[MS-OXORSS]: RSS Object Protocol Specification

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Revision Summary			
Author	Date	Version	Comments
Microsoft Corporation	April 4, 2008	0.1	Initial Availability.
Microsoft Corporation	April 25, 2008	0.2	Revised and updated property names and other technical content.

Table of Contents

1 Introduction

This document specifies the RSS Object Protocol, which defines properties of an object that models an item from an RSS or an entry from an Atom feed.

1.1 Glossary

The following terms are defined in [MS-OXGLOS]:

attachment object

data type

message object

named properties

name identifier or name ID

property

propery ID

property name

recipient

special folder

The following terms are specific to this document:

Atom: The Atom Syndication Format, an XML format for web feeds specified in [IETF RFC 4287].

enclosure: An XML element in a feed containing information, including a URL, about a file (usually a media file) which is associated with the **RSS item** or **Atom entry**, (for example, a podcast).

feed: A data source that provides information about frequently updated content.

RSS: Really Simple Syndication; an XML format for web feeds described in the Harvard Law-maintained document RSS 2.0 Specification.

RSS object: A **message object** that represents an entry from an **RSS item** or **Atom feed** and that adheres to the **property** specifications in this document.

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

1.2 References

1.2.1 Normative References

[MS-OXCFOLD] Microsoft Corporation, "Folder Object Protocol Specification", April 2008.

[MS-OXCMSG] Microsoft Corporation, "Message and Attachment Object Protocol Specification", April 2008.

[MS-OXCPRPT] Microsoft Corporation, "Property and Stream Object Protocol Specification", April 2008.

[MS-OXCSPAM] Microsoft Corporation, "Spam Confidence Level, Allow and Block Lists Protocol Specification", April 2008.

[MS-OXGLOS] Microsoft Corporation, "Office Exchange Protocols Master Glossary", April 2008.

[MS-OXOMSG] Microsoft Corporation, "E-mail Object Protocol Specification", April 2008.

[MS-OXPROPS] Microsoft Corporation, "Office Exchange Protocols Master Property List Specification", April 2008.

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

[RFC4287] Nottingham, M. and Sayre, R., "The Atom Syndication Format", RFC 4287, December 2005, http://www.ietf.org/rfc/rfc4287.txt.

[RSS20] Winer, D., "RSS 2.0 Specification", July 2003, http://cyber.law.harvard.edu/rss/rss.html.

1.2.2 Informative References

[MS-OXBBODY] Microsoft Corporation, "Best Body Retrieval Protocol Specification", April 2008.

[MS-OXCDATA] Microsoft Corporation, "Data Structures Protocol Specification", April 2008.

1.3 Protocol Overview (Synopsis)

The RSS Object Protocol allows the representation of entries from **RSS** and **Atom feeds**. The RSS Object Protocol extends the Message and Attachment Object Protocol in that it defines new properties and adds restrictions to the properties that are defined in [MS-OXCMSG].

The properties that are specific to an **RSS object** allow conversion from the XML of an RSS item (specified in [RSS20]) or Atom entry (specified in [RFC4287]), including metadata about the feed from which the item or entry came, to properties on a **message object**. In addition to mapping XML entities from the two formats to shared properties, the XML of the entire RSS item or Atom entry is saved on the message object.

1.4 Relationship to Other Protocols

The RSS Object Protocol has the same dependencies as the Message and Attachment Object Protocol, which it extends. For details about the Message and Attachment Object Protocol, see [MS-OXCMSG].

The RSS Object Protocol is a peer of the E-mail Object Protocol, and uses a subset of the properties specified in [MS-OXOMSG].

1.5 Prerequisites/Preconditions

The RSS Object Protocol has the same prerequisites and preconditions as the Message and Attachment Object Protocol.

1.6 Applicability Statement

None.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

This protocol provides no extensibility beyond what is already specified in [MS-OXCMSG].

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

The RSS Object Protocol uses the protocols defined in [MS-OXCPRPT] and [MS-OXCMSG] as its primary transport mechanism.

2.2 Message Syntax

An RSS object can be created and modified by clients and servers. Except where noted below, this section defines constraints under which both clients and servers operate.

