermark was inserted in the document. The End.</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="11" name="MSIP_Label_d9f23ae3-
a239-45ea-bf23-0123456789ab_Enabled"><vt:lpwstr>true</vt:lpwstr></property>
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a239-45ea-bf23-0123456789ab_SetDate"><vt:lpwstr>2018-09-24T21:42:18-
0800</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="13" name="MSIP Label d9f23ae3-
a239-45ea-bf23-0123456789ab_Method"><vt:lpwstr>Privileged</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="14" name="MSIP Label d9f23ae3-
a239-45ea-bf23-0123456789ab_Name"><vt:lpwstr>Header, Footer, and
Watermark</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="15" name="MSIP Label d9f23ae3-
a239-45ea-bf23-0123456789ab_SiteId"><vt:lpwstr>242d863a-283c-5e0f-ae66-
d99e8a20f526</vt:lpwstr></property>
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a239-45ea-bf23-0123456789ab_ActionId"><vt:lpwstr>e055f41b-dbb0-425c-a95a-
00008352e3b4</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="17" name="MSIP Label d9f23ae3-
a239-45ea-bf23-0123456789ab_ContentBits"><vt:lpwstr>7</vt:lpwstr></property>
 <property fmtid="{D5CDD505-2E9C-101B-9397-08002B2CF9AE}" pid="18"
name="Sensitivity"><vt:lpwstr>d9f23ae3-a239-45ea-bf23-0123456789ab</vt:lpwstr></property>

</Properties>
```


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4 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as Major, Minor, or None.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements.
- A document revision that captures changes to protocol functionality.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **None** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the relevant technical content is identical to the last released version.

The changes made to this document are listed in the following table. For more information, please contact dochelp@microsoft.com.

Section	Description	Revision class
2.1.149 Part 1 Section 17.4.37, tbl (Table)	Clarified the number of table cell elements allowed per table row element in Word.	Major
2.1.168 Part 1 Section 17.4.65, tc (Table Cell)	Clarified the number of table cell elements allowed per table row element in Word.	Major
2.1.178 Part 1 Section 17.4.78, tr (Table Row)	Clarified the number of table cell elements allowed per table row element in Word.	Major

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5 Index

A

A1-Style Cell References 393
absSizeAnchor (Absolute Anchor Shape Size) 587
Abstract (Document Abstract) 860
abstractNum (Abstract Numbering Definition) 123
abstractNumId (Abstract Numbering Definition Reference) 123
acc (Accent) 600
Accel (Primary Keyboard Accelerator) 682
Accel2 (Secondary Keyboard Accelerator) 682
accent1 (Accent 1) 505
accent2 (Accent 2) 505
accent3 (Accent 3) 505
accent4 (Accent 4) 505
accent5 (Accent 5) 505
accent6 (Accent 6) 505
ACCRINT 396
ACCRINTM 397
acd (Allocated Command Keyboard Customization Action) 698
acd (Allocated Command) 697
acdEntry (Allocated Command Manifest Entry) 699
acdManifest (Allocated Command Manifest) 699
acds (Allocated Commands) 700
ACOS 398
Activating embedded packages in Office (Part 1 Section L.7.2 Embeddings) (Additional Information) 910
active (Record Is Included in Mail Merge) 701
activeRecord (Record Currently Displayed In Merged Document) 141
activeWritingStyle (Grammar Checking Settings) 147
Additional attribute for cnfStyle element (Part 1 - 17.3.1.8) 629
Additional attribute for cnfStyle element (Part 1 - 17.4.7) 631
Additional attribute for cnfStyle element (Part 1 - 17.4.8) 631
Additional attributes for writeProtection element (Part 1 - 17.15.1.93) 635
Additional Elements (section 3.1.4.2.1 835, section 3.1.4.3.1 837)
Additional enumeration values for ST_StyleSort (Part 1 - 17.18.82) 638
Additional Parts (section 3.1.1 694, section 3.2.1 839, section 3.3.1 853, section 3.4.1 854)
Additional SpreadsheetML Schema 846
Additional WordprocessingML Schema 795
ADDRESS 398
ADDRESSBLOCK 166
adj (Shape Adjust) 590
ADVANCE 184
Agreements 881
ahPolar (PolarAdjustHandle) 519
ahXY (XYAdjustHandle) 519
aliases (Alternate Style Names) 105
alignment (Alignment) 295
allowPNG (Allow PNG as Graphic Format) 160
aln (Alignment) 601
alpha (Alpha) 499
alphaInv (Alpha Inverse Effect) 514
alphaMod (Alpha Modulate Effect) 515
alphaMod (Alpha Modulation) 499
alphaModFix (Alpha Modulate Fixed Effect) 515
alphaOff (Alpha Offset) 499
altChunk (Anchor for Imported External Content) 226
altName (Alternate Names for Font) 120
alwaysMergeEmptyNamespace (Do Not Mark Custom XML Elements With No Namespace As Invalid) 147
AMORDEGRC 398
AMORLINC 399
anchor (Anchor for Floating DrawingML Object) 531
anchor (Anchor Point) 507
Anchor (Anchor) 683
anchor (Object Cell Anchor) 250
anim (Animate) 471
animClr (Animate Color Behavior) 472
animEffect (Animate Effect) 472
animMotion (Animate Motion) 473
animRot (Animate Rotation) 474
animScale (Animate Scale) 475
Application Conformance 49
ApplicationVersion (Application Version) 889
applyBreakingRules (Use Legacy Ethiopic and Amharic Line Breaking Rules) 163
applyToFront (Apply To Front) 550
applyToSides (Apply To Sides) 551
AppVersion (Application Version) 612
arc (Arc Segment) 639
areaChart (Area Charts) 551
AREAS 400
array (Array) 617
Array Formulas 396
ASIN 400
ASINH 400
ATAN 400
ATAN2 400
attachedTemplate (Attached Document Template) 147
attr (Custom XML Attribute) 95
attr (Smart Tag Property) 96
attrName (Attribute Name) 475
audio (Audio) 476
audioFile (Audio from File) 504
AUTHOR 184
author (Author) 295
Author (Contributors List) 619
autoCaption (Single Automatic Captioning Setting) 148
autoCaptions (Automatic Captioning Settings) 148
AutoFill (AutoFill) 683
autoFormatOverride (Allow Automatic Formatting to Override Formatting Protection Settings) 148
AutoLine (AutoLine) 683
AUTONUM 636
AUTONUMLGL 636
AUTONUMOUT 636
autoRedefine (Automatically Merge User Formatting Into Style Definition) 105
AutoScale (Font AutoScale) 683

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autoSortScope (AutoSort Scope) 326
autoTitleDeleted (Auto Title Is Deleted) 551
AVEDEV 401
AVERAGEA 401
AVERAGEIF 401
AVERAGEIFS 401
axId (Axis ID) 551
axPos (Axis Position) 551

B

b (Bold) 67
b (Boolean) 326
backdrop (Backdrop Plane) 507
background (Document Background) (section 2.1.35 61, section 2.1.1791 647)
backWall (Back Wall) 551
backward (Backward) 551
band1V (Band 1 Vertical) 506
band2V (Band 2 Vertical) 506
bandFmts (Band Formats) 552
bar (Bar) 601
bar (Paragraph Border Between Facing Pages) 62
bar3DChart (3D Bar Charts) 552
barChart (Bar Charts) 552
BARCODE 637
barDir (Bar Direction) 552
barPr (Bar Properties) 601
basedOn (Parent Style ID) 105
baseJc (Matrix Base Justification) 601
Basic Format 900
bCs (Complex Script Bold) 67
bdo (Bidirectional Override) 67
bdr (Text Border) 67
BESSELI 401
BESSELJ 401
BESSELK 402
BESSELY 402
BETAINV 402
between (Paragraph Border Between Identical Paragraphs) 62
bevelB (Bottom Bevel) 507
bevelT (Top Bevel) 507
bg (Slide Background) 467
bgColor (Background Color) 296
bgPr (Background Properties) 467
BIBLIOGRAPHY 184
BIDIOUTLINE 637
bidiVisual (Visually Right to Left Table) 80
BIN2DEC 402
bk (Metadata Block) 313
bldChart (Build Chart) 495
bldDgm (Build Diagram) (section 2.1.1146 477, section 2.1.1199 495)
bldGraphic (Build Graphics) 477
bldOleChart (Build Embedded Chart) 477
bldP (Build Paragraph) 478
bldSub (Build Sub Elements) 478
blipFill (Picture Fill) (section 2.1.1120 467, section 2.1.1288 515, section 2.1.1348 531, section 2.1.1358 532, section 2.1.1601 587)
blockQuote (Data for HTML blockquote Element) 160
blue (Blue) 499
blueMod (Blue Modification) 500
blueOff (Blue Offset) 500
blur (Blur Effect) 515
body (Document Body) 62
Body Formatting 535
bodyDiv (Data for HTML body Element) 160
bodyPr (Body Properties) 536
bookFoldPrinting (Book Fold Printing) 148
bookFoldPrintingSheets (Number of Pages Per Booklet) 148
bookFoldRevPrinting (Reverse Book Fold Printing) 149
bookmarkEnd (Bookmark End) 139
Bookmarks (section 2.1.354 139, section 2.1.455 165)
bookmarkStart (Bookmark Start) 140
bookViews (Workbook Views) 237
border (Border) 296
borderbottom (Bottom Border) 682
borderBox (Border-Box Object) 601
borderleft (Left Border) 682
borderright (Right Border) 682
borders (Borders) 296
bordertop (Top Border) 682
bottom (Bottom Border for HTML div) 160
bottom (Bottom Border) 101
bottom (Paragraph Border Below Identical Paragraphs) 62
bottom (Table Bottom Border) 81
bottom (Table Cell Bottom Border) 81
bottom (Table Cell Bottom Margin Default) 81
bottom (Table Cell Bottom Margin Exception) 81
bottom (Text Box Bottom Stroke) 666
bounds (Bounds) 835
box (Box Object) 601
brk (Break) (section 2.1.589 250, section 2.1.1650 601)
bubble3D (3D Bubble) 552
bubbleChart (Bubble Charts) 552
buFont (Specified) 546
builtInUnit (Built in Display Unit Value) 552
buSzPct (Bullet Size Percentage) 546
buSzPts (Bullet Size Points) 546
by (By) 478

C

c (Cell) (section 2.1.590 251, section 2.1.688 294)
CAAEPlaceholderMetaDataCustomPropertyName 881
cached (Cached View) 878
cacheField (PivotCache Field) 326
cacheFields (PivotCache Fields) 327
