

# [MS-OXWSCONV]: Conversations Web Service Protocol Specification

---

## Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft's Open Specification Promise (available here: <http://www.microsoft.com/interop/osp>) or the Community Promise (available here: <http://www.microsoft.com/interop/cp/default.mspx>). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting [iplg@microsoft.com](mailto:iplg@microsoft.com).
- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights.
- **Fictitious Names.** The example companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

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

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

## Revision Summary

Date	Revision History	Revision Class	Comments
05/05/2010	0.1.0	Major	Initial Release.
08/04/2010	0.1.0	No change	No changes to the meaning, language, or formatting of the technical content.
11/03/2010	0.1.0	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	1.0	Major	Significantly changed the technical content.

# Table of Contents

<b>1 Introduction</b>	<b>5</b>
1.1 Glossary	5
1.2 References	5
1.2.1 Normative References	5
1.2.2 Informative References	6
1.3 Overview	6
1.4 Relationship to Other Protocols	6
1.5 Prerequisites/Preconditions	6
1.6 Applicability Statement	6
1.7 Versioning and Capability Negotiation	6
1.8 Vendor-Extensible Fields	7
1.9 Standards Assignments	7
<b>2 Messages</b>	<b>8</b>
2.1 Transport	8
2.2 Common Message Syntax	8
2.2.1 Namespaces	8
2.2.2 Messages	8
2.2.3 Elements	8
2.2.4 Complex Types	8
2.2.5 Simple Types	8
2.2.6 Attributes	9
2.2.7 Groups	9
2.2.8 Attribute Groups	9
2.2.9 Common Data Structures	9
<b>3 Protocol Details</b>	<b>10</b>
3.1 ExchangeServicePortType Server Details	10
3.1.1 Abstract Data Model	10
3.1.2 Timers	10
3.1.3 Initialization	10
3.1.4 Message Processing Events and Sequencing Rules	10
3.1.4.1 FindConversation	10
3.1.4.1.1 Messages	11
3.1.4.1.1.1 tns:FindConversationSoapIn Message	11
3.1.4.1.1.2 tns:FindConversationSoapOut Message	11
3.1.4.1.2 Elements	12
3.1.4.1.2.1 FindConversation Element	12
3.1.4.1.2.2 FindConversationResponse Element	12
3.1.4.1.3 Complex Types	12
3.1.4.1.3.1 t:ArrayOfConversationsType Complex Type	13
3.1.4.1.3.2 t:ArrayOfItemClassType Complex Type	13
3.1.4.1.3.3 t:ConversationType Complex Type	14
3.1.4.1.3.4 m:FindConversationType Complex Type	18
3.1.4.1.3.5 m:FindConversationResponseMessageType Complex Type	19
3.1.4.1.4 Simple Types	19
3.1.4.1.4.1 t:FlagStatusType Simple Type	20
3.1.4.2 ApplyConversationAction	20
3.1.4.2.1 Messages	21
3.1.4.2.1.1 tns:ApplyConversationActionSoapIn Message	21

3.1.4.2.1.2	tns:ApplyConversationActionSoapOut Message.....	21
3.1.4.2.2	Elements.....	22
3.1.4.2.2.1	ApplyConversationAction Element.....	22
3.1.4.2.2.2	ApplyConversationActionResponse Element .....	22
3.1.4.2.3	Complex Types .....	22
3.1.4.2.3.1	m:ApplyConversationActionResponseType Complex Type .....	23
3.1.4.2.3.2	m:ApplyConversationActionType Complex Type.....	23
3.1.4.2.3.3	ConversationActionType Complex Type .....	24
3.1.4.2.3.4	t:NonEmptyArrayOfApplyConversationActionType Complex Type .....	26
3.1.4.2.4	Simple Types.....	26
3.1.4.2.4.1	t:ConversationActionTypeType Simple Type .....	27
3.1.5	Timer Events .....	27
3.1.6	Other Local Events .....	28
<b>4</b>	<b>Protocol Examples.....</b>	<b>29</b>
<b>5</b>	<b>Security.....</b>	<b>31</b>
5.1	Security Considerations for Implementers.....	31
5.2	Index of Security Parameters .....	31
<b>6</b>	<b>Appendix A: Full WSDL.....</b>	<b>32</b>
6.1	WSDL.....	32
6.2	Messages Schema.....	34
6.3	Types Schema.....	35
<b>7</b>	<b>Appendix B: Product Behavior.....</b>	<b>38</b>
<b>8</b>	<b>Change Tracking.....</b>	<b>39</b>
<b>9</b>	<b>Index .....</b>	<b>41</b>

# 1 Introduction

This document specifies the Conversations Web Service Protocol, which is used to find items in a conversation and apply actions to items in a conversation.

Sections 1.8, 2, and 3 of this specification are normative and contain RFC 2119 language. Section 1.5 and 1.9 are also normative but cannot contain RFC 2119 language. All other sections and examples in this specification are informative.

## 1.1 Glossary

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

### **Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**

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

**mailbox**  
**SOAP message**  
**Web Services Description Language (WSDL)**  
**WSDL message**  
**WSDL port type**

The following terms are specific to this document:

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

## 1.2 References

### 1.2.1 Normative References

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

[MS-OXWSCDATA] Microsoft Corporation, "[Common Web Service Data Types](#)", July 2009.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.ietf.org/rfc/rfc2119.txt>

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.ietf.org/rfc/rfc2818.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] World Wide Web Consortium, "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation 8 December 2009, <http://www.w3.org/TR/REC-xml-names/>

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

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

## 1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)", March 2007.

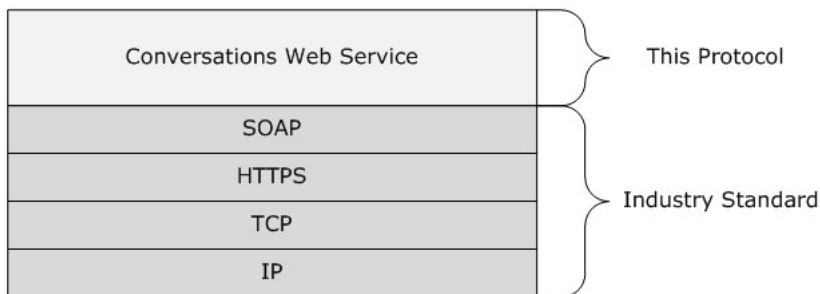
[MS-OXGLOS] Microsoft Corporation, "[Exchange Server Protocols Master Glossary](#)", April 2008.

## 1.3 Overview

Conversations are a way to organize related e-mail messages in a **mailbox** based on the subject of the messages. Accessing messages based on the message subject allows servers and clients to manage more message items with fewer actions. The Conversations Web Service Protocol enables clients to find message items that are grouped into conversations and then manage the grouped items with a single operation.

