

# [MS-XWDDOC]: Web Distributed Authoring and Versioning (WebDAV) Extensions for Documents Support

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## Revision Summary

Date	Revision History	Revision Class	Comments
12/03/2008	1.0	Major	Initial Release.
03/04/2009	1.0.1	Editorial	Revised and edited technical content.
04/10/2009	2.0	Major	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	4.0.0	Major	Updated and revised the technical content.
05/05/2010	4.0.1	Editorial	Revised and edited the technical content.
08/04/2010	4.0.1	No change	No changes to the meaning, language, or formatting of the technical content.
11/03/2010	4.0.1	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	4.1	Minor	Clarified the meaning of the technical content.

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# 1 Introduction

This document describes property extensions to [\[RFC2518\]](#), [\[MS-WDVME\]](#), [\[MS-WDVSE\]](#), and [\[MS-WDV\]](#) to allow for the creation and manipulation of **Document objects** by using **WebDAV**. Document objects are **Message objects** with additional properties. These properties are available for query and manipulation as described in [\[MS-OXODOC\]](#) or by using WebDAV and the properties specified in this document.

## 1.1 Glossary

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

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

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

**display name**  
**Inbox folder**  
**Message object**  
**store**  
**Uniform Resource Locator (URL)**  
**Web Distributed Authoring and Versioning Protocol (WebDAV)**  
**WebDAV client**  
**WebDAV server**

The following terms are specific to this document:

**Document object:** A Message object that represents a single file, such as a document generated by a word-processing application. The Message object contains the file as an Attachment object and includes additional properties to describe the file.

**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](mailto: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-DTYP] Microsoft Corporation, "[Windows Data Types](#)", January 2007.

[MS-OSHARED] Microsoft Corporation, "[Office Common Data Types and Objects Structure Specification](#)", June 2008.

[MS-OXCFXICS] Microsoft Corporation, "[Bulk Data Transfer Protocol Specification](#)", June 2008.

[MS-OXCMAIL] Microsoft Corporation, "[RFC2822 and MIME to E-Mail Object Conversion Protocol Specification](#)", June 2008.

[MS-OXCMMSG] Microsoft Corporation, "[Message and Attachment Object Protocol Specification](#)", June 2008.

[MS-OXODOC] Microsoft Corporation, "[Document Object Protocol Specification](#)", June 2008.

[MS-OXPROPS] Microsoft Corporation, "[Exchange Server Protocols Master Property List](#)", April 2008.

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

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

[MS-XWDEXT] Microsoft Corporation, "[Web Distributed Authoring and Versioning \(WebDAV\) Core Extensions](#)", July 2009.

[MS-XWDSTRUCTDOC] Microsoft Corporation, "[Web Distributed Authoring and Versioning \(WebDAV\) Extensions for Structured Documents](#)", December 2008.

[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>

[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>

[RFC4648] Josefsson, S., "The Base16, Base32, and Base64 Data Encodings", RFC 4648, October 2006, <http://www.ietf.org/rfc/rfc4648.txt>

### 1.2.2 Informative References

[MSDN-CESHU] Microsoft Corporation, "Constructing Exchange Store HTTP URLs", June 2006, [http://msdn.microsoft.com/en-us/library/aa493863\(EXCHG.80\).aspx](http://msdn.microsoft.com/en-us/library/aa493863(EXCHG.80).aspx)

[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.

[MS-OXOMSG] Microsoft Corporation, "[E-Mail Object Protocol Specification](#)", June 2008.

[MS-WDV] Microsoft Corporation, "[Web Distributed Authoring and Versioning \(WebDAV\) Protocol: Client Extensions](#)", August 2007.

[RFC2291] Slein, J., Vitali, F., Whitehead, E., et al., "Requirements for a Distributed Authoring and Versioning Protocol for the World Wide Web", RFC 2291, February 1998, <http://www.ietf.org/rfc/rfc2291.txt>

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

[RFC3744] Clemm, G., Reschke, J., Sedlar, E., and Whitehead, J., "Web Distributed Authoring and Versioning (WebDAV) Access Control Protocol", RFC 3744, May 2004, <http://www.rfc-editor.org/rfc/rfc3744.txt>

## 1.3 Overview

This document describes extensions to [\[RFC2518\]](#), [\[MS-WDVME\]](#), [\[MS-WDVSE\]](#), and [\[MS-WDV\]](#) to allow for manipulation of Document objectproperties by using WebDAV. Document objects are Message objects, as described in [\[MS-OXOMSG\]](#) with additional properties. The additional properties available on Document objects are available for query and manipulation by using WebDAV as specified in this document, or by using the protocol described in [\[MS-OXODOC\]](#).

Standard and Microsoft extensions to WebDAV constructs are used to manipulate and query Document objectproperties. No additional headers or methods are specified in this document. Standard WebDAV constructs are described in [\[RFC2518\]](#), Microsoft extensions to WebDAV constructs are described in [\[MS-WDVME\]](#), [\[MS-WDVSE\]](#), and [\[MS-WDV\]](#).

