

[MS-WEBDAVE]:

Web Distributed Authoring and Versioning Error Extensions Protocol

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Table of Contents

1	Introduction	6
1.1	Glossary	6
1.2	References	7
1.2.1	Normative References	7
1.2.2	Informative References	7
1.3	Overview	7
1.4	Relationship to Other Protocols	7
1.5	Prerequisites/Preconditions	8
1.6	Applicability Statement	8
1.7	Versioning and Capability Negotiation	8
1.8	Vendor-Extensible Fields	8
1.9	Standards Assignments.....	8
2	Messages.....	9
2.1	Transport.....	9
2.2	Message Syntax.....	9
2.2.1	WebDAV Extension Header	9
2.2.2	Extended Error Handling.....	9
2.2.3	Currently Defined WebDAV Extended Errors.....	9
2.2.3.1	Error Codes.....	10
2.2.3.1.1	File Errors.....	10
2.2.3.1.2	Configuration Errors.....	14
2.2.3.1.3	Server Parsing Errors.....	14
2.2.3.1.4	Server Errors	15
2.2.3.1.5	HTML Errors.....	15
2.2.3.1.6	System Errors.....	15
2.2.3.1.7	Service Errors	16
2.2.3.1.8	HTTP Errors	20
2.2.3.1.9	Authentication Errors	20
2.2.3.1.10	Document-Related Errors	21
2.2.3.1.11	Disk-Based Website Errors.....	21
2.2.3.1.12	Socket Errors.....	21
2.2.3.1.13	DNS Errors	23
2.2.3.1.14	Internet Errors.....	23
2.2.3.1.15	Hosting Errors.....	25
2.2.3.1.16	Web Services Errors.....	26
2.2.3.1.17	Server Network Errors.....	27
2.2.3.1.18	Web Extender Client Errors.....	27
2.2.3.1.19	Virus Scan Errors.....	28
2.2.3.1.20	IRM Errors.....	29
3	Protocol Details.....	31
3.1	WebDAV Client Details.....	31
3.1.1	Abstract Data Model.....	31
3.1.2	Timers	31
3.1.3	Initialization.....	31
3.1.4	Higher-Layer Triggered Events	31
3.1.5	Message Processing Events and Sequencing Rules	31
3.1.6	Timer Events.....	31
3.1.7	Other Local Events.....	31
3.2	WebDAV Server Details.....	31
3.2.1	Abstract Data Model.....	31
3.2.2	Timers	32
3.2.3	Initialization.....	32

3.2.4	Higher-Layer Triggered Events	32
3.2.5	Message Processing Events and Sequencing Rules	32
3.2.6	Timer Events.....	32
3.2.7	Other Local Events.....	32
4	Protocol Examples	33
4.1	Client Attempts to Open a Checked-Out File	33
4.2	Client Attempts to Exceed the Storage Quota Limit for a Location	33
5	Security	34
5.1	Security Considerations for Implementers	34
5.2	Index of Security Parameters	34
6	Appendix A: Product Behavior	35
7	Change Tracking.....	36
8	Index.....	38

Preliminary

1 Introduction

The **Web Distributed Authoring and Versioning Protocol (WebDAV)**, as described in [\[RFC2518\]](#), extends the standard **Hypertext Transfer Protocol (HTTP)** mechanisms, as described in [\[RFC2616\]](#), to provide file access and content management over the Internet. WebDAV enables an Internet-based file system; however, it does not include the communication of detailed errors from server to client while performing file operations.

The Web Distributed Authoring and Versioning Error Extensions Protocol extends WebDAV with extended error codes and uses an extended error handling mechanism, as described in [\[MS-WDV\]](#) section [2.2.3](#), to enable compliant protocol servers to report error condition details about a protocol server response.

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 [\[RFC2119\]](#). Sections 1.5 and 1.9 are also normative but do not contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are specific to this document:

Domain Name System (DNS): A hierarchical, distributed database that contains mappings of domain names (1) to various types of data, such as IP addresses. DNS enables the location of computers and services by user-friendly names, and it also enables the discovery of other information stored in the database.