## 1.4 Relationship to Other Protocols

The Conversations Web Service Protocol uses SOAP [\[SOAP1.1\]](#) over **HTTPS** [\[RFC2818\]](#), as shown in the following diagram.



**Figure 1: Conversations Web Service Protocol HTTPS stack**

## 1.5 Prerequisites/Preconditions

None.

## 1.6 Applicability Statement

The protocol is applicable to environments that use Web services to implement conversations in a user's mailbox. 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.

- **Security and Authentication Methods:** This protocol relies on the Web server that is hosting it to perform authentication.
- Capability Negotiation: None.

## **1.8 Vendor-Extensible Fields**

None.

## **1.9 Standards Assignments**

None.

## 2 Messages

### 2.1 Transport

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

### 2.2 Common Message Syntax

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

#### 2.2.1 Namespaces

This specification defines and references various XML namespaces by using the mechanisms 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	<a href="http://schemas.xmlsoap.org/wsdl/soap/">http://schemas.xmlsoap.org/wsdl/soap/</a>	<a href="#">[SOAP1.1]</a>
tns	<a href="http://schemas.microsoft.com/exchange/services/2006/messages">http://schemas.microsoft.com/exchange/services/2006/messages</a>	
wsdl	<a href="http://schemas.xmlsoap.org/wsdl/">http://schemas.xmlsoap.org/wsdl/</a>	<a href="#">[WSDL]</a>
t	<a href="http://schemas.microsoft.com/exchange/services/2006/types">http://schemas.microsoft.com/exchange/services/2006/types</a>	
xs	<a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a>	<a href="#">[XMLSCHEMA1]</a>
m	<a href="http://schemas.microsoft.com/exchange/services/2006/messages">http://schemas.microsoft.com/exchange/services/2006/messages</a>	
none	<a href="http://schemas.microsoft.com/exchange/services/2006/messages">http://schemas.microsoft.com/exchange/services/2006/messages</a>	
none	<a href="http://schemas.microsoft.com/exchange/services/2006/types">http://schemas.microsoft.com/exchange/services/2006/types</a>	

#### 2.2.2 Messages

This specification does not define any common 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 type definitions.



### **2.2.6 Attributes**

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

### **2.2.7 Groups**

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

### **2.2.8 Attribute Groups**

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

### **2.2.9 Common Data Structures**

This specification does not define any common data structure 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 Conversations Web Service Protocol defines a single WSDL port type.

Operation	Description
<a href="#">ApplyConversationAction</a>	Specifies the <b>WSDL message</b> for applying conversation actions.
<a href="#">FindConversation</a>	Specifies the WSDL message for finding conversations.

#### 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 **WSDL** operations that are defined by this specification.

Operation	Description
<b>ApplyConversationAction</b> (section <a href="#">3.1.4.2</a> )	Specifies the WSDL messages for applying conversation actions.
<b>FindConversation</b> (section <a href="#">3.1.4.1</a> )	Specifies the WSDL messages for finding conversations.

##### 3.1.4.1 FindConversation

The **FindConversation** operation finds conversations in a mailbox.

```
<wsdl:operation name="FindConversation">
  <wsdl:input message="tns:FindConversationSoapIn"/>
  <wsdl:output message="tns:FindConversationSoapOut"/>
</wsdl:operation>
```

Request

Message format	Description
<a href="#">tns:FindConversationSoapIn</a>	Specifies the <b>SOAP message</b> that represents a request for a collection of conversations.

Response

Message format	Description
<a href="#">tns:FindConversationSoapOut</a>	Specifies the SOAP message that contains a collection of conversations.

### 3.1.4.1.1 Messages

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

Message	Description
<b>FindConversationSoapIn</b> (section <a href="#">3.1.4.1.1.1</a> )	Specifies the SOAP message that represents a request for a collection of conversations.
<b>FindConversationSoapOut</b> (section <a href="#">3.1.4.1.1.2</a> )	Specifies the SOAP message that contains a collection of conversations.

#### 3.1.4.1.1.1 tns:FindConversationSoapIn Message

The **FindConversationSoapIn** message specifies the SOAP message that represents a request for a collection of conversations.

```
<wsdl:message name="FindConversationSoapIn">
  <wsdl:part name="request" element="tns:FindConversation"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
```

The **FindConversationSoapIn** message contains three parts, as described in the following table.

Part name	Element/type	Description
<b>request</b>	<FindConversation> (section <a href="#">3.1.4.1.2.1</a> )	Specifies the SOAP body of the request.
<b>Impersonation</b>	<b>ExchangeImpersonation</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.2)	Specifies the identifier of the account to impersonate.
<b>RequestVersion</b>	<b>RequestServerVersion</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.7)	Specifies the target schema version.

#### 3.1.4.1.1.2 tns:FindConversationSoapOut Message

The **FindConversationSoapOut** message specifies the SOAP message that contains a collection of conversations.

```

<wsdl:message name="FindConversationSoapOut">
  <wsdl:part name="FindConversationResult" element="tns:FindConversationResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>

```

The **FindConversationSoapOut** message contains two parts, as described in the following table.

Part name	Element/type	Description
<b>FindConversationResult</b>	<b>FindConversationResponse</b> (section <a href="#">3.1.4.1.2.2</a> )	Specifies the SOAP body of the response.
<b>ServerVersion</b>	<b>ServerVersion</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.8)	Specifies the server version.

### 3.1.4.1.2 Elements

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

Element	Description
<b>FindConversation</b> (section <a href="#">3.1.4.1.2.1</a> )	Specifies a request to find conversations in a mailbox.
<b>FindConversationResponse</b> (section <a href="#">3.1.4.1.2.2</a> )	Specifies a response that contains a set of conversations found in a mailbox.

#### 3.1.4.1.2.1 FindConversation Element

The **FindConversation** element specifies a request to find conversations in a mailbox.

```

<xs:element name="FindConversation"
  type="m:FindConversationType"
/>

```

#### 3.1.4.1.2.2 FindConversationResponse Element

The **FindConversationResponse** element specifies a response with the results of an attempt to find a conversation in a mailbox.

```

<xs:element name="FindConversationResponse"
  type="m:FindConversationResponseMessageType"
/>

```

### 3.1.4.1.3 Complex Types

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

Complex type	Description
<b>ArrayOfConversationsType</b> (section <a href="#">3.1.4.1.3.1</a> )	Specifies an array of conversations that are returned in the response.
<b>ArrayOfItemClassType</b> (section <a href="#">3.1.4.1.3.2</a> )	Specifies an array of unique item classes that are used by the set of items in the conversation.
<b>ConversationType</b> (section <a href="#">3.1.4.1.3.3</a> )	Specifies a single conversation.
<b>FindConversationType</b> (section <a href="#">3.1.4.1.3.4</a> )	Specifies the search options to use when searching for conversations.
<b>FindConversationResponseMessageType</b> (section <a href="#">3.1.4.1.3.5</a> )	Specifies the results of an attempt to find conversations in a folder.

