

# [MS-VERSS]: Versions Web Service Protocol Specification

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## Revision Summary

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

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

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

**check in**  
**checked out**  
**current version**  
**document library**  
**file**  
**folder**  
**list**  
**published version**  
**publishing level**  
**Recycle Bin**  
**Simple Object Access Protocol (SOAP)**  
**site**  
**SOAP action**  
**SOAP body**  
**SOAP fault**  
**SOAP operation**  
**Uniform Resource Locator (URL)**  
**Web Services Description Language (WSDL)**  
**XML namespace**  
**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 Specifications documentation do not include a publishing year because links are to the latest version of the technical documents, which are updated frequently. References to other documents include a publishing year when one is available.

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[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 Specification](#)".

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

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

[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "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](#)".

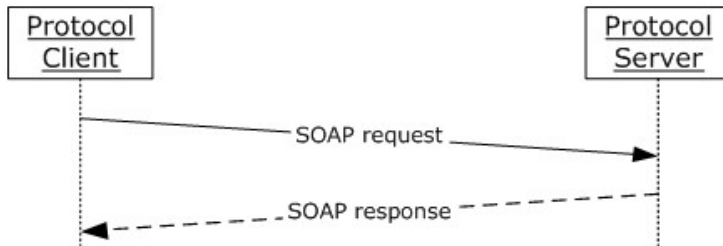
[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.ietf.org/rfc/rfc2818.txt>

### 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.

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.

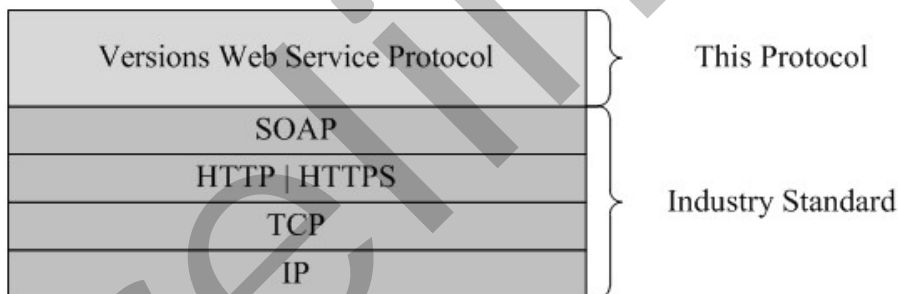


**Figure 1: SOAP message sequence**

### 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	<a href="http://schemas.xmlsoap.org/wsdl/http/">http://schemas.xmlsoap.org/wsdl/http/</a>	
Mime	<a href="http://schemas.xmlsoap.org/wsdl/mime/">http://schemas.xmlsoap.org/wsdl/mime/</a>	
S	<a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a>	<a href="#">[XMLSCHEMA1]</a>
Soap	<a href="http://schemas.xmlsoap.org/wsdl/soap/">http://schemas.xmlsoap.org/wsdl/soap/</a>	<a href="#">[SOAP1.1]</a>
Soapenc	<a href="http://schemas.xmlsoap.org/soap/encoding/">http://schemas.xmlsoap.org/soap/encoding/</a>	
soap12	<a href="http://schemas.xmlsoap.org/wsdl/soap12/">http://schemas.xmlsoap.org/wsdl/soap12/</a>	<a href="#">[SOAP1.2/1]</a> <a href="#">[SOAP1.2/2]</a>
Tm	<a href="http://microsoft.com/wsdl/mime/textMatching/">http://microsoft.com/wsdl/mime/textMatching/</a>	
Tns	<a href="http://schemas.microsoft.com/sharepoint/soap/">http://schemas.microsoft.com/sharepoint/soap/</a>	
Wsdli	<a href="http://schemas.xmlsoap.org/wsdl/">http://schemas.xmlsoap.org/wsdl/</a>	<a href="#">[WSDL]</a>
(none)	<a href="http://schemas.microsoft.com/sharepoint/soap/">http://schemas.microsoft.com/sharepoint/soap/</a>	

#### 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
<b>fileName</b>	Defines the location of a file on the protocol server.
<b>fileVersion</b>	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.

```
<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
<b>Results</b>	The details about all versions of a file on the protocol server.
<b>SOAPFaultDetails</b>	The details about a SOAP fault.
<b>VersionData</b>	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: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".

**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 [\[ISO-8601\]](#).

**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
<b>DeleteAllVersions</b>	Deletes all the previous versions of the specified file.
<b>DeleteVersion</b>	Deletes the specified version of the file.
<b>GetVersions</b>	Gets details about all the versions of the specified file.
<b>RestoreVersion</b>	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>
```

If versioning is disabled, the **DeleteAllVersions** operation MUST return information about the file without deleting any versions.

