

[MS-WDVMODUU]: Office Document Update Utility Extensions

Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft [Open Specification Promise](#) or the [Community Promise](#). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting iplg@microsoft.com.
- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit www.microsoft.com/trademarks.
- **Fictitious Names.** The example companies, organizations, products, domain names, email addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

Reservation of Rights. All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

Tools. The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.

Revision Summary

Date	Revision History	Revision Class	Comments
04/04/2008	0.1		Initial Availability
06/27/2008	1.0	Major	Revised and edited the technical content
12/12/2008	1.01	Editorial	Revised and edited the technical content
07/13/2009	1.02	Major	Changes made for template compliance
08/28/2009	1.03	Editorial	Revised and edited the technical content
11/06/2009	1.04	Editorial	Revised and edited the technical content
02/19/2010	2.0	Editorial	Revised and edited the technical content
03/31/2010	2.01	Editorial	Revised and edited the technical content
04/30/2010	2.02	Editorial	Revised and edited the technical content
06/07/2010	2.03	Editorial	Revised and edited the technical content
06/29/2010	2.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	2.05	Minor	Clarified the meaning of the technical content.
09/27/2010	2.06	Editorial	Changed language and formatting in the technical content.
11/15/2010	2.06	No change	No changes to the meaning, language, or formatting of the technical content.
12/17/2010	2.06	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	2.06	No change	No changes to the meaning, language, or formatting of the technical content.
06/10/2011	2.06	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	2.7	Minor	Clarified the meaning of the technical content.
04/11/2012	2.7	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	2.7	No change	No changes to the meaning, language, or formatting of the technical content.
09/12/2012	2.7	No change	No changes to the meaning, language, or formatting of the technical content.
10/08/2012	2.7	No change	No changes to the meaning, language, or formatting of the technical content.

Date	Revision History	Revision Class	Comments
02/11/2013	2.8	Minor	Clarified the meaning of the technical content.
07/30/2013	2.8	No change	No changes to the meaning, language, or formatting of the technical content.
11/18/2013	2.8	No change	No changes to the meaning, language, or formatting of the technical content.
02/10/2014	2.8	No change	No changes to the meaning, language, or formatting of the technical content.
04/30/2014	2.8	No change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1 Introduction	6
1.1 Glossary	6
1.2 References	6
1.2.1 Normative References	6
1.2.2 Informative References	7
1.3 Protocol Overview (Synopsis)	7
1.4 Relationship to Other Protocols	8
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 Common Data Types	9
2.2.1 MODUU Extension Headers	9
2.2.1.1 X-Virus-Infected Header	9
2.2.1.2 Moss-Uid Header	9
2.2.1.3 Moss-Did Header	10
2.2.1.4 Moss-VerFrom Header	10
2.2.1.5 Moss-CBFile Header	10
2.2.1.6 MS-Set-Repl-Uid Header	10
2.2.1.7 MS-BinDiff Header	10
2.2.1.8 X-Office-Version Header	11
2.2.1.9 User-Agent Header	11
2.2.2 MODUU Extensions Property	11
2.2.2.1 Repl:collblob Element	11
2.2.2.2 Repl:repl Element Collection	11
3 Protocol Details	13
3.1 WebDAV: MODUU Extensions Server Details	13
3.1.1 Abstract Data Model	13
3.1.2 Timers	13
3.1.3 Initialization	13
3.1.4 Message Processing Events and Sequencing Rules	13
3.1.4.1 X-Virus-Infected Header	13
3.1.4.2 Moss-Uid Header	13
3.1.4.3 Moss-Did Header	13
3.1.4.4 Moss-VerFrom Header	13
3.1.4.5 Moss-CBFile Header	13
3.1.4.6 MS-Set-Repl-Uid Header	13
3.1.4.7 MS-BinDiff Header	14
3.1.4.8 X-Office-Version Header	14
3.1.4.9 User-Agent Header	14
3.1.4.10 Repl:collblob and Repl:repl	14
3.1.5 Timer Events	14
3.1.6 Other Local Events	14
3.2 WebDAV: MODUU Extensions Client Details	14
3.2.1 Abstract Data Model	14

3.2.2	Timers	14
3.2.3	Initialization	15
3.2.4	Message Processing Events and Sequencing Rules	15
3.2.4.1	X-Virus-Infected Header	15
3.2.4.2	Repl:collblob and Repl:repl	15
3.2.5	Timer Events	15
3.2.6	Other Local Events	15
4	Protocol Examples	16
4.1	PROPFIND on Non-Collection Resource	16
4.2	PROPFIND On Collection Resource	17
4.3	PUT Message with WebDAV: Protocol MODUU Extensions Headers	21
4.4	GET Message with MODUU Extensions Headers.....	22
5	Security.....	23
5.1	Security Considerations for Implementers.....	23
5.2	Index of Security Parameters	23
6	Appendix A: Full IDL.....	24
7	Appendix B: Product Behavior	25
8	Change Tracking.....	26
9	Index	27

1 Introduction

This specification, Web Distributed Authoring and Versioning (WebDAV) Protocol: Microsoft Office Document Update Utility Extensions Protocol (MODUU), documents extensions to the Web Distributed Authoring and Versioning (WebDAV) protocols described in [\[RFC2518\]](#). Extensions documented in this specification include header updates, a property which enables optimized protocol interaction for synchronization, and a property which allows the server to send clients the virus infection status of a document.

MODUU extensions are designed for use with files stored on a WebDAV server.