Hypertext Transfer Protocol (HTTP): An application-level protocol for distributed, collaborative, hypermedia information systems (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

Hypertext Transfer Protocol 1.1 (HTTP/1.1): Version 1.1 of the Hypertext Transfer Protocol (HTTP), as described in [\[RFC2068\]](#).

Information Rights Management (IRM): A technology that provides persistent protection to digital data by using encryption, certificates (1), and authentication (2). Authorized recipients or users acquire a license to gain access to the protected files according to the rights or business rules that are set by the content owner.

Web Distributed Authoring and Versioning Protocol (WebDAV): The Web Distributed Authoring and Versioning Protocol, as described in [\[RFC2518\]](#) or [\[RFC4918\]](#).

web server: A server computer that hosts websites and responds to requests from applications.

WebDAV client: A computer that uses **WebDAV**, as described in [\[RFC2518\]](#) or [\[RFC4918\]](#), to retrieve data from a **WebDAV server**.

WebDAV server: A computer that supports **WebDAV**, as described in [\[RFC2518\]](#) or [\[RFC4918\]](#), and responds to requests from **WebDAV clients**.

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as defined 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.

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

[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>

[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>

[RFC3986] Berners-Lee, T., Fielding, R., and Masinter, L., "Uniform Resource Identifier (URI): Generic Syntax", STD 66, RFC 3986, January 2005, <http://www.ietf.org/rfc/rfc3986.txt>

1.2.2 Informative References

[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>

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, <http://www.rfc-editor.org/rfc/rfc2616.txt>

[RFC4918] Dusseault, L, Ed., "HTTP Extensions for Web Distributed Authoring and Versioning (WebDAV)", RFC 4918, June 2007, <http://www.rfc-editor.org/rfc/rfc4918.txt>

1.3 Overview

This protocol specifies the error ranges that are used when the protocol server reports extended errors to the protocol client. To do so, this protocol uses an extension to WebDAV, as described in [\[MS-WDV\]](#). The extension consists of a response header (X-MSDAVEXT_ERROR), as described in [\[MS-WDV\]](#) section [2.2.3](#), indicating that the **WebDAV server** supports extended error reporting to the **WebDAV client**.

1.4 Relationship to Other Protocols

This protocol depends on the WebDAV Protocol: Client Extensions, as described in [\[MS-WDV\]](#), which in turn depends on WebDAV, as described in [\[RFC2518\]](#).

WebDAV is a set of methods, headers, and content types that extend **HTTP/1.1**, as described in [\[RFC2616\]](#). WebDAV allows data to be written to Internet servers and is an Internet standard for collaborative authoring, as described in [\[RFC2518\]](#).

WebDAV expands the basic support in HTTP/1.1 for content authoring by introducing additional methods and headers to provide support for resource properties and other base functions, such as resource locking. These new capabilities make the WebDAV protocol suitable for the basic use of remotely mounted file systems.

1.5 Prerequisites/Preconditions

This protocol requires a WebDAV server that supports client extensions, as described in [\[MS-WDV\]](#).

This protocol also requires that WebDAV clients have URLs that point to WebDAV servers.

1.6 Applicability Statement

This protocol is applicable in scenarios that require more robust error handling than is available in the existing HTTP/1.1 and WebDAV specifications.

This protocol does not specify a way for WebDAV clients to discover URLs for WebDAV servers.

1.7 Versioning and Capability Negotiation

This protocol introduces no new versioning mechanisms except those that already exist in WebDAV and HTTP/1.1.

The negotiation of WebDAV and of HTTP/1.1 options in general is as described in [\[RFC2518\]](#) and [\[RFC2616\]](#), respectively. The X-MSDAVEXT header, as described in [\[MS-WDV\]](#), is used as part of the HTTP/1.1 OPTIONS discovery mechanism to indicate WebDAV server support for this specification.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

No new transports are required except for those in the client extensions, as specified in [\[MS-WDV\]](#) section [2.1](#).

2.2 Message Syntax

No new message syntax is required except for that in the client extensions, as specified in [\[MS-WDV\]](#) section [2.2](#).

2.2.1 WebDAV Extension Header

The WebDAV extension header is part of the client extensions, as specified in [\[MS-WDV\]](#) section [2.2.1](#).

