

[MS-OXODOC]: Document Object Protocol Specification

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1 Introduction

This document specifies the Document Object Protocol, which is an extension to the Message and Attachment Object Protocol. The Document Object Protocol defines properties that allow a messaging client to store and display ordinary files. For more information about the Message and Attachment Object Protocol, see [\[MS-OXCMSG\]](#).

1.1 Glossary

The following terms are defined in [\[MS-GLOS\]](#):

handle

The following terms are defined in [\[MS-OXGLOS\]](#):

Attachment object
message class
Message object
public folder
remote operation (ROP)

The following terms are specific to this document:

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

1.2 References

1.2.1 Normative References

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. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

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

[MS-OXCFCOLD] Microsoft Corporation, "[Folder Object Protocol Specification](#)".

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

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

[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

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)".

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

[MS-OXGLOS] Microsoft Corporation, "[Exchange Server Protocols Master Glossary](#)".

[MS-OXOMSG] Microsoft Corporation, "[E-Mail Object Protocol Specification](#)".

1.3 Overview

The Document Object Protocol extends the Message and Attachment Object Protocol by defining the document object, which is a **Message object** with additional properties. For more information about the Message and Attachment Object Protocol, see [\[MS-OXCMSG\]](#). For more information about Message objects, see [\[MS-OXOMSG\]](#).

The Document object is used to represent a file, such as a document generated by a word-processing application. The file is embedded within the Document object; the embedded file is referred to as an attachment. Specifically, the Document object is a Message object that:

- Contains one file.
- Includes additional properties to describe the file.

A file represented by a Document object can be stored in a mail folder and retrieved from the mail folder. For example, a user might choose to store a few files in his or her mail folders so that the files can be accessed not just on one computer, but on any computer that provides access to the user's e-mail.

1.4 Relationship to Other Protocols

The Document Object Protocol relies on the same protocols as the Message and Attachment Object Protocol, which the Document Object Protocol extends. For more information about the Message and Attachment Object Protocol, see [\[MS-OXCMSG\]](#).

1.5 Prerequisites/Preconditions

The Document Object Protocol assumes that the messaging client has a mail folder open. Before sending requests to the server, the client obtains a **handle** to the Message object that is used in property operations.

1.6 Applicability Statement

The client can utilize this protocol to store ordinary files in a user's mail folders and to expose the files that are stored in the mail folders.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

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

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

The Document Object Protocol uses the same underlying transport as the Message and Attachment Object Protocol, as specified in [\[MS-OXCMSG\]](#).

2.2 Message Syntax

A Document object can be created and modified by both clients and servers. This section defines the constraints under which both clients and servers operate.

Clients operate on a Document object by using the Message and Attachment Object Protocol, as specified in [\[MS-OXCMSG\]](#), and by using the Property and Stream Object Protocol, as specified in [\[MS-OXCPRPT\]](#). The manner in which servers operate on a Document object is implementation-dependent, but the results of any such operations MUST be exposed to clients as specified by the Document Object Protocol.

Unless otherwise stated in sections [2.2.1](#) and [2.2.2](#), a Document object MUST adhere to all property constraints specified in both [\[MS-OXPROPS\]](#) and [\[MS-OXCMSG\]](#). Properties other than those specified in sections [2.2.1](#) and [2.2.2](#) can be set by the client, but they do not have any impact on the Document Object Protocol.

2.2.1 Document-Specific Properties

A Document object encapsulates the behavior of the attached file. As such, many properties on a file SHOULD be promoted as properties on the message itself if those properties exist on the file. The following is a list of such properties that SHOULD be set on the message if they exist on the attached file. For more details about these properties, see [\[MS-OXPROPS\]](#).

2.2.1.1 PidNameTitle Property

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

The **PidNameTitle** property ([\[MS-OXPROPS\]](#) section 2.543) specifies the title of the file attached to the Document object.

2.2.1.2 PidNameSubject Property

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

The **PidNameSubject** property ([\[MS-OXPROPS\]](#) section 2.537) specifies the subject of the file attached to the Document object.

2.2.1.3 PidNameAuthor Property

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

The **PidNameAuthor** property ([\[MS-OXPROPS\]](#) section 2.373) represents the author of the file attached to the Document object.

2.2.1.4 PidNameKeywords Property

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

The **PidNameKeywords** property ([\[MS-OXCMSG\]](#) section 2.2.1.17) specifies the categories of the file attached to the Document object.

2.2.1.5 PidNameComments Property

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

The **PidNameComments** property ([\[MS-OXPROPS\]](#) section 2.408) specifies the comments of the file attached to the Document object.

2.2.1.6 PidNameTemplate Property

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

The **PidNameTemplate** property ([\[MS-OXPROPS\]](#) section 2.539) specifies the template of the file attached to the Document object.