## 1.4 Relationship to Other Protocols

This specification is dependent on the WebDAV Protocol as described in [\[RFC2518\]](#). WebDAV, in turn, relies on **Hypertext Transfer Protocol (HTTP)** 1.1, as described in [\[RFC2068\]](#). These extensions also rely on **Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**, as described in [\[RFC2818\]](#), for data protection services.

This protocol is also dependent on the client, server and Microsoft extensions to [\[RFC2518\]](#) as described in [\[MS-WDVME\]](#), [\[MS-WDVSE\]](#), and [\[MS-WDV\]](#). This protocol is also dependent on the Microsoft extension to [\[RFC2518\]](#), [\[MS-XWDEXT\]](#), for verb, header, and element definitions.

The WebDAV document properties specified in section 2.2 of this document map to Document object properties, as described in [\[MS-OXODOC\]](#) section 2.2.2, and [\[MS-OXCMAIL\]](#) section 2.1.

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

## 1.5 Prerequisites/Preconditions

This specification requires the following:

- A **WebDAV server**, as described in [\[RFC2291\]](#).
- The **WebDAV client** has a **URL** that points to the WebDAV server.
- The WebDAV client obtains the URL through a mechanism that is outside of WebDAV and that is determined by the implementer.
- The WebDAV client and server support WebDAV access control lists (ACL) as described in [\[RFC3744\]](#).
- The WebDAV client and server support ETags, as described in [\[RFC2068\]](#) section 14.19.

For more information about constructing WebDAV server URLs, see [\[MSDN-CESHU\]](#).

## 1.6 Applicability Statement

A client can use this protocol to communicate Document object data with a server by using WebDAV.

## 1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This specification uses HTTP as its only transport.
- **Versioning:** This document introduces no new versioning mechanisms except those that already exist in WebDAV and HTTP as specified in [\[RFC2518\]](#) and [\[RFC2068\]](#).
- **Capability Negotiation:** This specification introduces no new capability negotiations except those that already exist in [\[RFC2518\]](#) sections 10.1 and 18, and in [\[RFC2068\]](#) section 9.2, via the OPTIONS method.

## 1.8 Vendor-Extensible Fields

None.

## 1.9 Standards Assignments

None.



## 2 Messages

### 2.1 Transport

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

### 2.2 Message Syntax

This section contains the WebDAV property extensions for Document object support. Many of these properties map directly to the Document object properties specified in [\[MS-OXODOC\]](#).

#### 2.2.1 DAV: Namespace Properties

##### 2.2.1.1 PidNameContentClass

**DAV property names:** DAV:contentclass, urn:schemas:mailheader:content-class, Content-Class

**Data type:** PtypString

Gets or sets the content class for the document item.

For more details about **PidNameContentClass**, see [\[MS-OXPROPS\]](#) section 2.432 and [\[MS-OXCMAIL\]](#) section 2.1.3.2.2.

##### 2.2.1.2 PidNameDavId

**DAV property name:** DAV:id

**Data type:** PtypString

Gets the calculated value that contains the unique ID for the document.

For more details about **PidNameDavId**, see [\[MS-OXPROPS\]](#) section 2.443.

##### 2.2.1.3 PidNameDavIsCollection

**DAV property name:** DAV:iscollection

**Data type:** PtypBoolean

Gets the calculated value that specifies whether an item is a collection, as specified in [\[MS-WDVME\]](#). True if the item is a collection; otherwise, false.

For more details about **PidNameDavIsCollection**, see [\[MS-OXPROPS\]](#) section 2.444.

##### 2.2.1.4 PidNameDavIsStructuredDocument

**DAV property name:** DAV:isstructureddocument

**Data type:** PtypBoolean

Gets the calculated value that specifies whether an item is a structured document, as specified in [\[MS-XWDSTRUCTDOC\]](#). True if the item is a structured document; otherwise, false.

For more details about **PidNameDavIsStructuredDocument**, see [\[MS-OXPROPS\]](#) section 2.445.

#### 2.2.1.5 PidNameDavParentName

**DAV property name:** DAV:parentname

**Data type:** PtypString

Gets the calculated value that specifies the absolute URL of the folder that contains the item.

For more details about **PidNameDavParentName**, see [\[MS-OXPROPS\]](#) section 2.446.

#### 2.2.1.6 PidNameDavUid

**DAV property name:** DAV:uid

**Data type:** PtypString

Gets the calculated unique identifier for the item.

For more details about **PidNameDavUid**, see [\[MS-OXPROPS\]](#) section 2.450.

#### 2.2.1.7 PidTagAttributeHidden

**DAV property name:** DAV:ishidden

**Data type:** PtypBoolean

Gets or sets the value that indicates whether the item is hidden, as specified in [\[MS-WDVME\]](#). True if the item is hidden; otherwise, false.