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

Augmented Backus-Naur Form (ABNF)
Coordinated Universal Time (UTC)
curly braced GUID string
Hypertext Transfer Protocol (HTTP)

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

Document Workspace site
file
HTTP GET
Hypertext Transfer Protocol 1.1 (HTTP/1.1)
Uniform Resource Locator (URL)
User-Agent header
Web Distributed Authoring and Versioning Protocol (WebDAV)
WebDAV client
WebDAV server
XML element

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 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.

[ISO-8601] International Organization for Standardization, "Data Elements and Interchange Formats - Information Interchange - Representation of Dates and Times", ISO/IEC 8601:2004, December 2004, <http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=40874&ICS1=1&ICS2=140&ICS3=30>

Note There is a charge to download the specification.

[MS-DTYP] Microsoft Corporation, "[Windows Data Types](#)".

[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>

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

[XML10] World Wide Web Consortium, "Extensible Markup Language (XML) 1.0 (Third Edition)", February 2004, <http://www.w3.org/TR/2004/REC-xml-20040204/>

1.2.2 Informative References

[MS-DWSS] Microsoft Corporation, "[Document Workspace Web Service Protocol](#)".

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

[MS-OFGLS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)".

1.3 Protocol Overview (Synopsis)

Web Distributed Authoring and Versioning Protocol (WebDAV) is a set of methods, headers, and content types that extend **Hypertext Transfer Protocol 1.1 (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 as described in [\[RFC2616\]](#) for content authoring by introducing additional methods and headers that provide support for resource properties and other base functions, such as resource locking. These new capabilities make WebDAV suitable for basic remote-mountable file systems.

MODUU extensions specify the following extensions to the base WebDAV extensions, as described in [\[RFC2518\]](#):

- A header that a server includes in a response to the client to indicate whether a **file** is infected with a virus, as described in section [2.2.1.1](#).
- A new property that contains a timestamp. Clients can use this property in a **PROPFIND** request to query for recent changes, as described in section [2.2.2](#).
- Seven new optional client headers that are ignored by the server, documented for completeness. They are described in sections [2.2.1.2](#) to [2.2.1.8](#).

1.4 Relationship to Other Protocols

MODUU extensions rely on HTTP Extensions for Distributed Authoring —WebDAV, as described in [\[RFC2518\]](#), which in turn relies on HTTP/1.1, as described in [\[RFC2616\]](#).

1.5 Prerequisites/Preconditions

MODUU extensions require a **WebDAV server** that implements the protocol described in [\[RFC2518\]](#).

Additionally, servers that implement the MODUU extensions also need to support the protocol described in [\[MS-DWSS\].<1>](#)

This protocol also requires a **WebDAV client** that has **URLs** which refer to the WebDAV server.

The prerequisite to MODUU, WebDAV, as described in [\[RFC2518\]](#), extends the standard **Hypertext Transfer Protocol (HTTP)** mechanisms described in [\[RFC2616\]](#) to provide file access and content management functionality for use across the Internet. WebDAV enables an Internet-based file system. However, some tasks—for example, synchronizing server and client copies of the same file—are not easily managed by WebDAV. Also, some protocol interactions, such as obtaining the properties of recently modified files, are less than optimal for large document libraries.

1.6 Applicability Statement

MODUU extensions apply in scenarios that require efficient file synchronization between client and server. It also allows the server to send clients the virus infection status of a document.

1.7 Versioning and Capability Negotiation

MODUU extensions introduce no new versioning mechanisms beyond those that already exist in the protocol and as described in [\[RFC2616\]](#) (HTTP/1.1).

MODUU extensions introduce no new capability negotiation mechanisms beyond those already described in [\[RFC2518\]](#).

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

This section describes MODUU extensions transport requirements and syntax.

2.1 Transport

Messages are transported by using HTTP, as specified in [\[RFC2518\]](#) and [\[RFC2616\]](#).

2.2 Common Data Types

This section specifies the following deviations from [\[RFC2518\]](#) in the WebDAV server implementation. **XML element** type declarations are given using the format defined in [\[XML10\]](#).

- A new XML element is added to the **DAV:multistatus** element collection, as defined in [\[RFC2518\]](#). The syntax is specified in section [2.2.2.1](#) and section [2.2.2.2](#).

```
<!ELEMENT multistatus (repl?, response+, responsedescription?) >
```

- A new XML element is added to the **PROPFIND** element collection. Its syntax is specified in section [2.2.2.1](#) and section [2.2.2.2](#).

```
<!ELEMENT propfind ((repl, allprop) | (allprop | propname | prop)) >
```

2.2.1 MODUU Extension Headers

The extension headers in this protocol conform to the form and behavior of other custom HTTP 1.1 headers, as specified in [\[RFC2616\]](#) section 4.2. They are consistent with the WebDAV verbs and headers, as specified in [\[RFC2518\]](#) sections 8 and 9. Definitions are specified using the **Augmented Backus-Naur Form (ABNF)** syntax specified in [\[RFC2616\]](#) section 2.1.

2.2.1.1 X-Virus-Infected Header

If returned, the **X-Virus-Infected** header MUST take the following form:

```
X-Virus-Infected Header = "x-virus-infected" ":" Virus-Name  
Virus-Name = 1*TEXT
```

The **X-Virus-Infected** header usage is specified in section [3.1.4.1](#) and section [3.2.4.1](#).

2.2.1.2 Moss-Uid Header

A WebDAV client SHOULD NOT include the **Moss-Uid** header in any HTTP 1.1 requests. [<2>](#)

If this header is included, it MUST contain a **curly braced GUID string** that represents the current user identifier on the WebDAV client. This new header is specified as follows:

```
Moss-Uid Header = "moss-uid" ":" Curly Braced GUID String
```

Because the server ignores this header, there are no usage specifications for this header.