2.2.2 Extended Error Handling

Extended error handling is part of the client extensions, as specified in [\[MS-WDV\]](#) section [2.2.3](#).

In particular, as specified in [\[MS-WDV\]](#), section [2.2.3](#):

- An Extended-error is an implementation-specific number that provides additional information about the cause of the error.
- An Error-string is a percentage-encoded UTF-8 string, as specified in [\[RFC3986\]](#) section 2.1, that gives additional explanatory text about the cause of the error. This string is not significant to protocol operation and is intended only for display and logging purposes.

2.2.3 Currently Defined WebDAV Extended Errors

A protocol server implementing this protocol includes the X-MSDAVEXT_ERROR header in response buffers when an error occurs, as specified in [\[MS-WDV\]](#) section [2.2.3](#). Section [2.2.3.1](#) specifies a selection of common errors that require action from the protocol client. The protocol server MUST NOT expect a specific response from the protocol client to any specific error. However, no restrictions exist on the protocol server regarding which errors can be generated at what time nor what total set of errors can be used. Therefore, the protocol client MUST be prepared to handle any errors that are generated. If the protocol client encounters an error that it does not recognize or know how to interpret, the protocol client handles this condition preferably by outputting the error string to the user. Every error from the protocol server MUST be paired with a message string. The following table shows the error code ranges that have mapped module names.

Module name for error code range	Error code range, in hexadecimal	Error code range, in decimal
File	0x00020000–0x00020071	131072–131185
Configuration	0x00030000–0x00030070	196608–196720
Server Parsing	0x00040000–0x0004000C	262144–262156

Module name for error code range	Error code range, in hexadecimal	Error code range, in decimal
Server	0x00050000-0x00050092	327680-327826
HTML	0x00060000-0x0006000C	393216-393228
System	0x00080000-0x0008001C	524288-524316
Service	0x00090000-0x0009007F	589824-589951
HTTP	0x000D0000-0x000D0012	851968-851986
Authentication	0x000E0000-0x000E0098	917504-917656
Document Related	0x00100000-0x00100008	1048576-1048584
Disk-Based Website	0x00110000-0x00110007	1114112-1114119
Socket	0x00120000-0x00120037	1179648-1179703
DNS	0x00130000-0x00130004	1245184-1245188
Internet	0x00180000-0x0018003F	1572864-1572927
Hosting	0x001D0000-0x001D000A	1900544-1900554
Web Services	0x001E0000-0x001E00E8	1966080-1966312
Server Network	0x00210000-0x00210092	2162688-2162834
Web Extender Client	0x00640000-0x006400E9	6553600-6553833
Virus Scan	0x00960000-0x00960014	9830400-9830420
Rights Management	0x00970000-0x00970013	9895936-9895955

The tables in section [2.2.3.1](#) show the error code details for each range in the previous table.

2.2.3.1 Error Codes

2.2.3.1.1 File Errors

Error code	Error description
0x00020001 0x00020002 0x00020006 0x00020008 0x0002000B 0x0002000C 0x0002000D 0x00020010 0x00020011	Cannot access specified file on the server.
0x00020003 0x00020004	The folder cannot be created. The folder could already exist or the Web server is temporarily busy.
0x00020005	Cannot create specified file.
0x00020007	Cannot remove specified file.
0x00020009	This is not a valid directory.
0x0002000A 0x0002001D	Unable to connect to the server or to the specified file or folder on the server.
0x00020014 0x00020056	Cannot rename specified file.
0x00020015	The file does not exist.
0x00020016 0x00020017 0x00020018 0x0002001F 0x00020020 0x00020023	There is a problem with the Web server.

Error code	Error description
0x00020024	
0x00020025	
0x00020026	
0x00020027	
0x00020028	
0x00020029	
0x0002002A	
0x0002002C	
0x0002002D	
0x0002002E	
0x0002002F	
0x00020030	
0x00020031	
0x00020032	
0x00020033	
0x00020034	
0x00020036	
0x00020037	
0x00020038	
0x00020039	
0x0002003A	
0x0002003B	
0x0002003D	
0x0002003E	
0x00020050	
0x00020051	
0x00020052	
0x00020053	
0x00020054	

