

[MS-COPYS]: Copy Web Service Protocol Specification

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Preliminary

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1 Introduction

The Copy Web Service Protocol is used to copy files, including associated metadata such as creation date and author, to one or more locations on a single protocol server or between different protocol servers.

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

ASCII
base64
GUID
Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
Unicode

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

checked out
file
Internationalized Resource Identifier (IRI)
list
Meeting Workspace site
permission
Simple Object Access Protocol (SOAP)
SOAP action
SOAP body
SOAP fault
Status-Code
Uniform Resource Locator (URL)
Web Services Description Language (WSDL)
XML namespace
XML namespace prefix

The following terms are specific to this document:

destination location: An Internationalized Resource Identifier (IRI) to which a file is copied. The file name portion of the destination location does not have to be the same as the file name portion of the source location. A file can be renamed as it is copied.

destination server: A protocol server to which a file is copied.

source location: A server, disk, file, document, or other collection of information from which a file or data is copied.

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. We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[MS-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>

[RFC3548] Josefsson, S., Ed., "The Base16, Base32, and Base64 Data Encodings", RFC 3548, July 2003, <http://www.ietf.org/rfc/rfc3548.txt>

[RFC4122] Leach, P., Mealling, M., and Salz, R., "A Universally Unique Identifier (UUID) URN Namespace", RFC 4122, July 2005, <http://www.ietf.org/rfc/rfc4122.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](#)".

1.3 Protocol Overview (Synopsis)

This protocol enables users to copy **files**, and the associated metadata for each of those files, to one or more locations on a single protocol server or different protocol servers by using **Simple Object Access Protocol (SOAP)**, as described in [\[SOAP1.1\]](#), [\[SOAP1.2/1\]](#), and [\[SOAP1.2/2\]](#).

This protocol assumes that each file can be accessed on the protocol server by using a **Uniform Resource Locator (URL)**. For a detailed abstract data model, see the section [3.1.1](#).

The protocol client sends a request to the protocol server that stores the file, and the associated metadata for the file, at the specified absolute **Internationalized Resource Identifier (IRI)**. If the file exists in the **source location**, the protocol server responds with the content and metadata of the file.

The protocol client then sends the content and metadata of the file, with a collection of **destination locations**, to the **destination server**. The destination server creates or overwrites the files in the destination locations, and sets the metadata of each file to the values that were sent. The destination server then responds with a collection of success or failure messages for each location. The protocol client can send the same content and metadata to multiple destination servers as needed.

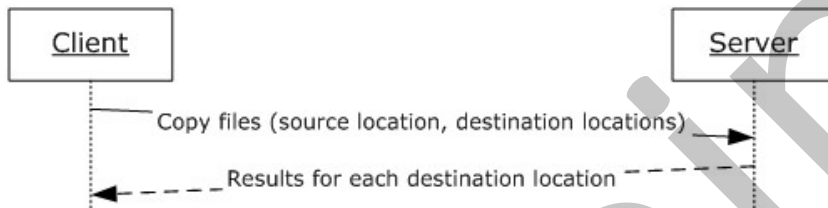


Figure 1: Copying files to a protocol server

This protocol also provides a method for copying a file within the same protocol server without retrieving the content or metadata for the file. The protocol client sends a request to the protocol server with the source file location and the collection of destination locations. The protocol server copies the file and its associated metadata to all of the specified locations. The protocol server then responds with a collection of success or failure messages for each location that was sent.

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 **Hypertext Transfer Protocol (HTTP)**, as described in [\[RFC2616\]](#), or **Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**, as described in [\[RFC2818\]](#).

The following diagram shows the underlying messaging and transport stack used by the protocol:

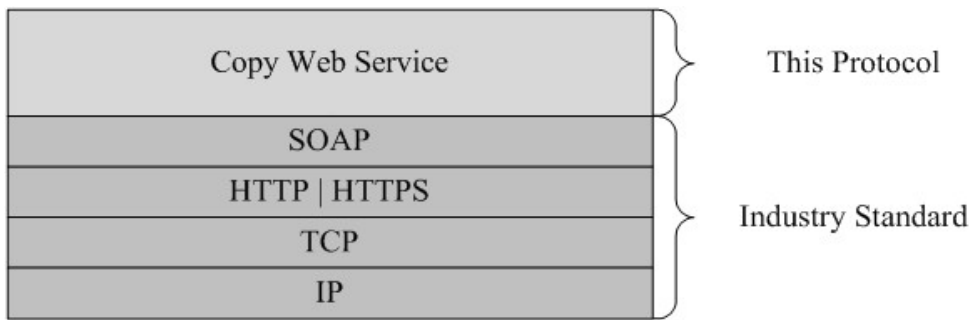


Figure 2: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a protocol server that is identified by a URL that is known by protocol clients. The protocol server endpoint is formed by appending `"/_vti_bin/copy.asmx"` to the URL of the protocol server; for example, `http://www.example.com:56737/_vti_bin/copy.asmx`.

This protocol assumes that authentication was performed by the underlying protocols.

1.6 Applicability Statement

This protocol is applicable when a protocol server supports storage of IRI-addressable files, SOAP over HTTP or HTTPS, and the destination servers are accessible from the protocol client.

Note the following when using this protocol:

- This protocol does not provide a way to control whether overwriting files during a copy operation is allowed.
- To copy a file from one protocol server to another, the protocol client downloads the full content of the file as a **base64-encoded string**. The amount of network resources and the memory that is used on the protocol client and protocol servers depends on size of the file.

Use this protocol for the following:

- Copying files within a single protocol server.
- Copying files between protocol servers if those files and the associated metadata for the files contain fewer than 10 megabytes of data.

Consider using different protocols for the following:

- Copying only file content between protocol servers because preserving the associated metadata is not required.
- Copying files with more than 10 megabytes of content between protocol servers. Although the protocol does not impose a limit on the size of the content to be copied, the practical limit varies based on server resources and network bandwidth.
- Copying files when the protocol client needs to control whether overwriting existing files during the copy operation is allowed.
- Copying files when the protocol client needs to guarantee that any or all of the associated metadata is copied.

1.7 Versioning and Capability Negotiation

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

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

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2 Messages

2.1 Transport

Protocol servers MUST support SOAP over HTTP. Protocol servers SHOULD additionally support SOAP over HTTPS to help secure communication with protocol clients. Protocol messages MUST be formatted as specified either in [\[SOAP1.1\]](#) section 4 or in [\[SOAP1.2/1\]](#) section 5. Protocol server faults MUST be returned by using either HTTP **Status-Codes**, as specified in [\[RFC2616\]](#) section 10, or **SOAP faults**, as specified in [\[SOAP1.1\]](#) section 4.4 or [\[SOAP1.2/1\]](#) section 5.4.