For more details about **PidTagAttributeHidden**, see [\[MS-OXPROPS\]](#) section 2.675.

#### 2.2.1.8 PidTagAttributeReadOnly

**DAV property name:** DAV:isreadonly

**Data type:** PtypBoolean

Gets or sets the value that indicates whether the item can be modified or deleted. True if the item is read-only; otherwise, false.

For more details about **PidTagAttributeReadOnly**, see [\[MS-OXPROPS\]](#) section 2.676.

#### 2.2.1.9 PidTagSubfolder

**DAV property name:** DAV:isfolder

**Data type:** PtypBoolean

Gets a value that indicates whether the item is a folder. True if the item is a folder and is viewable in the mail client; otherwise, false. This property is further specified in [\[MS-WDVME\]](#).

For more details about **PidTagSubfolder**, see [\[MS-OXPROPS\]](#) section 2.1143.

#### 2.2.1.10 PidTagUrlName

**DAV property name:** DAV:href

**Data type:** PtypString

Gets the absolute URL of the document.

For more details about **PidTagUrlName**, see [\[MS-OXPROPS\]](#) section 2.1168.

## 2.2.2 [http://schemas.microsoft.com/exchange/](#) Namespace Properties

### 2.2.2.1 PidTagExchangeNTSecurityDescriptor

**DAV property name:** [http://schemas.microsoft.com/exchange/ntsecuritydescriptor](#)

**Data type:** PtypBinary

Gets or sets the calculated the security descriptor for the item. The security descriptor MUST contain the item's primary owner and group, and a discretionary access control list granting and denying various rights to particular users and groups. Clients MUST NOT manipulate the security descriptor directly. The **PidTagExchangeNTSecurityDescriptor** property is a base64 encoded ([\[RFC4648\]](#) section 4) **SECURITY\_DESCRIPTOR**, as specified in [\[MS-DTYP\]](#).

For more details about **PidTagExchangeNTSecurityDescriptor**, see [\[MS-OXPROPS\]](#) section 2.763.

### 2.2.2.2 PidTagFlatUrlName

**DAV property name:** [http://schemas.microsoft.com/exchange/permanenturl](#)

**Data type:** PtypString

Gets the unique identifier for an item across the **store**. This value MUST NOT change as long as the item remains in the same folder. The **PidTagFlatUrlName** property ([\[MS-OXPROPS\]](#) section 2.774) contains the ID of the parent folder of the item, which changes when the item is moved to a different folder or deleted. Changing a property on an item does not change the PidTagFlatUrlName property, nor will adding more items to the folder with the same **display name** or message subject. This property corresponds to the **MS-Exchange-Permanent-URL** header value, as specified in [\[MS-XWDEXT\]](#).

### 2.2.2.3 PidTagMessageClass

**DAV property name:** [http://schemas.microsoft.com/exchange/outlookmessageclass](#)

**Data type:** PtypString

Gets or sets the type of document.

For more details about **PidTagMessageClass**, see [\[MS-OXPROPS\]](#) section 2.884 and [\[MS-OXCMSG\]](#) section 2.2.1.3.

### 2.2.2.4 PidTagMid

**DAV property name:** [http://schemas.microsoft.com/exchange/mid](#)

**Data type:** PtypInteger64

Gets the message ID (MID).

For more details about **PidTagMid**, see [\[MS-OXPROPS\]](#) section 2.898 and [\[MS-OXCFXICS\]](#) section 2.2.1.2.1.

## 2.2.3 urn:schemas-microsoft-com:office:office Namespace Properties

### 2.2.3.1 PidNameApplicationName

**DAV property names:** AppName, urn:schemas-microsoft-com:office:office#NameOfApplication

**Data type:** PtypString

Gets or sets the name of the application used to create the document. This property corresponds to the GKPIDSI\_APPNAME property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameApplicationName**, see [\[MS-OXPROPS\]](#) section 2.366.

### 2.2.3.2 PidNameAuthor

**DAV property names:** Author, urn:schemas-microsoft-com:office:office#Author

**Data type:** PtypString

Gets or sets the author of the document. This property corresponds to the GKPIDSI\_AUTHOR property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameAuthor**, see [\[MS-OXPROPS\]](#) section 2.377.

### 2.2.3.3 PidNameByteCount

**DAV property names:** ByteCount, urn:schemas-microsoft-com:office:office#Bytes

**Data type:** PtypInteger32

Gets or sets the size of the document in bytes. This property corresponds to the GKPIDDI\_BYTECOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameByteCount**, see [\[MS-OXPROPS\]](#) section 2.380.

### 2.2.3.4 PidNameCategory

**DAV property name:** Category, urn:schemas-microsoft-com:office:office#Category

**Data type:** PtypString

Gets or sets the category associated with the document. This property corresponds to the GKPIDDI\_CATEGORY property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameCategory**, see [\[MS-OXPROPS\]](#) section 2.409.

