

[MS-OXWSBTRF]:

Bulk Transfer Web Service Protocol

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1 Introduction

The Bulk Transfer Web Service Protocol enables a protocol client to export and upload streamed opaque item data between the server and the client.

Sections 1.5, 1.8, 1.9, 2, and 3 of this specification are normative. All other sections and examples in this specification are informative.

1.1 Glossary

This document uses the following terms:

endpoint: A communication port that is exposed by an application server for a specific shared service and to which messages can be addressed.

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

Hypertext Transfer Protocol Secure (HTTPS): An extension of HTTP that securely encrypts and decrypts web page requests. In some older protocols, "Hypertext Transfer Protocol over Secure Sockets Layer" is still used (Secure Sockets Layer has been deprecated). For more information, see [\[SSL3\]](#) and [\[RFC5246\]](#).

mailbox: A message store that contains email, calendar items, and other Message objects for a single recipient.

SOAP: A lightweight protocol for exchanging structured information in a decentralized, distributed environment. **SOAP** uses **XML** technologies to define an extensible messaging framework, which provides a message construct that can be exchanged over a variety of underlying protocols. The framework has been designed to be independent of any particular programming model and other implementation-specific semantics. SOAP 1.2 supersedes SOAP 1.1. See [\[SOAP1.2-1/2003\]](#).

SOAP action: The HTTP request header field used to indicate the intent of the **SOAP** request, using a URI value. See [\[SOAP1.1\]](#) section 6.1.1 for more information.

SOAP body: A container for the payload data being delivered by a **SOAP message** to its recipient. See [\[SOAP1.2-1/2007\]](#) section 5.3 for more information.

SOAP fault: A container for error and status information within a **SOAP message**. See [\[SOAP1.2-1/2007\]](#) section 5.4 for more information.

SOAP header: A mechanism for implementing extensions to a **SOAP message** in a decentralized manner without prior agreement between the communicating parties. See [\[SOAP1.2-1/2007\]](#) section 5.2 for more information.

SOAP message: An **XML** document consisting of a mandatory SOAP envelope, an optional **SOAP header**, and a mandatory **SOAP body**. See [\[SOAP1.2-1/2007\]](#) section 5 for more information.

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

Web Services Description Language (WSDL): An XML format for describing network services as a set of endpoints that operate on messages that contain either document-oriented or procedure-oriented information. The operations and messages are described abstractly and are bound to a concrete network protocol and message format in order to define an endpoint. Related concrete endpoints are combined into abstract endpoints, which describe a network service. WSDL is extensible, which allows the description of endpoints and their messages regardless of the message formats or network protocols that are used.

WSDL message: An abstract, typed definition of the data that is communicated during a WSDL operation [[WSDL](#)]. Also, an element that describes the data being exchanged between web service providers and clients.

WSDL port type: A named set of logically-related, abstract **Web Services Description Language (WSDL)** operations and messages.

XML: The Extensible Markup Language, as described in [[XML1.0](#)].

XML namespace: A collection of names that is used to identify elements, types, and attributes in XML documents identified in a URI reference [[RFC3986](#)]. A combination of XML namespace and local name allows XML documents to use elements, types, and attributes that have the same names but come from different sources. For more information, see [[XMLNS-2ED](#)].

XML schema: A description of a type of XML document that is typically expressed in terms of constraints on the structure and content of documents of that type, in addition to the basic syntax constraints that are imposed by **XML** itself. An XML schema provides a view of a document type at a relatively high level of abstraction.

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as defined in [[RFC2119](#)]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](#).

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information.

[MS-OXWSCDATA] Microsoft Corporation, "[Common Web Service Data Types](#)".

[MS-OXWSCORE] Microsoft Corporation, "[Core Items Web Service Protocol](#)".

[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.rfc-editor.org/rfc/rfc2616.txt>

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

[RFC3066] Alvestrand, H., "Tags for the Identification of Languages", BCP 47, RFC 3066, January 2001, <http://www.ietf.org/rfc/rfc3066.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/>

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

[XMLSCHEMA2] Biron, P.V., 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-OXDCLI] Microsoft Corporation, "[Autodiscover Publishing and Lookup Protocol](#)".

[MS-OXWSADISC] Microsoft Corporation, "[Autodiscover Publishing and Lookup SOAP-Based Web Service Protocol](#)".

1.3 Overview

Bulk data transfer enables clients and servers to move large amounts of information. This protocol enables clients to upload large streams of data to a **mailbox** server and download large streams of data from a mailbox server.

The upload and export data stream is an opaque format that only needs to be understood by a server implementation. The client only serves as a repository for the opaque data stream so that it can be uploaded to the server at a later time.

1.4 Relationship to Other Protocols

A client that implements this protocol can use the Autodiscover Publishing and Lookup SOAP-Based Web Service Protocol, as described in [\[MS-OXWSADISC\]](#), or the Autodiscover Publishing and Lookup Protocol, as described in [\[MS-OXDCLI\]](#), to identify the target **endpoint** to use for each operation.

This protocol uses the SOAP Protocol, as described in [\[SOAP1.1\]](#), to specify the structure information exchanged between the client and server. This protocol uses the **XML** Protocol, as described in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), to describe the message content sent to and from the server.

The Bulk Transfer 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.

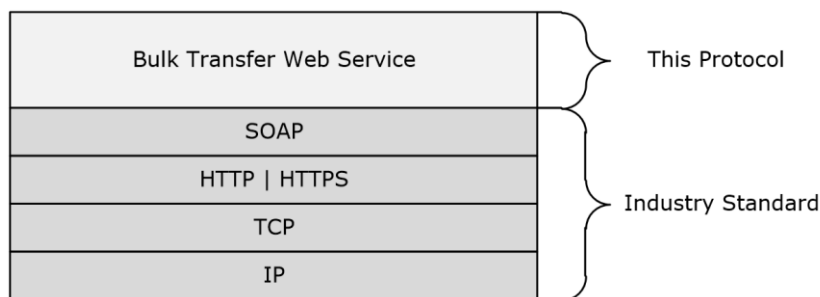


Figure 1: This protocol in relation to other protocols

For conceptual background information and overviews of the relationships and interactions between this and other protocols, see [\[MS-OXPROTO\]](#).

