Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation (“this documentation”) for protocols, file formats, data portability, computer languages, and standards support. Additionally, overview documents cover inter-protocol relationships and interactions.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you can make copies of it in order to develop implementations of the technologies that are described in this documentation and can distribute portions of it in your implementations that use these technologies or in your documentation as necessary to properly document the implementation. You can also distribute in your implementation, with or without modification, any schemas, IDLs, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications documentation.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that might cover your implementations of the technologies described in the Open Specifications documentation. Neither this notice nor Microsoft's delivery of this documentation grants any licenses under those patents or any other Microsoft patents. However, a given Open Specifications document might be covered by the Microsoft Open Specifications Promise or the Microsoft Community Promise. If you would prefer a written license, or if the technologies described in this documentation are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting iplg@microsoft.com.
- **License Programs.** To see all of the protocols in scope under a specific license program and the associated patents, visit the Patent Map.
- **Trademarks.** The names of companies and products contained in this documentation might be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit www.microsoft.com/trademarks.
- **Fictitious Names.** The example companies, organizations, products, domain names, email addresses, logos, people, places, and events that are depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

**Reservation of Rights.** All other rights are reserved, and this notice does not grant any rights other than as specifically described above, whether by implication, estoppel, or otherwise.

**Tools.** The Open Specifications documentation does not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments, you are free to take advantage of them. Certain Open Specifications documents are intended for use in conjunction with publicly available standards specifications and network programming art and, as such, assume that the reader either is familiar with the aforementioned material or has immediate access to it.

**Support.** For questions and support, please contact dochelp@microsoft.com.
## Revision Summary

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision History</th>
<th>Revision Class</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/3/2010</td>
<td>0.2</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>3/18/2011</td>
<td>0.3</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>8/5/2011</td>
<td>1.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>10/7/2011</td>
<td>1.1</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>1/20/2012</td>
<td>2.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>4/27/2012</td>
<td>2.1</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>7/16/2012</td>
<td>2.2</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>10/8/2012</td>
<td>2.3</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>2/11/2013</td>
<td>2.3</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>7/26/2013</td>
<td>3.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>11/18/2013</td>
<td>3.0</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>2/10/2014</td>
<td>3.0</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>4/30/2014</td>
<td>4.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>7/31/2014</td>
<td>5.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>10/30/2014</td>
<td>5.0</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>5/26/2015</td>
<td>6.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>6/30/2015</td>
<td>6.0</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>9/14/2015</td>
<td>6.0</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>6/9/2016</td>
<td>7.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>2/28/2017</td>
<td>8.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>4/18/2017</td>
<td>8.0</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
<tr>
<td>9/19/2017</td>
<td>8.1</td>
<td>Minor</td>
<td>Clarified the meaning of the technical content.</td>
</tr>
<tr>
<td>7/24/2018</td>
<td>9.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>10/1/2018</td>
<td>10.0</td>
<td>Major</td>
<td>Significantly changed the technical content.</td>
</tr>
<tr>
<td>2/15/2022</td>
<td>10.0</td>
<td>None</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
</tbody>
</table>
# Table of Contents

1 Introduction ........................................................................................................... 5
1.1 Glossary ............................................................................................................. 5
1.2 References ......................................................................................................... 6
   1.2.1 Normative References ............................................................................... 6
   1.2.2 Informative References ............................................................................. 6
1.3 Overview ............................................................................................................ 6
1.4 Relationship to Other Protocols ......................................................................... 7
1.5 Prerequisites/Preconditions .............................................................................. 7
1.6 Applicability Statement .................................................................................... 8
1.7 Versioning and Capability Negotiation ............................................................. 8
1.8 Vendor-Extensible Fields ................................................................................. 8
1.9 Standards Assignments .................................................................................... 8

2 Messages............................................................................................................... 9
2.1 Transport .......................................................................................................... 9
2.2 Message Syntax ............................................................................................... 9
   2.2.1 Namespaces ............................................................................................ 9
   2.2.2 Elements ............................................................................................... 9
      2.2.2.1 ContentExpiryDate ........................................................................ 9
      2.2.2.2 ContentOwner ............................................................................... 10
      2.2.2.3 EditAllowed ................................................................................... 11
      2.2.2.4 ExportAllowed ............................................................................. 11
      2.2.2.5 ExtractAllowed ............................................................................. 12
      2.2.2.6 ForwardAllowed ........................................................................... 13
      2.2.2.7 ModifyRecipientsAllowed .............................................................. 14
      2.2.2.8 Owner ............................................................................................ 14
      2.2.2.9 PrintAllowed .................................................................................. 15
      2.2.2.10 ProgrammaticAccessAllowed ....................................................... 15
      2.2.2.11 RemoveRightsManagementProtection ....................................... 16
      2.2.2.12 ReplyAllAllowed ....................................................................... 17
      2.2.2.13 ReplyAllowed ............................................................................. 17
      2.2.2.14 RightsManagementLicense ......................................................... 18
      2.2.2.15 RightsManagementSupport ....................................................... 19
      2.2.2.16 RightsManagementTemplate ...................................................... 20
      2.2.2.17 RightsManagementTemplates ..................................................... 20
      2.2.2.18 TemplateDescription ................................................................. 21
         2.2.2.18.1 TemplateDescription (RightsManagementLicense) .............. 21
         2.2.2.18.2 TemplateDescription (RightsManagementTemplate) .......... 22
      2.2.2.19 TemplateID ................................................................................... 22
         2.2.2.19.1 TemplateID (RightsManagementLicense) .............................. 23
         2.2.2.19.2 TemplateID (RightsManagementTemplate) .......................... 23
         2.2.2.19.3 TemplateID (SendMail, SmartForward, SmartReply) .......... 24
      2.2.2.20 TemplateName ................................................................................ 25
         2.2.2.20.1 TemplateName (RightsManagementLicense) ....................... 25
         2.2.2.20.2 TemplateName (RightsManagementTemplate) ..................... 25

3 Protocol Details .................................................................................................... 27
3.1 Client Details .................................................................................................. 27
   3.1.1 Abstract Data Model ............................................................................... 27
   3.1.2 Timers ..................................................................................................... 27
   3.1.3 Initialization ......................................................................................... 27
   3.1.4 Higher-Layer Triggered Events ............................................................... 27
      3.1.4.1 Requesting Server-Side Decompression and Decryption of Rights-Managed E-mail Messages ........................................................................................................................................................................................................................................... 27
      3.1.4.2 Getting Rights Policy Templates .................................................... 27
1 Introduction

The Exchange ActiveSync: Rights Management Protocol is used by a client, typically a mobile device, to create and consume rights-managed e-mail messages. A rights-managed e-mail message is used to protect e-mail content from inappropriate access, use, and distribution.

Sections 1.5, 1.8, 1.9, 2, and 3 of this specification are normative. All other sections and examples in this specification are informative.

1.1 Glossary

This document uses the following terms:

**Hypertext Transfer Protocol (HTTP):** An application-level protocol for distributed, collaborative, hypermedia information systems (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

**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.

**recipient:** An entity that can receive email messages.

**rights policy template:** An XrML 1.2 document that contains a predefined usage policy that is used to create the PL when content is protected. Conceptually, a rights policy template (or "template") is a blueprint for a PL, identifying authorized users and the actions they are authorized to take with the content (along with any conditions on that usage). Unlike a PL, a template does not contain a content key or information about the content owner. The content key and information about the content owner are required to be added when the PL for a given piece is created from the template. End users can use a template when protecting a document instead of defining the specifics of the usage policy themselves. When a document is published using a template, the template is used to generate the PL.

**rights-managed email message:** An email message that specifies permissions that are designed to protect its content from inappropriate access, use, and distribution.

**Secure Sockets Layer (SSL):** A security protocol that supports confidentiality and integrity of messages in client and server applications that communicate over open networks. SSL supports server and, optionally, client authentication using X.509 certificates [X509] and [RFC5280]. SSL is superseded by Transport Layer Security (TLS). TLS version 1.0 is based on SSL version 3.0 [SSL3].

**Wireless Application Protocol (WAP) Binary XML (WBXML):** A compact binary representation of XML that is designed to reduce the transmission size of XML documents over narrowband communication channels.