2.2.1.7 PidNameLastAuthor Property

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

The **PidNameLastAuthor** property ([\[MS-OXPROPS\]](#) section 2.488) specifies the most recent author of the file attached to the Document object.

2.2.1.8 PidNameRevisionNumber Property

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

The **PidNameRevisionNumber** property ([\[MS-OXPROPS\]](#) section 2.529) specifies the revision number of the file attached to the Document object.

2.2.1.9 PidNameApplicationName Property

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

The **PidNameApplicationName** property ([\[MS-OXPROPS\]](#) section 2.362) specifies the application that might open the file attached to the document object.

2.2.1.10 PidNameEditTime Property

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

The **PidNameEditTime** property ([\[MS-OXPROPS\]](#) section 2.451) specifies the time that the file was last edited.

2.2.1.11 PidNameLastPrinted Property

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

The **PidNameLastPrinted** property ([\[MS-OXPROPS\]](#) section 2.489) specifies the time that the file was last printed.

2.2.1.12 PidNameCreateDateTimeReadOnly Property

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

The **PidNameCreateDateTimeReadOnly** property ([\[MS-OXPROPS\]](#) section 2.436) specifies the time that the file was first created.

2.2.1.13 PidNameLastSaveDateTime Property

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

The **PidNameLastSaveDateTime** property ([\[MS-OXPROPS\]](#) section 2.490) specifies the time that the file was last saved.

2.2.1.14 PidNamePageCount Property

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

The **PidNamePageCount** property ([\[MS-OXPROPS\]](#) section 2.514) specifies the page count of the file attached to the Document object.

2.2.1.15 PidNameWordCount Property

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

The **PidNameWordCount** property ([\[MS-OXPROPS\]](#) section 2.545) specifies the number of words in the file attached to the Document object.

2.2.1.16 PidNameCharacterCount Property

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

The **PidNameCharacterCount** property ([\[MS-OXPROPS\]](#) section 2.407) specifies the number of characters in the file attached to the Document object.

2.2.1.17 PidNameSecurity Property

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

The **PidNameSecurity** property ([\[MS-OXPROPS\]](#) section 2.533) specifies the security level of the file attached to the Document object.

2.2.1.18 PidNameCategory Property

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

The **PidNameCategory** property ([\[MS-OXPROPS\]](#) section 2.405) specifies the category of the file attached to the Document object.

2.2.1.19 PidNamePresentationFormat Property

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

The **PidNamePresentationFormat** property ([\[MS-OXPROPS\]](#) section 2.519) specifies the presentation format of the file attached to the Document object.

2.2.1.20 PidNameManager Property

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

The **PidNameManager** property ([\[MS-OXPROPS\]](#) section 2.496) specifies the manager of the file attached to the Document object.

2.2.1.21 PidNameCompany Property

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

The **PidNameCompany** property ([\[MS-OXPROPS\]](#) section 2.409) specifies the company for which the file was created.

2.2.1.22 PidNameByteCount Property

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

The **PidNameByteCount** property ([\[MS-OXPROPS\]](#) section 2.376) specifies the size, in bytes, of the file attached to the Document object.

2.2.1.23 PidNameLineCount Property

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

The **PidNameLineCount** property ([\[MS-OXPROPS\]](#) section 2.491) specifies the number of lines in the file attached to the Document object.

2.2.1.24 PidNameParagraphCount Property

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

The **PidNameParagraphCount** property ([\[MS-OXPROPS\]](#) section 2.515) specifies the number of paragraphs in the file attached to the Document object.

2.2.1.25 PidNameSlideCount Property

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

The **PidNameSlideCount** property ([\[MS-OXPROPS\]](#) section 2.536) specifies the number of slides in the file attached to the Document object.

2.2.1.26 PidNameNoteCount Property

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

The **PidNameNoteCount** property ([\[MS-OXPROPS\]](#) section 2.502) specifies the number of notes in the file attached to the Document object.

2.2.1.27 PidNameHiddenCount Property

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

The **PidNameHiddenCount** property ([\[MS-OXPROPS\]](#) section 2.468) specifies the hidden value of the file attached to the Document object.

2.2.1.28 PidNameMultimediaClipCount Property

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

The **PidNameMultimediaClipCount** property ([\[MS-OXPROPS\]](#) section 2.499) specifies the number of multimedia clips in the file attached to the Document object.

2.2.1.29 PidNameDocumentParts Property

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

The **PidNameDocumentParts** property ([\[MS-OXPROPS\]](#) section 2.450) specifies the title of each part of the document.

2.2.1.30 PidNameHeadingPairs Property

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

The **PidNameHeadingPairs** property ([\[MS-OXPROPS\]](#) section 2.467) specifies which group of headings is indented in the document.