Clients operate on RSS objects using the Message and Attachment Object Protocol, as specified in [MS-OXCMSG]. How a server operates on RSS objects is implementation-dependent. The results of any such operation are exposed to clients in a manner that is consistent with the RSS Object Protocol.

Unless otherwise specified below, an RSS object adheres to all property constraints specified in [MS-OXPROPS] and all property constraints specified in [MS-OXCMSG]. An RSS object MAY also contain other properties, which are defined in [MS-OXPROPS], but these properties have no impact on the RSS Object Protocol.

2.2.1 RSS Item Properties

The following properties specific to RSS objects are defined in this protocol.

2.2.1.1 PidLidPostRssChannelLink

Type: PtypString.
Contains the URL of the RSS or Atom feed from which the XML file came.

2.2.1.2 PidLidPostRssItemLink

Type: PtypString.
Contains the URL of the link from the item (the contents of the `<link>` sub-element of an RSS item, or the value of the `href` attribute of the main `<link>` sub-element of an Atom entry).

2.2.1.3 PidLidPostRssItemHash

Type: PtypInteger32.
Contains a hash of the feed XML computed using an implementation-dependent algorithm; used to quickly determine whether two items are different.

2.2.1.4 PidLidPostRssItemGuid

Type: PtypString.
Contains a unique identifier for the object, copied from one of the following elements.

RSS items	Atom entries
`<guid>`	`<id>`
`<link>`	

2.2.1.5 PidLidPostRssChannel

Type: PtypString.
Contains the contents of the `<title>` field from the XML of the Atom `<feed>` or RSS `<channel>`.

2.2.1.6 PidLidPostRssItemXml

Type: PtypString.
Contains the <item> element and all its sub-elements from an RSS feed, or the <entry> element and all its sub-elements from an Atom feed.

2.2.1.7 PidLidPostRssSubscription

Type: PtypString.
Contains the user's preferred name for the subscription.

2.2.1.8 PidTagMessageDeliveryTime

Type: PtypTime, in UTC.
The posting date of the item or entry, copied from one of the following elements:

RSS items	Atom entries
<date>	<modified>
<pubDate>	<updated>
	<issued>
	<published>

If no such element exists, set to the current time.

2.2.2 Additional Property Constraints

This protocol specifies additional constraints on the following properties beyond what is specified in [MS-OXCMSG] and [MS-OXOMSG].

2.2.2.1 Attachment Objects

2.2.2.1.1 Full Article Attachment Objects

A full article attachment object contains the contents of the linked document. Its PidTagAttachMethod MUST be 0x00000001: afByValue (see [MS-OXCMSG]) and its PidLidPostRssItemLink MUST be set to the URL from which the document was downloaded.

An RSS object MUST have no more than 1 full article attachment object.

2.2.2.1.2 Enclosure Attachment Objects

An enclosure attachment object contains the contents of an enclosure, which is a file referenced in the href attribute of a <link> tag where the rel attribute is "enclosure" for an Atom entry, or the <enclosure> element of an RSS item.

An enclosure attachment object MUST have a PidTagAttachMethod of 0x00000001: afByValue (see [MS-OXCMSG]). PidLidPostRssItemLink MUST be set to the URL from which the enclosure was downloaded.

2.2.2.1.3 Other Attachment Objects

An RSS object MUST NOT have attachment objects other than full article attachment objects and enclosure attachment objects.

2.2.2.2 PidNameExchangeJunkEmailMoveStamp

As specified in [MS-OXCSPAM], but MUST be set on all RSS objects.

2.2.2.3 PidTagMessageClass

Type: PtypString8, case-insensitive.
Specifies the type of the message item. The value MUST be "`IPM.Post.RSS`" or begin with "`IPM.Post.RSS.`", in addition to meeting the criteria specified in [MS-OXCMSG].

2.2.2.4 PidTagSenderName

Type: PtypString.
Contains origination information about the RSS object, copied from one of the elements in the table below. If no such element exists, set to an empty string.

