

[MS-XWDMAIL]: Web Distributed Authoring and Versioning (WebDAV) Extensions for E-Mail Support

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Revision Summary

| Date | Revision History | Revision Class | Comments |
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1 Introduction

The Web Distributed Authoring and Versioning (WebDAV) Extensions for E-Mail Support extend the WebDAV protocol and the Hypertext Transfer Protocol (HTTP) 1.1. The WebDAV Extensions for E-Mail Support are used by clients to send, receive, and manipulate e-mail through **HTTP**.

1.1 Glossary

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

8.3 name
Augmented Backus-Naur Form (ABNF)
class
Coordinated Universal Time (UTC)
Hypertext Transfer Protocol (HTTP)
resource
XML

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

Hypertext Markup Language (HTML)
Inbox folder
mailbox
Message object
Multipurpose Internet Mail Extensions (MIME)
Rich Text Format (RTF)
Sent Items folder
Simple Mail Transfer Protocol (SMTP)
Uniform Resource Identifier (URI)
Uniform Resource Locator (URL)
Web Distributed Authoring and Versioning Protocol (WebDAV)

The following terms are specific to this document:

mail submission URI: The URI to which mail is sent. It represents an outbound mail queue.

Network News Transfer Protocol (NNTP): A protocol for the distribution, inquiry, retrieval, and posting of news articles, as specified in [RFC3977].

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](#)", April 2008.

- [MS-OXCFOLD] Microsoft Corporation, "[Folder Object Protocol Specification](#)", June 2008.
- [MS-OXCMMSG] Microsoft Corporation, "[Message and Attachment Object Protocol Specification](#)", June 2008.
- [MS-OXOMSG] Microsoft Corporation, "[E-Mail Object Protocol Specification](#)", June 2008.
- [MS-OXPROPS] Microsoft Corporation, "[Exchange Server Protocols Master Property List](#)", April 2008.
- [MS-XWDEXT] Microsoft Corporation, "[Web Distributed Authoring and Versioning \(WebDAV\) Core Extensions](#)", July 2009.
- [MS-XWDNOTIF] Microsoft Corporation, "[Web Distributed Authoring and Versioning \(WebDAV\) Extensions for Notifications](#)", December 2008.
- [RFC1327] Hardcastle-Kille S., "Mapping Between X.400(1988) / ISO 10021 and RFC 822", RFC 1327, May 1992, <http://www.ietf.org/rfc/rfc1327.txt>
- [RFC2068] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2068, January 1997, <http://www.ietf.org/rfc/rfc2068.txt>
- [RFC2076] Palme, J., "Common Internet Message Headers", RFC 2076, February 1997, <http://www.rfc-editor.org/rfc/rfc2076.txt>
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.ietf.org/rfc/rfc2119.txt>
- [RFC2298] Fajman, R., "An Extensible Message Format for Message Disposition Notifications", RFC 2298, March 1998, <http://www.rfc-editor.org/rfc/rfc2298.txt>
- [RFC2518] Goland, Y., Whitehead, E., Faizi, A., et al., "HTTP Extensions for Distributed Authoring - WebDAV", RFC 2518, February 1999, <http://www.ietf.org/rfc/rfc2518.txt>
- [RFC2980] Barber, S., "Common NNTP Extensions", RFC 2980, October 2000, <http://www.ietf.org/rfc/rfc2980.txt>
- [RFC3977] Feather, C., "Network News Transfer Protocol (NNTP)", RFC 3977, October 2006, <http://www.rfc-editor.org/rfc/rfc3977.txt>
- [RFC5234] Crocker, D., Ed., and Overell, P., "Augmented BNF for Syntax Specifications: ABNF", STD 68, RFC 5234, January 2008, <http://www.ietf.org/rfc/rfc5234.txt>
- [RFC821] Postel, J., "Simple Mail Transfer Protocol", STD 10, RFC 821, August 1982, <http://www.ietf.org/rfc/rfc0821.txt>
- [RFC822] Crocker, D.H., "Standard for ARPA Internet Text Messages", STD 11, RFC 822, August 1982, <http://www.ietf.org/rfc/rfc0822.txt>
- [RFC850] Horton, M., "Standard for Interchange of USENET Messages", RFC 850, June 1983, <http://www.rfc-editor.org/rfc/rfc850.txt>

1.2.2 Informative References

- [MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)", March 2007.
- [MS-OXGLOS] Microsoft Corporation, "[Exchange Server Protocols Master Glossary](#)", April 2008.

[MS-WDVSE] Microsoft Corporation, "[Web Distributed Authoring and Versioning \(WebDAV\) Protocol: Server Extensions](#)", September 2007.

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.ietf.org/rfc/rfc2818.txt>

1.3 Overview

The WebDAV Extensions for E-Mail Support extend the Hypertext Transfer Protocol – HTTP/1.1, as described in [\[RFC2068\]](#), and the HTTP Extensions for Distributed Authoring – WEBDAV, as described in [\[RFC2518\]](#), to provide support for e-mail operations.

A client uses the WebDAV Extensions for E-Mail Support to send, receive, and manipulate e-mail through HTTP. The extensions treat a **mailbox** as a folder and treat messages as items within the folder.

A client uses the HTTP **OPTIONS** method to determine whether a given server supports sending, receiving, and manipulating mail through HTTP. If the server supports this manner of processing mail, the client can then perform these mail operations by using HTTP or **WebDAV** methods, treating the mail as an item within a folder. For example, the client can use an HTTP or WebDAV method to send mail as if it were placing the mail into a folder.

1.4 Relationship to Other Protocols

The WebDAV Extensions for E-Mail Support rely on the HTTP Extensions for Distributed Authoring -- WebDAV, which is described by [\[RFC2518\]](#), and the Hypertext Transfer Protocol -- HTTP 1.1, which is described by [\[RFC2068\]](#). The WebDAV Extensions for E-Mail Support also rely on the Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS), described by [\[RFC2818\]](#), for data protection services.

The WebDAV Extensions for E-Mail Support use extensions to [\[RFC2518\]](#) that are described in [\[MS-WDVSE\]](#) and [\[MS-XWDEXT\]](#).

1.5 Prerequisites/Preconditions

The WebDAV Extensions for E-Mail Support assume that both the client and server have WebDAV installed and enabled.

1.6 Applicability Statement

The WebDAV Extensions for E-Mail Support are applicable when a client wants to perform mail operations through HTTP, treating the mail as an item within a folder.

1.7 Versioning and Capability Negotiation

- **Versioning:** The WebDAV Extensions for E-Mail Support use no new versioning mechanisms except those that already exist in WebDAV and HTTP, as described in [\[RFC2518\]](#) and [\[RFC2068\]](#).
- **Capability Negotiation:** The client sends an **OPTIONS** request to determine whether the server supports these extensions. If the response includes the **Allow-Extension** header with the value "urn:schemas:httpmail", the server supports these extensions. For more information, see section [3.1.3](#).

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

The WebDAV Extensions for E-Mail Support use the same transport mechanism as that specified in [\[RFC2518\]](#).

2.2 Message Syntax

2.2.1 Headers

The WebDAV Extensions for E-Mail Support define the HTTP headers that are specified in the following sections. These headers extend the headers specified in [\[RFC2518\]](#). For more details about the format of HTTP headers, see [\[RFC2068\]](#) section 4.2.

The **Augmented Backus-Naur Form (ABNF)** notation, as specified in [\[RFC5234\]](#), is used to specify the syntax of the headers.

2.2.1.1 Allow-Extension

The **Allow-Extension** header specifies the extensions that the given authenticated user has permissions to use. The **Allow-Extension** header has the following syntax.

```
Allow-Extension = "Allow-Extension" ":" Allow-Extension-value
```

Allow-Extension-value: A string that is the **Uniform Resource Identifier (URI)** to be used for sending mail. If the server supports sending mail through HTTP, this value will be "urn:schemas:httpmail".