**XML:** The Extensible Markup Language, as described in [XML1.0].

**XML namespace:** A collection of names that is used to identify elements, types, and attributes in XML documents identified in a URI reference [RFC3986]. A combination of XML namespace and local name allows XML documents to use elements, types, and attributes that have the same names but come from different sources. For more information, see [XMLNS-2ED].

**XML schema:** A description of a type of XML document that is typically expressed in terms of constraints on the structure and content of documents of that type, in addition to the basic syntax constraints that are imposed by XML itself. An XML schema provides a view of a document type at a relatively high level of abstraction.
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.


[MS-ASDTYPE] Microsoft Corporation, "Exchange ActiveSync: Data Types".

[MS-ASEMAIL] Microsoft Corporation, "Exchange ActiveSync: Email Class Protocol".


[MS-OXORMMS] Microsoft Corporation, "Rights-Managed Email Object Protocol".


1.2.2 Informative References


1.3 Overview

This protocol defines a set of XML elements used by a client to create and consume rights-managed e-mail messages. A rights-managed e-mail message is used to protect e-mail content from inappropriate access, use and distribution. Each rights-managed e-mail message has an associated rights policy template, which controls the usage policy applied to each rights-managed e-mail message.
A rights policy template specifies whether a user can edit, forward, reply, reply all, print, extract (copy), export (remove protection), or programmatically access the content in the rights-managed e-mail message. When a user creates a rights-managed e-mail message, the user chooses and applies the rights policy template that has the protection settings they require. For example, a manager can send an employee confidential information using a template that prohibits forwarding or printing the e-mail, but does allow the user to respond to the e-mail. Or, a public relations manager can send confidential company information to users inside their organization, and select a template that only allows the protected content to be viewed, replied to, and forwarded within the organization, but not viewed outside the organization.

The creation of rights policy templates is external to this protocol. For more information about deployment and distribution of rights policy templates, see [MSFT-ARPTC].

The XML elements specified in this protocol enable the client to:

- Retrieve the rights policy templates available to the client for composing rights-managed e-mail message.
- Compose new e-mail by using rights policy templates.
- Retrieve rights-managed e-mail messages.
- Request that the server decompress and decrypt rights-managed e-mail messages before sending them to the client. For details about decompress and decrypt rights-managed email messages, refer to [MS-OXORMMS] section 3.1.4.2.1.
- Perform actions on a rights-managed e-mail message in accordance with the rights policy template applied to the e-mail message.

It is the responsibility of the client to enforce the rights specified by the rights policy template to the rights-managed e-mail message.

1.4 Relationship to Other Protocols

This protocol consists of a series of XML elements that are embedded inside an XML-formatted command request or a command response. Command requests and responses are described in [MS-ASCMD]. Command requests and responses are transmitted using Wireless Application Protocol (WAP) Binary XML (WBXML), as described in [MS-ASWBXML].

The protected content contained in rights-managed e-mail messages are synchronized between the client and the server by using the E-mail class elements defined in [MS-ASEMAIL].

This protocol defines elements according to the data type definitions that are described in [MS-ASDTYPE].

For conceptual background information and overviews of the relationships and interactions between this and other protocols, see [MS-OXPROTO].

1.5 Prerequisites/Preconditions

This protocol requires a secure connection between the client and server, as described in section 5.1.

This protocol assumes that the client has been approved to consume and compose IRM content by the server. For more information about client-side and server-side IRM requirements, see [MSFT-IRMEAS].
1.6 Applicability Statement
This protocol is designed for the creation and consumption of rights-managed e-mail messages on a client, which is typically a mobile device.

1.7 Versioning and Capability Negotiation
None.

1.8 Vendor-Extensible Fields
None.

1.9 Standards Assignments
None.
2 Messages

2.1 Transport

This protocol consists of a series of XML elements that are embedded inside a command request or a command response. The XML markup that constitutes the request body or the response body is transmitted between client and server by using Wireless Application Protocol (WAP) Binary XML (WBXML), as specified in [MS-ASWBXML].

2.2 Message Syntax

The XML schema for the RightsManagement namespace is described in section 6.

For more information about how the RightsManagement namespace elements are used in command requests and responses, see sections 3.1.4 and 3.2.4.

2.2.1 Namespaces

This specification defines and references various XML namespaces using the mechanisms specified in [XMLNS]. Although this specification associates a specific XML namespace prefix for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Namespace URI</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>RightsManagement</td>
<td></td>
</tr>
<tr>
<td>airsync</td>
<td>AirSync</td>
<td>[MS-ASCMD] section 2.2.1.21</td>
</tr>
<tr>
<td>airsyncnbase</td>
<td>AirSyncBase</td>
<td>[MS-ASAIRS]</td>
</tr>
<tr>
<td>composemail</td>
<td>ComposeMail</td>
<td>[MS-ASCMD] sections 2.2.1.17, 2.2.1.19, and 2.2.1.20</td>
</tr>
<tr>
<td>email</td>
<td>Email</td>
<td>[MS-ASEMAIL]</td>
</tr>
<tr>
<td>email2</td>
<td>Email2</td>
<td>[MS-ASEMAIL]</td>
</tr>
<tr>
<td>itemoperations</td>
<td>ItemOperations</td>
<td>[MS-ASCMD] section 2.2.1.10</td>
</tr>
<tr>
<td>search</td>
<td>Search</td>
<td>[MS-ASCMD] section 2.2.1.16</td>
</tr>
<tr>
<td>settings</td>
<td>Settings</td>
<td>[MS-ASCMD] section 2.2.1.18</td>
</tr>
<tr>
<td>xs</td>
<td><a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a></td>
<td>[XMLSCHEMA1]</td>
</tr>
</tbody>
</table>

2.2.2 Elements

2.2.2.1 ContentExpiryDate

The ContentExpiryDate element is a required child element of the RightsManagementLicense element (section 2.2.2.14). It specifies the expiration date for the license. The ContentExpiryDate element is set to "9999-12-30T23:59:59.999Z" if the rights management license has no expiration date set. The client MUST purge the body and attachments of the e-mail message when the ContentExpiryDate has passed. The client can then use the ItemOperations command ([MS-}
section 2.2.1.10) to fetch the content again from the server. If the rights management license allows it, the content can be provided once more with a new `ContentExpiryDate`.

The value of this element is a `dateTime` ([MS-ASDTYPE] section 2.3).

The `ContentExpiryDate` element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the `Protocol version` field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 2.2.2.2 ContentOwner

The `ContentOwner` element is a required child element of the `RightsManagementLicense` element (section 2.2.2.14). It specifies the e-mail address of the content owner. The `Owner` element is set to `TRUE` for the user specified by the `ContentOwner` element.

The value of this element is a `string` ([MS-ASDTYPE] section 2.7). The value MUST have a minimum of one character.

The `ContentOwner` element has no child elements.

The maximum length of the `ContentOwner` value is 320 characters.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the `Protocol version` field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
</tbody>
</table>
### 2.2.2.3 EditAllowed

The `EditAllowed` element is a required child element of the `RightsManagementLicense` element (section 2.2.2.14). It specifies whether the content of the original email can be modified by the user when the user forwards, replies, or replies all to the email message.

The value of this element is a boolean ([MS-ASDTYPE] section 2.1). If the value is `TRUE` (1), the email can be modified by the user; if the value is `FALSE` (0), the email cannot be modified by the user. The value of this element MUST be set to `TRUE` (1) if the `ExportAllowed` element is set to `TRUE` (1).

A value of `FALSE` requires that the client MUST exclude the original rights-managed email message from the SmartForward ([MS-ASCMD] section 2.2.1.19) or SmartReply ([MS-ASCMD] section 2.2.1.20) request. Consequently, inline replies are not allowed if the `EditAllowed` element is set to `FALSE`. When `EditAllowed` is set to `FALSE` and `composemail:ReplaceMime` ([MS-ASCMD] section 2.2.3.148) is not present in a SmartForward or SmartReply request, the server will add the original rights-managed email message as an attachment to the new message. Conversely, if `composemail:ReplaceMime` is present, the server will not attach the original rights-managed email message as an attachment.

The `EditAllowed` element has no child elements.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.2.6, or the `Protocol version` field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>
2.2.2.4 ExportAllowed

The ExportAllowed element is a required child element of the RightsManagementLicense element (section 2.2.2.14). It specifies whether the IRM protection on the e-mail message can be removed by the user.