1.5 Prerequisites/Preconditions

The endpoint URL that is returned by either the Autodiscover Publishing Lookup SOAP-Based Web Service Protocol, as described in [\[MS-OXWSADISC\]](#), or the Autodiscover Publishing and Lookup

Protocol, as described in [\[MS-OXDCLI\]](#), is required to form the HTTP request to the Web server that hosts this protocol. The operations that this protocol defines cannot be accessed unless the correct endpoint is identified in the HTTP Web requests that target this protocol.

1.6 Applicability Statement

The protocol is applicable to environments that stream items into and out of a mailbox by using Web services. This protocol is intended for scenarios in which a mailbox server is backed up and restored, where accessing item content is not a requirement. This Web service protocol is applicable to SOAP-based clients [\[SOAP1.1\]](#).

1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This protocol uses SOAP 1.1, as specified in section [2.1](#).
- **Protocol Versions:** This protocol specifies only one **WSDL port type** version. The **WSDL** version of the request is identified by using the **t:RequestServerVersion** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.3.11, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.3.12.
- **Security and Authentication Methods:** This protocol relies on the Web server that is hosting it to perform authentication.
- **Capability Negotiation:** This protocol does not support version negotiation.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

In the following sections, the schema definition might differ from the processing rules imposed by the protocol. The WSDL in this specification provides a base description of the protocol. The schema in this specification provides a base description of the message syntax. The text that specifies the WSDL and schema might specify restrictions that reflect actual protocol behavior. For example, the schema definition might allow for an element to be **empty**, **null**, or **not present** but the behavior of the protocol as specified restricts the same elements to being **non-empty**, **not null**, or **present**.

2.1 Transport

The SOAP version used for this protocol is SOAP 1.1, as specified in [\[SOAP1.1\]](#).

This protocol relies on the **Web server** that hosts the application to perform authentication. The protocol **MUST** support SOAP over HTTP, as specified in [\[RFC2616\]](#). The protocol **SHOULD** use secure communications via HTTPS, as defined in [\[RFC2818\]](#).

2.2 Common Message Syntax

This section contains common definitions 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 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
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
tns	http://schemas.microsoft.com/exchange/services/2006/messages	
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
t	http://schemas.microsoft.com/exchange/services/2006/types	
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]
m	http://schemas.microsoft.com/exchange/services/2006/messages	
none	http://schemas.microsoft.com/exchange/services/2006/messages	
none	http://schemas.microsoft.com/exchange/services/2006/types	

2.2.2 Messages

This specification does not define any common **WSDL message** definitions.

2.2.3 Elements

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

2.2.4 Complex Types

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

2.2.5 Simple Types

This specification does not define any common XML schema simple types 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.

3.1 ExchangeServicePortType Server Details

The Bulk Transfer Web Service Protocol defines a single WSDL port type with two operations. The operations enable client implementations to import and export items to and from a mailbox.

3.1.1 Abstract Data Model

None.

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
ExportItems (section 3.1.4.1)	Specifies the WSDL messages for exporting items out of a mailbox.
UploadItems (section 3.1.4.2)	Specifies the WSDL messages for uploading items into a mailbox.

The data stream for the **UploadItems** operation is provided by previously exported item data streams provided by the **ExportItems** operation.

3.1.4.1 ExportItems

The **ExportItems** operation specifies the WSDL messages for exporting items out of a mailbox.

The following is the WSDL port type definition of the operation.

```
<wsdl:operation name="ExportItems">
  <wsdl:input message="tns:ExportItemsSoapIn"/>
  <wsdl:output message="tns:ExportItemsSoapOut"/>
</wsdl:operation>
```

The following is the WSDL binding specification of the operation. [<1>](#)

```
<wsdl:operation name="ExportItems">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/ExportItems" />
  <wsdl:input>
    <soap:header message="tns:ExportItemsSoapIn" part="Impersonation" use="literal"/>
```

```

    <soap:header message="tns:ExportItemsSoapIn" part="MailboxCulture" use="literal"/>
    <soap:header message="tns:ExportItemsSoapIn" part="RequestVersion" use="literal"/>
    <soap:header message="tns:ExportItemsSoapIn" part="ManagementRole" use="literal"/>
    <soap:body parts="request" use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="ExportItemsResult" use="literal" />
    <soap:header message="tns:ExportItemsSoapOut" part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>

```

3.1.4.1.1 Messages

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

Message	Description
ExportItemsSoapIn (section 3.1.4.1.1.1)	Specifies the SOAP message that represents a request to export items out of a mailbox.
ExportItemsSoapOut (section 3.1.4.1.1.2)	Specifies the SOAP message that represents a response that contains exported items.

3.1.4.1.1.1 tns:ExportItemsSoapIn Message

The **ExportItemsSoapIn** WSDL message specifies the SOAP message that represents a request to export items out of a mailbox.

The following is the **ExportItemsSoapIn** WSDL message specification.

```

<wsdl:message name="ExportItemsSoapIn">
  <wsdl:part name="request" element="tns:ExportItems"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
  <wsdl:part name="ManagementRole" element="t:ManagementRole"/>
</wsdl:message>

```

The **ExportItemSoapIn** WSDL message is the input message for the **SOAP action** <http://schemas.microsoft.com/exchange/services/2006/messages/ExportItem>.

The parts of the **ExportItemSoapIn** WSDL message are described in the following table.