2.2.1.2 Public-Extension

The **Public-Extension** header specifies the extension for a given namespace. The **Public-Extension** header has the following syntax.

```
Public-Extension = "Public-Extension" ":" Public-Extension-value
```

Public-Extension-value: A string that specifies the extension for the namespace. If the server supports sending mail through HTTP, then this value will be "urn:schemas:httpmail" in one of the **Public-Extension** headers of the response. (The response can include multiple **Public-Extension** headers.)

2.2.1.3 Savedestination

The **Savedestination** header specifies, to the server, the **URL** of the folder in which to save the message. This header is ignored if the value of the **Saveinsent** header, as specified in section [2.2.1.4](#), is equivalent to "FALSE". The **Savedestination** header has the following syntax.

```
Savedestination = "Savedestination" ":" Savedestination-value
```

Savedestination-value: A string that specifies the URL of the folder in which to save the message.

2.2.1.4 Saveinsent

The **Saveinsent** header indicates, to the server, whether a copy of the outbound mail is to be saved to the folder that is specified by the **Savedestination** header, as specified in section [2.2.1.3](#). The **Saveinsent** header has the following syntax.

```
Saveinsent = "Saveinsent" ":" Saveinsent-value
```

Saveinsent-value: Contains a string that indicates whether the message is to be saved to the specified folder. Only the first letter of the string is examined. If the first letter is "t" or "T", or if the **Saveinsent** header is not present, then the value of the **Saveinsent** header is equivalent to "TRUE" and the server saves the message to the specified folder; otherwise, the value of **Saveinsent** is equivalent to "FALSE" and the message is not saved.

2.2.1.5 Translate

The **Translate** header indicates, to the server, whether to interpret the resource before responding to the client. The **Translate** header has the following syntax.

```
Translate = "Translate" ":" Translate-value
```

Translate-value: Contains a string that indicates whether the server MUST operate on the raw resource, which is identified by the Request-URI, as specified in [RFC2068](#). Only the first letter of the string is examined. If the first letter is "f" or "F", then the value of the **Translate** header is equivalent to "FALSE" and the server operates on the raw resource. If the first letter is not "f" or "F", or if the **Translate** header is not present, then the value of the **Translate** header is equivalent to "TRUE" and the server's behavior is implementation-defined.

For example, suppose that the client issues a **GET** command against a script that, normally, would be executed by the server. (The result of running the script would be returned in the server's response.) If the **Translate** header is set to "f", the server will not execute the script but, instead, will return the actual script in the response.

2.2.2 Properties

The WebDAV Extensions for E-Mail Support define the properties that are specified in the following sections. Properties are listed by canonical name. For more information about the canonical name see [\[MS-OXPROPS\]](#) section 1.3. For information about WebDAV property naming, see [\[MS-OXPROPS\]](#) section 1.3.4.

2.2.2.1 DAV: Namespace Properties

2.2.2.1.1 PidNameContentClass

DAV property name: **DAV:contentclass**

Data type: **PtysString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameContentClass** property ([\[MS-OXPROPS\]](#) section 2.432) specifies the content **class** of a folder or mail item.

2.2.2.1.2 PidTagUrlCompName

DAV property name: **DAV:displayname**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagUrlCompName** property ([\[MS-OXPROPS\]](#) section 2.1166) specifies the composite name. The following substrings are concatenated in the given order to form the composite name:

1. The subject of the e-mail
2. A string that uniquely identifies the message
3. The string ".EML"

2.2.2.1.3 PidNameDavGetContentType

DAV property name: **DAV:getcontenttype**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameDavGetContentType** property ([\[MS-OXPROPS\]](#) section 2.442) specifies the type of the message's content. For e-mail messages, the value of this property is "message/rfc822".

2.2.2.1.4 PidTagUrlName

DAV property name: **DAV:href**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagUrlName** property ([\[MS-OXPROPS\]](#) section 2.1168) specifies the URL of the mail item. The value of this property MUST be encoded according to the Request-URI, as specified in [\[RFC2068\]](#) section 5.1.2.

2.2.2.2 http://schemas.microsoft.com/exchange/ Namespace Properties

2.2.2.2.1 PidTagMessageClass

DAV property name: **http://schemas.microsoft.com/exchange/outlookmessageclass**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagMessageClass** property ([\[MS-OXCMSG\]](#) section 2.2.1.3) contains the object-type classification. This property is further specified in [\[MS-OXOMSG\]](#) section 2.2.1.16.

2.2.2.2.2 PidTagSensitivity

DAV property name: **http://schemas.microsoft.com/exchange/sensitivity**

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagSensitivity** property ([\[MS-OXPROPS\]](#) section 2.1115) specifies the sender's assessment of the sensitivity of the **Message object**. This property is further specified in [\[MS-OXCMSG\]](#) section 2.2.1.13.

2.2.2.3 <http://schemas.microsoft.com/mapi/proptag/> Namespace Properties

2.2.2.3.1 PidTagAttachSize

DAV property name: **<http://schemas.microsoft.com/mapi/proptag/x0e200003>**

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagAttachSize** property ([\[MS-OXPROPS\]](#) section 2.672) specifies the size, in bytes, consumed by the attachment on the server. This property is read-only for the client.

2.2.2.3.2 PidTagAttachNumber

DAV property name: **<http://schemas.microsoft.com/mapi/proptag/x0e210003>**

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagAttachNumber** property ([\[MS-OXCMSG\]](#) section 2.2.2.6) identifies the attachment within its message. The value MUST be unique among the attachments in a message.

2.2.2.3.3 PidTagAttachExtension

DAV property name: **<http://schemas.microsoft.com/mapi/proptag/x3703001f>**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagAttachExtension** property ([\[MS-OXCMSG\]](#) section 2.2.2.12) contains the file name extension, which indicates the document type of an attachment.

2.2.2.3.4 PidTagAttachFilename

DAV property name: **<http://schemas.microsoft.com/mapi/proptag/x3704001f>**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagAttachFilename** property ([\[MS-OXCMSG\]](#) section 2.2.2.11) contains the file name, in [8.3 name](#) format, of the attachment. [<1>](#)

2.2.2.3.5 PidTagAttachMethod

DAV property name: **<http://schemas.microsoft.com/mapi/proptag/x37050003>**

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagAttachMethod** property ([\[MS-OXCMSG\]](#) section 2.2.2.9) specifies the way in which the contents of an attachment are accessed.

2.2.2.3.6 PidTagRenderingPosition

DAV property name: **<http://schemas.microsoft.com/mapi/proptag/x370b0003>**

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagRenderingPosition** property ([\[MS-OXPROPS\]](#) section 2.1012) specifies an offset, in number of rendered characters, to use when rendering an attachment within the main message text. The value 0xFFFFFFFF indicates a hidden attachment.

2.2.2.3.7 PidTagAttachFlags

DAV property name: **http://schemas.microsoft.com/mapi/proptag/x37140003**

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagAttachFlags** property ([\[MS-OXCMMSG\]](#) section 2.2.2.18) indicates which body formats might reference the attachment when rendering data. The value is a bitwise OR of zero or more of the following flags. If this property is absent or its value is 0x00000000, the attachment is available to be rendered in any format.

| Value | Meaning |
|------------|---|
| 0x00000001 | The attachment is not available to be rendered in HTML . |
| 0x00000002 | The attachment is not available to be rendered in Rich Text Format (RTF) . |
| 0x00000004 | The attachment is referenced and rendered within the HTML body of the associated message. |

2.2.2.4 MAIL: Namespace Properties

2.2.2.4.1 PidNameMailSubmissionUri

DAV property name: **MAIL:submissionuri**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameMailSubmissionUri** property ([\[MS-OXPROPS\]](#) section 2.501) specifies the URI that is used for mail submission. This property is synonymous with the **PidNameHttpmailSendMessage** property ([\[MS-OXPROPS\]](#) section 2.481). The two properties can be used interchangeably.

