

[MS-XWDFOLD]: Web Distributed Authoring and Versioning (WebDAV) Extensions for Folders Support

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Revision Summary

Date	Revision History	Revision Class	Comments
12/03/2008	1.0		Initial Release.
04/10/2009	2.0		Deprecated for Exchange 2010.
07/15/2009	3.0	Major	Changes made for template compliance.
11/04/2009	3.1.0	Minor	Updated the technical content.
02/10/2010	3.2.0	Minor	Updated the technical content.
05/05/2010	3.3.0	Minor	Updated the technical content.
08/04/2010	3.4	Minor	Clarified the meaning of the technical content.
11/03/2010	3.5	Minor	Clarified the meaning of the technical content.
03/18/2011	3.6	Minor	Clarified the meaning of the technical content.

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1 Introduction

This document specifies a set of properties that extend the **HTTP** and **WebDAV** protocols to support folders.

1.1 Glossary

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

Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
Secure Sockets Layer (SSL)

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

Uniform Resource Locator (URL)
Web Distributed Authoring and Versioning Protocol (WebDAV)
WebDAV client
WebDAV server

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-OXCFOLD] Microsoft Corporation, "[Folder 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.

[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>

[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>

[RFC2246] Dierks, T., and Allen, C., "The TLS Protocol Version 1.0", RFC 2246, January 1999, <http://www.ietf.org/rfc/rfc2246.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>

1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)", March 2007.

[MS-OXCDATA] Microsoft Corporation, "[Data Structures](#)", April 2008.

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

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

1.3 Overview

The WebDAV protocol is a set of methods, headers, and content types that extend the Hypertext Transport Protocol – HTTP/1.1, as described in [\[RFC2068\]](#). The WebDAV protocol allows for the writing of data to Internet servers. This document specifies a set of extension properties that exist on collections that act as folders for a mail and collaboration system.

All properties in this specification are listed in [\[MS-OXPROPS\]](#). The data type and format of the properties is described in [\[MS-OXCDATA\]](#).

1.4 Relationship to Other Protocols

The WebDAV Extensions for Folders Support rely on WebDAV, as described in [\[RFC2518\]](#), which in turn relies on HTTP 1.1, as described in [\[RFC2068\]](#). These extensions can use **HTTPS** for data protection, as described in [\[RFC2818\]](#).

The WebDAV Extensions for Folders Support use extensions to [\[RFC2518\]](#), which are described in [\[MS-XWDEXT\]](#).

1.5 Prerequisites/Preconditions

The WebDAV Extensions for Folders Support require a **WebDAV server**, as described in [\[RFC2518\]](#). These extensions also require that **WebDAV clients** have **URLs** that point to WebDAV servers.

1.6 Applicability Statement

This specification defines properties that can be found on folders in an e-mail and collaboration system that supports the WebDAV protocol.

1.7 Versioning and Capability Negotiation

- **Versioning:** This protocol uses 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 this protocol.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

Messages are transported by using HTTP, as specified in [\[RFC2518\]](#) and [\[RFC2068\]](#).

The WebDAV protocol can be used with **Secure Sockets Layer (SSL)** or Transport Layer Security (TLS), as specified in [\[RFC2246\]](#).

Port 80 is the standard port assignment for HTTP, and port 443 is the standard port assignment for HTTP over SSL or TLS; however, individual implementations might support other ports.

2.2 Message Syntax

The extension properties specified in this document conform to the form and behavior of other custom HTTP headers, as specified in [\[RFC2068\]](#) section 4.2, and are consistent with the WebDAV verbs and headers, as specified in [\[RFC2518\]](#) sections 8 and 9.

2.2.1 PidTagSubfolder

DAV Property Name: DAV:isfolder

Data type: PtypBoolean

This property indicates whether the resource is a folder as displayed to end users. This property is read-only.

Example:

```
<a:isfolder b:dt=" boolean ">1</a:isfolder>
```

2.2.2 PidTagSubfolders

DAV Property Name: DAV:hassubs

Data type: PtypBoolean

This property indicates whether this folder has any subfolders.

This is the same as **PidTagSubfolders**, as specified in [\[MS-OXPROPS\]](#) section 2.1144.

2.2.3 PidTagContainerClass

DAV Property Name: http://schemas.microsoft.com/exchange/outlookfolderclass

Data type: PtypString

This property describes the type of objects that the folder contains.

This is the same as **PidTagContainerClass**, as specified in [\[MS-OXPROPS\]](#) section 2.712.

2.2.4 PidTagPublicFolderAdministrativeDescription

DAV Property Name: http://schemas.microsoft.com/exchange/adminfolderdescription

Data type: PtypString

This property is a text description for a public folder. This property is only available for public folders.

This is the same as **PidTagPublicFolderAdministrativeDescription**, as specified in [\[MS-OXPROPS\]](#) section 2.971.

2.2.5 PidTagPublicFolderProxy

DAV Property Name: http://schemas.microsoft.com/exchange/folderproxy

Data type: PtypBinary

This property contains the Base64 encoding of the ObjectGUID for a mail-enabled public folder. The absence of this property indicates that a particular public folder is not mail-enabled. This property is only available for public folders.

This is the same as **PidTagPublicFolderProxy**, as specified in [\[MS-OXPROPS\]](#) section 2.972.

2.2.6 PidTagNormalMessageSize

DAV Property Name: http://schemas.microsoft.com/exchange/foldersize

Data type: PtypInteger32

This property contains the aggregate size of messages in the folder. This is similar to **PidTagMessageSize**, as specified in [\[MS-OXCFOLD\]](#) section 2.3.2.1.7, except that it only includes messages that are normally viewable by standard clients. It does not, for example, show FAI messages.

This is the same as **PidTagNormalMessageSize**, as specified in [\[MS-OXPROPS\]](#) section 2.908.

2.2.7 PidNameExchangePublicFolderEmailAddress

DAV Property Name: http://schemas.microsoft.com/exchange/publicfolderemailaddress

Data type: PtypString

This property contains the e-mail address of a public folder.

3 Protocol Details

3.1 Server Details

3.1.1 Abstract Data Model

Folders on the server are modeled on a set of WebDAV collections. While some collections are used for storage of hidden resources that are used internally by the server and clients, folders are displayed to end users for use in organizing their e-mail.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

None.

3.1.5 Message Processing Events and Sequencing Rules

This protocol uses the same message processing events and sequencing rules as specified in [\[MS-XWDEXT\]](#).

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

4 Protocol Examples

None.

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.

7 Change Tracking

This section identifies changes that were made to the [MS-XWDFOLD] 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 [RFC4918] to [RFC2518].	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.
2.1 Transport	Updated reference to [RFC4918] to [RFC2518].	N	Content updated.
2.1 Transport	Updated reference to [RFC2068] to [RFC2616].	N	Content updated.
2.2 Message Syntax	Updated reference to [RFC4918] to [RFC2518].	N	Content updated.
2.2 Message Syntax	Updated reference to [RFC4918] to [RFC2518].	N	Content updated.
2.2 Message Syntax	Updated reference to [RFC2068] to [RFC2616].	N	Content updated.

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