

[MS-VERSS]: Versions Web Service Protocol

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 |
| 10/06/2008 | 1.01 | Editorial | Revised and edited the technical content |
| 12/12/2008 | 1.02 | Editorial | Revised and edited the technical content |
| 07/13/2009 | 1.03 | Major | Revised and edited the technical content |
| 08/28/2009 | 1.04 | Editorial | Revised and edited the technical content |
| 11/06/2009 | 1.05 | 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 | Minor | Clarified the meaning of the technical content. |
| 07/23/2010 | 2.05 | Editorial | Changed language and formatting in the technical content. |
| 09/27/2010 | 2.05 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 11/15/2010 | 2.05 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 12/17/2010 | 2.05 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 03/18/2011 | 2.05 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 06/10/2011 | 2.05 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 01/20/2012 | 3.0 | Major | Significantly changed the technical content. |
| 04/11/2012 | 3.0 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 07/16/2012 | 3.1 | Minor | Clarified the meaning of the technical content. |
| 09/12/2012 | 3.1 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 10/08/2012 | 3.2 | Minor | Clarified the meaning of the technical content. |

| Date | Revision History | Revision Class | Comments |
|-------------|-------------------------|-----------------------|--|
| 02/11/2013 | 3.3 | Minor | Clarified the meaning of the technical content. |
| 07/30/2013 | 3.3 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 11/18/2013 | 3.3 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 02/10/2014 | 3.3 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 04/30/2014 | 3.3 | No change | No changes to the meaning, language, or formatting of the technical content. |
| 07/31/2014 | 3.3 | 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..... | 7 |
| 1.2.1 | Normative References..... | 7 |
| 1.2.2 | Informative References | 7 |
| 1.3 | Protocol Overview (Synopsis) | 8 |
| 1.4 | Relationship to Other Protocols..... | 8 |
| 1.5 | Prerequisites/Preconditions | 9 |
| 1.6 | Applicability Statement..... | 9 |
| 1.7 | Versioning and Capability Negotiation..... | 9 |
| 1.8 | Vendor-Extensible Fields..... | 9 |
| 1.9 | Standards Assignments | 9 |
| 2 | Messages..... | 10 |
| 2.1 | Transport..... | 10 |
| 2.2 | Common Message Syntax | 10 |
| 2.2.1 | Namespaces | 10 |
| 2.2.2 | Messages | 10 |
| 2.2.3 | Elements..... | 10 |
| 2.2.3.1 | fileName..... | 11 |
| 2.2.3.2 | fileVersion | 11 |
| 2.2.4 | Complex Types | 11 |
| 2.2.4.1 | Results..... | 12 |
| 2.2.4.2 | SOAPFaultDetails..... | 12 |
| 2.2.4.3 | VersionData | 13 |
| 2.2.5 | Simple Types | 13 |
| 2.2.6 | Attributes..... | 13 |
| 2.2.7 | Groups..... | 14 |
| 2.2.8 | Attribute Groups | 14 |
| 3 | Protocol Details..... | 15 |
| 3.1 | VersionsSoap Server Details..... | 15 |
| 3.1.1 | Abstract Data Model | 15 |
| 3.1.2 | Timers | 15 |
| 3.1.3 | Initialization | 15 |
| 3.1.4 | Message Processing Events and Sequencing Rules..... | 16 |
| 3.1.4.1 | DeleteAllVersions..... | 16 |
| 3.1.4.1.1 | Messages | 16 |
| 3.1.4.1.1.1 | DeleteAllVersionsSoapIn..... | 16 |
| 3.1.4.1.1.2 | DeleteAllVersionsSoapOut..... | 16 |
| 3.1.4.1.2 | Elements..... | 17 |
| 3.1.4.1.2.1 | DeleteAllVersions..... | 17 |
| 3.1.4.1.2.2 | DeleteAllVersionsResponse | 17 |
| 3.1.4.1.3 | Complex Types | 18 |
| 3.1.4.1.4 | Simple Types..... | 18 |
| 3.1.4.1.5 | Attributes..... | 18 |
| 3.1.4.1.6 | Groups..... | 19 |
| 3.1.4.1.7 | Attribute Groups | 19 |
| 3.1.4.2 | DeleteVersion..... | 19 |
| 3.1.4.2.1 | Messages | 19 |

| | | |
|-------------|--|-----------|
| 3.1.4.2.1.1 | DeleteVersionSoapIn | 19 |
| 3.1.4.2.1.2 | DeleteVersionSoapOut | 19 |
| 3.1.4.2.2 | Elements | 20 |
| 3.1.4.2.2.1 | DeleteVersion | 20 |
| 3.1.4.2.2.2 | DeleteVersionResponse | 20 |
| 3.1.4.2.3 | Complex Types | 21 |
| 3.1.4.2.4 | Simple Types | 21 |
| 3.1.4.2.5 | Attributes | 21 |
| 3.1.4.2.6 | Groups | 22 |
| 3.1.4.2.7 | Attribute Groups | 22 |
| 3.1.4.3 | GetVersions | 22 |
| 3.1.4.3.1 | Messages | 22 |
| 3.1.4.3.1.1 | GetVersionsSoapIn | 22 |
| 3.1.4.3.1.2 | GetVersionsSoapOut | 22 |
| 3.1.4.3.2 | Elements | 22 |
| 3.1.4.3.2.1 | GetVersions | 23 |
| 3.1.4.3.2.2 | GetVersionsResponse | 23 |
| 3.1.4.3.3 | Complex Types | 23 |
| 3.1.4.3.4 | Simple Types | 24 |
| 3.1.4.3.5 | Attributes | 24 |
| 3.1.4.3.6 | Groups | 24 |
| 3.1.4.3.7 | Attribute Groups | 24 |
| 3.1.4.4 | RestoreVersion | 24 |
| 3.1.4.4.1 | Messages | 24 |
| 3.1.4.4.1.1 | RestoreVersionSoapIn | 25 |
| 3.1.4.4.1.2 | RestoreVersionSoapOut | 25 |
| 3.1.4.4.2 | Elements | 25 |
| 3.1.4.4.2.1 | RestoreVersion | 25 |
| 3.1.4.4.2.2 | RestoreVersionResponse | 26 |
| 3.1.4.4.3 | Complex Types | 27 |
| 3.1.4.4.4 | Simple Types | 27 |
| 3.1.4.4.5 | Attributes | 27 |
| 3.1.4.4.6 | Groups | 27 |
| 3.1.4.4.7 | Attribute Groups | 27 |
| 3.1.5 | Timer Events | 27 |
| 3.1.6 | Other Local Events | 27 |
| 4 | Protocol Examples | 28 |
| 5 | Security | 30 |
| 5.1 | Security Considerations for Implementers | 30 |
| 5.2 | Index of Security Parameters | 30 |
| 6 | Appendix A: Full WSDL | 31 |
| 7 | Appendix B: Product Behavior | 36 |
| 8 | Change Tracking | 38 |
| 9 | Index | 39 |

1 Introduction

This Versions Web Service Protocol enables a protocol client to view, delete, and restore a specified version of an existing file on a protocol 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 [\[RFC2119\]](#). Sections 1.5 and 1.9 are also normative but does not contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

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

GUID
Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
SOAP
SOAP action
SOAP body
SOAP fault
XML namespace

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

check in
checked out
current version
document library
file
folder
list
major version
minor version
published version
publishing level
Recycle Bin
site
SOAP operation
Uniform Resource Locator (URL)
Web Services Description Language (WSDL)
WSDL operation
XML namespace prefix
XML node
XML schema definition (XSD)

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 Specification documents 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-LISTSWS] Microsoft Corporation, "[Lists Web Service Protocol](#)".

