[MS-OXWSBTRF]:

Bulk Transfer Web Service Protocol

Intellectual Property Rights Notice for Open Specifications Documentation

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

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

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

Support. For questions and support, please contact dochelp@microsoft.com.

Revision Summary

Date	Revision History	Revision Class	Comments
5/5/2010	0.1.0	Major	Initial Release.
8/4/2010	0.2	Minor	Clarified the meaning of the technical content.
11/3/2010	0.2	None	No changes to the meaning, language, or formatting of the technical content.
3/18/2011	1.0	Major	Significantly changed the technical content.
8/5/2011	2.0	Major	Significantly changed the technical content.
10/7/2011	2.0	None	No changes to the meaning, language, or formatting of the technical content.
1/20/2012	3.0	Major	Significantly changed the technical content.
4/27/2012	3.0	None	No changes to the meaning, language, or formatting of the technical content.
7/16/2012	4.0	Major	Significantly changed the technical content.
10/8/2012	4.1	Minor	Clarified the meaning of the technical content.
2/11/2013	4.1	None	No changes to the meaning, language, or formatting of the technical content.
7/26/2013	4.1	None	No changes to the meaning, language, or formatting of the technical content.
11/18/2013	4.1	None	No changes to the meaning, language, or formatting of the technical content.
2/10/2014	4.1	None	No changes to the meaning, language, or formatting of the technical content.
4/30/2014	4.1	None	No changes to the meaning, language, or formatting of the technical content.
7/31/2014	4.1	None	No changes to the meaning, language, or formatting of the technical content.
10/30/2014	4.1	None	No changes to the meaning, language, or formatting of the technical content.
5/26/2015	5.0	Major	Significantly changed the technical content.
9/14/2015	6.0	Major	Significantly changed the technical content.
6/13/2016	7.0	Major	Significantly changed the technical content.
9/14/2016	7.0	None	No changes to the meaning, language, or formatting of the technical content.
7/24/2018	8.0	Major	Significantly changed the technical content.
10/1/2018	9.0	Major	Significantly changed the technical content.

Table of Contents

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, https://www.rfc-editor.org/rfc/rfc2119.html

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, https://www.rfc-editor.org/info/rfc2616

[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", W3C Note, May 2000, https://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, https://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, https://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, https://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, https://www.w3.org/TR/2001/REC-xmlschema-2-20010502/

1.2.2 Informative References

[MS-OXDSCLI] Microsoft Corporation, "Autodiscover Publishing and Lookup Protocol".

[MS-OXPROTO] Microsoft Corporation, "Exchange Server Protocols System Overview".

[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-OXDSCLI], 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.
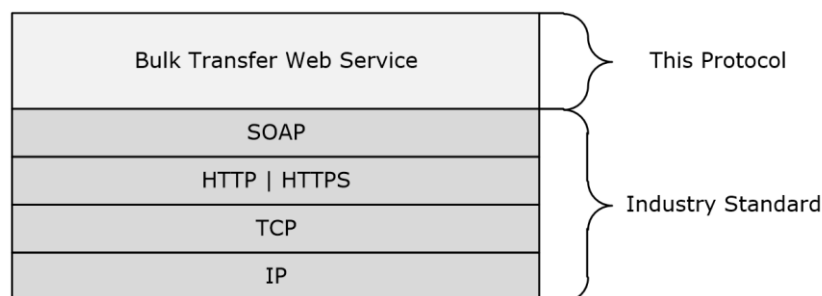
Figure 1: This protocol in relation to other protocols

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-OXDSCLI], 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 2.2.3.9, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [MS-OXWSCDATA] section 2.2.3.10.

- **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 2.2.3.6)	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 2.2.3.9)	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 2.2.3.7)	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 2.2.3.10)	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 2.2.4.65.

```
<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"/>
```

```
            <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 2.2.3.6)	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 2.2.3.9)	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 2.2.3.10)	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 2.2.4.65.

```
<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>
```

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 2.2.4.35)	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>AQAAAAgAAAAAAAAALgBlAHgAdABlAHMAdAAuAG0AaQBjAHIAbwBzAG8AZgB0AC4A
          YwBvAG0AAABTAE0AVABQAAAAVQBzAGUAcgAyAEAAYQB1AGoAaABuAGcALQBkAG8AbQQuAGUA
          eAB0AGUAcwB0AC4AbQBpAGMAcgBvAHMAbwBmAHQALgBjAG8AbQAAALCE/jlMAAAAAVQBzAGUA
          cgAyAEAAYQB1AGoAaABuAGcALQBkAG8AbQQuAGUAeAB0AGUAcwB0AC4AbQBpAGMAcgBvAHMA
          bwBmAHQALgBjAG8AbQAAAMAADkAAAAAwD+DwYAAADAARAAwACQAMADkA=</m:Data>
        </m:ExportItemsResponseMessage>
        <m:ExportItemsResponseMessage ResponseClass="Success">
          <m:ResponseCode>NoError</m:ResponseCode>
          <m:ItemId Id="AAMkAGYzZjZmRiUsidkC+NAAAAY89FAAA=" ChangeKey="FwAAAA=="/>
          <m:Data>AQAAAAgAAAAAAAAAQAAAAMAAAAYAAAAQAAAAcDAgAAAAAAwAAAAAAAAEYAJACA
          QAAyAAAh9SpR08oBAwAEQAMAAFkANABMOAwAAQAMAAIQ4AAAAAsIQSN0oAAAAyAGEAYgAxADYA
          MQA2ADYALQBhAGUANQBkAC0ANAAyAGUAZgAtAGEEANQA1ADkALQBjAGQgAOQAwADgANwBkAADIA
```

