

[MS-OXOSMMS]:

Short Message Service (SMS) and Multimedia Messaging Service (MMS) Object Protocol

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Preliminary

Revision Summary

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Table of Contents

1	Introduction	6
1.1	Glossary	6
1.2	References	8
1.2.1	Normative References	8
1.2.2	Informative References	8
1.3	Overview	8
1.4	Relationship to Other Protocols	9
1.5	Prerequisites/Preconditions	9
1.6	Applicability Statement	9
1.7	Versioning and Capability Negotiation	9
1.8	Vendor-Extensible Fields	9
1.9	Standards Assignments.....	9
2	Messages.....	10
2.1	Transport.....	10
2.2	Message Syntax.....	10
2.2.1	Common SMS and MMS Object Properties.....	10
2.2.1.1	PidNameOMSAccountGuid Property	10
2.2.1.2	PidNameOMSScheduleTime Property	10
2.2.1.3	PidNameOMSServiceType Property	10
2.2.1.4	PidNameOMSSourceType Property	11
2.2.1.5	PidNameContentClass Property	11
2.2.1.6	PidNameOMSMobileModel Property.....	11
2.2.2	Additional Property Constraints	11
2.2.2.1	PidTagIconIndex Property	11
2.2.2.2	PidTagMessageClass Property.....	12
2.2.2.3	Body Properties	12
2.2.2.4	PidTagNormalizedSubject Property	12
3	Protocol Details	13
3.1	Client Details	13
3.1.1	Abstract Data Model.....	13
3.1.2	Timers	13
3.1.3	Initialization.....	13
3.1.4	Higher-Layer Triggered Events	13
3.1.4.1	Creation of an SMS or MMS Object	13
3.1.4.2	Modification of an SMS or MMS Object	13
3.1.4.3	Deletion of an SMS or MMS Object	13
3.1.5	Message Processing Events and Sequencing Rules	13
3.1.6	Timer Events.....	13
3.1.7	Other Local Events.....	13
3.2	Server Details.....	14
3.2.1	Abstract Data Model.....	14
3.2.2	Timers	14
3.2.3	Initialization.....	14
3.2.4	Higher-Layer Triggered Events	14
3.2.5	Message Processing Events and Sequencing Rules	14
3.2.6	Timer Events.....	14
3.2.7	Other Local Events.....	14
4	Protocol Examples	15
4.1	Sample SMS Object.....	15
4.2	Sample MMS Object	16
5	Security.....	20

5.1	Security Considerations for Implementers	20
5.2	Index of Security Parameters	20
6	Appendix A: Product Behavior	21
7	Change Tracking.....	22
8	Index.....	24

Preliminary

1 Introduction

The Short Message Service (SMS) and Multimedia Messaging Service (MMS) Object Protocol enables clients to create, modify, and delete **Short Message Service (SMS)** and **Multimedia Messaging Service (MMS)** messages.

This protocol extends the Message and Attachment Object Protocol, as described in [\[MS-OXCMSG\]](#).

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in [\[RFC2119\]](#). Sections 1.5 and 1.9 are also normative but do not contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are specific to this document:

Attachment object: A set of properties that represents a file, **Message object**, or structured storage that is attached to a Message object and is visible through the attachments table for a Message object.

calendar: A date range that shows availability, meetings, and appointments for one or more users or resources. See also Calendar object.

Coordinated Universal Time (UTC): A high-precision atomic time standard that approximately tracks Universal Time (UT). It is the basis for legal, civil time all over the Earth. Time zones around the world are expressed as positive and negative offsets from UTC. In this role, it is also referred to as Zulu time (Z) and Greenwich Mean Time (GMT). In these specifications, all references to UTC refer to the time at UTC-0 (or GMT).

Drafts folder: A **special folder** that is the default location for **Message objects** that have been saved but not sent.

flags: A set of values used to configure or report options or settings.

globally unique identifier (GUID): A term used interchangeably with universally unique identifier (UUID) in Microsoft protocol technical documents (TDs). Interchanging the usage of these terms does not imply or require a specific algorithm or mechanism to generate the value. Specifically, the use of this term does not imply or require that the algorithms specified in [\[RFC4122\]](#) or [\[C706\]](#) must be used for generating the **GUID**. See also universally unique identifier (UUID).

handle: Any token that can be used to identify and access an object such as a device, file, or a window.