[MS-WSSTS] Microsoft Corporation, "[Windows SharePoint Services](#)".

[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>

[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>

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

[SOAP1.2/1] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 1: Messaging Framework", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part1-20030624>

[SOAP1.2/2] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 2: Adjuncts", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part2-20030624>

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, <http://www.w3.org/TR/2001/NOTE-wsdl-20010315>

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

[XMLSCHEMA1] Thompson, H.S., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/>

[XMLSCHEMA2] Biron, P.V., and Malhotra, A., Eds., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

1.2.2 Informative References

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

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

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

1.3 Protocol Overview (Synopsis)

This protocol enables programmatic access to view and manage the versions of **files** on the protocol server. It enables the retrieval of all versions of a file, the deletion of previous versions of a file, and the restoration of a file to a previous version. File versions are only generated when versioning is enabled.

Each method in the protocol is a **SOAP operation** that accepts a set of parameters as a **SOAP** request and returns a set of values as a SOAP response.

The protocol client sends a request to the protocol server via a SOAP request message, and the protocol server sends return values to the protocol client via a SOAP response message, as shown in the following figure. All SOAP requests are made to one of several well-defined **URLs** on the protocol server, which protocol clients can discover. The protocol server never initiates any communication with the protocol client.

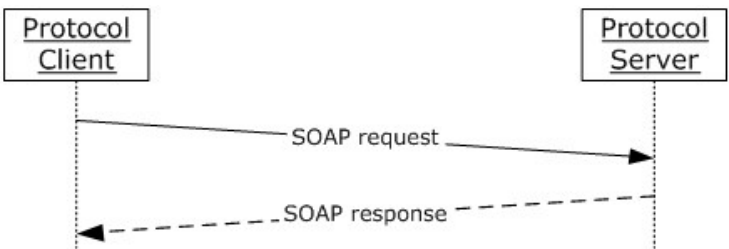


Figure 1: SOAP message sequence

1.4 Relationship to Other Protocols

This protocol uses the SOAP message protocol for formatting request and response messages, as described in [\[SOAP1.1\]](#), [\[SOAP1.2/1\]](#) and [\[SOAP1.2/2\]](#). It transmits those messages by using **HTTP**, as described in [\[RFC2616\]](#), or **Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**, as described in [\[RFC2818\]](#).

The Versions Web Service Protocol uses SOAP over HTTP, as described in [\[RFC2616\]](#), and SOAP over HTTPS, as described in [\[RFC2818\]](#), as shown in the following layering diagram.

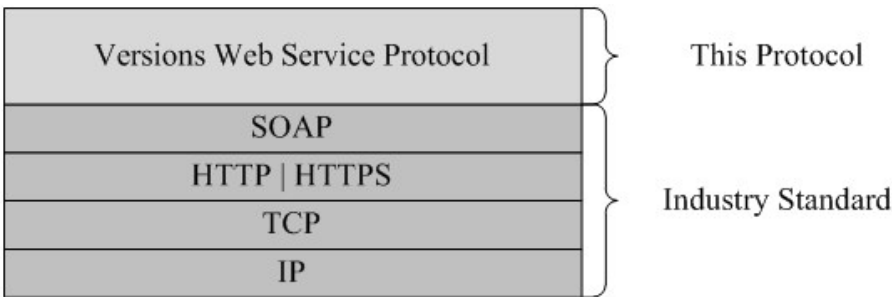


Figure 2: This protocol in relation to other protocols

This protocol calls the **CheckOutFile**, **CheckInFile**, and **UndoCheckOut** operations, as described in [\[MS-LISTSWS\]](#).

1.5 Prerequisites/Preconditions

This protocol operates against a **site (2)** that is identified by a URL that protocol clients recognize. The protocol server endpoint is formed by appending `"/_vti_bin/versions.asmx"` to the URL of the site (2). Here is an example of a protocol server endpoint:

```
http://www.contoso.com/Repository/_vti_bin/versions.asmx
```

This protocol assumes that the underlying protocols have performed authentication.

1.6 Applicability Statement

This protocol is applicable in the following scenarios:

- Retrieving information about all versions of a file on the protocol server
- Deleting previous versions of a file on the protocol server
- Restoring a file on the protocol server to a previous version

1.7 Versioning and Capability Negotiation

This protocol uses multiple transports with SOAP, as specified in section [2.1](#).

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

Protocol servers **MUST** support SOAP over HTTP. Protocol servers **SHOULD** additionally support SOAP over HTTPS for enhancing the security of communication with protocol clients.

Protocol messages **MUST** be formatted as specified in either [\[SOAP1.1\]](#) section 4 or [\[SOAP1.2/1\]](#) section 5. Protocol server faults **MUST** be returned via HTTP status codes, as specified in [\[RFC2616\]](#) section 10, or via **SOAP faults**, as specified in either [\[SOAP1.1\]](#) section 4.4 or [\[SOAP1.2/1\]](#) section 5.4.

2.2 Common Message Syntax

This section contains common definitions that this protocol uses. The syntax of the definitions uses XML schema as defined in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and **WSDL** as defined in [\[WSDL\]](#).

2.2.1 Namespaces

This specification defines and references **XML namespaces** by using the mechanisms specified in [\[XMLNS\]](#). Although this specification associates a specific **XML namespace prefix** for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

| Prefix | Namespace URI | Reference |
|---------|---|--|
| Http | http://schemas.xmlsoap.org/wsdl/http/ | |
| Mime | http://schemas.xmlsoap.org/wsdl/mime/ | |
| S | http://www.w3.org/2001/XMLSchema | [XMLSCHEMA1] |
| Soap | http://schemas.xmlsoap.org/wsdl/soap/ | [SOAP1.1] |
| Soapenc | http://schemas.xmlsoap.org/soap/encoding/ | |
| soap12 | http://schemas.xmlsoap.org/wsdl/soap12/ | [SOAP1.2/1] [SOAP1.2/2] |
| Tm | http://microsoft.com/wsdl/mime/textMatching/ | |
| Tns | http://schemas.microsoft.com/sharepoint/soap/ | |
| Wsdli | http://schemas.xmlsoap.org/wsdl/ | [WSDL] |
| (none) | http://schemas.microsoft.com/sharepoint/soap/ | |

2.2.2 Messages

This specification does not define any common WSDL message definitions.