The value of this element is a boolean ([MS-ASDTYPE] section 2.1). If the value is TRUE (1), the user can remove the IRM protection of the original message’s content in the outgoing message when the user forwards, replies, or replies all to the original e-mail message; if the value is FALSE (0), the user cannot remove the IRM protection of the original message’s content in the outgoing message when the user forwards, replies, or replies all to the original e-mail message.

If a rights-managed email message is forwarded or replied to using the SmartForward ([MS-ASCMD] section 2.2.1.19) or SmartReply ([MS-ASCMD] section 2.2.1.20) command, the following conditions are evaluated:

- The original rights policy template has the ExportAllowed element set to TRUE
- The TemplateID (section 2.2.2.19.3) on the new message is set to the "No Restriction" template (TemplateID value "00000000-0000-0000-0000-000000000000")

If both of the conditions are true, the IRM protection is removed from the outgoing message. The original message retains its IRM protection.

The ExportAllowed element has no child elements.

Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2.2.2.5 ExtractAllowed

The ExtractAllowed element is a required child element of the RightsManagementLicense element (section 2.2.2.14). It specifies whether the user can copy content out of the e-mail message.

The value of this element is a boolean ([MS-ASDTYPE] section 2.1). If the value is TRUE (1), the content of the e-mail message can be cut, copied, or a screen capture can be taken of the content; if the value is FALSE (0), the content of the e-mail message cannot be cut, copied, or a screen capture cannot be taken of the content.
The **ExtractAllowed** element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**2.2.2.6 ForwardAllowed**

The **ForwardAllowed** element is a required child element of the RightsManagementLicense element (section 2.2.2.14). It specifies whether the user can forward the e-mail message.

The value of this element is a **boolean** ([MS-ASDTYPE] section 2.1). If the value is **TRUE** (1), the user can forward the e-mail message; if the value is **FALSE** (0), the user cannot forward the e-mail message.

The **ForwardAllowed** element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>
2.2.2.7 ModifyRecipientsAllowed

The **ModifyRecipientsAllowed** element is a required child element of the **RightsManagementLicense** element (section 2.2.2.14). It specifies whether the user can modify the recipient list when the user forwards, or replies to the e-mail message.

This element is a boolean data type, as specified in [MS-ASDTYPE] section 2.1. If the value is TRUE (1), the user can modify the recipient list; if the value is FALSE (0), the user cannot modify the recipient list. The value of this element MUST be the same as that of the **ForwardAllowed** element in the response.

The **ModifyRecipientsAllowed** element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2.2.2.8 Owner

The **Owner** element is a required child element of the **RightsManagementLicense** element (section 2.2.2.14). It specifies whether the user is the owner of the e-mail message.

The value of this element is a boolean ([MS-ASDTYPE] section 2.1). If the value is TRUE (1), the user is the owner of the e-mail message; if the value is FALSE (0), the user is not the owner of the e-mail message. A value of TRUE indicates that the authenticated user has owner rights on this message. This element is used for information presentation purposes only. The Allowed elements (EditAllowed, ReplyAllowed, etc.) are used to evaluate whether a particular action is permitted or restricted.

The **Owner** element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.
2.2.2.9 PrintAllowed

The **PrintAllowed** element is a required child element of the **RightsManagementLicense** element (section 2.2.2.14). It specifies whether the e-mail can be printed by the user. This element does not indicate client support for printing an e-mail message; it only specifies whether the e-mail message can be printed if the client supports printing.

The value of this element is a **boolean** ([MS-ASDTYPE] section 2.1). If the value is **TRUE** (1), the e-mail can be printed by the user; if the value is **FALSE** (0), the e-mail cannot be printed by the user.

The **PrintAllowed** element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASPProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2.2.2.10 ProgrammaticAccessAllowed

The **ProgrammaticAccessAllowed** element is a required child element of the **RightsManagementLicense** element (section 2.2.2.14). It specifies whether the contents of the e-mail message can be accessed programmatically by third party applications.
The value of this element is a boolean ([MS-ASDTYPE] section 2.1). If the value is TRUE (1), third party applications can access the protected content of the e-mail message programmatically; if the value is FALSE (0), third party applications cannot access the protected content of the e-mail message programmatically. Protected content consists of the message body and attachments.

The ProgrammaticAccessAllowed element has no child elements.

Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2.2.2.11 RemoveRightsManagementProtection

The RemoveRightsManagementProtection element is an optional child element of the Fetch element ([MS-ASCMD] section 2.2.3.67.1) used in ItemOperations commands. If present, it indicates that the client is removing the IRM protection from the e-mail.

The RemoveRightsManagementProtection element is an empty tag element, meaning it has no value or data type.

IRM protection can only be removed from e-mail messages when the ExportAllowed element is set to TRUE.

The RemoveRightsManagementProtection element has no child elements.

Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
</tbody>
</table>
### 2.2.2.12 ReplyAllAllowed

The `ReplyAllAllowed` element is a required child element of the `RightsManagementLicense` element (section 2.2.2.14). It specifies whether the user can reply to all of the recipients of the original e-mail message.

The value of this element is a boolean ([MS-ASDTYPE] section 2.1). If the value is TRUE (1), the user can reply to all of the recipients of the e-mail message; if the value is FALSE (0), the user cannot reply to all of the recipients of the e-mail message.

The `ReplyAllAllowed` element has no child elements.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the `Protocol version` field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 2.2.2.13 ReplyAllowed

The `ReplyAllowed` element is a required child element of the `RightsManagementLicense` element (section 2.2.2.14). It specifies whether the user is allowed to reply to the e-mail message.

The value of this element is a boolean ([MS-ASDTYPE] section 2.1). If the value is TRUE (1), the user can reply to the e-mail message; if the value is FALSE (0), the user cannot reply to the e-mail message.

The `ReplyAllowed` element has no child elements.
Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 2.2.2.14 RightsManagementLicense

The **RightsManagementLicense** element is an optional child element of the **ApplicationData** element ([MS-ASCMD] section 2.2.3.11). It contains the **rights policy template** settings for the template applied to the e-mail message being synchronized.

The value of this element is a **container** ([MS-ASDTYPE] section 2.2).

The **RightsManagementLicense** element can only have the following child elements:

- **ContentExpiryDate** (section **2.2.2.1**). This element is required.
- **ContentOwner** (section **2.2.2.2**). This element is required.
- **EditAllowed** (section **2.2.2.3**). This element is required.
- **ExportAllowed** (section **2.2.2.4**). This element is required.
- **ExtractAllowed** (section **2.2.2.5**). This element is required.
- **ForwardAllowed** (section **2.2.2.6**). This element is required.
- **ModifyRecipientsAllowed** (section **2.2.2.7**). This element is required.
- **Owner** (section **2.2.2.8**). This element is required.
- **PrintAllowed** (section **2.2.2.9**). This element is required.
- **ProgrammaticAccessAllowed** (section **2.2.2.10**). This element is required.
- **ReplyAllAllowed** (section **2.2.2.12**). This element is required.
- **ReplyAllowed** (section **2.2.2.13**). This element is required.
- **TemplateDescription** (section **2.2.2.18.1**). This element is required.
- **TemplateID** (section **2.2.2.19.1**). This element is required.
- **TemplateName** (section 2.2.2.20.1). This element is required.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**2.2.2.15 RightsManagementSupport**

The RightsManagementSupport element is an optional child element of the sync:Options element ([MS-ASCMD] section 2.2.3.125.6), the itemoperations:Options element ([MS-ASCMD] section 2.2.3.125.3), and the search:Options element ([MS-ASCMD] section 2.2.3.125.5). It specifies how the server returns rights-managed email messages to the client.

The value of this element is a boolean ([MS-ASDTYPE] section 2.1). If the value of this element is TRUE (1), the server will decompress and decrypt rights-managed email messages before sending them to the client, as specified in section 3.2.4.3. If the value is FALSE (0), the server will not decompress or decrypt rights-managed email messages before sending them to the client. If the RightsManagementSupport element is not included in a request message, a default value of FALSE is assumed.

The RightsManagementSupport element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
</tbody>
</table>
### 2.2.2.16 RightsManagementTemplate

The `RightsManagementTemplate` element is an optional child element of the `RightsManagementTemplates` element (section 2.2.2.17). It contains the template identifier, name, and description of a rights policy template available on the client.

