

[MS-OXWSCONV]: Conversations Web Service Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
05/05/2010	0.1.0	Major	Initial Release.
08/04/2010	0.2	Minor	Clarified the meaning of the technical content.
11/03/2010	0.2	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.
08/05/2011	2.0	Major	Significantly changed the technical content.

Table of Contents

1	Introduction	5
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	7
1.6	Applicability Statement.....	7
1.7	Versioning and Capability Negotiation.....	7
1.8	Vendor-Extensible Fields.....	7
1.9	Standards Assignments	7
2	Messages.....	8
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
3	Protocol Details.....	10
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	12
3.1.4.1.2	Elements.....	12
3.1.4.1.2.1	FindConversation Element	12
3.1.4.1.2.2	FindConversationResponse Element	13
3.1.4.1.3	Complex Types	13
3.1.4.1.3.1	t:ArrayOfConversationsType Complex Type	13
3.1.4.1.3.2	t:ArrayOfItemClassType Complex Type	14
3.1.4.1.3.3	t:ConversationType Complex Type.....	14
3.1.4.1.3.4	m:FindConversationType Complex Type	19
3.1.4.1.3.5	m:FindConversationResponseMessageType Complex Type	20
3.1.4.1.4	Simple Types.....	20
3.1.4.1.4.1	t:FlagStatusType Simple Type.....	20
3.1.4.2	ApplyConversationAction	21
3.1.4.2.1	Messages	22
3.1.4.2.1.1	tns:ApplyConversationActionSoapIn Message.....	22

3.1.4.2.1.2	tns:ApplyConversationActionSoapOut Message.....	22
3.1.4.2.2	Elements.....	23
3.1.4.2.2.1	ApplyConversationAction Element.....	23
3.1.4.2.2.2	ApplyConversationActionResponse Element	23
3.1.4.2.3	Complex Types	24
3.1.4.2.3.1	m:ApplyConversationActionResponseType Complex Type	24
3.1.4.2.3.2	m:ApplyConversationActionType Complex Type.....	24
3.1.4.2.3.3	ConversationActionType Complex Type	25
3.1.4.2.3.4	t:NonEmptyArrayOfApplyConversationActionType Complex Type	27
3.1.4.2.4	Simple Types.....	28
3.1.4.2.4.1	t:ConversationActionTypeType Simple Type	28
3.1.5	Timer Events	29
3.1.6	Other Local Events	29
4	Protocol Examples.....	30
5	Security.....	32
5.1	Security Considerations for Implementers.....	32
5.2	Index of Security Parameters	32
6	Appendix A: Full WSDL	33
7	Appendix B: Full XML Schema	35
7.1	Messages Schema.....	35
7.2	Types Schema.....	36
8	Appendix C: Product Behavior	39
9	Change Tracking.....	40
10	Index	45

1 Introduction

The Conversations Web Service Protocol enables a protocol client to manage items that can be organized in a conversation. The typical scenarios covered by this protocol involve finding items in a conversation and applying 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 (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
XML

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

endpoint
mailbox
SOAP action
SOAP body
SOAP header
SOAP message
Web Services Description Language (WSDL)
WSDL message
WSDL port type
XML namespace
XML schema

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. 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](#)".

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

[MS-OXWSFOLD] Microsoft Corporation, "[Folders and Folder Permissions Web Service Protocol Specification](#)".

[MS-OXWSSRCH] Microsoft Corporation, "[Mailbox Search Web Service Protocol Specification](#)".

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

[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] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

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

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

1.2.2 Informative References

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

[MS-OXDCLI] Microsoft Corporation, "[Autodiscover Publishing and Lookup Protocol Specification](#)".

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

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

1.3 Overview

Conversations are a way to organize related e-mail messages in a **mailbox** based on the subject of the messages. By accessing messages based on the message subject, servers and clients can 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

A client that implements this protocol can use the Autodiscover Publishing and Lookup SOAP-Based Web Service Protocol, as described in [\[MS-OXWSADISC\]](#), or the Autodiscover Publishing and Lookup Protocol, as described in [\[MS-OXDCLI\]](#), to identify the target **endpoint (4)** 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 the 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 Conversations Web Service Protocol uses the SOAP Protocol, as described in [\[SOAP1.1\]](#), over **HTTPS**, which is described in [\[RFC2818\]](#), as shown in the following layering diagram.