2.2.3 Elements

The following table summarizes the set of common XML schema element definitions defined by this specification. XML schema element definitions that are specific to a particular operation are described with the operation.

| Element | Description |
|--------------------|--|
| fileName | Defines the location of a file on the protocol server. |
| fileVersion | Defines the version number of the file on the protocol server. |

2.2.3.1 fileName

The **fileName** element defines the location of a file on the protocol server.

```
<s:element name="fileName" type="s:string" />
```

The **fileName** element MUST be specified in one of the following formats:

- The URL of the file
- The location of the file relative to the site (2) that contains it

The **fileName** element MUST be specified in the form *folder1/folder2/.../file-name*. The placeholders are defined as follows:

- The *folder1* and *folder2* placeholders represent the names of **folders**; *folder1* represents the topmost folder on the site (2).
- The *file-name* placeholder represents the name of the file.

2.2.3.2 fileVersion

The **fileVersion** element defines the version number of a file on the protocol server. The **fileVersion** element SHOULD contain the **major version** and **minor version** numbers connected by period, for example, "1.0".

```
<s:element name="fileVersion" type="s:string" />
```

2.2.4 Complex Types

The following table summarizes the set of common XML schema complex type definitions defined by this specification. XML schema complex type definitions that are specific to a particular operation are described with the operation.

| Complex type | Description |
|-------------------------|--|
| Results | The details about all versions of a file on the protocol server. |
| SOAPFaultDetails | The details about a SOAP fault. |
| VersionData | The details about a version of a file on the protocol server. |

2.2.4.1 Results

The **Results** complex type provides the details about all versions of a specified file that the user can access.

The **DeleteAllVersions**, **DeleteVersion**, **GetVersions**, and **RestoreVersion** methods return the **Results** complex type.

```
<s:complexType name="Results">
  <s:sequence>
    <s:element name="list" maxOccurs="1" minOccurs="1">
      <s:complexType>
        <s:attribute name="id" type="s:string" use="required" />
      </s:complexType>
    </s:element>
    <s:element name="versioning" maxOccurs="1" minOccurs="1">
      <s:complexType>
        <s:attribute name="enabled" type="s:unsignedByte" use="required" />
      </s:complexType>
    </s:element>
    <s:element name="settings" maxOccurs="1" minOccurs="1">
      <s:complexType>
        <s:attribute name="url" type="s:string" use="required" />
      </s:complexType>
    </s:element>
    <s:element name="result" maxOccurs="unbounded" minOccurs="1" type="tns:VersionData"/>
  </s:sequence>
</s:complexType>
```

list: Contains information about the **document library** that is represented by this **list (1)**.

list.id: Specifies the **GUID** of the document library in which the file resides.

versioning: Contains version-related information about the file.

versioning.enabled: Specifies whether versioning is enabled on the file. The value of this attribute MUST be "0" or "1". A value of "0" indicates that versioning is disabled; a value of "1" indicates that versioning is enabled.

settings: Contains information about how versioning operates for the file.

settings.url: Specifies the URL to the webpage of versioning-related settings for the document library in which the file resides.

result: Specifies details about a version of the file on the protocol server. A separate **result** element MUST exist for each version of the file that the user can access. For details about the type of this element, see section [2.2.4.3](#).

2.2.4.2 SOAPFaultDetails

The **SOAPFaultDetails** complex type specifies the details about a SOAP fault.

```
<s:schema xmlns:s="http://www.w3.org/2001/XMLSchema" targetNamespace="
http://schemas.microsoft.com/sharepoint/soap">
  <s:complexType name="SOAPFaultDetails">
    <s:sequence>
      <s:element name="errorstring" type="s:string"/>
    </s:sequence>
  </s:complexType>
</s:schema>
```

```

        <s:element name="errorcode" type="s:string" minOccurs="0"/>
    </s:sequence>
</s:complexType>
</s:schema>

```

errorstring: Human-readable text that explains the application-level fault.

errorcode: The hexadecimal representation of a 4-byte result code.

2.2.4.3 VersionData

The **VersionData** complex type specifies the details about a single version of a file.

```

<s:complexType name="VersionData">
  <s:attribute name="version" type="s:string" use="required" />
  <s:attribute name="url" type="s:string" use="required" />
  <s:attribute name="created" type="s:string" use="required" />
  <s:attribute name="createdRaw" type="s:string" use="required" />
  <s:attribute name="createdBy" type="s:string" use="required" />
  <s:attribute name="createdByName" type="s:string" use="optional" />
  <s:attribute name="size" type="s:unsignedLong" use="required" />
  <s:attribute name="comments" type="s:string" use="required" />
</s:complexType>

```

version: The version of the file. The most recent version of the file **MUST** be preceded with an at sign (@). All the other versions **MUST** exist without any prefix. For example, if a file has two versions—1.0 and 2.0, with 2.0 being the most recent version of the file—the value of this attribute for the most recent file is "@2.0", and the value for the previous version is "1.0". The format **SHOULD** contain the version of the file, including the major version and minor version numbers connected by period, for example, "1.0".

url: The complete URL of the version of the file.

created: The creation date and time for the version of the file that is displayed, using an implementation-specific format.

createdRaw: The creation date and time for the version of the file in **Datetime** format, as specified in [\[ISO-8601\].<1>](#)

createdBy: The creator of the version of the file.

createdByName: The display name of the creator of the version of the file.

size: The size, in bytes, of the version of the file.

comments: The comment entered when the version of the file was replaced on the protocol server during **check in**.

2.2.5 Simple Types

This specification does not define any common XML schema simple type definitions.

2.2.6 Attributes

This specification does not define any common XML schema attribute definitions.

2.2.7 Groups

This specification does not define any common XML schema group definitions.

2.2.8 Attribute Groups

This specification does not define any common XML schema attribute group definitions.

3 Protocol Details

The client side of this protocol is simply a pass-through. That is, no additional timers or other state is required on the client side of this protocol. Calls made by the higher-layer protocol or application are passed directly to the transport, and the results returned by the transport are passed directly back to the higher-layer protocol or application.

Except where specified, protocol clients SHOULD interpret HTTP status codes returned by the protocol server as specified in [\[RFC2616\]](#) section 10.

This protocol allows protocol servers to provide additional details for SOAP faults by including either a **detail** element as specified in [\[SOAP1.1\]](#) section 4.4 or a **Detail** element as specified in [\[SOAP1.2/1\]](#) section 5.4.5. These elements conform to the **XSD** of the **SOAPFaultDetails** complex type specified in section [2.2.4.2](#). Except where specified, these SOAP faults are not significant for interoperability, and protocol clients can interpret them in an implementation-specific manner.

This protocol allows protocol servers to perform implementation-specific authorization checks and notify protocol clients of authorization faults either by using HTTP status codes or by using SOAP faults as specified previously in this section.