Hypertext Markup Language (HTML): An application of the Standard Generalized Markup Language (SGML) that uses tags to mark elements in a document, as described in [\[HTML\]](#).

Inbox folder: A **special folder** that is the default location for **Message objects** received by a user or resource.

Mail User Agent (MUA): A client application that is used to compose and read email messages.

Message object: A set of properties that represents an email message, appointment, contact, or other type of personal-information-management object. In addition to its own properties, a Message object contains recipient properties that represent the addressees to which it is addressed, and an attachments table that represents any files and other Message objects that are attached to it.

message store: A unit of containment for a single hierarchy of Folder objects, such as a mailbox or public folders.

Multimedia Messaging Service (MMS): A communications protocol that is designed for messages containing text, images, and other multimedia content that is sent between mobile phones.

Multimedia Messaging Service (MMS) object: A **Message object** that represents a **Multimedia Messaging Service (MMS)** message in a message store.

named property: A property that is identified by both a GUID and either a string name or a 32-bit identifier.

plain text: Text that does not have markup. See also plain text message body.

property ID: A 16-bit numeric identifier of a specific attribute (1). A property ID does not include any property type information.

reminder: A generally user-visible notification that a specified time has been reached. A reminder is most commonly related to the beginning of a meeting or the due time of a task but it can be applied to any object type.

remote operation (ROP): An operation that is invoked against a server. Each ROP represents an action, such as delete, send, or query. A ROP is contained in a ROP buffer for transmission over the wire.

ROP request: See ROP request buffer.

ROP response: See ROP response buffer.

rule: A condition or action, or a set of conditions or actions, that performs tasks automatically based on events and values.

Sent Items folder: A **special folder** that is the default location for storing copies of **Message objects** after they are submitted or sent.

Short Message Service (SMS): A communications protocol that is designed for sending text messages between mobile phones.

SMS object: A **Message object** that represents a **Short Message Service (SMS)** message in a message store.

special folder: One of a default set of Folder objects that can be used by an implementation to store and retrieve user data objects.

stream: A flow of data from one host to another host, or the data that flows between two hosts.

Unicode: A character encoding standard developed by the Unicode Consortium that represents almost all of the written languages of the world. The **Unicode** standard [\[UNICODE5.0.0/2007\]](#) provides three forms (UTF-8, UTF-16, and UTF-32) and seven schemes (UTF-8, UTF-16, UTF-16 BE, UTF-16 LE, UTF-32, UTF-32 LE, and UTF-32 BE).

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

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-OXCDATA] Microsoft Corporation, "[Data Structures](#)".

[MS-OXCMAIL] Microsoft Corporation, "[RFC 2822 and MIME to Email Object Conversion Algorithm](#)".

[MS-OXCMSG] Microsoft Corporation, "[Message and Attachment Object Protocol](#)".

[MS-OXCPRPT] Microsoft Corporation, "[Property and Stream Object Protocol](#)".

[MS-OXOMSG] Microsoft Corporation, "[Email Object Protocol](#)".

[MS-OXOSFLD] Microsoft Corporation, "[Special Folders Protocol](#)".

[MS-OXPROPS] Microsoft Corporation, "[Exchange Server Protocols Master Property List](#)".

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

1.2.2 Informative References

[C706] The Open Group, "DCE 1.1: Remote Procedure Call", C706, August 1997, <https://www2.opengroup.org/ogsys/catalog/c706>

[HTML] World Wide Web Consortium, "HTML 4.01 Specification", December 1999, <http://www.w3.org/TR/html4/>

[MS-OXCROPS] Microsoft Corporation, "[Remote Operations \(ROP\) List and Encoding Protocol](#)".