Part name	Element/type	Description
request	tns:ExportItems (section 3.1.4.1.2.1)	Specifies the SOAP body of the request to export items. This part is required.
Impersonation	t:ExchangeImpersonation ([MS-OXWSCDATA] section 2.2.3.3)	Specifies a SOAP header that identifies the user whom the client application is impersonating. This part is optional.
MailboxCulture	t:MailboxCulture ([MS-OXWSCDATA] section 2.2.3.7)	Specifies a SOAP header that identifies the culture to use for accessing the server. The cultures are defined by [RFC3066] .
RequestVersion	t:RequestServerVersion ([MS-OXWSCDATA] section 2.2.3.11)	Specifies a SOAP header that identifies the schema version for the ExportItems operation

Part name	Element/type	Description
		request.
ManagementRole	t:ManagementRole ([MS-OXWSCDATA] section 2.2.3.8)	Specifies the SOAP header that identifies the caller's role. <2>

3.1.4.1.1.2 tns:ExportItemsSoapOut Message

The **ExportItemsSoapOut** WSDL message specifies the SOAP message that represents a response that contains exported items.

```
<wsdl:message name="ExportItemsSoapOut">
  <wsdl:part name="ExportItemsResult" element="tns:ExportItemsResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **ExportItemSoapOut** WSDL message is the output message for the SOAP action <http://schemas.microsoft.com/exchange/services/2006/messages/ExportItem>.

The parts of the **ExportItemsSoapOut** WSDL message are described in the following table.

Part name	Element/type	Description
ExportItemsResult	tns:ExportItemsResponse (section 3.1.4.1.2.2)	Specifies the SOAP body of the response.
ServerVersion	ServerVersion ([MS-OXWSCDATA] section 2.2.3.12)	Specifies the SOAP header that identifies the server version for the response.

If the request is successful, the **ExportItems** operation returns an **ExportItemsResponse** element with the **ResponseClass** attribute of the **ExportItemsResponseMessage** element set to "Success". The **ResponseCode** element of the **ExportItemsResponseMessage** element is set to "NoError".

If the request is unsuccessful, the **ExportItems** operation returns an **ExportItemsResponse** element with the **ResponseClass** attribute of the **ExportItemsResponseMessage** element set to "Error". The **ResponseCode** element of the **ExportItemsResponseMessage** element is set to a value of the **ResponseCodeType** simple type, as specified in [MS-OXWSCDATA] section 2.2.5.24.

3.1.4.1.2 Elements

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

Element	Description
ExportItems (section 3.1.4.1.2.1)	Specifies a request to export items from a mailbox.
ExportItemsResponse (section 3.1.4.1.2.2)	Specifies a response that contains exported items.

3.1.4.1.2.1 ExportItems Element

The **ExportItems** element specifies a request to export items. This element MUST be present.

```
<xs:element name="ExportItems"
```

```

    type="m:ExportItemsType"
  />

```

3.1.4.1.2.2 ExportItemsResponse Element

The **ExportItemsResponse** element specifies a response to a request to export items from a mailbox. This element MUST be present.

```

<xs:element name="ExportItemsResponse"
  type="m:ExportItemsResponseType"
 />

```

3.1.4.1.3 Complex Types

The following table lists the XML schema complex type definitions that are specific to this operation.

Complex type	Description
ExportItemsResponseMessageType (section 3.1.4.1.3.1)	Specifies a single exported item.
ExportItemsResponseType (section 3.1.4.1.3.2)	Specifies a response to export items from a mailbox.
ExportItemsType (section 3.1.4.1.3.3)	Specifies a request to export items out of a mailbox.
NonEmptyArrayOfItemIdsType (section 3.1.4.1.3.4)	Specifies the array of items to export from a mailbox.

3.1.4.1.3.1 m:ExportItemsResponseMessageType Complex Type

The **ExportItemsResponseMessageType** complex type specifies a single exported item. The **ExportItemsResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.67.

```

<xs:complexType name="ExportItemsResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
      <xs:sequence>
        <xs:element name="ItemId"
          type="t:ItemIdType"
          minOccurs="0"
          maxOccurs="1"
        />
        <xs:element name="Data"
          type="xs:base64Binary"
          minOccurs="0"
          maxOccurs="1"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

The following table lists the child elements of the **ExportItemsResponseMessageType** complex type.

Element	Type	Description
ItemId	t:ItemIdType ([MS-OXWSCORE] section 2.2.4.25)	Specifies the item identifier of a single exported item. This element MUST be present if the export operation is successful.
Data	xs:base64Binary ([XMLSCHEMA2])	Specifies the data of a single exported item. This element MUST be present if the export operation is successful.

3.1.4.1.3.2 ExportItemsResponseType Complex Type

The **ExportItemsResponseType** complex type specifies a response to export items from a mailbox. The **ExportItemsResponseType** complex type extends the **BaseResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.18.

```
<xs:complexType name="ExportItemsResponseType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseResponseMessageType"
      />
  </xs:complexContent>
</xs:complexType>
```

3.1.4.1.3.3 ExportItemsType Complex Type

The **ExportItemsType** complex type specifies a request to export items out of a mailbox. The **ExportItemsType** complex type extends the **BaseRequestType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.17.

```
<xs:complexType name="ExportItemsType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
      >
      <xs:sequence>
        <xs:element name="ItemIds"
          type="t:NonEmptyArrayOfItemIdsType"
          maxOccurs="1"
          minOccurs="1"
          />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

The following table lists the child elements of the **ExportItemsType** complex type.

Element	Type	Description
ItemIds	t:NonEmptyArrayOfItemIdsType (section 3.1.4.1.3.4)	Specifies the item identifier array of the items to export. This element MUST be present.

3.1.4.1.3.4 t:NonEmptyArrayOfItemIdsType Complex Type

The **NonEmptyArrayOfItemIdsType** complex type specifies the array of items to export from a mailbox.