Error code	Error description
0x00020071	
0x0002001B	The specified item is not a folder.
0x0002001C	Cannot copy folder(s).
0x00020022	Cannot link file at specified location to file at specified location.
0x0002003F 0x00020040 0x00020041 0x00020042 0x00020044 0x00020045 0x00020046 0x00020047 0x00020048 0x00020049 0x0002004B 0x0002004C 0x0002005D	Insufficient permissions.
0x0002004D	There is not enough disk space.
0x00020055	Cannot copy file(s).
0x00020057 0x00020058 0x00020059	The size of files uploaded has exceeded, or could exceed, the limit set for the folder.
0x0002005A 0x0002005B	Anonymous upload is disabled.
0x0002005C	Specified file name is empty or does not exist.

2.2.3.1.2 Configuration Errors

Error code	Error description
0x0003004E	There is a problem with the Web server.
0x0003004F	
0x00030050	
0x00030051	
0x00030052	
0x00030057	
0x00030058	
0x0003005C	
0x0003005D	
0x0003005F	
0x00030061	
0x00030063	
0x00030064	
0x00030066	
0x00030067	
0x00030068	
0x0003006B	
0x0003006C	
0x0003006D	
0x0003006E	
0x0003006F	
0x00030070	

2.2.3.1.3 Server Parsing Errors

The error codes in the following table indicate parsing errors on the WebDAV server.

Error code	Error description
------------	-------------------

0x00040007	An error occurred accessing the site.
0x00040008	
0x00040009	
0x0004000A	
0x0004000C	The server is a newer version than the client. Newer version of the client is needed.

2.2.3.1.4 Server Errors

Error code	Error description
0x00050086	Fill out all required properties before checking in this document.

2.2.3.1.5 HTML Errors

Error code	Error description
0x0006000A	The file being uploaded is too large.

2.2.3.1.6 System Errors

Error code	Error description
0x0008000A	There is a problem with the Web server.
0x0008000B	
0x0008000C	
0x0008000D	
0x0008000E	
0x0008000F	
0x00080010	
0x00080011	
0x00080012	
0x00080013	

Error code	Error description
0x00080014	
0x00080015	
0x00080016	
0x00080017	
0x00080018	
0x00080019	
0x0008001A	

2.2.3.1.7 Service Errors

Error code	Error description
0x00090001	The lock is not valid on the server anymore.
0x00090005	Unable to connect to the server or to the specified file or folder on the server.
0x00090006	
0x00090007	
0x00090008	
0x0009000A	
0x0009000B	
0x00090015	
0x00090016	
0x00090017	
0x00090018	
0x00090019	
0x0009003B	
0x00090009	The Web server is busy.
0x0009000D	A directory already exists with that name.
0x0009000E	The file is either checked out or locked for editing by another user.

Error code	Error description
0x0009000F	The file is not checked out.
0x00090010	The file is already under source control.
0x00090011	The file is not under source control.
0x00090013	There is a problem with the Web server.
0x0009001C	Unable to recalculate links for specified file.
0x0009001D	Specified file has been automatically checked out from the source control repository.
0x0009001E	Some files have been checked out automatically.
0x0009001F	A file or folder already exists by that name.
0x00090022	The file in the Web server conflicts with the name of a file under source control.
0x00090023	The specified folder does not exist.
0x00090024	Project names are required to be absolute (required to start with "\$/") and have no other embedded "*", "\$", "\", or "?" characters.
0x00090025	Cannot copy the specified file or folder to itself.
0x00090026	Cannot add execute permissions to a folder on this server.
0x0009002B	Files cannot be saved to this folder.
0x0009002C	A theme already exists on the server.

Error code	Error description
0x0009002D 0x0009002E 0x0009002F 0x00090031 0x00090032 0x00090036 0x0009003F 0x0009004A	There is a problem with the Web server.
0x00090039	This is a browse only Web site. Authoring is disabled for this server.
0x0009003C	Cannot access specified file on server.
0x0009003D	The FrontPage Server Extensions on this Web site do not support getting previous versions.
0x0009003E	Only exclusive checkout for specified document is supported with Web site editor-based locking.
0x00090040	The file is currently in use. Please try again later.
0x00090041	Unable to rename Web location. Cannot change the parent URL when renaming a Web site.
0x00090042	Unable to rename Web location, because it is mapped to a virtual directory on the server.
0x00090043	Error renaming Web site. Unable to rename a site that has subsites.
0x00090044	Error deleting Web site. Unable to delete a site that has subsites.
0x00090045	Error renaming Web site. Unable to rename a site that has subsites.
0x00090046	Error copying folder. Unable to copy a folder that has subsites.
0x00090047	Error deleting folder. Unable to delete a folder that has subsites.

