

[MS-OXWSCONV]: Conversations Web Service Protocol

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Revision Summary

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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	8
1.9 Standards Assignments	8
2 Messages	9
2.1 Transport	9
2.2 Common Message Syntax	9
2.2.1 Namespaces	9
2.2.2 Messages	9
2.2.3 Elements	9
2.2.4 Complex Types	10
2.2.5 Simple Types	10
2.2.6 Attributes	10
2.2.7 Groups	10
2.2.8 Attribute Groups	10
3 Protocol Details	11
3.1 ExchangeServicePortType Server Details	11
3.1.1 Abstract Data Model	11
3.1.2 Timers	11
3.1.3 Initialization	11
3.1.4 Message Processing Events and Sequencing Rules	11
3.1.4.1 FindConversation	11
3.1.4.1.1 Messages	12
3.1.4.1.1.1 tns:FindConversationSoapIn Message	12
3.1.4.1.1.2 tns:FindConversationSoapOut Message	13
3.1.4.1.1.2 Elements	13
3.1.4.1.2.1 FindConversation Element	13
3.1.4.1.2.2 FindConversationResponse Element	14
3.1.4.1.3 Complex Types	14
3.1.4.1.3.1 t:ArrayOfConversationsType Complex Type	14
3.1.4.1.3.2 t:ArrayOfItemClassType Complex Type	15
3.1.4.1.3.3 t:ConversationResponseShapeType	15
3.1.4.1.3.4 t:ConversationType Complex Type	15
3.1.4.1.3.5 m:FindConversationType Complex Type	20
3.1.4.1.3.6 m:FindConversationResponseMessageType Complex Type	22
3.1.4.1.4 Simple Types	23
3.1.4.1.4.1 t:ConversationQueryTraversalType	23
3.1.4.1.4.2 t:FlagStatusType Simple Type	23
3.1.4.1.4.3 t:ViewFilterType	24
3.1.4.2 GetConversationItems	25

3.1.4.2.1	Messages	25
3.1.4.2.1.1	GetConversationItemsSoapIn Message.....	25
3.1.4.2.1.2	GetConversationItemsSoapOut Message.....	26
3.1.4.2.2	Elements.....	26
3.1.4.2.2.1	GetConversationItems Element	27
3.1.4.2.2.2	GetConversationItemsResponse Element	27
3.1.4.2.3	Complex Types	27
3.1.4.2.3.1	t:ArrayOfConversationNodesType	27
3.1.4.2.3.2	t:ArrayOfConversationRequestsType	28
3.1.4.2.3.3	t:ConversationNodeType	28
3.1.4.2.3.4	t:ConversationResponseType	29
3.1.4.2.3.5	m:GetConversationItemsType Complex Type	29
3.1.4.2.3.6	GetConversationItemsResponseMessageType Complex Type	30
3.1.4.2.3.7	GetConversationItemsResponseType Complex Type	31
3.1.4.2.3.8	t:ConversationRequestType	31
3.1.4.2.4	Simple Types.....	32
3.1.4.2.4.1	t:ConversationNodeSortOrder	32
3.1.4.3	ApplyConversationAction	32
3.1.4.3.1	Messages	33
3.1.4.3.1.1	tns:ApplyConversationActionSoapIn Message.....	33
3.1.4.3.1.2	tns:ApplyConversationActionSoapOut Message.....	34
3.1.4.3.2	Elements.....	34
3.1.4.3.2.1	ApplyConversationAction Element	35
3.1.4.3.2.2	ApplyConversationActionResponse Element	35
3.1.4.3.3	Complex Types	35
3.1.4.3.3.1	m:ApplyConversationActionResponseType Complex Type	35
3.1.4.3.3.2	m:ApplyConversationActionType Complex Type.....	36
3.1.4.3.3.3	ConversationActionType Complex Type	36
3.1.4.3.3.4	t:NonEmptyArrayOfApplyConversationActionType Complex Type	38
3.1.4.3.4	Simple Types.....	39
3.1.4.3.4.1	t:ConversationActionTypeType Simple Type	39
3.1.5	Timer Events	40
3.1.6	Other Local Events	40
4	Protocol Examples.....	41
5	Security.....	43
5.1	Security Considerations for Implementers.....	43
5.2	Index of Security Parameters	43
6	Appendix A: Full WSDL	44
7	Appendix B: Full XML Schema	47
7.1	Messages Schema.....	47
7.2	Types Schema.....	49
8	Appendix C: Product Behavior	53
9	Change Tracking.....	55
10	Index	56