2.2.1.3 Moss-Did Header

A WebDAV client SHOULD NOT include the **Moss-Did** header in any HTTP 1.1 requests. [<3>](#)

If this header is included, it MUST contain a curly braced GUID String. It is identical to the moss-uid header. This new header is specified as follows:

```
Moss-Did Header = "moss-did" ":" Curly Braced GUID String
```

Because the server ignores this header, there are no usage specifications for this header.

2.2.1.4 Moss-VerFrom Header

A WebDAV client SHOULD NOT include the **Moss-VerFrom** header in any HTTP 1.1 requests. [<4>](#)

If this header is included, it MUST contain a non-negative integer expressed in decimal notation with 11 or fewer digits. It is used in a PUT request and represents the version of the document being uploaded. This new header is specified as follows:

```
Moss-VerFrom Header = "moss-verfrom" ":" Ver-Number  
Ver-Number = 1*11DIGIT
```

Because the server ignores this header, there are no usage specifications for this header.

2.2.1.5 Moss-CBFile Header

A WebDAV client SHOULD NOT include the **Moss-CBFile** header in any HTTP 1.1 requests. [<5>](#)

If this header is included, it MUST contain the lower DWORD, as defined in [\[MS-DTYP\]](#), of the size of the file it is uploading, in bytes. This new header is specified as follows:

```
Moss-CBFile Header = "moss-cbfile" ":" 1*DIGIT
```

Because the server ignores this header, there are no usage specifications for this header.

2.2.1.6 MS-Set-Repl-Uid Header

A WebDAV client SHOULD NOT include the **MS-Set-Repl-Uid** header in any HTTP 1.1 requests. [<6>](#)

If this header is included, its value MUST be the value of the Repl-Uid site property returned by the WebDAV server in response to a **PROPFIND** request.

This new header is specified as follows:

```
MS-Set-Repl-Uid Header = "MS-Set-repl-uid" ":" Repl-Uid  
Repl-Uid = "rid" ":" Curly Braced GUID String
```

Because the server ignores this header, there are no usage specifications for this header.

2.2.1.7 MS-BinDiff Header

A WebDAV client SHOULD NOT include the **MS-BinDiff** header in any HTTP 1.1 requests. [<7>](#)

If this header is included, it MUST contain the value "1.0". This new header is specified as follows:

```
MS-BinDiff Header = "MS-BinDiff" ":" Version-Number
Version-Number = "1.0"
```

Because the server ignores this header unless it is included in an HTTP PUT request, there are no usage specifications for this header.

2.2.1.8 X-Office-Version Header

A WebDAV client SHOULD NOT include the **X-Office-Version** header in any HTTP 1.1 requests.<8>

If this header is included, it MUST contain a version number. This version number is the same as the WebDAV client version number. This new header is specified as follows:

```
X-Office-Version Header = "X-Office-Version" ":" Version-Number
Version-Number = "12" "." "0" "." 4DIGIT
```

Because the server ignores this header, there are no usage specifications for this header.

2.2.1.9 User-Agent Header

The standard **User-Agent header** in all MODUU extension requests MAY include "SyncMan [version number]" as a comment.<9> The version number SHOULD be the same as the Version-Number in the X-Office-Version Header. Because the server ignores this header, there are no usage specifications for this header.

2.2.2 MODUU Extensions Property

When the **Repl:collblob** and **Repl:repl** elements appear in a response to a WebDAV client request, the response MUST also include this schema alias.

```
xmlns:Repl="http://schemas.microsoft.com/repl/"
```

2.2.2.1 Repl:collblob Element

The **Repl:collblob** XML element MUST contain a **UTC** timestamp that conforms to the [\[ISO-8601\]](#) standard.

```
<!ELEMENT collblob (#PCDATA) >
```

The **Repl:collblob** element MUST NOT appear except within the **Repl:repl** XML element collection.

The **Repl:collblob** element usage is specified in section [3.1.4.10](#) and section [3.2.4.2](#).

2.2.2.2 Repl:repl Element Collection

The **Repl:repl** XML element collection MUST contain a single **Repl:collblob** element, as specified in section [2.2.2.1](#)). This collection appears in the request entity body of a **PROPFIND** request (section [2.2.2](#)) or within the **multistatus** element collection (section [2.2.2](#)).

<!ELEMENT repl (collblob) >

The **Repl:repl** element collection usage is specified in sections [3.1.4.10](#) and [3.2.4.2](#).

3 Protocol Details

As specified in [RFC2518], WebDAV operates between a requester, or WebDAV client, and a responder, or WebDAV server. This section specifies client and server behaviors with respect to MODUU extensions.

3.1 WebDAV: MODUU Extensions Server Details

3.1.1 Abstract Data Model

No new abstract data model is needed other than that described in the WebDAV protocol, as specified in [\[RFC2518\]](#).

3.1.2 Timers

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

3.1.3 Initialization

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

3.1.4 Message Processing Events and Sequencing Rules

3.1.4.1 X-Virus-Infected Header

A WebDAV server returns the **X-Virus-Infected** header in response to an **HTTP GET** or a PUT request to indicate that the requested file is infected with a virus.

If this header is returned by a WebDAV server in response to an HTTP PUT or a GET request, the server **MUST** fail the request and respond with a message containing HTTP status code "409 CONFLICT".

The server **MUST NOT** return the infected file to the client following a GET request "409 CONFLICT" error condition.

3.1.4.2 Moss-Uid Header

The **Moss-Uid** header is ignored by WebDAV servers.

3.1.4.3 Moss-Did Header

The **Moss-Did** header is ignored by WebDAV servers.