2.2 Common Message Syntax

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

2.2.1 Namespaces

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

Prefix	Namespace URI	Reference
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
tns	http://schemas.microsoft.com/sharepoint/soap/	
s1	http://microsoft.com/wsdl/types/	
s	http://www.w3.org/2001/XMLSchema/	[XMLSCHEMA1] [XMLSCHEMA2]
soap12	http://schemas.xmlsoap.org/wsdl/soap12/	[SOAP1.2/1] and [SOAP1.2/2]
(none)	http://schemas.microsoft.com/sharepoint/soap/	
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]

2.2.2 Messages

2.2.2.1 SOAP Fault Message

This protocol enables a protocol server to notify a protocol client with application-level faults by using a SOAP fault response. In a SOAP fault response, the **detail** element contains application-specific error information.

The following schema specifies the structure of the **detail** element in the SOAP fault response that is used by this protocol:

```
<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: A description of the error.

errorcode: A hexadecimal representation of a 4-byte result code, which is an operation-specific error code that is defined in the messages subsection for operations that return SOAP faults.

2.2.2.2 SOAP Exception Message

This protocol enables a protocol server to notify a protocol client when a request is not well-formed and cannot be processed using a SOAP exception response.

The following schema specifies the structure of the **detail** element in the SOAP exception response that is used by this protocol:

```

<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="faultcode" type="s:string" />
      <s:element name="faultstring" type="s:string" />
    </s:sequence>
  </s:complexType>
</s:schema>

```

errorstring: A description of the error.

faultcode: This MUST be the **string** "soap:Server".

faultstring: This MUST be the **string** "Exception of type 'Microsoft.SharePoint.SoapServer.SoapServerException' was thrown."

2.2.3 Elements

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

2.2.4 Complex Types

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

Complex Type	Description
DestinationUrlCollection	A collection of destination locations for the copy operation.
CopyResult	The error information and corresponding IRI that are the result of a copy operation to a specific destination.
CopyResultCollection	A collection of copy operation results with one result per destination.

Complex Type	Description
FieldInformation	The value, type, and identity information for a specific metadata field for a file.
FieldInformationCollection	A collection of FieldInformation records for a file.

2.2.4.1 DestinationUrlCollection

The **DestinationUrlCollection** complex type specifies the collection of destination locations for the copy operation.

```
<s:complexType name="DestinationUrlCollection">
  <s:sequence>
    <s:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
type="s:string" />
  </s:sequence>
</s:complexType>
```

string: A destination location on the destination server. The value of the element **MUST** be an absolute IRI.

2.2.4.2 CopyResult

The **CopyResult** complex type specifies the result of a copy operation for a single destination location.

```
<s:complexType name="CopyResult">
  <s:attribute name="ErrorCode" type="tns:CopyErrorCode" use="required"/>
  <s:attribute name="ErrorMessage" type="s:string"/>
  <s:attribute name="DestinationUrl" type="s:string" use="required"/>
</s:complexType>
```

ErrorCode: The success or failure status code of the operation for a specific **DestinationUrl**, as defined in section [2.2.5.1](#).

ErrorMessage: The user-readable message that explains the failure specified by the **ErrorCode** attribute. If the value of **ErrorCode** is "Success," the attribute **MUST NOT** be present. Otherwise, the **ErrorMessage** attribute **MUST** be present and the value **MUST** be a non-empty **Unicode string**.

DestinationUrl: The destination location for which the **CopyResult** element specifies the result of the operation.

2.2.4.3 CopyResultCollection

The **CopyResultCollection** complex type is a collection of results from the copy operation for each destination location that is used in the copy operation. This collection **MUST** contain exactly one entry for each IRI in the **DestinationUrlCollection** complex type (section [2.2.4.1](#)).

```
<s:complexType name="CopyResultCollection">
  <s:sequence>
    <s:element minOccurs="0" maxOccurs="unbounded" name="CopyResult" nillable="true"
type="tns:CopyResult" />
  </s:sequence>
</s:complexType>
```

```
</s:sequence>
</s:complexType>
```

CopyResult: Specifies the status of the copy operation for a single destination location, as defined in section [2.2.4.2](#).

2.2.4.4 FieldInformation

The **FieldInformation** complex type contains the value, type, and identity information for a specific metadata field for a file. Each field has two identifiers, **InternalName** and **Id**.

```
<s:complexType name="FieldInformation">
  <s:attribute name="Type" type="tns:FieldType" use="required"/>
  <s:attribute name="DisplayName" type="s:string" use="required"/>
  <s:attribute name="InternalName" type="s:string" use="required"/>
  <s:attribute name="Id" type="s1:guid" use="required"/>
  <s:attribute name="Value" type="s:string"/>
</s:complexType>
```

Type: The field type that is associated with a file. The value MUST contain one of the values defined in section [2.2.5.2](#).

DisplayName: The user-readable name of the field. This value MUST be a non-empty Unicode **string** that is fewer than 256 characters.

InternalName: The internal name that identifies the metadata field for a file in the source location. The value MUST be a non-empty **ASCII string** that does not contain spaces and is fewer than 256 characters.

Id: The **GUID** that identifies the metadata field for a file in the source location.

Value: The value of the field.

2.2.4.5 FieldInformationCollection

The **FieldInformationCollection** complex type contains a collection of metadata fields and metadata for the file.

The **InternalName** attribute values MUST be unique across all **FieldInformation** elements in the collection. The **Id** attribute values MUST be unique across all **FieldInformation** elements in the collection.

```
<s:complexType name="FieldInformationCollection">
  <s:sequence>
    <s:element name="FieldInformation" type="tns:FieldInformation" minOccurs="0"
      maxOccurs="unbounded"/>
  </s:sequence>
</s:complexType>
```

FieldInformation: A single metadata field for a file, as defined in section [2.2.4.4](#).

2.2.5 Simple Types

The following table summarizes the set of common, simple type definitions that are defined in this specification. The simple type definitions that are specific to a particular operation are described with that operation.

Simple Type	Description
CopyErrorCode	Enumeration of all possible status codes for the copy operation, including "Success"
FieldType	Enumeration of all metadata field types for a file
guid	GUID value

2.2.5.1 CopyErrorCode

The **CopyErrorCode** simple type specifies the success or failure of the copy operation from the source location to a particular destination location.

```
<s:simpleType name="CopyErrorCode">
  <s:restriction base="s:string">
    <s:enumeration value="Success"/>
    <s:enumeration value="DestinationInvalid"/>
    <s:enumeration value="DestinationMWS"/>
    <s:enumeration value="SourceInvalid"/>
    <s:enumeration value="DestinationCheckedOut"/>
    <s:enumeration value="InvalidUrl"/>
    <s:enumeration value="Unknown"/>
  </s:restriction>
</s:simpleType>
```

The following table lists the allowed values of the **CopyErrorCode** simple type.

Value	Meaning
Success	This value is used when the copy operation succeeds for the specified destination location.
DestinationInvalid	This value is used to indicate an error when the destination location is not the same domain as the source destination or the destination location points to a folder location that is not valid on the destination server.
DestinationMWS	This value is used to indicate a failure to copy the file because the destination location is inside a Meeting Workspace site .
SourceInvalid	This value is used to indicate an error when the source location for the copy operation does not reference an existing file in the source location.
DestinationCheckedOut	This value is used to indicate an error when the file on the destination location is checked out and cannot be overridden.
InvalidUrl	This value is used to indicate an error when the IRI of a destination location is malformed.
Unknown	This value is used to indicate an error for all other error conditions for a given destination location.

2.2.5.2 FieldType

The **FieldType** simple type specifies the metadata field type of a specified file.