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 can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. Sections 1.5 and 1.9 are also normative but cannot contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

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

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

References to Microsoft Open Specifications documentation do not include a publishing year because links are to the latest version of the technical documents, which are updated frequently. References to other documents include a publishing year when one is available.

1.2.1 Normative References

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

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

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

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

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

[MS-OXWSEDISC] Microsoft Corporation, "[Electronic Discovery \(eDiscovery\) Web Service Protocol](#)".

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

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

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

[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., Beech, D., Maloney, M., Eds., 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., and Malhotra, A., Eds., "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-OXGLOS] Microsoft Corporation, "[Exchange Server Protocols Master Glossary](#)".

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

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 [\[MS-OXDSCLI\]](#), 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.

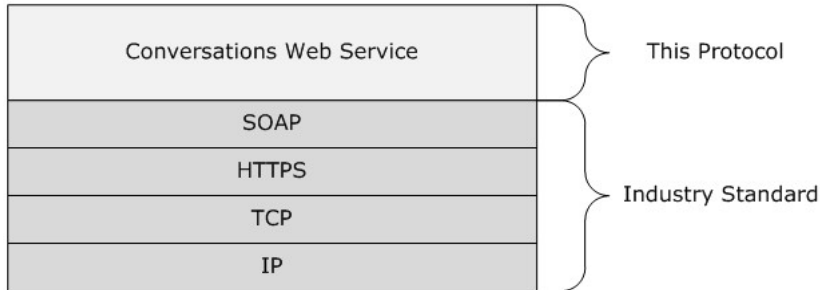


Figure 1: This protocol in relation to other protocols

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

1.5 Prerequisites/Preconditions

The endpoint (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 2.2.5.9, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.5.10.
- **Security and Authentication Methods:** This protocol relies on the Web server that is hosting it to perform authentication.
- **Capability Negotiation:** This protocol does not support version negotiation.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

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

2.1 Transport

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

This protocol relies on the Web server that hosts the application to perform authentication. The protocol 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.

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.

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 3.1.4.3)	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 2.2.5.3)	Specifies a SOAP header that identifies the user whom the client application is impersonating. This part is optional.

Part name	Element/type	Description
RequestVersion	t:RequestServerVersion ([MS-OXWSCDATA] section 2.2.5.9)	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 2.2.5.10)	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 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 3.1.4.1.3.4)	Specifies a single conversation.
FindConversationType (section 3.1.4.1.3.5)	Specifies the search options to be used in searches for conversations.
FindConversationResponseMessageType (section 3.1.4.1.3.6)	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 3.1.4.1.3.4)	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 ([MS-OXWSCORE] section 2.2.5.4)	Specifies a unique item class.

3.1.4.1.3.3 t:ConversationResponseShapeType

The **ConversationResponseShapeType** complex type specifies the properties that are returned for conversation items returned in the response. [<1>](#)

```
<xs:complexType name="ConversationResponseShapeType">
  <xs:sequence>
    <xs:element name="BaseShape" type="t:DefaultShapeNamesType" />
    <xs:element name="AdditionalProperties" type="t:NonEmptyArrayOfPathsToElementType"
      minOccurs="0" />
  </xs:sequence>
</xs:complexType>
```

The following table lists the elements of the **ConversationResponseShapeType** complex type.