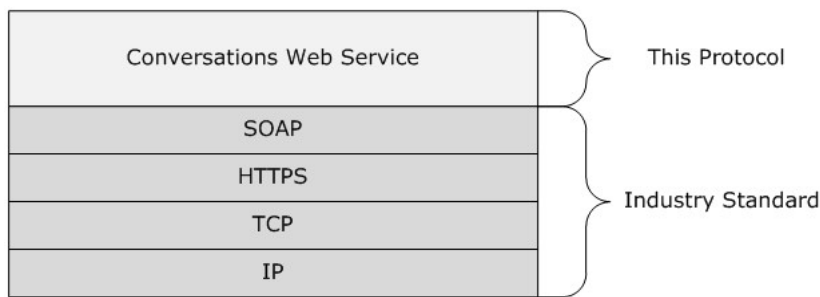


Figure 1: Conversations Web Service Protocol HTTPS stack

1.5 Prerequisites/Preconditions

The endpoint(4) URL that is returned by either the Autodiscover Publishing Lookup SOAP-Based Web Service Protocol, as specified in [\[MS-OXWSADISC\]](#), or the Autodiscover Publishing and Lookup Protocol, as specified in [\[MS-OXDCLI\]](#), is required to form the **HTTP** request to the Web server that hosts this protocol. The operations that this protocol defines cannot be accessed unless the correct endpoint (4) is identified in the HTTP Web requests that target this protocol.

1.6 Applicability Statement

The Conversations Web Service Protocol is applicable to environments that use Web services to implement conversations in a user's mailbox. This protocol is applicable to all SOAP-based clients, as described in [\[SOAP1.1\]](#).

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 2.2.4.8, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.4.9.
- **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

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 SHOULD use secure communications by means of HTTPS, as defined in [\[RFC2818\]](#).

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	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 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.

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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 as defined by this specification.

Operation name	Description
ApplyConversationAction (section 3.1.4.2)	Specifies the WSDL messages for applying conversation actions.
FindConversation (section 3.1.4.1)	Specifies the WSDL messages for finding conversations.

The **ApplyConversationAction** operation requires a target conversation. The target conversation can be identified by the **FindConversation** operation.

3.1.4.1 FindConversation

The **FindConversation** operation specifies the WSDL messages for finding conversations in a mailbox.

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

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

The following is the WSDL binding specification for this operation.

```

<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>

```

3.1.4.1.1 Messages

The following table lists and describes the WSDL message definitions that are specific to the **FindConversation** operation.

Message name	Description
FindConversationSoapIn (section 3.1.4.1.1.1)	Specifies the SOAP message that represents a request for a collection of conversations.
FindConversationSoapOut (section 3.1.4.1.1.2)	Specifies the SOAP message that contains a collection of conversations.

3.1.4.1.1.1 tns:FindConversationSoapIn Message

The **FindConversationSoapIn** WSDL message specifies the SOAP message that represents a request to find 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** WSDL message is the input message for the **SOAP action** <http://schemas.microsoft.com/exchange/services/2006/messages/FindConversation>.

The parts of the **FindConversationSoapIn** WSDL message are listed and described in the following table.

Part name	Element/type	Description
request	tns:FindConversation (section 3.1.4.1.2.1)	Specifies the SOAP body of the request to find a conversation. This part is required.
Impersonation	t:ExchangeImpersonation ([MS-OXWSCDATA] section 2.2.4.3)	Specifies a SOAP header that identifies the user whom the client application is

Part name	Element/type	Description
		impersonating. This part is optional.
RequestVersion	t:RequestServerVersion ([MS-OXWSCDATA] section 2.2.4.8)	Specifies a SOAP header that identifies the schema version for the FindConversation operation request.

3.1.4.1.1.2 tns:FindConversationSoapOut Message

The **FindConversationSoapOut** WSDL message specifies the server response 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** WSDL message is the output message for the SOAP action <http://schemas.microsoft.com/exchange/services/2006/messages/FindConversation>.

The parts of the **FindConversationSoapOut** WSDL message are listed and described in the following table.

Part name	Element/type	Description
FindConversationResult	FindConversationResponse (section 3.1.4.1.2.2)	Specifies the SOAP body of the response to a FindConversation operation request.
ServerVersion	ServerVersion ([MS-OXWSCDATA] section 2.2.4.9)	Specifies the SOAP header that identifies the server version for the response.

3.1.4.1.2 Elements

The following table lists and describes the XML schema element definitions that are specific to the **FindConversation** operation.