```
<xs:complexType name="NonEmptyArrayOfItemIdsType">
  <xs:sequence>
    <xs:element name="ItemId"
      type="t:ItemIdType"
      maxOccurs="unbounded"
      minOccurs="1"
    />
  </xs:sequence>
</xs:complexType>
```

The following table lists the child elements of the **ExportItemsType** complex type.

Element	Type	Description
ItemId	t:ItemIdType ([MS-OXWSCORE] section 2.2.4.25)	Specifies the item identifier of an item to export from a mailbox. At least one ItemId element MUST be present. If the ChangeKey attribute of the ItemIdType complex type is present, its value MUST be either valid or NULL.

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 UploadItems

The **UploadItems** operation uploads items to a mailbox.

The following is the WSDL port type definition of the operation.

```
<wsdl:operation name="UploadItems">
  <wsdl:input message="tns:UploadItemsSoapIn"/>
  <wsdl:output message="tns:UploadItemsSoapOut"/>
</wsdl:operation>
```

The following is the WSDL binding specification of the operation.

```
<wsdl:operation name="UploadItems">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/UploadItems" />
  <wsdl:input>
    <soap:header message="tns:UploadItemsSoapIn" part="Impersonation" use="literal"/>
  </wsdl:input>
</wsdl:operation>
```



```

    <soap:header message="tns:UploadItemsSoapIn" part="MailboxCulture" use="literal"/>
    <soap:header message="tns:UploadItemsSoapIn" part="RequestVersion" use="literal"/>
    <soap:body parts="request" use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="UploadItemsResult" use="literal" />
    <soap:header message="tns:UploadItemsSoapOut" part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>

```

3.1.4.2.1 Messages

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

Message	Description
UploadItemsSoapIn (section 3.1.4.2.1.1)	Specifies the SOAP message that represents a request to upload items into a mailbox.
UploadItemsSoapOut (section 3.1.4.2.1.2)	Specifies the SOAP message that represents a response that contains the results of an attempt to upload items into a mailbox.

3.1.4.2.1.1 tns:UploadItemsSoapIn Message

The **UploadItemsSoapIn** WSDL message specifies the SOAP message that represents a request to upload items into a mailbox.

The following is the WSDL message specification of the **UploadItemsSoapIn** message.

```

<wsdl:message name="UploadItemsSoapIn">
  <wsdl:part name="request" element="tns:UploadItems"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>

```

The **UploadItemsSoapIn** WSDL message is the input message for the SOAP action <http://schemas.microsoft.com/exchange/services/2006/messages/UploadItems>.

The parts of the **UploadItemsSoapIn** WSDL message are described in the following table.

Part name	Element/type	Description
request	UploadItems (section 3.1.4.2.2.1)	Specifies the SOAP body of the request.
Impersonation	ExchangeImpersonation ([MS-OXWSCDATA] section 2.2.3.3)	Specifies a SOAP header that identifies the user whom the client application is impersonating. This part is optional.
MailboxCulture	MailboxCulture ([MS-OXWSCDATA] section 2.2.3.7)	Specifies the SOAP header that identifies the culture to use for accessing the server. The cultures are defined by [RFC3066] . This part is optional.
RequestVersion	RequestServerVersion ([MS-OXWSCDATA] section 2.2.3.11)	Specifies a SOAP header that identifies the schema version for the UploadItems operation request.

3.1.4.2.1.2 tns:UploadItemsSoapOut Message

The **UploadItemsSoapOut** WSDL message specifies the SOAP message that represents a response that contains the results of an attempt to upload items into a mailbox.

```
<wsdl:message name="UploadItemsSoapOut">
  <wsdl:part name="UploadItemsResult" element="tns:UploadItemsResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **UploadItemsSoapOut** WSDL message is the output message for the SOAP action <http://schemas.microsoft.com/exchange/services/2006/messages/UploadItems>.

The parts of the **UploadItemsSoapOut** WSDL message are described in the following table.

Part name	Element/type	Description
UploadItemsResult	UploadItemsResponse (section 3.1.4.2.2.2)	Specifies the SOAP body of the response to an UploadItems operation request.
ServerVersion	ServerVersion ([MS-OXWSCDATA] section 2.2.3.12)	Specifies the SOAP header that identifies the server version for the response.

If the request is successful, the **UploadItems** operation returns an **UploadItemsResponse** element with the **ResponseClass** attribute of the **UploadItemsResponseMessage** element set to "Success". The **ResponseCode** element of the **UploadItemsResponseMessage** element is set to "NoError".

If the request is unsuccessful, the **UploadItems** operation returns an **UploadItemsResponse** element with the **ResponseClass** attribute of the **UploadItemsResponseMessage** element set to "Error". The **ResponseCode** element of the **UploadItemsResponseMessage** element is set to a value of the **ResponseCodeType** simple type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.5.24.

3.1.4.2.2 Elements

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

Element	Description
UploadItems (section 3.1.4.2.2.1)	Specifies the request to upload items into a mailbox. This element MUST be present.
UploadItemsResponse (section 3.1.4.2.2.2)	Specifies the response to an attempt to upload items. This element MUST be present.

3.1.4.2.2.1 UploadItems Element

The **UploadItems** element specifies the request to upload items into a mailbox. This element MUST be present.

```
<xs:element name="UploadItems"
  type="m:UploadItemsType"
/>
```

3.1.4.2.2.2 UploadItemsResponse Element

The **UploadItemsResponse** element specifies the response to an attempt to upload items. This element **MUST** be present.

```
<xs:element name="UploadItemsResponse"
  type="m:UploadItemsResponseType"
/>
```

3.1.4.2.3 Complex Types

The following table lists the XML schema complex type definitions that are specific to this operation.