2.2.1.31 PidNameLinksDirty Property

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

The **PidNameLinksDirty** property ([\[MS-OXPROPS\]](#) section 2.493) indicates whether the links in the document are up-to-date. The value TRUE indicates that the links are up-to-date; FALSE indicates otherwise.

2.2.1.32 PidNameScale Property

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

The **PidNameScale** property ([\[MS-OXPROPS\]](#) section 2.532) indicates whether the image is to be scaled or cropped. The value TRUE indicates thumbnail scaling; FALSE indicates cropping.

2.2.1.33 PidNameThumbnail Property

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

The **PidNameThumbnail** property ([\[MS-OXPROPS\]](#) section 2.542) specifies the data representing the thumbnail image of the document.

2.2.2 Additional Property Constraints

The following sections specify additional property constraints beyond what is specified in [\[MS-OXCMSG\]](#).

2.2.2.1 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. For a message to be treated like a Document object by a messaging client, the value of this property MUST begin with "IPM.document.". The value of the sub-string that follows "IPM.document." identifies the type of the attached file and is implementation-dependent.

2.2.2.2 PidTagDisplayName Property

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

The **PidTagDisplayName** property ([\[MS-OXCFOLD\]](#) section 2.2.2.2.3) specifies the name of the attachment. A Document object SHOULD have this property defined.

2.2.2.3 Attachment to the Message Object

A Document object MUST have at least one attachment and SHOULD NOT have more than one. A Document object makes sense only if there is a single attachment. For more details about how attachments are stored within a message, see [\[MS-OXCMSG\]](#).

3 Protocol Details

3.1 Client Details

3.1.1 Abstract Data Model

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

The Document object is an extension of the Message object; otherwise, the Document Object Protocol uses the abstract data model that is specified in [\[MS-OXCMSG\]](#) section 3.1.1.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Creating a Document Object

The client creates a Document object when the user drags a file from the desktop (or from any file folder) into a mail folder. The file is attached to the Document object. For more details about Document object attachments, see section [2.2.2.3](#).

The client SHOULD have the **PidTagMessageClass** ([\[MS-OXCMSG\]](#) section 2.2.1.3) and **PidTagDisplayName** ([\[MS-OXCFOLD\]](#) section 2.2.2.2.2.3) properties correctly set. The value of the **PidTagMessageClass** property MUST be "IPM.document.<FileType>", where the "<FileType>" sub-string indicates the type of the attached file. The method that the messaging client uses to determine the "<FileType>" sub-string is implementation-dependent.

For details about the **PidTagMessageClass** and **PidTagDisplayName** properties, see sections [2.2.2.1](#) and [2.2.2.2](#), respectively. For details about the **ROPs** involved in creating a Document object, see [\[MS-OXCMSG\]](#) section 3.1.4.2.

3.1.4.2 Invoking a Document Object

When a user opens a message, the client opens the Message object as specified in [\[MS-OXCMSG\]](#) section 3.1.4.1. The client determines the message type by examining the **PidTagMessageClass** property ([\[MS-OXCMSG\]](#) section 2.2.1.3), as specified in section [2.2.2.1](#).

If the value of **PidTagMessageClass** does not begin with "IPM.document.", then the message is not a Document object, and the client handles the message in a way that is appropriate for that particular type of Message object. If the value of **PidTagMessageClass** does begin with "IPM.document.", then the message is a Document object, and the client retrieves the attachment as specified in [\[MS-OXCMSG\]](#) section 3.1.4.11. If there are zero attachments, the client displays an error. If there is more than one attachment, the client can either display an error or pick one of the attachments. For details about attachments to a Document object, see section [2.2.2.3](#). When a

Document object is invoked, the client can open the message's underlying attachment directly, thereby behaving in the most optimal fashion from a user's perspective.

3.1.4.3 Other Tasks

Other tasks related to a Document Object include the following:

- Creating an attachment — see [\[MS-OXCMSG\]](#) section 3.1.4.12
- Opening an attachment — see [\[MS-OXCMSG\]](#) section 3.1.4.11
- Setting content in an attachment — see [\[MS-OXCMSG\]](#) section 3.1.4.14
- Saving an attachment — see [\[MS-OXCMSG\]](#) section 3.1.4.15
- Setting properties on a Document object — see [\[MS-OXCPRPT\]](#) section 3.1.4.2
- Saving a Document object — see [\[MS-OXCMSG\]](#) section 3.1.4.3

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 role for this protocol is as specified in [\[MS-OXCMSG\]](#) and [\[MS-OXCPRPT\]](#).

4 Protocol Examples

4.1 Example PidTagMessageClass Values for Different File Types

The following table shows example **message class** values for different file types.