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
<b>DeleteAllVersionsSoapIn</b>	The WSDL request message for a WSDL <b>DeleteAllVersions</b> operation.
<b>DeleteAllVersionsSoapOut</b>	The WSDL response message for a WSDL <b>DeleteAllVersions</b> 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
<b>DeleteAllVersions</b>	
<b>DeleteAllVersionsResponse</b>	

#### 3.1.4.1.2.1 DeleteAllVersions

```
<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

```
<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	No file with the URL specified by the <b>fileName</b> element of the <b>DeleteAllVersions</b>



Error code	Description
element returned	element exists on this site (2).
0x81070906	The file specified by the <b>fileName</b> element of the <b>DeleteAllVersions</b> element could not be found on the site (2).
0x81020030	<p>This error code SHOULD <a href="#">&lt;1&gt;</a> indicate that the <b>fileName</b> element of the <b>DeleteAllVersions</b> element contains invalid characters. Invalid characters are defined as the following:</p> <ul style="list-style-type: none"> <li>▪ Double quotation mark (")</li> <li>▪ Pound sign (#)</li> <li>▪ Percent sign (%)</li> <li>▪ Ampersand (&amp;)</li> <li>▪ Asterisk (*)</li> <li>▪ Colon (:)</li> <li>▪ Left angle bracket (&lt;)</li> <li>▪ Equal sign (=)</li> <li>▪ Right angle bracket (&gt;)</li> <li>▪ Question mark (?)</li> <li>▪ Backward slash (\)</li> <li>▪ Left curly bracket ({)</li> <li>▪ Vertical bar ( )</li> <li>▪ Right curly bracket (})</li> <li>▪ Tilde (~)</li> <li>▪ Two consecutive dots (..)</li> <li>▪ Any character that has a value less than 32 or greater than 126</li> </ul>
0x81070905	<p>This error code MAY <a href="#">&lt;2&gt;</a> indicate that the <b>fileName</b> element of the <b>DeleteAllVersions</b> element contains invalid characters. Invalid characters are defined as the following:</p> <ul style="list-style-type: none"> <li>▪ Double quotation mark (")</li> <li>▪ Pound sign (#)</li> <li>▪ Percent sign (%)</li> <li>▪ Ampersand (&amp;)</li> <li>▪ Asterisk (*)</li> <li>▪ Colon (:)</li> </ul>

Error code	Description
	<ul style="list-style-type: none"> <li>▪ Left angle bracket (&lt;)</li> <li>▪ Equal sign (=)</li> <li>▪ Right angle bracket (&gt;)</li> <li>▪ Question mark (?)</li> <li>▪ Backward slash (\)</li> <li>▪ Left curly bracket ({)</li> <li>▪ Vertical bar ( )</li> <li>▪ Right curly bracket (})</li> <li>▪ Tilde (~)</li> <li>▪ Two consecutive dots (..)</li> <li>▪ Any character that has a value less than 32 or greater than 126</li> </ul>

### 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 [<3>](#) of the file.

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

If versioning is disabled, the **DeleteVersion** operation MUST return error 0x80131600 to indicate that the version does not exist.

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
<b>DeleteVersionSoapIn</b>	The WSDL request message for a WSDL <b>DeleteVersion</b> operation.
<b>DeleteVersionSoapOut</b>	The WSDL response message for a WSDL <b>DeleteVersion</b> 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.