3.1.4.4 Moss-VerFrom Header

The **Moss-VerFrom** header is ignored by WebDAV servers.

3.1.4.5 Moss-CBFile Header

The **Moss-CBFile** header is ignored by WebDAV servers.

3.1.4.6 MS-Set-Repl-Uid Header

The **MS-Set-Repl-Uid** header is ignored by WebDAV servers.

3.1.4.7 MS-BinDiff Header

The **MS-BinDiff** header is ignored by WebDAV servers unless it is included in an HTTP PUT request. If the **MS-BinDiff** header is included in an HTTP PUT request, the server MUST fail the request and respond with a message containing HTTP status code "415 UNSUPPORTED MEDIA TYPE".

3.1.4.8 X-Office-Version Header

The **X-Office-Version** header is ignored by WebDAV servers.

3.1.4.9 User-Agent Header

The **User-Agent Header** header is ignored by WebDAV servers.

3.1.4.10 Repl:collblob and Repl:repl

The existence of a **Repl:collblob** element in a **PROPFIND** request restricts the set of results returned by the server.

When the server receives a **PROPFIND** request with the **Repl:collblob** element set to a timestamp, it includes a response element for each resource in the **multistatus** element that is a descendant of the Request-URI (limited by the **Depth** header specified in [\[RFC2518\]](#)) and that has changed according to the following rules:

1. The resource was last modified later than or equal to 5 minutes before the timestamp, OR
2. The resource is a descendant of a resource that has changed later than or equal to 5 minutes before the timestamp.

In addition, the server includes the **Repl:repl** element collection in the response as specified.

```
<!ELEMENT multistatus (repl, response+, responsedescription?) >
```

The value of the **repl:collblob** element is the server time when it processed this request.

3.1.5 Timer Events

No new timers are used beyond those in WebDAV, as specified in [\[RFC2518\]](#).

3.1.6 Other Local Events

There are no new local events beyond WebDAV, as specified in [\[RFC2518\]](#).

3.2 WebDAV: MODUU Extensions Client Details

3.2.1 Abstract Data Model

No new abstract data model is needed beyond WebDAV, as specified in [\[RFC2518\]](#).

3.2.2 Timers

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

3.2.3 Initialization

No additional initialization is required beyond that specified in [RFC2518].

3.2.4 Message Processing Events and Sequencing Rules

3.2.4.1 X-Virus-Infected Header

There are no special prescriptions of client behavior for this header.

3.2.4.2 Repl:collblob and Repl:repl

The client caches the most recent value of a **Repl:collblob** element returned by the server for use in subsequent requests. When the client does not have a cache of this value, it uses 1969-01-01T12:00:00Z.

3.2.5 Timer Events

No new timers are required beyond those specified in [\[RFC2518\]](#).

3.2.6 Other Local Events

There are no new local events beyond those specified in [\[RFC2518\]](#).

4 Protocol Examples

4.1 PROPFIND on Non-Collection Resource

In this scenario a client sends a **PROPFIND** request with a non-collection resource Request-URI. The client also includes the **Repl:repl** element collection within the request entity body.

Request

Header

PROPFIND /subwebpath /Document1.docx

```
HTTP/1.1
X-Office-Version: 12.0.6234
Depth: 0
moss-uid: {0673D303-E1F1-41DF-94B6-98DE16E099AD}
Pragma: no-cache
User-Agent: Microsoft Office/12.0 (Windows NT 5.2; SyncMan 12.0.6234; Pro)
Host: hostpath
Connection: Keep-Alive
Cache-Control: no-cache
Authorization: NTLM
Content-Length: 180
```

Body

```
<?xml version="1.0"?>
  <D:propfind xmlns:D="DAV:" xmlns:Repl="http://schemas.microsoft.com/repl/">
    <Repl:repl>
      <Repl:collblob>2008-01-16T19:35:00Z</Repl:collblob>
    </Repl:repl>
    <D:allprop/>
  </D:propfind>
```

Response

Header

```
HTTP/1.1 207 MULTI-STATUS
Date: Thu, 17 Jan 2008 22:59:02 GMT
Server: Microsoft-IIS/6.0
MicrosoftSharePointTeamServices: 12.0.0.6210
X-Powered-By: ASP.NET
Cache-Control: no-cache
Content-Type: text/xml
Content-Length: 1402
Public-Extension: http://schemas.microsoft.com/repl-2
Set-Cookie: WSS_KeepSessionAuthenticated=80; path=/
```

Body


```

<?xml version="1.0" encoding="utf-8" ?>
<D:multistatus
  xmlns:D="DAV:"
  xmlns:Office="urn:schemas-microsoft-com:office:office"
  xmlns:Repl="http://schemas.microsoft.com/repl/"
  xmlns:Z="urn:schemas-microsoft-com:">
  <Repl:repl>
<Repl:collblob>2008-01-17T22:59:02Z</Repl:collblob>
  </Repl:repl>
  <D:response>
<D:href>http://hostpath/subwebpath/Document1.docx</D:href>
<D:propstat>
<D:prop>
<D:displayname>Document1.docx</D:displayname>
<D:lockdiscovery/>
<D:supportedlock>
<D:lockentry>
<D:lockscope><D:exclusive/></D:lockscope>
<D:locktype><D:write/></D:locktype>
</D:lockentry>
</D:supportedlock>
<D:getlastmodified>2008-01-16T19:54:33Z</D:getlastmodified>
<Z:Win32LastModifiedTime>Wed, 16 Jan 2008 19:54:32 GMT</Z:Win32LastModifiedTime>
<D:creationdate>2008-01-16T19:34:57Z</D:creationdate>
<D:getcontentlength>17371</D:getcontentlength>
<Repl:repl-uid>
rid:{B1BB6974-0D9D-4D2D-9C6A-8419F2D1EF09}
</Repl:repl-uid>
<Repl:resourcetag>
rt:B1BB6974-0D9D-4D2D-9C6A-8419F2D1EF09000000000006
</Repl:resourcetag>
<Z:Win32CreationTime>Wed, 16 Jan 2008 19:34:57 GMT</Z:Win32CreationTime>
<Z:Win32LastAccessTime>Wed, 16 Jan 2008 19:54:32 GMT</Z:Win32LastAccessTime>
<D:getetag>
&quot;{B1BB6974-0D9D-4D2D-9C6A-8419F2D1EF09},&quot;
</D:getetag>
<Office:modifiedby>username</Office:modifiedby>
<Z:Win32FileAttributes>00000020</Z:Win32FileAttributes>
</D:prop>
<D:status>HTTP/1.1 200 OK</D:status>
</D:propstat>
</D:response>
</D:multistatus>