3.1 VersionsSoap Server Details

The server side of this protocol contains the following operations:

- **DeleteAllVersions**
- **DeleteVersion**
- **GetVersions**
- **RestoreVersion**

Information returned from the **GetVersions** operation is used to call the **DeleteVersion** and **RestoreVersion** operations. These operations are described in section [3.1.4](#).

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.

For more details, see [\[MS-WSSTS\]](#) section 2.1.2.7, [\[MS-WSSTS\]](#) section 2.1.2.11, and [\[MS-WSSTS\]](#) section 2.1.2.11.1.3.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

The following table summarizes the list of operations as defined by this specification.

| Operation | Description |
|--------------------------|--|
| DeleteAllVersions | Deletes all the previous versions of the specified file. |
| DeleteVersion | Deletes the specified version of the file. |
| GetVersions | Gets details about all the versions of the specified file. |
| RestoreVersion | Restores the specified file to a specific version. |

3.1.4.1 DeleteAllVersions

The **DeleteAllVersions** operation deletes all the previous versions of the specified file, except for the **published version** and the **current version**. If the **Recycle Bin** is enabled, the versions are placed in the Recycle Bin, instead.

```
<wsdl:operation name="DeleteAllVersions">
  <wsdl:input message="tns:DeleteAllVersionsSoapIn" />
  <wsdl:output message="tns:DeleteAllVersionsSoapOut" />
</wsdl:operation>
```

The protocol client sends a **DeleteAllVersionsSoapIn** request message, and the protocol server responds with a **DeleteAllVersionsSoapOut** response message.

3.1.4.1.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

| Message | Description |
|---------------------------------|--|
| DeleteAllVersionsSoapIn | The WSDL request message for a WSDL DeleteAllVersions operation. |
| DeleteAllVersionsSoapOut | The WSDL response message for a WSDL DeleteAllVersions operation. |

3.1.4.1.1.1 DeleteAllVersionsSoapIn

The **DeleteAllVersionsSoapIn** message is the request message for deleting all previous versions of the specified file on the protocol server.

The **SOAP action** value of the message is:

<http://schemas.microsoft.com/sharepoint/soap/DeleteAllVersions>

The **SOAP body** contains a **DeleteAllVersions** element.

3.1.4.1.1.2 DeleteAllVersionsSoapOut

The **DeleteAllVersionsSoapOut** message is the response message for deleting all previous versions of the specified file on the protocol server.

The SOAP body contains a **DeleteAllVersionsResponse** element.

3.1.4.1.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

| Element | Description |
|----------------------------------|--|
| DeleteAllVersions | The input data for the DeleteAllVersions WSDL operation. |
| DeleteAllVersionsResponse | The result data for the DeleteAllVersions WSDL operation. |

3.1.4.1.2.1 DeleteAllVersions

The **DeleteAllVersions** element specifies the input data for the **DeleteAllVersions** WSDL operation.

```
<s:element name="DeleteAllVersions">
  <s:complexType>
    <s:sequence>
      <s:element name="fileName" type="s:string" minOccurs="1" maxOccurs="1"/>
    </s:sequence>
  </s:complexType>
</s:element>
```

fileName: An element as specified in section [2.2.3.1](#).

3.1.4.1.2.2 DeleteAllVersionsResponse

The **DeleteAllVersionsResponse** element specifies the result data for the **DeleteAllVersions** WSDL operation.

```
<s:element name="DeleteAllVersionsResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="DeleteAllVersionsResult">
        <s:complexType>
          <s:sequence>
            <s:element name="results" minOccurs="1" maxOccurs="1" type="tns:Results" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
```

DeleteAllVersionsResult: An **XML node** that conforms to the structure specified in section [2.2.4.1](#) and that contains the details about all the versions of the specified file that the user can access.

The error conditions that can be encountered during this operation generate the error codes that are shown in the following table.

| Error code | Description |
|--------------------------------|---|
| No error code element returned | The system cannot find the specified file. Exception from HRESULT: 0x80070002. 2 |
| 0x81020030 | This error code SHOULD 3 indicate that the fileName element of the DeleteAllVersions element contains invalid characters. 4 |

Note that invalid characters are defined as the following:

- Double quotation mark (")
- Pound sign (#)
- Percent sign (%)
- Ampersand (&)
- Asterisk (*)
- Colon (:
- Left angle bracket (<)
- Equal sign (=)
- Right angle bracket (>)
- Question mark (?)
- Backward slash (\)
- Left curly bracket ({)
- Vertical bar (|)
- Right curly bracket (})
- Tab (\t)
- Tilde (~)
- Two consecutive dots (..)
- Any character that has a value less than 32 or greater than 126

3.1.4.1.3 Complex Types

None.

3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.4.2 DeleteVersion

The **DeleteVersion** operation deletes a specific version of the specified file. If the Recycle Bin is enabled, the version is placed in the Recycle Bin, instead. This operation MUST NOT grant deletion of the current version or the published version of the file.

```
<wsdl:operation name="DeleteVersion">
  <wsdl:input message="tns:DeleteVersionSoapIn" />
  <wsdl:output message="tns:DeleteVersionSoapOut" />
</wsdl:operation>
```

The protocol client sends a **DeleteVersionSoapIn** request message, and the protocol server responds with a **DeleteVersionSoapOut** response message.

3.1.4.2.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

| Message | Description |
|-----------------------------|--|
| DeleteVersionSoapIn | The WSDL request message for a WSDL DeleteVersion operation. |
| DeleteVersionSoapOut | The WSDL response message for a WSDL DeleteVersion operation. |

3.1.4.2.1.1 DeleteVersionSoapIn

The **DeleteVersionSoapIn** message is the request message for deleting a specific version of the specified file on the protocol server.

The SOAP action value of the message is:

<http://schemas.microsoft.com/sharepoint/soap/DeleteVersion>

The SOAP body contains a **DeleteVersion** element.

3.1.4.2.1.2 DeleteVersionSoapOut

The **DeleteVersionSoapOut** message is the response message for deleting a version of the specified file on the protocol server.

The SOAP body contains a **DeleteVersionResponse** element.

3.1.4.2.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

| Element | Description |
|------------------------------|--|
| DeleteVersion | The input data for the DeleteVersion WSDL operation. |
| DeleteVersionResponse | The result data for the DeleteVersion WSDL operation. |

3.1.4.2.2.1 DeleteVersion

The **DeleteVersion** element specifies the input data for the **DeleteVersion** WSDL operation.

```
<s:element name="DeleteVersion">
  <s:complexType>
    <s:sequence>
      <s:element name="fileName" type="s:string" minOccurs="1" maxOccurs="1"/>
      <s:element name="fileVersion" type="s:string" minOccurs="1" maxOccurs="1"/>
    </s:sequence>
  </s:complexType>
</s:element>
```

fileName: An element as specified in section [2.2.3.1](#).

fileVersion: An element as specified in section [2.2.3.2](#).