Complex type	Description
NonEmptyArrayOfUploadItemsType (section 3.1.4.2.3.1)	Specifies the array of items to upload into a mailbox.
UploadItemsResponseMessageType (section 3.1.4.2.3.2)	Specifies the item identifier of an item that was uploaded into a mailbox.
UploadItemsResponseType (section 3.1.4.2.3.3)	Specifies the response messages for items for which an attempt was made to upload into a mailbox.
UploadItemsType (section 3.1.4.2.3.4)	Specifies the contents of a request to upload items into a mailbox.
UploadItemType (section 3.1.4.2.3.5)	Specifies the contents of single item to upload into a mailbox.

3.1.4.2.3.1 t:NonEmptyArrayOfUploadItemsType Complex Type

The **NonEmptyArrayOfUploadItemsType** complex type specifies the array of items to upload into a mailbox.

```
<xs:complexType name="NonEmptyArrayOfUploadItemsType">
  <xs:sequence>
    <xs:element name="Item"
      type="t:UploadItemType"
      maxOccurs="unbounded"
      minOccurs="1"
    />
  </xs:sequence>
</xs:complexType>
```

The following table lists the child elements of the **NonEmptyArrayOfUploadItemsType** complex type.

Element	Type	Description
Item	t:UploadItemType (section 3.1.4.2.3.5)	Specifies the array of items to upload in to a mailbox. At least one Item element MUST be present.

3.1.4.2.3.2 m:UploadItemsResponseMessageType Complex Type

The **UploadItemsResponseMessageType** complex type specifies the item identifier of an item that was uploaded into a mailbox. The **UploadItemsResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.67.

```
<xs:complexType name="UploadItemsResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
      <xs:sequence>
        <xs:element name="ItemId"
          type="t:ItemIdType"
          minOccurs="0"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

The following table lists the child elements of the **UploadItemsResponseMessageType** complex type.

Element	Type	Description
ItemId	t:ItemIdType ([MS-OXWSCORE] section 2.2.4.25)	Specifies the item identifier of an item that was uploaded into a mailbox. Only a single instance of this element can be present.

3.1.4.2.3.3 m:UploadItemsResponseType Complex Type

The **UploadItemsResponseType** complex type specifies the response messages for which an attempt was made to update into a mailbox. The **UploadItemsResponseType** complex type extends the **BaseResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.18.

```
<xs:complexType name="UploadItemsResponseType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseResponseMessageType"
    />
  </xs:complexContent>
</xs:complexType>
```

3.1.4.2.3.4 m:UploadItemsType Complex Type

The **UploadItemsType** complex type specifies the contents of a request to upload items in to a mailbox. The **UploadItemsType** complex type extends the **BaseRequestType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.17.

```
<xs:complexType name="UploadItemsType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:sequence>
        <xs:element name="Items"
          type="t:NonEmptyArrayOfUploadItemsType"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

```

</xs:complexContent>
</xs:complexType>

```

The following table lists the child elements of the **UploadItemsType** complex type.

Element	Type	Description
Items	t:NonEmptyArrayOfUploadItemsType (section 3.1.4.2.3.1)	Specifies the collection of items to upload into a mailbox. This element MUST be present.

3.1.4.2.3.5 m:UploadItemType Complex Type

The **UploadItemType** complex type specifies the contents of a single item to upload in to a mailbox.

```

<xs:complexType name="UploadItemType">
  <xs:sequence>
    <xs:element name="ParentFolderId"
      type="t:FolderIdType"
      maxOccurs="1"
      minOccurs="1"
    />
    <xs:element name="ItemId"
      type="t:ItemIdType"
      maxOccurs="1"
      minOccurs="0"
    />
    <xs:element name="Data"
      type="xs:base64Binary"
      maxOccurs="1"
      minOccurs="1"
    />
  </xs:sequence>
  <xs:attribute name="CreateAction"
    type="t:CreateActionType"
    use="required"
  />
  <xs:attribute name="IsAssociated"
    type="xs:boolean"
  />
</xs:complexType>

```

The following table lists the child elements of the **UploadItemType** complex type.

Element	Type	Description
ParentFolderId	1. t:FolderIdType ([MS-OXWSCDATA] section 2.2.4.36)	Specifies the target folder in which to place the upload item. This element MUST be present.
2. ItemId	t:ItemIdType ([MS-OXWSCORE] section 2.2.4.25)	Specifies the item identifier of the upload item.
3. Data	xs:base64Binary ([XMLSCHEMA2])	Specifies the data of the upload item. This element MUST be present.

The following table lists the attributes of the **UploadItemType** complex type.

Name	Type	Description
CreateAction	t:CreateActionType (section 3.1.4.2.4.1)	Specifies the action for uploading items into a mailbox. This attribute MUST be present.
4. IsAssociated	xs:boolean ([XMLSCHEMA2])	This attribute is optional. If it is present, it indicates that the item is a folder associated item. If this attribute is not present, the server MUST assume that the item is not a folder associated item.

3.1.4.2.4 Simple Types

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

Simple type	Description
CreateActionType (section 3.1.4.2.4.1)	Specifies the action for uploading items into a mailbox.

3.1.4.2.4.1 CreateActionType Simple Type

The **CreateActionType** simple type specifies the action for uploading items into a mailbox.

```
<xs:simpleType>
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="CreateNew"
    />
    <xs:enumeration
      value="Update"
    />
    <xs:enumeration
      value="UpdateOrCreate"
    />
  </xs:restriction>
</xs:simpleType>
```

The following values are defined by the **CreateActionType** simple type:

Value	Description
CreateNew	Specifies that a new copy of the original item is uploaded to the mailbox. The <ItemId> element in the UploadItemType complex type, as specified in section 3.1.4.2.3.5 , MUST be ignored by the server. The <ItemId> element that is returned in the UploadItemsResponseMessageType complex type, as specified in section 3.1.4.2.3.2 , MUST contain the new item identifier.
Update	Specifies that the upload will update an item that is already present in the mailbox. The <ItemId> element in the UploadItemType complex type MUST be specified; otherwise, a SOAP fault MUST be returned. If the target item is not in the original folder specified by the <ParentFolderId> element in the UploadItemType complex type, an ErrorItemNotFound error code MUST be returned in the UploadItemsResponseMessageType complex type.