cacheHierarchies (PivotCache Hierarchies) 327
cacheHierarchy (PivotCache Hierarchy) 328
cacheSource (PivotCache Source Description) 329
calcPr (Calculation Properties) 237
Calculated Field Formulas 851
Calculated Item Formulas 851
calculatedColumnFormula (Calculated Column Formula) 290
calculatedItem (Calculated Item) 329
calculatedMember (Calculated Member) 330
callout (Callout) 668
Camera (Camera Tool) 683
camera (Camera) 508
cantSplit (Table Row Cannot Break Across Pages) 81
caption (Single Caption Type Definition) 149

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captions (Caption Settings) 149
cat (Category Axis Data) 553
catAx (Category Axis Data) 553
cBhvr (Common Behavior) 479
CEILING 402
CELL 402
cell (External Cell Data) 379
Cell References 392
cell3D (Cell 3-D) 548
cellDel (Table Cell Deletion) 132
cellIns (Table Cell Insertion) 132
cellMerge (Vertically Merged/Split Table Cells) 132
cellMetadata (Cell Metadata) 313
cellSmartTag (Cell Smart Tag) 251
cellSmartTagPr (Smart Tag Properties) 251
cellSmartTags (Cell Smart Tags) 252
cellStyle (Cell Style) 296
cellStyles (Cell Styles) 297
cellStyleXfs (Formatting Records) 297
cellWatch (Cell Watch Item) 252
cellXfs (Cell Formats) 297
CF (Clipboard Format) 684
cfRule (Conditional Formatting Rule) 252
cfvo (Conditional Format Value Object) 252
cGp (Matrix Column Gap) 602
cGpRule (Matrix Column Gap Rule) 602
Change tracking 918
charRg (Character Range) 480
charset (Character Set Supported By Font) 121
Chart Drawing Part 59
Chart formulas 850
Chart Part 58
chartFormat (PivotChart Format) 330
chartObject (Chart Object) 553
chartsheet (Chart Sheet) 252
Chartsheet Part 50
checkErrors (Mail Merge Error Reporting Setting) 141
chExt (Child Extents) 512
CHIINV 407
chOff (Child Offset) 512
CITATION 185
CLEAN 407
clickAndTypeStyle (Paragraph Style Applied to Automatically Generated Paragraphs) 150
ClientData (Attached Object Data) 684
clippath (Shape Clipping Path) 670
clrChange (Color Change Effect) 515
clrData (Color Transform Sample Data) 590
clrSchemeMapping (Theme Color Mappings) 150
clsid (Class ID) 618
cm (Comment) 470
cmd (Command) 480
cMediaNode (Common Media Node Properties) 481
cnfStyle (Paragraph Conditional Formatting) 62
cnfStyle (Table Cell Conditional Formatting) 81
cnfStyle (Table Row Conditional Formatting) 81
cNvCxnSpPr (Non-Visual Connector Shape Drawing Properties) 495
cNvGraphicFramePr (Non-Visual Graphic Frame Drawing Properties) 495
cNvGrpSpPr (Non-Visual Group Shape Drawing Properties) 495
cNvPr (Non-Visual Drawing Properties) (section 2.1.1359 532, section 2.1.1602 587)
cNvSpPr (Connection Non-Visual Shape Properties) 532
col (Column Width & Formatting) 253
col (Column) 842
col (Column)) 532
col (Single Column Definition) 101
colBreaks (Vertical Page Breaks) 253
colDelim (Column Delimiter for Data Source) 141
ColHidden (Comment's Column is Hidden) 684
colHierarchiesUsage (Column OLAP Hierarchy References) 331
colHierarchyUsage (Column OLAP Hierarchies) 331
colItems (Column Items) 331
colOff (Column Offset) 533
color (Data Bar Color) 253
color (Frameset Splitter Color) 160
color (Run Content Color) 68
ColorDepth (Color Depth) 889
Colored (Dropdown Color Toggle) 684
colorFilter (Color Filter Criteria) 287
colormenu (UI Default Colors) 670
colormru (Most Recently Used Colors) 670
colorScale (Color Scale) 254
colorsDef (Color Transform Definitions) 592
cols (Column Definitions) 101
colSortMap (Column Sort Map) 843
column (Index of Column Being Mapped) 141
column (Index of Column Containing Unique Values for Record) 142
column (Text Box Interior Stroke) 671
comment (Comment Content) 129
comment (Comment) 295
commentPr (Comment Properties) 295
commentRangeEnd (Comment Anchor Range End) 131
commentRangeStart (Comment Anchor Range Start) 131
commentReference (Comment Content Reference Mark) 132
COMMENTS 185
CompanyAddress (Company Address) 860
CompanyEmail (Company Email Address) 860
CompanyFax (Company Fax Number) 860
CompanyPhone (Company Phone Number) 861
COMPARE 185
COMPLEX 408
complex (Complex) 671
cond (Condition) 481
Conditional Formatting Formulas 848
conditionalFormat (Conditional Formatting) 331
conditionalFormatting (Conditional Formatting) 254
CONFIDENCE 408
connection (Connection) 376
consecutiveHyphenLimit (Maximum Number of Consecutively Hyphenated Lines) 150
Constants 390
cont (Effect Container) 515
Containment of Math runs and Math functions and objects 902
Containment of the oMathPara element 902
Content Type Schemas 862
Content Type Schemas Schema 863
contentPart (Content Part) 78
contentTypeSchema (Schema for Content Type) 863
contourClr (Contour Color) 508

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control (Embedded Control) (section 2.1.103 78, section 2.1.603 254, section 2.1.1131 469)
control (Floating Embedded Control) 629
Control Properties 902
controlPr (Embedded Control Properties) 254
controls (Embedded Controls) 255
CONVERT 408
convMailMergeEsc (Treat Backslash Quotation Delimiter as Two Quotation Marks) 635
Core File Properties Part 60
Core Properties 629
CORREL 408
COS 408
COUNT 408
count (Matrix Column Count) 602
COUNTA 409
COUNTIFS 409
COUPDAYBS 409
COUPDAYS 410
COUPDAYSNC 410
COUPNCD 411
COUPNUM 412
COUPPCD 413
Cover Page Properties 860
Cover Page Properties Schema 860
CoverPageProperties (Cover Page Properties) 861
CREATEDATE 185
CRITBINOM 414
crossAx (Crossing Axis ID) 553
crossesAt (Crossing Value) 553
cs (Complex Script Font) 541
cs (Use Complex Script Formatting on Run) 69
cSld (Common Slide Data) 467
cSp (Minimum Matrix Column Width) 602
cTn (Common Time Node Properties) 481
ctrlPr (Control Properties) 602
CUBEKPIMEMBER 414
CUBESET 414
CUBESETCOUNT 414
CUMIPMT 414
CUMPRINC 415
curve (Bezier Curve) 647
custData (Customer Data) 467
Custom Document Information Panel 875
Custom Document Information Panel Schema 875
Custom File Properties Part 60
Custom XML Data Storage Part 59
Custom XML Mappings Part 51
Custom XSN 878
Custom XSN Schema 878
Customizations Part 694
customPr (Custom Property) 255
customPropertyEditor (Custom Property Editor) 876
customPropertyEditors (Custom Property Editors List) 876
customSheetView (Custom Chart Sheet View) 255
customSheetView (Custom Sheet View) 255
customSheetViews (Custom Chart Sheet Views) 255
customSheetViews (Custom Sheet Views) 256
CustomUI Part 856
CustomUI2 Part 857
customWorkbookView (Custom Workbook View) 237
customWorkbookViews (Custom Workbook Views) 238
customXml (Block-Level Custom XML Element) 96
customXml (Cell-Level Custom XML Element) 96
customXml (Inline-Level Custom XML Element) 96
customXml (Row-Level Custom XML Element) 96
customXml (Ruby Inline-Level Custom XML Element) 795
customXmlDelRangeEnd (Custom XML Markup Deletion End) 132
customXmlDelRangeStart (Custom XML Markup Deletion Start) 132
customXmlInsRangeEnd (Custom XML Markup Insertion End) 133
customXmlInsRangeStart (Custom XML Markup Insertion Start) 133
customXmlMoveFromRangeEnd (Custom XML Markup Move Source End) 133
customXmlMoveFromRangeStart (Custom XML Markup Move Source Start) 134
customXmlMoveToRangeEnd (Custom XML Markup Move Destination Location End) 134
customXmlMoveToRangeStart (Custom XML Markup Move Destination Location Start) 134
customXsn (Custom XSN) 878
custShow (Custom Show) (section 2.1.1098 460, section 2.1.1099 460)
custUnit (Custom Display Unit) 554
cxn (Connection) 591
cxnSp (Connection Shape) (section 2.1.1363 533, section 2.1.1603 587)
cxnSpLocks (Connection Shape Locks) 495

D

d (Date Time) 331
d (Delimiter Object) 602
data (Data Cannot Be Changed) 554
Data Validation Formulas 849
dataBar (Data Bar) 256
DATABASE 185
dataBinding (XML Mapping) (section 2.1.193 97, section 2.1.856 383)
dataConsolidate (Data Consolidate) 256
dataField (Data Field Item) 332
dataSource (Data Source File Path) 142
dataValidation (Data Validation) 256
dataValidations (Data Validations) 256
DATE (section 2.1.469 213, section 2.1.919 415)
date (Date and Time) 618
date (Date Structured Document Tag) 97
Date and time formatting 165
dateAx (Date Axis) 554
dateGroupItem (Date Grouping) 287
DATEVALUE 415
DAVERAGE 416
DAY 416
DAYS360 416
DB 416
dbPr (Database Properties) 377
DCOUNT 416
DCOUNTA 416
DDB 417
DDE 819
DDE (Dynamic Data Exchange) 684
DDEAUTO 820
ddeItem (DDE Item definition) 380
ddeLink (DDE Connection) 380

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ddList (Drop-Down List Form Field Properties) 224
DEC2BIN 417
DEC2HEX 417
DEC2OCT 417
decimalSymbol (Radix Point for Field Code Evaluation) 150
default (Default Checkbox Form Field State) 225
default (Default Drop-Down List Item Index) 224
default (Default Text Box Form Field String) 224
defaultPropertyEditorNamespace (Default Namespace) 877
DefaultSize (Default Size Toggle) 684
defaultTableStyle (Default Table Style for Newly Inserted Tables) 150
defaultTabStop (Distance Between Automatic Tab Stops) 151
definedName (Defined Name) (section 2.1.568 238, section 2.1.841 380)
definedNames (Defined Names) 239
defJc (Default Justification) 602
defPPr (Default Paragraph Style) 537
defRPr (Default Text Run Properties) 541
deg (Degree) 603
degHide (Hide Degree) 603