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

[MSDN-MobileServicePart1] Microsoft Corporation, "Office 2010 Mobile Service Guidelines (Part 1 of 3)", [http://msdn.microsoft.com/en-us/library/ff606754\(v=office.14\).aspx](http://msdn.microsoft.com/en-us/library/ff606754(v=office.14).aspx)

[RFC4122] Leach, P., Mealling, M., and Salz, R., "A Universally Unique Identifier (UUID) URN Namespace", RFC 4122, July 2005, <http://www.ietf.org/rfc/rfc4122.txt>

[SMIL2.1] Bulterman, D., Grassel, G., Jansen, J., Koivisto, A., Layaida, N., et al., Eds., "Synchronized Multimedia Integration Language (SMIL 2.1)", W3C Recommendation, December, 2005, <http://www.w3.org/TR/SMIL2/>

[UNICODE5.0.0/2007] The Unicode Consortium, "Unicode 5.0.0", 2007, <http://www.unicode.org/versions/Unicode5.0.0/>

1.3 Overview

This protocol enables a client to create, modify, and delete **SMS** text messages and **MMS** multimedia messages in a **message store**. SMS text messages are characterized by a short unformatted text body. MMS messages are characterized by text and multimedia components.

This protocol extends the Message and Attachment Object Protocol, as described in [\[MS-OXCMSG\]](#), in that it defines new properties unique to **SMS objects** and **MMS objects** and adds restrictions to the existing of the **Message object**.

A typical scenario for using this protocol is to create, modify, or delete SMS text messages or MMS multimedia messages.

1.4 Relationship to Other Protocols

This protocol has the same dependencies as the Message and Attachment Object Protocol, which it extends. For more details about the Message and Attachment Object Protocol, see [\[MS-OXCMSG\]](#).

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 has the same prerequisites and preconditions as the Message and Attachment Object Protocol, as specified in [\[MS-OXCMSG\]](#).

1.6 Applicability Statement

None.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

This protocol provides no vendor-extensibility beyond what is already specified in [\[MS-OXCMSG\]](#).

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

This protocol uses the protocols specified in [\[MS-OXCPRPT\]](#) and [\[MS-OXCMSG\]](#) as its primary transport mechanism.

2.2 Message Syntax

Clients operate on SMS objects and MMS objects using the Message and Attachment Object Protocol, as specified in [\[MS-OXCMSG\]](#).

Unless otherwise specified, SMS objects and MMS objects adhere to all property constraints specified in [\[MS-OXPROPS\]](#) and [\[MS-OXCMSG\]](#). SMS objects and MMS objects can also contain other properties, but these properties have no impact on this protocol.

2.2.1 Common SMS and MMS Object Properties

2.2.1.1 PidNameOMSAccountGuid Property

Type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidNameOMSAccountGuid** property ([\[MS-OXPROPS\]](#) section 2.503) specifies the **GUID** of the SMS account used to deliver the message. The GUID is encoded as a string in the following format (including the braces), where X is any hexadecimal digit: "{XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX}"; for example, "{C200E360-38C5-11CE-AE62-08002B2B79EF}".

2.2.1.2 PidNameOMSScheduleTime Property

Type: **PtypTime** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidNameOMSScheduleTime** property ([\[MS-OXPROPS\]](#) section 2.505) specifies the time, in **Coordinated Universal Time (UTC)**, that the client sends the requests instructing the service provider to send the SMS or MMS message.

2.2.1.3 PidNameOMSServiceType Property

Type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidNameOMSServiceType** property ([\[MS-OXPROPS\]](#) section 2.506) indicates the type of service used to send the SMS or MMS message. The value of this property **MUST** be one of the values in the following table.

Value	Meaning
0x00000001	SMS
0x00000004	MMS

2.2.1.4 PidNameOMSSourceType Property

Type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidNameOMSSourceType** property ([\[MS-OXPROPS\]](#) section 2.507) indicates the source of the SMS or MMS message. The value of this property MUST be one of the values in the following table.

Value	Source type
0x00000000	XMS inspector (as described in [MSDN-MobileServicePart1])
0x00000001	Reminder
0x00000002	Calendar summary
0x00000003	Rule
0x00000004	Unknown

2.2.1.5 PidNameContentClass Property

Type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidNameContentClass** property ([\[MS-OXCMSG\]](#) section 2.2.1.48) MUST be set to one of the values in the following table.

Value	Meaning
MS-OMS-SMS	SMS
MS-OMS-MMS	MMS

2.2.1.6 PidNameOMSMobileModel Property

Type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidNameOMSMobileModel** property ([\[MS-OXPROPS\]](#) section 2.504) indicates the model of the mobile device used to send the SMS or MMS message.