### 3.1.4.1.3.1 t:ArrayOfConversationsType Complex Type

The **ArrayOfConversationsType** complex type specifies an array of conversations that are returned in the response.

```
<xs:complexType name="ArrayOfConversationsType">
  <xs:choice
    minOccurs="0"
    maxOccurs="unbounded"
  >
    <xs:element name="Conversation"
      type="t:ConversationType"
    />
  </xs:choice>
</xs:complexType>
```

Child Elements

Element	Type	Description
<b>Conversation</b>	<a href="#">t:ConversationType</a>	Specifies a single conversation.

### 3.1.4.1.3.2 t:ArrayOfItemClassType Complex Type

The **ArrayOfItemClassType** complex type specifies an array of unique item classes.

```
<xs:complexType name="ArrayOfItemClassType">
  <xs:choice
    minOccurs="0"
    maxOccurs="unbounded"
  >
    <xs:element name="ItemClass"
      type="t:ItemClassType"
    />
  </xs:choice>
</xs:complexType>
```

## Child Elements

Element	Type	Description
ItemClass	<a href="#">t:ItemClassType</a>	Specifies a unique item class.

### 3.1.4.1.3.3 t:ConversationType Complex Type

The **ConversationType** complex type specifies a single conversation.

```
<xs:complexType name="ConversationType">
  <xs:sequence>
    <xs:element name="ConversationId"
      type="t:ItemIdType"
      minOccurs="0"
    />
    <xs:element name="ConversationTopic"
      type="xs:string"
      minOccurs="0"
    />
    <xs:element name="UniqueRecipients"
      type="t:ArrayOfStringsType"
      minOccurs="0"
    />
    <xs:element name="GlobalUniqueRecipients"
      type="t:ArrayOfStringsType"
      minOccurs="0"
    />
    <xs:element name="UniqueUnreadSenders"
      type="t:ArrayOfStringsType"
      minOccurs="0"
    />
    <xs:element name="GlobalUniqueUnreadSenders"
      type="t:ArrayOfStringsType"
      minOccurs="0"
    />
    <xs:element name="UniqueSenders"
      type="t:ArrayOfStringsType"
      minOccurs="0"
    />
    <xs:element name="GlobalUniqueSenders"
      type="t:ArrayOfStringsType"
      minOccurs="0"
    />
    <xs:element name="LastDeliveryTime"
      type="xs:dateTime"
      minOccurs="0"
    />
    <xs:element name="GlobalLastDeliveryTime"
      type="xs:dateTime"
      minOccurs="0"
    />
    <xs:element name="Categories"
      type="t:ArrayOfStringsType"
      minOccurs="0"
    />
    <xs:element name="GlobalCategories"
      type="t:ArrayOfStringsType"
    />
  </xs:sequence>
</xs:complexType>
```

```

    minOccurs="0"
  />
<xs:element name="FlagStatus"
  type="t:FlagStatusType"
  minOccurs="0"
 />
<xs:element name="GlobalFlagStatus"
  type="t:FlagStatusType"
  minOccurs="0"
 />
<xs:element name="HasAttachments"
  type="xs:boolean"
  minOccurs="0"
 />
<xs:element name="GlobalHasAttachments"
  type="xs:boolean"
  minOccurs="0"
 />
<xs:element name="MessageCount"
  type="xs:int"
  minOccurs="0"
 />
<xs:element name="GlobalMessageCount"
  type="xs:int"
  minOccurs="0"
 />
<xs:element name="UnreadCount"
  type="xs:int"
  minOccurs="0"
 />
<xs:element name="GlobalUnreadCount"
  type="xs:int"
  minOccurs="0"
 />
<xs:element name="Size"
  type="xs:int"
  minOccurs="0"
 />
<xs:element name="GlobalSize"
  type="xs:int"
  minOccurs="0"
 />
<xs:element name="ItemClasses"
  type="t:ArrayOfItemClassType"
  minOccurs="0"
 />
<xs:element name="GlobalItemClasses"
  type="t:ArrayOfItemClassType"
  minOccurs="0"
 />
<xs:element name="Importance"
  type="t:ImportanceChoicesType"
  minOccurs="0"
 />
<xs:element name="GlobalImportance"
  type="t:ImportanceChoicesType"
  minOccurs="0"
 />
<xs:element name="ItemIds"

```

```

        type="t:NonEmptyArrayOfBaseItemIdsType"
        minOccurs="0"
    />
    <xs:element name="GlobalItemIds"
        type="t:NonEmptyArrayOfBaseItemIdsType"
        minOccurs="0"
    />
</xs:sequence>
</xs:complexType>

```

## Child Elements

Element	Type	Description
<b>ConversationId</b>	<a href="#">t:ItemIdType</a>	Specifies the conversation identifier.
<b>ConversationTopic</b>	<a href="#">xs:string</a>	Specifies the conversation topic.
<b>UniqueRecipients</b>	<a href="#">t:ArrayOfStringsType</a>	Specifies the list of all the people who have received messages in this conversation for messages in the current folder.
<b>GlobalUniqueRecipients</b>	<b>t:ArrayOfStringsType</b>	Specifies a list of all the people who have received messages in this conversation across all folders in the mailbox.
<b>UniqueUnreadSenders</b>	<b>t:ArrayOfStringsType</b>	Specifies a list of all the people who have sent messages that are currently unread in this conversation in the current folder.
<b>GlobalUniqueUnreadSenders</b>	<b>t:ArrayOfStringsType</b>	Specifies a list of all the people who have sent messages that are currently unread in this conversation across all folders in the mailbox.
<b>UniqueSenders</b>	<b>t:ArrayOfStringsType</b>	Specifies a list of all the senders of conversation items in the current folder.
<b>GlobalUniqueSenders</b>	<b>t:ArrayOfStringsType</b>	Specifies a list of all the senders of conversation items in the mailbox.
<b>LastDeliveryTime</b>	<a href="#">xs:dateTime</a>	Specifies the delivery time of the message that was last received in this conversation in the current