### 2.2.3.5 PidNameCharacterCount

**DAV property name:** CharCount, urn:schemas-microsoft-com:office:office#Characters

**Data type:** PtypInteger32

Gets or sets the number of characters in the document. This property corresponds to the GKPIDSI\_CHARCOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameCharacterCount**, see [\[MS-OXPROPS\]](#) section 2.411.

#### 2.2.3.6 PidNameComments

**DAV property name:** Comments, urn:schemas-microsoft-com:office:office#Comments

**Data type:** PtypString

Gets or sets the comments associated with the document. This property corresponds to the GKPIDSI\_COMMENTS property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameComments**, see [\[MS-OXPROPS\]](#) section 2.412.

#### 2.2.3.7 PidNameCompany

**DAV property name:** Company, urn:schemas-microsoft-com:office:office#Company

**Data type:** PtypString

Gets or sets the author's company. This property corresponds to the GKPIDDSI\_COMPANY property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameCompany**, see [\[MS-OXPROPS\]](#) section 2.413.

#### 2.2.3.8 PidNameCreateDateTimeReadOnly

**DAV property name:** CreateDtmRo, urn:schemas-microsoft-com:office:office#Created

**Data type:** PtypTime

Gets or sets the date and time that the document was created. This property corresponds to the GKPIDSI\_CREATE\_DTM property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameCreateDateTimeReadOnly**, see [\[MS-OXPROPS\]](#) section 2.440.

#### 2.2.3.9 PidNameDocumentParts

**DAV property name:** DocParts, urn:schemas-microsoft-com:office:office#PartTitles

**Data type:** PtypMultipleString

Gets or sets the titles of the document parts. This property corresponds to the GKPIDDSI\_DOCPARTS property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameDocumentParts**, see [\[MS-OXPROPS\]](#) section 2.454.

#### 2.2.3.10 PidNameEditTime

**DAV property name:** EditTime, urn:schemas-microsoft-com:office:office#TotalTime

**Data type:** PtypString

Gets or sets the total editing time for the document. This property corresponds to the GKPIDSI\_EDITTIME property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameEditTime**, see [\[MS-OXPROPS\]](#) section 2.455.

### 2.2.3.11 PidNameHeadingPairs

**DAV property names:** HeadingPairs, urn:schemas-microsoft-com:office:office#HeadingPairs

**Data type:** PtypBinary

Gets or sets the group of headings that are indented in the document. This property corresponds to the GKPIDDSI\_HEADINGPAIR property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameHeadingPairs**, see [\[MS-OXPROPS\]](#) section 2.471.

### 2.2.3.12 PidNameHiddenCount

**DAV property names:** HiddenCount, urn:schemas-microsoft-com:office:office#HiddenSlides

**Data type:** PtypInteger32

Gets or sets the number of hidden slides in the document. This property corresponds to the GKPIDDSI\_HIDDENCOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameHiddenCount**, see [\[MS-OXPROPS\]](#) section 2.472.

### 2.2.3.13 PidNameKeywords

**DAV property names:** urn:schemas-microsoft-com:office:office#Keywords, http://schemas.microsoft.com/exchange/keywords-utf8, Keywords

**Data type:** PtypMultipleString

Gets or sets a list of keywords for the document. This property corresponds to the GKPIDSI\_KEYWORDS property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameKeywords**, see [\[MS-OXPROPS\]](#) section 2.493.

### 2.2.3.14 PidNameLastAuthor

**DAV property names:** LastAuthor, urn:schemas-microsoft-com:office:office#LastAuthor

**Data type:** PtypString

Gets or sets the most recent author of the document. This property corresponds to the GKPIDSI\_LASTAUTHOR property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameLastAuthor**, see [\[MS-OXPROPS\]](#) section 2.494.

### 2.2.3.15 PidNameLastPrinted

**DAV property names:** LastPrinted, urn:schemas-microsoft-com:office:office#LastPrinted

**Data type:** PtypTime

Gets or sets the date and time when the document was last printed. This property corresponds to the GKPIDSI\_LASTPRINTED property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameLastPrinted**, see [\[MS-OXPROPS\]](#) section 2.495.

### 2.2.3.16 PidNameLastSaveDateTime

**DAV property names:** LastSaveDtm, urn:schemas-microsoft-com:office:office#LastSaved

**Data type:** PtypTime

Gets or sets the date and time that the document was last saved. This property corresponds to the GKPIDSI\_LASTSAVE\_DTM property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameLastSaveDateTime**, see [\[MS-OXPROPS\]](#) section 2.496.