```
<s:simpleType name="FieldType">
  <s:restriction base="s:string">
    <s:enumeration value="Invalid"/>
    <s:enumeration value="Integer"/>
    <s:enumeration value="Text"/>
    <s:enumeration value="Note"/>
    <s:enumeration value="DateTime"/>
    <s:enumeration value="Counter"/>
    <s:enumeration value="Choice"/>
    <s:enumeration value="Lookup"/>
    <s:enumeration value="Boolean"/>
    <s:enumeration value="Number"/>
    <s:enumeration value="Currency"/>
    <s:enumeration value="URL"/>
    <s:enumeration value="Computed"/>
    <s:enumeration value="Threading"/>
    <s:enumeration value="Guid"/>
    <s:enumeration value="MultiChoice"/>
    <s:enumeration value="GridChoice"/>
    <s:enumeration value="Calculated"/>
    <s:enumeration value="File"/>
    <s:enumeration value="Attachments"/>
    <s:enumeration value="User"/>
    <s:enumeration value="Recurrence"/>
    <s:enumeration value="CrossProjectLink"/>
    <s:enumeration value="ModStat"/>
    <s:enumeration value="AllDayEvent"/>
    <s:enumeration value="Error"/>
  </s:restriction>
</s:simpleType>
```

This protocol supports the following field types as a subset of the fields that are specified in [\[MS-WSSTS\]](#) section 2.3. Other field types specified in [\[MS-WSSTS\]](#) section 2.3, except the **ContentTypeId** field type, MUST map to the error field types defined by this protocol. The **ContentTypeId** field type SHOULD [<1>](#) map to the **Text** field type.

Attributes that use **FieldType** MUST use one of the following values:

- Invalid
- Integer
- Text
- Note
- DateTime
- Counter
- Choice
- Lookup

- Boolean
- Number
- Currency
- URL
- Computed
- Threading
- Guid
- MultiChoice
- GridChoice
- Calculated
- File
- Attachments
- User
- Recurrence
- CrossProjectLink
- ModStat
- AllDayEvent
- Error

2.2.5.3 guid

The **guid** simple type specifies a representation of a GUID value, as defined in [\[RFC4122\]](#).

```
<s:simpleType name="guid">
  <s:restriction base="s:string">
    <s:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}" />
  </s:restriction>
</s:simpleType>
```

2.2.6 Attributes

This specification does not define any common XML schema attributes.

2.2.7 Groups

This specification does not define any common XML schema groups.

2.2.8 Attribute Groups

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

Preliminary

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.

3.1 CopySoap Server Details

3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as the external behavior is consistent with that described in this document.

The source location of this protocol is an entity that maintains a collection of files and the metadata for each file. The files are identifiable by an absolute IRI on that protocol server.

Metadata for a given file consists of a collection of fields. The fields that are defined for a file can vary based on the location of the file on the protocol server. A field can be read-write or read-only based on the field type, the location of the file on the protocol server, and the **permission** settings for the file.

For files that are created or updated as a result of the **CopyIntoItems** (section [3.1.4.2](#)) or **CopyIntoItemsLocal** (section [3.1.4.3](#)) operations, the protocol server maintains the field for the source location in the metadata. The value of this field is set to the source location that was passed in the operation. [<2>](#)

The protocol server provides access control restrictions to files and metadata. If a protocol server implements access control restrictions, all of the operations that are provided by this protocol also take into account those restrictions while accessing the files.

Protocol servers provide the ability to mark some files as checked out. In this case, the copy operations take into account the checked-out status when accessing files at the destination locations.

Some locations on a protocol server can be part of a Meeting Workspace site. Although such locations are valid file locations, attempts to use such a location as a destination for a copy operation will fail. The protocol server can proceed with such an operation. For additional information, see section [3.1.4.2.1](#).

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
GetItem	Retrieves a file and metadata for that file from the source location.
CopyIntoItems	Copies a file to a destination server that is different from the source location.
CopyIntoItemsLocal	Copies a file when the destination of the operation is on the same protocol server as the source location.

3.1.4.1 GetItem

The **GetItem** operation retrieves content and metadata for a file that is stored in a source location.

```
<wsdl:operation name="GetItem">
  <wsdl:input message="tns:GetItemSoapIn" />
  <wsdl:output message="tns:GetItemSoapOut" />
</wsdl:operation>
```

The protocol client sends a **GetItemSoapIn** request message (section [3.1.4.1.1.1](#)) and the protocol server responds with a **GetItemSoapOut** response message (section [3.1.4.1.1.2](#)) as follows:

- The protocol client prepares a request with the source location to retrieve content and metadata for the file.
- The protocol server receives the request and provides the content and metadata for the file specified in the source location.

The protocol server returns results based on the following conditions:

- If the source location points to a different server or uses a different HTTP or HTTPS protocol, the protocol server **MUST** report a SOAP exception.
- If the source location does not point to an existing file on the protocol server, the protocol server **MUST** report a failure by omitting the **Fields** and **Stream** elements in the **GetItemResponse** element (section [3.1.4.1.2.2](#)).
- If the protocol server implements permission settings for files and the file at the source location cannot be read based on the permission settings for the file, the protocol server **MUST** report a failure by using HTTP Status-Code 401 Unauthorized, as defined in [\[RFC2616\]](#).
- If the source location points to an existing file in the source location and the file can be read based on the permission settings for the file, the source location **MUST** return the content and metadata of the file.

3.1.4.1.1 Messages

3.1.4.1.1.1 GetItemSoapIn

The **GetItemSoapIn** message is the request WSDL message for a **GetItem** WSDL operation (section [3.1.4.1](#)).

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

```
http://schemas.microsoft.com/sharepoint/soap/GetItem
```

The **SOAP body** contains a **GetItem** element (section [3.1.4.1.2.1](#)).

3.1.4.1.1.2 GetItemSoapOut

The **GetItemSoapOut** message is the response WSDL message for a **GetItem** WSDL operation.

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/GetItem
```

The SOAP body contains a **GetItemResponse** element (section [3.1.4.1.2.2](#)).

3.1.4.1.2 Elements

3.1.4.1.2.1 GetItem

The **GetItem** element specifies the request that the protocol client MUST send for the **GetItem** operation (section [3.1.4.1](#)).

```
<s:element name="GetItem">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="0" maxOccurs="1" name="Url" type="s:string" />
    </s:sequence>
  </s:complexType>
</s:element>
```

Url: The location of the file. The value of this element MUST be an absolute IRI for the file in the source location. This value MUST be a valid file location in the source location.