Element	Type	Description
		folder.
<b>GlobalLastDeliveryTime</b>	<a href="#">xs:dateTime</a>	Specifies the delivery time of the message that was last received in this conversation across all folders in the mailbox.
<b>Categories</b>	<b>t:ArrayOfStringsType</b>	Specifies the category list for conversation items in the current folder.
<b>GlobalCategories</b>	<b>t:ArrayOfStringsType</b>	Specifies the category list for all conversation items in a mamailboxilbox.
<b>FlagStatus</b>	<a href="#">t:FlagStatusType</a>	Specifies the aggregated flag status for conversation items in the current folder.
<b>GlobalFlagStatus</b>	<b>t:FlagStatusType</b>	Specifies the aggregated flag status for all conversation items in a mailbox.
<b>HasAttachments</b>	<a href="#">xs:boolean</a>	Specifies a value that indicates whether at least one conversation item in the current folder has an attachment.
<b>GlobalHasAttachments</b>	<a href="#">xs:boolean</a>	Specifies a value that indicates whether at least one conversation item in a mailbox has an attachment.
<b>MessageCount</b>	<a href="#">xs:int</a>	Specifies the total number of conversation items in the current folder.
<b>GlobalMessageCount</b>	<a href="#">xs:int</a>	Specifies the total number of conversation items in the mailbox.
<b>UnreadCount</b>	<a href="#">xs:int</a>	Specifies a count of all the unread conversation items in the current folder.
<b>GlobalUnreadCount</b>	<a href="#">xs:int</a>	Specifies a count of all the unread conversation items in the mailbox.
<b>Size</b>	<a href="#">xs:int</a>	Specifies the size of the conversation calculated from the size of all conversation items in the current folder.

Element	Type	Description
<b>GlobalSize</b>	<a href="#">xs:int</a>	Specifies the size of the conversation calculated from the size of all conversation items in the mailbox.
<b>ItemClasses</b>	<a href="#">t:ArrayOfItemClassType</a>	Specifies a list of item classes that represents all the item classes of the conversation items in the current folder.
<b>GlobalItemClasses</b>	<b>t:ArrayOfItemClassType</b>	Specifies a list of item classes that represents all the item classes of the conversation items in a mailbox.
<b>Importance</b>	t:ImportanceChoicesType	Specifies the aggregated importance for all conversation items in the current folder.
<b>GlobalImportance</b>	<b>t:ImportanceChoicesType</b>	Specifies the aggregated importance for all conversation items in a mailbox.
<b>ItemIds</b>	t:NonEmptyArrayOfBaseItemIdsType	Specifies the collection of item identifiers for all conversation items in the current folder.
<b>GlobalItemIds</b>	<b>t:NonEmptyArrayOfBaseItemIdsType</b>	Specifies the collection of item identifiers for all conversation items in a mailbox.

### 3.1.4.1.3.4 m:FindConversationType Complex Type

The **FindConversationType** complex type specifies the search options to use when searching for conversations.

```
<xs:complexType name="FindConversationType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
      >
      <xs:sequence>
        <xs:element name="IndexedPageItemView"
          type="t:IndexedPageViewType"
          />
        <xs:element name="SortOrder"
          type="t:NonEmptyArrayOfFieldOrdersType"
          minOccurs="0"
          />
        <xs:element name="ParentFolderId"
```

```

        type="t:TargetFolderIdType"
      />
    </xs:sequence>
  </xs:extension>
</xs:complexContent>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
<b>IndexedPageItemView</b>	<a href="#">t:IndexedPageViewType</a>	Specifies how conversation search results are returned in the response. This element MUST be present.
<b>SortOrder</b>	t:NonEmptyArrayOfFieldOrdersType	Specifies the property and sort order direction that is used to sort conversations in the response.
<b>ParentFolderId</b>	<a href="#">t:TargetFolderIdType</a>	Specifies the folder that is searched for conversations. This element MUST be present.

### 3.1.4.1.3.5 m:FindConversationResponseMessageType Complex Type

The **FindConversationResponseMessageType** complex type specifies the results of an attempt to find conversations in folder.

```

<xs:complexType name="FindConversationResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
      <xs:sequence>
        <xs:element name="Conversations"
          type="t:ArrayOfConversationsType"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
<b>Conversations</b>	<a href="#">t:ArrayOfConversationsType</a>	Specifies an array of conversations that is returned in a response. This element MUST be present.

### 3.1.4.1.4 Simple Types

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

Simple type	Definition
<b>FlagStatusType</b> (section <a href="#">3.1.4.1.4.1</a> )	Specifies the flag status for conversation items.

### 3.1.4.1.4.1 t:FlagStatusType Simple Type

The **FlagStatusType** simple type specifies the flag status for conversation items.

```
<xs:simpleType name="FlagStatusType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="NotFlagged"
    />
    <xs:enumeration
      value="Flagged"
    />
    <xs:enumeration
      value="Complete"
    />
  </xs:restriction>
</xs:simpleType>
```

#### Enumeration

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

Value	Description
<b>NotFlagged</b>	Specifies the not-flagged status.
<b>Flagged</b>	Specifies the flagged flag status.
<b>Complete</b>	Specifies the complete flag status.

### 3.1.4.2 ApplyConversationAction

The **ApplyConversationAction** operation applies actions to conversations in a mailbox.

```
<wsdl:operation name="ApplyConversationAction">
  <wsdl:input message="tns:ApplyConversationActionSoapIn"/>
  <wsdl:output message="tns:ApplyConversationActionSoapOut"/>
</wsdl:operation>
```

#### Request

Message format	Description
<a href="#">tns:ApplyConversationActionSoapIn</a>	Specifies the SOAP message that represents a request to apply actions to items in a specific conversation.

#### Response

Message format	Description
<a href="#">tns:ApplyConversationActionSoapOut</a>	Specifies the SOAP message that represents a response to a request to apply actions to items in a specific conversation.

### 3.1.4.2.1 Messages

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

Message	Description
<b>ApplyConversationActionSoapIn</b> (section <a href="#">3.1.4.2.1.1</a> )	Specifies the SOAP message that represents a request to apply actions to items in a specific conversation.
<b>ApplyConversationActionSoapOut</b> (section <a href="#">3.1.4.2.1.2</a> )	Specifies the SOAP message that represents a response to a request to apply actions to items in a specific conversation.

#### 3.1.4.2.1.1 tns:ApplyConversationActionSoapIn Message

The **ApplyConversationActionSoapIn** message specifies the SOAP message that represents a request to apply actions to items in a specific conversation.

```
<wsdl:message name="ApplyConversationActionSoapIn">
  <wsdl:part name="request" element="tns:ApplyConversationAction"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
```

The **ApplyConversationActionSoapIn** message contains three parts, as described in the following table.

