[MS-ASRM]:

Exchange ActiveSync: Rights Management Protocol

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

Date	Revision History	Revision Class	Comments
8/4/2010	0.1	New	Released new document.
11/3/2010	0.2	Minor	Clarified the meaning of the technical content.
3/18/2011	0.3	Minor	Clarified the meaning of the technical content.
8/5/2011	1.0	Major	Significantly changed the technical content.
10/7/2011	1.1	Minor	Clarified the meaning of the technical content.
1/20/2012	2.0	Major	Significantly changed the technical content.
4/27/2012	2.1	Minor	Clarified the meaning of the technical content.
7/16/2012	2.2	Minor	Clarified the meaning of the technical content.
10/8/2012	2.3	Minor	Clarified the meaning of the technical content.
2/11/2013	2.3	None	No changes to the meaning, language, or formatting of the technical content.
7/26/2013	3.0	Major	Significantly changed the technical content.
11/18/2013	3.0	None	No changes to the meaning, language, or formatting of the technical content.
2/10/2014	3.0	None	No changes to the meaning, language, or formatting of the technical content.
4/30/2014	4.0	Major	Significantly changed the technical content.
7/31/2014	5.0	Major	Significantly changed the technical content.
10/30/2014	5.0	None	No changes to the meaning, language, or formatting of the technical content.
5/26/2015	6.0	Major	Significantly changed the technical content.
6/30/2015	6.0	None	No changes to the meaning, language, or formatting of the technical content.
9/14/2015	6.0	None	No changes to the meaning, language, or formatting of the technical content.
6/9/2016	7.0	Major	Significantly changed the technical content.
2/28/2017	8.0	Major	Significantly changed the technical content.
4/18/2017	8.0	None	No changes to the meaning, language, or formatting of the technical content.
9/19/2017	8.1	Minor	Clarified the meaning of the technical content.
7/24/2018	9.0	Major	Significantly changed the technical content.
10/1/2018	10.0	Major	Significantly changed the technical content.
2/15/2022	10.0	None	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

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-ASAIRS] Microsoft Corporation, "Exchange ActiveSync: AirSyncBase Namespace Protocol".

[MS-ASCMD] Microsoft Corporation, "Exchange ActiveSync: Command Reference Protocol".

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

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

[MS-ASHTTP] Microsoft Corporation, "Exchange ActiveSync: HTTP Protocol".

[MS-ASWBXML] Microsoft Corporation, "Exchange ActiveSync: WAP Binary XML (WBXML) Algorithm".

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

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

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, https://www.w3.org/TR/2009/REC-xml-names-20091208/

[XMLSCHEMA1] Thompson, H., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, https://www.w3.org/TR/2001/REC-xmlschema-1-20010502/

1.2.2 Informative References

[MS-OXPROTO] Microsoft Corporation, "Exchange Server Protocols System Overview".

[MSFT-ARPTC] Microsoft Corporation, "AD RMS Policy Template Considerations", http://technet.microsoft.com/en-us/library/dd996658(WS.10).aspx

[MSFT-IRMEAS] Microsoft Corporation, "Understanding Information Rights Management in Exchange ActiveSync", http://technet.microsoft.com/en-us/library/ff657743(EXCHG.141).aspx

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.

Prefix	Namespace URI	Reference
None	RightsManagement	
airsync	AirSync	[MS-ASCMD] section 2.2.1.21
airsycnbase	AirSyncBase	[MS-ASAIRS]
composemail	ComposeMail	[MS-ASCMD] sections 2.2.1.17, 2.2.1.19, and 2.2.1.20
email	Email	[MS-ASEMAIL]
email2	Email2	[MS-ASEMAIL]
itemoperations	ItemOperations	[MS-ASCMD] section 2.2.1.10
search	Search	[MS-ASCMD] section 2.2.1.16
settings	Settings	[MS-ASCMD] section 2.2.1.18
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]

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-

ASCMD] 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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	

Protocol version	Element support
14.1	Yes
16.0	Yes
16.1	Yes

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 e-mail 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 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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-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.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	

Protocol version	Element support
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	

Protocol version	Element support
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	

Protocol version	Element support
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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-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.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.2.16)

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-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.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 **RightsManagementTempalte** 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-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.

Protocol version	Element support
2.5	
12.0	
12.1	

Protocol version	Element support
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, in the request.

Protocol version	Element support
2.5	
12.0	
12.1	
14.0	
14.1	Yes
16.0	Yes
16.1	Yes

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 2.2.1.1.1.1, 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 2.2.1.1.1.1, 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.