#### 3.1.4.2.2.1 DeleteVersion

```
<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

```
<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. 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 (~)
- Two consecutive dots (..)
- Any character that has a value less than 32 or greater than 126

Error code	Description
No error code element returned	The <b>fileName</b> element of the <b>DeleteVersion</b> element contains invalid characters. <a href="#">&lt;4&gt;</a>
0x81020073	This error code SHOULD <a href="#">&lt;5&gt;</a> indicate that the <b>fileName</b> element of the <b>DeleteVersion</b> element contains invalid characters. <a href="#">&lt;6&gt;</a>
0x81070970	This error code MAY <a href="#">&lt;7&gt;</a> indicate that the <b>fileName</b> element of the <b>DeleteVersion</b> element contains invalid characters. <a href="#">&lt;8&gt;</a>
0x80131600	The specified version does not exist or was recently deleted. This error code is returned when either the value specified by the <b>fileVersion</b> element is the current or published version of the file or the file does not exist. <a href="#">&lt;9&gt;</a>

### 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>
```

If versioning is disabled, information about only one version will be returned. This version MUST be the current version.

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
<b>GetVersionsSoapIn</b>	The WSDL request message for a WSDL <b>GetVersions</b> operation.
<b>GetVersionsSoapOut</b>	The WSDL response message for a WSDL <b>GetVersions</b> 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

##### 3.1.4.3.2.1 GetVersions

```
<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

```
<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>

**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 [\[MS-LISTWS\]](#) section 3.1.4.7, to commit the changes performed by this operation, or the **UndoCheckOut** operation, as specified in [\[MS-LISTWS\]](#) 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 after 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 **MUST** remain the same.

If versioning is disabled, this operation **MUST** return an error that indicates a bad URL.

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
<b>RestoreVersionSoapIn</b>	The WSDL request message for a WSDL <b>RestoreVersion</b> operation.
<b>RestoreVersionSoapOut</b>	The WSDL response message for a WSDL <b>RestoreVersion</b> 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

#### 3.1.4.4.2.1 RestoreVersion