The value of this element is a container ([MS-ASDTYPE] section 2.2).

The `RightsManagementTemplate` element can have only one of each of the following child elements:

- **TemplateDescription** (section 2.2.2.18.2). This element is required.
- **TemplateID** (section 2.2.2.19.2). This element is required.
- **TemplateName** (section 2.2.2.20.2). This element is required.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the `Protocol version` field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 2.2.2.17 RightsManagementTemplates

The `RightsManagementTemplates` element is an optional child element of the `Get` element ([MS-ASCMD] section 2.2.3.83) that contains the rights policy templates available to the client.

The value of this element is a container ([MS-ASDTYPE] section 2.2).

The `RightsManagementTemplates` element can only have the following child element
- **RightsManagementTemplate** (section 2.2.2.16). This element is optional. A maximum of 20 RightsManagementTemplate elements can be returned to the client.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**2.2.2.18 TemplateDescription**

The TemplateDescription element is a child element of the RightsManagementLicense element (section 2.2.2.14) and the RightsManagementTemplate element (section 2.2.2.16).

The value of this element is a string ([MS-ASDTYPE] section 2.7). The value MUST have a minimum of one character.

**2.2.2.18.1 TemplateDescription (RightsManagementLicense)**

The TemplateDescription element is a required child element of the RightsManagementLicense element (section 2.2.2.14). It contains a description of the rights policy template represented by the parent RightsManagementLicense element. This element is used for informational presentation purposes only.

The TemplateDescription element has no child elements.

The maximum length of the TemplateDescription element is 10240 characters.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>Protocol version</td>
<td>Element support</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 2.2.2.18.2 TemplateDescription (RightsManagementTemplate)

The **TemplateDescription** element is a required child element of the **RightsManagementTemplate** element (section 2.2.2.16). It contains a description of the **rights policy template** represented by the parent **RightsManagementTemplate** element. This element is used for informational presentation purposes only.

The **TemplateDescription** element has no child elements.

The maximum length of the **TemplateDescription** element is 10240 characters.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASPProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 2.2.2.19 TemplateID

The **TemplateID** element is a child element of the following elements:

- **SendMail** ([MS-ASCMD] section 2.2.3.162)
- **SmartForward** ([MS-ASCMD] section 2.2.3.169)
- **SmartReply** ([MS-ASCMD] section 2.2.3.170)
- **RightsManagementLicense** (section 2.2.2.14)
- **RightsManagementTemplate** (section 2.2.16)

  The value of this element is a string ([MS-ASDTYPE] section 2.7). The value MUST have a minimum of one character.

### 2.2.2.19.1 TemplateID (RightsManagementLicense)

The **TemplateID** element is a required child element of the **RightsManagementLicense** element (section 2.2.2.14). It contains a string that identifies the **rights policy template** represented by the parent **RightsManagementLicense** element.

The **TemplateID** element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASPProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 2.2.2.19.2 TemplateID (RightsManagementTemplate)

The **TemplateID** element is a required child element of the **RightsManagementTemplate** element (section 2.2.2.16). It contains a string that identifies the **rights policy template** represented by the parent **RightsManagementTemplate** element.

The **TemplateID** element has no child elements.

**Protocol Versions**

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASPProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
</tbody>
</table>
### 2.2.2.19.3 TemplateID (SendMail, SmartForward, SmartReply)

The **TemplateID** element is an optional child element of the `SendMail` element ([MS-ASCMD] section 2.2.3.162), the **SmartForward** element ([MS-ASCMD] section 2.2.3.169), and the **SmartReply** element ([MS-ASCMD] section 2.2.3.170). It contains a string that identifies a particular rights policy template to be applied to the outgoing message.

If a rights-managed e-mail message is forwarded or replied to using the **SmartForward** or **SmartReply** command, the IRM protection is removed from the outgoing message if the following conditions are true:

- The original rights policy template has the **ExportAllowed** element set to `TRUE`.
- The **TemplateID** on the new message is set to the "No Restriction" template (**TemplateID** value "00000000-0000-0000-0000-000000000000").

The original message retains its IRM protection.

The **TemplateID** element has no child elements.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>
2.2.2.20 TemplateName

The TemplateName element is a child element of the RightsManagementLicense element (section 2.2.2.14) and the RightsManagementTemplate element (section 2.2.2.16).

The value of this element is a string ([MS-ASDTYPE] section 2.7). The value MUST have a minimum of one character.

2.2.2.20.1 TemplateName (RightsManagementLicense)

The TemplateName element is a required child element of the RightsManagementLicense element (section 2.2.2.14). It specifies the name of the rights policy template represented by the parent RightsManagementLicense element. This element is used for informational presentation purposes only.

The TemplateName element has no child elements.

The maximum length of the TemplateName element is 256 characters.

Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.

<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2.2.2.20.2 TemplateName (RightsManagementTemplate)

The TemplateName element is a required child element of the RightsManagementTemplate element (section 2.2.2.16). It specifies the name of the rights policy template represented by the parent RightsManagementTemplate element. This element is used for informational presentation purposes only.

The TemplateName element has no child elements.

The maximum length of the TemplateName element is 256 characters.

Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the Protocol version field, as specified in [MS-ASHTTP] section 2.2.1.1.1, in the request.
<table>
<thead>
<tr>
<th>Protocol version</th>
<th>Element support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Yes</td>
</tr>
<tr>
<td>16.0</td>
<td>Yes</td>
</tr>
<tr>
<td>16.1</td>
<td>Yes</td>
</tr>
</tbody>
</table>
3 Protocol Details

3.1 Client Details

3.1.1 Abstract Data Model

None.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

The user triggers the client to create request messages when they synchronize, search, fetch, reply, or forward rights-managed e-mail messages from their mobile device.

3.1.4.1 Requesting Server-Side Decompression and Decryption of Rights-Managed E-mail Messages

When the client sends a Sync ([MS-ASCMD] section 2.2.1.21), ItemOperations ([MS-ASCMD] section 2.2.1.10), or Search ([MS-ASCMD] section 2.2.1.16) command request, the client can request that the server decompress and decrypt rights-managed email messages by including the RightsManagementSupport element set to TRUE (1). Clients MUST enforce the restrictions on the message as indicated by the RightsManagementLicense element (section 2.2.2.14) included in the response. If a client cannot enforce the restrictions on the message, it SHOULD NOT include the RightsManagementSupport element set to TRUE (1) in requests.

In a Sync request, the RightsManagementSupport element is included as the child of the sync:Options element ([MS-ASCMD] section 2.2.3.125.6).

In an ItemOperations command request, the RightsManagementSupport element is included as the child of the itemoperations:Options element ([MS-ASCMD] section 2.2.3.125.3).

In a Search command request, the RightsManagementSupport element is included as the child of the search:Options element ([MS-ASCMD] section 2.2.3.125.5).

3.1.4.2 Getting Rights Policy Templates

The client obtains the details about the available rights policy templates by sending a Settings command request that includes the settings:RightsManagementInformation element ([MS-ASCMD] section 2.2.3.156) with a settings:Get child element. The server returns the rights policy template settings in the response, as defined in section 3.2.4.2. Once the server returns the templates, the client stores the templates locally for future use within the SendMail, SmartReply or SmartForward commands. Because the templates can change, it is recommended that the client caches the templates for no longer than 24 hours.
3.1.4.3 Sending Protected E-mail

The client protects an e-mail message by including the TemplateID element in the SendMail ([MS-ASCMD] section 2.2.1.17), SmartReply ([MS-ASCMD] section 2.2.1.20), or SmartForward ([MS-ASCMD] section 2.2.1.19) command requests. If the command request does not include the TemplateID element, the e-mail message is sent without rights management.

3.1.5 Message Processing Events and Sequencing Rules

The client creates request messages as specified in [MS-ASCMD].

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

3.2 Server Details

3.2.1 Abstract Data Model

None.

3.2.2 Timers

None.

3.2.3 Initialization

None.

3.2.4 Higher-Layer Triggered Events

The client triggers the server to create response messages when it receives request messages that contain IRM-protected data or settings.

3.2.4.1 Enforcing Rights Policy Template Settings

The server returns Status ([MS-ASCMD] section 2.2.3.177) value 168 if IRM is disabled on the server. For an example, see section 4.1.

The server returns Status value 169 if a transient failure was encountered. The client SHOULD retry the request in a few minutes if Status value 169 is returned.