Element name	Description
FindConversation (section 3.1.4.1.2.1)	Specifies a request to find conversations in a mailbox.
FindConversationResponse (section 3.1.4.1.2.2)	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 that contains 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 lists and describes the XML schema complex type definitions that are specific to the **FindConversation** operation.

Complex type name	Description
ArrayOfConversationsType (section 3.1.4.1.3.1)	Specifies an array of conversations that are returned in the response.
ArrayOfItemClassType (section 3.1.4.1.3.2)	Specifies an array of unique item classes that are used by the set of items in the conversation.
ConversationType (section 3.1.4.1.3.3)	Specifies a single conversation.
FindConversationType (section 3.1.4.1.3.4)	Specifies the search options to be used in searches for conversations.
FindConversationResponseMessageType (section 3.1.4.1.3.5)	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>
```

The following table lists and describes the child element of the **ArrayOfConversationsType** complex type.

Element name	Type	Description
Conversation	t:ConversationType (section 3.1.4.1.3.3)	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>
```

The following table lists the child element of the **ArrayOfConversationsType** complex type.

Element name	Type	Description
ItemClass	t:ItemClassType (IMS-OXWSCORE section 2.2.5.3)	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"
  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>

```

The following table lists and describes the child elements of the **ConversationType** complex type.

Element name	Type	Description
ConversationId	t:ItemIdType ([MS-OXWSCORE] section 2.2.4.13)	Specifies the conversation identifier.
ConversationTopic	xs:string ([XMLSCHEMA2])	Specifies the conversation topic.
UniqueRecipients	t:ArrayOfStringsType ([MS-OXWSCDATA] section 2.2.3.10)	Specifies a list of all the people who have received messages in this conversation in the current folder.
GlobalUniqueRecipients	t:ArrayOfStringsType	Specifies a list of all the people who have received messages in this conversation across all folders in the mailbox.
UniqueUnreadSenders	t:ArrayOfStringsType	Specifies a list of all the people who have sent messages that are currently unread in this conversation in the specified folder.

Element name	Type	Description
GlobalUniqueUnreadSenders	t:ArrayOfStringsType	Specifies a list of all the people who have sent messages that are currently unread in this conversation across all folders in a mailbox.
UniqueSenders	t:ArrayOfStringsType	Specifies a list of all the senders of conversation items in the specified folder.
GlobalUniqueSenders	t:ArrayOfStringsType	Specifies a list of all the senders of conversation items in a mailbox.
LastDeliveryTime	xs:dateTime ([XMLSCHEMA2])	Specifies the delivery time of the last message received in this conversation in the specified folder.
GlobalLastDeliveryTime	xs:dateTime)	Specifies the delivery time of the last message received in this conversation across all folders in a mailbox.
Categories	t:ArrayOfStringsType	Specifies the category list for conversation items in the folder that's currently open.
GlobalCategories	t:ArrayOfStringsType	Specifies the category list for all conversation items in a mailbox.
FlagStatus	t:FlagStatusType (section 3.1.4.1.4.1)	Specifies the aggregated flag status for conversation items in the folder that's currently open.
GlobalFlagStatus	t:FlagStatusType	Specifies the aggregated flag status for all conversation items in mailbox.
HasAttachments	xs:boolean ([XMLSCHEMA2])	Specifies a value that indicates whether at least one conversation item in the folder that's currently open has an attachment.
GlobalHasAttachments	xs:boolean	Specifies a value that indicates whether at least one conversation

Element name	Type	Description
		item in a mailbox has an attachment.
MessageCount	xs:int (XMLSCHEMA21)	Specifies the total number of conversation items in the folder that's currently open.
GlobalMessageCount	xs:int	Specifies the total number of conversation items in a mailbox.
UnreadCount	xs:int	Specifies a count of all the unread conversation items in the folder that's currently open.
GlobalUnreadCount	xs:int	Specifies a count of all the unread conversation items in a mailbox.
Size	xs:int	Specifies the size of the conversation calculated from the size of all conversation items in the folder that's currently open.
GlobalSize	xs:int	Specifies the size of the conversation calculated from the size of all conversation items in a mailbox.
ItemClasses	t:ArrayOfItemClassType (section 3.1.4.1.3.2)	Specifies a list of item classes that represents all the item classes of the conversation items in the folder that's currently open.
GlobalItemClasses	t:ArrayOfItemClassType	Specifies a list of item classes that represents all the item classes of the conversation items in a mailbox.
Importance	t:ImportanceChoicesType (IMS-OXWSCORE section 2.2.5.2)	Specifies the aggregated importance for all conversation items in the folder that's currently open.
GlobalImportance	t:ImportanceChoicesType	Specifies the aggregated importance for all conversation items in mailbox.

Element name	Type	Description
ItemIds	t:NonEmptyArrayOfBaseItemIdsType ([MS-OXWSCORE] section 2.2.4.8)	Specifies the collection of item identifiers for all conversation items in the folder that's currently open.
GlobalItemIds	t:NonEmptyArrayOfBaseItemIdsType	Specifies the collection of item identifiers for all conversation items in 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. The **FindConversationType** complex type extends the **BaseRequestType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.3.14.