RSS items	Atom entries
<author>	<name>
<publisher>*	<title>*
<title>*	

***Note** The element is from the metadata rather than the individual item or feed.

2.2.2.5 PidTagSenderEmailAddress

Type: PtypString.
Contains the contents of the <email> element of the <author> element in an Atom item if it exists. Does not apply to an RSS entry.

2.2.2.6 PidTagSentRepresentingName

Type: PtypString.
Contains origination information about the RSS object, copied from one of the elements in the table below. If no such element exists, set to an empty string.

RSS items	Atom entries
<author>	<name> of <author>
<publisher>*	<title>*
<title>*	

***Note** The element is from the metadata rather than the individual item or feed.

2.2.2.7 PidTagSentRepresentingEmailAddress

Type: PtypString.
Contains the contents of the <email> element of the <author> element in an Atom item if it exists. Does not apply to an RSS entry.

2.2.2.8 Recipients

An RSS object MUST NOT have recipients.

3 Protocol Details

General protocol details, as specified in [MS-OXPROPS] and [MS-OXCMSG], apply to RSS objects.

3.1 Common Details

The client and server roles are to create and manipulate RSS objects, and otherwise operate in their respective roles as specified in [MS-OXCMSG].

3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

3.1.1.1 RSS Objects

An RSS object extends the **message object** as defined in [MS-OXCMSG].

3.1.1.2 Folder Objects

RSS objects are created in folder objects with a container class of "`IPF.Note`" unless the **end-user** or **user agent** explicitly specifies otherwise.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Creation of an RSS Object

To create an RSS object, the server or client creates a message object as specified in [MS-OXCMSG], sets properties in accordance with the requirements of section 2 and [MS-OXCPRPT], and saves the resulting **message object** as specified in [MS-OXCMSG]. In particular, the PidNameExchangeJunkEmailMoveStamp property MUST be set before the RSS object is saved the first time.

3.1.4.2 Modification of an RSS Object

When modifying an RSS object, the server or client opens a message object as specified in [MS-OXCMSG], modifies any properties in accordance with the requirements of section 2 and [MS-OXCPRPT], and saves the resulting message object as specified in [MS-OXCMSG].

3.1.4.3 Deletion of an RSS Object

RSS objects have no special semantics in relation to deletion beyond what is specified in [MS-OXCFOLD].

3.1.5 Message Processing Events and Sequencing Rules

None.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

4 Protocol Examples

Joe subscribes to an RSS feed. The client polls the feed and finds a new item. The following is a description of what a client might do to accomplish Joe's intentions and describes the responses a server might return. See [MS-OXCPRPT] and [MS-OXCMSG] for details on ROPs.

Before manipulating RSS objects, the client needs to ask the server to perform a mapping from **named properties** to **property IDs**, using **RopGetPropertyIdsFromNames**.

Property	Property Set GUID	NameID
PidLidPostRssChannel	{00020041-0000-0000-C000-000000000046}	0x8904
PidLidPostRssChannelLink	{00020041-0000-0000-C000-000000000046}	0x8900
PidLidPostRssItemGuid	{00020041-0000-0000-C000-000000000046}	0x8903
PidLidPostRssItemHash	{00020041-0000-0000-C000-000000000046}	0x8902
PidLidPostRssItemLink	{00020041-0000-0000-C000-000000000046}	0x8901
PidLidPostRssItemXml	{00020041-0000-0000-C000-000000000046}	0x8905
PidLidPostRssSubscription	{00020041-0000-0000-C000-000000000046}	0x8906
PidLidSideEffects	{00062008-0000-0000-	0x81f8

	C000-000000000046}	
PidNameExchangeJunkEmailMoveStamp	{00020329-0000-0000-C000-000000000046}	http://schemas.microsoft.com/exchange/junkemailmovestamp

The server might respond with the following identifiers, which will be used in the example that follows. (The actual identifiers are at the discretion of the server.)

Property	Property ID
PidLidPostRssChannel	0x8318
PidLidPostRssChannelLink	0x8314
PidLidPostRssItemGuid	0x8317
PidLidPostRssItemHash	0x8316
PidLidPostRssItemLink	0x8315
PidLidPostRssItemXml	0x8319
PidLidPostRssSubscription	0x831a
PidLidSideEffects	0x81f8
PidNameExchangeJunkEmailMoveStamp	0x8415

To create an RSS object, the client uses RopCreateMessage. The server returns a success code and a handle to the object.