```
<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>
```



```

    </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

```

<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. 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 (~)
- Two consecutive dots (..)

- Any character that has a value less than 32 or greater than 126

Error code	Description
0x8007009E	The file is not checked out. This file needs to be checked out before changes can be made.
0x81070975	The file is not checked out. The protocol server requires the file to be checked out before performing the <b>RestoreVersion</b> operation.
0x81070906	The file specified by the <b>fileName</b> and <b>fileVersion</b> elements of the <b>RestoreVersion</b> element could not be found on the site (2).
No error code element returned	No file with the URL specified by the <b>fileName</b> element of the <b>RestoreVersion</b> element exist on this site (2).
No error code element returned	The <b>fileName</b> file or folder name contains invalid characters.<10> Note that in this case, the pound sign (#) is not considered an invalid character.
0x81070970	This error code MAY<11> indicate that the <b>fileName</b> file or folder name contains invalid characters.<12>. Note that in this case, the pound sign (#) is not considered an invalid character.
0x81020073	This error code SHOULD<13> indicate that the <b>fileName</b> file or folder name contains invalid characters.<14> Note that in this case, the pound sign (#) is not considered an invalid character.

#### 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 [\[MS-LISTSWS\]](#) section 3.1.4.7, for the file, with the **CheckinType** element, as described in [\[MS-LISTSWS\]](#) 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 Preview
- Microsoft® SharePoint® Foundation 2010
- Microsoft® SharePoint® Foundation 2013 Preview
- 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 3.1.4.1.2.2:](#) SharePoint Foundation 2010 does not return an error code if the invalid character is a pound sign (#) or a tab (\t). Windows SharePoint Services 3.0 returns the 0x81070905 error code for invalid characters, except that it returns the 0x81070905 error code for the pound sign (#) and the tab (\t).

[<2> Section 3.1.4.1.2.2:](#) Windows SharePoint Services 3.0 returns the 0x81070905 error code for invalid characters, except that it returns the 0x81070905 error code for the pound sign (#) and the tab (\t).

[<3> Section 3.1.4.2:](#) If the minor version is enabled, the user interface version number for a published version is incremented to the next positive major version number, and the minor version is 0. If the minor version is not enabled, the published version is the version that passes content approval. Each file can have at most one published version.

[<4> Section 3.1.4.2.2.2:](#) Windows SharePoint Services truncates all characters after the first pound sign (#) in the file name. If the truncated file name does not exist on the server, 0x80131600 is returned.

[<5> Section 3.1.4.2.2.2:](#) SharePoint Foundation 2010 returns the 0x80131600 error code for the pound sign (#) and the tab (\t). Windows SharePoint Services 3.0 returns the 0x81070970 error code for invalid characters, except that it returns no error code for the pound sign (#) or the tab (\t).

[<6> Section 3.1.4.2.2.2:](#) Windows SharePoint Services truncates all characters after the first pound sign (#) in the file name. If the truncated file name does not exist on the server, 0x80131600 is returned.

<7> [Section 3.1.4.2.2.2](#): Windows SharePoint Services 3.0 returns the 0x81070970 error code for invalid characters, except that it returns no error code for the pound sign (#) or the tab (\t).

<8> [Section 3.1.4.2.2.2](#): Windows SharePoint Services truncates all characters after the first pound sign (#) in the file name. If the truncated file name does not exist on the server, 0x80131600 is returned.

<9> [Section 3.1.4.2.2.2](#): When **fileVersion** is the current version of the file, Windows SharePoint Services does not return an error code element but does return an error string of "Object reference not set to an instance of an object."

<10> [Section 3.1.4.4.2.2](#): Windows SharePoint Services returns the 0x81070970 error code with the description, "The file or folder name filename contains invalid characters. Please use a different name. Common invalid characters include the following: # % & \* : < > ? / { | }".

<11> [Section 3.1.4.4.2.2](#): Windows SharePoint Services 3.0 returns the 0x81070970 error code for invalid characters, except that it returns the 0x81070906 error code for the pound sign (#) and the tab (\t).

<12> [Section 3.1.4.4.2.2](#): Windows SharePoint Services returns the 0x81070970 error code with the description, "The file or folder name filename contains invalid characters. Please use a different name. Common invalid characters include the following: # % & \* : < > ? / { | }".

<13> [Section 3.1.4.4.2.2](#): SharePoint Foundation 2010 returns no error code for the pound sign (#) or the tab (\t). Windows SharePoint Services 3.0 returns the 0x81070970 error code for invalid characters, except that it returns the 0x81070906 error code for the pound sign (#) and the tab (\t).

<14> [Section 3.1.4.4.2.2](#): Windows SharePoint Services returns the 0x81070970 error code 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

This section identifies changes that were made to the [MS-VERSS] protocol document between the April 2012 and July 2012 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact [protocol@microsoft.com](mailto:protocol@microsoft.com).

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">1.1 Glossary</a>	Added the new terms HTTP and HTTPS, while removing the following terms: WSDL operation, XML attribute, XML element.	N	Content updated.
<a href="#">1.2.1 Normative References</a>	Added the new reference [ISO-8601].	N	New content added.
<a href="#">1.2.2 Informative References</a>	Added the new reference [RFC2818].	N	New content added.
<a href="#">1.4 Relationship to Other Protocols</a>	Revised description of transport stack.	N	Content updated for template compliance.
<a href="#">2.2.3.1 fileName</a>	Reorganized details for clarity and readability.	N	Content removed.
<a href="#">2.2.3.2 fileVersion</a>	Reorganized details for clarity and readability.	N	Content removed.
<a href="#">2.2.4.1 Results</a>	Added definition number for term "list".	N	Content updated.
<a href="#">3.1.4.1.1 Messages</a>	Added summary table of messages for the DeleteAllVersions operation.	N	Content updated.
<a href="#">3.1.4.1.1.2 DeleteAllVersionsSoapOut</a>	Removed SOAP action details.	N	Content removed.
<a href="#">3.1.4.1.2</a>	Added summary table of elements for the	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">Elements</a>	DeleteAllVersions operation.		
<a href="#">3.1.4.1.2.2 DeleteAllVersionsResponse</a>	Updated the error code table.	N	Content updated.
<a href="#">3.1.4.2.1.2 DeleteVersionSoapOut</a>	Removed SOAP action details.	N	Content removed.
<a href="#">3.1.4.3.1.2 GetVersionsSoapOut</a>	Removed SOAP action details.	N	Content removed.
<a href="#">3.1.4.4 RestoreVersion</a>	Reorganized details for clarity and readability.	N	Content removed.
<a href="#">3.1.4.4.1.2 RestoreVersionSoapOut</a>	Removed SOAP action details.	N	Content removed.
<a href="#">3.1.4.4.2.2 RestoreVersionResponse</a>	Revised description for RestoreVersionResult for clarity.	N	Content updated.
<a href="#">6 Appendix A: Full WSDL</a>	Added version information at the beginning of WSDL.	N	New content added.

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