```

4.2 PROPFIND On Collection Resource

In this scenario a protocol client sends a **PROPFIND** request with a collection resource Request-URI. The client also includes the **Repl:repl** element collection within the request entity body.

The client sets the **Depth** header to "infinity". So the server responds with property information for every descendent of the Request-URI.

Request

Header

```
PROPFIND /subwebpath HTTP/1.1
```

X-Office-Version: 12.0.6017
Depth: infinity
moss-uid: {C309FC17-42A0-4C99-A87F-5F2BCBF7AAB8}
Pragma: no-cache
User-Agent: Microsoft Office/12.0 (Windows NT 6.0; SyncMan 12.0.6017; Pro)
Host: my
Content-Length: 180
Connection: Keep-Alive
Cache-Control: no-cache
Cookie: WSS_KeepSessionAuthenticated=80

Body

```
<?xml version="1.0"?>
<D:propfind xmlns:D="DAV:" xmlns:r="http://schemas.microsoft.com/repl/">
  <r:repl><r:collblob>2008-03-12T19:57:05Z</r:collblob></r:repl>
  <D:allprop/>
</D:propfind>
```

Response

HTTP/1.1 207 MULTI-STATUS
Date: Wed, 12 Mar 2008 20:00:33 GMT
Server: Microsoft-IIS/6.0
MicrosoftSharePointTeamServices: 12.0.0.6210
X-Powered-By: ASP.NET
Cache-Control: no-cache
Content-Type: text/xml
Content-Length: 10739
Public-Extension: http://schemas.microsoft.com/repl-2
Set-Cookie: WSS_KeepSessionAuthenticated=80; path=/

```
<?xml version="1.0" encoding="utf-8" ?>
<D:multistatus
  xmlns:D="DAV:"
  xmlns:Office="urn:schemas-microsoft-com:office:office"
  xmlns:Repl="http://schemas.microsoft.com/repl/"
  xmlns:Z="urn:schemas-microsoft-com:">

  <Repl:repl> <Repl:collblob>2008-03-12T20:00:33Z</Repl:collblob></Repl:repl>

  <D:response>
    <D:href>http://hostpath/subwebpath</D:href>
    <D:propstat>
      <D:prop>
        <D:displayname>Shared Documents</D:displayname>
        <D:lockdiscovery/>
        <D:supportedlock/>
        <D:isFolder>t</D:isFolder>
        <D:iscollection>1</D:iscollection>
        <D:ishidden>0</D:ishidden>
        <D:getcontenttype>application/octet-stream</D:getcontenttype>
        <D:getcontentlength>0</D:getcontentlength>
        <D:resourcetype><D:collection/></D:resourcetype>
        <Repl:authoritative-directory>t</Repl:authoritative-directory>
```

```

    <D:getlastmodified>2008-03-12T19:57:00Z</D:getlastmodified>
    <D:creationdate>2008-03-12T19:56:57Z</D:creationdate>
    <Repl:repl-uid>rid:{C309FC17-42A0-4C99-A87F-5F2BCBF7AAB8}</Repl:repl-uid>
    <Repl:resourcetag>rt:C309FC17-42A0-4C99-A87F-
5F2BCBF7AAB8@000000000000</Repl:resourcetag>
    <D:getetag>&quot;{C309FC17-42A0-4C99-A87F-5F2BCBF7AAB8},0&quot;</D:getetag>
  </D:prop>
  <D:status>HTTP/1.1 200 OK</D:status>
</D:propstat>
</D:response>

<D:response>
  <D:href>http://hostpath/subwebpath/Document1.docx</D:href>
  <D:propstat>
    <D:prop>
      <D:displayname>Document1.docx</D:displayname>
      <D:lockdiscovery/>
      <D:supportedlock>
        <D:lockentry>
          <D:lockscope><D:exclusive/></D:lockscope>
          <D:locktype><D:write/></D:locktype>
        </D:lockentry>
      </D:supportedlock>
      <D:getlastmodified>2008-03-12T19:57:00Z</D:getlastmodified>
      <Z:Win32LastModifiedTime>Wed, 12 Mar 2008 19:56:56 GMT</Z:Win32LastModifiedTime>
      <D:creationdate>2008-03-12T19:57:00Z</D:creationdate>
      <D:getcontentlength>15348</D:getcontentlength>
      <Repl:repl-uid>rid:{12F6054D-5A1F-4D5C-8170-702BABEF1C04}</Repl:repl-uid>
      <Repl:resourcetag>rt:12F6054D-5A1F-4D5C-8170-
702BABEF1C04@000000000003</Repl:resourcetag>
      <Z:Win32CreationTime>Wed, 12 Mar 2008 19:56:55 GMT</Z:Win32CreationTime>
      <Z:Win32LastAccessTime>Wed, 12 Mar 2008 19:56:56 GMT</Z:Win32LastAccessTime>
      <D:getetag>&quot;{12F6054D-5A1F-4D5C-8170-702BABEF1C04},3&quot;</D:getetag>
      <Office:modifiedby>REDMOND\mingweiw</Office:modifiedby>
      <Z:Win32FileAttributes>00000020</Z:Win32FileAttributes>
    </D:prop>
    <D:status>HTTP/1.1 200 OK</D:status>
  </D:propstat>
</D:response>

<D:response>
  <D:href>http://hostpath/subwebpath/subsubwebpath</D:href>
  <D:propstat>
    <D:prop>
      <D:displayname>Forms</D:displayname>
      <D:lockdiscovery/>
      <D:supportedlock/>
      <D:isFolder>t</D:isFolder>
      <D:iscollection>l</D:iscollection>
      <D:ishidden>0</D:ishidden>
      <D:getcontenttype>application/octet-stream</D:getcontenttype>
      <D:getcontentlength>0</D:getcontentlength>
      <D:resourcetype>
        <D:collection/></D:resourcetype>
      <Repl:authoritative-directory>t</Repl:authoritative-directory>
      <D:getlastmodified>2008-03-12T19:56:57Z</D:getlastmodified>
      <D:creationdate>2008-03-12T19:56:57Z</D:creationdate>
      <Repl:repl-uid>rid:{5A3ADA17-D8B8-49C2-9B72-ECEFDDDAC6C0}</Repl:repl-uid>