The URI that is specified by this property is called the **mail submission URI**. The following substrings are concatenated in the given order to form the URI. This property exists on all folders and does not exist on any other **resource**.

1. The base URL of the mailbox
2. The string `"/##DavMailSumissionURI##/"`

2.2.2.5 urn:schemas:contacts Namespace Properties

2.2.2.5.1 PidTagDisplayName

DAV property name: **urn:schemas:contacts:cn**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagDisplayName** property ([\[MS-OXCFOLD\]](#) section 2.3.2.2.3) specifies either the file name of the attached document or the subject of the attached message.

2.2.2.6 urn:schemas:httpmail: Namespace Properties

2.2.2.6.1 PidTagAttachLongFilename

DAV property name: **urn:schemas:httpmail:attachmentfilename**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagAttachLongFilename** property ([\[MS-OXMSG\]](#) section 2.2.2.10) contains the full file name and extension of the attachment.

2.2.2.6.2 PidNameHttpmailCc

DAV property name: **urn:schemas:httpmail:cc**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameHttpmailCc** property ([\[MS-OXPROPS\]](#) section 2.474) specifies the carbon copy (Cc) recipients of the message.

2.2.2.6.3 PidNameHttpmailContentMediaType

DAV property name: **urn:schemas:httpmail:content-media-type**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameHttpmailContentMediaType** property ([\[MS-OXPROPS\]](#) section 2.476) specifies the content media type for the body part.

2.2.2.6.4 PidTagClientSubmitTime

DAV property name: **urn:schemas:httpmail:date**

Data type: **PtypTime** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagClientSubmitTime** property ([\[MS-OXMSG\]](#) section 2.2.3.11) specifies the current time (in **Coordinated Universal Time (UTC)**) when the e-mail message is submitted.

2.2.2.6.5 PidTagMessageDeliveryTime

DAV property name: **urn:schemas:httpmail:datereceived**

Data type: **PtypTime** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagMessageDeliveryTime** property ([\[MS-OXMSG\]](#) section 2.2.3.9) specifies the current time (in **UTC**) when the server receives a message.

2.2.2.6.6 PidTagDisplayCc

DAV property name: **urn:schemas:httpmail:displaycc**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagDisplayCc** property ([\[MS-OXMSG\]](#) section 2.2.1.8) specifies a list of carbon copy recipient display names, separated by semicolons.

2.2.2.6.7 PidTagDisplayTo

DAV property name: **urn:schemas:httpmail:displayto**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagDisplayTo** property ([\[MS-OXOMSG\]](#) section 2.2.1.9) specifies a list of the primary recipient display names, separated by semicolons.

2.2.2.6.8 PidNameHttpmailFrom

DAV property name: **urn:schemas:httpmail:from**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameHttpmailFrom** property ([\[MS-OXPROPS\]](#) section 2.477) specifies the person from whom the message was sent. The value of this property is in the form that will be displayed in the mail client.

2.2.2.6.9 PidNameHttpmailFromEmail

DAV property name: **urn:schemas:httpmail:fromemail**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameHttpmailFromEmail** property ([\[MS-OXPROPS\]](#) section 2.478) specifies the e-mail address from which the message was sent.

2.2.2.6.10 PidTagSentRepresentingName

DAV property name: **urn:schemas:httpmail:fromname**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagSentRepresentingName** property ([\[MS-OXPROPS\]](#) section 2.1121) contains the display name for the end user represented by the sending mailbox owner. This property is further specified in [\[MS-OXOMSG\]](#) section 2.2.1.48.

2.2.2.6.11 PidTagHasAttachments

DAV property name: **urn:schemas:httpmail:hasattachment**

Data type: **PtypBoolean** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagHasAttachments** property ([\[MS-OXCMSG\]](#) section 2.2.1.2) indicates whether the Message object contains at least one attachment.

2.2.2.6.12 PidNameHttpmailHtmlDescription

DAV property name: **urn:schemas:httpmail:htmldescription**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameHttpmailHtmlDescription** property ([\[MS-OXPROPS\]](#) section 2.479) contains a description of the HTML content of the message.

2.2.2.6.13 PidTagImportance

DAV property name: **urn:schemas:httpmail:importance**

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagImportance** property ([\[MS-OXCMMSG\]](#) section 2.2.1.11) specifies the level of importance assigned by the end user to the Message object.

2.2.2.6.14 PidTagNormalizedSubject

DAV property name: **urn:schemas:httpmail:normalizedsubject**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagNormalizedSubject** property ([\[MS-OXCMMSG\]](#) section 2.2.1.10) specifies the normalized subject of the message.

2.2.2.6.15 PidTagPriority

DAV property name: **urn:schemas:httpmail:priority**

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagPriority** property ([\[MS-OXCMMSG\]](#) section 2.2.1.12) specifies the client's request for the priority at which the message is to be sent by the messaging system.

2.2.2.6.16 PidTagRead

DAV property name: **urn:schemas:httpmail:read**

Data type: **PtypBoolean** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagRead** property ([\[MS-OXPROPS\]](#) section 2.975) indicates whether the message has been read.

2.2.2.6.17 PidTagSenderName

DAV property name: **urn:schemas:httpmail:sendername**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagSenderName** property ([\[MS-OXPROPS\]](#) section 2.1108) contains the sending mailbox owner's display name. This property is further specified in [\[MS-OXOMSG\]](#) section 2.2.1.43.

2.2.2.6.18 PidNameHttpmailSendMessage

DAV property name: **urn:schemas:httpmail:sendmsg**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameHttpmailSendMessage** property ([\[MS-OXPROPS\]](#) section 2.481) specifies the URI that is used for mail submission. This property is synonymous with the **PidNameMailSubmissionUri** property ([\[MS-OXPROPS\]](#) section 2.501). The two properties can be used interchangeably and both are read-only properties.

The URI that is specified by this property is called the mail submission URI. The following substrings are concatenated in the given order to form the URI. This property exists on all folders and does not exist on any other resource.

1. The base URL of the mailbox
2. The string `"/# #DavMailSumissionURI# #/"`

2.2.2.6.19 PidTagSubject

DAV property name: **urn:schemas:httpmail:subject**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagSubject** property ([\[MS-OXPROPS\]](#) section 2.1145) specifies the subject of the message, which is formatted as a **MessageRFC822** structure. For more details about the **MessageRFC822** structure, see section [2.2.3.2](#).

2.2.2.6.20 PidNameHttpmailSubmitted

DAV property name: **urn:schemas:httpmail:submitted**

Data type: **PtypBoolean** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameHttpmailSubmitted** property ([\[MS-OXPROPS\]](#) section 2.482) specifies whether a message has been submitted to the Outbox.

2.2.2.6.21 PidTagBody

DAV property name: **urn:schemas:httpmail:textdescription**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagBody** property ([\[MS-OXMSG\]](#) section 2.2.1.44.1) contains the unformatted text analogous to the text/plain body specified in [\[RFC822\]](#).

2.2.2.6.22 PidTagConversationTopic

DAV property name: **urn:schemas:httpmail:thread-topic**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagConversationTopic** property ([\[MS-OXMSG\]](#) section 2.2.1.5) contains an unchanging copy of the original subject.

2.2.2.6.23 PidNameHttpmailTo

DAV property name: **urn:schemas:httpmail:to**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameHttpmailTo** property ([\[MS-OXPROPS\]](#) section 2.483) specifies the principal (To) message addressees.