2.2.2 Additional Property Constraints

This protocol makes additional constraints on the properties specified in section [2.2.2.1](#) through section [2.2.2.4](#) beyond what is specified in [\[MS-OXCMSG\]](#) and [\[MS-OXOMSG\]](#).

2.2.2.1 PidTagIconIndex Property

Type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidTagIconIndex** property ([\[MS-OXOMSG\]](#) section 2.2.1.10) specifies which icon is to be used by a user interface when displaying a group of SMS objects and/or MMS objects. This property SHOULD [<1>](#) be set; if set, the value MUST be 0xFFFFFFFF.

2.2.2.2 PidTagMessageClass Property

Type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidTagMessageClass** property ([\[MS-OXCMSG\]](#) section 2.2.1.3) specifies the type of the Message object. In addition to meeting the criteria specified in [\[MS-OXCMSG\]](#), for SMS objects this value MUST either be set to "IPM.Note.Mobile.SMS" or begin with "IPM.Note.Mobile.SMS". For MMS objects, this property MUST either be set to "IPM.Note.Mobile.MMS" or begin with "IPM.Note.Mobile.MMS".

2.2.2.3 Body Properties

The contents of SMS objects are stored and retrieved following the details specified for **plain text** messages in [\[MS-OXCMAIL\]](#) section 2.1.3.3.1.<2>

The contents of MMS objects are stored and retrieved following the details specified for **HTML** messages, as specified in [\[MS-OXCMAIL\]](#) section 2.1.3.3.1.<3>

2.2.2.4 PidTagNormalizedSubject Property

Type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidTagNormalizedSubject** property ([\[MS-OXCMSG\]](#) section 2.2.1.10) contains an abbreviated version of the contents of the message suitable for displaying groups of SMS objects to a user. For MMS objects, only the constraints specified in [\[MS-OXCMSG\]](#) section 2.2.1.10 apply.

3 Protocol Details

3.1 Client Details

The client role creates and sets properties on SMS objects and MMS objects.

3.1.1 Abstract Data Model

None.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Creation of an SMS or MMS Object

To create an SMS object or MMS object, the client sets properties in accordance with the requirements in section 2 and [\[MS-OXCPRPT\]](#) and then saves the resulting Message object as specified in [\[MS-OXCMSG\]](#).

3.1.4.2 Modification of an SMS or MMS Object

When modifying an SMS object or MMS object, the client modifies any of the properties in accordance with the requirements in section 2 and [\[MS-OXCPRPT\]](#) and then saves the Message object as specified in [\[MS-OXCMSG\]](#).

3.1.4.3 Deletion of an SMS or MMS Object

An SMS object or MMS object has no special deletion semantics beyond what is specified in [\[MS-OXCMSG\]](#).

3.1.5 Message Processing Events and Sequencing Rules

None.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

3.2 Server Details

The server processes a client's requests regarding an SMS object and MMS object and in all other ways operates within the server role as specified in [\[MS-OXCMSG\]](#).

3.2.1 Abstract Data Model

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

This protocol uses the abstract data model that is specified in [\[MS-OXCMSG\]](#) section [3.1.1](#) with the following adaptations:

- The SMS object and MMS object are extensions of the Message object.
- An SMS object and MMS object are created in the **Drafts folder**, the **Inbox folder**, or the **Sent Items folder**, which are **special folders**, unless the **MUA** explicitly specifies another folder. For details about special folders, see [\[MS-OXOSFLD\]](#).

3.2.2 Timers

None.

3.2.3 Initialization

None.

3.2.4 Higher-Layer Triggered Events

None.

3.2.5 Message Processing Events and Sequencing Rules

The server responds to client requests as specified in [\[MS-OXCMSG\]](#) section [3.2.5](#).

3.2.6 Timer Events

None.

3.2.7 Other Local Events

None.

4 Protocol Examples

4.1 Sample SMS Object

A user creates an SMS text message, types in some text, and sends it. The following is a description of what a client might do to accomplish the user's intentions and the responses a server might return. For more details about **remote operations (ROPs)**, see [\[MS-OXCPRPT\]](#) and [\[MS-OXCMSG\]](#).