Element name	Type	Description
BaseShape	t:DefaultShapeNamesType ([MS-OXWSCDATA] section 2.2.3.7)	Specifies the base properties to return in the response.
AdditionalProperties	t:NonEmptyArrayOfPathsToElementType ([MS-OXWSCDATA] section 2.2.4.44)	Specifies the additional properties to be returned in the response.

3.1.4.1.3.4 t:ConversationType Complex Type

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

```
<xs:complexType>
  <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:element name="LastModifiedTime" type="xs:dateTime" minOccurs="0"/>
<xs:element name="InstanceKey" type="xs:base64Binary" minOccurs="0"/>
<!-- Maps to ConversationItemSchema.ConversationPreview-->
<xs:element name="Preview" type="xs:string" minOccurs="0"/>
<!-- Maps to ConversationItemSchema.ConversationInferredImportance-->
<xs:element name="InferredImportance" type="t:InferredImportanceType" minOccurs="0"/>
<!-- Maps to ConversationItemSchema.ConversationGlobalInferredImportance-->
<xs:element name="GlobalInferredImportance" type="t:InferredImportanceType"
minOccurs="0"/>
<xs:element name="GlobalParentFolderIds"
type="t:NonEmptyArrayOfBaseFolderIdsType" minOccurs="0" />
<!-- Maps to ConversationItemSchema.NextPredictedAction-->
<xs:element name="NextPredictedAction" type="t:PredictedMessageActionType"
minOccurs="0" />
<!-- Maps to ConversationItemSchema.GroupingAction-->
<xs:element name="GroupingAction" type="t:PredictedMessageActionType" minOccurs="0"/>
<!-- Flag for the mailbox scope this conversation was found in -->
<xs:element name="MailboxScope" type="t:MailboxSearchLocationType" minOccurs="0"/>
<!-- Maps to ConversationItemSchema.ConversationIconIndex-->
<xs:element name="IconIndex" type="t:IconIndexType" minOccurs="0"/>
<!-- Maps to ConversationItemSchema.ConversationGlobalIconIndex-->
<xs:element name="GlobalIconIndex" type="t:IconIndexType" minOccurs="0"/>
<!-- Maps to ConversationItemSchema.ConversationDraftItemIds-->
<xs:element name="DraftItemIds" 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 2.2.4.19)	Specifies the conversation identifier.
ConversationTopic	xs:string [XMLSCHEMA2]	Specifies the conversation topic.
UniqueRecipients	t:ArrayOfStringsType ([MS-OXWSCDATA] section 2.2.4.11)	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.
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 is currently open.

Element name	Type	Description
GlobalCategories	t:ArrayOfStringsType	Specifies the category list for all conversation items in a mailbox.
FlagStatus	t:FlagStatusType (section 3.1.4.1.4.2)	Specifies the aggregated flag status for conversation items in the folder that is 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 is currently open has an attachment.
GlobalHasAttachments	xs:boolean	Specifies a value that indicates whether at least one conversation item in a mailbox has an attachment.
MessageCount	xs:int [XMLSCHEMA2]	Specifies the total number of conversation items in the folder that is 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 is 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 is currently open.
GlobalSize	xs:int	Specifies the size of the conversation calculated from the size of all conversation items in a mailbox.

Element name	Type	Description
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 is 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 ([MS-OXWSCORE] section 2.2.5.3)	Specifies the aggregated importance for all conversation items in the folder that is currently open.
GlobalImportance	t:ImportanceChoicesType	Specifies the aggregated importance for all conversation items in mailbox.
ItemIds	t:NonEmptyArrayOfBaseItemIdsType ([MS-OXWSCORE] section 2.2.4.11)	Specifies the collection of item identifiers for all conversation items in the folder that is currently open.
GlobalItemIds	t:NonEmptyArrayOfBaseItemIdsType	Specifies the collection of item identifiers for all conversation items in mailbox.
LastModifiedTime	xs:dateTime	Specifies the time at which the item was last modified. <2>
InstanceKey	xs:base64Binary	Specifies the instance key. <3>
Preview	xs:string	Specifies the first 256 characters of the message so that it can be previewed without being opened.
InferredImportance	t:InferredImportanceType	Specifies the inferred importance of the item.
GlobalInferredImportance	t:InferredImportanceType	Specifies the global inferred importance.
GlobalParentFolderIds	NonEmptyArrayOfBaseFolderIdsType ([MS-OXWSFOLD] section 3.1.4.6.3.3)	Specifies the identifiers of the global parent folder. <4>
NextPredictedAction	PredictedMessageType ([MS-	Specifies the next

Element name	Type	Description
	OXWSCDATA section 2.2.3.21)	predicted action for the item. <5>
GroupingAction	t:PredictedMessageType ([MS-OXWSCDATA] section 2.2.3.21)	Specifies that the next predicted action is grouping items. <6>
MailboxScope	t:MailboxSearchLocationType ([MS-OXWSEDISC] section 3.1.4.4.4.1)	Specifies the mailbox scope. <7>
IconIndex	t:IconIndexType ([MS-OXWSCDATA] section 2.2.3.16)	Specifies the index of the icon to display. <8>
GlobalIconIndex	t:IconIndexType	Specifies the aggregate IconIndex element for all messages in a conversation. <9>
DraftItemIds	t:NonEmptyArrayOfBaseItemIdsType	Specifies an array of identifiers for draft items. <10>

3.1.4.1.3.5 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 2.2.4.15.