2.2.2.7 urn:schemas:mailheader: Namespace Properties

2.2.2.7.1 PidNameApproved

DAV property name: **urn:schemas:mailheader:approved**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameApproved** property ([\[MS-OXPROPS\]](#) section 2.369) specifies the address of the moderator that approved and posted a message. For more details about this property, see [\[RFC2076\]](#) section 3.4.

2.2.2.7.2 PidNameBcc

DAV property name: **urn:schemas:mailheader:bcc**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameBcc** property ([\[MS-OXPROPS\]](#) section 2.379) specifies the blind carbon copy addressees of the message. This property SHOULD be directly imported from and exported to the **bcc** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.4.

2.2.2.7.3 PidNameCc

DAV property name: **urn:schemas:mailheader:cc**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameCc** property ([\[MS-OXPROPS\]](#) section 2.410) specifies the carbon copy addressees of the message. This property SHOULD be directly imported from and exported to the **cc** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.4.

2.2.2.7.4 PidNameInternetComment

DAV property name: **urn:schemas:mailheader:comment**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameInternetComment** property ([\[MS-OXPROPS\]](#) section 2.490) contains a comment about the purpose or content of the folder. This property SHOULD be directly imported from and exported to the **Comment** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.7.

2.2.2.7.5 PidNameContentClass

DAV property name: **urn:schemas:mailheader:content-class**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameContentClass** property ([\[MS-OXPROPS\]](#) section 2.432) specifies the content class for the mail item.

2.2.2.7.6 PidNameContentDisposition

DAV property name: **urn:schemas:mailheader:content-disposition**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameContentDisposition** property ([\[MS-OXPROPS\]](#) section 2.433) specifies the intended disposition of the body part. For more details about this property, see [\[RFC2076\]](#) section 3.3.

2.2.2.7.7 PidNameContentID

DAV property name: **urn:schemas:mailheader:content-id**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameContentID** property ([\[MS-OXPROPS\]](#) section 2.434) specifies a unique identifier for the body part. For more details about this property, see [\[RFC2076\]](#) section 3.6.

2.2.2.7.8 PidNameContentLanguage

DAV property name: **urn:schemas:mailheader:content-language**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameContentLanguage** property ([\[MS-OXPROPS\]](#) section 2.435) specifies the language identifier for the text content of the body part. For more details about this property, see [\[RFC2076\]](#) section 3.1.

2.2.2.7.9 PidNameContentLocation

DAV property name: **urn:schemas:mailheader:content-location**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameContentLocation** property ([\[MS-OXPROPS\]](#) section 2.436) specifies the URI that corresponds to the content of the body part. For more details about this property, see [\[RFC2076\]](#) section 3.6.

2.2.2.7.10 PidNameContentTransferEncoding

DAV property name: **urn:schemas:mailheader:content-transfer-encoding**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameContentTransferEncoding** property ([\[MS-OXPROPS\]](#) section 2.437) specifies the encoding mechanism used to encode the content of the body part. For more details about this property, see [\[RFC2076\]](#) section 3.13.

2.2.2.7.11 PidNameContentType

DAV property name: **urn:schemas:mailheader:content-type**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameContentType** property ([\[MS-OXPROPS\]](#) section 2.438) specifies the type of the body part's content. For more details about this property, see [\[RFC2076\]](#) section 3.13.

2.2.2.7.12 PidNameControl

DAV property name: **urn:schemas:mailheader:control**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameControl** property ([\[MS-OXPROPS\]](#) section 2.439) specifies a Usenet control command. For more details about this property, see [\[RFC2076\]](#) section 3.3.

2.2.2.7.13 PidTagClientSubmitTime

DAV property name: **urn:schemas:mailheader:date**

Data type: **PtypTime** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidTagClientSubmitTime** property ([\[MS-OXOMSG\]](#) section 2.2.3.11) specifies the current time (in UTC) when the e-mail message is submitted. This property SHOULD be directly imported from and exported to the **Date** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.8.

2.2.2.7.14 PidNameDisposition

DAV property name: **urn:schemas:mailheader:disposition**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameDisposition** property ([\[MS-OXPROPS\]](#) section 2.451) specifies the mail delivery notification status for the message.

2.2.2.7.15 PidNameDispositionNotificationTo

DAV property name: **urn:schemas:mailheader:disposition-notification-to**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameDispositionNotificationTo** property ([\[MS-OXPROPS\]](#) section 2.452) specifies the destination to which disposition notifications will be sent. For more details about this property, see [\[RFC2298\]](#) section 2.1.

2.2.2.7.16 PidNameDistribution

DAV property name: **urn:schemas:mailheader:distribution**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameDistribution** property ([\[MS-OXPROPS\]](#) section 2.453) contains a comma-separated list, similar to the **Newsgroups** header field, intended to restrict the distribution of a message. For more details about this property, see [\[RFC2076\]](#) section 3.4.

2.2.2.7.17 PidNameExpires

DAV property name: **urn:schemas:mailheader:expires**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameExpires** property ([\[MS-OXPROPS\]](#) section 2.467) specifies the date on which the message expires. For more details about this property, see [\[RFC2076\]](#) section 3.8.

2.2.2.7.18 PidNameExpiryDate

DAV property name: **urn:schemas:mailheader:expiry-date**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameExpiryDate** property ([\[MS-OXPROPS\]](#) section 2.468) specifies the expiry date of a message in a mail header. For more details about this property, see [\[RFC1327\]](#) section 2.3.1.2.

2.2.2.7.19 PidNameFollowupTo

DAV property name: **urn:schemas:mailheader:followup-to**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameFollowupTo** property ([\[MS-OXPROPS\]](#) section 2.469) specifies the newsgroups to which follow-up messages are to be posted. For more details about this property, see [\[RFC2076\]](#) section 3.5. The server MAY [\[2\]](#) implement this property. If the server implements this property, it MUST support the **Network News Transfer Protocol (NNTP)**, as specified in [\[RFC3977\]](#).

2.2.2.7.20 PidNameFrom

DAV property name: **urn:schemas:mailheader:from**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameFrom** property ([\[MS-OXPROPS\]](#) section 2.470) specifies the person from whom the message was sent. This property SHOULD be directly imported from and exported to the **From** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.4.

2.2.2.7.21 PidNameImportance

DAV property name: **urn:schemas:mailheader:importance**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameImportance** property ([\[MS-OXPROPS\]](#) section 2.486) indicates the level of importance for a message as either low, normal, or high. For more details about this property, see [\[RFC2076\]](#) section 3.9.

2.2.2.7.22 PidNameInReplyTo

DAV property name: **urn:schemas:mailheader:in-reply-to**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameInReplyTo** property ([\[MS-OXPROPS\]](#) section 2.487) specifies the message to which another message is a reply. This property SHOULD be directly imported from and exported to the **In-Reply-To** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.6.

2.2.2.7.23 PidNameInternetKeywords

DAV property name: **urn:schemas:mailheader:keywords**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameInternetKeywords** property ([\[MS-OXPROPS\]](#) section 2.491) specifies the keywords for the message. This property SHOULD be directly imported from and exported to the **Keywords** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.7.

2.2.2.7.24 PidNameLines

DAV property name: **urn:schemas:mailheader:lines**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameLines** property ([\[MS-OXPROPS\]](#) section 2.498) specifies the number of lines in the body of a newsgroup message. For more details about this property, see [\[RFC2076\]](#) section 3.11. The server MAY [≤3>](#) implement this property. If the server implements this property, it MUST support NNTP.

2.2.2.7.25 PidNameMessageId

DAV property name: **urn:schemas:mailheader:message-id**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameMessageId** property ([\[MS-OXPROPS\]](#) section 2.503) specifies a unique identifier for the message. This property SHOULD be directly imported from and exported to the **Message-ID** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.6.