Before manipulating SMS objects, the client asks the server to map the **named properties** to **property IDs** by sending a **RopGetPropertyIDsFromNames ROP request** ([\[MS-OXCROPS\]](#) section 2.2.8.1).

Property	Property set GUID	NameID
PidNameOMSMobileModel (section 2.2.1.6)	{00020329-0000-0000-C000-00000000046}	OMSMobileModel
PidNameOMSAccountGuid (section 2.2.1.1)	{00020329-0000-0000-C000-00000000046}	OMSAccountGuid
PidNameOMSServiceType (section 2.2.1.3)	{00020329-0000-0000-C000-00000000046}	OMSServiceType
PidNameOMSSourceType (section 2.2.1.4)	{00020329-0000-0000-C000-00000000046}	OMSSourceType

The server might send a **RopGetPropertyIDsFromNames ROP response** with the following property IDs, which are used in the example that follows. (The actual property IDs are at the discretion of the server.)

Property	Property ID
PidNameOMSMobileModel	0x84C3
PidNameOMSAccountGuid	0x84C4
PidNameOMSServiceType	0x84C5
PidNameOMSSourceType	0x84C6

To create an SMS object, the client uses the **RopCreateMessage** ROP ([\[MS-OXCROPS\]](#) section 2.2.6.2). The server returns a success code and a **handle** to a Message object.

After the user inputs the content for the SMS object, the client transmits the data to the server by using the **RopSetProperties** ROP ([\[MS-OXCROPS\]](#) section 2.2.8.6).

Property	Property ID	Data type	Value
PidNameOMSAccountGuid	0x84C4	PtypString ([MS-OXCROPS] section 2.11.1)	{01234567-0123-0123-0123-0123456789AB}
PidNameOMSMobileModel	0x84C3	PtypString	(null)
PidNameOMSServiceType	0x84C5	PtypInteger32 ([MS-OXCROPS] section 2.11.1)	0x00000001

Property	Property ID	Data type	Value
		2.11.1)	
PidNameOMSSourceType	0x84C6	PtypInteger32	0x00000000
PidTagBody ([MS-OXCMSG] section 2.2.1.48.1)	0x1000	PtypString	What time is the meeting?
PidTagInternetCodepage ([MS-OXCMSG] section 2.2.1.48.6)	0x3FDE	PtypInteger32	0x0000FDE9
PidTagMessageClass (section 2.2.2.2)	0x001A	PtypString	IPM.Note.Mobile.SMS
PidTagNormalizedSubject (section 2.2.2.4)	0x0E1D	PtypString	What time is the meeting?
PidTagSubjectPrefix ([MS-OXCMSG] section 2.2.1.9)	0x003D	PtypString	(null)

When the user sends the message, the client commits the properties on the server by using the **RopSaveChangesMessage** ROP ([\[MS-OXCROPS\]](#) section 2.2.6.3) and then releases the SMS object by using the **RopRelease** ROP ([\[MS-OXCROPS\]](#) section 2.2.15.3). The client then submits the message to an SMS provider by using the **RopSubmitMessage** ROP ([\[MS-OXCROPS\]](#) section 2.2.7.1).

The values of some properties change during the processing of the **RopSaveChangesMessage** ROP, but the properties defined in this specification do not change.

4.2 Sample MMS Object

A user creates an MMS message, gives it a subject, types some text, attaches a picture, and sends it. The following is a description of what a client might do to accomplish the user's intentions and the responses a server might return. For more details about ROPs, see [\[MS-OXCPRPT\]](#) and [\[MS-OXCMSG\]](#).

Before manipulating an MMS object, the client asks the server to map the named properties to property IDs by sending a **RopGetPropertyIDsFromNames** ROP request ([\[MS-OXCROPS\]](#) section 2.2.8.1).

Property	Property set GUID	NameID
PidNameOMSMobileModel (section 2.2.1.6)	{00020329-0000-0000-C00000000046}	OMSMobileModel
PidNameOMSAccountGuid (section 2.2.1.1)	{00020329-0000-0000-C00000000046}	OMSAccountGuid
PidNameOMSServiceType (section 2.2.1.3)	{00020329-0000-0000-C00000000046}	OMSServiceType
PidNameOMSSourceType (section 2.2.1.4)	{00020329-0000-0000-C00000000046}	OMSSourceType

The server might send a **RopGetPropertyIDsFromNames** ROP response with the following property IDs, which are used in the example that follows. (The actual property IDs are at the discretion of the server.)