del (Deleted Math Control Character) 135
del (Deleted Paragraph) 135
del (Deleted Run Content) 135
del (Deleted Table Row) 135
DelegateSuggestedSigner (Delegate Suggested Signer) 890
DelegateSuggestedSigner2 (Delegate Suggested Signer) 890
DelegateSuggestedSignerEmail (Delegate Suggested Signer E-mail Address) 890
deletedField (Deleted Field) 374
den (Denominator) 603
depthPercent (Depth Percent) 554
DEVSQ 417
DGET 417
dgm (Diagram to Animate) 496
diagram (VML Diagram) 671
Diagram Colors Part 59
Diagram Data Part 59
dialogsheet (Dialog Sheet) 257
Dialogsheet Part 51
DigSig (Digital Signature) 612
dimension (OLAP Dimension) 332
dir (Bidirectional Embedding Level) 69
DISC 417
discretePr (Discrete Grouping Properties) 333
dispBlanksAs (Display Blanks As) 554
dispDef (Use Display Math Defaults) 603
dispEq (Display Equation) 555
DISPLAYBARCODE 823
displayHorizontalDrawingGridEvery (Distance between Horizontal Gridlines) 151
displayVerticalDrawingGridEvery (Distance between Vertical Gridlines) 151
dispRSqr (Display R Squared Value) 555
div (Information About Single HTML div Element) 161
divId (Associated HTML div ID) (section 2.1.42 62, section 2.1.123 81)
dk1 (Dark 1) 505
dk2 (Dark 2) 505
dLbl (Data Label) 556
dLblPos (Data Label Position) 556
dLbls (Data Labels) 557
DMAX 418
DMIN 418
docPart (Document Part Reference) 97
docPartBody (Contents of Glossary Document Entry) 129
docPartPr (Glossary Document Entry Properties) 129
docParts (List of Glossary Document Entries) 129
docPr (Drawing Object Non-Visual Properties) 531
DOCPROPERTY 213
DocSecurity (Document Security) 613
document (Document) 62
documentProtection (Document Editing Restrictions) 151
docVar (Single Document Variable) 153
DOLLAR 419
DOLLARDE 419
DOLLARFR 419
doNotAutofitConstrainedTables (Do Not AutoFit Tables To Fit Next To Wrapped Objects) 635
doNotLeaveBackslashAlone (Display Backslash As Yen Sign) 164
doNotOrganizeInFolder (Do Not Place Supporting Files in Subdirectory) 161
doNotSuppressBlankLines (Remove Blank Lines from Merged Documents) 142
doNotSuppressParagraphBorders (Do Not Suppress Paragraph Borders Next To Frames) 636
doNotUseMarginsForDrawingGridOrigin (Do Not Use Margins for Drawing Grid Origin) 154
doughnutChart (Doughnut Charts) 557
Downrev Storage 834
downRevStg (DownRev Storage) 836
DPRODUCT 419
drawing (Drawing) 257
drawing (DrawingML Object) 78
drawingGridHorizontalOrigin (Drawing Grid Horizontal Origin Point) 154
drawingGridVerticalOrigin (Drawing Grid Vertical Origin Point) 154
drawingHF (Drawing Reference in Header Footer) 257
DrawingML Persistence Part 833
DrawingML Persistence Parts 833
DropLines (Dropdown Maximum Lines) 684
DropStyle (Dropdown Style) 684
ds (Dash Stop) 515
DSTDEV 419
DSTDEVP 419
DSUM 420
duotone (Duotone Effect) 516
DURATION 420
DVAR 421
DVARP 421
Dx (Scroll Bar Width) 685
dxfs (Formats) 298
dynamicAddress (Use Country-Based Address Field Ordering) 142
dynamicFilter (Dynamic Filter) 288

E

e (Element (Argument)) 603

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e (Error Value) 333
e2oholder (E2o Holder) 838
ea (East Asian Font) 541
eastAsianLayout (East Asian Typography Settings) 69
EDATE 421
effect (Animated Text Effect) 70
effect (Effect) 516
effectClrLst (Effect Color List) 592
effectDag (Effect Container) 516
effectExtent (Object Extents Including Effects) 531
effectOffset (Effect Offset) 838
Elements 889
embed (Embedded Object or Control) 469
embedBold (Bold Style Font Style Embedding) 121
embedBoldItalic (Bold Italic Font Style Embedding) 121
Embedded Control Persistence Binary Data Part 854
Embedded Control Persistence Part 60
embeddedFontLst (Embedded Font List) 460
embedItalic (Italic Font Style Embedding) 121
embedRegular (Regular Font Style Embedding) 121
embedTrueTypeFonts (Embed TrueType Fonts) 121
emboss (Embossing) 70
encoding (Output Encoding When Saving as Web Page) 161
end (Audio End Time) 504
end (Table Cell Trailing Edge Border) 82
end (Table Cell Trailing Margin Default) 82
end (Table Cell Trailing Margin Exception) 81
end (Table Trailing Edge Border) 82
end (Trailing Edge Border) 298
endCxn (Connection End) 496
endnote (Endnote Content) 127
endnote (Special Endnote List) 127
endnoteReference (Endnote Reference) 127
endParaRPr (End Paragraph Run Properties) 537
endSync (EndSync) 482
EQ 637
eqArr (Array Object) 603
ERF 421
ERFC 421
errBars (Error Bars) 557
errBarType (Error Bar Type) 557
errDir (Error Bar Direction) 557
Error values 395
ERROR.TYPE 421
errValType (Error Bar Value Type) 557
evenAndOddHeaders (Different Even/Odd Page Headers and Footers) 126
evenFooter (Even Footer) 558
evenFooter (Even Page Footer) 257
evenHeader (Even Header) 558
evenHeader (Even Page Header) 258
Excel (Additional Information) 839
Excel Attached Toolbars Part 839
excl (Exclusive) 482
explosion (Explosion) 558
ext (Extension) (section 2.1.570 239, section 2.1.1101 460, section 2.1.1206 496)
ext (Extents) 512
ext (Shape Extent) (section 2.1.1364 533, section 2.1.1604 587)
extent (Drawing Object Size) 532
External Name Formulas 849
External Workbooks 52
externalData (External Data Relationship) 558
externalLink (External Reference) 381
externalReferences (External References) 239
extLst (Extension List) 590
extrusion (3D Extrusion) 672
extrusionClr (Extrusion Color) 508

F

f (Formula) (section 2.1.620 260, section 2.1.1467 558)
f (Fraction Object) 603
f (Single Formula) 648
family (Font Family) (section 2.1.269 121, section 2.1.703 298)
fci (Fixed Command Keyboard Customization Action) 702
ffData (Form Field Properties) 225
fgColor (Foreground Color) 298
fHdr (First Row of Data Source Contains Column Names) 142
field (Field) 334
FieldCodes (WordprocessingML Field Switches) 674
fieldGroup (Field Group Properties) 334
fieldMapData (External Data Source to Merge Field Mapping) 142
fieldsUsage (Fields Usage) 334
fieldUsage (PivotCache Field Id) 335
FILENAME 213
fileRecoveryPr (File Recovery Properties) 240
fileSharing (File Sharing) 240
FILESIZE 213
filetime (File Time) 618
fileVersion (File Version) 242
fill (Fill) 506
fill (Shape Fill Extended Properties) 674
fill (Shape Fill Properties) 648
fillClrLst (Fill Color List) 592
fills (Fills) 298
fillToRect (Fill To Rectangle) 516
filter (Filter) 288
filter (PivotTable Advanced Filter) 335
filterColumn (AutoFilter Column) 288
filters (Filter Criteria) 288
FIND 421
FINDB 422
FINV 422
firstFooter (First Footer) 558
firstFooter (First Page Footer) 262
firstHeader (First Header) 559
firstHeader (First Page Header) 262
fitText (Manual Run Width) 70
FIXED 422
Fixed Commands 712
flatTx (No text in 3D scene) 508
fld (Text Field) 537
fldSimple (Ruby Simple Field) 799
fldSimple (Simple Field) 225
FLOOR 422
floor (Floor) 559
FmlaGroup (Linked Formula - Group Box) 685
FmlaMacro (Reference to Custom Function) 685
FmlaRange (List Items Source Range) 685
FmlaTxbx (Text Formula) 685

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fmtId (Format ID) 559
fName (Function Name) 603
folHlink (Followed Hyperlink) 506
font (Embedded Font Name) 460
font (Font) 299
font (Properties for a Single Font) 122
font (Standard COM Font Object) 882
Font Part 60
fontRef (Font Reference) 506
Fonts 120
fonts (Fonts) 299
footerReference (Footer Reference) 126
footnote (Footnote Content) 128
footnote (Special Footnote List) 128
footnoteReference (Footnote Reference) 128
forEach (For Each) 590
FORECAST 422
format (PivotTable Format) 335
format (Text Box Form Field Formatting) 225
formatting (Formatting) 559
FORMCHECKBOX 213
FORMDROPDOWN 213
formula (Formula) 262
formula1 (Formula 1) 262
formula2 (Formula 2) 263
Formulas 385
formulas (Set of Formulas) 650
forward (Forward) 559
frameLayout (Frameset Layout) 161
framePr (Text Frame Properties) 63
frameset (Nested Frameset Definition) 161
frameset (Root Frameset Definition) 161
from (From) (section 2.1.1160 482, section 2.1.1161 483)
from (Starting Anchor Point) 533
ftr (Footer) 126
func (Function Apply Object) 603
functionGroup (Function Group) 242
functionGroups (Function Groups) 243
Functions 394
futureMetadata (Future Metadata) 313
FV 423

G

GAMMAINV 423
gapDepth (Gap Depth) 559
gapWidth (Gap Width) 559
gd (Shape Guide) 519
General formatting 165
GEOMEAN 423
GETPIVOTDATA 423
Glossary (section 1.1 45, section 3.1.3.2.3 821)
GOTOBUTTON 213
gradFill (Gradient Fill) 516
gradientFill (Gradient) 299
Graphic Frame Doc 833
graphicData (Graphic Object Data) 496
graphicEl (Graphic Element) 483
graphicFrame (Graphic Frame) (section 2.1.1366 533, section 2.1.1605 587)
graphicFrameLocks (Graphic Frame Locks) 497
green (Green) 500
greenMod (Green Modification) 500
greenOff (Green Offset) 500
GREETINGLINE 214
gridAfter (Grid Columns After Last Cell) 82
gridBefore (Grid Columns Before First Cell) 82
gridCol (Table Grid Column) 548
gridSpan (Grid Columns Spanned by Current Table Cell) 82
group (OLAP Group) 335
group (Shape Group) 650
groupChr (Group-Character Object) 604
grouping (Grouping) 560
groupItems (OLAP Group Items) 336
groupLevel (OLAP Grouping Levels) 336
groupMember (OLAP Group Member) 336
grow (n-ary Grow) 604
grpFill (Group Fill) 517
grpSpLocks (Group Shape Locks) 497