```

```
<Repl:resourcetag>rt:5A3ADA17-D8B8-49C2-9B72-
ECEFD5DAC6C0@000000000000</Repl:resourcetag>
  <D:getetag>&quot;{5A3ADA17-D8B8-49C2-9B72-ECEFD5DAC6C0},0&quot;</D:getetag>
  <Z:Win32FileAttributes>00000012</Z:Win32FileAttributes>
</D:prop>
<D:status>HTTP/1.1 200 OK</D:status>
</D:propstat>
</D:response>
```

```
<D:response>
  <D:href>http://hostpath/subwebpath/subsubwebpath/Combine.aspx</D:href>
  <D:propstat>
    <D:prop>
      <D:displayname>Combine.aspx</D:displayname>
      <D:lockdiscovery/>
      <D:supportedlock>
        <D:lockentry>
          <D:lockscope>
            <D:exclusive/></D:lockscope>
            <D:locktype><D:write/></D:locktype>
          </D:lockentry>
        </D:supportedlock>
        <D:getlastmodified>2008-03-12T19:56:57Z</D:getlastmodified>
        <D:creationdate>2008-03-12T19:56:57Z</D:creationdate>
        <D:getcontentlength>2649</D:getcontentlength>
        <Repl:repl-uid>rid:{54BC015F-5825-47E2-9E85-3D231BDDFE04}</Repl:repl-uid>
        <Repl:resourcetag>rt:54BC015F-5825-47E2-9E85-
3D231BDDFE04@000000000001</Repl:resourcetag>
        <D:getetag>&quot;{54BC015F-5825-47E2-9E85-3D231BDDFE04},1&quot;</D:getetag>
        <Office:modifiedby></Office:modifiedby>
      </D:prop>
      <D:status>HTTP/1.1 200 OK</D:status>
    </D:propstat>
  </D:response>
```

```
<D:response>
  <D:href>http://hostpath/subwebpath/subsubwebpath/Document2.doc</D:href>
  <D:propstat>
    <D:prop>
      <D:displayname>Document2.doc</D:displayname>
      <D:lockdiscovery/>
      <D:supportedlock>
        <D:lockentry>
          <D:lockscope><D:exclusive/></D:lockscope>
          <D:locktype><D:write/></D:locktype>
        </D:lockentry>
      </D:supportedlock>
      <D:getlastmodified>2008-03-12T19:56:57Z</D:getlastmodified>
      <D:creationdate>2008-03-12T19:56:57Z</D:creationdate>
      <D:getcontentlength>21504</D:getcontentlength>
      <Repl:repl-uid>rid:{4634A4B2-B48C-4A4B-879D-64C10E6B52D0}</Repl:repl-uid>
      <Repl:resourcetag>rt:4634A4B2-B48C-4A4B-879D-
64C10E6B52D0@000000000001</Repl:resourcetag>
      <D:getetag>&quot;{4634A4B2-B48C-4A4B-879D-64C10E6B52D0},1&quot;</D:getetag>
      <Office:modifiedby></Office:modifiedby>
    </D:prop>
    <D:status>HTTP/1.1 200 OK</D:status>
  </D:propstat>
```

```
</D:response>
</D:multistatus>
```

4.3 PUT Message with WebDAV: Protocol MODUU Extensions Headers

The following is the header of a PUT request from the client to the server for a document stored in a **Document Workspace site**, and the response.