3.1.4.1.2.2 GetItemResponse

The **GetItemResponse** element specifies a protocol server response for the **GetItem** operation (section [3.1.4.1](#)). It contains content and metadata for the requested file.

```
<s:element name="GetItemResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1"
        name="GetItemResult" type="s:unsignedInt" />
      <s:element minOccurs="0" maxOccurs="1"
        name="Fields" type="tns:FieldInformationCollection" />
      <s:element minOccurs="0" maxOccurs="1"
        name="Stream" type="s:base64Binary" />
    </s:sequence>
  </s:complexType>
</s:element>
```

GetItemResult: The result of the operation. The protocol client MUST ignore this value. The protocol server MUST set this value to zero.

Fields: Specifies the collection of **FieldInformation** records that comprise the metadata for the file, as specified in section [2.2.4.5](#). If the **Fields** element is present, the **Stream** element MUST be present as well.

Stream: Specifies the base64-encoded content of the file. Base64 encoding is specified in [\[XMLSCHEMA2\]](#) section 3.2.16. For more information, see [\[RFC3548\]](#).

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 CopyIntoItems

The **CopyIntoItems** operation copies a file to the destination server. This operation can be used when the destination server is different from the source location.

```
<wsdl:operation name="CopyIntoItems">
  <wsdl:input message="tns:CopyIntoItemsSoapIn" />
  <wsdl:output message="tns:CopyIntoItemsSoapOut" />
</wsdl:operation>
```

The protocol client sends a **CopyIntoItemsSoapIn** request message (section [3.1.4.2.1.1](#)) and the protocol server responds with a **CopyIntoItemsSoapOut** response message (section [3.1.4.2.1.2](#)) as follows.

The protocol client prepares a request that contains the content of the file, the file metadata as a collection of fields, the source location from which the file is being copied, and the collection of destination locations on the destination server to which the file is to be copied.

The destination server proceeds with the operation by attempting to create new files or to update existing files at all of the locations that are specified in the destination locations collection.

The protocol server MUST report the status of the operation inside the **Results** collection (see section [3.1.4.2.2.2](#)) for each destination location that is passed. The **CopyResult** element in the **Results** collection MUST be in the same order as the items in the destination locations collection. The **DestinationUrl** attribute of the **CopyResult** element (section [2.2.4.2](#)) that corresponds to the destination location MUST be set to the value of the destination location.

If the protocol server detects a **Value** attribute that is not one of the valid values of the **FieldInformation** elements of the **Fields** collection (see section [3.1.4.2.1](#)), the protocol server MUST report a failure of the operation by setting the **ErrorCode** attribute to "Unknown" for each **CopyResult** element, and provide a **string** value that denotes the error in the **ErrorMessage** attribute. The validity of the value of a field is derived from the **Type** attribute value and varies according to the base type of the field. Base field types are defined in [\[MS-WSSTS\]](#) section 2.3.1.

- If the value of a field is empty and the base field type is "Integer", "Number", "Boolean", or "DateTime", the **Value** attribute MUST NOT be present.
- If the value of a field is empty and the base field type is something other than "Integer", "Number", "Boolean", or "DateTime", the **Value** attribute MUST either be present and have an empty value, or not be present. A protocol server MUST accept both choices as an empty value.
- If the field is not empty, the **Value** attribute MUST be present and contain a non-empty Unicode **string** that represents the value of the field.
- If the type is "DateTime", the value MUST be in the format of "yyyy-mm-dd" or "yyyy-mm-dd hh:mm:ss", or in the UTC format.

The protocol server MUST attempt to copy the file to all destination locations that are specified in the request.

If the file on the protocol server is checked out and cannot be updated, the protocol server MUST report a failure of the copy operation by setting the value of the **ErrorCode** attribute of the corresponding **CopyResult** element to "DestinationCheckedOut", and provide a **string** value that specifies the error in the **ErrorMessage** attribute.

If the destination location is part of a Meeting Workspace site, the protocol server MUST report a failure of the copy operation by setting the value of the **ErrorCode** attribute of the corresponding **CopyResult** element to "DestinationMWS", and provide a **string** value that specifies the error in the **ErrorMessage** attribute. The protocol server MAY proceed with the copy operation to the destination location.

The file that is created or updated as a result of the operation MUST have the same content as specified in the **Stream** element of the **CopyIntoItemsSoapIn** message. If the file cannot be created at the given destination location or the content of the file cannot be set to the value specified in the **Stream** element based on permission settings for example, the protocol server MUST report a failure for this destination location by setting the **ErrorCode** attribute of the corresponding **CopyResult** element to "Unknown" and provide a **string** value that describes the error in the **ErrorMessage** attribute.

The protocol server MUST attempt to update the metadata of the file that is created or updated as a result of the operation to match the metadata that is passed in the **Fields** element of the **CopyIntoItemsSoapIn** message. The field for the source location MUST be set to the value of **SourceUrl** element. Failure to set or update some or all of the fields MUST NOT be treated as a failure to copy the file and MUST be reported as success for the given destination location. [<3>](#)

For the **CopyIntoItemsLocal** method, see section [3.1.4.3](#).

3.1.4.2.1 Messages

3.1.4.2.1.1 CopyIntoItemsSoapIn

The **CopyIntoItemsSoapIn** message is the request WSDL message for a **CopyIntoItems** WSDL operation (section [3.1.4.2](#)).

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/CopyIntoItems
```

The SOAP body contains a **CopyIntoItems** element (section [3.1.4.2.2.1](#)).

3.1.4.2.1.2 CopyIntoItemsSoapOut

The **CopyIntoItemsSoapOut** message is the response WSDL message for a **CopyIntoItems** WSDL operation (section [3.1.4.2](#)).

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/CopyIntoItems
```

The SOAP body contains a **CopyIntoItemsResponse** element (section [3.1.4.2.2.2](#)).

3.1.4.2.2 Elements

3.1.4.2.2.1 CopyIntoItems

The **CopyIntoItems** element specifies the request that the protocol client **MUST** send for the **CopyIntoItems** operation (section [3.1.4.2](#)).

```
<s:element name="CopyIntoItems">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="0" maxOccurs="1" name="SourceUrl" type="s:string" />
      <s:element minOccurs="0" maxOccurs="1" name="DestinationUrls"
type="tns:DestinationUrlCollection" />
      <s:element minOccurs="0" maxOccurs="1" name="Fields"
type="tns:FieldInformationCollection" />
      <s:element minOccurs="0" maxOccurs="1" name="Stream" type="s:base64Binary" />
    </s:sequence>
  </s:complexType>
</s:element>
```

SourceUrl: The absolute IRI of the file in the source location. Handling of this element is defined in section [3.1.4.2](#).

DestinationUrls: A collection of locations on the destination server, as defined in section [2.2.4.1](#). Each entry in the collection **MUST** be a valid file location on the destination server.