Value	Description
UpdateOrCreate	Specifies an attempt to first update the item. If the criteria for a successful update are met, the target item is updated. The <ItemId> element in the UploadItemType complex type MUST be specified; otherwise, a SOAP fault MUST be returned. If the target item is not in the original folder specified by the <ParentFolderId> element in the UploadItemType complex type, a new copy of the original item is uploaded to the mailbox associated with the folder specified by the <ParentFolderId> element. The <ItemId> element that is returned in the UploadItemsResponseMessageType complex type, as specified in section 3.1.4.2.3.2, MUST contain the new item identifier.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

This section provides a simplified example of a request-response sequence for the **ExportItems** operation, as specified in section [3.1.4.1](#).

The following example shows an **ExportItems** request to export three items.

```
<?xml version="1.0" encoding="utf-8" ?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
  xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages">
  <soap:Header>
    <t:RequestServerVersion Version="Exchange2013" />
  </soap:Header>
  <soap:Body>
    <m:ExportItems>
      <m:ItemIds>
        <t:ItemId Id="AAMkAGYzZjZmRiUsidkC+NAAAAY89GAAA="/>
        <t:ItemId Id="AAMkAGYzZjZmRiUsidkC+NAAAAY89FAAA="/>
        <t:ItemId Id="AAMkAGYzZjZmRiUsidkC+NAAAAY87NAAA="/>
      </m:ItemIds>
    </m:ExportItems>
  </soap:Body>
</soap:Envelope>
```

The following example shows an **ExportItems** response to the request to export three items. The item identifier and data have been shortened to preserve readability.

```
<?xml version="1.0" encoding="utf-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <t:ServerVersionInfo MajorVersion="14"
      MinorVersion="1"
      MajorBuildNumber="139"
      MinorBuildNumber="0"
      Version="Exchange2013"
      xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
      xmlns="http://schemas.microsoft.com/exchange/services/2006/types"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xmlns:xsd="http://www.w3.org/2001/XMLSchema"/>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <m:ExportItemsResponse
      xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
      xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types">
      <m:ResponseMessages>
        <m:ExportItemsResponseMessage ResponseClass="Success">
          <m:ResponseCode>NoError</m:ResponseCode>
          <m:ItemId Id="AAMkAGYzZjZmRiUsidkC+NAAAAY89GAAA=" ChangeKey="FwAAAA==" />
          <m:Data>AQAAAAGAAAAAAAAAALgBlAHgAdABlAHMAdAAuAG0AaQBjAHIAbwBzAG8AZgB0AC4A
            YwBvAG0AAABTAE0AVABQAAAAVQBzAGUAcgAyAEAAAYQB1AGoAaQBuAGcALQBkAG8AbQAuAGUA
            eAB0AGUAcwB0AC4AbQBpAGMAcgBvAHMAbwBmAHQALgBjAG8AbQAAALCE/jlMAAAAVQBzAGUA
            cgAyAEAAAYQB1AGoAaQBuAGcALQBkAG8AbQAuAGUAeAB0AGUAcwB0AC4AbQBpAGMAcgBvAHMA
            bwBmAHQALgBjAG8AbQAAAAAMAADkAAAAAAwD+DwYAAAAADAARAawACQAMADkA=</m:Data>
        </m:ExportItemsResponseMessage>
        <m:ExportItemsResponseMessage ResponseClass="Success">
          <m:ResponseCode>NoError</m:ResponseCode>
          <m:ItemId Id="AAMkAGYzZjZmRiUsidkC+NAAAAY89FAAA=" ChangeKey="FwAAAA==" />
          <m:Data>AQAAAAGAAAAAAAAAQAAMAAAAAYAAAAQAAAAcDAgAAAAAAwAAAAAAAEYAJACA
            QAAyAAAh9SpR08oBAwAEQAMAFkANABMOAwAAQAMAIQ4AAAAAsIQSN0oAAAAyAGEAYgAxADYA
            MQA2ADYALQBhAGUANQBkAC0ANAAyAGUAZgAtAGEANQA1ADkALQBjADgAQQAwdgANwBkADIA
```



```
MwBkADgANAAAAAMACzf////AwAgDmQEAAADAPcPAAAAEEABzBPMXstUdPKAUAAACDBPMXst
UdPKAQMABTcFAAAAAsIQONx4AAAABtAGUAcwBzAGEAZwB1AC8AcgBmAGMAOAAyADIAAACwhAEw
IgAAAE0AbwBzAHQAIABmAGEAcwBjAGkAbgBhAHQAaQBuaGcAAAACAfkPBAAAAAAAAAADAAFA
FABKZ3QrAAAAZF2mAwAXAAEAAAAcwhBoAEgAAAEkAUABNAC4ATgBvAHQAZQAAAAAMNgAAAAAA
sIQ3ACIAAABNAG8AcwB0ACAAZgBhAHMAYwBpAG4AYQB0AGkAbgBnAAAAQAA5AACq+za80coB
AgE7AGUAAABFWDovTz1GSVJTVCBPukdBTKlaQVRJT04vT1U9RVhDSEFOR0UgQURNSU5JU1RS
QVRJVkUgR1JpVVAgKEZZRElCT0hGMjNTUERMVckvQ049UkVDSVBJRU5UUy9DTj1VU0VST05F
ALCEPQACAAAAAAACAUeAfgAAAAAADcp0DIwEIQGrS5CAArL+GCAQAAAAAAAVTz1GSVJTV
VCBPukdBTKlaQVRJT04vT1U9RVhDSEFOR0UgQURNSU5JU1RSQVRJVkUgR1JpVVAgKEZZRElC
T0hGMjNTUERMVckvQ049UkVDSVBJRU5UUy9DTj1VU0VST05FALCEPQgAQAATAVQB</m:Data>
</m:ExportItemsResponseMessage>
<m:ExportItemsResponseMessage ResponseClass="Success">
  <m:ResponseCode>NoError</m:ResponseCode>
  <m:ItemId Id="AAMkAGYzZjZmRiUsidkC+NAAAAY87NAAA=" ChangeKey="CQAAAA==" />
  <m:Data>AQAAAAgAAAAAAAAAAQAAAAAMAAAYAAAAAQAAAAcDAgAAAAAwAAAAAAAAEYAJACA
BAAAAAYAAAABDouAAACAAAAEiAAAOSECEBbAAAAAL089Rk1SU1QgT1JHQU5JWkFUSU9OL09V
PUVYQ0hbTkdFIEFETU1OSVNNUkFUSVZFIEdSt1VQIChGWURJQk9IRjIzU1BETfQpL0NOPVJF
Q01QSUVVFMvQ049AAMAFwABAAAAsIQaABIAAABJFAATQAUAE4AbwB0AGUAAAAALACMAAAAL
ACkAAAADADYAAAAALCENwAyAAAASQBUAHQAZQBByAGUAcwB0AGkAbgBnACAALQAgAGYAcgBv
AG0AIABFAFcAUwBNAAEAAAABAADkAAHZeFxfRygECATsAZQAAAEVYOi9PPUZJU1NUIE9SR0FO
SVpBVElPTi9PVT1FWENIQU5HR5BBRE1JTk1TVFJBVElWRSBHUk9VUCAoR1lESUJpSEYyM1NQ
RExUKS9DTj1SRUNJUElFT1R1L0NOPVTRVJPTkUAsIQ9AAIAAAAAAIBPwB+AAAAAAAAANyn
QMjAqHAAAtLkIACsv4YIBAAAAAAAC9PPUZJU1NUIE9SR0FOSVpBVElPTi9PVT1FWENIQU5H
</m:Data>
</m:ExportItemsResponseMessage>
</m:ResponseMessages>
</m:ExportItemsResponse>
</s:Body>
</s:Envelope>
```