Request

Header

```
PUT /hostpath/subwebpath/bar.docx
ProtocolVersion: HTTP/1.1
X-Office-Version: 12.0.6234
moss-uid: {E6AA0E42-D27C-4FD8-89C6-EDB73AB1C741}
moss-did: {E6AA0E42-D27C-4FD8-89C6-EDB73AB1C741}
moss-cbfile: 15341
moss-verfrom: 1
MS-Set-repl-uid: rid:{E819DFCB-DB60-49D7-A70E-51E31F5344BE}
Pragma: no-cache
User-Agent: Microsoft Office/12.0 (Windows NT 5.2; SyncMan 12.0.6234; Pro)
Host: hostpath
ContentLength: 17192
Connection: Keep-Alive
Cache-Control: no-cache
Cookie: WSS_KeepSessionAuthenticated=80
HeaderEnd: CRLF
```

Response

Header

```
ProtocolVersion: HTTP/1.1
StatusCode: 200, Ok
Reason: OK
Date: Fri, 18 Jan 2008 19:51:40 GMT
Server: Microsoft-IIS/6.0
MicrosoftSharePointTeamServices: 12.0.0.6210
X-Powered-By: ASP.NET
Last-Modified: Fri, 18 Jan 2008 19:51:41 GMT
ETag: "{E819DFCB-DB60-49D7-A70E-51E31F5344BE},2"
ResourceTag: rt:E819DFCB-DB60-49D7-A70E-51E31F5344BE@00000000002
Repl-uid: rid:{E819DFCB-DB60-49D7-A70E-51E31F5344BE}
ResourceTag: rt:E819DFCB-DB60-49D7-A70E-51E31F5344BE@00000000001
Expires: Thu, 03 Jan 2008 19:51:40 GMT
Cache-Control: private,max-age=0
ContentLength: 0
Public-Extension: http://schemas.microsoft.com/repl-2
Set-Cookie: WSS_KeepSessionAuthenticated=80; path=/
HeaderEnd: CRLF
```

4.4 GET Message with MODUU Extensions Headers

The following is the header of an HTTP GET request from the client to the server for a document stored in a Document Workspace site, and the response.

Request

Header

```
GET /hostpath/subwebpath/baz.docx
  ProtocolVersion: HTTP/1.1
  X-Office-Version: 12.0.6234
  If: (Not <rt:272A0DE5-FF5C-4DF4-8E40-CC3068CBEF04@000000000000>)
  moss-uid: {6833071C-36D4-4787-BA2C-6B814E35ABAE}
  MS-BinDiff: 1.0
  Translate: f/F - the Web server is to return the unprocessed (or source) content to the
WebDAV client
  Pragma: no-cache
  User-Agent: Microsoft Office/12.0 (Windows NT 5.2; SyncMan 12.0.6234; Pro)
  Host: hostpath
  Connection: Keep-Alive
  Cache-Control: no-cache
  Cookie: WSS_KeepSessionAuthenticated=80
  HeaderEnd: CRLF
```

Response

Header

```
ProtocolVersion: HTTP/1.1
StatusCode: 200, Ok
Reason: OK
Date: Wed, 16 Jan 2008 19:08:05 GMT
Server: Microsoft-IIS/6.0
MicrosoftSharePointTeamServices: 12.0.0.6210
X-Powered-By: ASP.NET
Last-Modified: Wed, 16 Jan 2008 19:08:01 GMT
ETag: "{272A0DE5-FF5C-4DF4-8E40-CC3068CBEF04},1"
ResourceTag: rt:272A0DE5-FF5C-4DF4-8E40-CC3068CBEF04@000000000001
ContentType: application/vnd.ms-word.document.12
Expires: Tue, 01 Jan 2008 19:08:05 GMT
Cache-Control: private,max-age=0
ContentLength: 15616
Public-Extension: http://schemas.microsoft.com/repl-2
Set-Cookie: WSS_KeepSessionAuthenticated=80; path=/
HeaderEnd: CRLF
```

5 Security

5.1 Security Considerations for Implementers

The server rejects HTTP PROPFIND, PROPPATCH and LOCK requests, as specified in [\[RFC2616\]](#) (HTTP 1.1), which result in an XML request entity body larger than 4096 bytes in size.

The server also rejects an HTTP PUT request if the Content-Type header has value multipart/MSDAVEXTPrefixEncoded and whose XML request entity body is larger than 4096 bytes. The server rejects these requests with an HTTP status code 413, "ENTITY TOO LARGE".

5.2 Index of Security Parameters

None.

6 Appendix A: Full IDL

None.

7 Appendix B: 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
- Windows SharePoint Services 3.0
- Microsoft SharePoint Foundation 2010
- Microsoft SharePoint Foundation 2013
- Windows 8.1 Update

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

[<1> Section 1.5:](#) Office 2007 SP1 system clients use MODUU extensions only against a Document Workspace site.

[<2> Section 2.2.1.2:](#) Office 2007 SP1 system clients include the **Moss-Uid** header in GET, PUT, OPTIONS, MOVE, DELETE, MKCOL and PROPFIND requests, though Windows SharePoint Services 3.0 ignores it.

[<3> Section 2.2.1.3:](#) Office 2007 SP1 system clients include the **Moss-Did** header in PUT and MKCOL requests, though Windows SharePoint Services 3.0 ignores it.

[<4> Section 2.2.1.4:](#) Office 2007 SP1 system clients include the **Moss-VerFrom** header in PUT requests, though Windows SharePoint Services 3.0 ignores it.

[<5> Section 2.2.1.5:](#) Office 2007 SP1 system clients include the **Moss-CBFile** header in PUT requests, though Windows SharePoint Services 3.0 ignores it.

[<6> Section 2.2.1.6:](#) Office 2007 SP1 system clients include the **MS-Set-Repl-Uid** header in PUT and MKCOL requests, though Windows SharePoint Services 3.0 ignores it.

[<7> Section 2.2.1.7:](#) Office 2007 SP1 system clients include the **MS-BinDiff** header in GET requests, though Windows SharePoint Services 3.0 ignores it.

[<8> Section 2.2.1.8:](#) Office 2007 SP1 system clients include the **X-Office-Version** header in GET, PUT, OPTIONS, MOVE, DELETE, MKCOL and PROPFIND requests, though Windows SharePoint Services 3.0 ignores it.