### 2.2.3.17 PidNameLineCount

**DAV property names:** LineCount, urn:schemas-microsoft-com:office:office#Lines

**Data type:** PtypInteger32

Gets or sets the number of lines in the document. This property corresponds to the GKPIDDSI\_LINECOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameLineCount**, see [\[MS-OXPROPS\]](#) section 2.497.

### 2.2.3.18 PidNameLinksDirty

**DAV property names:** LinksDirty, urn:schemas-microsoft-com:office:office#LinksUpToDate

**Data type:** PtypBoolean

Gets or sets a value that indicates whether the links in the document are up to date. True if the links are up to date; otherwise, false. This property corresponds to the GKPIDDSI\_LINKSDIRTY property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameLinksDirty**, see [\[MS-OXPROPS\]](#) section 2.499.

### 2.2.3.19 PidNameManager

**DAV property name:** Manager, urn:schemas-microsoft-com:office:office#Manager

**Data type:** PtypString

Gets or sets the manager of the author of the document. This property corresponds to the GKPIDDSI\_MANAGER property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameManager**, see [\[MS-OXPROPS\]](#) section 2.502.

### 2.2.3.20 PidNameMultimediaClipCount

**DAV property names:** MMClipCount, urn:schemas-microsoft-com:office:office#MultimediaClips

**Data type:** PtypInteger32

Gets or sets the number of multimedia clips in the document. This property corresponds to the GKPIDDSI\_MMCLIPCOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameMultimediaClipCount**, see [\[MS-OXPROPS\]](#) section 2.505.

### 2.2.3.21 PidNameNoteCount

**DAV property names:** NoteCount, urn:schemas-microsoft-com:office:office#Notes

**Data type:** PtypInteger32

Gets or sets the number of notes in the document. This property corresponds to the GKPIDDSI\_NOTECOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameNoteCount**, see [\[MS-OXPROPS\]](#) section 2.508.

### 2.2.3.22 PidNamePageCount

**DAV property names:** PageCount, urn:schemas-microsoft-com:office:office#Pages

**Data type:** PtypInteger32

Gets or sets the number of pages in the document. This property corresponds to the GKPIDDSI\_PAGECOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNamePageCount**, see [\[MS-OXPROPS\]](#) section 2.520.

### 2.2.3.23 PidNameParagraphCount

**DAV property names:** ParCount, urn:schemas-microsoft-com:office:office#Paragraphs

**Data type:** PtypInteger32

Gets or sets the number of paragraphs in the document. This property corresponds to the GKPIDDSI\_PARACOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameParagraphCount** see [\[MS-OXPROPS\]](#) section 2.521.

### 2.2.3.24 PidNamePresentationFormat

**DAV property names:** PresFormat, urn:schemas-microsoft-com:office:office#PresentationFormat

**Data type:** PtypString

Gets or sets the presentation format for the document. This property corresponds to the GKPIDDSI\_PRESFORMAT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNamePresentationFormat**, see [\[MS-OXPROPS\]](#) section 2.525.

### 2.2.3.25 PidNameRevisionNumber

**DAV property names:** RevNumber, urn:schemas-microsoft-com:office:office#Revision

**Data type:** PtypString

Gets or sets the revision number of the document. This property corresponds to the GKPIDDSI\_REVNUMBER property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameRevisionNumber**, see [\[MS-OXPROPS\]](#) section 2.535.



### 2.2.3.26 PidNameScale

**DAV property names:** Scale, urn:schemas-microsoft-com:office:office#ScaleCrop

**Data type:** PtypBoolean

Gets or sets a value that indicates whether the image is to be scaled or cropped. Set to **TRUE** for thumbnail scaling, or **FALSE** for cropping. This property corresponds to the GKPIDDSI\_SCALE property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameScale**, see [\[MS-OXPROPS\]](#) section 2.538.

### 2.2.3.27 PidNameSecurity

**DAV property names:** Security, urn:schemas-microsoft-com:office:office#Security

**Data type:** PtypInteger32

Gets or sets the security level of the document. This property corresponds to the GKPIDSI\_DOC\_SECURITY property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameSecurity**, see [\[MS-OXPROPS\]](#) section 2.539.

### 2.2.3.28 PidNameSlideCount

**DAV property names:** SlideCount, urn:schemas-microsoft-com:office:office#Slides

**Data type:** PtypInteger32

Gets or sets the number of slides in the document. This property corresponds to the GKPIDDSI\_SLIDECOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameSlideCount**, see [\[MS-OXPROPS\]](#) section 2.542.

### 2.2.3.29 PidNameSubject

**DAV property names:** Subject, urn:schemas-microsoft-com:office:office#Subject

**Data type:** PtypString

Gets or sets the subject of the document. This property corresponds to the GKPIDSI\_SUBJECT property, which is specified in [\[MS-OSHARED\]](#). This property is different from the mailheaders subject property, which is commonly the display name.

For more details about **PidNameSubject** see [\[MS-OXPROPS\]](#) section 2.543.