The server returns Status value 170 if a permanent failure or multiple transient failures were encountered.

The server returns Status value 171 in a SmartReply or SmartForward command response if the request included an invalid TemplateID value.

The server returns Status value 172 if the client tries to perform an action on a rights-managed e-mail message that is prohibited by the rights policy template.
3.2.4.2 Sending Rights Policy Templates

The settings:RightsManagementInformation element that is included in the Settings response contains all the rights policy templates that are available to the client. The RightsManagementTemplate element contains the specific settings for each template.

The string values in the TemplateDescription and TemplateName elements SHOULD be returned to the client in the language specified in the request (either by the Locale field in the Base64 Encoded Query Value as specified in [MS-ASHTTP] section 2.2.1.1.1, or by the Accept-Language header if the request line is not encoded) if available on the server. If the requested language is not available, the server SHOULD return the strings in the closest possible match to the requested language. The method of determining a closest possible match is implementation-specific. If no language is specified in the request, the string values SHOULD be returned in English.

3.2.4.3 Sending Rights-Managed E-Mail Messages to the Client

To respond to a Sync, ItemOperations, or Search command request message that includes the RightsManagementSupport element, the server includes the RightsManagementLicense element and its child elements in the Sync, ItemOperations, or Search command response message.

In a Sync command response, the RightsManagementLicense element is included as a child of the sync:ApplicationData element ([MS-ASCMD] section 2.2.3.11).

In an ItemOperations command response, the RightsManagementLicense element is included as a child of the itemoperations:Properties element ([MS-ASCMD] section 2.2.3.139.2).

In a Search command response, the RightsManagementLicense element is included as a child of the search:Properties element ([MS-ASCMD] section 2.2.3.139.3).

The string values in the TemplateDescription and TemplateName elements SHOULD be returned to the client in the language specified in the request (either by the Locale field in the Base64 Encoded Query Value as specified in [MS-ASHTTP] section 2.2.1.1.1, or by the Accept-Language header if the request line is not encoded) if available on the server. If the requested language is not available, the server SHOULD return the strings in the closest possible match to the requested language. The method of determining a closest possible match is implementation-specific. If no language is specified in the request, the string values SHOULD be returned in English.

3.2.5 Message Processing Events and Sequencing Rules

The server processes request messages as specified in [MS-ASCMD]. If the protocol version that is specified by the command request does not support the XML elements that are defined for this protocol, the server SHOULD consider the XML body of the command request to be invalid. For details about the XML elements for this protocol and the protocol versions that support them, see section 2.2.2.

3.2.5.1 Handling SmartForward and SmartReply Requests

When the client sends the server a SmartForward or SmartReply command request for a message with a rights policy template, the server MUST do the following to enforce the rights policy template:

1. If no TemplateID element is included in the command request, the server proceeds as follows:
   - If the original message being forwarded or replied to has no rights management restrictions, the server proceeds to step 6.
   - If the original message had rights management restrictions, the server replaces the body of the message with boilerplate text. In a SmartForward command, the rights-
managed e-mail message is added as an .rpmsg attachment as specified in [MS-OXORMMS].

2. If any of the following are true, the server fails the request and returns composemail:Status value 168:
   - The connection to the server does not use SSL.
   - The server does not support IRM features. See section 1.5 for more details.

3. If the TemplateID element is included in the command request, the server does the following:
   - If the original message is not protected, the server proceeds to step 5. If the template does not exist on the server, the server fails the request and returns a composemail:Status value of 171.
   - If the original message is protected and the specified TemplateID value is the same as the TemplateID value on the original message, the server proceeds to step 4.
   - If the original message is protected and the specified TemplateID value is different than the TemplateID value on the original message, the server verifies that the new TemplateID value exists on the server. If the TemplateID value does not correspond to a template on the server, the server fails the request and returns a composemail:Status value of 171; otherwise, the server proceeds to step 4.

4. The server compares the recipients on the original message to the recipients sent by the client within the new message. The server verifies that the recipient list on the new message aligns with the granted permissions, as specified in the following table. If permissions allow it, the server creates the reply or forwarded message; otherwise, a composemail:Status value of 172 is returned by the server.

5. If the message has a TemplateID element, the server protects the new outgoing message with the specified rights policy template.

6. The server sends the new message.

The following table describes the reply, reply all, and forward enforcement that is performed by the server.

<table>
<thead>
<tr>
<th>ReplyAllowed</th>
<th>ReplyAllAllowed</th>
<th>ForwardAllowed</th>
<th>Server-side enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ModifyRecipientAllowed = TRUE</td>
<td>TRUE*</td>
<td>For reply and reply all, refer to the last four rows in this table. For forwarding, attach the original message and send it.*</td>
<td>There are no restrictions.</td>
</tr>
<tr>
<td>ModifyRecipientAllowed = FALSE</td>
<td>TRUE*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>Reply to exactly one recipient or all original recipients. Whether the sender chooses to include themselves in the reply message is optional. All other SmartReply command requests are restricted and error out with a composemail:Status value of 172. SmartForward requests are restricted and return a composemail:Status value of 172.</td>
</tr>
<tr>
<td>TRUE</td>
<td>FALSE</td>
<td>FALSE</td>
<td>Reply to exactly one recipient, the sender of the original message. All other SmartReply command requests are restricted and error out with a composemail:Status value of 172.</td>
</tr>
<tr>
<td>ReplyAllowed</td>
<td>ReplyAllAllowed</td>
<td>ForwardAllowed</td>
<td>Server-side enforcement</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------</td>
<td>----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>FALSE</td>
<td>TRUE</td>
<td>FALSE</td>
<td><strong>SmartForward</strong> command requests are restricted and return a composemail:Status value of 172.</td>
</tr>
<tr>
<td>FALSE</td>
<td>FALSE</td>
<td>FALSE</td>
<td>All <strong>SmartReply</strong> and <strong>SmartForward</strong> command requests error out with a composemail:Status value of 172.</td>
</tr>
</tbody>
</table>

*The server does not enforce the lack of reply and reply all rights.

The following table describes the edit and export enforcement that is performed by the server.

<table>
<thead>
<tr>
<th>ExportAllowed value</th>
<th>EditAllowed value</th>
<th>composemail:ReplaceMime present?</th>
<th>New message uses the same TemplateID value</th>
<th>New message uses a different TemplateID value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRUE</td>
<td>TRUE</td>
<td>yes</td>
<td>Send the message.</td>
<td>Send the message.</td>
</tr>
<tr>
<td>TRUE</td>
<td>FALSE</td>
<td>yes</td>
<td>Send the message.*</td>
<td>Send the message.*</td>
</tr>
<tr>
<td>FALSE</td>
<td>TRUE</td>
<td>yes</td>
<td>Send the message.</td>
<td>Send the message.*</td>
</tr>
<tr>
<td>FALSE</td>
<td>FALSE</td>
<td>yes</td>
<td>Send the message.*</td>
<td>Send the message.*</td>
</tr>
<tr>
<td>TRUE</td>
<td>TRUE</td>
<td>no</td>
<td>Send the message, including the original message as inline content.</td>
<td>Send the message, including the original message as inline content.</td>
</tr>
<tr>
<td>TRUE</td>
<td>FALSE</td>
<td>no</td>
<td>Send the message, including the original message as an attachment.*</td>
<td>Send the message, including the original message as an attachment.*</td>
</tr>
<tr>
<td>FALSE</td>
<td>TRUE</td>
<td>no</td>
<td>Send the message, including the original message as inline content.</td>
<td>Send the message, including the original message as an attachment.*</td>
</tr>
<tr>
<td>FALSE</td>
<td>FALSE</td>
<td>no</td>
<td>Send the message, including the original message as an attachment.*</td>
<td>Send the message, including the original message as an attachment.*</td>
</tr>
</tbody>
</table>

*In these cases, the client MUST NOT include the original message inline in the new message due to the possible breach of IRM protection.

### 3.2.6 Timer Events

None.
3.2.7 Other Local Events

None.
4 Protocol Examples

4.1 Retrieve Rights Policy Templates by Using the Settings Command

To retrieve the rights policy templates available to the user, the client sends the Settings command to the server. The request message includes the settings:RightsManagementInformation and settings:Get elements, which instruct the server to include the rights policy template in the response. In this scenario, the successful response includes two rights policy templates, each specified in its own RightsManagementTemplate element. The unsuccessful response includes settings:Status value 168, which indicates that IRM protection is disabled on the server. Other error values are possible and are specified in section 3.2.4.1.