[<9> Section 2.2.1.9:](#) Office 2007 SP1 system clients include "SyncMan []" in the user-agent header. Servers running Windows SharePoint Services 3.0 ignore comments of this value in the User-Agent Header.

8 Change Tracking

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

9 Index

A

Abstract data model
[client](#) 14
[server](#) 13
[Applicability](#) 8

C

[Capability negotiation](#) 8
[Change tracking](#) 26
Client
[abstract data model](#) 14
[initialization](#) 15
[local events](#) 15
[overview](#) 13
[Repl:collblob and Repl:repl method](#) 15
[timer events](#) 15
[timers](#) 14
[X-Virus-Infected](#) 15
[X-Virus-Infected Header method](#) 15
Common
[overview](#) 13
[Common data types](#) 9

D

Data model - abstract
[client](#) 14
[server](#) 13
Data types
[common - overview](#) 9

E

Element collections
Repl
[repl](#) 11
Elements
Repl
[collblob](#) 11
Events
[local - client](#) 15
[local - server](#) 14
[timer - client](#) 15
[timer - server](#) 14
Examples
[get message with moduu extensions headers](#) 22
[propfind on collection resource](#) 17
[propfind on non-collection resource](#) 16
[put message with webdav: protocol moduu extensions headers](#) 21

F

[Fields - vendor-extensible](#) 8
[Full IDL](#) 24

G

[Get message with moduu extensions headers example](#) 22
[Glossary](#) 6

H

Headers
[MODUU extension](#) 9
Moss
[Did](#) 10
[Moss-BinDiff](#) 10
[Moss-CBFile](#) 10
[Moss-Uid](#) 9
[Moss-VerFrom](#) 10
[MS-Set-Repl-Uid](#) 10
[User-Agent](#) 11
[X-Office-Version](#) 11
[X-Virus-Infected](#) 9
[X-Virus-Infected - server](#) 13

I

[IDL](#) 24
[Implementer - security considerations](#) 23
[Index of security parameters](#) 23
[Informative references](#) 7
Initialization
[client](#) 15
[server](#) 13
[Introduction](#) 6

L

Local events
[client](#) 15
[server](#) 14

M

Messages
[common data types](#) 9
[transport](#) 9
Methods
[Moss-CBFile Header](#) 13
[Moss-Did Header](#) 13
[Moss-Uid Header](#) 13
[Moss-VerFrom Header](#) 13
[MS-BinDiff Header](#) 14
[MS-Set-Repl-Uid Header](#) 13
Repl:collblob and Repl:repl ([section 3.1.4.10](#) 14, [section 3.2.4.2](#) 15)
[User-Agent Header](#) 14
[X-Office-Version Header](#) 14
X-Virus-Infected Header ([section 3.1.4.1](#) 13, [section 3.2.4.1](#) 15)
[MODUU extension headers](#) 9
[MODUU extensions property](#) 11
Moss
[Did header](#) 10

[Moss-BinDiff header](#) 10
[Moss-CBFile header](#) 10
[Moss-CBFile Header method](#) 13
[Moss-Did Header method](#) 13
[Moss-Uid header](#) 9
[Moss-Uid Header method](#) 13
[Moss-VerFrom header](#) 10
[Moss-VerFrom Header method](#) 13
[MS-BinDiff Header method](#) 14
[MS-Set-Repl-Uid header](#) 10
[MS-Set-Repl-Uid Header method](#) 13

N

[Normative references](#) 6

O

[Overview \(synopsis\)](#) 7

P

[Parameters - security index](#) 23
[Preconditions](#) 8
[Prerequisites](#) 8
[Product behavior](#) 25
Properties
 [MODUU extensions](#) 11
[Propfind on collection resource example](#) 17
[Propfind on non-collection resource example](#) 16
Protocol Details
 [overview](#) 13
[Put message with webdav: protocol moduu extensions headers example](#) 21

R

[References](#) 6
 [informative](#) 7
 [normative](#) 6
[Relationship to other protocols](#) 8
Relp
 [collblob element](#) 14
Repl
 [collblob element](#) 11
 [repl](#) 14
 [repl element collection](#) 11
Repl:collblob and Repl:repl method ([section 3.1.4.10](#) 14, [section 3.2.4.2](#) 15)

S

Security
 [implementer considerations](#) 23
 [parameter index](#) 23
Server
 [abstract data model](#) 13
 [initialization](#) 13
 [local events](#) 14
 [Moss-CBFile Header method](#) 13
 [Moss-Did Header method](#) 13
 [Moss-Uid Header method](#) 13

[Moss-VerFrom Header method](#) 13
[MS-BinDiff Header method](#) 14
[MS-Set-Repl-Uid Header method](#) 13
[overview](#) 13
[Repl:collblob and Repl:repl method](#) 14
[timer events](#) 14
[timers](#) 13
[User-Agent Header method](#) 14
[X-Office-Version Header method](#) 14
[X-Virus-Infected header](#) 13
[X-Virus-Infected Header method](#) 13
[Standards assignments](#) 8

T

Timer events
 [client](#) 15
 [server](#) 14
Timers
 [client](#) 14
 [server](#) 13
[Tracking changes](#) 26
[Transport](#) 9

U

[User-Agent header](#) 11
[User-Agent Header method](#) 14

V

[Vendor-extensible fields](#) 8
[Versioning](#) 8

X

[X-Office-Version header](#) 11
[X-Office-Version Header method](#) 14
X-Virus-Infected
 [client](#) 15
[X-Virus-Infected header](#) 9
X-Virus-Infected Header method ([section 3.1.4.1](#) 13, [section 3.2.4.1](#) 15)