Part name	Element/type	Description
<b>request</b>	<b>ApplyConversationAction</b> (section <a href="#">3.1.4.2.2.1</a> )	Specifies the SOAP body of the request.
<b>Impersonation</b>	<b>ExchangeImpersonation</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.2)	Specifies the identifier of the account to impersonate.
<b>RequestVersion</b>	<b>RequestServerVersion</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.7)	Specifies the target schema version.

#### 3.1.4.2.1.2 tns:ApplyConversationActionSoapOut Message

The **ApplyConversationActionSoapOut** message specifies the SOAP message that represents a response to a request to apply actions to items in a specific conversation.

```
<wsdl:message name="ApplyConversationActionSoapOut">
  <wsdl:part name="ApplyConversationActionResult"
  element="tns:ApplyConversationActionResultResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **ApplyConversationActionSoapOut** message contains two parts, as described in the following table.

Part name	Element/type	Description
<b>ApplyConversationActionResult</b>	<b>ApplyConversationActionResponse</b> (section <a href="#">3.1.4.2.2.2</a> )	Specifies the SOAP body of the response.
<b>ServerVersion</b>	<b>ServerVersionInfo</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.8)	Specifies the server version.

### 3.1.4.2.2 Elements

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

Element	Description
<b>ApplyConversationAction</b> (section <a href="#">3.1.4.2.2.1</a> )	Specifies a request to apply actions to a conversation in a mailbox.
<b>ApplyConversationActionResponse</b> (section <a href="#">3.1.4.2.2.2</a> )	Specifies a response that contains the results of an attempt to apply conversation actions to a conversation in a mailbox.

#### 3.1.4.2.2.1 ApplyConversationAction Element

The **ApplyConversationAction** element specifies a request to apply actions to a conversation in a mailbox.

```
<xs:element name="ApplyConversationAction"
  type="m:ApplyConversationActionType"
 />
```

#### 3.1.4.2.2.2 ApplyConversationActionResponse Element

The **ApplyConversationActionResponse** element specifies a response that contains the results of an attempt to apply conversation actions to a conversation in a mailbox. This element **MUST** be present.

```
<xs:element name="ApplyConversationActionResponse"
  type="m:ApplyConversationActionResponseType"
 />
```

#### 3.1.4.2.3 Complex Types

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

Complex type	Description
<b>ApplyConversationActionResponseType</b> (section <a href="#">3.1.4.2.3.1</a> )	Specifies the contents of a response that contains the results of an attempt to apply conversation actions to a conversation in a mailbox.
<b>ApplyConversationActionType</b> (section <a href="#">3.1.4.2.3.2</a> )	Specifies the contents of a request to apply actions to a conversation in a mailbox.
<b>ConversationActionType</b> (section <a href="#">3.1.4.2.3.3</a> )	Specifies a single action to be applied to a conversation.
<b>NonEmptyArrayOfApplyConversationActionType</b> (section <a href="#">3.1.4.2.3.4</a> )	Specifies an array of actions to be applied to one or more conversations.

### 3.1.4.2.3.1 m:ApplyConversationActionResponseType Complex Type

The **ApplyConversationActionResponseType** complex type specifies the contents of a response that contains the results of an attempt to apply conversation actions to a conversation in a mailbox.

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

### 3.1.4.2.3.2 m:ApplyConversationActionType Complex Type

The **ApplyConversationActionType** complex type specifies the contents of a request to apply actions to a conversation in a mailbox.

```
<xs:complexType name="ApplyConversationActionType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:sequence>
        <xs:element name="ConversationActions"
          type="t:NonEmptyArrayOfApplyConversationActionType"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

#### Child Elements

Element	Type	Description
<b>ConversationActions</b>	<a href="#">t:NonEmptyArrayOfApplyConversationActionType</a>	Specifies a collection of

Element	Type	Description
		conversations and the actions to apply to them. This element <b>MUST</b> be present.

### 3.1.4.2.3.3 ConversationActionType Complex Type

The **ConversationActionType** complex type specifies a single action to be applied to a conversation.

```

<xs:complexType name="ConversationActionType">
  <xs:sequence>
    <xs:element name="Action"
      type="t:ConversationActionTypeType"
      maxOccurs="1"
      minOccurs="1"
    />
    <xs:element name="ConversationId"
      type="t:ItemIdType"
      maxOccurs="1"
      minOccurs="1"
    />
    <xs:element name="ContextFolderId"
      type="t:TargetFolderIdType"
      maxOccurs="1"
      minOccurs="0"
    />
    <xs:element name="ConversationLastSyncTime"
      type="xs:dateTime"
      maxOccurs="1"
      minOccurs="0"
    />
    <xs:element name="ProcessRightAway"
      type="xs:boolean"
      maxOccurs="1"
      minOccurs="0"
    />
    <xs:element name="DestinationFolderId"
      type="t:TargetFolderIdType"
      maxOccurs="1"
      minOccurs="0"
    />
    <xs:element name="Categories"
      type="t:ArrayOfStringsType"
      maxOccurs="1"
      minOccurs="0"
    />
    <xs:element name="EnableAlwaysDelete"
      type="xs:boolean"
      maxOccurs="1"
      minOccurs="0"
    />
    <xs:element name="IsRead"
      type="xs:boolean"
      maxOccurs="1"
      minOccurs="0"
    />
  </xs:sequence>
</xs:complexType>

```



```

/>
<xs:element name="DeleteType"
  type="t:DisposalType"
  maxOccurs="1"
  minOccurs="0"
/>
</xs:sequence>
</xs:complexType>

```

## Child Elements

Element	Type	Description
<b>Action</b>	<a href="#">t:ConversationActionTypeType</a>	Specifies the action to perform on the conversation specified by the <ConversationId> element. This element MUST be present.
<b>ConversationId</b>	<a href="#">t:ItemIdType</a>	Specifies the conversation identifier of the targeted conversation for applying an action. This element MUST be present.
<b>ContextFolderId</b>	<a href="#">t:TargetFolderIdType</a>	Specifies the folder that is targeted for actions that use folders. This element MUST be present when copying, deleting, moving, and setting read state on conversation items in a target folder. This element MUST NOT be present when copying, deleting, moving, and setting read state on all conversation items in a mailbox.
<b>ConversationLastSyncTime</b>	<a href="#">xs:dateTime</a>	Specifies the date and time that a conversation was last synchronized. This element MUST be present when trying to delete all items in a conversation that were received up to the specified time. All items received after the specified time MUST NOT be deleted.
<b>ProcessRightAway</b>	<a href="#">xs:boolean</a>	Specifies whether the response is sent as soon as the action starts processing on the server or whether the response is sent after the action has completed. This element MUST be present for the response to be sent asynchronous to the requested action.
<b>DestinationFolderId</b>	<b>t:TargetFolderIdType</b>	Specifies the destination folder for copy and move actions. This element MUST be present when the <Action> element value is set to AlwaysMove, Move, or Copy.
<b>Categories</b>	<a href="#">t:ArrayOfStringsType</a>	Specifies the categories to set on items in a conversation. This element MUST

Element	Type	Description
		be present when the <Action> element value is set to AlwaysCategorize.
<b>EnableAlwaysDelete</b>	<a href="#">xs:boolean</a>	Specifies a flag that enables deletion for all new items in a conversation. This element MUST be present when the <Action> element value is set to AlwaysDelete.
<b>IsRead</b>	<a href="#">xs:boolean</a>	Specifies a flag that enables setting the read state of items in a conversation. This element MUST be present when the <Action> element value is set to SetReadState.
<b>DeleteType</b>	t:DisposalType	Specifies how items in a conversation are deleted. This element MUST be present when the <Action> element value is set to AlwaysDelete or Delete.