2.2.2.7.26 PidNameMimeVersion

DAV property name: **urn:schemas:mailheader:mime-version**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameMimeVersion** property ([\[MS-OXPROPS\]](#) section 2.504) specifies the version of **Multipurpose Internet Mail Extensions (MIME)** that is used to format the message. For more details about this property, see [\[RFC2076\]](#) section 3.3.

2.2.2.7.27 PidNameNewsgroups

DAV property name: **urn:schemas:mailheader:newsgroups**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameNewsgroups** property ([\[MS-OXPROPS\]](#) section 2.506) specifies the newsgroup addressees for the message. For more details about this property, see [\[RFC2076\]](#) section 3.4. The server MAY [≤4>](#) implement this property. If the server implements this property, it MUST support NNTP.

2.2.2.7.28 PidNameNntpPostingHost

DAV property name: **urn:schemas:mailheader:nntp-posting-host**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameNntpPostingHost** property ([\[MS-OXPROPS\]](#) section 2.507) specifies the initial host to which the USENET feed was posted. For more details about this property, see [\[RFC2980\]](#) section 3.4.1. The server MAY [≤5>](#) implement this property. If the server implements this property, it MUST support NNTP.

2.2.2.7.29 PidNameOrganization

DAV property name: **urn:schemas:mailheader:organization**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameOrganization** property ([\[MS-OXPROPS\]](#) section 2.514) specifies the organization to which the sender belongs. For more details about this property, see [\[RFC2076\]](#) section 3.7.

2.2.2.7.30 PidNameOriginalRecipient

DAV property name: **urn:schemas:mailheader:original-recipient**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameOriginalRecipient** property ([\[MS-OXPROPS\]](#) section 2.515) specifies the e-mail address of an original recipient of the message.

2.2.2.7.31 PidNamePath

DAV property name: **urn:schemas:mailheader:path**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNamePath** property ([\[MS-OXPROPS\]](#) section 2.522) specifies the list of NNTP hosts through which this message was relayed before arriving at the current host. For more details about this property, see [\[RFC2076\]](#) section 3.2. The server MAY [<6>](#) implement this property. If the server implements this property, it MUST support NNTP.

2.2.2.7.32 PidNamePostingVersion

DAV property name: **urn:schemas:mailheader:posting-version**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNamePostingVersion** property ([\[MS-OXPROPS\]](#) section 2.524) identifies the software that is used to post the message. For more details about this property, see [\[RFC850\]](#) section 2.1.2.

2.2.2.7.33 PidNamePriority

DAV property name: **urn:schemas:mailheader:priority**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNamePriority** property ([\[MS-OXPROPS\]](#) section 2.526) specifies the priority of a message or appointment. For more details about this property, see [\[RFC2076\]](#) section 3.9.

2.2.2.7.34 PidNameReceived

DAV property name: **urn:schemas:mailheader:received**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameReceived** property ([\[MS-OXPROPS\]](#) section 2.528) specifies the **Simple Mail Transfer Protocol (SMTP)** host received headers for a message. This property SHOULD be directly imported from and exported to the **Received** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.2.

2.2.2.7.35 PidNameReferences

DAV property name: **urn:schemas:mailheader:references**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameReferences** property ([\[MS-OXPROPS\]](#) section 2.529) specifies the USENET header used to correlate replies with their original messages. This property SHOULD be directly imported from and exported to the **References** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.6. The server MAY [\[7\]](#) implement this property. If the server implements this property, it MUST support NNTP.

2.2.2.7.36 PidNameRelayVersion

DAV property name: **urn:schemas:mailheader:relay-version**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameRelayVersion** property ([\[MS-OXPROPS\]](#) section 2.530) specifies the version of the program responsible for transmitting an item over the immediate link. In other words, this property specifies the version of the program that is relaying an item from another site. For more details about this property, see [\[RFC850\]](#) section 2.1.1.

2.2.2.7.37 PidNameReplyBy

DAV property name: **urn:schemas:mailheader:reply-by**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameReplyBy** property ([\[MS-OXPROPS\]](#) section 2.531) indicates when a reply to a message is expected. For more details about this property, see [\[RFC2076\]](#) section 3.8.

2.2.2.7.38 PidNameReplyTo

DAV property name: **urn:schemas:mailheader:reply-to**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameReplyTo** property ([\[MS-OXPROPS\]](#) section 2.532) specifies the address to which replies are to be sent. This property SHOULD be directly imported from and exported to the **Reply-To** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.5.

2.2.2.7.39 PidNameReturnPath

DAV property name: **urn:schemas:mailheader:return-path**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameReturnPath** property ([\[MS-OXPROPS\]](#) section 2.533) specifies the address of the message originator. This property SHOULD be directly imported from and exported to the **Return-Path** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.2.

2.2.2.7.40 PidNameReturnReceiptTo

DAV property name: **urn:schemas:mailheader:return-receipt-to**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameReturnReceiptTo** property ([\[MS-OXPROPS\]](#) section 2.534) specifies the address to which return receipts are to be sent. For more details about this property, see [\[RFC2076\]](#) section 3.5.

2.2.2.7.41 PidNameSender

DAV property name: **urn:schemas:mailheader:sender**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameSender** property ([\[MS-OXPROPS\]](#) section 2.540) specifies the sender of the message. This property SHOULD be directly imported from and exported to the **Sender** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.4.

2.2.2.7.42 PidNameSensitivity

DAV property name: **urn:schemas:mailheader:sensitivity**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameSensitivity** property ([\[MS-OXPROPS\]](#) section 2.541) specifies the sensitivity of the message or appointment. Valid values are "None", "Personal", "Private", and "Company Confidential". This field corresponds to the **Sensitivity** mail header. For more details about this property, see [\[RFC2076\]](#) section 3.9.

2.2.2.7.43 PidNameInternetSubject

DAV property name: **urn:schemas:mailheader:subject**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameInternetSubject** property ([\[MS-OXPROPS\]](#) section 2.492) specifies the subject of the message. This property SHOULD be directly imported from and exported to the **Subject** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.7.

2.2.2.7.44 PidNameSummary

DAV property name: **urn:schemas:mailheader:summary**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameSummary** property ([\[MS-OXPROPS\]](#) section 2.544) contains a summary of the message. For more details about this property, see [\[RFC2076\]](#) section 3.7.

2.2.2.7.45 PidNameThreadIndex

DAV property name: **urn:schemas:mailheader:thread-index**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameThreadIndex** property ([\[MS-OXPROPS\]](#) section 2.546) identifies a particular conversation thread; computed from message references.

2.2.2.7.46 PidNameThreadTopic

DAV property name: **urn:schemas:mailheader:thread-topic**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameThreadTopic** property ([\[MS-OXPROPS\]](#) section 2.547) specifies the topic of a discussion thread.

2.2.2.7.47 PidNameTo

DAV property name: **urn:schemas:mailheader:to**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameTo** property ([\[MS-OXPROPS\]](#) section 2.550) specifies the principal message addressees. This property SHOULD be directly imported from and exported to the **To** header that is specified in [\[RFC822\]](#). For more details about this property, see [\[RFC2076\]](#) section 3.4.

2.2.2.7.48 PidNameXMailer

DAV property name: **urn:schemas:mailheader:x-mailer**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameXMailer** property ([\[MS-OXPROPS\]](#) section 2.554) specifies the name of the software used to send the message. For more details about this property, see [\[RFC2076\]](#) section 3.4.

2.2.2.7.49 PidNameXMessageCompleted

DAV property name: **urn:schemas:mailheader:x-message-completed**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameXMessageCompleted** property ([\[MS-OXPROPS\]](#) section 2.555) contains the header for message flag completion.

2.2.2.7.50 PidNameXMessageFlag

DAV property name: **urn:schemas:mailheader:x-message-flag**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameXMessageFlag** property ([\[MS-OXPROPS\]](#) section 2.556) specifies message flags that indicate special characteristics of a particular message.