3.1.4.2.2.2 DeleteVersionResponse

The **DeleteVersionResponse** element specifies the result data for the **DeleteVersion** WSDL operation.

```
<s:element name="DeleteVersionResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="DeleteVersionResult">
        <s:complexType>
          <s:sequence>
            <s:element name="results" minOccurs="1" maxOccurs="1" type="tns:Results" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
```

DeleteVersionResult: An XML node that conforms to the structure specified in section [2.2.4.1](#) and that contains the details about all the versions of the specified file that the user can access.

The error conditions that can be encountered during this operation generate the error codes that are shown in the following table.

| Error code | Description |
|------------|---|
| 0x81020073 | This error code SHOULD <5> indicate that the fileName element of the DeleteVersion element contains invalid characters. <6> |
| 0x80131600 | The specified version does not exist or was recently deleted. This error code is returned when either the value specified by the fileVersion element is the current or published version of the file or the file does not exist. <7> |

Note that invalid characters are defined as the following:

- Double quotation mark (")
- Pound sign (#)
- Percent sign (%)
- Ampersand (&)
- Asterisk (*)
- Colon (:)
- Left angle bracket (<)
- Equal sign (=)
- Right angle bracket (>)
- Question mark (?)
- Backward slash (\)
- Left curly bracket ({)
- Vertical bar (|)
- Right curly bracket (})
- Tilde (~)
- Forward slash (/)
- Two consecutive dots (..)
- Any character that has a value less than 32 or greater than 126

3.1.4.2.3 Complex Types

None.

3.1.4.2.4 Simple Types

None.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7 Attribute Groups

None.

3.1.4.3 GetVersions

The **GetVersions** operation gets details about all versions of the specified file that the user can access.

```
<wsdl:operation name="GetVersions">
  <wsdl:input message="tns:GetVersionsSoapIn" />
  <wsdl:output message="tns:GetVersionsSoapOut" />
</wsdl:operation>
```

The protocol client sends a **GetVersionsSoapIn** request message, and the protocol server responds with a **GetVersionsSoapOut** response message.

3.1.4.3.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

| Message | Description |
|---------------------------|--|
| GetVersionsSoapIn | The WSDL request message for a GetVersions WSDL operation. |
| GetVersionsSoapOut | The WSDL response message for a GetVersions WSDL operation. |

3.1.4.3.1.1 GetVersionsSoapIn

The **GetVersionsSoapIn** message is the request message for getting all versions of the specified file that the user can access.

The SOAP action value of the message is:

<http://schemas.microsoft.com/sharepoint/soap/GetVersions>

The SOAP body contains a **GetVersions** element.

3.1.4.3.1.2 GetVersionsSoapOut

The **GetVersionsSoapOut** message is the response message for getting all versions of the specified file that the user can access.

The SOAP body contains a **GetVersionsResponse** element.

3.1.4.3.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation

| Element | Description |
|----------------------------|--|
| GetVersions | The input data for the GetVersions WSDL operation. |
| GetVersionsResponse | The result data for the GetVersions WSDL operation. |

3.1.4.3.2.1 GetVersions

The **GetVersions** element specifies the input data for the **GetVersions** WSDL operation.

```
<s:element name="GetVersions">
  <s:complexType>
    <s:sequence>
      <s:element name="fileName" type="s:string" minOccurs="1" maxOccurs="1"/>
    </s:sequence>
  </s:complexType>
</s:element>
```

fileName: An element as specified in section [2.2.3.1](#).

3.1.4.3.2.2 GetVersionsResponse

The **GetVersionsResponse** element specifies the result data for the **GetVersions** WSDL operation.

```
<s:element name="GetVersionsResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="GetVersionsResult">
        <s:complexType>
          <s:sequence>
            <s:element name="results" minOccurs="1" maxOccurs="1" type="tns:Results" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
```

GetVersionsResult: An XML node that conforms to the structure specified in section [2.2.4.1](#) and that contains the details about all the versions of the specified file that the user can access.

The error conditions that can be encountered during this operation generate the error code that is shown in the following table.

| Error code | Description |
|--------------------------------|--|
| No error code element returned | The system cannot find the specified file. Exception from HRESULT: 0x80070002. |

3.1.4.3.3 Complex Types

None.

3.1.4.3.4 Simple Types

None.

3.1.4.3.5 Attributes

None.

3.1.4.3.6 Groups

None.

3.1.4.3.7 Attribute Groups

None.

3.1.4.4 RestoreVersion

The **RestoreVersion** operation restores the specified file to a specific version. After the restoration, the current version number of the file **MUST** still be increased, as with any other change.

```
<wsdl:operation name="RestoreVersion">
  <wsdl:input message="tns:RestoreVersionSoapIn" />
  <wsdl:output message="tns:RestoreVersionSoapOut" />
</wsdl:operation>
```

When restoring a version, the version **MUST NOT** be in the Recycle Bin and **MUST NOT** have been deleted.

If the file is not already at the **checked out publishing level**, and the protocol server enforces that only checked out files can be modified, this operation **MUST NOT** allow the restoration of the file.

If the protocol server enforces that only checked out files can be modified, the protocol client calls the **CheckOutFile** operation, as specified in [\[MS-LISTSWS\]](#) section 3.1.4.8, before calling this operation.

After calling this operation, the protocol client calls either the **CheckInFile** operation, as specified in [\[MS-LISTSWS\]](#) section 3.1.4.7, to commit the changes performed by this operation, or the **UndoCheckOut** operation, as specified in [\[MS-LISTSWS\]](#) section 3.1.4.26, to revert the changes performed by this operation.

If check out is not being enforced, it is not necessary to check out the file before the restoration, and it is not necessary to check in the file after the restoration. If the file is not checked out before the restoration, the current version number of the file **MUST** still be increased, as with any other change. If the file is checked out, the current version number of the file after restoration **MUST** remain the same as before restoration.

The protocol client sends a **RestoreVersionSoapIn** request message, and the protocol server responds with a **RestoreVersionSoapOut** response message.

3.1.4.4.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

| Message | Description |
|------------------------------|---|
| RestoreVersionSoapIn | The WSDL request message for a WSDL RestoreVersion operation. |
| RestoreVersionSoapOut | The WSDL response message for a WSDL RestoreVersion operation. |

3.1.4.4.1.1 RestoreVersionSoapIn

The **RestoreVersionSoapIn** message is the request message for restoring the specified file to a specific version.

The SOAP action value of the message is:

<http://schemas.microsoft.com/sharepoint/soap/RestoreVersion>

The SOAP body contains a **RestoreVersion** element.

3.1.4.4.1.2 RestoreVersionSoapOut

The **RestoreVersionSoapOut** message is the response message for restoring the specified file to a specific version.

The SOAP body contains a **RestoreVersionResponse** element.