Fields: Specifies a collection of **FieldInformation** records (section [2.2.4.4](#)) that comprise the metadata for the file, as specified in section [2.2.4.5](#). The protocol server **MUST** support an empty **Fields** collection by copying the destination stream, and by using implementation-specific default values for the metadata.

Stream: Specifies the base64-encoded content of the file. Base64 encoding is specified in [\[XMLSCHEMA2\]](#) section 3.2.16. For more information, see [\[RFC3548\]](#).

3.1.4.2.2 CopyIntoItemsResponse

The **CopyIntoItemsResponse** element specifies a protocol server response for the **CopyIntoItems** operation (section [3.1.4.2](#)). It contains a collection of results for each destination location that was passed to the protocol server in the **CopyIntoItems** request.

```
<s:element name="CopyIntoItemsResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="CopyIntoItemsResult" type="s:unsignedInt"
      />
      <s:element minOccurs="0" maxOccurs="1" name="Results" type="tns:CopyResultCollection"
      />
    </s:sequence>
  </s:complexType>
</s:element>
```

CopyIntoItemsResult: The result of the operation. The protocol client MUST ignore this value. The protocol server MUST set this value to zero ("0").

Results: A collection of **CopyResult** records, as specified in section [2.2.4.3](#). The collection MUST have exactly one record for each destination location that is passed into the request, as specified in section [3.1.4.2](#).

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 CopyIntoItemsLocal

The **CopyIntoItemsLocal** operation copies a file, and the associated metadata, from one location to one or more locations on the same protocol server.

The behavior of this operation is similar to that of the **CopyIntoItems** operation (section [3.1.4.2](#)). Specifications for the **CopyIntoItemsLocal** operation refer to specifications for the **CopyIntoItems** operation where the behavior is the same. Differences between the two operations are specified in this section.

The source location and the destination server refer to the same protocol server for this operation.

```
<wsdl:operation name="CopyIntoItemsLocal">
  <wsdl:input message="tns:CopyIntoItemsLocalSoapIn" />
  <wsdl:output message="tns:CopyIntoItemsLocalSoapOut" />
</wsdl:operation>
```

The protocol client sends a **CopyIntoItemsLocalSoapIn** request message (section [3.1.4.3.1.1](#)) and the protocol server responds with a **CopyIntoItemsLocalSoapOut** response message (section [3.1.4.3.1.2](#)) as follows:

- The protocol client prepares the request with the source location and the collection of destination locations to copy the file to.
- If the source or destination location does not point to an existing folder or the protocol client does not have permission to access the source file, the protocol server MUST report a failure by returning the **CopyResult** element (section [2.2.4.2](#)) with the **ErrorCode** attribute set to "Unknown" for all of the destination locations.
- If the source location does not point to an existing file, the protocol server MUST report a failure by returning the **CopyResult** element with the **ErrorCode** attribute set to "SourceInvalid" for all of the destination locations.
- If the source location points to a file whose permission setting does not allow access by the protocol client, the protocol server MUST report a failure by returning the **CopyResult** element with the **ErrorCode** attribute set to "SourceInvalid" for all of the destination locations.
- The protocol server retrieves the content and metadata for the file in the source location. The protocol server MUST use the content and metadata of the file for the copy operation.
- The protocol server MUST perform the copy operation for the file and construct a response, as specified in section [3.1.4.2](#).
- If the source location and the destination location refer to different protocol servers, or if the destination location points to a non-existing folder, the protocol server MUST report a failure by returning the **CopyResult** element with the **ErrorCode** attribute set to "DestinationInvalid".

Unless otherwise specified, the method behavior for the source IRI, content, fields, and destination locations for the **CopyItemsIntoLocal** operation is the same as the **CopyIntoItems** operation, as specified in section [3.1.4.2](#).<4>

3.1.4.3.1 Messages

3.1.4.3.1.1 CopyIntoItemsLocalSoapIn

The **CopyIntoItemsLocalSoapIn** message is the request WSDL message for a **CopyIntoItemsLocal** WSDL operation (section [3.1.4.3](#)).

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/CopyIntoItemsLocal
```

The SOAP body contains a **CopyIntoItemsLocal** element (section [3.1.4.3.2.1](#)).

3.1.4.3.1.2 CopyIntoItemsLocalSoapOut

The **CopyIntoItemsLocalSoapOut** message is the response WSDL message for a **CopyIntoItemsLocal** WSDL operation (section [3.1.4.3](#)).

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/CopyIntoItemsLocal
```

The SOAP body contains a **CopyIntoItemsLocalResponse** element (section [3.1.4.3.2.2](#)).

3.1.4.3.2 Elements

3.1.4.3.2.1 CopyIntoItemsLocal

The **CopyIntoItemsLocal** element specifies the request that the protocol client MUST send for the **CopyIntoItemsLocal** operation (section [3.1.4.3](#)).

```
<s:element name="CopyIntoItemsLocal">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="0" maxOccurs="1" name="SourceUrl" type="s:string" />
      <s:element minOccurs="0" maxOccurs="1" name="DestinationUrls"
type="tns:DestinationUrlCollection" />
    </s:sequence>
  </s:complexType>
</s:element>
```

SourceUrl: The location of the file in the source location. The value of the element MUST be an absolute IRI, and it MUST be a valid file location in the source location.

DestinationUrls: A collection of destination locations, as specified in section [2.2.4.1](#). Each entry in the collection MUST be a valid file location on the destination server.

3.1.4.3.2.2 CopyIntoItemsLocalResponse

The **CopyIntoItemsLocalResponse** element specifies a protocol server response for the **CopyIntoItemsLocal** operation (section [3.1.4.3](#)). It contains a collection of results for each destination location that was passed to the protocol server in the **CopyIntoItemsLocal** request.

```
<s:element name="CopyIntoItemsLocalResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="CopyIntoItemsLocalResult"
type="s:unsignedInt" />
      <s:element minOccurs="0" maxOccurs="1" name="Results" type="tns:CopyResultCollection"
/>
    </s:sequence>
  </s:complexType>
</s:element>
```

CopyIntoItemsLocalResult: The result of the **CopyIntoItemsLocal** operation. The client MUST ignore this value. The protocol server MUST set this value to zero ("0").

Results: The **CopyResultCollection**, as specified in section [2.2.4.3](#). The collection MUST have exactly one entry for each destination location that is passed in the request, as specified in section [3.1.4.2](#).

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.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

4.1 Successful CopyIntoItemsLocal Operation

In this example, the protocol client uses a **CopyIntoItemsLocal** operation (section [3.1.4.3](#)) to copy a file from one location to another location on the same protocol server. The name of the source location is "contoso". The source location is <http://contoso/CopySrc/Bitmap2.bmp> and the destination location is <http://contoso/CopyDst/CopyBitmap2.bmp>.

4.1.1 Request

The following is the request message that is sent by the protocol client.