grpSpPr (Group Shape Properties) (section 2.1.1123 467, section 2.1.1367 533, section 2.1.1606 588)
grpSpPr (Visual Group Shape Properties) 497
Guid (GUID) 619
guide (A Guide) 466

H

h (Height) 560
h (Shape Handle) 650
handles (Set of Handles) 651
Handout Master Part 54
HARMEAN 423
hash (Hash Code for Record) 787
hdr (Header) 126
hdrShapeDefaults (Default Properties for VML Objects in Header and Footer) 635
header (Header Cell Reference) 83
header (Header) 368
headerFooter (Header and Footer) 560
headerReference (Header Reference) 126
headers (Header Cells Associated With Table Cell) 83
headers (Revision Headers) 368
headerSource (Header Definition File Path) 143
HeadingPairs (Heading Pairs) 613
hidden (Hidden Table Row Marker) 83
hideMark (Ignore End Of Cell Marker In Row Height Calculation) 83
highlight (Text Highlighting) 71
hlink (Hyperlink) 506
hlinkClick (Click Hyperlink) 541
hlinkHover (Hyperlink for Hover) 497
hlinkMouseOver (Mouse-Over Hyperlink) 542
HLinks (Hyperlink List) 613
HLOOKUP 423
hMerge (Horizontally Merged Cell) 631
hMode (Height Mode) 560
holeSize (Hole Size) 560
Horiz (Scroll Bar Orientation) 685
HorizontalResolution (Horizontal Resolution) 890
HOUR 423
hPercent (Height Percent) 561
hpsRaise (Distance Between Phonetic Guide Text and Phonetic Guide Base Text) 79
hsl (HSL) 483
hsl (Hue Saturation Luminance Effect) 518
hslClr (Hue - Saturation - Luminance Color Model) 501

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hue (Hue) 501
hueMod (Hue Modulate) 501
hueOff (Hue Offset) 501
HYPERLINK 215
hyperlink (Hyperlink) (section 2.1.521 225, section 2.1.626 263)
hyperlink (Ruby Hyperlink) 803
hyphenationZone (Hyphenation Zone) 154

I

i (Italics) 71
i (Row Items) 336
iconFilter (Icon Filter) 289
iCs (Complex Script Italics) 71
id (Unique ID) 97
idmap (Shape ID Map) 675
idx (Index) 561
IF (section 2.1.478 215, section 2.1.963 424)
IFERROR 424
ignoredError (Ignored Error) 263
ignoredErrors (Ignored Errors) 263
ilvl (Numbering Level Reference) 123
image (Image File) 651
Image Part 61
imagedata (Image Data) 652
IMARGUMENT 424
IMDIV 424
IMLN 424
IMLOG10 424
IMLOG2 425
IMPORT 822
IMPOWER 425
imprint (Imprinting) 71
IMSIN 425
IMSQRT 425
Inc (Scroll Bar Increment) 685
INCLUDE 822
INCLUDETEXT 215
ind (Paragraph Indentation) 63
INDEX (section 2.1.480 216, section 2.1.973 425)
indexedColors (Color Indexes) 299
INDIRECT 425
INFO 426
Informative references 47
ink (Ink) 675
inkTgt (Ink Target) 483
innerShdw (Inner Shadow Effect) 518
inputCells (Input Cells) 263
ins (Inserted Math Control Character) 136
ins (Inserted Numbering Properties) 136
ins (Inserted Paragraph) 136
ins (Inserted Run Content) 136
ins (Inserted Table Row) 136
insideH (Table Cell Inside Horizontal Edges Border) 83
insideH (Table Inside Horizontal Edges Border) 83
insideV (Table Cell Inside Vertical Edges Border) 83
insideV (Table Inside Vertical Edges Border) 83
INTERCEPT 426
intercept (Intercept) 561
Interpretation 395
interSp (Inter-Equation Spacing) 604
intLim (Integral Limit Locations) 604
intraSp (Intra-Equation Spacing) 604
INTRATE 426
Introduction (section 1 45, section 3.8.1 900)
invertIfNegative (Invert if Negative) 561
IPMT 427
IRR 428
is (Rich Text Inline) 264
isLgl (Display All Levels Using Arabic Numerals) 123
ISPMT 428
item (PivotTable Field Item) 337
items (Field Items) 338
iterate (Iterate) 484

J

jc (Justification) 604
jc (Paragraph Alignment) 63
jc (Table Alignment Exception) 84
jc (Table Alignment) 84
jc (Table Row Alignment) 84

K

k (KPI MDX Metadata) 313
keepLines (Keep All Lines On One Page) 64
kern (Font Kerning) 71
Keyboard and Toolbar Customizations 697
keymap (Key Map Entry) 703
keymaps (Key Map Customizations) 706
keymapsBad (Key Map Customizations for Mismatched Keyboards) 707
KEYWORDS 216
kinsoku (Kinsoku Settings) 461
kinsoku (Use East Asian Typography Rules for First and Last Character per Line) 64
kpi (OLAP KPI) 338

L

label (Form Field Label) 226
label (Structured Document Tag Label) 97
lang (Languages for Run Content) 71
lastRenderedPageBreak (Position of Last Calculated Page Break) 79
LASTSAVEDBY 216
latentStyles (Latent Style Information) 106
latin (Latin Font) 542
layout (Layout) 561
layoutTarget (Layout Target) 562
LCID (Locale ID) 619
LCT (Callback Type) 686
leaderLines (Leader Lines) 562
LEFT 428
left (Left Border for HTML div) 162
left (Left Border) 101
left (Left Paragraph Border) 64
left (Table Cell Leading Edge Border) 630
left (Table Cell Leading Margin Default) 630
left (Table Cell Leading Margin Exception) 630
left (Table Leading Edge Border) 630
left (Text Box Left Stroke) 675
LEFTB 428
legacy (Legacy Numbering Level Properties) 632
Legacy Diagram Text Info part 853
Legacy Diagram Text part 853
legendPos (Legend Position) 562

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LEN 428
LENB 429
lid (Date Picker Language ID) 98
lid (Language ID for Phonetic Guide) 79
lid (Merge Field Name Language ID) 144
lightRig (Light Rig) 508
lim (Limit) 604
Limitations in Word 903
limLow (Lower-Limit Object) 605
limUpp (Upper-Limit Object) 605
linClrLst (Line Color List) 592
line (Line) 653
line3DChart (3D Line Charts) 562
lineChart (Line Charts) 562
LINEST 429
lineTo (Wrapping Polygon Line End Position) 532
LINK 216
link (Linked Object or Control) 469
link (Linked Style Reference) 106
linkToQuery (Query Contains Link to External Query File) 144
LinkType (Embedded Object Alternate Image Request) 676
listEntry (Drop-Down List Entry) 226
ListItem (Non-linked List Item) 686
LISTNUM 217
listSeparator (List Separator for Field Code Evaluation) 154
ln (Outline) 497
lnB (Bottom Border Line Properties) 548
lnBlToTr (Bottom-Left to Top-Right Border Line Properties) 548
lnL (Left Border Line Properties) 548
lnNumType (Line Numbering Settings) 102
lnR (Right Border Line Properties) 548
lnRef (Line Reference) 507
lnSpc (Line Spacing) 539
lnT (Top Border Line Properties) 548
lnTlToBr (Top-Left to Bottom-Right Border Line Properties) 549
location (PivotTable Location) 340
lock (Shape Protections) 676
LockedField (Embedded Object Cannot Be Refreshed) 676
LOG 429
LOGEST 430
LOGINV 430
LOGNORMDIST 430
Long Properties 879
Long Properties Schema 879
longDesc (Frame Long Description) 162
LongProp (Custom XML Server Property - Long Property) 880
LongProperties (Custom XML Server Properties - Long Properties) 880
lsdException (Latent Style Exception) 106
lt1 (Light 1) 506
lt2 (Light 2) 506
lum (Luminance Effect) 518
lum (Luminance) 501
lumMod (Luminance Modulation) 502
lumOff (Luminance Offset) 502
lvl (Level) 562
lvl (Numbering Level Definition) 123
lvl (Numbering Level Override Definition) 123
lvl1pPr (List Level 1 Text Style) 546
lvl2pPr (List Level 2 Text Style) 547
lvl3pPr (List Level 3 Text Style) 547
lvl4pPr (List Level 4 Text Style) 547
lvl5pPr (List Level 5 Text Style) 547
lvl6pPr (List Level 6 Text Style) 547
lvl7pPr (List Level 7 Text Style) 547
lvl8pPr (List Level 8 Text Style) 548
lvl9pPr (List Level 9 Text Style) 548
lvlJc (Justification) 123
lvlRestart (Restart Numbering Level Symbol) 123
lvlText (Numbering Level Text) 124

M

m (Matrix Object) 605
m (No Value) 340
macro (Macro Keyboard Customization Action) 708
MACROBUTTON 217
Mail Merge (section 2.1.359 141, section 3.1.2.2 787)
Mail Merge Recipient Data Part 695
mailMerge (Mail Merge Settings) 144
main (Main) 382
majorTickMark (Major Tick Mark) 562
majorUnit (Major Unit) 563
ManifestHashAlgorithm (Manifest Hash Algorithm) 891
manualLayout (Manual Layout) 563
map (OLAP Measure Group) 341
Map (XML Mapping Properties) 384
mappedName (Predefined Merge Field Name) 144
marker (Marker) 563
marker (Show Marker) 563
MATCH 430
Math 600
Math Run 903
mathFont (Math Font) 605
max (Maximum) 563
Max (Scroll Bar Maximum) 686
maxDist (Maximum Distribution) 605
maxLength (Text Box Form Field Maximum Length) 226
mc (Matrix Column) 605
MCE Elements and Attributes 629
mcs (Matrix Columns) 605
MDURATION 430
mdx (MDX Metadata Record) 314
mdxMetadata (MDX Metadata Information) 314
measureGroup (OLAP Measure Group) 341
member (Member) 341
members (Members) 342
MERGEBARCODE 825
mergeCells (Merge Cells) 264
MERGEFIELD 217
Metadata Attributes 866
metadataStrings (Metadata String Store) 314
metadataType (Metadata Type Information) 314
metadataTypes (Metadata Types Collection) 318
Microsoft Office Excel Sortmap 841
MID 431
MIDB 432
MIN 432
min (Minimum) 563
Min (Scroll Bar Minimum) 686

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MINA 432
minorUnit (Minor Unit) 563
minus (Minus) 563
MINVERSE 433
mirrorIndents (Use Left/Right Indents as Inside/Outside Indents) 64
miter (Miter Line Join) 518
modifyVerifier (Modification Verifier) 461
Monitors (Monitor Count) 891
moveFrom (Move Source Math Control Character) 810
moveFrom (Move Source Paragraph) 136
moveFrom (Move Source Run Content) 137
moveFromRangeEnd (Move Source Location Container - End) 137
moveFromRangeStart (Move Source Location Container - Start) 137
moveTo (Move Destination Math Control Character) 812
moveTo (Move Destination Paragraph) 137
moveTo (Move Destination Run Content) 137
moveToRangeEnd (Move Destination Location Container - End) 138
moveToRangeStart (Move Destination Location Container - Start) 138