```
<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>
```

The following table lists and describes the child elements of the **FindConversationType** complex type.

Element name	Type	Description
IndexedPageItemView	t:IndexedPageViewType ([MS-OXWSSRCH] section 2.2.4.14)	Specifies how conversation search results are returned in a response. This element MUST be present.
SortOrder	t:NonEmptyArrayOfFieldOrdersType ([MS-OXWSSRCH] section 3.1.4.2.3.8)	Specifies the property and sort order direction that is used to sort conversations in a response.
ParentFolderId	t:TargetFolderIdType ([MS-OXWSFOLD]	Specifies the folder that is

Element name	Type	Description
	section 2.2.4.14)	searched for conversations. This element MUST be present.

3.1.4.1.3.5 m:FindConversationResponseType Complex Type

The **FindConversationResponseType** complex type specifies the results of an attempt to find conversations in a particular folder. The **FindConversationResponseType** complex type extends the **ResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.3.52.

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

The following table lists and describes the child elements of the **FindConversationResponseType** complex type.

Element name	Type	Description
Conversations	t:ArrayOfConversationsType (section 3.1.4.1.3.1)	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 lists the XML schema simple definitions that are specific to the **FindConversation** operation.

Simple type name	Definition
FlagStatusType (section 3.1.4.1.4.1)	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>

```

The following table lists and describes the enumeration values that are defined by the **FlagStatusType** simple type.

Value name	Description
NotFlagged	This value sets the flag status to-not flagged.
Flagged	This value sets the flag status to flagged.
Complete	This value sets the flag status to complete.

3.1.4.2 ApplyConversationAction

The **ApplyConversationAction** operation specifies the WSDL message that is used to apply actions to conversations in a mailbox.

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

```

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

```

The following is the WSDL binding specification of this operation.

```

<wsdl:operation name="ApplyConversationAction">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/ApplyConversationAction" />
  <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>

```

3.1.4.2.1 Messages

The following table lists and describes the set of WSDL message definitions that are specific to the **ApplyConversationAction** operation.

Message name	Description
ApplyConversationActionSoapIn (section 3.1.4.2.1.1)	Specifies the SOAP message that represents a request to apply actions to items in a specified conversation.
ApplyConversationActionSoapOut (section 3.1.4.2.1.2)	Specifies the SOAP message that represents a response to a request to apply actions to items in a specified conversation.

3.1.4.2.1.1 tns:ApplyConversationActionSoapIn Message

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

The following is the WSDL message specification of the **ApplyConversationActionSoapIn** 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>
```

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

The parts of the **ApplyConversationActionSoapIn** WSDL message are listed and described in the following table.

Part name	Element/type	Description
request	ApplyConversationAction (section 3.1.4.2.2.1)	Specifies the SOAP body of the request to apply conversation actions. This part is required.
Impersonation	ExchangeImpersonation ([MS-OXWSCDATA] section 2.2.4.3)	Specifies a SOAP header that identifies the user whom the client application is impersonating. This part is optional.
RequestVersion	RequestServerVersion ([MS-OXWSCDATA] section 2.2.4.8)	Specifies a SOAP header that identifies the schema version for the ApplyConversationAction operation request.

3.1.4.2.1.2 tns:ApplyConversationActionSoapOut Message

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