### 3.1.4.2.3.4 t:NonEmptyArrayOfApplyConversationActionType Complex Type

The **NonEmptyArrayOfApplyConversationActionType** complex type specifies an array of actions to be applied to one or more conversations.

```
<xs:complexType name="NonEmptyArrayOfApplyConversationActionType">
  <xs:sequence>
    <xs:element name="ConversationAction"
      type="t:ConversationActionType"
      maxOccurs="unbounded"
    />
  </xs:sequence>
</xs:complexType>
```

Child Elements

Element	Type	Description
<b>ConversationAction</b>	<a href="#">t:ConversationActionType</a>	Specifies a single conversation action. At least one of this element MUST be present.

### 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
<b>ConversationActionTypeType</b> (section <a href="#">3.1.4.2.4.1</a> )	Specifies the action to apply to items in a conversation.

### 3.1.4.2.4.1 t:ConversationActionTypeType Simple Type

The **ConversationActionTypeType** simple type specifies the action to apply to items in a conversation.

```
<xs:simpleType name="ConversationActionTypeType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="AlwaysCategorize"
    />
    <xs:enumeration
      value="AlwaysDelete"
    />
    <xs:enumeration
      value="AlwaysMove"
    />
    <xs:enumeration
      value="Delete"
    />
    <xs:enumeration
      value="Move"
    />
    <xs:enumeration
      value="Copy"
    />
    <xs:enumeration
      value="SetReadState"
    />
  </xs:restriction>
</xs:simpleType>
```

#### Enumeration

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

Value	Description
<b>AlwaysCategorize</b>	Specifies that items in the conversation are always categorized.
<b>AlwaysDelete</b>	Specifies that items in the conversation are always deleted.
<b>AlwaysMove</b>	Specifies that items in the conversation are always moved.
<b>Delete</b>	Specifies that items in the conversation are to be deleted.
<b>Move</b>	Specifies that items in the conversation are to be moved.
<b>Copy</b>	Specifies that items in the conversation are to be copied.
<b>SetReadState</b>	Specifies that items in the conversation are to have the read state set.

### 3.1.5 Timer Events

None.

### **3.1.6 Other Local Events**

None.



```

</t:UniqueRecipients>
<t:GlobalUniqueRecipients>
  <t:String>User1@aujing-dom.extest.microsoft.com</t:String>
  <t:String>User2@aujing-dom.extest.microsoft.com</t:String>
</t:GlobalUniqueRecipients>
<t:UniqueUnreadSenders>
  <t:String>Microsoft Outlook</t:String>
</t:UniqueUnreadSenders>
<t:GlobalUniqueUnreadSenders>
  <t:String>Microsoft Outlook</t:String>
</t:GlobalUniqueUnreadSenders>
<t:UniqueSenders>
  <t:String>Microsoft Outlook</t:String>
</t:UniqueSenders>
<t:GlobalUniqueSenders>
  <t:String>Microsoft Outlook</t:String>
  <t:String>UserOne</t:String>
</t:GlobalUniqueSenders>
<t:LastDeliveryTime>2010-04-03T23:15:49Z</t:LastDeliveryTime>
<t:GlobalLastDeliveryTime>2010-04-03T23:15:49Z</t:GlobalLastDeliveryTime>
<t:HasAttachments>>false</t:HasAttachments>
<t:GlobalHasAttachments>>false</t:GlobalHasAttachments>
<t:MessageCount>1</t:MessageCount>
<t:GlobalMessageCount>2</t:GlobalMessageCount>
<t:UnreadCount>1</t:UnreadCount>
<t:GlobalUnreadCount>1</t:GlobalUnreadCount>
<t:Size>6505</t:Size>
<t:GlobalSize>7814</t:GlobalSize>
<t:ItemClasses>
  <t:ItemClass>REPORT.IPM.Note.NDR</t:ItemClass>
</t:ItemClasses>
<t:GlobalItemClasses>
  <t:ItemClass>REPORT.IPM.Note.NDR</t:ItemClass>
  <t:ItemClass>IPM.Note</t:ItemClass>
</t:GlobalItemClasses>
<t:Importance>Normal</t:Importance>
<t:GlobalImportance>Normal</t:GlobalImportance>
<t:ItemIds>
  <t:ItemId Id="AAMkAGYzZjldkC+NAAAAY89GAAA=" ChangeKey="CQAAAA==" />
</t:ItemIds>
<t:GlobalItemIds>
  <t:ItemId Id="AAMkAGYzZjldkC+NAAAAY89GAAA=" ChangeKey="CQAAAA==" />
  <t:ItemId Id="AAMkAGYzZjldkC+NAAAAY9LrAAA=" ChangeKey="CQAAAA==" />
</t:GlobalItemIds>
</t:Conversation>
</Conversations>
</FindConversationResponse>
</soap:Body>
</soap:Envelope>

```

## **5 Security**

### **5.1 Security Considerations for Implementers**

The Conversations Web Service Protocol does not use additional security mechanisms.

### **5.2 Index of Security Parameters**

None.

## 6 Appendix A: Full WSDL

For ease of implementation, the full WSDLs and schemas, as listed in the following table, are provided in the following sections.

WSDL or schema name	Prefix	Section
WSDL	tns, wsdl, t, xs, soap	<a href="#">6.1</a>
Messages	m, t, xs	<a href="#">6.2</a>
Types	t, xs	<a href="#">6.3</a>

The WSDL, messages, and types schema files have to be placed in a common folder in order for the WSDL to validate. Also, any schema files that are included in or imported into the messages and types schemas have to be placed in the common folder with these files.

### 6.1 WSDL

This section contains the contents of the WSDL file and information about additional files that this WSDL file requires to successfully validate. The following table lists additional files that have to be present in the folder that contains this WSDL.