MoveWithCells (Move with Cells) 686
movie (Embedded Video) 79
mp (OLAP Member Property) 342
mpMap (Member Properties Map) 343
mr (Matrix Row) 606
mruColors (MRU Colors) 299
ms (Set MDX Metadata) 318
multiLvlStrCache (Multi Level String Cache) 563
multiLvlStrRef (Multi Level String Reference) 564
MULTINOMIAL 433

N

N 433
n (Member Unique Name Index) 318
n (Numeric) 343
name (Abstract Numbering Definition Name) 124
name (Data Source Name for Column) 144
name (Font Name) 299
name (Frame Name) 162
name (Pivot Name) 564
name (Primary Style Name) 106
Name Formulas 849
Name Representation 396
Names 394
nary (n-ary Operator Object) 606
naryLim (n-ary Limit Location) 606
nc (New Cell Data) 369
NEGBINOMDIST 433
NETWORKDAYS 433
next (Style For Next Paragraph) 115
nextCondLst (Next Conditions List) 484
NEXTIF 217
noAutofit (No AutoFit) 536
noBreak (No Break) 606
noLineBreaksAfter (Custom Set of Characters Which Cannot End a Line) 154
noLineBreaksBefore (Custom Set Of Characters Which Cannot Begin A Line) 155
noProof (Do Not Check Spelling or Grammar) 71
noPunctuationKerning (Never Kern Punctuation Characters) 155
norm (Normal) 511
normalViewPr (Normal View Properties) 466
Normative references 45
normAutofit (Normal AutoFit) 536
NORMINV 433
NORMSDIST 434
NORMSINV 434
NOTEREF 218
Notes Master Part 54
Notes Slide Part 55
notesMaster (Notes Master) 468
notesStyle (Notes Text Style) 468
notesSz (Notes Slide Size) 463
NoThreeD (Disable 3D) 686
notTrueType (Raster or Vector Font) 122
NPER 434
NPV 434
null (Null) 618
num (Numbering Definition Instance) 124
num (Numerator) 606
numberingChange (Previous Numbering Field Properties) 632
numberingChange (Previous Paragraph Numbering Properties) 632
numFmt (Endnote Numbering Format) 128
numFmt (Footnote Numbering Format) 128
numFmt (Number Format) (section 2.1.712 299, section 2.1.1504 564)
numFmt (Numbering Format) 124
numFmts (Number Formats) 310
numId (Numbering Definition Instance Reference) 125
numPr (Numbering Definition Instance Reference) 64
numStart (Footnote and Endnote Numbering Starting Value) 128
numStyleLink (Numbering Style Reference) 125
nvPr (Non-Visual Properties) 468

O

objDist (Object Distribution) 606
object (Embedded Object) 79
objectEmbed (Embedded Object Properties) 79
objectLink (Linked Object Properties) 80
objectPr (Embedded Object Properties) 264
oc (Old Cell Data) 369
OCT2BIN 435
OCT2DEC 435
ocx (ActiveX Control Data) 884
ocxPr (Object Property) 885
oddFooter (Odd Footer) 564
oddFooter (Odd Page Footer) 264
ODDFPRICE 435
ODDFYIELD 436
oddHeader (Odd Header) (section 2.1.634 264, section 2.1.1506 564)
ODDLPRICE 437
ODDLYIELD 437
odso (Office Data Source Object Settings) 144
off (Offset) 512
Office ActiveX Supplemental Information (Additional Information) 882
Office Digital Signature (Additional Information) 889

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Office Well Defined Custom XML Parts (Additional Information) 859
OfficeVersion (Office Version) 891
OFFSET 438
ofPieChart (Pie of Pie or Bar of Pie Charts) 565
ofPieType (Pie of Pie or Bar of Pie Type) 565
olapPr (OLAP Properties) 377
oldFormula (Old Formula) 369
OLE Link Formulas 852
oleChartEl (Embedded Chart Element) 484
oleItem (Object Link Item) 381
oleLink (Generic Object Link Connection) 381
oleObj (Global Element for Embedded objects and Controls) 469
oleObject (Embedded Object) 264
OLEObject (Embedded OLE Object) 677
oleObjects (Embedded Objects) 265
oleSize (Embedded Object Size) 243
oMath (Office Math) 606
oMath (Office Open XML Math) 72
oMath and Math Arguments 902
oMathPara (Office Math Paragraph) 607
opEmu (Operator Emulator) 607
openByDefault (Open By Default) 879
Operators (section 2.1.456 165, section 2.1.862 391)
optimizeForBrowser (Disable Features Not Supported by Target Web Profile) 162
order (Order) 565
order (Polynomial Trendline Order) 565
orientation (Axis Orientation) 565
origin (View Origin) 466
ostorage (Binary Storage Object) 618
outerShdw (Outer Shadow Effect) 518
outlineLvl (Associated Outline Level) 64
oval (Oval) 654
overflowPunct (Allow Punctuation to Extend Past Text Extents) 65
overlap (Overlap) 565

P

p (Member Property MDX Metadata) 318
p (Paragraph) 65
p (Text Paragraphs) 540
Packages 49
Page (Scroll Bar Page Increment) 686
pageField (Page Field) 344
pageFields (Page Field Items) 345
pageItem (Page Item) 345
pageMargins (Page Margins) (section 2.1.637 265, section 2.1.1513 566)
PAGEREF 218
pageSetup (Chart Sheet Page Setup) 270
pageSetup (Page Setup Settings) 266
pageSetup (Page Setup) 566
pane (View Pane) 275
panose1 (Panose-1 Typeface Classification Number) 122
paperSrc (Paper Source Information) 102
Paragraph Styles 119
param (Parameter) 590
parameter (Parameter Properties) 377
Part Summary (section 2.1.5 49, section 2.1.6 50, section 2.1.14 53, section 2.1.27 59)
path (Shape Path) (section 2.1.1312 520, section 2.1.1803 654)
PEARSON 438
PERCENTILE 439
PERCENTRANK 439
period (Period) 570
permEnd (Range Permission End) 140
permStart (Range Permission Start) 140
Person (Person) 619
personal (E-Mail Message Text Style) 115
personalCompose (E-Mail Message Composition Style) 115
personalReply (E-Mail Message Reply Style) 116
perspective (Perspective) 571
pgBorders (Page Borders) 102
pgMar (Page Margins) 102
pgNumType (Page Numbering Settings) 102
pgSz (Page Size) 103
ph (Placeholder Shape) 468
phant (Phantom Object) 607
phoneticPr (Phonetic Properties) 289
photoAlbum (Photo Album Information) 464
pic (Picture) (section 2.1.1368 534, section 2.1.1607 588)
picLocks (Picture Locks) 498
pict (Picture Numbering Symbol Properties) 631
pict (VML Object) 630
picture (Standard COM Picture Object) 886
pictureOptions (Picture Options) 571
pie3DChart (3D Pie Charts) 571
pieChart (Pie Charts) 571
pitch (Font Pitch) 122
Pivot Formulas 850
pivotArea (Pivot Area) 275
pivotCacheDefinition (PivotCache Definition) 345
pivotField (PivotTable Field) 346
pivotFields (PivotTable Fields) 350
pivotFmt (Pivot Format) 572
pivotFmts (Pivot Formats) 572
pivotHierarchies (PivotTable OLAP Hierarchies) 350
pivotHierarchy (OLAP Hierarchy) 350
pivotSelection (PivotTable Selection) 276
pivotSource (Pivot Source) 572
pivotTableDefinition (PivotTable Definition) 351
pivotTableStyleInfo (PivotTable Style) 353
pixelsPerInch (Pixels per Inch for Graphics/Images) 162
placeholder (Structured Document Tag Placeholder Text) 98
plotArea (Plot Area) 572
plus (Plus) 572
PMT 439
POISSON 439
polyline (Multiple Path Line) 657
pos (Comment Position) 471
pos (Footnote Placement) 129
pos (Position) (section 2.1.1369 534, section 2.1.1691 607)
pos (Shape Position Coordinate) 520
positionV (Vertical Positioning) 532
postSp (Post-Paragraph Spacing) 608
POWER 439
PowerPoint (Additional Information) 853
PPMT 439

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pPr (Numbering Level Associated Paragraph Properties) 125
pPr (Paragraph Properties) 116
pPr (Previous Paragraph Properties) 65
pPr (Style Paragraph Properties) 120
pPr (Table Style Conditional Formatting Paragraph Properties) 117
pPr (Text Paragraph Properties) 540
pPrChange (Revision Information for Paragraph Properties) 138
Precision 395
present (Presenter Slide Show Mode) 464
presentation (Presentation) 464
Presentation Part 56
Presentation Properties Part 57
PresentationML 49
preSp (Pre-Paragraph Spacing) 608
prevCondLst (Previous Conditions List) 484
pRg (Paragraph Text Range) 484
PRICE 440
PRICEDISC 441
PRICEMAT 441
PRINT 218
PRINTDATE 219
Printer Settings Part 61
printerSettings (Reference to Printer Settings Data) 103
printFractionalCharacterWidth (Print Fractional Character Widths) 155
printPostScriptOverText (Print PostScript Codes With Document Text) 155
printSettings (Print Settings) 572
PROB 442
PRODUCT 442
progress (Progress) 484
property (Custom File Property) 615
protectedRange (Protected Range) 277
protection (Protection Properties) 310
protection (Protection) 572
proxy (Shape Reference) 677
prSet (Property Set) 591
prstClr (Preset Color) 502
pStyle (Paragraph Style's Associated Numbering Level) 125
pStyle (Referenced Paragraph Style) 65
pt (Numeric Point) 573
pt (Point) 591
pt (Shape Path Point) 520
pt (String Point) 573
ptCount (Point Count) 573
PublishDate (Document Publish Date) 861
PV 443

Q

query (Query For Data Source Records To Merge) 145
query (Query) 354
queryTable (Query Table) 374
queryTableField (QueryTable Field) 375
queryTableRefresh (QueryTable Refresh Information) 375
Quick Access Toolbar Customizations Part 855
QUOTE 219

R

r (PivotCache Record) 354
r (Rule) 678
r (Run) 608
r (Text Run) (section 2.1.87 72, section 2.1.1398 544)
R1C1 formulas 850
R1C1-Style Cell Reference 393
rad (Radical Object) 608
radarChart (Radar Charts) 573
radarStyle (Radar Style) 573
raf (Revision AutoFormat) 370
rAngAx (Right Angle Axes) 573
rangePr (Range Grouping Properties) 354
rangeSet (Range Set) 355
RANK 443
RATE 443
rc (Metadata Record) 318
rcc (Revision Cell Change) 370
rcft (Revision Merge Conflict) 370
rcmt (Revision Cell Comment) 370
rCtr (Rotation Center) 485
RD 219
rdn (Revision Defined Name) 371
Reading the equationXml attribute 901