Error code	Error description
0x00090048	This folder containing supporting files. It cannot be moved, copied, renamed or deleted.
0x00090049	Operation interrupted because a subsite was created, renamed, or deleted during the operation. Refresh the view.
0x0009004B	Unable to convert the Web location into a directory because it does not use the same permissions as its parent Web.
0x0009004C	Unable to set Web to use the same permissions as its parent because the user and group ids for the two Webs are different.
0x0009004F	Unable to convert the Web location into a directory because it does not use the same permissions as its parent Web.
0x00090051	Anonymous upload is disabled.
0x00090052	Insufficient permission to delete the Web location or convert it to a folder.
0x00090063	Quota exceeded.
0x00090064	The following files have been blocked by the administrator.
0x00090068	The specified Web address is too long.
0x00090070	The file or folder name contains invalid characters. Please use a different name. Common invalid characters include the following: # % & * : < > ? / \ {
0x00090075	The specified file is not checked out. Check out this document first.
0x0009007B	The specified file cannot be locked for the specified timeout.
0x0009007C	Operation on the specified file cannot be completed due to invalid arguments.
0x0009007D	The specified file is not locked.
0x0009007E	The specified file is locked for shared use.
0x0009007F	A file with the same name exists.

2.2.3.1.8 HTTP Errors

Error code	Error description
0x000D0001 0x000D0010	The Web server is busy.
0x000D0002	Unable to connect to the server.
0x000D0003 0x000D0004 0x000D0005 0x000D0006 0x000D0007 0x000D0008 0x000D0009 0x000D000A 0x000D000E 0x000D000F 0x000D0011	There is a problem with the Web server.
0x000D000B 0x000D000C 0x000D000D 0x000D0012	Unable to connect to the server or to the specified file or folder on the server.

2.2.3.1.9 Authentication Errors

Error code	Error description
0x000E0001	Insufficient permissions.
0x000E0004	An access setup description is required when creating the top-level Web site.

Error code	Error description
0x000E0005 0x000E0006 0x000E0007 0x000E0008	Error initializing access control.
0x000E001A	This is a browse-only Web site. Authoring is disabled for this server.
0x000E0098	Access denied. Before opening files in this location, browse to the Web site and select the option to authenticate automatically.

2.2.3.1.10 Document-Related Errors

Error code	Error description
0x00100001 0x00100006	Could not process the specified file as a known document type.

2.2.3.1.11 Disk-Based Website Errors

The following table shows error codes that are returned from Disk-Based Website modules on the WebDAV server.

Error code	Error description
0x00110001 0x00110002 0x00110003	A related Web is already configured.
0x00110005	Unable to connect to the server or to the specified file or folder on the server.

2.2.3.1.12 Socket Errors

Error Code	Error Description
------------	-------------------

Error Code	Error Description
0x00120002 0x00120003 0x00120004 0x00120005 0x00120006 0x00120008 0x0012000A 0x0012001B 0x0012001C 0x0012001D 0x0012001E 0x00120021 0x00120024 0x0012002E 0x0012002F 0x00120032 0x00120034 0x00120035 0x00120036 0x00120037	There is a problem with the Web server.
0x00120016 0x00120017 0x0012002D 0x00120031 0x00120033	The specified Web address is too long.
0x00120020 0x00120025 0x00120030	Unable to connect to the server or to the specified file or folder on the server.

2.2.3.1.13 DNS Errors

The following table shows error codes that are returned from Domain Name System (DNS) modules on the WebDAV server.

Error code	Error description
0x00130002 0x00130004	Unable to connect to the server or to the specified file or folder on the server.