File name	Section
MS-OXWSCONV-messages.xsd	<a href="#">6.2</a>

```
<?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="Exchange2010_SP1"
      xmlns:xs="http://www.w3.org/2001/XMLSchema"

      targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
      <xs:include schemaLocation="MS-OXWSCONV-messages.xsd"/>
    </xs:schema>
  </wsdl:types>
  <wsdl:portType name="ExchangeServicePortType">
    <wsdl:operation name="FindConversation">
      <wsdl:input message="tns:FindConversationSoapIn"/>
      <wsdl:output message="tns:FindConversationSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="ApplyConversationAction">
      <wsdl:input message="tns:ApplyConversationActionSoapIn"/>
      <wsdl:output message="tns:ApplyConversationActionSoapOut"/>
    </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="FindConversation">
        <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/FindConversation" />
        <wsdl:input>
            <soap:body parts="request" use="literal" />
            <soap:header message="tns:FindConversationSoapIn" part="RequestVersion"
use="literal" />
            <soap:header message="tns:FindConversationSoapIn" part="Impersonation"
use="literal" />
        </wsdl:input>
        <wsdl:output>
            <soap:body parts="FindConversationResult" use="literal" />
            <soap:header message="tns:FindConversationSoapOut" part="ServerVersion"
use="literal" />
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="ApplyConversationAction">
        <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/ApplyConversationAct
ion" />
        <wsdl:input>
            <soap:body parts="request" use="literal" />
            <soap:header message="tns:ApplyConversationActionSoapIn" part="RequestVersion"
use="literal" />
            <soap:header message="tns:ApplyConversationActionSoapIn" part="Impersonation"
use="literal" />
        </wsdl:input>
        <wsdl:output>
            <soap:body parts="ApplyConversationActionResult" use="literal" />
            <soap:header message="tns:ApplyConversationActionSoapOut" part="ServerVersion"
use="literal" />
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
<wsdl:message name="FindConversationSoapIn">
    <wsdl:part name="request" element="tns:FindConversation" />
    <wsdl:part name="Impersonation" element="t:ExchangeImpersonation" />
    <wsdl:part name="RequestVersion" element="t:RequestServerVersion" />
</wsdl:message>
<wsdl:message name="FindConversationSoapOut">
    <wsdl:part name="FindConversationResult" element="tns:FindConversationResponse" />
    <wsdl:part name="ServerVersion" element="t:ServerVersionInfo" />
</wsdl:message>
<wsdl:message name="ApplyConversationActionSoapIn">
    <wsdl:part name="request" element="tns:ApplyConversationAction" />
    <wsdl:part name="Impersonation" element="t:ExchangeImpersonation" />
    <wsdl:part name="RequestVersion" element="t:RequestServerVersion" />
</wsdl:message>
<wsdl:message name="ApplyConversationActionSoapOut">
    <wsdl:part name="ApplyConversationActionResult"
element="tns:ApplyConversationActionResponse" />
    <wsdl:part name="ServerVersion" element="t:ServerVersionInfo" />
</wsdl:message>
</wsdl:definitions>

```

## 6.2 Messages Schema

This section contains the contents of the messages schema and information about additional files that the messages schema file requires to successfully validate. The messages schema is referenced from the WSDL file as MS-OXWSCONV-messages.xsd. The following table lists additional files that have to be present in the folder that contains the messages schema.

File name	Defining specification
MS-OXWSCONV-types.xsd	Section <a href="#">6.3</a>
MS-OXWSCDATA-messages.xsd	<a href="#">[MS-OXWSCDATA]</a> section 6.2

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="messages"
  elementFormDefault="qualified"
  version="Exchange2010"
  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-OXWSCONV-types.xsd"/>
  <xs:include schemaLocation="MS-OXWSCDATA-messages.xsd"/>
  <xs:complexType name="FindConversationType">
    <xs:complexContent>
      <xs:extension base="m:BaseRequestType">
        <xs:sequence>
          <xs:element name="IndexedPageItemView" type="t:IndexedPageViewType"
minOccurs="1"/>
          <xs:element name="SortOrder" type="t:NonEmptyArrayOfFieldOrdersType"
minOccurs="0"/>
          <xs:element name="ParentFolderId" type="t:TargetFolderIdType" minOccurs="1"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="FindConversation" type="m:FindConversationType"/>
  <xs:complexType name="FindConversationResponseMessageType">
    <xs:complexContent>
      <xs:extension base="m:ResponseMessageType">
        <xs:sequence>
          <xs:element name="Conversations" type="t:ArrayOfConversationsType"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="FindConversationResponse" type="m:FindConversationResponseMessageType"/>
  <xs:complexType name="ApplyConversationActionType">
    <xs:complexContent>
      <xs:extension base="m:BaseRequestType">
        <xs:sequence>
          <xs:element name="ConversationActions"
type="t:NonEmptyArrayOfApplyConversationActionType"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="ApplyConversationAction" type="m:ApplyConversationActionType"/>

```

```

<xs:complexType name="ApplyConversationActionResponseType">
  <xs:complexContent>
    <xs:extension base="m:BaseResponseMessageType"/>
  </xs:complexContent>
</xs:complexType>
<xs:element name="ApplyConversationActionResponse"
type="m:ApplyConversationActionResponseType"/>
</xs:schema>

```

### 6.3 Types Schema

This section contains the contents of the types schema and information about additional files that the types schema file requires to successfully validate. The types schema is referenced from the messages schema file as MS-OXWSCONV-types.xsd. The following table lists additional files that have to be present in the folder that contains the types schema file.

File name	Defining specification
MS-OXWSCDATA-types.xsd	<a href="#">[MS-OXWSCDATA]</a> section 6.3

```

<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="types"
  elementFormDefault="qualified"
  version="Exchange2010"
  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="ArrayOfItemClassType">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element name="ItemClass" type="t:ItemClassType"/>
    </xs:choice>
  </xs:complexType>
  <xs:simpleType name="FlagStatusType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="NotFlagged"/>
      <xs:enumeration value="Flagged"/>
      <xs:enumeration value="Complete"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="ConversationActionTypeType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="AlwaysCategorize"/>
      <xs:enumeration value="AlwaysDelete"/>
      <xs:enumeration value="AlwaysMove"/>
      <xs:enumeration value="Delete"/>
      <xs:enumeration value="Move"/>
      <xs:enumeration value="Copy"/>
      <xs:enumeration value="SetReadState"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="ConversationActionType">
    <xs:sequence>
      <xs:element name="Action" type="t:ConversationActionTypeType" minOccurs="1"
maxOccurs="1"/>
      <xs:element name="ConversationId" type="t:ItemIdType" minOccurs="1" maxOccurs="1"/>
    </xs:sequence>
  </xs:complexType>

```