MwBkADgANAAAAAAMACzf//////AwAgDmQEAAADAPcPAAAAAEAABzBPMXstUdPKAUAACDBPMXst
UdPKAQMABTcFAAAAsIQONx4AAABtAGUAcwBzAGEAZwBlAC8AcgBmAGMAMOOAAyADIAAACwhAEw
IgAAAE0AbwBzAHQAIABmAGEAcwBjAGkAbgBhAHQAaQBuAGcAAAACAfkPBAAAAAAAAADAAFA
FABKZ3QrAAAAZF2mAwAXAAEAAACwhBoAEgAAAEkAUABNAC4ATgBvAHQAZQQAAAAMANgAAAAA
sIQ3ACIAAABNAG8AcwB0ACAAZgBhAHMAYwBpAG4AYQB0AGkAbgBnAAAAQAA5AACq+za80coB
AgE7AGUAAABFWDovTz1GSVJTVCBPUkdBTklaQVRJT04vT1U9RVhDSEFOR0UgQURNSU5JU1RS
QVRJVkUgR1JPVVAgKEZZRElCT0hGMjNTUERMVCkvQ049UkVDSVBJRU5UUy9DTj1VU0VST05F
ALCEPQACAAAAAAACAUEAfgAAAAAAADcp0DIwEIQGrS5CAArL+GCAQAAAAAAAAAvTz1GSVJT
VCBPUkdBTklaQVRJT04vT1U9RVhDSEFOR0UgQURNSU5JU1RSQVRJVkUgR1JPVVAgKEZZRElC
T0hGMjNTUERMVCkvQ049UkVDSVBJRU5UUy9DTj1VU0VST05FALCEQgAQAAAAVQB</m:Data>
          </m:ExportItemsResponseMessage>
          <m:ExportItemsResponseMessage ResponseClass="Success">
            <m:ResponseCode>NoError</m:ResponseCode>
            <m:ItemId Id="AAMkAGYzZjZmRiUsidkC+NAAAAY87NAAA=" ChangeKey="CQAAAA=="/>
            <m:Data>AQAAAgAAAAAAAAAAQAAAAMAAAAYAAAAAQAAAAcDAgAAAAAwAAAAAAAAEYAJACA
BAAAAAYAAAABDouAAAAACAAAAEiAAAOSECEBbAAAAL089Rk1SU1QgT1JHQU5JWkFUSU9OL09V
PUVYQ0hBTkdFIEFETUlOSVNUUkFUSVZFIEdST1VQIChGWURJQk9IRjIzU1BETFQpL0NOPVJF
Q0lQSUVORFMvQ049AAMAFwABAAAAsIQaABIAAABJAFAATQAuAE4AbwB0AGUAAAAALACMAAAAL
ACkAAAADADYAAAAALCENwAyAAAASQBuAHQAZQByAGUAcwB0AGkAbgBnAACAALQAgAGYAcgBv
AG0AIABFAFcAUwBNAEEAAAABAADkAAHZeFxfRygECATsAZQAAAEVYOi9PPUZJUlNUIE9SR0FO
SVpBVElPTi9PVT1FWENIQU5HRSBBRE1JTklTVFJBVElWRSBHUk9VUCAoRllESUJPSEYyM1NQ
RExUKS9DTj1SRUNJUElFTlRTL0NOPVVTRVJPTkUAsIQ9AAIAAAAAAAAAIBPwB+AAAAAAAANyn
QMjAQhAatLkIACsv4YIBAAAAAAAAAC9PPUZJUlNUIE9SR0FOSVpBVElPTi9PVT1FWENIQU5H
            </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:wsdl="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: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
<?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: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 updates to those products.

- Microsoft Exchange Server 2010 Service Pack 1 (SP1)

- Microsoft Exchange Server 2013

- Microsoft Exchange Server 2016

- Microsoft SharePoint Server 2013

- Microsoft SharePoint Server 2016

- Microsoft Exchange Server 2019

Exceptions, if any, are noted in this section. If an update version, service pack or Knowledge Base (KB) number appears with a product name, the behavior changed in that update. The new behavior also applies to subsequent updates 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

This section identifies changes that were made to this document since the last release. Changes are classified as Major, Minor, or None.

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.
- A document revision that captures changes to protocol functionality.

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 **None** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the relevant technical content is identical to the last released version.

The changes made to this document are listed in the following table. For more information, please contact dochelp@microsoft.com.

Section	Description	Revision class
8 Appendix C: Product Behavior	Updated list of supported products.	Major

10 Index