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CopyIntoItemsLocal xmlns="http://schemas.microsoft.com/sharepoint/soap/">
      <SourceUrl>http://contoso/CopySrc/Bitmap2.bmp</SourceUrl>

      <DestinationUrls><string>http://contoso/CopyDst/CopyBitmap2.bmp</string></DestinationUrls>
    </CopyIntoItemsLocal>
  </soap:Body>
</soap:Envelope>
```

4.1.2 Response

The following is the response message that is sent by the protocol server.

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CopyIntoItemsLocalResponse xmlns="http://schemas.microsoft.com/sharepoint/soap/">
      <CopyIntoItemsLocalResult>0</CopyIntoItemsLocalResult>
      <Results>
        <CopyResult ErrorCode="Success"
          DestinationUrl="http://contoso/Copydst/CopyBitmap2.bmp" />
      </Results>
    </CopyIntoItemsLocalResponse>
  </soap:Body>
</soap:Envelope>
```

4.2 Unsuccessful Invocation of GetItem Operation

In this example, the protocol client cannot get information about a file in a specific location. The **GetItem** operation (section [3.1.4.1](#)) is unsuccessful because the file does not exist on the protocol server. Therefore, the response is a **GetItemResponse** element (section [3.1.4.1.2.2](#)) that contains only a **GetItemResult** element.

In this example, the name of the source location is "contoso". The location of the file is <http://contoso/Copysrcdl/NonExistent.txt>.

4.2.1 Request

The following is the request message that is sent by the protocol client.

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetItem xmlns="http://schemas.microsoft.com/sharepoint/soap/">
      <Url>http://contoso/Copysrcdl/NonExistent.txt</Url>
    </GetItem>
  </soap:Body>
</soap:Envelope>
```

4.2.2 Response

The following is the response message that is sent by the protocol server.

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetItemResponse xmlns="http://schemas.microsoft.com/sharepoint/soap/">
      <GetItemResult>0</GetItemResult>
    </GetItemResponse>
  </soap:Body>
</soap:Envelope>
```

4.3 Successful GetItem Operation

In this example, the protocol client successfully gets information about a file in a specific location by using a **GetItem** operation (section [3.1.4.1](#)), and copies that file to a location on another protocol server. The name of the source location is "contoso". The source location of the file is `http://contoso/Shared%20Documents/sample.txt`. The content of the file is: sample text.

4.3.1 Request

A request is sent to the protocol server with the host name "contoso", and the absolute IRI to the file is passed in the **Url** element of the **GetItem** element (section [3.1.4.1.2.1](#)).

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetItem xmlns="http://schemas.microsoft.com/sharepoint/soap/">
      <Url>http://contoso/Shared%20Documents/sample.txt</Url>
    </GetItem>
  </soap:Body>
</soap:Envelope>
```

4.3.2 Response

The **GetItemResponse** (section [3.1.4.1.2.2](#)) contains the stream for the file in the **Stream** element, and the collection of the fields of the file in the **Fields** element. The **GetItemsResult** element contains the value zero ("0"), which is ignored by the protocol client.

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetItemResponse xmlns="http://schemas.microsoft.com/sharepoint/soap/">
      <GetItemResult>0</GetItemResult>
      <Fields>
        <FieldInformation Type="Error" DisplayName="Content Type ID" InternalName="ContentTypeId"
Id="03e45e84-1992-4d42-9116-26f756012634" Value="0x0101001FCFE93C8BB928468474DAB020EFC264" />
        <FieldInformation Type="Note" DisplayName="Approver Comments"
InternalName="_ModerationComments" Id="34ad21eb-75bd-4544-8c73-0e08330291fe" />
        <FieldInformation Type="File" DisplayName="Name" InternalName="FileLeafRef" Id="8553196d-
ec8d-4564-9861-3dbe931050c8" Value="sample.txt" />
        <FieldInformation Type="DateTime" DisplayName="Created" InternalName="Created"
Id="8c06beca-0777-48f7-91c7-6da68bc07b69" Value="2/25/2008 3:21:18 PM" />
        <FieldInformation Type="User" DisplayName="Created By" InternalName="Author"
Id="1df5e554-ec7e-46a6-901d-d85a3881cb18" Value="84;#Syed Abbas" />
        <FieldInformation Type="DateTime" DisplayName="Modified" InternalName="Modified"
Id="28cf69c5-fa48-462a-b5cd-27b6f9d2bd5f" Value="2/25/2008 3:21:25 PM" />
        <FieldInformation Type="User" DisplayName="Modified By" InternalName="Editor"
Id="d31655d1-1d5b-4511-95a1-7a09e9b75bf2" Value="84;#Syed Abbas" />
        <FieldInformation Type="Text" DisplayName="Copy Source" InternalName="_CopySource"
Id="6b4e226d-3d88-4a36-808d-a129bf52bccf" />
        <FieldInformation Type="DateTime" DisplayName="Modified"
InternalName="Last_x0020_Modified" Id="173f76c8-aebd-446a-9bc9-769a2bd2c18f" Value="2/25/2008
3:21:25 PM" />
      </Fields>
      <Stream>c2FtcGx1IHRleHQuDQo=</Stream>
    </GetItemResponse>
  </soap:Body>
</soap:Envelope>
```

4.4 CopyIntoItems Operation

In this example, the protocol client uses the **CopyIntoItems** operation (section [3.1.4.2](#)) to copy a file, which was retrieved in the Successful GetItem Operation example in section [4.3](#), to another protocol server.

The name of the source location is "contoso". The name of the destination server is "contoso2". The location of the source file is <http://contoso/Shared%20Documents/sample.txt>. The values for the **Fields** element derive from the response outlined in the Successful GetItem Operation example in section [4.3](#). The content of the file is: sample text.

4.4.1 Request

The following is the request message that is sent by the protocol client.

```
<?xml version="1.0" encoding="utf-8"?>
```



```

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CopyIntoItems xmlns="http://schemas.microsoft.com/sharepoint/soap/">
      <SourceUrl>http://contoso/Shared%20Documents/sample.txt</SourceUrl>
      <DestinationUrls>
        <string>http://contoso2/Shared%20Documents/sample1.txt</string>
        <string>http://contoso2/Shared%20Documents/sample2.txt</string>
        <string>http://contoso2/NonExistent/sample.txt</string>
        <string>http://contoso2/mws/Document%20Library/sample.txt</string>
      </DestinationUrls>
      <Fields>
        <FieldInformation Type="Error" DisplayName="Content Type ID" InternalName="ContentTypeId"
Id="03e45e84-1992-4d42-9116-26f756012634" Value="0x0101001FCFE93C8BB928468474DAB020EFC264" />
        <FieldInformation Type="Note" DisplayName="Approver Comments"
InternalName="_ModerationComments" Id="34ad21eb-75bd-4544-8c73-0e08330291fe" />
        <FieldInformation Type="File" DisplayName="Name" InternalName="FileLeafRef" Id="8553196d-
ec8d-4564-9861-3dbe931050c8" Value="sample.txt" />
        <FieldInformation Type="DateTime" DisplayName="Created" InternalName="Created"
Id="8c06beca-0777-48f7-91c7-6da68bc07b69" Value="2/25/2008 3:21:18 PM" />
        <FieldInformation Type="User" DisplayName="Created By" InternalName="Author"
Id="1df5e554-ec7e-46a6-901d-d85a3881cbl8" Value="84;#Syed Abbas" />
        <FieldInformation Type="DateTime" DisplayName="Modified" InternalName="Modified"
Id="28cf69c5-fa48-462a-b5cd-27b6f9d2bd5f" Value="2/25/2008 3:21:25 PM" />
        <FieldInformation Type="User" DisplayName="Modified By" InternalName="Editor"
Id="d31655d1-1d5b-4511-95a1-7a09e9b75bf2" Value="84;#Syed Abbas" />
        <FieldInformation Type="Text" DisplayName="Copy Source" InternalName="_CopySource"
Id="6b4e226d-3d88-4a36-808d-a129bf52bccf" />
        <FieldInformation Type="DateTime" DisplayName="Modified"
InternalName="Last_x0020_Modified" Id="173f76c8-aebd-446a-9bc9-769a2bd2c18f" Value="2/25/2008
3:21:25 PM" />
      </Fields>
      <Stream>c2FtcGxlIHRleHQudQo=</Stream>
    </CopyIntoItems>
  </soap:Body>
</soap:Envelope>