```
<wsdl:message name="ApplyConversationActionSoapOut">
```

```

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

```

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

The parts of the **ApplyConversationActionSoapOut** WSDL message are listed and described in the following table.

Part name	Element/type	Description
ApplyConversationActionResult	ApplyConversationActionResponse (section 3.1.4.2.2.2)	Specifies the SOAP body of the response to a ApplyConversationAction operation request.
ServerVersion	ServerVersionInfo ([MS-OXWSCDATA] section 2.2.4.9)	Specifies the SOAP header that identifies the server version for the response.

3.1.4.2.2 Elements

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

Element name	Description
ApplyConversationAction (section 3.1.4.2.2.1)	Specifies a request to apply actions to a conversation in a mailbox.
ApplyConversationActionResponse (section 3.1.4.2.2.2)	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 lists the XML schema complex type definitions that are specific to the **ApplyConversationAction** operation.

Complex type name	Description
ApplyConversationActionResponseType (section 3.1.4.2.3.1)	Specifies the contents of a response that contains the results of an attempt to apply conversation actions to a conversation in mailbox.
ApplyConversationActionType (section 3.1.4.2.3.2)	Specifies the contents of a request to apply actions to a conversation in a mailbox.
ConversationActionType (section 3.1.4.2.3.3)	Specifies a single action to be applied to a conversation.
NonEmptyArrayOfApplyConversationActionType (section 3.1.4.2.3.4)	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. The **ApplyConversationActionResponseType** complex type extends the **BaseResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.3.15.

```
<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. The **ApplyConversationActionType** complex type extends the **BaseRequestType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.3.14.

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



```

        />
    </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

The following table lists and describes the child elements of the **ApplyConversationActionType** complex type.

Element name	Type	Description
ConversationActions	t:NonEmptyArrayOfApplyConversationActionType (section 3.1.4.2.3.4)	Specifies a collection of conversations and the actions to apply to them. This element MUST 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:element name="DeleteType"
        type="t:DisposalType"
        maxOccurs="1"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:complexType>

```

The following table lists and describes the child elements of the **ConversationActionType** complex type.

Element name	Type	Description
Action	t:ConversationActionTypeType (section 3.1.4.2.4.1)	Specifies the action to perform on the conversation specified by the ConversationId element. This element MUST be present.
ConversationId	t:ItemIdType ([MS-OXWSCORE] section 2.2.4.13)	Specifies the conversation identifier of the targeted conversation for applying an action. This element MUST be present.
ContextFolderId	t:TargetFolderIdType ([MS-OXWSFOLD] section 2.2.4.14)	Specifies the folder that is targeted for actions that use folders. This element MUST be present when copying, deleting, moving, and setting the read state on conversation items in a target folder. This element MUST NOT be present when copying, deleting, moving, and setting the read state on all conversation items in a mailbox.
ConversationLastSyncTime	xs:dateTime ([XMLSCHEMA2])	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

Element name	Type	Description
		deleted.
ProcessRightAway	xs:boolean ([XMLSCHEMA2])	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.
DestinationFolderId	t:TargetFolderIdType ([MS-OXWSFOLD] section 2.2.4.14)	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".
Categories	t:ArrayOfStringsType ([MS-OXWSCDATA] section 2.2.3.10)	Specifies the categories to set on items in a conversation. This element MUST be present when the Action element value is set to "AlwaysCategorize".
EnableAlwaysDelete	xs:boolean ([XMLSCHEMA2])	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".
IsRead	xs:boolean ([XMLSCHEMA2])	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".
DeleteType	t:DisposalType ([MS-OXWSCDATA] section 2.2.2.8)	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>
```

The following table lists and describes the child elements of the **ConversationType** complex type.

Element name	Type	Description
ConversationAction	t:ConversationActionType (section 3.1.4.2.3.3)	Specifies a single conversation action. At least one instance of this element MUST be present.

3.1.4.2.4 Simple Types

The following table lists the XML schema simple type definitions that are specific to the **ApplyConversationAction** operation.

Simple type name	Description
ConversationActionTypeType (section 3.1.4.2.4.1)	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>
```

The following table lists and describes the enumeration values that are defined by the **ConversationActionTypeType** simple type.

Value name	Description
AlwaysCategorize	Specifies that items in the conversation are always categorized.
AlwaysDelete	Specifies that items in the conversation are always deleted.
AlwaysMove	Specifies that items in the conversation are always moved.
Delete	Specifies that items in the conversation are to be deleted.
Move	Specifies that items in the conversation are to be moved.
Copy	Specifies that items in the conversation are to be copied.
SetReadState	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.