2.2.2.7.51 PidNameCrossReference

DAV property name: **urn:schemas:mailheader:xref**

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.5)

The **PidNameCrossReference** property ([\[MS-OXPROPS\]](#) section 2.441) contains the name of the host (with domains omitted) and a white-space-separated list of colon-separated pairs of newsgroup

names and message numbers. For more details about this property, see [\[RFC2076\]](#) section 3.15. The server MAY [\[8\]](#) implement this property. If the server implements this property, it MUST support NNTP.

2.2.3 Structures

The WebDAV Extensions for E-Mail Support use the structures that are specified in the following sections.

2.2.3.1 MessageRFC821

The **MessageRFC821** structure is an internet media type that is used to encapsulate SMTP transport information. This structure corresponds to the message/rfc821 MIME content type.

The **MessageRFC821** structure MUST allow standard SMTP transport information. The structure SHOULD allow extensions to the SMTP command set without conflict.

This structure has the following syntax.

```
MessageRFC821 =  
    0 * command CRLF  
    message-rfc822
```

command: This field contains a command that specifies the mail system function that is requested by the user. The field can contain one of the following:

- An SMTP command, as specified in section [2.2.3.1.1](#) of this document.
- A command, determined by the implementation, that is defined as an extension to the SMTP command set.

message-rfc822: This field contains a **MessageRFC822** structure. For details, see section [2.2.3.2](#) of this document.

For more details about the **MessageRFC821** structure, see [\[RFC821\]](#).

2.2.3.1.1 SMTP Commands

2.2.3.1.1.1 RCPT Command

The RCPT command identifies an individual recipient of the mail data. This command has the following syntax.

```
RCPT =  
    "RCPT" SP "TO:" forward-path CRLF
```

forward-path: This field contains an optional list of hosts and an optional destination mailbox.

For more details about the semantics and syntax of the RCPT command, see [\[RFC821\]](#) sections 4.1.1 and 4.1.2, respectively.

2.2.3.1.1.2 MAIL Command

The MAIL command provides sender information as part of the mail envelope. This command has the following syntax.

```
MAIL =  
  "MAIL" SP "FROM:" reverse-path CRLF
```

reverse-path: This field contains an optional list of hosts and a required source mailbox.

For more details about the semantics and syntax of the MAIL command, see [\[RFC821\]](#) sections 4.1.1 and 4.1.2, respectively.

2.2.3.2 MessageRFC822

The **MessageRFC822** structure is a sequence of octets representing a message, as specified in [\[RFC822\]](#). This structure contains the content of the message. This structure corresponds to the message/rfc822 MIME content type.

2.2.4 Methods

The WebDAV Extensions for E-Mail Support use the methods specified in the following sections.

2.2.4.1 X-MS-ENUMATTS

The **X-MS-ENUMATTS** method, as specified in [\[MS-XWDEXT\]](#) section 2.2.1.24, is used to retrieve a list of an e-mail's attachments. This list is specified in an **XML** format.

The **X-MS-ENUMATTS** method uses the same request headers, response headers, and XML elements that the **PROPFIND** method, as specified in [\[RFC2518\]](#) section 8.1, uses on folders. For more details about WebDAV core extensions to the **PROPFIND** method, see [\[MS-XWDEXT\]](#) section 2.2.1.17.

2.2.4.2 Other Methods

Other methods used by the WebDAV Extensions for E-Mail Support are as follows:

- **COPY** method, as specified in [\[RFC2518\]](#) section 8.8. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.6.
- **DELETE** method, as specified in [\[RFC2068\]](#) section 9.7 and [\[RFC2518\]](#) section 8.6. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.7.
- **GET** method, as specified in [\[RFC2068\]](#) section 9.3 and [\[RFC2518\]](#) section 8.4. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.8.
- **MOVE** method, as specified in [\[RFC2518\]](#) section 8.9. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.12.
- **NOTIFY** method, as specified in [\[MS-XWDNOTIF\]](#) section 2.2.10.
- **OPTIONS** method, as specified in [\[RFC2068\]](#) section 9.2. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.14.
- **POLL** method, as specified in [\[MS-XWDNOTIF\]](#) section 2.2.9.

- **POST** method, as specified in [\[RFC2068\]](#) section 9.5 and [\[RFC2518\]](#) section 8.5. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.16.
- **PROPFIND** method, as specified in [\[RFC2518\]](#) section 8.1. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.17.
- **PROPPATCH** method, as specified in [\[RFC2518\]](#) section 8.2. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.18.
- **PUT** method, as specified in [\[RFC2068\]](#) section 9.6 and [\[RFC2518\]](#) section 8.7. Extensions to this method are specified in [\[MS-XWDEXT\]](#) section 2.2.1.19.
- **SUBSCRIBE** method, as specified in [\[MS-XWDNOTIF\]](#) section 2.2.7.
- **UNSUBSCRIBE** method, as specified in [\[MS-XWDNOTIF\]](#) section 2.2.8.

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 WebDAV Extensions for E-Mail Support treat a mailbox as a folder and treat messages as items within the folder. A URI is used to represent the outbound mail queue.

3.1.2 Timers

None.

3.1.3 Initialization

Before using the WebDAV Extensions for E-Mail Support for mail operations, the client goes through a discovery process. Discovery involves determining whether the server supports the WebDAV Extensions for E-Mail Support and obtaining the mail submission URI.

A client uses the **OPTIONS** method, as specified in [\[RFC2068\]](#), to discover whether the server supports the WebDAV Extensions for E-Mail Support. If the server supports the extensions, the **Allow-Extension** header, as specified in section [2.2.1.1](#), will contain "urn:schemas:httpmail".

If the server supports the WebDAV Extensions for E-Mail Support, a client then retrieves the URI to be used for mail submission. The client uses the **PROPFIND** method, as specified in [\[RFC2518\]](#), to retrieve the **PidNameHttpmailSendMessage** property ([\[MS-OXPROPS\]](#) section 2.481), which specifies the mail submission URI.

A client can assume that, if a collection supports the WebDAV Extensions for E-Mail Support and has the **PidNameHttpmailSendMessage** property, any child collections will have the same value for the **PidNameHttpmailSendMessage** property. Thus, repeated discovery is not necessary.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Manipulating Mail

The user can manipulate mail in various ways to organize and maintain his mailbox. The client uses the **COPY**, **DELETE**, **MOVE**, or **PROPPATCH** methods to execute the user's manipulations as follows.

- When the user copies a mail item from his **Inbox folder** to another mail folder on the server, the client issues a **COPY** method request, as specified in section [2.2.4.2](#).
- When the user moves a mail item from the Inbox folder to another folder, the client issues a **MOVE** method request, as specified in section [2.2.4.2](#).
- When the user deletes a mail item, the client issues a **DELETE** method request as specified in section [2.2.4.2](#).

- When the user changes the properties of a mail item, the client issues a **PROPPATCH** method request, as specified in section [2.2.4.2](#).

The client MUST include the **Translate** header, as specified in section [2.2.1.5](#), with the value set to the equivalent of "FALSE" in **COPY** and **MOVE** method requests. If the value of the **Translate** header is equivalent to "TRUE", or if the **Translate** header is not included in the request, then the server's behavior is implementation-defined.

3.1.4.2 Retrieving Attachments

When the user views an e-mail message, the client presents a list of attachments, if any. The client sends an **X-MS-ENUMATTS** request, as specified in [\[MS-XWDEXT\]](#) section 2.2.1.24, to retrieve the list of attachments. The list includes the URL of each attachment. When the user opens an attachment, the client sends a **GET** method request as specified section [2.2.4.2](#), to retrieve the attachment. The **GET** method request MUST specify the URL of the attachment to be retrieved.