RecalcAlways (Recalculation Toggle) 686
RECEIVED 443
recipientData (Data About Single Data Source Record) 789
recipientData (Reference to Inclusion/Exclusion Data for Data Source) 145
recipients (Inclusion/Exclusion Data for Data Source) 790
rect (Rectangle) 657
Rect (Shape Text Rectangle) 520
red (Red) 502
redMod (Red Modulation) 502
redOff (Red Offset) 503
REF 219
reference (Reference) 367
References
  informative 47
  normative 45
reflection (Reflection Effect) 518
rel (Diagram Relationship) 678
Relationships transform algorithm 629
relSizeAnchor (Relative Anchor Shape Size) 588
REPLACE 444
REPLACEB 444
Reserved Custom File Properties (Additional Information) 912
restoredLeft (Normal View Restored Left Properties) 466
restoredTop (Normal View Restored Top Properties) 466
reviewed (Reviewed) 372
revisionView (Visibility of Annotation Types) 155
REVNUM 221
rfmt (Revision Format) 372
rFont (Font) 289
rFonts (Run Fonts) 72
rgb (RGB) 485
rich (Rich Text) 574
RIGHT 445

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right (Right Border for HTML div) 162
right (Right Border) 103
right (Right Paragraph Border) 65
right (Table Cell Trailing Edge Border) 630
right (Table Cell Trailing Margin Default) 631
right (Table Cell Trailing Margin Exception) 631
right (Table Trailing Edge Border) 631
right (Text Box Right Stroke) 678
RIGHTB 445
ris (Revision Insert Sheet) 372
rm (Revision Cell Move) 372
ROMAN 445
ROUND 445
round (Round Line Join) 519
roundrect (Rounded Rectangle) 658
row (Row) (section 2.1.644 279, section 2.1.845 381, section 2.1.1370 534, section 3.2.2.1.3 844)
rowBreaks (Horizontal Page Breaks (Row)) 279
RowHidden (Comment's Row is Hidden) 687
rowHierarchyUsage (Row OLAP Hierarchies) 356
rowOff (Row Offset) 534
ROWS 445
rowSortMap (Row Sort Map) 844
rPh (Phonetic Run) 289
rPr (Numbering Symbol Run Properties) 125
rPr (Previous Run Properties for the Paragraph Mark) 66
rPr (Previous Run Properties) 76
rPr (Run Properties For Structured Document Tag Contents) 98
rPr (Run Properties for the Paragraph Mark) 65
rPr (Run Properties) (section 2.1.90 76, section 2.1.245 116, section 2.1.260 120, section 2.1.674 289)
rPr (Structured Document Tag End Character Run Properties) 98
rPr (Table Style Conditional Formatting Run Properties) 117
rPr (Text Run Properties) 544
rPrChange (Revision Information for Run Properties on the Paragraph Mark) 138
rPrChange (Revision Information for Run Properties) 138
rqt (Revision Query Table) 373
rrc (Revision Row Column Insert Delete) 373
rsid (Single Session Revision Save ID) 156
rsnm (Revision Sheet Name) 373
rSp (Row Spacing (Array)) 608
rSpRule (Row Spacing Rule) 609
rStyle (Referenced Character Style) 76
rt (Phonetic Guide Text) 80
RTD 445
rtl (Right To Left Text) 76
rubyBase (Phonetic Guide Base Text) 80

S

s (Character Value) (section 2.1.794 356, section 2.1.833 378)
sampData (Sample Data) 591
sat (Saturation) 503
satMod (Saturation Modulation) 503
satOff (Saturation Offset) 503
SAVEDATE 221
saveInvalidXml (Allow Saving Document As XML File When Custom XML Markup Is Invalid) 156
saveThroughXslt (Custom XSL Transform To Use When Saving As XML File) 156
scale (View Scale) 467
scatterChart (Scatter Charts) 574
scenario (Scenario) 280
scenarios (Scenarios) 280
schema (Custom XML Schema Reference) 628
Schema (XML Schema) 384
scr (Script) 609
sdt (Cell-Level Structured Document Tag) 99
sdt (Inline-Level Structured Document Tag) 99
sdt (Row-Level Structured Document Tag) 98
sdt (Ruby Inline-Level Structured Document Tag) 813
sdtContent (Block-Level Structured Document Tag Content) 100
sdtContent (Cell-Level Structured Document Tag Content) 100
sdtContent (Inline-Level Structured Document Tag Content) 100
sdtContent (Row-Level Structured Document Tag Content) 100
sdtContent (Ruby Inline-Level Structured Document Tag Content) 815
SEARCH 446
SEARCHB 446
secondPiePt (Second Pie Point) 574
SECTION 221
SECTIONPAGES 221
sectPr (Document Final Section Properties) 103
sectPr (Previous Section Properties) 104
sectPr (Section Properties) 103
sectPrChange (Revision Information for Section Properties) 138
securityDescriptor (Security Descriptor) 280
selection (Selection) 281
Sensitivity Label Information Part 858
Sensitivity Label Properties 912
separator (Separator) 574
SEQ 221
seq (Sequence Time Node) 485
ser (Area Chart Series) 574
ser (Bar Chart Series) 575
ser (Bubble Chart Series) 575
ser (Line Chart Series) 575
ser (Pie Chart Series) 575
ser (Radar Chart Series) 575
ser (Scatter Chart Series) 574
serAx (Series Axis) 575
SERIESSUM 446
serLines (Series Lines) 576
serverFormat (Server Format) 357
set (OLAP Set) 364
set (Set Time Node Behavior) 485
SetupID (Setup ID) 892
shade (Shade) 504
shadow (Shadow Effect) 658
shadow (Shadow) 77
SHAPE 823
Shape - Fills - Effects and Line Properties 513
shape (Shape Definition) 659
shape (Shape) (section 2.1.1546 576, section 2.1.1621 591)

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shapeDefaults (Default Properties for VML Objects in Main Document) 635
shapedefaults (New Shape Defaults) 679
shapelayout (Shape Layout Properties) 679
shapetype (Shape Template) 661
Shared (Additional Information) 854
Shared Attributes (Content Type Schemas) 866
Shared Reserved Properties 912
sharedItems (Shared Items) 364
SharePoint Premium High Value Content Solution 881
SharePoint Premium High Value Content Solution Schema 881
shd (Paragraph Shading) 66
shd (Run Shading) 77
shd (Table Cell Shading) 84
shd (Table Shading Exception) 84
shd (Table Shading) 84
sheet (Sheet Information) 243
sheetData (External Sheet Data Set) 381
sheetFormatPr (Sheet Format Properties) 281
sheetId (Sheet Id) 373
sheetIdMap (Sheet Id Map) 373
sheetName (Sheet Name) 382
sheetNames (Supporting Workbook Sheet Names) 382
sheetPr (Chart Sheet Properties) 281
sheetPr (Sheet Properties) 281
sheetProtection (Chart Sheet Protection) 281
sheetProtection (Sheet Protection Options) 283
sheets (Sheets) 243
sheetView (Worksheet View) 285
sheetViews (Chart Sheet Views) 285
sheetViews (Sheet Views) 285
showBubbleSize (Show Bubble Size) 576
showDLblsOverMax (Show Data Labels over Maximum) 576
showLeaderLines (Show Leader Lines) 576
showLegendKey (Show Legend Key) 577
showOnOpen (Show On Open) 877
showPercent (Show Percent) 577
showXMLTags (Show Visual Indicators for Custom XML Markup Start/End Locations) 156
shp (Shape (Delimiters)) 609
si (String Item) 289
sideWall (Side Wall) 577
sig (Supported Unicode Subranges and Code Pages) 122
SignatureComments (Signature Comments) 892
SignatureImage (Signature Image) 892
SignatureInfoV1 (Office Digital Signature V1 Info) 893
signatureline (Digital Signature Line) 679
SignatureProviderDetails (Signature Provider Details) 894
SignatureProviderId (Signature Provider ID) 894
SignatureProviderUrl (Signature Provider URL) 894
SignatureText (Signature Text) 895
SignatureType (Signature Type) 895
Simple Types (section 3.1.2.3 791, section 3.1.3.3 828, section 3.1.4.2.2 837, section 3.2.2.2 846, section 3.5.1.1.2 862, section 3.5.2.2.2 873, section 3.6.2 887, section 3.7.2 896)
Simple Types (Additional Information) 903
simplePos (Simple Positioning Coordinates) 532
SIN 447
Single Cell Table Definitions Part 51
singleXmlCell (Table Properties) 293
SizeWithCells (Resize with Cells) 687
skew (Skew Transform) 680
SKIPIF 221
sld (Presentation Slide) 468
sldRg (Slide Range) 465
sldSz (Presentation Slide Size) 465
sldTgt (Slide Target) 485
Slide Layout Part 57
Slide Master Part 58
Slide Part 57
SLOPE 447
smallCaps (Small Caps) 77
smallFrac (Small Fraction) 609
smartTag (Inline-Level Smart Tag) 97
smartTags (Smart Tags) 465
SmartTags part 854
smartTagType (Smart Tag Type) 243
smartTagType (Supplementary Smart Tag Information) 156
smartTagTypes (Smart Tag Types) 244
softEdge (Soft Edge Effect) 519
sortByTuple (Sort By Tuple) 366
sortCondition (Sort Condition) 286
Sortmap Elements 841
Source (Source) 619
sourceFileName (Source File for Frame) 162
SourceTemplateUrl 881
sp (Shape) (section 2.1.1372 534, section 2.1.1609 588)
sp3d (3-D Shape Properties) 593
sp3d (Apply 3D shape properties) 511
spacing (Character Spacing Adjustment) 77
spacing (Spacing Between Lines and Above/Below Paragraph) 66
spAutoFit (Shape AutoFit) 537
spcAft (Space After) 540
spcBef (Space Before) 540
spcPct (Spacing Percent) 540
specVanish (Paragraph Mark Is Always Hidden) 77
splitPos (Split Position) 577
splitType (Split Type) 577
spLocks (Shape Locks) 498
spPr (Shape Properties) (section 2.1.1129 469, section 2.1.1215 498, section 2.1.1349 531, section 2.1.1373 534, section 2.1.1555 578, section 2.1.1610 589, section 2.1.1626 592)
sPre (Pre-Sub-Superscript Object) 610
spTgt (Shape Target) 485
src (ODSO Data Source File Path) 145
srcRect (Source Rectangle) 519
sst (Shared String Table) 290
sSub (Subscript Object) 610
sSubSup (Sub-Superscript Object) 610
sSup (Superscript Object) 610
st (Audio Start Time) 504
ST_AnimOneStr (One by One Animation Value Definition) 593
ST_AxisType (Axis Type) 593
ST_AxisUnit (Axis Unit) 583
ST_BarDir (Bar Direction) 583
ST_BarGrouping (Bar Grouping) 583
ST_BevelPresetType (Bevel Presets) 520