4 Protocol Examples

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

The following example shows a **FindConversation** request to return a single conversation from the default Inbox folder.

```
<?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="Exchange2010_SP1" />
  </soap:Header>
  <soap:Body>
    <m:FindConversation>
      <m:IndexedPageItemView BasePoint="Beginning" MaxEntriesReturned="1" Offset="0"/>
      <m:ParentFolderId>
        <t:DistinguishedFolderId Id="inbox"/>
      </m:ParentFolderId>
    </m:FindConversation>
  </soap:Body>
</soap:Envelope>
```

The following example shows a **FindConversation** response to the request to return a single conversation from the default Inbox folder.

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <t:ServerVersionInfo MajorVersion="14"
      MinorVersion="1"
      MajorBuildNumber="139"
      MinorBuildNumber="0"
      Version="Exchange2010_SP1"
      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"/>
  </soap:Header>
  <soap:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <FindConversationResponse ResponseClass="Success"
      xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
      <ResponseCode>NoError</ResponseCode>
      <Conversations>
        <t:Conversation xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types">
          <t:ConversationId
            Id="AAQkAGYzZjZmNjk5LTlYNTQtNDBjZS05OTk0LTM4OGQ5ZDk4NDE5ZQAQAAGD7JNksE4zm4ATHm5DvYc="/>
          <t:ConversationTopic>Most fascinating</t:ConversationTopic>
          <t:UniqueRecipients>
            <t:String>User1@aujing-dom.extest.microsoft.com</t:String>
            <t:String>User2@aujing-dom.extest.microsoft.com</t:String>
          </t:UniqueRecipients>
        </t:Conversation>
      </Conversations>
    </FindConversationResponse>
  </soap:Body>
</soap:Envelope>
```

```

</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

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-OXWSCONV.wsdl	Contains the WSDL for the implementation of this protocol.	6
MS-OXWSCONV-messages.xsd	Contains the XML schema message definitions that are used in this protocol.	7.1
MS-OXWSCONV-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-OXWSCONV-types.xsd or MS-OXWSCONV-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-OXWSCONV.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="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:operation>
        </wsdl:binding>
    </wsdl:definitions>
```

```

        <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>

```

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-OXWSCONV-types.xsd or MS-OXWSCONV-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 provides the contents of the messages schema and information about additional files that the messages schema file requires successful validation. 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	7.2
MS-OXWSCDATA-messages.xsd	[MS-OXWSCDATA] section 7.1

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="messages"
  elementFormDefault="qualified"
  version="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:ResponseType">
        <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>

```

7.2 Types Schema

This section provides the contents of the types schema and information about additional files that the types schema file requires for successful validation. 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	[MS-OXWSCDATA] section 7.2

```

<?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: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:sequence>
</xs:complexType>

```

```

    <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>

```

8 Appendix C: Product Behavior

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

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

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.