Property	Property ID
PidNameOMSMobileModel	0x84CE
PidNameOMSAccountGuid	0x84CF
PidNameOMSServiceType	0x84D0
PidNameOMSSourceType	0x84D1

To create an MMS object, the client uses the **RopCreateMessage** ROP ([\[MS-OXCROPS\]](#) section 2.2.6.2). The server returns a success code and a handle to an object.

After the user inputs the content for the MMS object, the client transmits the data to the server by using the **RopSetProperties** ROP ([\[MS-OXCROPS\]](#) section 2.2.8.6).

Property	Property ID	Data type	Value
PidNameOMSAccountGuid	0x84CF	PtypString ([MS-OXCADATA] section 2.11.1)	{01234567-0123-0123-0123-0123456789AB}
PidNameOMSMobileModel	0x84CE	PtypString	(empty)
PidNameOMSServiceType	0x84D0	PtypInteger32 ([MS-OXCADATA] section 2.11.1)	0x00000004
PidNameOMSSourceType	0x84D1	PtypInteger32	0x00000000
PidTagInternetCodepage ([MS-OXCMSG] section 2.2.1.48.6)	0x3FDE	PtypInteger32	0x0000FDE9
PidTagHtml ([MS-OXCMSG] section 2.2.1.48.9)	0x1013	PtypBinary ([MS-OXCADATA] section 2.11.1)	(The content of this property is given following the table.)
PidTagIconIndex (section 2.2.2.1)	0x1080	PtypInteger32	0xFFFFFFFF
PidTagMessageClass ([MS-OXCMSG] section 2.2.1.3)	0x001A	PtypString	IPM.Note.Mobile.MMS
PidTagMessageFlags ([MS-OXCMSG] section 2.2.1.6)	0x0E07	PtypInteger32	Flags: 0x00000018 MSGFLAG_UNSENT MSGFLAG_HASATTACH
PidTagNormalizedSubject ([MS-OXCMSG] section 2.2.1.10)	0x0E1d	PtypString	Here's the photo.
PidTagSubjectPrefix ([MS-OXCMSG] section 2.2.1.9)	0x003d	PtypString	(empty)

The **PidTagHtml** property is a binary property containing the following text.

```
<HTML>
<BODY>
<IMG SRC="cid:Att1.jpg@AB1B43B2B0594564.B94EF7ABB12B49BA" border="0">
<BR>
This is the photo you asked for.
```

```

<BR>
<A HREF="cid:Att0.txt@AB1B43B2B0594564.B94EF7ABB12B49BA"></A>
</BODY>
</HTML>

```

The client allocates space for a data file in the message by using the **RopCreateAttachment** ROP ([MS-OXCROPS] section 2.2.6.13). In response, the server returns a success code and a handle to an **Attachment object**. The client uses this handle with the **RopSetProperties** ROP ([MS-OXCROPS] section 2.2.8.6) to transmit data about the attachment to the server.

Property	Property ID	Data type	Value
PidTagAttachmentHidden ([MS-OXCMSG] section 2.2.2.24)	0x7FFE	PtypBoolean ([MS-OXCDATA] section 2.11.1)	0x01
PidTagAttachMethod ([MS-OXCMSG] section 2.2.2.9)	0x3705	PtypInteger32	0x00000001 (ATTACH_BY_VALUE)
PidTagAttachContentId ([MS-OXCMSG] section 2.2.2.26)	0x3712	PtypString	MMS.smil@AB1B43B2B0594564.B94EF7ABB12B49BA
PidTagAttachMimeTag ([MS-OXCMSG] section 2.2.2.26)	0x370E	PtypString	application/smil
PidTagAttachLongFilename ([MS-OXCMSG] section 2.2.2.10)	0x3707	PtypString	MMS.smil

The client sets the contents of the attachment by using the attachment handle with the **RopOpenStream** ROP ([MS-OXCROPS] section 2.2.9.1), passing in the **PidTagAttachDataBinary** property ([MS-OXPROPS] section 2.655) as the property to open. With the handle returned from the **RopOpenStream** ROP, the client calls the **RopWriteStream** ROP ([MS-OXCROPS] section 2.2.9.3), writing out the contents of the Synchronized Multimedia Integration Language (SMIL) file, the format of which is described in [SMIL2.1], describing the layout of the MMS message. The client follows this with the **RopRelease** ROP ([MS-OXCROPS] section 2.2.15.3) on the **stream** handle, then commits the changes by using the **RopSaveChangesAttachment** ROP ([MS-OXCROPS] section 2.2.6.15), releases the handle to the attachment by using the **RopRelease** ROP.