Request

```xml
<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings:">
  <RightsManagementInformation>
    <Get/>
  </RightsManagementInformation>
</Settings>
```

Successful Response

```xml
<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns:rm="RightsManagement:" xmlns="Settings:">
  <Status>1</Status>
  <RightsManagementInformation>
    <Status>1</Status>
    <Get>
      <rm:RightsManagementTemplates>
        <rm:RightsManagementTemplate>
          <rm:TemplateID>cf5cf348-a8d7-40d5-91ef-a600b88a395d</rm:TemplateID>
          <rm:TemplateName>Do Not Forward</rm:TemplateName>
          <rm:TemplateDescription>Recipients can read this message, but they can't forward, print, or copy content. The conversation owner has full permission to their message and all replies.</rm:TemplateDescription>
        </rm:RightsManagementTemplate>
        <rm:RightsManagementTemplate>
          <rm:TemplateID>abfafb18-80a0-4763-ac37-8de93e51e4</rm:TemplateID>
          <rm:TemplateName>DoNotReplyAll</rm:TemplateName>
          <rm:TemplateDescription>Description for template 'DoNotReplyAll'</rm:TemplateDescription>
        </rm:RightsManagementTemplate>
      </rm:RightsManagementTemplates>
    </Get>
  </RightsManagementInformation>
</Settings>
```

Unsuccessful Response

```xml
<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns:rm="RightsManagement:" xmlns="Settings:">
  <Status>1</Status>
  <RightsManagementInformation>
    <Status>168</Status>
    <Get>
      <rm:RightsManagementTemplates />
    </Get>
  </RightsManagementInformation>
</Settings>
```
4.2 Request That the Server Decompress and Decrypt Rights-Managed E-mail Messages

To retrieve a new email message from the server and request that the server decompress and decrypt rights-managed email messages, the client sends the Sync command and sets the RightsManagementSupport element to TRUE. The response includes a new rights-managed email message, which has the rights policy template included in the RightsManagementLicense element.

Request

```xml
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:airsyncbase="AirSyncBase:" xmlns:rm="RightsManagement:" xmlns="AirSync:"
<Collections>
  <Collection>
    <SyncKey>624199877</SyncKey>
    <CollectionId>5</CollectionId>
    <GetChanges>1</GetChanges>
    <Options>
      <rm:RightsManagementSupport>1</rm:RightsManagementSupport>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>1</airsyncbase:Type>
        <airsyncbase:TruncationSize>1024</airsyncbase:TruncationSize>
      </airsyncbase:BodyPreference>
      <airsyncbase:BodyPartPreference>
        <airsyncbase:Type>2</airsyncbase:Type>
      </airsyncbase:BodyPartPreference>
    </Options>
  </Collection>
</Collections>
</Sync>
```

Response

```xml
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:" xmlns:rm="RightsManagement:" xmlns="AirSync:"
<Collections>
  <Collection>
    <SyncKey>1556727147</SyncKey>
    <CollectionId>5</CollectionId>
    <Status>1</Status>
    <Commands>
      <Add>
        <ServerId>5:1</ServerId>
        <ApplicationData>
          <email:To>"T0SyncUser3" &lt;T0SyncUser3@contoso.com;"</email:To>
          <email:From>"T0SyncUser1" &lt;T0SyncUser1@contoso.com&gt;</email:From>
          <email:Subject>DoNotForward</email:Subject>
          <email:DateReceived>2010-07-01T00:23:24.232Z</email:DateReceived>
          <email:DisplayTo>T0SyncUser3</email:DisplayTo>
          <email:ThreadTopic>DoNotForward</email:ThreadTopic>
          <email:Importance>1</email:Importance>
          <email:Read>0</email:Read>
          <airsyncbase:Body>
            <airsyncbase:Type>1</airsyncbase:Type>
            <airsyncbase:EstimatedDataSize>64</airsyncbase:EstimatedDataSize>
            <airsyncbase:Data>This is a test message that we want to use.</airsyncbase:Data>
          </airsyncbase:Body>
        </ApplicationData>
      </Add>
    </Commands>
  </Collection>
</Collections>
</Sync>
```
<email2:ConversationIndex>
<email2:Categories />
<airsyncbase:BodyPart>
  <airsyncbase:Status>1</airsyncbase:Status>
  <airsyncbase:Type>2</airsyncbase:Type>
  <airsyncbase:EstimatedDataSize>90</airsyncbase:EstimatedDataSize>
  <airsyncbase:Data>&lt;/div&gt;
  &lt;/div&gt;This is a test message that we want to use.&lt;/div&gt;
  &lt;/div&gt;
  &lt;/airsyncbase:Data&gt;
</airsyncbase:BodyPart>

&lt;rm:RightsManagementLicense&gt;
  &lt;rm:Owner&gt;0&lt;/rm:Owner&gt;
  &lt;rm:ContentOwner&gt;TOSSyncUser1@contoso.com&lt;/rm:ContentOwner&gt;
  &lt;rm:ReplyAllAllowed&gt;1&lt;/rm:ReplyAllAllowed&gt;
  &lt;rm:EditAllowed&gt;1&lt;/rm:EditAllowed&gt;
  &lt;rm:ForwardAllowed&gt;0&lt;/rm:ForwardAllowed&gt;
  &lt;rm:ExportAllowed&gt;0&lt;/rm:ExportAllowed&gt;
  &lt;rm:ModifyRecipientsAllowed&gt;0&lt;/rm:ModifyRecipientsAllowed&gt;
  &lt;rm:TemplateID&gt;cf5cf348-a8d7-40d5-91ef-a600b88a395d&lt;/rm:TemplateID&gt;
  &lt;rm:TemplateDescription&gt;Recipients can read this message, but they can't forward, print, or copy content. The conversation owner has full permission to their message and all replies.&lt;/rm:TemplateDescription&gt;
  &lt;rm:ContentExpiryDate&gt;9999-12-30T23:59:59.999Z&lt;/rm:ContentExpiryDate&gt;
  &lt;rm:TemplateName&gt;Do Not Forward&lt;/rm:TemplateName&gt;
  &lt;rm:PrintAllowed&gt;0&lt;/rm:PrintAllowed&gt;
  &lt;rm:ProgrammaticAccessAllowed&gt;0&lt;/rm:ProgrammaticAccessAllowed&gt;
&lt;/rm:RightsManagementLicense&gt;
&lt;email2:IsDraft&gt;0&lt;/email2:IsDraft&gt;
</ApplicationData>
</Add>
</Commands>
</Collection>
</Collections>
</Sync>

4.3 Request That the Server Not Decompress and Decrypt Rights-Managed E-mail Messages

When the client does not request that the server decompress and decrypt rights-managed email messages, the server sends the content as a message.rpmsg attachment, as described in [MS-OXORMMS] section 2.2.4.5. In this scenario, the RightsManagementSupport element is not included in the Sync command request, and a default value of FALSE is assumed on the server.

The response message includes the file message.rpmsg as an attachment to the e-mail message. The message.rpmsg file includes the protected content, which cannot be opened on a client that does not support IRM natively.