After processing the contents of the RSS item, the client uses RopSetProperties to transmit its data to the server.

Property	Property ID	Data Type	Value
PidLidPostRssChannel	0x8318	0x001f (PtypString)	Help and How-to for Contoso
PidLidPostRssChannelLink	0x8314	0x001f (PtypString)	http://www.contoso.com
PidLidPostRssItemGuid	0x8317	0x001f (PtypString)	http://www.contoso.com
PidLidPostRssItemHash	0x8316	0x0003 (PtypInteger32)	0xCD0E93CF
PidLidPostRssItemLink	0x8315	0x001f (PtypString)	http://www.contoso.com
PidLidPostRssItemXml	0x8319	0x001f (PtypString)	See Note 1, below
PidLidPostRssSubscription	0x831a	0x001f (PtypString)	Help and How-to for Contoso
PidLidSideEffects	0x81f8	0x0003 (PtypInteger32)	0x00000100
PidTagHtml	0x1013	0x0102 (PtypBinary)	See Note 2, below
PidTagClientSubmitTime	0x0039	0x0040 (PtypTime)	High: 0x01C87A36 Low: 0xD74C8CC0 (2008/02/28 18:22:13.900)
PidTagConversationTopic	0x0070	0x001f	Learn to narrow your search

		(PtypString)	criteria for better searches in Contoso
PidTagInternetCodepage	0x3fde	0x0003 (PtypInteger32)	0x0000FDE9
PidTagMessageClass	0x001a	0x001f (PtypString)	IPM.Post.Rss
PidTagMessageFlags	0x0e07	0x0003 (PtypInteger32)	Flags: 0x00000000 <none>
PidTagNormalizedSubject	0x0e1d	0x001f (PtypString)	Learn to narrow your search criteria for better searches in Contoso
PidTagSenderName	0x0c1a	0x001f (PtypString)	Help and How-to for Contoso
PidTagSentRepresentingName	0x0042	0x001f (PtypString)	Help and How-to for Contoso
PidTagSubjectPrefix	0x003d	0x001f (PtypString)	(null)
PidNameExchangeJunkEmailMoveStamp	0x8415	0x0003 (PtypInteger32)	0x802454D1

When the client has made all its changes to the item, it uses ROPSaveChangesMessage to commit the properties to the server, and then RopRelease to release the RSS object. The values of some properties will change during the execution of RopSaveChangesMessage, but the properties specified in this document will not change.

Note 1 PidLidPostRssItemXml contains the following text:

```
<item>
 <title>Learn to narrow your search criteria for better searches
in Contoso</title>
 <description>Instant Search can help you find information in a
flash.</description>
<link>http://www.contoso.com</link>
</item>
```

Note 2 PidTagHtml contains the following text, encoded into binary as specified in [MS-OXBBODY]:

```
<html><style><!-- body {font-family:"Calibri";} --
></style><body><table><tr><td>Instant Search can help you find
information in a flash.</td></tr></table><p><BR/><A
HREF="http://www.contoso.com">View
article...</A></p></body></html>
```

5 Security

5.1 Security Considerations for Implementers

There are no special security considerations specific to the [MS-OXORSS] protocol. General security considerations pertaining to the underlying transport apply (see [MS-OXCMSG] and [MS-OXCPRPT]).

5.2 Index of Security Parameters

None.

6 Appendix A: Office/Exchange Behavior

The information in this specification is applicable to the following versions of Office/Exchange:

- Microsoft Exchange 2003 with Service Pack 2 applied
- Microsoft Office 2007 with Service Pack 1 applied
- Microsoft Exchange 2007 with Service Pack 1 applied

Exceptions, if any, are noted below. Unless otherwise specified, any statement of optional behavior in this specification prescribed using the terms SHOULD or SHOULD NOT implies Office/Exchange behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies Office/Exchange does not follow the prescription.

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