2.2.3.1.14 Internet Errors

Error code	Error description
0x00180001	There is a problem with the Web server.
0x00180003	
0x00180004	
0x00180005	
0x00180006	
0x00180008	
0x00180009	
0x0018000A	
0x0018000B	
0x0018000C	
0x00180010	
0x00180011	
0x00180012	
0x00180013	
0x00180014	
0x00180015	
0x00180016	
0x00180017	
0x00180018	

Error code	Error description
0x00180019 0x0018001A 0x0018001B 0x0018001C 0x00180020 0x00180021 0x0018000D 0x0018000E 0x0018000F	
0x00180022 0x00180023 0x00180024 0x00180025 0x00180026 0x00180027 0x00180028 0x00180029 0x0018002A 0x0018002B 0x0018002C 0x0018002D 0x0018002E 0x0018002F 0x00180030 0x00180031 0x00180032 0x00180033 0x00180034	There is a problem with the Web server.

Error code	Error description
0x00180035 0x00180036 0x00180037 0x00180038 0x00180039 0x0018003A 0x0018003B 0x0018003C 0x0018003D 0x0018003E 0x0018003F	
0x00180002 0x0018001E 0x0018001F	The Web server is busy.
0x00180007 0x0018001D	Unable to connect to the server or to the specified file or folder on the server.

2.2.3.1.15 Hosting Errors

Error code	Error description
------------	-------------------

Error code	Error description
0x001D0001	There is a problem with the Web server.
0x001D0002	
0x001D0003	
0x001D0004	
0x001D0005	
0x001D0006	
0x001D0007	
0x001D0008	
0x001D0009	
0x001D000A	

2.2.3.1.16 Web Services Errors

Error code	Error description
0x001E0001	There is a problem with the Web server.
0x001E0004	
0x001E0006	
0x001E0007	
0x001E0002	Insufficient permissions.
0x001E0008	
0x001E0005	The Web server is busy.
0x001E000B	
0x001E0018	
0x001E0019	
0x001E0009	Unable to connect to the server or to the specified file or folder on the server.
0x001E001D	
0x001E0024	The specified Web address is too long.

2.2.3.1.17 Server Network Errors

Error code	Error description
0x00210055	Quota exceeded.
0x00210086	Error due to cancellation by event handler.
0x00210088	The file has too many minor versions.

2.2.3.1.18 Web Extender Client Errors

Error code	Error description
0x00640001	There is a problem with the Web server.
0x00640002	
0x00640003	
0x00640007	
0x00640008	
0x0064000B	
0x00640015	
0x00640016	
0x00640017	
0x0064001C	
0x0064001D	
0x00640037	
0x00640038	
0x00640039	
0x0064003B	
0x0064004C	
0x0064004E	
0x0064004F	

Error code	Error description
0x00640004 0x00640005 0x0064000D 0x0064000E 0x00640013 0x0064002C 0x0064004B	Unable to connect to the server or to the specified file or folder on the server.
0x00640006 0x0064000C 0x00640036	The Web server is busy.
0x00640009 0x0064000A 0x00640019 0x0064001B	Insufficient permissions.
0x00640053	Cannot publish Web to a nested subsite on this server.

2.2.3.1.19 Virus Scan Errors

Error code	Error description
0x00960004	This upload is infected with a virus.
0x00960005	A virus has been removed from this upload.
0x00960006	This download is infected with a virus.
0x00960007	A virus has been cleaned from this download.
0x00960008	A virus caused the deletion of this download.
0x00960009	A virus blocked the download of this file.

Error code	Error description
0x00960014	A virus scanner has encountered an error while scanning the specified file.

2.2.3.1.20 IRM Errors

The following table shows error codes returned from **Information Rights Management (IRM)** modules on the WebDAV server.

Error code	Error description
0x00970002	The IRM component cannot be found.
0x00970003	The IRM component returned an unexpected error.
0x00970004	The IRM component successfully encrypted the content.
0x00970005	The IRM component successfully decrypted the content.
0x00970006	This content is already encrypted.
0x00970007	Cannot protect this file.
0x00970008	The content is already decrypted.
0x00970009	Cannot unprotect this file. Unprotect the file prior to uploading.
0x0097000A	Cannot unprotect this file. Unprotect the file prior to uploading.
0x0097000B	Cannot unprotect this file. Unprotect the file prior to uploading.
0x0097000C	The IRM component reports the protection is corrupted.
0x0097000D	The IRM configuration on Microsoft Windows SharePoint Services is invalid. Contact your administrator.
0x0097000E	The IRM installation on Microsoft Windows SharePoint Services is invalid. Contact your administrator.