The client repeats the process from the **RopCreateAttachment** ROP ([MS-OXCROPS] section 2.2.6.13) for the **RopRelease** ROP with the attachment handle twice more, once for a plain-text version of the body, and once for the image. The attachment containing the body uses the following properties and values with the **RopSetProperties** ROP.

Property	Property ID	Data type	Value
PidTagAttachmentHidden	0x7FFE	PtypBoolean	0x01
PidTagAttachMethod	0x3705	PtypInteger32	0x00000001 (ATTACH_BY_VALUE)
PidTagAttachContentId	0x3712	PtypString	Att0.txt@AB1B43B2B0594564.B94EF7ABB12B49BA
PidTagAttachMimeTag	0x370E	PtypString	text/plain

Property	Property ID	Data type	Value
PidTagAttachLongFilename	0x3707	PtypString	1.txt

The **RopOpenStream** ROP for the plain-text body is also on the **PidTagAttachDataBinary** property, but the contents written are **Unicode** text. The last attachment the client creates contains the image, and the **RopSetProperties** ROP sends the following data.

Property	Property ID	Data type	Value
PidTagAttachmentHidden	0x7FFE	PtypBoolean	0x01
PidTagAttachMethod	0x3705	PtypInteger32	0x00000001 (ATTACH_BY_VALUE)
PidTagAttachContentId	0x3712	PtypString	Att1.jpg@AB1B43B2B0594564.B94EF7ABB12B49BA
PidTagAttachMimeTag	0x370E	PtypString	image/jpeg
PidTagAttachLongFilename	0x3707	PtypString	photo.jpg

The contents of the **PidTagAttachDataBinary** property on the image attachment are the binary contents of the image file.

When the user sends the message, the client commits the properties on the server by using the **RopSaveChangesMessage** ROP ([\[MS-OXCROPS\]](#) section 2.2.6.3) and then releases the MMS object by using the **RopRelease** ROP. The client then submits the message to an MMS provider by using the **RopSubmitMessage** ROP ([\[MS-OXCROPS\]](#) section 2.2.7.1).

The values of some properties change during the processing of the **RopSaveChangesMessage** ROP, but the properties specified in this protocol do not change.

5 Security

5.1 Security Considerations for Implementers

There are no special security considerations specific to the SMS and MMS Object Protocol. General security considerations pertaining to the underlying transport apply, as specified in [\[MS-OXCMSG\]](#) and [\[MS-OXCPRPT\]](#).

5.2 Index of Security Parameters

None.

Preliminary

6 Appendix A: Product Behavior

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

- Microsoft Exchange Server 2003
- Microsoft Exchange Server 2007
- Microsoft Exchange Server 2010
- Microsoft Exchange Server 2013
- Microsoft Office Outlook 2003
- Microsoft Office Outlook 2007
- Microsoft Outlook 2010
- Microsoft Outlook 2013
- Microsoft Outlook 2016 Preview

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product 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.

<1> [Section 2.2.2.1](#): Office Outlook 2007 does not set the **PidTagIconIndex** property on SMS objects or MMS objects.

<2> [Section 2.2.2.3](#): Microsoft Office Outlook 2007 Service Pack 1 sets both the **PidTagBody** property ([\[MS-OXCMSG\]](#) section 2.2.1.48.1) and the **PidTagHtml** property ([\[MS-OXCMSG\]](#) section 2.2.1.48.9) on SMS objects.

<3> [Section 2.2.2.3](#): Office Outlook 2007 SP1 sets both the **PidTagBody** property ([\[MS-OXCMSG\]](#) section 2.2.1.48.1) and the **PidTagHtml** property ([\[MS-OXCMSG\]](#) section 2.2.1.48.9) on MMS objects.