3.1.4.4.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation

| Element | Description |
|-------------------------------|---|
| RestoreVersion | The input data for the RestoreVersion WSDL operation. |
| RestoreVersionResponse | The result data for the RestoreVersion WSDL operation. |

3.1.4.4.2.1 RestoreVersion

The **RestoreVersion** element specifies the input data for the **RestoreVersion** WSDL operation.

```
<s:element name="RestoreVersion">
  <s:complexType>
    <s:sequence>
      <s:element name="fileName" type="s:string" minOccurs="1" maxOccurs="1"/>
      <s:element name="fileVersion" type="s:string" minOccurs="1" maxOccurs="1"/>
    </s:sequence>
  </s:complexType>
</s:element>
```

fileName: An element as specified in section [2.2.3.1](#).

fileVersion: An element as specified in section [2.2.3.2](#).

3.1.4.4.2.2 RestoreVersionResponse

The **RestoreVersionResponse** element specifies the result data for the **RestoreVersion** WSDL operation.

```
<s:element name="RestoreVersionResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="RestoreVersionResult">
        <s:complexType>
          <s:sequence>
            <s:element name="results" minOccurs="1" maxOccurs="1" type="tns:Results" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
```

RestoreVersionResult: MUST return an XML node that conforms to the structure specified in section [2.2.4.1](#), which contains the details about all the versions of the specified file that the user can access.

The error conditions that can be encountered during this operation generate the error codes that are shown in the following table.

| Error code | Description |
|--------------------------------|--|
| No error code element returned | The file specified by the fileName and fileVersion elements of the RestoreVersion element could not be found on the site (2). <8> |
| 0x8007009E | The file is not checked out. <9> This file needs to be checked out before changes can be made. |
| 0x81020073 | This error code SHOULD <10> indicate that the fileName file or folder name contains invalid characters. <11> |

Note that invalid characters are defined as the following:

- Percent sign (%)
- Ampersand (&)
- Asterisk (*)
- Colon (:)
- Left angle bracket (<)
- Right angle bracket (>)
- Question mark (?)
- Forward slash (/)
- Left curly bracket ({)

- Vertical bar (|)
- Right curly bracket (})
- Tilde (~)
- Double quotation mark (")
- Backward slash (\)
- Two consecutive dots (..)
- Any character that has a value less than 32 or greater than 126

3.1.4.4.3 Complex Types

None.

3.1.4.4.4 Simple Types

None.

3.1.4.4.5 Attributes

None.

3.1.4.4.6 Groups

None.

3.1.4.4.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

This example demonstrates how to restore a file to its first version.

In this example, a site (2) named TestSite contains a folder hierarchy of the form RootFolder/SubFolder on the protocol server. Three versions of a file named Test.txt exist in the folder named SubFolder. The versions are 0.1, 0.2, and 0.3, where 0.1 is the first version that was created, and 0.3 is the current version. The protocol client needs to restore the file to version 0.1. The following steps illustrate the process.

1. To obtain the current list of versions for the Test.txt file, the protocol client issues a **GetVersions** request to TestSite, specifying the file location relative to the site (2) (that is, RootFolder/SubFolder/Test.txt), as follows:

```
<GetVersions xmlns="http://schemas.microsoft.com/sharepoint/soap/">
  <fileName>RootFolder/SubFolder/Test.txt</fileName>
</GetVersions>
```

2. The protocol server returns a list of the file versions in response. The response contains an XML node that is a **Results** complex type:

```
<GetVersionsResponse xmlns="http://schemas.microsoft.com/sharepoint/soap/">
  <GetVersionsResult>
    <results xmlns="http://schemas.microsoft.com/sharepoint/soap/">
      <list id="{1D3EBE41-D0D9-4431-BE41-44311D3ED0D9}" />
      <versioning enabled="1" />
      <settings url="http://server/TestSite/_layouts/LstSetng.aspx?List={1D3EBE41-D0D9-4431-BE41-44311D3ED0D9}" />
      <result version="@0.3" url="http://server/TestSite/RootFolder/SubFolder/Test.txt"
        created="3/10/2010 4:00 PM" createdRaw="2010-03-11T00:00:31Z" createdBy="DOMAIN\user"
        createdByName="User" size="8" comments="upload 3" />
      <result version="0.1"
        url="http://server/TestSite/_vti_history/1/RootFolder/SubFolder/Test.txt"
        created="3/10/2010 3:58 PM" createdRaw="2010-03-10T23:58:55Z" createdBy="DOMAIN\user"
        createdByName="User" size="7" comments="upload 1" />
      <result version = "0.2"
        url="http://server/TestSite/_vti_history/2/RootFolder/SubFolder/Test.txt"
        created="3/10/2010 4:00 PM" createdRaw="2010-03-11T00:00:03Z" createdBy="DOMAIN\user"
        createdByName="User" size="8" comments="upload 2" />
    </results>
  </GetVersionsResult>
</GetVersionsResponse>
```

3. The protocol client parses the response and finds the first version of the file, which is 0.1.
4. The protocol client issues a **CheckOutFile** request, as described in [\[MS-LISTSWS\]](#) section 3.1.4.8, specifying the file name as "RootFolder/SubFolder/Test.txt".

```
<CheckOutFile xmlns="http://schemas.microsoft.com/sharepoint/soap/">
  <pageUrl>http://server/TestSite/RootFolder/SubFolder/Test.txt</pageUrl>
  <checkoutToLocal>true</checkoutToLocal>
  <lastmodified></lastmodified>
</CheckOutFile>
```

5. The protocol client issues a **RestoreVersion** request, specifying the file name as "RootFolder/SubFolder/Test.txt" and the version as "0.1".

```
<RestoreVersion xmlns="http://schemas.microsoft.com/sharepoint/soap/">
  <fileName>RootFolder/SubFolder/Test.txt</fileName>
  <fileVersion>0.1</fileVersion>
</RestoreVersion>
```

6. The protocol server restores the current version of the file to the specified version.
7. The protocol client issues a **CheckInFile** request, as described in [\[MS-LISTWS\]](#) section 3.1.4.7, for the file, with the **CheckinType** element, as described in [\[MS-LISTWS\]](#) section 3.1.4.7.2.1, set to "MinorCheckin".

```
<CheckInFile xmlns="http://schemas.microsoft.com/sharepoint/soap/">
  <pageUrl>http://server/TestSite/RootFolder/SubFolder/Test.txt</pageUrl>
  <comment>Restore</comment>
  <CheckinType>MinorCheckin</CheckinType>
</CheckInFile>
```

8. The protocol server now has four versions of the file, namely "0.1", "0.2", "0.3", and "0.4". The contents of the files that have the versions "0.4" and "0.1" are identical.