ReplyAllowed	ReplyAllAllowed	ForwardAllowed	Server-side enforcement
ModifyRecipientsAllowed = **TRUE**		**TRUE***	There are no restrictions.
ModifyRecipientsAllowed = **FALSE**		**TRUE***	For reply and reply all, refer to the last four rows in this table. For forwarding, attach the original message and send it.*
TRUE	**TRUE**	**FALSE**	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.
TRUE	**FALSE**	**FALSE**	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.

ReplyAllowed	ReplyAllAllowed	ForwardAllowed	Server-side enforcement
			SmartForward command requests are restricted and return a **composemail:Status** value of 172.
FALSE	TRUE	FALSE	Reply to exactly 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** command requests are restricted and return a **composemail:Status** value of 172.
FALSE	FALSE	FALSE	All **SmartReply** and **SmartForward** command requests error out with a **composemail:Status** value of 172.

*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.

ExportAllowed value	EditAllowed value	composemail:ReplaceMime present?	New message uses the same TemplateID value	New message uses a different TemplateID value
TRUE	TRUE	yes	Send the message.	Send the message.
TRUE	FALSE	yes	Send the message.*	Send the message.*
FALSE	TRUE	yes	Send the message.	Send the message.*
FALSE	FALSE	yes	Send the message.*	Send the message.*
TRUE	TRUE	no	Send the message, including the original message as inline content.	Send the message, including the original message as inline content.
TRUE	FALSE	no	Send the message, including the original message as an attachment.*	Send the message, including the original message as an attachment.*
FALSE	TRUE	no	Send the message, including the original message as inline content.	Send the message, including the original message as an attachment.*
FALSE	FALSE	no	Send the message, including the original message as an attachment.*	Send the message, including the original message as an attachment.*

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

Successful Response

```
<?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-ac37-48deb93e51e4</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 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>
            <email:MessageClass>IPM.Note</email:MessageClass>
            <email:InternetCPID>28591</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>
              <email: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;
</airsyncbase:Data>
              </airsyncbase:BodyPart>
              <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: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: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>
            </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

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:airsyncbase="AirSyncBase:" xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>408238195</SyncKey>
      <CollectionId>5</CollectionId>
      <GetChanges>1</GetChanges>
      <Options>
        <airsyncbase:BodyPreference>
          <airsyncbase:Type>1</airsyncbase:Type>
        </airsyncbase:BodyPreference>
      </Options>
```

```
      </Collection>
    </Collections>
  </Sync>
```

Response

```
<?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>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>
            <email:MessageClass>IPM.Note</email:MessageClass>
            <email:InternetCPID>28591</email:InternetCPID>
            <email:Flag />
            <email:ContentClass>rpmsg.message</email:ContentClass>
            <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
            <email2:ConversationId>…</email2:ConversationId>
            <email2:ConversationIndex>…</email2:ConversationIndex>
            <email:Categories />
            <email2:IsDraft>0</email2:IsDraft>
          </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

```
<?xml version="1.0" encoding="utf-8"?>
<SmartReply xmlns:rm="RightsManagement:" xmlns="ComposeMail:">
  <ClientId>634135220584105742</ClientId>
  <Source>
    <FolderId>5</FolderId>
    <ItemId>5:1</ItemId>
  </Source>
  <Mime>From: T0SyncUser2@contoso.com
To: T0SyncUser1@contoso.com
Subject: Message
MIME-Version: 1.0
Content-Type: text/plain; Charset= us-ascii
Content-Transfer-Encoding: 7bit
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2800.1441

Message contents. </Mime>
  <rm:TemplateID>CF5CF348-A8D7-40D5-91EF-A600B88A395D</rm:TemplateID>
</SmartReply>
```

Response

```
HTTP/1.1 200 OK
Date: Thu, 01 Jul 2010 02:14:20 GMT
Content-Length: 0
```

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 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

```xml
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns:airsyncbase="AirSync:" xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:"
xmlns:email2="Email2:" xmlns:rm="RightsManagement:" xmlns="Search:">
  <Status>1</Status>
  <Response>
    <Store>
      <Status>1</Status>
      <Result>
        <airsyncbase:Class>Email</airsyncbase:Class>

