

[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.
08/05/2011	3.6	No change	No changes to the meaning, language, or formatting of the technical content.
10/07/2011	3.6	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	3.6	No change	No changes to the meaning, language, or formatting of the technical content.
04/27/2012	3.6	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	3.6	No change	No changes to the meaning, language, or formatting of the technical content.
10/08/2012	3.7	Minor	Clarified the meaning of the technical content.
02/11/2013	3.7	No change	No changes to the meaning, language, or formatting of the technical content.

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1 Introduction

This document specifies a set of properties that extend the **Hypertext Transfer Protocol (HTTP)** and the [Web Distributed Authoring and Versioning Protocol \(WebDAV\)](#) to support folders.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. Sections 1.5 and 1.9 are also normative but cannot contain those terms. All other sections and examples in this specification are informative.

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 [\[MS-OXGLOS\]](#):

base64 encoding
folder associated information (FAI)
Message object
public folder
Transport Layer Security (TLS)
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

References to Microsoft Open Specifications documentation do not include a publishing year because links are to the latest version of the technical documents, which are updated frequently. References to other documents include a publishing year when one is available.

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-OXCFOLD] Microsoft Corporation, "[Folder Object Protocol](#)".

[MS-OXOCAL] Microsoft Corporation, "[Appointment and Meeting Object Protocol](#)".

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

[MS-XWDEXT] Microsoft Corporation, "[Web Distributed Authoring and Versioning \(WebDAV\) Core Extensions](#)".

[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.rfc-editor.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](#)".

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

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

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

1.3 Overview

The Web Distributed Authoring and Versioning (WebDAV) Extensions for Folders Support extend the 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 [\[RFC2518\]](#) that are described in [\[MS-XWDEXT\]](#).

For conceptual background information and overviews of the relationships and interactions between this and other protocols, see [\[MS-OXPROTO\]](#).

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 [WebDAV](#).

1.7 Versioning and Capability Negotiation

- **Versioning:** The WebDAV Extensions for Folders Support use only those versioning mechanisms that exist in [WebDAV](#) and HTTP, as described in [\[RFC2518\]](#) and [\[RFC2068\]](#).
- **Capability Negotiation:** The client sends an **OPTIONS** method request to determine whether the server supports these extensions.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

The WebDAV Extensions for Folders Support transport messages by using HTTP, as specified in [\[RFC2518\]](#) and [\[RFC2068\]](#).

[WebDAV](#) 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** ([\[MS-OXCDATA\]](#) section 2.11.1.6)

The **PidTagSubfolder** property ([\[MS-OXPROPS\]](#) section 2.1143) 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** ([\[MS-OXCDATA\]](#) section 2.11.1.6)

The **PidTagSubfolders** property ([\[MS-OXCFOLD\]](#) section 2.2.2.2.1.10) indicates whether this folder has any subfolders.

2.2.3 PidTagContainerClass

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

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.6)

The **PidTagContainerClass** property ([\[MS-OXOCAL\]](#) section 2.2.11.1) describes the type of objects that the folder contains.

2.2.4 PidTagPublicFolderAdministrativeDescription

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

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.6)

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

2.2.5 PidTagPublicFolderProxy

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

Data type: **PtypBinary** ([\[MS-OXCDATA\]](#) section 2.11.1.6)

The **PidTagPublicFolderProxy** property ([\[MS-OXPROPS\]](#) section [2.972](#)) 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 available only for public folders.

2.2.6 PidTagNormalMessageSize

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

Data type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1.6)

The **PidTagNormalMessageSize** property ([\[MS-OXPROPS\]](#) section [2.908](#)) contains the aggregate size of [Message objects](#) in the folder. This is similar to the **PidTagMessageSize** property ([\[MS-OXCFOLD\]](#) section 2.2.2.2.1.8), except that it includes only Message objects that are normally viewable by standard clients. It does not, for example, show [folder associated information \(FAI\)](#) messages.

2.2.7 PidNameExchangePublicFolderEmailAddress

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

Data type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1.6)

The **PidNameExchangePublicFolderEmailAddress** property ([\[MS-OXPROPS\]](#) section [2.462](#)) 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

The WebDAV Extensions for Folders Support use the message processing events and sequencing rules that are 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

No table of changes is available. The document is either new or has had no changes since its last release.

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