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

For ease of implementation, the full WSDL is provided in this appendix.

```
<?xml version="1.0" encoding="utf-8" ?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:tns="http://schemas.microsoft.com/sharepoint/soap/"
xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
targetNamespace="http://schemas.microsoft.com/sharepoint/soap/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <s:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/sharepoint/soap/">
      <s:import namespace="http://www.w3.org/2001/XMLSchema" />
      <s:complexType name="VersionData">
        <s:attribute name="version" type="s:string" use="required" />
        <s:attribute name="url" type="s:string" use="required" />
        <s:attribute name="created" type="s:string" use="required" />
        <s:attribute name="createdRaw" type="s:string" use="required" />
        <s:attribute name="createdBy" type="s:string" use="required" />
        <s:attribute name="createdByName" type="s:string" use="optional" />
        <s:attribute name="size" type="s:unsignedLong" use="required" />
        <s:attribute name="comments" type="s:string" use="required" />
      </s:complexType>
      <s:complexType name="Results">
        <s:sequence>
          <s:element name="list" maxOccurs="1" minOccurs="1">
            <s:complexType>
              <s:attribute name="id" type="s:string" use="required" />
            </s:complexType>
          </s:element>
          <s:element name="versioning" maxOccurs="1" minOccurs="1">
            <s:complexType>
              <s:attribute name="enabled" type="s:unsignedByte" use="required" />
            </s:complexType>
          </s:element>
          <s:element name="settings" maxOccurs="1" minOccurs="1">
            <s:complexType>
              <s:attribute name="url" type="s:string" use="required" />
            </s:complexType>
          </s:element>
          <s:element maxOccurs="unbounded" minOccurs="1" name="result"
type="tns:VersionData"/>
        </s:sequence>
      </s:complexType>
      <s:element name="GetVersions">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="1" maxOccurs="1" name="fileName" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="GetVersionsResponse">
        <s:complexType>
```

```

    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="GetVersionsResult">
        <s:complexType>
          <s:sequence>
            <s:element name="results" minOccurs="1" maxOccurs="1" type="tns:Results" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
<s:element name="RestoreVersion">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="fileName" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="fileVersion" type="s:string" />
    </s:sequence>
  </s:complexType>
</s:element>
<s:element name="RestoreVersionResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="RestoreVersionResult">
        <s:complexType>
          <s:sequence>
            <s:element name="results" minOccurs="1" maxOccurs="1" type="tns:Results" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
<s:element name="DeleteVersion">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="fileName" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="fileVersion" type="s:string" />
    </s:sequence>
  </s:complexType>
</s:element>
<s:element name="DeleteVersionResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="DeleteVersionResult">
        <s:complexType>
          <s:sequence>
            <s:element name="results" minOccurs="1" maxOccurs="1" type="tns:Results" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
<s:element name="DeleteAllVersions">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="fileName" type="s:string" />
    </s:sequence>
  </s:complexType>

```



```

</s:element>
<s:element name="DeleteAllVersionsResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="DeleteAllVersionsResult">
        <s:complexType>
          <s:sequence>
            <s:element name="results" minOccurs="1" maxOccurs="1" type="tns:Results" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
</s:schema>
</wsdl:types>
<wsdl:message name="GetVersionsSoapIn">
  <wsdl:part name="parameters" element="tns:GetVersions" />
</wsdl:message>
<wsdl:message name="GetVersionsSoapOut">
  <wsdl:part name="parameters" element="tns:GetVersionsResponse" />
</wsdl:message>
<wsdl:message name="RestoreVersionSoapIn">
  <wsdl:part name="parameters" element="tns:RestoreVersion" />
</wsdl:message>
<wsdl:message name="RestoreVersionSoapOut">
  <wsdl:part name="parameters" element="tns:RestoreVersionResponse" />
</wsdl:message>
<wsdl:message name="DeleteVersionSoapIn">
  <wsdl:part name="parameters" element="tns:DeleteVersion" />
</wsdl:message>
<wsdl:message name="DeleteVersionSoapOut">
  <wsdl:part name="parameters" element="tns:DeleteVersionResponse" />
</wsdl:message>
<wsdl:message name="DeleteAllVersionsSoapIn">
  <wsdl:part name="parameters" element="tns:DeleteAllVersions" />
</wsdl:message>
<wsdl:message name="DeleteAllVersionsSoapOut">
  <wsdl:part name="parameters" element="tns:DeleteAllVersionsResponse" />
</wsdl:message>
<wsdl:portType name="VersionsSoap">
  <wsdl:operation name="GetVersions">
    <wsdl:input message="tns:GetVersionsSoapIn" />
    <wsdl:output message="tns:GetVersionsSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="RestoreVersion">
    <wsdl:input message="tns:RestoreVersionSoapIn" />
    <wsdl:output message="tns:RestoreVersionSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="DeleteVersion">
    <wsdl:input message="tns:DeleteVersionSoapIn" />
    <wsdl:output message="tns:DeleteVersionSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="DeleteAllVersions">
    <wsdl:input message="tns:DeleteAllVersionsSoapIn" />
    <wsdl:output message="tns:DeleteAllVersionsSoapOut" />
  </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="VersionsSoap" type="tns:VersionsSoap">

```

```

        <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
        <wsdl:operation name="GetVersions">
            <soap:operation soapAction="http://schemas.microsoft.com/sharepoint/soap/GetVersions"
style="document" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="RestoreVersion">
            <soap:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/RestoreVersion" style="document" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="DeleteVersion">
            <soap:operation soapAction="http://schemas.microsoft.com/sharepoint/soap/DeleteVersion"
style="document" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="DeleteAllVersions">
            <soap:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/DeleteAllVersions" style="document"
/>
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
        </wsdl:operation>
    </wsdl:binding>
    <wsdl:binding name="VersionsSoap12" type="tns:VersionsSoap">
        <soap12:binding transport="http://schemas.xmlsoap.org/soap/http" />
        <wsdl:operation name="GetVersions">
            <soap12:operation soapAction="http://schemas.microsoft.com/sharepoint/soap/GetVersions"
style="document" />
            <wsdl:input>
                <soap12:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap12:body use="literal" />
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="RestoreVersion">
            <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/RestoreVersion" style="document" />
            <wsdl:input>

```

```

        <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal" />
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="DeleteVersion">
    <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/DeleteVersion" style="document" />
    <wsdl:input>
        <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal" />
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="DeleteAllVersions">
    <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/DeleteAllVersions" style="document"
/>
    <wsdl:input>
        <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal" />
    </wsdl:output>
</wsdl:operation>
</wsdl:binding>
</wsdl:definitions>

```

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
- Microsoft Office 2010 suites
- Microsoft Office 2013
- Microsoft SharePoint Foundation 2010
- Microsoft SharePoint Foundation 2013
- Windows SharePoint Services 2.0
- Windows SharePoint Services 3.0

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 2.2.4.3:](#) Windows SharePoint Services 3.0 does not return this attribute.

[<2> Section 3.1.4.1.2.2:](#) Windows SharePoint Services 3.0 returns the 0x81070906 error code, and SharePoint Foundation 2010 returns no error code.

[<3> Section 3.1.4.1.2.2:](#) Windows SharePoint Services 3.0 returns the 0x81070905 error code for invalid characters.