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

The XML files that are listed in the following table are required in order to implement the functionality described in this document.

File name	Description	Section
MS-OXWSBTRF.wsdl	Contains the WSDL for the implementation of this protocol.	6
MS-OXWSBTRF-messages.xsd	Contains the XML schema message definitions that are used in this protocol.	7.1
MS-OXWSBTRF-types.xsd	Contains the XML schema type definitions that are used in this protocol.	7.2

These files have to be placed in a common folder in order for the WSDL to validate and operate. Also, any schema files that are included in or imported into the MS-OXWSBTRF-types.xsd or MS-OXWSBTRF-messages.xsd schemas have to be placed in the common folder along with the files listed in the table.

This section contains the contents of the MS-OXWSBTRF.wsdl file.

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/messages"
  xmlns:wsd1="http://schemas.xmlsoap.org/wsdl/"
  xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
  targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
  <wsdl:types>
    <xs:schema id="messages"
      elementFormDefault="qualified"
      version="Exchange2016"
      xmlns:xs="http://www.w3.org/2001/XMLSchema"
      targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
      <xs:include schemaLocation="MS-OXWSBTRF-messages.xsd"/>
    </xs:schema>
  </wsdl:types>
  <wsdl:message name="UploadItemsSoapIn">
    <wsdl:part name="request" element="tns:UploadItems"/>
    <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
    <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
    <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
  </wsdl:message>
  <wsdl:message name="UploadItemsSoapOut">
    <wsdl:part name="UploadItemsResult" element="tns:UploadItemsResponse"/>
    <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
  </wsdl:message>
  <wsdl:message name="ExportItemsSoapIn">
    <wsdl:part name="request" element="tns:ExportItems"/>
    <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
    <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
    <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
    <wsdl:part name="ManagementRole" element="t:ManagementRole"/>
  </wsdl:message>
  <wsdl:message name="ExportItemsSoapOut">
    <wsdl:part name="ExportItemsResult" element="tns:ExportItemsResponse"/>
    <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
  </wsdl:message>
  <wsdl:portType name="ExchangeServicePortType">
    <wsdl:operation name="UploadItems">
      <wsdl:input message="tns:UploadItemsSoapIn"/>
      <wsdl:output message="tns:UploadItemsSoapOut"/>
    </wsdl:operation>
  </wsdl:portType>
</wsdl:definitions>
```