9 Change Tracking

This section identifies changes that were made to the [MS-OXWSCONV] protocol document between the March 2011 and August 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.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
1 Introduction	Revised the introductory text.	N	Content updated.
1.3 Overview	Removed the link to the glossary from the word 'message'.	N	Content updated.
1.4 Relationship to Other Protocols	Added content to this section.	Y	Content updated.
1.4 Relationship to Other Protocols	Added a link to the glossary from the term 'endpoint'.	N	Content updated.
1.5 Prerequisites/Preconditions	Added content to this section.	Y	New content added.
1.5 Prerequisites/Preconditions	Added a link to the glossary from the term 'HTTP'.	N	Content updated.
1.7 Versioning and Capability Negotiation	Added information about protocol versions and capability negotiation.	N	Content updated.
2.1 Transport	Added information about the host Web server and HTTPS.	N	Content updated.
2.2 Common Message Syntax	Added a link to the glossary from the term 'XML schema'.	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
2.2.1 Namespaces	Added a link to the glossary from the term 'XML namespace'.	N	Content updated.
2.2.2 Messages	Added a link to the glossary from the term 'WSDL message'.	N	Content updated.
3.1.4 Message Processing Events and Sequencing Rules	Added information about the relationship between the ApplyConversationAction and FindConversation operations.	N	Content updated.
3.1.4.1 FindConversation	Added the WSDL binding specification for the FindConversation operation.	N	Content updated.
3.1.4.1.1 tns:FindConversationSoapIn Message	Added information about the FindConversationSoapIn message.	N	Content updated.
3.1.4.1.1.1 tns:FindConversationSoapIn Message	Added links to the glossary from the terms 'SOAP action', 'SOAP body', and 'SOAP header'.	N	Content updated.
3.1.4.1.1.2 tns:FindConversationSoapOut Message	Added information about the FindConversationSoapOut message.	N	Content updated.
3.1.4.1.3.1 t:ArrayOfConversationsType Complex Type	Updated the content.	N	Content updated.
3.1.4.1.3.2 t:ArrayOfItemClassType Complex Type	Updated the content.	N	Content updated.
3.1.4.1.3.3 t:ConversationType Complex Type	Updated the content and added references to the element types.	N	Content updated.
3.1.4.1.3.4 m:FindConversationType Complex Type	Updated the content and added references to the child element types.	N	Content updated.
3.1.4.1.3.5 m:FindConversationResponseMessageType Complex Type	Updated the content and added a reference to the extended base type.	N	Content updated.
3.1.4.1.4 Simple Types	Updated the content.	N	Content updated.
3.1.4.1.4.1 t:FlagStatusType Simple Type	Updated the content.	N	Content updated.
3.1.4.2 ApplyConversationAction	Added the WSDL binding specification for the ApplyConversationAction operation.	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
3.1.4.2.1 Messages	Updated the content.	N	Content updated.
3.1.4.2.1.1 tns:ApplyConversationActionSoapIn Message	Added information about the ApplyConversationActionSoapin message.	N	Content updated.
3.1.4.2.1.2 tns:ApplyConversationActionSoapOut Message	Added information about the ApplyConversationActionSoapOut message.	N	Content updated.
3.1.4.2.2 Elements	Updated the content.	N	Content updated.
3.1.4.2.3.1 m:ApplyConversationActionResponseType Complex Type	Added a reference to the extended base type.	N	Content updated.
3.1.4.2.3.2 m:ApplyConversationActionType Complex Type	Added a reference to the extended base type.	N	Content updated.
3.1.4.2.3.3 ConversationActionType Complex Type	Added references to the element types.	N	Content updated.
3.1.4.2.3.4 t:NonEmptyArrayOfApplyConversationActionType Complex Type	Added a reference to the element type.	N	Content updated.
3.1.4.2.4.1 t:ConversationActionTypeType Simple Type	Updated the content.	N	Content updated.
5.1 Security Considerations for Implementers	Added boilerplate text.	N	Content updated.
6 Appendix A: Full WSDL	Moved WSDL content from section 6.1 to this section.	N	Content updated for template compliance .
7 Appendix B: Full XML Schema	Added new section.	N	New content added for template compliance .
7.1 Messages Schema	Added new section and moved content from section 6.2 to this section.	N	New content added for template compliance .
7.2	Added new section and moved	N	New

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
Types Schema	content from section 6.3 to this section.		content added for template compliance .
	Removed sections 6.1, 6.2, and 6.3.	N	Content removed for template compliance .

10 Index

A

Abstract data model
 [server](#) 10
[Applicability](#) 7
[Attribute groups](#) 9
[Attributes](#) 9

C

[Capability negotiation](#) 7
[Change tracking](#) 40
[Complex types](#) 8

D

Data model - abstract
 [server](#) 10

E

Events
 [local - server](#) 29
 [timer - server](#) 29

F

[Fields - vendor-extensible](#) 7
[Full WSDL](#) 33

G

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

I

[Implementer - security considerations](#) 32
[Index of security parameters](#) 32
[Informative references](#) 6
Initialization
 [server](#) 10
[Introduction](#) 5

L

Local events
 [server](#) 29

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](#) 21
 [FindConversation](#) 10
 [Overview \(synopsis\)](#) 6

P

[Parameters - security index](#) 32
[Preconditions](#) 7
[Prerequisites](#) 7
[Product behavior](#) 39

R

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

S

Security
 [implementer considerations](#) 32
 [parameter index](#) 32
Sequencing rules
 [server](#) 10
Server
 [abstract data model](#) 10
 [ApplyConversationAction operation](#) 21
 [FindConversation operation](#) 10
 [initialization](#) 10
 [local events](#) 29
 [message processing](#) 10
 [sequencing rules](#) 10
 [timer events](#) 29
 [timers](#) 10
 [Simple types](#) 8
 [Standards assignments](#) 7
Syntax
 [messages - overview](#) 8

T

Timer events

- [server](#) 29
- Timers
 - [server](#) 10
- [Tracking changes](#) 40
- [Transport](#) 8
- Types
 - [complex](#) 8
 - [simple](#) 8

V

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

W

- [WSDL](#) 33