[<4> Section 3.1.4.1.2.2:](#) Windows SharePoint Services truncates all characters after the first pound sign (#) or question mark (?) in the file name. If the truncated file name does not exist on the server, SharePoint Foundation 2010 and SharePoint Foundation 2013 returns a SOAP server exception, and Windows SharePoint Services 3.0 returns the 0x81070906 error code. Tab (\t) is ignored at the end of the **fileName**. The backward slash (\) is ignored at the end of the **fileName** on Windows SharePoint Services 3.0, SharePoint Foundation 2010, and SharePoint Foundation 2013. Windows SharePoint Services 3.0, SharePoint Foundation 2010, and SharePoint Foundation 2013 return different error codes depending on where the backward slash (\) occurs in the **fileName**. If **fileName** contains equals sign (=), Windows SharePoint Services 3.0 returns error code 0x81070906, and SharePoint Foundation 2010 and SharePoint Foundation 2013 return a SOAP exception without an error code.

[<5> Section 3.1.4.2.2.2:](#) Windows SharePoint Services 3.0 returns the 0x81070970 error code for invalid characters.

[<6> Section 3.1.4.2.2.2:](#) Windows SharePoint Services truncates all characters after the first pound sign (#) or question mark (?) in the file name. If the truncated file name does not exist on the server, 0x80131600 is returned, except that Windows SharePoint Services 3.0 returns a SOAP exception. The tab (\t) character is ignored at the end of the **fileName** on Windows SharePoint

Services 3.0, SharePoint Foundation 2010, and SharePoint Foundation 2013. The backward slash (\) character is ignored at the end of the **fileName** on Windows SharePoint Services 3.0, SharePoint Foundation 2010, and SharePoint Foundation 2013. Windows SharePoint Services 3.0, SharePoint Foundation 2010, and SharePoint Foundation 2013 return different error codes depending on where the backward slash (\) occurs in the file name. If **fileName** contains an equal sign (=), Windows SharePoint Services 3.0 returns a SOAP exception without an error code; SharePoint Foundation 2010 and SharePoint Foundation 2013 return error code 0x80131600.

[<7> Section 3.1.4.2.2.2:](#) Windows SharePoint Services 3.0 does not return an error code element but does return an error string of "Object reference not set to an instance of an object."

[<8> Section 3.1.4.4.2.2:](#) Windows SharePoint Services 3.0 returns error code 0x81070906 with the description, "There is no file with URL '**fileName**' in this Web."

[<9> Section 3.1.4.4.2.2:](#) Windows SharePoint Services 3.0 returns error code 0x81070975.

[<10> Section 3.1.4.4.2.2:](#) Windows SharePoint Services 3.0, SharePoint Foundation 2010, and SharePoint Foundation 2013 return different error codes depending on where the pound sign (#) or question mark (?) character occurs in the **fileName**. In Windows SharePoint Services 3.0, SharePoint Foundation 2010 and SharePoint Foundation 2013 two consecutive dots (..) are ignored at the end of the **fileName** or folder name. In Windows SharePoint Services 3.0, SharePoint Foundation 2010, and SharePoint Foundation 2013, the forward slash (/) character is ignored at the end of the **fileName**. Windows SharePoint Services 3.0, SharePoint Foundation 2010, and SharePoint Foundation 2013 return different error codes depending on where the forward slash (/) occurs in the file specification.

[<11> Section 3.1.4.4.2.2:](#) Windows SharePoint Services 3.0 returns error code 0x81070970 for invalid characters with the description, "The file or folder name "fileName" contains invalid characters. Please use a different name. Common invalid characters include the following: # % & * : < > ? / { | }".

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
 [server](#) 15
 [Applicability](#) 9
 [Attribute groups](#) 14
 [Attributes](#) 13

C

[Capability negotiation](#) 9
[Change tracking](#) 38
Client
 [overview](#) 15
 [Complex types](#) 11
 [Results](#) 12
 [SOAPFaultDetails](#) 12
 [VersionData](#) 13

D

Data model - abstract
 [server](#) 15

E

Elements
 [fileName](#) 11
 [fileVersion](#) 11
Events
 [local - server](#) 27
 [timer - server](#) 27
Examples
 [protocol](#) 28

F

[Fields - vendor-extensible](#) 9
[fileNameelement](#) 11
[fileVersionelement](#) 11
[Full WSDL](#) 31

G

[Glossary](#) 6
[Groups](#) 14

I

[Implementer - security considerations](#) 30
[Index of security parameters](#) 30
[Informative references](#) 7
Initialization
 [server](#) 15
[Introduction](#) 6

L

Local events

[server](#) 27

M

Message processing
 [server](#) 16
Messages
 [attribute groups](#) 14
 [attributes](#) 13
 [complex types](#) 11
 [elements](#) 10
 [enumerated](#) 10
 [fileNameelement](#) 11
 [fileVersionelement](#) 11
 [groups](#) 14
 [namespaces](#) 10
 [Resultscomplex type](#) 12
 [simple types](#) 13
 [SOAPFaultDetailscomplex type](#) 12
 [syntax](#) 10
 [transport](#) 10
 [VersionDatacomplex type](#) 13

N

[Namespaces](#) 10
[Normative references](#) 7

O

Operations
 [DeleteAllVersions](#) 16
 [DeleteVersion](#) 19
 [GetVersions](#) 22
 [RestoreVersion](#) 24
 [Overview \(synopsis\)](#) 8

P

[Parameters - security index](#) 30
[Preconditions](#) 9
[Prerequisites](#) 9
[Product behavior](#) 36
Protocol Details
 [overview](#) 15
[Protocol examples](#) 28

R

[References](#) 7
 [informative](#) 7
 [normative](#) 7
[Relationship to other protocols](#) 8
[Resultscomplex type](#) 12

S

Security
 [implementer considerations](#) 30

- [parameter index](#) 30
- Sequencing rules
 - [server](#) 16
- Server
 - [abstract data model](#) 15
 - [DeleteAllVersions operation](#) 16
 - [DeleteVersion operation](#) 19
 - [details](#) 15
 - [GetVersions operation](#) 22
 - [initialization](#) 15
 - [local events](#) 27
 - [message processing](#) 16
 - [overview](#) 15
 - [RestoreVersion operation](#) 24
 - [sequencing rules](#) 16
 - [timer events](#) 27
 - [timers](#) 15
- [Simple types](#) 13
- [SOAPFaultDetailscomplex type](#) 12
- [Standards assignments](#) 9
- Syntax
 - [messages - overview](#) 10

T

- Timer events
 - [server](#) 27
- Timers
 - [server](#) 15
- [Tracking changes](#) 38
- [Transport](#) 10
- Types
 - [complex](#) 11
 - [simple](#) 13

V

- [Vendor-extensible fields](#) 9
- [VersionDatacomplex type](#) 13
- [Versioning](#) 9

W

- [WSDL](#) 31