### 2.2.3.30 PidNameTemplate

**DAV property names:** Template, urn:schemas-microsoft-com:office:office#Template

**Data type:** PtypString

Gets or sets the template file that the document was created from. This property corresponds to the GKPIDSI\_TEMPLATE property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameTemplate**, see [\[MS-OXPROPS\]](#) section 2.545.

### 2.2.3.31 PidNameThumbnail

**DAV property names:** Thumbnail, urn:schemas-microsoft-com:office:office#ThumbNail

**Data type:** PtypBinary

Gets or sets the thumbnail image of the document or part of the document. This property corresponds to the GKPIDSI\_THUMBNAIL property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameThumbnail**, see [\[MS-OXPROPS\]](#) section 2.548.

### 2.2.3.32 PidNameTitle

**DAV property names:** Title, urn:schemas-microsoft-com:office:office#Title

**Data type:** PtypString

Gets or sets the title of the document. This property corresponds to the GKPIDSI\_TITLE property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameTitle**, see [\[MS-OXPROPS\]](#) section 2.549.

### 2.2.3.33 PidNameWordCount

**DAV property names:** WordCount, urn:schemas-microsoft-com:office:office#Words

**Data type:** PtypInteger32

Gets or sets the number of words in the document. This property corresponds to the GKPIDSI\_WORDCOUNT property, which is specified in [\[MS-OSHARED\]](#).

For more details about **PidNameWordCount**, see [\[MS-OXPROPS\]](#) section 2.551.

## 3 Protocol Details

### 3.1 Client and Server 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 Documents Support protocol supports querying and manipulation of properties and searching for documents, which can be individual documents or documents attached to messages in public and private folders. The document properties are exposed to query and manipulation through the WebDAV document properties specified in section [2.2](#).

#### 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

Use the **PROPFIND** method, as specified in [\[RFC2518\]](#) section 8.1, to retrieve WebDAV document properties.

Use the **PROPPATCH** method, as specified in [\[RFC2518\]](#) section 8.2, to set or remove WebDAV document properties.

Use the **SEARCH** method, as specified in [\[MS-WDVSE\]](#), to search documents with specified properties.

#### 3.1.6 Timer Events

None.

#### 3.1.7 Other Local Events

None.

## 4 Protocol Examples

### 4.1 Using PROPFIND to retrieve all properties on a document

#### 4.1.1 Request

In the following example, the user wants to retrieve all the properties set on the Product Planning document in their **Inbox folder**. To achieve this, the user connects the WebDAV client to the WebDAV server and uses the PROPFIND method to retrieve all properties set on the Product Planning document.

```
PROPFIND /exchange/Mailbox/Inbox/Product%20Planning.docx HTTP/1.1
Content-Type: text/xml
Depth: 0

<?xml version="1.0" encoding="utf-8"?>
<a:propfind xmlns:a="DAV:">
  <allprop />
</a:propfind>
```