Error code	Error description
0x0097000F	The IRM component timed out. Contact your administrator.
0x00970010	The IRM component stopped responding. Contact your administrator
0x00970011	Cannot unprotect this file. Unprotect the file prior to uploading.

Preliminary

3 Protocol Details

3.1 WebDAV 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 specification does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this specification.

No new abstract data model is required, except for that as specified in [\[MS-WDV\]](#) section [3.1.1](#).

3.1.2 Timers

No new timers are required, except for those in WebDAV, as specified in [\[RFC2518\]](#).

3.1.3 Initialization

No new initialization is required, except for that as specified in [\[MS-WDV\]](#) section [3.1.3](#).

3.1.4 Higher-Layer Triggered Events

No new events are triggered, except for those in WebDAV, as specified in [\[RFC2518\]](#).

3.1.5 Message Processing Events and Sequencing Rules

No new message processing events or sequencing rules are required, except for those as specified in [\[MS-WDV\]](#) section [3.1.5](#).

3.1.6 Timer Events

No new timer events are required, except for those in WebDAV, as specified in [\[RFC2518\]](#).

3.1.7 Other Local Events

No new local events are required, except for those in WebDAV, as specified in [\[RFC2518\]](#).

3.2 WebDAV 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 specification does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this specification.

No new abstract data model is required, except for that in WebDAV, as specified in [\[RFC2518\]](#).

3.2.2 Timers

No new timers are required, except for those in WebDAV, as specified in [\[RFC2518\]](#).

3.2.3 Initialization

No initialization is required, except for that in WebDAV protocol, as specified in [\[RFC2518\]](#).

3.2.4 Higher-Layer Triggered Events

No new events are triggered, except for those in WebDAV, as specified in [\[RFC2518\]](#).

3.2.5 Message Processing Events and Sequencing Rules

No new message processing events or sequencing rules are required, except for those as specified in [\[MS-WDV\]](#) section [3.2.5](#).

3.2.6 Timer Events

No new timer events are required, except for those in WebDAV, as specified in [\[RFC2518\]](#).

3.2.7 Other Local Events

No new local events are required, except for those in WebDAV protocol, as specified in [\[RFC2518\]](#).

4 Protocol Examples

The only differences between the examples in section [4.1](#) and section [4.2](#) are the X-MSDAVEXT_ERROR header code and string.

4.1 Client Attempts to Open a Checked-Out File

The following is an example of an extended error that is returned by the protocol server when a protocol client attempts to open a file that is checked out to another user.

```
HTTP/1.1 401 Unauthorized
Content-Length: 1656
Content-Type: text/html
X-MSDAVEXT_ERROR: 589838; The%20file%20is%20checked%20out%20to%20%22domain%5cusername%22
Server: Microsoft-IIS/6.0
WWW-Authenticate: NTLM
X-Powered-By: ASP.NET
Date: Tue, 25 Jan 2005 03:11:51 GMT
```

4.2 Client Attempts to Exceed the Storage Quota Limit for a Location

The following is an example of an extended error that is returned by the protocol server when the protocol client attempts to save a file to a location that would exceed the storage quota limit for that location.

```
HTTP/1.1 409 Conflict
Date: Wed, 30 Jan 2008 18:56:33 GMT
Server: Microsoft-IIS/6.0
X-Powered-By: ASP.NET
MicrosoftSharePointTeamServices: 12.0.0.4518
ContentLength: 0
X-MSDAVEXT_Error: 589923;
Your%20changes%20could%20not%20be%20saved%20because%20this%20SharePoint%20Web%20site%20has%20
exceeded%20the%20storage%20quota%20limit%2e%0aYou%20must%20save%20your%20work%20to%20another%
20location%2e%20%20Contact%20your%20administrator
```

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

Preliminary

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.