File extension	PidTagMessageClass value
.doc	IPM.document.Word.document.8
.docx	IPM.document.Word.document.12
.xls	IPM.document.Excel.Sheet.8
.xlsx	IPM.document.Excel.Sheet.12
.ppt	IPM.document.PowerPoint.Show.8
.pptx	IPM.document.PowerPoint.Show.12
.txt	IPM.document.txtfile

4.2 Example for Creating a New Document Object Item

Joe drags a file (for example, testDocObj.txt) from his desktop into one of his mail folders. The following sub-sections provide descriptions of what a client might do to accomplish Joe's intentions, and the responses that a server might return.

4.2.1 Creating the Object

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

4.2.2 Attachment Details

The client uses the **RopCreateAttachment** operation ([\[MS-OXCROPS\]](#) section 2.2.6.13) to create the **Attachment object**. Then, the protocol client uses the **RopOpenStream** ([\[MS-OXCROPS\]](#) section 2.2.9.1) and **RopSetStreamSize** ([\[MS-OXCROPS\]](#) section 2.2.9.6) operations followed by **RopWriteStream** ([\[MS-OXCROPS\]](#) section 2.2.9.3) to write out the contents of the file into the attachment.

The client then uses **RopSetProperties** ([\[MS-OXCROPS\]](#) section 2.2.8.6) to set various properties on the attachment. The following table shows just some of the properties that would be set on the attachment.

Property	Property ID	Type	Value
PidTagAttachLongFilename ([MS-OXPROPS] section 2.653)	0x3707	0x001f (string)	"testDocObj.txt"
PidTagAttachExtension ([MS-OXPROPS] section 2.650)	0x3703	0x001f (string)	".txt"
PidTagCreationTime ([MS-OXPROPS] section 2.651)	0x3007	0x0040 (date)	2008/02/15

Property	Property ID	Type	Value
2.714)		and time)	19:57:52.557

Now the protocol client uses **RopSaveChangesAttachment** ([\[MS-OXCROPS\]](#) section 2.2.6.15) to save the attachment.

4.2.3 Setting Properties on the Document Object

The protocol client uses the **RopSetProperties** operation ([\[MS-OXCROPS\]](#) section 2.2.8.6) to transmit his data to the protocol server. The following table shows some of the relevant properties that need to be set for a Document object.

Property	Property ID	Type	Value
PidTagDisplayName ([MS-OXCFOLD] section 2.2.2.2.3)	0x3001	0x001f (PT_UNICODE)	"testDocObj.txt"
PidTagMessageClass ([MS-OXCMSG] section 2.2.1.3)	0x001a	0x001f	"IPM.document.txtfile"

4.2.4 Final Save

The protocol client uses the **RopSaveChangesMessage** operation([\[MS-OXCROPS\]](#) section 2.2.6.3) to commit the properties on the protocol server and then uses **RopRelease** ([\[MS-OXCROPS\]](#) section 2.2.15.3) to release the object. The values of some properties will change during the execution of **RopSaveChangesMessage** ([\[MS-OXCROPS\]](#) section 2.2.6.3), but none of the properties specified in this protocol will change.

5 Security

5.1 Security Considerations for Implementers

Document objects store files as attachments. These files can be any files on the hard drive. When a user invokes a Document object, one behavior is to open up the attached file directly. There is a security implication here in that this file could do harmful things when invoked. While this is less of an issue for a user's personal mail folders, it becomes much more of an issue for **public folders**. It is up to the messaging client to choose what kind of behavior to follow when a user clicks on one of these Document objects.

5.2 Index of Security Parameters

Security Parameter	Section
PidNameSecurity property	Section 2.2.1.17

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® Office Outlook® 2003
- Microsoft® Office Outlook® 2007
- Microsoft® Outlook® 2010

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.

7 Change Tracking

This section identifies changes that were made to the [MS-OXODOC] protocol document between the August 2011 and October 2011 releases. 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.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

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 language and 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 or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

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.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- 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 protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
2.2 Message Syntax	Removed the product behavior note about properties that do not impact the Document Object Protocol.	N	Product behavior note removed.
2.2.2.3 Attachment to the Message Object	Moved details about how Outlook handles zero attachments and multiple attachments to the "Invoking a Document Object" section.	N	Content removed.
3.1.1 Abstract Data Model	Specified that Document object is an extension of the Message object and added reference to [MS-OXCMMSG].	N	Content updated.
3.1.3 Initialization	Removed content and specified "None".	N	Content updated.
3.1.4.2 Invoking a Document Object	Moved details about how Outlook handles zero attachments and multiple attachments from the "Attachment to the Message Object" section.	N	Content updated.
	Deleted "Managing Document Objects" section.	N	Content updated.

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