#### 4.1.2 Response

The response message returns all the properties set on the document.

```
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: Mon, 27 Oct 2008 16:49:27 GMT

<?xml version="1.0"?>
<a:multistatus xmlns:b="urn:uuid:c2f41010-65b3-11d1-a29f-00aa00c14882/"
xmlns:g="urn:schemas:httpmail:" xmlns:c="xml:"
xmlns:e="http://schemas.microsoft.com/exchange/" xmlns:d="urn:schemas-microsoft-
com:office:office" xmlns:f="http://schemas.microsoft.com/repl/" xmlns:h="urn:schemas-
microsoft-com:exch-data:" xmlns:a="DAV:">
  <a:response>
    <a:href>https://Server01/exchange/Mailbox/Inbox/Product%20Planning.docx</a:href>
    <a:propstat>
      <a:status>HTTP/1.1 200 OK</a:status>
      <a:prop>
        <a:contentclass>urn:content-classes:document</a:contentclass>
        <a:supportedlock>
          <lockentry xmlns="DAV:">
            <locktype>
              <transaction>
                <groupoperation />
              </transaction>
            </locktype>
            <lockscope>
              <local />
            </lockscope>
          </lockentry>
        </a:supportedlock>
      </a:prop>
    </a:propstat>
  </a:response>
</a:multistatus>
```

```

        </lockentry>
    </a:supportedlock>
    <e:permanenturl>https://Server01/-FlatUrlSpace-
/1c5a707ee8157a47bfce2b746a3dba25-12c281f/1c5a707ee8157a47bfce2b746a3dba25-
403ac2e6fa</e:permanenturl>
    <a:getcontenttype>application/vnd.openxmlformats-
officedocument.wordprocessingml.document</a:getcontenttype>
    <a:id>AQEAAAABLcGfAQAAQDrC5voAAAA</a:id>
    <e:mid b:dt="i8">-367392764146483199</e:mid>
    <a:isfolder b:dt="boolean">0</a:isfolder>
    <a:resourcetype />
    <a:getetag>"1c5a707ee8157a47bfce2b746a3dba2500403ac30c72"</a:getetag>
    <lockdiscovery xmlns="DAV:">
    </lockdiscovery>
    <e:outlookmessageclass>IPM.Document.*docx</e:outlookmessageclass>
    <a:creationdate b:dt="dateTime.tz">2008-10-27T16:44:43.838Z</a:creationdate>
    <e:ntsecuritydescriptor
b:dt="bin.base64">CAAEAAAAABAC+MMAAAAEwAAAAAAAFAAAAAIAHAABAAAAARAUAL8PHwABAQAAAAABQcAAAA
BBQAAAAAABRUAAD0l0oajmNmy/EP4pXBAAAAQUAAAAAAUVAAAA9JdKG05jZsvxD6+KAQIAAA==</e:ntsecurityde
scriptor>
    <a:ishidden b:dt="boolean">0</a:ishidden>
    <a:parentname>https://Server01/exchange/Mailbox/Inbox/</a:parentname>
    <a:getcontentlength b:dt="int">9984</a:getcontentlength>
    <a:isstructureddocument b:dt="boolean">0</a:isstructureddocument>
    <f:repl-uid>rid:1c5a707ee8157a47bfce2b746a3dba2500403ac2e6fa</f:repl-uid>
    <a:displayname>Product Planning.docx</a:displayname>
    <a:href>https://Server01/exchange/Mailbox/Inbox/Product%20Planning.docx</a:hr
ef>
    <a:isreadonly b:dt="boolean">0</a:isreadonly>
    <a:uid>AQEAAEA6wub6AAAAAIAAAAAA</a:uid>
    <a:getlastmodified b:dt="dateTime.tz">2008-10-
27T16:44:43.838Z</a:getlastmodified>
    <a:iscollection b:dt="boolean">0</a:iscollection>
    <g:read b:dt="boolean">1</g:read>
    <f:resourcetag>rt:1c5a707ee8157a47bfce2b746a3dba2500403ac2e6fa1c5a707ee8157a4
7bfce2b746a3dba2500403ac30c72</f:resourcetag>
    </a:prop>
</a:propstat>
</a:response>
</a:multistatus>

```

## 4.2 Using PROPFIND to retrieve specific properties on a document

### 4.2.1 Request

In the following example, the user wants to retrieve specific properties set on the Product Planning document in their Inbox folder. To achieve this, the user connects the WebDAV client to the WebDAV server and uses the PROPFIND method to retrieve specific properties set on the Product Planning document.

```

PROPFIND /exchange/Mailbox/Inbox/Product%20Planning.doc HTTP/1.1
Content-Type: text/xml
Depth: 0

<?xml version="1.0" encoding="utf-8"?>
<a:propfind xmlns:a="DAV:">
    <a:prop xmlns:o="urn:schemas-microsoft-com:office:office">

```

```

    <o:Author />
    <o:Bytes />
    <o:Category />
    <o:Characters />
    <o:Comments />
    <o:Company />
    <o:Created />
    <o:HeadingPairs />
    <o:HiddenSlides />
    <o:Keywords />
    <o>LastAuthor />
    <o>LastPrinted />
    <o>LastSaved />
    <o:Lines />
    <o:LinksUpToDate />
    <o:Manager />
    <o:MultimediaClips />
    <o:NameOfApplication />
    <o:Notes />
    <o:Pages />
    <o:Paragraphs />
    <o:PartTitles />
    <o:PresentationFormat />
    <o:Revision />
    <o:ScaleCrop />
    <o:Security />
    <o:Slides />
    <o:Subject />
    <o:Template />
    <o:ThumbNail />
    <o:Title />
    <o:TotalTime />
    <o:Version />
    <o:Words />
  </a:prop>
</a:propfind>

```

### 4.2.2 Response

The response message returns the values of the properties specified in the request.

```

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: Mon, 27 Oct 2008 17:14:49 GMT

<?xml version="1.0"?>
<a:multistatus xmlns:b="urn:uuid:c2f41010-65b3-11d1-a29f-00aa00c14882/" xmlns:c="xml:"
xmlns:d="urn:schemas-microsoft-com:office:office" xmlns:a="DAV:">
  <a:response>
    <a:href>https://Server01/exchange/Mailbox/Inbox/Product%20Planning.doc</a:href>
    <a:propstat>