- The 2007 Microsoft Office system
- Microsoft Office 2010 suites
- Microsoft Office 2013
- Microsoft SharePoint Foundation 2010
- Microsoft SharePoint Foundation 2013
- Windows SharePoint Services 3.0
- Microsoft Office 2016 Preview

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.

Preliminary

7 Change Tracking

This section identifies changes that were made to this document since the last release. 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.
- The removal of a document from the documentation set.

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 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 changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

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.
- 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 dochelp@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
6 Appendix A: Product Behavior	Updated list of supported products.	Y	Content updated due to protocol revision.

Preliminary

8 Index

A

Abstract data model
[client](#) 31
[server](#) 31
[Applicability](#) 8
[Authentication errors](#) 20

C

[Capability negotiation](#) 8
[Change tracking](#) 36
Client
[abstract data model](#) 31
[higher-layer triggered events](#) 31
[initialization](#) 31
[message processing](#) 31
[other local events](#) 31
[sequencing rules](#) 31
[timer events](#) 31
[timers](#) 31
[Client attempts to exceed the storage quota limit for a location example](#) 33
[Client attempts to open a checked-out file example](#) 33
[Configuration errors](#) 14
[Currently Defined WebDAV Extended Errors message](#) 9

D

Data model - abstract
[client](#) 31
[server](#) 31
[DBW errors](#) 21
[DNS errors](#) 23
[Document-related errors](#) 21

E

Errors
[authentication](#) 20
[configuration](#) 14
[DBW](#) 21
[DNS](#) 23
[document-related](#) 21
[file](#) 10
[hosting](#) 25
[HTML](#) 15
[HTTP](#) 20
[Internet](#) 23
[IRM](#) 29
[server](#) 15
[server network](#) 27
[server parsing](#) 14
[service](#) 16
[socket](#) 21
[system](#) 15
[virus scan](#) 28
[Web extender client](#) 27

[Web services](#) 26

Examples

[client attempts to exceed the storage quota limit for a location](#) 33
[client attempts to open a checked-out file](#) 33
[overview](#) 33
[Extended Error Handling message](#) 9

F

[Fields - vendor-extensible](#) 8
[File errors](#) 10

G

[Glossary](#) 6

H

Higher-layer triggered events
[client](#) 31
[server](#) 32
[Hosting errors](#) 25
[HTML errors](#) 15
[HTTP errors](#) 20

I

[Implementer - security considerations](#) 34
[Index of security parameters](#) 34
[Informative references](#) 7
Initialization
[client](#) 31
[server](#) 32
[Internet errors](#) 23
[Introduction](#) 6
[IRM errors](#) 29

M

Message processing
[client](#) 31
[server](#) 32
Message syntax
[overview](#) 9
Messages
[Currently Defined WebDAV Extended Errors](#) 9
[Extended Error Handling](#) 9
[syntax](#) 9
[transport](#) 9
[WebDAV Extension Header](#) 9

N

[Normative references](#) 7

O

Other local events

[client](#) 31
[server](#) 32
[Overview \(synopsis\)](#) 7

P

[Parameters - security index](#) 34
[Preconditions](#) 8
[Prerequisites](#) 8
[Product behavior](#) 35

R

References
[informative](#) 7
[normative](#) 7
[Relationship to other protocols](#) 7

S

Security
[implementer considerations](#) 34
[parameter index](#) 34
Sequencing rules
[client](#) 31
[server](#) 32
Server
[abstract data model](#) 31
[higher-layer triggered events](#) 32
[initialization](#) 32
[message processing](#) 32
[other local events](#) 32
[sequencing rules](#) 32
[timer events](#) 32
[timers](#) 32
[Server errors](#) 15
[Server network errors](#) 27
[Server parsing errors](#) 14
[Service errors](#) 16
[Socket errors](#) 21
[Standards assignments](#) 8
[System errors](#) 15

T

Timer events
[client](#) 31
[server](#) 32
Timers
[client](#) 31
[server](#) 32
[Tracking changes](#) 36
[Transport](#) 9
Triggered events - higher-layer
[client](#) 31
[server](#) 32

V

[Vendor-extensible fields](#) 8
[Versioning](#) 8
[Virus scan errors](#) 28

W

[Web extender client errors](#) 27
[Web services errors](#) 26
[WebDAV Extension Header message](#) 9