```

4.4.2 Response

The protocol server sends a **CopyResult** response (section [2.2.4.2](#)) indicating success for the following destination locations:

- <http://contoso2/Shared%20Documents/sample1.txt>
- <http://contoso2/Shared%20Documents/sample2.txt>

For the destination URL <http://contoso2/NonExistent/sample.txt>, the operation generates the following error:

```
Unknown failure: Object reference not set to an instance of an object.
```

For the destination URL <http://contoso2/mws/Document%20Library/sample.txt>, the operation generates the following error:

```
DestinationMWS failure: The destination is in a Meeting Workspace site, which does not support this action.
```

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CopyIntoItemsResponse xmlns="http://schemas.microsoft.com/sharepoint/soap">
      <CopyIntoItemsResult>0</CopyIntoItemsResult>
      <Results>
        <CopyResult ErrorCode="Success"
DestinationUrl="http://contoso2/Shared%20Documents/sample1.txt" />
        <CopyResult ErrorCode="Success"
DestinationUrl="http://contoso2/Shared%20Documents/sample2.txt" />
        <CopyResult ErrorCode="Unknown" ErrorMessage="Object reference not set to an instance of
an object." DestinationUrl="http://contoso2/NonExistent/sample.txt" />
        <CopyResult ErrorCode="DestinationMWS" ErrorMessage="The destination is in a Meeting
Workspace site, which does not support this action."
DestinationUrl="http://contoso2/mws/Document%20Library/sample.txt" />
      </Results>
    </CopyIntoItemsResponse>
  </soap:Body>
</soap:Envelope>
```

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

Preliminary

6 Appendix A: Full WSDL

For ease of implementation, the full WSDL is provided in this section:

```
<?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:s1="http://microsoft.com/wSDL/types/" 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://microsoft.com/wSDL/types/" />
    <s:element name="CopyIntoItemsLocal">
      <s:complexType>
        <s:sequence>
          <s:element minOccurs="0" maxOccurs="1" name="SourceUrl" type="s:string" />
          <s:element minOccurs="0" maxOccurs="1" name="DestinationUrls"
type="tns:DestinationUrlCollection" />
        </s:sequence>
      </s:complexType>
    </s:element>
    <s:complexType name="DestinationUrlCollection">
      <s:sequence>
        <s:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
type="s:string" />
      </s:sequence>
    </s:complexType>
    <s:element name="CopyIntoItemsLocalResponse">
      <s:complexType>
        <s:sequence>
          <s:element minOccurs="1" maxOccurs="1" name="CopyIntoItemsLocalResult"
type="s:unsignedInt" />
          <s:element minOccurs="0" maxOccurs="1" name="Results"
type="tns:CopyResultCollection" />
        </s:sequence>
      </s:complexType>
    </s:element>
    <s:complexType name="CopyResultCollection">
      <s:sequence>
        <s:element minOccurs="0" maxOccurs="unbounded" name="CopyResult" nillable="true"
type="tns:CopyResult" />
      </s:sequence>
    </s:complexType>
    <s:complexType name="CopyResult">
      <s:attribute name="ErrorCode" type="tns:CopyErrorCode" use="required" />
      <s:attribute name="ErrorMessage" type="s:string" />
      <s:attribute name="DestinationUrl" type="s:string" use="required" />
    </s:complexType>
    <s:simpleType name="CopyErrorCode">
      <s:restriction base="s:string">
        <s:enumeration value="Success" />
        <s:enumeration value="DestinationInvalid" />
        <s:enumeration value="DestinationMWS" />
      </s:restriction>
    </s:simpleType>
  </s:schema>

```

```

    <s:enumeration value="SourceInvalid" />
    <s:enumeration value="DestinationCheckedOut" />
    <s:enumeration value="InvalidUrl" />
    <s:enumeration value="Unknown" />
  </s:restriction>
</s:simpleType>
<s:element name="CopyIntoItems">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="0" maxOccurs="1" name="SourceUrl" type="s:string" />
      <s:element minOccurs="0" maxOccurs="1" name="DestinationUrls"
type="tns:DestinationUrlCollection" />
      <s:element minOccurs="0" maxOccurs="1" name="Fields"
type="tns:FieldInformationCollection" />
      <s:element minOccurs="0" maxOccurs="1" name="Stream" type="s:base64Binary" />
    </s:sequence>
  </s:complexType>
</s:element>
<s:complexType name="FieldInformationCollection">
  <s:sequence>
    <s:element minOccurs="0" maxOccurs="unbounded" name="FieldInformation"
type="tns:FieldInformation" />
  </s:sequence>
</s:complexType>
<s:complexType name="FieldInformation">
  <s:attribute name="Type" type="tns:FieldType" use="required" />
  <s:attribute name="DisplayName" type="s:string" use="required"/>
  <s:attribute name="InternalName" type="s:string" use="required"/>
  <s:attribute name="Id" type="s1:guid" use="required"/>
  <s:attribute name="Value" type="s:string" />
</s:complexType>
<s:simpleType name="FieldType">
  <s:restriction base="s:string">
    <s:enumeration value="Invalid" />
    <s:enumeration value="Integer" />
    <s:enumeration value="Text" />
    <s:enumeration value="Note" />
    <s:enumeration value="DateTime" />
    <s:enumeration value="Counter" />
    <s:enumeration value="Choice" />
    <s:enumeration value="Lookup" />
    <s:enumeration value="Boolean" />
    <s:enumeration value="Number" />
    <s:enumeration value="Currency" />
    <s:enumeration value="URL" />
    <s:enumeration value="Computed" />
    <s:enumeration value="Threading" />
    <s:enumeration value="Guid" />
    <s:enumeration value="MultiChoice" />
    <s:enumeration value="GridChoice" />
    <s:enumeration value="Calculated" />
    <s:enumeration value="File" />
    <s:enumeration value="Attachments" />
    <s:enumeration value="User" />
    <s:enumeration value="Recurrence" />
    <s:enumeration value="CrossProjectLink" />
    <s:enumeration value="ModStat" />
    <s:enumeration value="AllDayEvent" />
    <s:enumeration value="Error" />
  </s:restriction>
</s:simpleType>

```