Request

&lt;?xml version="1.0" encoding="utf-8"?&gt;
&lt;Sync xmlns:airsyncbase="AirSyncBase:" xmlns="AirSync:"&gt;
 &lt;Collections&gt;
 &lt;SyncKey&gt;408238195&lt;/SyncKey&gt;
 &lt;CollectionId&gt;5&lt;/CollectionId&gt;
 &lt;GetChanges&gt;1&lt;/GetChanges&gt;
 &lt;Options&gt;
 &lt;airsyncbase:BodyPreference&gt;
 &lt;airsyncbase:Type&gt;1&lt;/airsyncbase:Type&gt;
 &lt;/airsyncbase:BodyPreference&gt;
 &lt;/Options&gt;
Response

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:" xmlns:ms="RightsManagement:" xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>334913177</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>5:1</ServerId>
          <ApplicationData>
            <email:To>"T0SyncUser3" &lt;T0SyncUser3@contoso.com&gt;</email:To>
            <email:From>"T0SyncUser1" &lt;T0SyncUser1@contoso.com&gt;</email:From>
            <email:Subject>ReplyReplyAllForward</email:Subject>
            <email:DateReceived>2010-07-01T02:14:43.245Z</email:DateReceived>
            <email:DisplayTo>T0SyncUser3</email:DisplayTo>
            <email:ThreadTopic>ReplyReplyAllForward</email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>0</email:Read>
            <airsyncbase:Attachments>
              <airsyncbase:Attachment>
                <airsyncbase:DisplayName>message.rpmsg</airsyncbase:DisplayName>
                <airsyncbase:FileReference>5%3a1%3a0</airsyncbase:FileReference>
                <airsyncbase:Method>1</airsyncbase:Method>
                <airsyncbase:EstimatedDataSize>9915</airsyncbase:EstimatedDataSize>
              </airsyncbase:Attachment>
            </airsyncbase:Attachments>
            <airsyncbase:Body>
              <airsyncbase:Type>1</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>289</airsyncbase:EstimatedDataSize>
              <airsyncbase:Data>The message you tried to open is protected with Information Rights Management.</airsyncbase:Data>
            </airsyncbase:Body>
          </ApplicationData>
        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>

4.4 Reply to a Rights-Managed E-Mail Message by Using the SmartReply Command

To reply to a rights-managed email message, the client sends a SmartReply command message and includes the TemplateID element. In this scenario, the client retrieves the TemplateID from the local store, because it is responding to a message that it sent originally.

Request
4.5 Search for a Rights-Managed E-Mail Message by Using the Search Command

To search for a rights-managed e-mail message, the client sends the Search command and sets the RightsManagementSupport element to TRUE.

The response includes the rights-managed e-mail message.

Request

```xml
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns:airsyncbase="AirSync:" xmlns:airsyncbase="AirSyncBase:" xmlns:rm="RightsManagement:" xmlns="Search:">
  <Store>
    <Name>Mailbox</Name>
    <Query>
      <And>
        <airsyncbase:CollectionId>5</airsyncbase:CollectionId>
        <FreeText>IRMEAS</FreeText>
        <airsyncbase:Class>Email</airsyncbase:Class>
      </And>
    </Query>
    <Options>
      <Range>0-0</Range>
      <RebuildResults/>
      <DeepTraversal/>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>1</airsyncbase:Type>
        <airsyncbase:TruncationSize>512</airsyncbase:TruncationSize>
      </airsyncbase:BodyPreference>
      <rm:RightsManagementSupport>1</rm:RightsManagementSupport>
    </Options>
  </Store>
</Search>
```

Response

HTTP/1.1 200 OK
Date: Thu, 01 Jul 2010 02:14:20 GMT
Content-Length: 0
4.6 Fetch a Rights-Managed E-Mail Message by Using the ItemOperations Command

To fetch a rights-managed e-mail message, the client sends the ItemOperations command and sets the RightsManagementSupport element to TRUE.
The response includes the rights-managed e-mail message.

**Request**

```xml
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsyncbase="AirSync:" xmlns:airsyncbase2="AirSyncBase:" xmlns="RequestOperations:" xmlns:rm="RightsManagement:"  xmlns:email="Email:">
  <Fetch>
    <Store>Mailbox</Store>
    <airsyncbase:CollectionId>5</airsyncbase:CollectionId>
    <airsyncbase:ServerId>5:1</airsyncbase:ServerId>
    <Options>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>1</airsyncbase:Type>
        <airsyncbase:TruncationSize>1024</airsyncbase:TruncationSize>
      </airsyncbase:BodyPreference>
      <rm:RightsManagementSupport>1</rm:RightsManagementSupport>
    </Options>
  </Fetch>
</ItemOperations>
```

**Response**

```xml
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsyncbase="AirSync:" xmlns:email="Email:" xmlns:airsyncbase2="AirSyncBase:" xmlns:rm="RightsManagement:" xmlns="RequestOperations:"  xmlns:email2="Email2:">
  <Status>1</Status>
  <Response>
    <Fetch>
      <airsyncbase:CollectionId>5</airsyncbase:CollectionId>
      <airsyncbase:ServerId>5:1</airsyncbase:ServerId>
      <email:Class>Email</email:Class>
      <Properties>
        <email:To>"T0SyncUser3" &lt;T0SyncUser3@contoso.com&gt;</email:To>
        <email:From>"T0SyncUser1" &lt;T0SyncUser1@contoso.com&gt;</email:From>
        <email:Subject>IRMEAS_Subj_Enc_DoNotForward_V141</email:Subject>
        <email:DateReceived>2010-06-30T23:44:31.053Z</email:DateReceived>
        <email:DisplayTo>T0SyncUser3</email:DisplayTo>
        <email:ThreadTopic>DoNotForward</email:ThreadTopic>
        <email:Importance>1</email:Importance>
        <email:Read>0</email:Read>
        <airsyncbase:Body>
          <airsyncbase:Type>1</airsyncbase:Type>
          <airsyncbase:EstimatedDataSize>64</airsyncbase:EstimatedDataSize>
          <airsyncbase:Data>This is a test message that we want to use.</airsyncbase:Data>
        </airsyncbase:Body>
        <email:MessageClass>IPM.Note</email:MessageClass>
        <email:InternetCPID>20191</email:InternetCPID>
        <email:Flag />
        <email:ContentClass>urn:content-classes:message</email:ContentClass>
        <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
        <email2:ConversationId>.</email2:ConversationId>
        <email2:ConversationIndex>_.</email2:ConversationIndex>
        <rm:RightsManagementLicense>
          <rm:Owner>0</rm:Owner>
          <rm:ContentOwner>T0SyncUser1@contoso.com</rm:ContentOwner>
          <rm:ReplyAllAllowed>1</rm:ReplyAllAllowed>
          <rm:EditAllowed>1</rm:EditAllowed>
          <rm:ReplyAllowed>1</rm:ReplyAllowed>
          <rm:ForwardAllowed>0</rm:ForwardAllowed>
          <rm:ExportAllowed>0</rm:ExportAllowed>
          <rm:ModifyRecipientsAllowed>0</rm:ModifyRecipientsAllowed>
          <rm:TemplateID>cf5cf348-a8d7-40d5-91ef-a600b88a395d</rm:TemplateID>
          <rm:ExtractAllowed>0</rm:ExtractAllowed>
        </rm:RightsManagementLicense>
      </Properties>
    </Fetch>
  </Response>
</ItemOperations>
```
<rm:TemplateDescription>Reipients can read this message, but they can’t forward, print, or copy content. The conversation owner has full permission to their message and all replies.</rm:TemplateDescription>
<rm:ContentExpiryDate>9999-12-30T23:59:59.999Z</rm:ContentExpiryDate>
<rm:TemplateName>Do Not Forward</rm:TemplateName>
<rm:PrintAllowed>0</rm:PrintAllowed>
<rm:ProgrammaticAccessAllowed>0</rm:ProgrammaticAccessAllowed>
</rm:RightsManagementLicense>
<email2:IsDraft>0</email2:IsDraft>
</Properties>
</Fetch>
</Response>
</ItemOperations>

4.7 Remove IRM Protection by Using the ItemOperations Command

To remove IRM protection from a rights-managed e-mail message, the user first uses the Sync command to sync the e-mail message to the client. The client then uses the ItemOperations command to remove rights management protection. This section includes both successful and unsuccessful ItemOperations responses.