<LongId>RgAAAAC56adCCdvKRYRrNA1IgBolBwB%2bSy6NhndsQ7ldDXB%2fCAqQAAAAbHbTAAB%2bSy6NhndsQ7ldDXB
%2fCAqQAAAAbJ5XAAAJ</LongId>
        <airsyncbase:CollectionId>5</airsyncbase:CollectionId>
        <Properties>
          <email:To>"T0SyncUser3" &lt;T0SyncUser3@contoso.com&gt;</email:To>
          <email:From>"T0SyncUser1" &lt;T0SyncUser1@contoso.com&gt;</email:From>
          <email:Subject>DoNotForward</email:Subject>
          <email:DateReceived>2010-06-30T23:52:51.908Z</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>28591</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>
          <email:Categories />
          <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: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: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>
      </Result>
      <Range>0-0</Range>
      <Total>1</Total>
    </Store>
  </Response>
</Search>
```

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:airsyncbase="AirSyncBase:"
xmlns="ItemOperations:" xmlns:rm="RightsManagement:">
  <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:airsyncbase="AirSyncBase:" xmlns:rm="RightsManagement:" xmlns="ItemOperations:">
  <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>
        <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>28591</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: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: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 version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsyncbase="AirSync:" xmlns:airsyncbase="AirSyncBase:"
xmlns="ItemOperations:" xmlns:rm="RightsManagement:">
  <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 version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsyncbase="AirSync:" xmlns:email="Email:"
xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:" xmlns="ItemOperations:">
  <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>
```

```
            <email:To>"T0SyncUser3" &lt;T0SyncUser3@contoso.com&gt;</email:To>
            <email:From>"T0SyncUser1" &lt;T0SyncUser1@contoso.com&gt;</email:From>
            <email:Subject>Confidential</email:Subject>
            <email:DateReceived>2010-06-30T23:47:06.961Z</email:DateReceived>
            <email:DisplayTo>T0SyncUser3</email:DisplayTo>
            <email:ThreadTopic>Confidential</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>28591</email:InternetCPID>
            <email:Flag />
            <email:ContentClass>urn:content-classes:message</email:ContentClass>
            <airsyncbase:NativeBodyType>2</airsyncbase:NativeBodyType>
            <email2:ConversationId>…</email2:ConversationId>
            <email2:ConversationIndex>…</email2:ConversationIndex>
            <email2:IsDraft>0</email2:IsDraft>
          </Properties>
        </Fetch>
      </Response>
    </ItemOperations>
```

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>
        <email:Subject>Confidential</email:Subject>
        <email:DateReceived>2010-06-30T23:47:06.961Z</email:DateReceived>
        <email:DisplayTo>T0SyncUser3</email:DisplayTo>
        <email:ThreadTopic>Confidential</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>28591</email:InternetCPID>
        <email:Flag />
        <email:ContentClass>urn:content-classes:message</email:ContentClass>
        <airsyncbase:NativeBodyType>2</airsyncbase:NativeBodyType>
        <email2:ConversationId>…</email2:ConversationId>
        <email2:ConversationIndex>…</email2:ConversationIndex>
```

```
        <rm:RightsManagementLicense>
          <rm:Owner>0</rm:Owner>
          <rm:ContentOwner>T0SyncUser1v14.1@contoso.com</rm:ContentOwner>
          <rm:ReplyAllAllowed>0</rm:ReplyAllAllowed>
          <rm:EditAllowed>0</rm:EditAllowed>
          <rm:ReplyAllowed>0</rm:ReplyAllowed>
          <rm:ForwardAllowed>0</rm:ForwardAllowed>
          <rm:ExportAllowed>0</rm:ExportAllowed>
          <rm:ModifyRecipientsAllowed>0</rm:ModifyRecipientsAllowed>
          <rm:TemplateID>e9225d21-a80e-4642-81eb-d5e9afe3f33a</rm:TemplateID>
          <rm:ExtractAllowed>0</rm:ExtractAllowed>
          <rm:TemplateDescription>Description for template
'ViewOnly'</rm:TemplateDescription>
          <rm:ContentExpiryDate>9999-12-30T23:59:59.999Z</rm:ContentExpiryDate>
          <rm:TemplateName>ViewOnly</rm:TemplateName>
          <rm:PrintAllowed>0</rm:PrintAllowed>
          <rm:ProgrammaticAccessAllowed>0</rm:ProgrammaticAccessAllowed>
        </rm:RightsManagementLicense>
        <email2:IsDraft>0</email2: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.

6 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.

File name	Defining specification
AirSyncBase.xsd	[MS-ASAIRS] section 6

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
    "AirSyncBase" xmlns="RightsManagement" 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 ref="TemplateID"/>
        <xs:element name="ExtractAllowed" type="xs:boolean"/>
        <xs:element name="TemplateDescription" type="NonEmptyStringType"/>
        <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