```

        <xs:element name="ContextFolderId" type="t:TargetFolderIdType" minOccurs="0"
maxOccurs="1"/>
        <xs:element name="ConversationLastSyncTime" type="xs:dateTime" minOccurs="0"
maxOccurs="1"/>
        <xs:element name="ProcessRightAway" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
        <xs:element name="DestinationFolderId" type="t:TargetFolderIdType" minOccurs="0"
maxOccurs="1"/>
        <xs:element name="Categories" type="t:ArrayOfStringsType" minOccurs="0"
maxOccurs="1"/>
        <xs:element name="EnableAlwaysDelete" type="xs:boolean" minOccurs="0"
maxOccurs="1"/>
        <xs:element name="IsRead" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
        <xs:element name="DeleteType" type="t:DisposalType" minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="NonEmptyArrayOfApplyConversationActionType">
    <xs:sequence>
        <xs:element name="ConversationAction" type="t:ConversationActionType"
maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ConversationType">
    <xs:sequence>
        <xs:element name="ConversationId" type="t:ItemIdType" minOccurs="0"/>
        <xs:element name="ConversationTopic" type="xs:string" minOccurs="0"/>
        <xs:element name="UniqueRecipients" type="t:ArrayOfStringsType" minOccurs="0"/>
        <xs:element name="GlobalUniqueRecipients" type="t:ArrayOfStringsType"
minOccurs="0"/>
        <xs:element name="UniqueUnreadSenders" type="t:ArrayOfStringsType" minOccurs="0"/>
        <xs:element name="GlobalUniqueUnreadSenders" type="t:ArrayOfStringsType"
minOccurs="0"/>
        <xs:element name="UniqueSenders" type="t:ArrayOfStringsType" minOccurs="0"/>
        <xs:element name="GlobalUniqueSenders" type="t:ArrayOfStringsType" minOccurs="0"/>
        <xs:element name="LastDeliveryTime" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="GlobalLastDeliveryTime" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="Categories" type="t:ArrayOfStringsType" minOccurs="0"/>
        <xs:element name="GlobalCategories" type="t:ArrayOfStringsType" minOccurs="0"/>
        <xs:element name="FlagStatus" type="t:FlagStatusType" minOccurs="0"/>
        <xs:element name="GlobalFlagStatus" type="t:FlagStatusType" minOccurs="0"/>
        <xs:element name="HasAttachments" type="xs:boolean" minOccurs="0"/>
        <xs:element name="GlobalHasAttachments" type="xs:boolean" minOccurs="0"/>
        <xs:element name="MessageCount" type="xs:int" minOccurs="0"/>
        <xs:element name="GlobalMessageCount" type="xs:int" minOccurs="0"/>
        <xs:element name="UnreadCount" type="xs:int" minOccurs="0"/>
        <xs:element name="GlobalUnreadCount" type="xs:int" minOccurs="0"/>
        <xs:element name="Size" type="xs:int" minOccurs="0"/>
        <xs:element name="GlobalSize" type="xs:int" minOccurs="0"/>
        <xs:element name="ItemClasses" type="t:ArrayOfItemClassType" minOccurs="0"/>
        <xs:element name="GlobalItemClasses" type="t:ArrayOfItemClassType" minOccurs="0"/>
        <xs:element name="Importance" type="t:ImportanceChoicesType" minOccurs="0"/>
        <xs:element name="GlobalImportance" type="t:ImportanceChoicesType" minOccurs="0"/>
        <xs:element name="ItemIds" type="t:NonEmptyArrayOfBaseItemIdsType" minOccurs="0"/>
        <xs:element name="GlobalItemIds" type="t:NonEmptyArrayOfBaseItemIdsType"
minOccurs="0"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfConversationsType">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Conversation" type="t:ConversationType"/>
    </xs:choice>

```

```
</xs:complexType>  
</xs:schema>
```

## 7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft® Exchange Server 2010 Service Pack 1 (SP1)

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.

## 8 Change Tracking

This section identifies changes that were made to the [MS-OXWSCONV] protocol document between the November 2010 and March 2011 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

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

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

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

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

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

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

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

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

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

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

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

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

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

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">1 Introduction</a>	Added information about which sections of the specification are normative and can contain RFC 2119 language.	Y	New content added for template compliance.



## 9 Index

### A

Abstract data model  
[server](#) 10  
[Applicability](#) 6  
[Attribute groups](#) 9  
[Attributes](#) 9

### C

[Capability negotiation](#) 6  
[Change tracking](#) 39  
[Complex types](#) 8

### D

Data model - abstract  
[server](#) 10

### E

Events  
[local - server](#) 28  
[timer - server](#) 27

### F

[Fields - vendor-extensible](#) 7  
[Full WSDL](#) 32

### G

[Glossary](#) 5  
[Groups](#) 9

### I

[Implementer - security considerations](#) 31  
[Index of security parameters](#) 31  
[Informative references](#) 6  
Initialization  
[server](#) 10  
[Introduction](#) 5

### L

Local events  
[server](#) 28

### M

Message processing  
[server](#) 10  
Messages  
[attribute groups](#) 9  
[attributes](#) 9  
[complex types](#) 8  
[elements](#) 8

[enumerated](#) 8  
[groups](#) 9  
[namespaces](#) 8  
[simple types](#) 8  
[syntax](#) 8  
[transport](#) 8

### N

[Namespaces](#) 8  
[Normative references](#) 5

### O

Operations  
[ApplyConversationAction](#) 20  
[FindConversation](#) 10  
[Overview](#) 6

### P

[Parameters - security index](#) 31  
[Preconditions](#) 6  
[Prerequisites](#) 6  
[Product behavior](#) 38

### R

References  
[informative](#) 6  
[normative](#) 5  
[Relationship to other protocols](#) 6

### S

Security  
[implementer considerations](#) 31  
[parameter index](#) 31  
Sequencing rules  
[server](#) 10  
Server  
[abstract data model](#) 10  
[ApplyConversationAction operation](#) 20  
[FindConversation operation](#) 10  
[initialization](#) 10  
[local events](#) 28  
[message processing](#) 10  
[sequencing rules](#) 10  
[timer events](#) 27  
[timers](#) 10  
[Simple types](#) 8  
[Standards assignments](#) 7  
Syntax  
[messages - overview](#) 8

### T

Timer events

[server](#) 27  
Timers  
[server](#) 10  
[Tracking changes](#) 39  
[Transport](#) 8  
Types  
[complex](#) 8  
[simple](#) 8

## **V**

[Vendor-extensible fields](#) 7  
[Versioning](#) 6

## **W**

[WSDL](#) 32