3.1.4.3 Sending Mail

When a user sends mail, the client issues a **POST** or **PUT** method request.

The client submits a **POST** request, as specified in section [2.2.4.2](#), to the URI that is specified by the **PidNameHttpmailSendMessage** property ([\[MS-OXPROPS\]](#) section 2.481). This URI, called the mail submission URI, represents the outbound mail queue.

The client submits a **PUT** request, as specified in section [2.2.4.2](#), to either the mail submission URI or a URI that is a child of the mail submission URI. The server MUST treat the subordinate URI as equivalent to the mail submission URI. For example, if the mail submission URI is identified as "http://contoso.com/submitmailhere", then using the **PUT** method with "http://contoso.com/submitmailhere/child1" is valid as well. The name of the child is not significant to the operation.

For both **POST** and **PUT** requests, the value of the **Content-Type** header, as specified in [\[RFC2068\]](#) section 14.18, MUST be "message/rfc821" or "message/rfc822". The client can copy the message to the user's **Sent Items** folder by including the **Saveinsent** header, as specified in section [2.2.1.4](#), in the request and setting its value to indicate "TRUE". If the client wishes to save the message to a specific destination, then it includes the **Savedestination** header, as specified in section [2.2.1.3](#).

The client MUST include the **Translate** header, as specified in section [2.2.1.5](#), with the value set to indicate "FALSE" in **POST** and **PUT** requests. If the value of the **Translate** header is equivalent to "TRUE", or if the **Translate** header is not included in the request, then the server's behavior is implementation-defined.

3.1.4.4 Subscribing to Receive Mail

A user can receive mail only after subscribing to his Inbox folder. When a user subscribes to his Inbox folder, the client submits a **SUBSCRIBE** method request, as specified in [\[MS-XWDNOTIF\]](#) section 2.2.7, to register the user's subscription, as specified in [\[MS-XWDNOTIF\]](#) section 3.2. The client submits an **UNSUBSCRIBE** method request, as specified in [\[MS-XWDNOTIF\]](#) section 2.2.8, to cancel the subscription, as specified in [\[MS-XWDNOTIF\]](#) section 3.2.

If the server is not sending notifications, the client uses the **POLL** method, as specified in [\[MS-XWDNOTIF\]](#) section 2.2.9, to inquire about events, as specified in [\[MS-XWDNOTIF\]](#) section 3.3.1.

3.1.5 Message Processing Events and Sequencing Rules

3.1.5.1 Receiving Mail

Once the user has subscribed to his Inbox folder, the client receives a notification from the server when new mail arrives in the user's Inbox folder. The notification includes a subscription ID that identifies the resource. For more details about the **NOTIFY** method and notifications, see [\[MS-XWDNOTIF\]](#) section 2.2.10 and section [3.3](#), respectively.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

3.2 Server Details

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.

The WbDAV Extensions for E-Mail Support treat a mailbox as a folder and treat messages as items within the folder. A URI is used to represent the outbound mail queue.

3.2.2 Timers

None.

3.2.3 Initialization

None.

3.2.4 Higher-Layer Triggered Events

The server uses the **NOTIFY** method, as specified in [\[MS-XWDNOTIF\]](#) section 2.2.10, to send a notification to the client when new mail arrives in a user's Inbox folder. The notification MUST include the subscription ID that specifies the resource URI. For more details about how the server uses the **NOTIFY** method, see [\[MS-XWDNOTIF\]](#) section 3.3.2.

3.2.5 Message Processing Events and Sequencing Rules

3.2.5.1 Processing an OPTIONS Request

The **OPTIONS** method response includes the **Public-Extension** header, as specified in section [2.2.1.2](#). If the server supports the WebDAV Extensions for E-Mail Support, the **OPTIONS** method response includes the **Allow-Extension** header, as specified in section [2.2.1.1](#), with the value "urn:schemas:httpmail". For more details about how the server responds to an **OPTIONS** request, see [\[RFC2068\]](#).

3.2.5.2 Processing an X-MS-ENUMATTS Request

The server ignores any body that is sent in the **X-MS-ENUMATTS** method request, as specified in [\[MS-XWDEXT\]](#) section 2.2.1.24. The **X-MS-ENUMATTS** method response adheres to the same rules that are specified for a **PROPFIND** method response in [\[RFC2518\]](#) and [\[MS-XWDEXT\]](#) section 3.1.5.1.10.

The **X-MS-ENUMATTS** method response contains a list, specified in XML format, that includes the following for each item that is attached to a particular e-mail message.

- The URL of the attached item
- The properties of the attached item

The following properties are returned for an embedded e-mail attachment: [<9>](#)

- **PidTagAttachMethod** ([\[MS-OXCMSG\]](#) section 2.2.2.9)
- **PidTagRenderingPosition** ([\[MS-OXPROPS\]](#) section 2.1012)
- **PidTagAttachFlags** ([\[MS-OXCMSG\]](#) section 2.2.2.18)
- **PidTagAttachSize** ([\[MS-OXCMSG\]](#) section 2.2.2.5)
- **PidTagAttachNumber** ([\[MS-OXCMSG\]](#) section 2.2.2.6)
- **PidTagDisplayName** ([\[MS-OXCFOLD\]](#) section 2.3.2.2.3)
- **PidTagAttachFilename** ([\[MS-OXCMSG\]](#) section 2.2.2.11)

The following properties are returned for a document attachment:

- **PidTagAttachExtension** ([\[MS-OXCMSG\]](#) section 2.2.2.12)
- **PidTagAttachFilename**
- **PidTagAttachMethod**
- **PidTagRenderingPosition**
- **PidTagAttachFlags**
- **PidTagAttachSize**
- **PidTagAttachNumber**
- **PidTagAttachLongFilename** ([\[MS-OXCMSG\]](#) section 2.2.2.10)
- **PidTagDisplayName**

3.2.5.3 Processing All Other Requests

For details about how the server responds to other requests, see the references in the following list:

- **COPY** method response — [\[RFC2518\]](#) and [\[MS-XWDEXT\]](#) section 3.1.5.1.6
- **MOVE** method response — [\[RFC2518\]](#) and [\[MS-XWDEXT\]](#) section 3.1.5.1.9
- **PROPFIND** method response — [\[RFC2518\]](#) and [\[MS-XWDEXT\]](#) section 3.1.5.1.10

- **PROPPATCH** method response — [\[RFC2518\]](#) and [\[MS-XWDEXT\]](#) section 2.2.1.18
- **DELETE**, **GET**, **POST**, and **PUT** method responses — [\[RFC2068\]](#) and [\[RFC2518\]](#)
- **SUBSCRIBE**, **UNSUBSCRIBE**, and **POLL** method responses — [\[MS-XWDNOTIF\]](#) section 3.2 and section [3.3.1](#).

3.2.6 Timer Events

None.

3.2.7 Other Local Events

None.

4 Protocol Examples

4.1 Discovery

The following example shows that the server supports mail submission through DAV and that this particular resource can be used for mail submission. The server first sends an **OPTIONS** method request to determine support, as described in section [2.2.4.2](#). Then, the server sends a **PROPFIND** method request, as described in [\[MS-XWDEXT\]](#) section 2.2.1.17, to retrieve the mail submission URI.