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ST_BlipCompression (Blip Compression Type) 522
ST_Border (Border Styles) 227
ST_BorderId (Border Id) 455
ST_BrClear (Line Break Text Wrapping Restart Location) 227
ST_BreakBin (Break Binary Operators) 611
ST_BuiltInUnit (Built-In Unit) 583
ST_BWMode (Black And White Modes) 681
ST_CalendarType (Calendar Types) 620
ST_CalloutDrop (Callout Drop Location) 681
ST_CaptionPos (Automatic Caption Positioning Values) 227
ST_CellFormulaType (Formula Type) 455
ST_CellRef (Cell Reference) 455
ST_CellSpan (Cell Span Type) 456
ST_CharacterSpacing (Character-Level Whitespace Compression Settings) 227
ST_ColorType (Color Type) 688
ST_CompoundLine (Compound Line Type) 522
ST_ContentTypeId (Content Type ID) 873
ST_Coordinate (Coordinate) 522
ST_Coordinate32 (Coordinate Point) 522
ST_CoordinateUnqualified (Coordinate) 837
ST_CredMethod (Credentials Method) 456
ST_Crosses (Crosses) 583
ST_CustomXmlURI (URI for Custom XML) 828
ST_DateTime (Standard Date and Time Storage Format) 828
ST_DecimalNumber (Decimal Number Value) (section 2.1.532 227, section 3.1.2.3.1 791)
ST_DisplacedByCustomXml (Location of Custom XML Markup Displacing an Annotation) 228
ST_DocGrid (Document Grid Types) 228
ST_DocPartBehavior (Insertion Behavior Types) 228
ST_DrawingElementId (Drawing Element ID) 523
ST_DxfId (Format Id) 457
ST_Em (Emphasis Mark Type) 228
ST_Error (Error Status Code Simple Type) 618
ST_ErrValType (Error Value Type) 584
ST_Ext (VML Extension Handling Behaviors) 665
ST_FFHelpTextVal (Help Text Value) 229
ST_FFName (Form Field Name Value) 229
ST_FFStatusTextVal (Status Text Value) 229
ST_FileType (File Type) 457
ST_FillId (Fill Id) 457
ST_FillMethod (Gradient Fill Computation Type) 666
ST_FillType (Shape Fill Type) (section 2.1.1815 666, section 2.1.1846 681)
ST_FixedPercentage (Fixed Percentage) 523
ST_Formula (Formula) 457
ST_Fraction (Fraction Type) 903
ST_FrameLayout (Frameset Layout Order) 229
ST_FtnPos (Footnote Positioning Location) 229
ST_Grouping (Grouping) 584
ST_HdrFtr (Header or Footer Type) 229
ST_Hint (Font Type Hint) 230
ST_HoleSize (Hole Size) 584
ST_HorizontalAnchor (Horizontal Anchor Type) 682
ST_HpsMeasure (Measurement in Half-Points) 230
ST_IconSetType (Icon Set Type) 457
ST_IntNonNegative (Non-Negative Integer) 873
ST_Jc (Horizontal Alignment Type) 230
ST_Jc (Justification) 612
ST_Lang (Language Reference) 620
ST_LayoutMode (Layout Mode) 584
ST_LightRigDirection (Light Rig Direction) 523
ST_LightRigType (Light Rig Type) 523
ST_LineEndLength (Line End Length) 524
ST_LineWidth (Line Width) 524
ST_LongHexNumber (Four Digit Hexadecimal Number Value) 792
ST_Macro (Custom Function Name Type) 904
ST_MailMergeDataType (Mail Merge Data Source Type Values) 230
ST_MarkerStyle (Marker Style) 584
ST_MarkupId (Annotation Identifier) 829
ST_Merge (Merged Cell Type) 230
ST_NcName255 (Non-colonized Name) 829
ST_NonNegativeDecimalNumber (Non-Negative Decimal Number Value) 829
ST_NumberFormat (Numbering Format) 230
ST_NumFmtId (Number Format Id) 457
ST_ObjID (Object ID) 904
ST_ObjIDRef (Object ID Reference) 905
ST_OLELinkType (Embedded Object Alternate Image Request Types) 681
ST_OnOff (On/Off Value) (section 2.1.1744 627, section 3.1.2.3.3 792, section 3.1.3.3.6 830)
ST_Orientation (Orientation) 585
ST_PageBorderDisplay (Page Border Display Options) 233
ST_ParameterId (Parameter Identifier) 593
ST_PathFillMode (Path Fill Mode) 524
ST_PenAlignment (Alignment Type) 525
ST_Percentage (Percentage) 525
ST_Period (Period) 585
ST_Persistence (Control Persistence Attribute Contents) 887
ST_Perspective (Perspective) 585
ST_PhoneticType (Phonetic Type) 458
ST_PhotoAlbumFrameShape (Photo Album Shape for Photo Mask) 491
ST_PictureFormat (Picture Format) 585
ST_PivotFilterType (Pivot Filter Types) 458
ST_PointMeasure (Measurement in Points) 233
ST_PositiveCoordinate (Positive Coordinate) 525
ST_PositiveInteger (Positive Integer) 897
ST_PositivePercentage (Positive Percentage) 525
ST_PresetColorVal (Preset Color Value) 526
ST_PresetMaterialType (Preset Material Type) 526
ST_ProofErr (Proofing Error Type) 233
ST_PublishDate (Publish Date Value) 862
ST_RadarStyle (Radar Style) 585
ST_Ref (Cell References) 458
ST_RefA (Single Cell Reference) 458
ST_RelationshipId (Explicit Relationship ID) 619
ST_RubyAlign (Phonetic Guide Text Alignment) 233
ST_ScatterStyle (Scatter Style) 585
ST_SecondaryChildAlignment (Secondary Child Alignment) 600
ST_SecondaryLinearDirection (Secondary Linear Direction) 600
ST_ShadowType (Shadow Type) 666
ST_Shape (Shape) 586
ST_ShapeID (Shape ID) 528
ST_ShapeType (Preset Shape Types) 528
ST_ShapeType (Shape Type) 905
ST_Shd (Shading Patterns) 234
ST_ShortHexNumber (Two Digit Hexadecimal Number Value) 793

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ST_Shp (Shape (Delimiters)) 612
ST_SignatureComments (Signature Comments) 897
ST_SignatureProviderUrl (Signature Provider URL) 897
ST_SignatureText (Signature Text) 898
ST_SignatureType (Signature Type) 898
ST_SignedDecimalNumberMax-2 (Decimal Number Value Max -2) 831
ST_SignedHpsMeasure (Signed Measurement in Half-Points) 234
ST_SignedTwipsMeasure (Signed Measurement in Twentieths of a Point) 234
ST_Skip (Skip) 586
ST_SortMapCount (Sort Map Count) 846
ST_SpId (Shape ID Type) 910
ST_SplitType (Split Type) 586
ST_Sqref (Reference Sequence) 458
ST_String (String Type) 888
ST_String (String) (section 3.1.2.3.5 794, section 3.1.3.3.8 831)
ST_String255 (String) 832
ST_String260 (String) 832
ST_Style (Style) 586
ST_TabJc (Custom Tab Stop Type) 234
ST_TableStyleType (Table Style Type) 459
ST_TblStyleOverrideType (Conditional Table Style Formatting Types) 234
ST_TextAnchoringType (Text Anchoring Types) 528
ST_TextAutonumberScheme (Text Auto-number Schemes) 529
ST_TextCapsType (Text Cap Types) 529
ST_TextDirection (Text Flow Direction) 235
ST_TextEffect (Animated Text Effects) 236
ST_TextFontScalePercent (Text Font Scale Percentage) 638
ST_TextFontScalePercentOrPercentString (Text Font Scale Percentage) 529
ST_TextNonNegativePoint (Text Non-Negative Point) 529
ST_TextPoint (Text Point) 529
ST_TextScale (Text Expansion/Compression Percentage) 236
ST_TextShapeType (Preset Text Shape Types) 530
ST_TextSpacingPercent (Text Spacing Percent) 638
ST_TextSpacingPercentOrPercentString (Text Spacing Percent) 530
ST_TextSpacingPoint (Text Spacing Point) 530
ST_TextUnderlineType (Text Underline Types) 531
ST_TextWrappingType (Text Wrapping Types) 531
ST_TLAnimateEffectTransition (Time List Animate Effect Transition) 493
ST_TLAnimateMotionBehaviorOrigin (Time List Animate Motion Behavior Origin) 493
ST_TLBehaviorAdditiveType (Behavior Additive Type) 493
ST_TLBehaviorTransformType (Behavior Transform Type) 493
ST_TLTime (Time) 493
ST_TLTimeNodeFillType (Time Node Fill Type) 493
ST_TLTimeNodeMasterRelation (Time Node Master Relation) 494
ST_TLTimeNodeRestartType (Time Node Restart Type) 494
ST_TLTriggerEvent (Trigger Event) 494
ST_TopBot (Top-Bottom) 612
ST_TotalsRowFunction (Totals Row Function Types) 459
ST_TrendlineType (Trendline Type) 586
ST_TrueFalseBlank (Boolean Value with Blank [False] State) 693
ST_TrueOnly (True Only) 874
ST_TwipsMeasure (Measurement in Twentieths of a Point) 627
ST_UniqueIdentifier () 874
ST_UniqueIdentifierWithBraces (Unique Identifier with Braces) 899
ST_UniqueIdentifierWithoutBraces (Unique Identifier without Braces) 875
ST_UnsignedDecimalNumber (Unsigned Decimal Number Value) 628
ST_UnSignedInteger (Unsigned integer.) 612
ST_UpdateLinks (Update Links Behavior Types) 459
ST_Version (Version) 899
ST_VerticalAnchor (Vertical Anchor Type) 682
ST_VerticalJc (Vertical Alignment Type) 236
ST_View (Document View Values) 236
ST_ViewType (List of View Types) 495
ST_Visibility (Visibility Types) 460
ST_WebSourceType (Web Source Type) 460
ST_Wrap (Text Wrapping around Text Frame Type) 236
ST_Xstring (Escaped String) 628
start (Leading Edge Border) 310
start (Starting Value) 125
start (Table Cell Leading Edge Border) 85
start (Table Cell Leading Margin Default) 85
start (Table Cell Leading Margin Exception) 85
start (Table Leading Edge Border) 85
start (Wrapping Polygon Start) 532
Statements 772
stCxn (Connection Start) 498
STDEV 447
STDEVA 447
STDEVP 447
STDEVPA 447
stop (Gradient Stop) 311
storage (Binary Storage) 618
stp (Strings in Subtopic) 382
strictFirstAndLastChars (Use Strict Kinsoku Rules for Japanese Text) 156
stroke (Line Stroke Settings) 661
Structure References 846
sty (style) 610
style (Shape Style) (section 2.1.1217 498, section 2.1.1374 535, section 2.1.1611 589)
style (Style Definition) 116
Style Hierarchy 104
Style Inheritance 104
styleData (Style Data) 591
styleLbl (Style Label) 593
styleLink (Numbering Style Definition) 126
stylePaneFormatFilter (Suggested Filtering for List of Document Styles) 157
STYLEREF 222
Styles Part 51
styleSheet (Style Sheet) 311
sub (Subscript (Pre-Sub-Superscript)) 610
subDoc (Anchor for Subdocument Location) 226
subHide (Hide Subscript (n-ary)) 610
SUBJECT 222

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subSp (Subshape) 486
SUBSTITUTE 448
subTnLst (Sub-TimeNodes List) 486
SUM 448
SUMIFS 448
summaryLength (Percentage of Document to Use When Generating Summary) 157