```

```

<a:status>HTTP/1.1 200 OK</a:status>
<a:prop>
  <d:Author>Holly Holt</d:Author>
  <d:Category>Planning</d:Category>
  <d:Characters b:dt="int">58</d:Characters>
  <d:Comments>This is the product planning document.</d:Comments>
  <d:Company>Contoso</d:Company>
  <d:Created b:dt="dateTime.tz">2008-10-27T17:07:00.000Z</d:Created>
  <d:HeadingPairs
b:dt="bin.base64">AgAAAB4AAAAIAAAVGl0bGUAAAADAAAAQAAAA==</d:HeadingPairs>
  <d:Keywords b:dt="mv.string">
    <c:v>Product;</c:v>
    <c:v>Planning</c:v>
  </d:Keywords>
  <d:LastAuthor>Holly Holt</d:LastAuthor>
  <d:LastSaved b:dt="dateTime.tz">2008-10-27T17:07:00.000Z</d:LastSaved>
  <d:Lines b:dt="int">1</d:Lines>
  <d:LinksUpToDate b:dt="boolean">0</d:LinksUpToDate>
  <d:Manager>Don Hall</d:Manager>
  <d:NameOfApplication>Microsoft Office Word</d:NameOfApplication>
  <d:Pages b:dt="int">1</d:Pages>
  <d:Paragraphs b:dt="int">1</d:Paragraphs>
  <d:PartTitles b:dt="mv.string">
    <c:v>
    </c:v>
  </d:PartTitles>
  <d:Revision>2</d:Revision>
  <d:ScaleCrop b:dt="boolean">0</d:ScaleCrop>
  <d:Security b:dt="int">0</d:Security>
  <d:Subject>Contoso Product Planning</d:Subject>
  <d:Template>Normal</d:Template>
  <d>Title>Product Planning</d>Title>
  <d:Words b:dt="int">10</d:Words>
</a:prop>
</a:propstat>
<a:propstat>
  <a:status>HTTP/1.1 415 Unsupported Media Type</a:status>
  <a:prop>
    <d:TotalTime />
  </a:prop>
</a:propstat>
<a:propstat>
  <a:status>HTTP/1.1 404 Resource Not Found</a:status>
  <a:prop>
    <d:Bytes />
    <d:HiddenSlides />
    <d>LastPrinted />
    <d:MultimediaClips />
    <d:Notes />
    <d:PresentationFormat />
    <d:Slides />
    <d:ThumbNail />
    <d:Version />
  </a:prop>
</a:propstat>
</a:response>
</a:multistatus>

```

## 4.3 Using PROPPATCH to set a document property

### 4.3.1 Request

In the following example, the user wants to set the **PidNameCategory** property ([\[MS-OXPROPS\]](#) section 2.409) on the Product Planning document. To achieve this, the user connects the WebDAV client to the WebDAV server and uses the PROPPATCH method to set the category property.

```
PROPPATCH /Server01/exchange/Mailbox/Inbox/Product%20Planning.doc HTTP/1.1
Content-type: text/xml

<?xml version="1.0"?>
<a:propertyupdate xmlns:a="DAV:" xmlns:o="urn:schemas-microsoft-com:office:office">
  <a:set>
    <a:prop>
      <o:Category>Product Planning.</o:Category>
    </a:prop>
  </a:set>
</a:propertyupdate>
```

### 4.3.2 Response

The response message returns an HTTP status code indicating that the change was successful.

```
HTTP/1.1 207 Multi-Status
Cache-Control: no-cache
Content-Length: 306
Content-Type: text/xml
Server: Microsoft-IIS/7.0
MS-Exchange-Permanent-URL: https://Server01/-FlatUrlSpace-/1c5a707ee8157a47bfce2b746a3dba25-12c281f/1c5a707ee8157a47bfce2b746a3dba25-403ac2e6fb
Repl-UID: <rid:1c5a707ee8157a47bfce2b746a3dba2500403ac2e6fb>
ResourceTag:
<rt:1c5a707ee8157a47bfce2b746a3dba2500403ac2e6fb1c5a707ee8157a47bfce2b746a3dba2500403ac30c7c>
MS-WebStorage: 08.01.10240
X-Powered-By: ASP.NET
Date: Mon, 27 Oct 2008 17:19:47 GMT

<?xml version="1.0"?>
<a:multistatus xmlns:b="urn:schemas-microsoft-com:office:office" xmlns:a="DAV:">
  <a:response>
    <a:href>https://Server01/exchange/Mailbox/Inbox/Product%20Planning.doc</a:href>
    <a:propstat>
      <a:status>HTTP/1.1 200 OK</a:status>
      <a:prop>
        <b:Category />
      </a:prop>
    </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.

## 7 Change Tracking

This section identifies changes that were made to the [MS-XWDDOC] 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](mailto:protocol@microsoft.com).

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">1.4 Relationship to Other Protocols</a>	Updated reference to [RFC2068] to [RFC2616].	N	Content updated.
<a href="#">1.5 Prerequisites/Preconditions</a>	Updated reference to [RFC2068] to [RFC2616].	N	Content updated.
<a href="#">1.7 Versioning and Capability Negotiation</a>	Updated reference to [RFC2068] to [RFC2616].	N	Content updated.
<a href="#">2.1 Transport</a>	Updated reference to [RFC2068] to [RFC2616].	N	Content updated.

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