```

    <wsdl:operation name="ExportItems">
      <wsdl:input message="tns:ExportItemsSoapIn"/>
      <wsdl:output message="tns:ExportItemsSoapOut"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="ExchangeServiceBinding" type="tns:ExchangeServicePortType">
    <wsdl:documentation>
      <wsi:Claim conformsTo="http://ws-i.org/profiles/basic/1.0" xmlns:wsi="http://ws-
i.org/schemas/conformanceClaim/" />
    </wsdl:documentation>
    <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="UploadItems">
      <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/UploadItems"/>
      <wsdl:input>
        <soap:header message="tns:UploadItemsSoapIn" part="Impersonation" use="literal"/>
        <soap:header message="tns:UploadItemsSoapIn" part="MailboxCulture" use="literal"/>
        <soap:header message="tns:UploadItemsSoapIn" part="RequestVersion" use="literal"/>
        <soap:body parts="request" use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body parts="UploadItemsResult" use="literal"/>
        <soap:header message="tns:UploadItemsSoapOut" part="ServerVersion" use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="ExportItems">
      <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/ExportItems"/>
      <wsdl:input>
        <soap:header message="tns:ExportItemsSoapIn" part="Impersonation" use="literal"/>
        <soap:header message="tns:ExportItemsSoapIn" part="MailboxCulture" use="literal"/>
        <soap:header message="tns:ExportItemsSoapIn" part="RequestVersion" use="literal"/>
        <soap:header message="tns:ExportItemsSoapIn" part="ManagementRole" use="literal"/>
        <soap:body parts="request" use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body parts="ExportItemsResult" use="literal"/>
        <soap:header message="tns:ExportItemsSoapOut" part="ServerVersion" use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
</wsdl:definitions>

```

7 Appendix B: Full XML Schema

For ease of implementation, the following sections provide the full XML schema for this protocol.

Schema name	Prefix	Section
Messages schema	m:	7.1
Types schema	t:	7.2

These files have to be placed in a common folder in order for the WSDL to validate and operate. Also, any schema files that are included in or imported into the MS-OXWSBTRF-types.xsd or MS-OXWSBTRF-messages.xsd schemas have to be placed in the common folder along with the files listed in the table.

7.1 Messages Schema

This section contains the contents of the MS-OXWSBTRF-messages.xsd file and information about additional files that this schema file requires to operate correctly.

The MS-OXWSBTRF-messages.xsd includes the files listed in the following table. To operate correctly, this file has to be present in the folder that contains the WSDL, types schema, and messages schema files for this protocol.

File name	Defining specification
MS-OXWSBTRF-types.xsd	7.2
MS-OXWSCDATA-messages.xsd	[MS-OXWSCDATA] section 7.1

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="messages" elementFormDefault="qualified" version="Exchange2016"
xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
  <xs:import namespace="http://schemas.microsoft.com/exchange/services/2006/types"
schemaLocation="MS-OXWSBTRF-types.xsd"/>
  <xs:include schemaLocation="MS-OXWSCDATA-messages.xsd"/>
  <xs:complexType name="UploadItemsType">
    <xs:complexContent>
      <xs:extension base="m:BaseRequestType">
        <xs:sequence>
          <xs:element name="Items" type="t:NonEmptyArrayOfUploadItemsType"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="UploadItems" type="m:UploadItemsType"/>
  <xs:complexType name="UploadItemsResponseMessageType">
    <xs:complexContent>
      <xs:extension base="m:ResponseMessageType">
        <xs:sequence>
          <xs:element name="ItemId" type="t:ItemIdType" minOccurs="0"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="UploadItemsResponseType">
    <xs:complexContent>
      <xs:extension base="m:BaseResponseMessageType"/>
    </xs:complexContent>
  </xs:complexType>
</xs:schema>
```

```

<xs:element name="UploadItemsResponse" type="m:UploadItemsResponseType"/>
<xs:complexType name="ExportItemsType">
  <xs:complexContent>
    <xs:extension base="m:BaseRequestType">
      <xs:sequence>
        <xs:element name="ItemIds" type="t:NonEmptyArrayOfItemIdsType" minOccurs="1"
maxOccurs="1"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="ExportItems" type="m:ExportItemsType"/>
<xs:complexType name="ExportItemsResponseMessageType">
  <xs:complexContent>
    <xs:extension base="m:ResponseMessageType">
      <xs:sequence>
        <xs:element name="ItemId" type="t:ItemIdType" minOccurs="0" maxOccurs="1"/>
        <xs:element name="Data" type="xs:base64Binary" minOccurs="0" maxOccurs="1"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="ExportItemsResponseType">
  <xs:complexContent>
    <xs:extension base="m:BaseResponseMessageType"/>
  </xs:complexContent>
</xs:complexType>
<xs:element name="ExportItemsResponse" type="m:ExportItemsResponseType"/>
</xs:schema>

```

7.2 Types Schema

This section contains the contents of the MS-OXWSBTRF-types.xsd and information about additional files that this schema file requires to operate correctly.

MS-OXWSBTRF-types.xsd includes the file listed in the following table. To operate correctly, this file has to be present in the folder that contains the WSDL, types schema, and messages schema files for this protocol.

File name	Defining specification
MS-OXWSCDATA-types.xsd	[MS-OXWSCDATA] section 7.2

```

<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="types"
  elementFormDefault="qualified"
  version="Exchange2016"
  xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
  targetNamespace="http://schemas.microsoft.com/exchange/services/2006/types"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:include schemaLocation="MS-OXWSCDATA-types.xsd"/>
  <xs:complexType name="NonEmptyArrayOfUploadItemsType">
    <xs:sequence>
      <xs:element name="Item" type="t:UploadItemType" maxOccurs="unbounded" minOccurs="1"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="UploadItemType">
    <xs:sequence>
      <xs:element name="ParentFolderId" type="t:FolderIdType" maxOccurs="1" minOccurs="1"/>
      <xs:element name="ItemId" type="t:ItemIdType" maxOccurs="1" minOccurs="0"/>
      <xs:element name="Data" type="xs:base64Binary" maxOccurs="1" minOccurs="1"/>
    </xs:sequence>
    <xs:attribute name="CreateAction" type="t:CreateActionType" use="required"/>
    <xs:attribute name="IsAssociated" type="xs:boolean" use="optional"/>
  </xs:complexType>

```

```
<xs:simpleType name="CreateActionType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="CreateNew"/>
    <xs:enumeration value="Update"/>
    <xs:enumeration value="UpdateOrCreate"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="CompleteActionType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Commit"/>
    <xs:enumeration value="Abandon"/>
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="NonEmptyArrayOfItemIdsType">
  <xs:sequence>
    <xs:element name="ItemId" type="t:ItemIdType" maxOccurs="unbounded" minOccurs="1"/>
  </xs:sequence>
</xs:complexType>
</xs:schema>
```

8 Appendix C: 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.

- Microsoft Exchange Server 2010 Service Pack 1 (SP1)
- Microsoft Exchange Server 2013
- Microsoft Exchange Server 2016
- Microsoft SharePoint Server 2013
- Microsoft SharePoint Server 2016

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](#): Microsoft Exchange Server 2010 does not implement the **ManagementRole** part.

[<2> Section 3.1.4.1.1.1](#): Exchange 2010 does not implement the **ManagementRole** part.

9 Change Tracking

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

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