ItemOperations Request

The ItemOperations command request includes the RemoveRightsManagementProtection element to remove IRM protection from the e-mail message.

```xml
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsyncbase="AirSync:" xmlns:airsyncbase2="AirSyncBase:" xmlns:email="Email:" xmlns:email2="Email2:" xmlns="ItemOperations:"
<br>  <Fetch>
  <Store>Mailbox</Store>
  <airsyncbase:CollectionId>5</airsyncbase:CollectionId>
  <airsyncbase:ServerId>5:1</airsyncbase:ServerId>
  <Options>
    <airsyncbase:BodyPreference>
      <airsyncbase:Type>1</airsyncbase:Type>
      <airsyncbase:TruncationSize>1024</airsyncbase:TruncationSize>
    </airsyncbase:BodyPreference>
    <rm:RightsManagementSupport>1</rm:RightsManagementSupport>
  </Options>
  <rm:RemoveRightsManagementProtection/>
  </Fetch>
</ItemOperations>
```

Successful ItemOperations Response

In this scenario, the ItemOperations command was successful because the ExportAllowed value was set to TRUE for the rights policy template applied to the e-mail message. The e-mail message included in the response has no IRM protection and includes the previously protected content in the body of the message.

```xml
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsyncbase="AirSync:" xmlns:email="Email:" xmlns:email2="Email2:" xmlns="ItemOperations:"
<br>  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <airsyncbase:CollectionId>5</airsyncbase:CollectionId>
      <airsyncbase:ServerId>5:1</airsyncbase:ServerId>
      <airsyncbase:Class>Email</airsyncbase:Class>
      <Properties>
```
Unsuccessful ItemOperations Response

In this scenario, the ItemOperations command to remove rights management protection was not successful because the ExportAllowed value was set to FALSE for the rights policy template applied to the e-mail message. The ItemOperations command response includes the protected content in the body of the message, but the message is still a rights-managed e-mail message and is using the ViewOnly template to restrict editing, forwarding, replying, replying all, exporting, or extracting the content.

<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsync="AirSync:" xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:" xmlns:rm="RightsManagement:" xmlns="ItemOperations:">
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <airsync:CollectionId>5</airsync:CollectionId>
      <airsync:ServerId>5:1</airsync:ServerId>
      <airsync:Class>Email</airsync:Class>
      <Properties>
        <email:To>“T0SyncUser3” &lt;T0SyncUser3@contoso.com&gt;</email:To>
        <email:From>“T0SyncUser1” &lt;T0SyncUser1@contoso.com&gt;</email:From>
        <Subject>Confidential</Subject>
        <DateReceived>2010-06-30T23:47:06.961Z</DateReceived>
        <DisplayTo>T0SyncUser3</DisplayTo>
        <ThreadTopic>Confidential</ThreadTopic>
        <Importance>1</Importance>
        <Read>0</Read>
        <Body>
          <Type>1</Type>
          <EstimatedDataSize>64</EstimatedDataSize>
          <Data>This is a test message that we want to use.</Data>
        </Body>
        <MessageClass>IPM.Note</MessageClass>
        <InternetCPID>28591</InternetCPID>
        <Flag />
        <ContentClass>urn:content-classes:message</ContentClass>
        <NativeBodyType>2</NativeBodyType>
        <ConversationId>…</ConversationId>
        <ConversationIndex>…</ConversationIndex>
        <IsDraft>0</IsDraft>
      </Properties>
    </Fetch>
  </Response>
</ItemOperations>
5 Security

5.1 Security Considerations for Implementers

This protocol requires that communication between the client and server occurs over an HTTP connection that uses Secure Sockets Layer (SSL), as described in [MS-ASHTTP] section 1.5, 2.2.1.1.2.2, and 5.1.

5.2 Index of Security Parameters

None.
Appendix A: Full XML Schema

For ease of implementation, this section contains the contents of the RightsManagement.xsd file, which represents the full XML schema for this protocol. The additional file that this schema file requires to operate correctly is listed in the following table.

<table>
<thead>
<tr>
<th>File name</th>
<th>Defining specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>AirSyncBase.xsd</td>
<td>[MS-ASAIRS] section 6</td>
</tr>
</tbody>
</table>

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
            xmlns:airsyncbase="AirSyncBase"
            targetNamespace="RightsManagement"
            elementFormDefault="qualified"
            attributeFormDefault="unqualified">
<xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
<xs:simpleType name="NonEmptyStringType">
    <xs:restriction base="xs:string">
        <xs:minLength value="1"/>
    </xs:restriction>
</xs:simpleType>
<xs:element name="RightsManagementSupport" type="xs:boolean"/>
<xs:element name="TemplateID" type="NonEmptyStringType"/>
<xs:element name="RemoveRightsManagementProtection" type="airsyncbase:EmptyTag"/>
<xs:element name="RightsManagementTemplates">
    <xs:complexType>
        <xs:sequence>
            <xs:element name="RightsManagementTemplate" minOccurs="0" maxOccurs="20">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element ref="TemplateID"/>
                        <xs:element name="TemplateName" type="NonEmptyStringType"/>
                        <xs:element name="TemplateDescription" type="NonEmptyStringType"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="RightsManagementLicense">
    <xs:complexType>
        <xs:all>
            <xs:element name="Owner" type="xs:boolean"/>
            <xs:element name="ContentOwner" type="NonEmptyStringType"/>
            <xs:element name="ReplyAllAllowed" type="xs:boolean"/>
            <xs:element name="EditAllowed" type="xs:boolean"/>
            <xs:element name="ReplyAllowed" type="xs:boolean"/>
            <xs:element name="ForwardAllowed" type="xs:boolean"/>
            <xs:element name="ExportAllowed" type="xs:boolean"/>
            <xs:element name="ModifyRecipientsAllowed" type="xs:boolean"/>
            <xs:element name="ExtractAllowed" type="xs:boolean"/>
            <xs:element name="ContentExpiryDate" type="xs:dateTime"/>
            <xs:element name="TemplateName" type="NonEmptyStringType"/>
            <xs:element name="PrintAllowed" type="xs:boolean"/>
            <xs:element name="ProgrammaticAccessAllowed" type="xs:boolean"/>
        </xs:all>
    </xs:complexType>
</xs:element>
</xs:schema>
```
7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include updates to those products.

- Microsoft Exchange Server 2010 Service Pack 1 (SP1)
- Microsoft Exchange Server 2013
- Microsoft Exchange Server 2016
- Microsoft Exchange Server 2019

Exceptions, if any, are noted in this section. If an update version, service pack or Knowledge Base (KB) number appears with a product name, the behavior changed in that update. The new behavior also applies to subsequent updates unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms "SHOULD" or "SHOULD NOT" implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term "MAY" implies that the product does not follow the prescription.
8 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.
9 Index

A

Abstract data model
  client 27
  server 28

Applicability 8

C

Capability negotiation 8
Change tracking 46

Client
  abstract data model 27
  higher-layer triggered events 27
  initialization 27
  message processing 28
  other local events 28
  sequencing rules 28
  timer events 28
  timers 27

D

Data model - abstract
  client 27
  server 28

E

Elements
  ContentExpirationDate 9
  ContentOwner 10
  EditAllowed 11
  ExportAllowed 11
  ExtractAllowed 12
  ForwardAllowed 13
  ModifyRecipientsAllowed 14
  Owner 14
  PrintAllowed 15
  ProgrammaticAccessAllowed 15
  RemoveRightsManagementProtection 16
  ReplyAllAllowed 17
  ReplyAllowed 17
  RightsManagementLicense 18
  RightsManagementSupport 19
  RightsManagementTemplate 20
  RightsManagementTemplates 20
  TemplateDescription 21
  TemplateID 22
  TemplateName 25

Examples
  fetching a rights-managed e-mail 38
  removing IRM protection 40
  replying to a rights-managed e-mail 36
  requesting that the server decompress and decrypt
    rights-managed e-mail 34
  requesting that the server not decompress and
    decrypt rights-managed e-mail 35
  retrieving rights policy templates 33
  searching for a rights-managed e-mail 37

F

Fields - vendor-extensible 8
  Full XML schema 44

G

Glossary 5

H

Higher-layer triggered events
  client 27
  server 28

I

Implementer - security considerations 43
  Index of security parameters 43
  Informative references 6
  Initialization
    client 27
    server 28
  Introduction 5

M

Message processing
  client 28
  server 29

Messages
  Namespaces 9
  transport 9

N

Namespaces message 9
  Normative references 6

O

Other local events
  client 28
  server 32

Overview (synopsis) 6

P

Parameters - security index 43
  Preconditions 7
  Prerequisites 7
  Product behavior 45

R

References 6
  informative 6
  normative 6

  Relationship to other protocols 7
Security
  implementer considerations 43
  parameter index 43
Sequencing rules
  client 28
  server 29
Server
  abstract data model 28
  higher-layer triggered events 28
  initialization 28
  message processing 29
  other local events 32
  sequencing rules 29
  timer events 31
  timers 28
Standards assignments 8

T
Timer events
  client 28
  server 31
Timers
  client 27
  server 28
Tracking changes 46
Transport 9
Triggered events - higher-layer
  client 27
  server 28

V
  Vendor-extensible fields 8
  Versioning 8

X
  XML schema 44