SUMPRODUCT 448
SUMSQ 448
sup (Superscript (Superscript object)) 611
supHide (Hide Superscript (n-ary)) 611
surface3DChart (3D Surface Charts) 578
surfaceChart (Surface Charts) 578
sym (Symbol Character) 80
sym (Symbol Font) 545
SYMBOL 223
Syntax (section 2.1.453 164, section 2.1.860 386, section 2.1.1749 628)
SyntexAgreementStates 881
SyntexCAMode 881
SyntexCustomWorkflowsConfigured 881
SyntexDocMandatoryApprovalReq 882
SyntexDocumentApprovalConfig 882
SyntexFieldAnswers 882
SyntexSnippetApprovalConfig 882
SyntexSnippetMetadata 882
SyntexTemplateApprovalConfig 882
sysClr (System Color) 504
sz (Font Size) 290
sz (Frame Size) 162
sz (Nested Frameset Size) 163
sz (Non-Complex Script Font Size) 77
szCs (Complex Script Font Size) 77

T

t (Text Body) 592
t (Text) (section 2.1.678 290, section 2.1.1710 611)
t (Tuple MDX Metadata) 318
TA 223
tab (Custom Tab Stop) 66
tabColor (Sheet Tab Color) 286
tabIndex (Form Field Navigation Order Index) 226
tabIndex (Structured Document Tag Navigation Order Index) 101
table (Data Source Table Name) 145
table (Table) 291
Table cell references 165
Table Measurement (CT_TblWidth) 95
Table Styles 116
tableColumn (Table Column) 291
tableStyle (Table Style) 311
tableStyleElement (Table Style) 311
tableStyleId (Table Style ID) 549
tableStyleInfo (Table Style) 293
tableStyles (Table Styles) 311
tag (Programmable Extensibility Tag) 470
Tag (Tag) 619
TAN 448
targetScreenSz (Target Screen Size for Web Page) 163
TBILLPRICE 448
TBILLYIELD 449
tbl (Table) (section 2.1.149 85, section 2.1.1424 549)
tblBorders (Table Borders Exceptions) 86
tblBorders (Table Borders) 85
tblCellSpacing (Table Cell Spacing Default) 86
tblCellSpacing (Table Cell Spacing Exception) 86
tblCellSpacing (Table Row Cell Spacing) 86
tblGrid (Table Grid) 550
tblGridChange (Revision Information for Table Grid Column Definitions) 139
tblInd (Table Indent from Leading Margin Exception) 86
tblInd (Table Indent from Leading Margin) 86
tblLayout (Table Layout Exception) 87
tblLayout (Table Layout) 87
tblLook (Table Style Conditional Formatting Settings Exception) 87
tblLook (Table Style Conditional Formatting Settings) 87
tblOverlap (Floating Table Allows Other Tables to Overlap) 88
tblpPr (Floating Table Positioning) 88
tblPr (Previous Table Properties) 88
tblPr (Style Table Properties) 117
tblPr (Table Properties) 89
tblPr (Table Style Conditional Formatting Table Properties) 117
tblPrChange (Revision Information for Table Properties) 139
tblPrExChange (Revision Information for Table-Level Property Exceptions) 139
tblStyle (Referenced Table Style) 89
tblStyle (Table Style) 507
tblStyleColBandSize (Number of Columns in Column Band) 118
tblStylePr (Style Conditional Table Formatting Properties) 118
tblStyleRowBandSize (Number of Rows in Row Band) 118
tblW (Preferred Table Width Exception) 89
tblW (Preferred Table Width) 89
tc (Table Cell) (section 2.1.168 89, section 2.1.1426 550)
tcBorders (Table Cell Borders) 90
tcFitText (Fit Text Within Cell) 92
tcg (Keyboard and Toolbar Customizations) 708
tcPr (Style Table Cell Properties) 119
tcPr (Table Style Conditional Formatting Table Cell Properties) 119
tcPrChange (Revision Information for Table Cell Properties) 139
tcW (Preferred Table Cell Width) 92
TEMPLATE 223
temporary (Remove Structured Document Tag When Contents Are Edited) 101
text (Comment Text) 295
textbox (Text Box) 662
textboxTightWrap (Allow Surrounding Paragraphs to Tight Wrap to Text Box Contents) 66
textdata (VML Diagram Text) 687
textDirection (Paragraph Text Flow Direction) 66
textDirection (Table Cell Text Flow Direction) 93
textField (Text Import Field Settings) 378
textFields (Fields) 378
textpath (Text Layout Path) 664
textPr (Text Import Settings) 378
TextVAlign (Vertical Text Alignment) 687

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themeFontLang (Theme Font Languages) 157
thickness (Thickness) 578
tickLblSkip (Tick Label Skip) 579
tickMarkSkip (Tick Mark Skip) 579
tileRect (Tile Rectangle) 519
TIME 449
TIMEVALUE 449
tint (Tint) 504
TITLE 223
title (Frame or Frameset Title) 163
title (Title) 579
titlePg (Different First Page Headers and Footers) 127
TitlesOfParts (Part Titles) 614
tl2br (Table Cell Top Left to Bottom Right Diagonal Border) 93
tmpl (Template Effects) 486
tmplLst (Template effects) 486
tnLst (Time Node List) 487
to (Ending Anchor Point) (section 2.1.1375 535, section 2.1.1612 589)
to (To) (section 2.1.1182 487, section 2.1.1183 487, section 2.1.1184 490)
TOA 223
TOC 223
Toggle Properties 105
toolbarData (Toolbar data) 709
toolbars (Legacy Toolbar Customizations) 710
top (Paragraph Border Above Identical Paragraphs) 66
top (Table Cell Top Border) 93
top (Table Cell Top Margin Default) 93
top (Table Cell Top Margin Exception) 93
top (Table Top Border) 93
top (Text Box Top Stroke) 680
top (Top Border for HTML div) 163
top (Top Border) 104
top10 (Top 10) 289
topLinePunct (Compress Punctuation at Start of a Line) 67
totalsRowFormula (Totals Row Formula) 293
TotalTime (Total Edit Time Metadata Element) 615
tp (Topic) 383
tpl (Tuple) 366
tr (References) 383
tr (Table Row) (section 2.1.178 93, section 2.1.1427 550)
tr2bl (Table Cell Top Right to Bottom Left Diagonal Border) 94
Tracking changes 918
transp (Transparent (Phantom)) 611
trendline (Trendlines) 579
trendlineLbl (Trendline Label) 579
trendlineType (Trendline Type) 580
trHeight (Table Row Height) 94
TRIMMEAN 449
trPr (Style Table Row Properties) 119
trPr (Table Style Conditional Formatting Table Row Properties) 119
trPrChange (Revision Information for Table Row Properties) 139
TRUNC 449
TTEST 449
tx (Series Text) 580
txBody (Shape Text Body) (section 2.1.1376 535, section 2.1.1613 589)
txbxContent (Rich Text Box Content Container) 636
txEffectClrLst (Text Effect Color List) 593
txFillClrLst (Text Fill Color List) 593
txLinClrLst (Text Line Color List) 593
txPr (Text Properties) 580
TYPE 449
type (Section Type) 104
Types and Values 395

U

u (Underline) 78
udl (UDL Connection String) 145
uFillTx (Underline Fill Properties Follow Text) 546
UIObj (UI Object Toggle) 687
uiPriority (Optional User Interface Sorting Order) 116
uLn (Underline Stroke) 546
undo (Undo) 374
uniqueTag (Unique Value for Record) 145
up (Up Vector) 511
updateFields (Automatically Recalculate Fields on Open) 157
USDOLLAR 449
USERADDRESS 224
USERINITIALS 224
userInterface (User Interface) 580
USERNAME 224
users (User List) 374

V

v (Cell Value) 286
v (Numeric Value) 580
val (DDE Link Value) 382
val (Error Bar Value) 580
Val (Scroll bar position) 687
valAx (Value Axis) 580
ValidIds (Valid ID) 687
vAlign (Table Cell Vertical Alignment) 94
VALUE 450
value (Value) 382
valueMetadata (Value Metadata) 325
values (DDE Name Values) 382
VAR 450
VARA 450
VARP 450
VARPA 450
varyColors (Vary Colors by Point) 581
VDB 451
VerticalResolution (Vertical Resolution) 896
video (Video) 490
videoFile (Video from File) 505
view (Document View Setting) 158
view3D (View In 3D) 581
VLOOKUP 451
vMerge (Vertically Merged Cell) 94
VML 638
VML Drawing Part 629
vstream (Binary Versioned Stream) 618

W

w (Width) 581

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wAfter (Preferred Width After Table Row) 95
wBefore (Preferred Width Before Table Row) 95
wch (Character Insertion Keyboard Customization Action) 710
webHidden (Web Hidden Text) 78
webPr (Web Query Properties) 379
webPublishing (Web Publishing Properties) 244
webPublishItem (Web Publishing Item) 287
webPublishObject (Web Publishing Object) 244
WEIBULL 451
wheel (Wheel Slide Transition) 490
widowControl (Allow First/Last Line to Display on a Separate Page) 67
WidthMin (Minimum Width) 687
WindowsVersion (Windows Version) 896
wll (WLL Macro Keyboard Customization Action) 711
wMode (Width Mode) 581
Word (Additional Information) 694
Word Attached Toolbars Part 694
Word Schema 697
WordprocessingML 49
wordWrap (Allow Line Breaking At Character Level) 67
workbook (Workbook) 245
workbookPr (Workbook Properties) 245
workbookProtection (Workbook Protection) 246
workbookView (Workbook View) 250
WORKDAY 451
worksheet (Worksheet) 287
Worksheet Part 51
Worksheet Sort Map Part 840
worksheetSortMap (Worksheet Sort Map) 845
worksheetSource (Worksheet PivotCache Source) 366
wrap (Text Wrapping) 682
writeProtection (Write Protection) 158

X

x (Left) 582
x (Member Property Index) 367
x (Shared Items Index) 367
XE 224
xf (Format) 311
xfrm (2D Transform for Graphic Frame) 469
xfrm (2D Transform for Graphic Frames) 535
xfrm (2D Transform for Grouped Objects) 512
xfrm (2D Transform for Individual Objects) 513
xfrm (Graphic Frame Transform) 590
XIRR 451
XML representation 164
xmlCellPr (Cell Properties) 293
xmlColumnPr (XML Column Properties) 293
XMLNamespace (Namespace for Property Editor) 877
xmlPr (Column XML Properties) 294
xMode (Left Mode) 582
XNPV 452
XSNLocation (Location of XSN File) 877
xsnLocation (XSN Location) 879
xsnScope (Scope) 879

Y

y (Top) 582
YearAccessed (Year Accessed) 619
YEARFRAC 452
YIELD 453
YIELDDISC 453
YIELDMAT 454
yMode (Top Mode) 583

Z

ZIP package limitations 629
zoom (Magnification Setting) 160
ZTEST 455

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