```

        </s:restriction>
    </s:simpleType>
    <s:element name="CopyIntoItemsResponse">
        <s:complexType>
            <s:sequence>
                <s:element minOccurs="1" maxOccurs="1" name="CopyIntoItemsResult"
type="s:unsignedInt" />
                <s:element minOccurs="0" maxOccurs="1" name="Results"
type="tns:CopyResultCollection" />
            </s:sequence>
        </s:complexType>
    </s:element>
    <s:element name="GetItem">
        <s:complexType>
            <s:sequence>
                <s:element minOccurs="0" maxOccurs="1" name="Url" type="s:string" />
            </s:sequence>
        </s:complexType>
    </s:element>
    <s:element name="GetItemResponse">
        <s:complexType>
            <s:sequence>
                <s:element minOccurs="1" maxOccurs="1" name="GetItemResult" type="s:unsignedInt"
/>
                <s:element minOccurs="0" maxOccurs="1" name="Fields"
type="tns:FieldInformationCollection" />
                <s:element minOccurs="0" maxOccurs="1" name="Stream" type="s:base64Binary" />
            </s:sequence>
        </s:complexType>
    </s:element>
</s:schema>
<s:schema elementFormDefault="qualified"
targetNamespace="http://microsoft.com/wsdl/types/">
    <s:simpleType name="guid">
        <s:restriction base="s:string">
            <s:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-
9a-fA-F]{12}" />
        </s:restriction>
    </s:simpleType>
</s:schema>
</wsdl:types>
<wsdl:message name="CopyIntoItemsLocalSoapIn">
    <wsdl:part name="parameters" element="tns:CopyIntoItemsLocal" />
</wsdl:message>
<wsdl:message name="CopyIntoItemsLocalSoapOut">
    <wsdl:part name="parameters" element="tns:CopyIntoItemsLocalResponse" />
</wsdl:message>
<wsdl:message name="CopyIntoItemsSoapIn">
    <wsdl:part name="parameters" element="tns:CopyIntoItems" />
</wsdl:message>
<wsdl:message name="CopyIntoItemsSoapOut">
    <wsdl:part name="parameters" element="tns:CopyIntoItemsResponse" />
</wsdl:message>
<wsdl:message name="GetItemSoapIn">
    <wsdl:part name="parameters" element="tns:GetItem" />
</wsdl:message>
<wsdl:message name="GetItemSoapOut">
    <wsdl:part name="parameters" element="tns:GetItemResponse" />
</wsdl:message>

```

```

<wsdl:portType name="CopySoap">
  <wsdl:operation name="CopyIntoItemsLocal">
    <wsdl:input message="tns:CopyIntoItemsLocalSoapIn" />
    <wsdl:output message="tns:CopyIntoItemsLocalSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="CopyIntoItems">
    <wsdl:input message="tns:CopyIntoItemsSoapIn" />
    <wsdl:output message="tns:CopyIntoItemsSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="GetItem">
    <wsdl:input message="tns:GetItemSoapIn" />
    <wsdl:output message="tns:GetItemSoapOut" />
  </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="CopySoap" type="tns:CopySoap">
  <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
  <wsdl:operation name="CopyIntoItemsLocal">
    <soap:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/CopyIntoItemsLocal" style="document"
/>
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="CopyIntoItems">
    <soap:operation soapAction="http://schemas.microsoft.com/sharepoint/soap/CopyIntoItems"
style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="GetItem">
    <soap:operation soapAction="http://schemas.microsoft.com/sharepoint/soap/GetItem"
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="CopySoap12" type="tns:CopySoap">
  <soap12:binding transport="http://schemas.xmlsoap.org/soap/http" />
  <wsdl:operation name="CopyIntoItemsLocal">
    <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/CopyIntoItemsLocal" style="document"
/>
    <wsdl:input>
      <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap12:body use="literal" />
    </wsdl:output>
  </wsdl:operation>

```

```
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="CopyIntoItems">
    <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/CopyIntoItems" style="document" />
    <wsdl:input>
      <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap12:body use="literal" />
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="GetItem">
    <soap12:operation soapAction="http://schemas.microsoft.com/sharepoint/soap/GetItem"
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:

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

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

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

[<1> Section 2.2.5.2:](#) The **ContentTypeID** field type in Windows SharePoint Services 3.0 and SharePoint Foundation 2010 map to the error field type. The **ContentTypeID** field type in SharePoint Foundation 2010 SP1 maps to the **Text** field type.

[<2> Section 3.1.1:](#) SharePoint Foundation 2010 maintains a field with the internal name **_CopySource** for all of the files that are stored in a **list (1)**. The initial value of this field is empty. During the **CopyIntoItems** or **CopyIntoItemsLocal** operations the protocol server sets the value of this field to the source location that is passed in the operation for each file that is created or updated during the operation.

[<3> Section 3.1.4.2:](#) Windows SharePoint Services 3.0 sets as many fields of the file, identified by **Display Name**, in the destination location as possible based on the collection of fields that are passed into the **CopyIntoItems** operation or are available on the file at the source location for a **CopyIntoItemsLocal** operation. Copy operations ignore the following fields:

- Fields that are computed based on the destination location
- Read-only fields
- Fields that are not allowed in the metadata of the files on the destination location

When a destination location in the **CopyIntoItems** operation (section [3.1.4.2](#)) is a malformed IRI, Windows SharePoint Services 3.0 and SharePoint Foundation 2010 returns an **ErrorCode** of "Success" instead of returning an **ErrorCode** of "InvalidUrl".

[<4> Section 3.1.4.3:](#) When a destination location in the **CopyIntoItemsLocal** operation (section [3.1.4.3](#)) is a malformed IRI, Windows SharePoint Services 3.0 and SharePoint Foundation 2010 returns an **ErrorCode** of "Unknown" with text indicating that the URL is not valid instead of returning an **ErrorCode** of "InvalidUrl".

8 Change Tracking

This section identifies changes that were made to the [MS-COPYS] 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.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
1 Introduction	Refined content.	N	Content updated.
3.1.4.1 GetItem	Added namespace prefix to the WSDL definition fragment.	N	Protocol syntax updated.
3.1.4.2 CopyIntoItems	Added namespace prefix to the WSDL definition fragment.	N	Protocol syntax updated.
6 Appendix A: Full WSDL	Modified the minOccurs attribute value for the GetItem element.	N	Protocol syntax updated.
	Added 3.1.4.x sections with content of 'None.'	N	New content added for template compliance.

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