7 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- The removal of a document from the documentation set.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.
- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact dochelp@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
6 Appendix A: Product Behavior	Updated list of supported products.	Y	Content updated due to protocol revision.

Preliminary

8 Index

A

Abstract data model
[client](#) 13
[server](#) 14
Additional property constraints
[body properties](#) 12
[PidTagIconIndex property](#) 11
[PidTagMessageClass property](#) 12
[PidTagNormalizedSubject property](#) 12
[Additional Property Constraints message](#) 11
[Applicability](#) 9

B

[Body properties additional property constraints](#) 12

C

[Capability negotiation](#) 9
[Change tracking](#) 22
Client
[abstract data model](#) 13
[initialization](#) 13
[message processing](#) 13
[other local events](#) 13
[overview](#) 13
[sequencing rules](#) 13
[timer events](#) 13
[timers](#) 13
Client - higher-layer triggered events
[creation of an SMS or MMS object](#) 13
[deletion of an SMS or MMS object](#) 13
[modification of an SMS or MMS object](#) 13
[Client - overview](#) 13
Common SMS and MMS object properties
[PidNameContentClass property](#) 11
[PidNameOMSAccountGuid property](#) 10
[PidNameOMSMobileModel property](#) 11
[PidNameOMSScheduleTime property](#) 10
[PidNameOMSServiceType property](#) 10
[PidNameOMSSourceType property](#) 11

D

Data model - abstract
[client](#) 13
[server](#) 14

E

Examples
[sample MMS object](#) 16
[sample SMS object](#) 15

F

[Fields - vendor-extensible](#) 9

G

[Glossary](#) 6

H

Higher-layer triggered events
[server](#) 14
Higher-layer triggered events - client
[creation of an SMS or MMS object](#) 13
[deletion of an SMS or MMS object](#) 13
[modification of an SMS or MMS object](#) 13

I

[Implementer - security considerations](#) 20
[Index of security parameters](#) 20
[Informative references](#) 8
Initialization
[client](#) 13
[server](#) 14
[Introduction](#) 6

M

Message processing
[client](#) 13
[server](#) 14
Messages
[Additional Property Constraints](#) 11
[syntax](#) 10
[transport](#) 10

N

[Normative references](#) 8

O

Other local events
[client](#) 13
[server](#) 14
[Overview \(synopsis\)](#) 8

P

[Parameters - security index](#) 20
[PidNameContentClass common SMS and MMS object property](#) 11
[PidNameOMSAccountGuid common SMS and MMS object property](#) 10
[PidNameOMSMobileModel common SMS and MMS object property](#) 11
[PidNameOMSScheduleTime common SMS and MMS object property](#) 10
[PidNameOMSServiceType common SMS and MMS object property](#) 10
[PidNameOMSSourceType common SMS and MMS object property](#) 11

[PidTagIconIndex additional property constraints](#) 11
[PidTagMessageClass additional property constraints](#)
12
[PidTagNormalizedSubject additional property constraints](#) 12
[Preconditions](#) 9
[Prerequisites](#) 9
[Product behavior](#) 21

R

References
[informative](#) 8
[normative](#) 8
[Relationship to other protocols](#) 9

S

[Sample MMS object example](#) 16
[Sample SMS object example](#) 15
Security
[implementer considerations](#) 20
[parameter index](#) 20
Sequencing rules
[client](#) 13
[server](#) 14
Server
[abstract data model](#) 14
[higher-layer triggered events](#) 14
[initialization](#) 14
[message processing](#) 14
[other local events](#) 14
[overview](#) 14
[sequencing rules](#) 14
[timer events](#) 14
[timers](#) 14
[Standards assignments](#) 9
[Syntax](#) 10

T

Timer events
[client](#) 13
[server](#) 14
Timers
[client](#) 13
[server](#) 14
[Tracking changes](#) 22
[Transport](#) 10
Triggered events - client
[creation of an SMS or MMS object](#) 13
[deletion of an SMS or MMS object](#) 13
[modification of an SMS or MMS object](#) 13
Triggered events - higher-layer
[server](#) 14

V

[Vendor-extensible fields](#) 9
[Versioning](#) 9