Request

```
OPTIONS /contoso/ HTTP/1.1
Host: contoso.com
Content-Length: 0
```

Response

```
HTTP/1.1 200 OK
Server: Microsoft-IIS/5.0
Date: Thu, 09 Jul 1998 15:20:02 GMT
Connection: close
Accept-Ranges: bytes
Cache-Control: private
Dav: 1, 2
Public-Extension: http://contoso.com/schemas
Public-Extension: urn:schemas:httpmail
Allow-Extension: urn:schemas:httpmail
Content-Length: 0
```

Request

```
PROPFIND /exchange/test/Inbox HTTP/1.1
Host: contoso.com
Content-Type: text/xml
Depth: 0
Content-Length: 176
Authorization: NTLM

<?xml version="1.0" encoding="utf-8" ?>
<D:propfind xmlns:D="DAV:">
  <D:prop xmlns:m="urn:schemas:httpmail:">
    <m:sendmsg/>
  </D:prop>
</D:propfind>
```

Response

```
HTTP/1.1 207 Multi-Status
Cache-Control: no-cache
Transfer-Encoding: chunked
```

```
Content-Type: text/xml
Accept-Ranges: rows
Server: Microsoft-IIS/7.0
MS-WebStorage: 08.01.10240
X-Powered-By: ASP.NET
Date: Wed, 22 Oct 2008 17:46:34 GMT
```

```
<?xml version="1.0"?>
<a:multistatus xmlns:b="urn:uuid:c2f41010-65b3-11d1-a29f-00aa00c14882/"
xmlns:d="urn:schemas:httpmail:" xmlns:c="xml:" xmlns:a="DAV:">
  <a:response>
    <a:href>https://exch1/exchange/alex/</a:href>
    <a:propstat>
      <a:status>HTTP/1.1 200 OK</a:status>
      <a:prop>
        <d:sendmsg>https://exch1/exchange/alex/%23%23DavMailSubmissionURI%23%23/
        </d:sendmsg>
      </a:prop>
    </a:propstat>
  </a:response>
</a:multistatus>
```

4.2 Sending Mail

The following example uses the **POST** method, as described in section [2.2.4.2](#), to send mail using the message/rfc821 media type.

Request

```
POST /exchange/test/%23%23DavMailSubmissionURI%23%23/ HTTP/1.1
Host: contoso.com
Content-Type: message/rfc821
Content-Length: xxx
Translate: f

MAIL FROM:<john@contoso.com >
RCPT TO:<john@bencipldcontoso.com>

from: anne@contoso.com
to: bar@contoso.com
Content-Type: text/plain
MIME-Version: 1.0
subject: Test of email

This is my email
```

Response

```
HTTP/1.1 200 OK
Server: Microsoft-IIS/5.0
Date: Thu, 09 Jul 1998 15:20:02 GMT
Connection: close
```

4.3 Attachments

The following example uses the **X-MS-ENUMATTS** method, as described in [\[MS-XWDEXT\]](#) section 2.2.1.24, to retrieve a list of the items that are attached to the e-mail "attachment.EML". The response lists two attachments: "longnamestuff.doc" (a document) and "msginmsg.EML" (an embedded e-mail message).

Request:

```
X-MS-ENUMATTS /exchange/user/inbox/attachment.EML HTTP/1.1
```

Response:

```
HTTP/1.1 207 Multi-Status
Date: Thu, 22 Jan 2009 22:39:43 GMT
Server: Microsoft-IIS/6.0
Content-Type: text/xml
Accept-Ranges: rows
MS-WebStorage: 6.5.7638
Transfer-Encoding: chunked
Cache-Control: no-cache

<?xml version="1.0" ?>
<a:multistatus xmlns:b="urn:uuid:c2f41010-65b3-11d1-a29f-00aa00c14882/"
xmlns:e="urn:schemas:httpmail:" xmlns:c="xml:"
xmlns:d="http://schemas.microsoft.com/mapi/proptag/" xmlns:f="urn:schemas:contacts:"
xmlns:a="DAV:">
  <a:response>
    <a:href>http://server/exchange/user/inbox/attachment.EML/longnamestuff.doc</a:href>
    <a:propstat>
      <a:status>HTTP/1.1 200 OK</a:status>
      <a:prop>
        <d:x3703001f>.doc</d:x3703001f>
        <d:x3704001f>LONGNA~1.DOC</d:x3704001f>
        <d:x37050003 b:dt="int">1</d:x37050003>
        <d:x370b0003 b:dt="int">-1</d:x370b0003>
        <d:x37140003 b:dt="int">0</d:x37140003>
        <d:x0e200003 b:dt="int">111634</d:x0e200003>
        <d:x0e210003 b:dt="int">0</d:x0e210003>
        <e:attachmentfilename>longnamestuff.doc</e:attachmentfilename>
        <f:cn>longnamestuff.doc</f:cn>
      </a:prop>
    </a:propstat>
  </a:response>
  <a:response>
    <a:href>http://server/exchange/user/inbox/attachment.EML/msginmsg.EML</a:href>
    <a:propstat>
      <a:status>HTTP/1.1 200 OK</a:status>
      <a:prop>
        <d:x37050003 b:dt="int">5</d:x37050003>
        <d:x370b0003 b:dt="int">-1</d:x370b0003>
        <d:x37140003 b:dt="int">0</d:x37140003>
        <d:x0e200003 b:dt="int">6434</d:x0e200003>
        <d:x0e210003 b:dt="int">1</d:x0e210003>
        <f:cn>msginmsg</f:cn>
      </a:prop>
    </a:propstat>
  </a:response>
</a:multistatus>
```

```
</a:propstat>  
</a:response>  
</a:multistatus>
```


5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

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

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 2.2.2.3.4:](#) When the **PidTagAttachFilename** property is returned by Exchange 2007 for an embedded e-mail attachment, the file name specified by the property is not in [8.3 name](#) format.

[<2> Section 2.2.2.7.19:](#) Exchange 2003 does implement the **PidNameFollowupTo** property ([\[MS-OXPROPS\]](#) section 2.469).

[<3> Section 2.2.2.7.24:](#) Exchange 2003 does implement the **PidNameLines** property ([\[MS-OXPROPS\]](#) section 2.498).

[<4> Section 2.2.2.7.27:](#) Exchange 2003 does implement the **PidNameNewsgroups** property ([\[MS-OXPROPS\]](#) section 2.506).

[<5> Section 2.2.2.7.28:](#) Exchange 2003 does implement the **PidNameNntpPostingHost** property ([\[MS-OXPROPS\]](#) section 2.507).

[<6> Section 2.2.2.7.31:](#) Exchange 2003 does implement the **PidNamePath** property ([\[MS-OXPROPS\]](#) section 2.522).

[<7> Section 2.2.2.7.35:](#) Exchange 2003 does implement the **PidNameReferences** property ([\[MS-OXPROPS\]](#) section 2.529).

[<8> Section 2.2.2.7.51:](#) Exchange 2003 does implement the **PidNameCrossReference** property ([\[MS-OXPROPS\]](#) section 2.441).

[<9> Section 3.2.5.2:](#) Exchange 2003 does not return the **PidTagAttachFilename** property ([\[MS-OXPROPS\]](#) section 2.657) for an embedded e-mail attachment.

7 Change Tracking

This section identifies changes that were made to the [MS-XWDMAIL] protocol document between the November 2010 and March 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 |
|---|---|-----------------------|------------------|
| 1.3 Overview | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |
| 1.4 Relationship to Other Protocols | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |
| 1.7 Versioning and Capability Negotiation | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |
| 2.2.1 Headers | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |
| 2.2.2.1.4 PidTagUrlName | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |
| 2.2.4.2 Other Methods | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |
| 3.1.3 Initialization | Added discovery information from Discovery section that was in the Higher-Layer Triggered Events section. | Y | Content updated. |
| 3.1.4.3 Sending Mail | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |
| 3.2.5.1 Processing an OPTIONS Request | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |

| Section | Tracking number (if applicable) and description | Major change (Y or N) | Change type |
|---|---|-----------------------|------------------|
| 3.2.5.3 Processing All Other Requests | Updated reference to [RFC2068] to [RFC2616]. | N | Content updated. |
| | Removed Discovery section from the Higher-Layer Triggered Events section and added content to the Initialization section. | Y | Content removed. |

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