```
<xs:complexType name="FindConversationType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:sequence>
        <xs:choice minOccurs="0">
          <xs:element name="IndexedPageItemView"
            type="t:IndexedPageViewType"
          />
          <xs:element name="SeekToConditionPageItemView"
            type="t:SeekToConditionPageViewType"
          />
        </xs:choice>
        <xs:element name="SortOrder"
          type="t:NonEmptyArrayOfFieldOrdersType"
          minOccurs="0"
        />
        <xs:element name="ParentFolderId"
          type="t:TargetFolderIdType"
          minOccurs="1"
        />
        <xs:element name="MailboxScope"
          type="t:MailboxSearchLocationType"
          minOccurs="0"
          maxOccurs="1"
        />
        <xs:element name="QueryString"
          type="m:QueryStringType"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

```

        minOccurs="0"
        maxOccurs="1"
    />
    <xs:element name="ConversationShape"
        type="t:ConversationResponseShapeType"
        minOccurs="0"
        maxOccurs="1"
    />
</xs:sequence>
<xs:attribute name="Traversal"
    type="t:ConversationQueryTraversalType"
    use="optional"
/>
<xs:attribute name="ViewFilter"
    type="t:ViewFilterType"
    use="optional"
/>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

The following table lists 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.
SeekToConditionPageItemView	t:SeekToConditionPageViewType ([MS-OXWSSRCH] section 2.2.4.28)	Specifies a condition that has to be satisfied in order to include an item in the result set. <11>
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] section 2.2.4.14)	Specifies the folder that is searched for conversations. This element MUST be present.
MailboxScope	t:MailboxSearchLocationType ([MS-OXWSEDISC] section 3.1.4.4.4.1)	Specifies the mailbox scope.
QueryString	m:QueryStringType ([MS-OXWSSRCH] section 2.2.4.30)	Specifies the query string.
ConversationShape	t:ConversationResponseShapeType (section 3.1.4.1.3.3)	Specifies the properties returned in

Element name	Type	Description
		a response.
Traversal	t:ConversationQueryTraversalType (section 3.1.4.1.4.1)	Specifies whether a query of conversation items is shallow or deep
ViewFilter	t:ViewFilterType	Specifies the view filter for the search.

3.1.4.1.3.6 m:FindConversationResponseMessageType Complex Type

The **FindConversationResponseMessageType** complex type specifies the results of an attempt to find conversations in the specified folder. The **FindConversationResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.57.

```
<xs:complexType name="FindConversationResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
      <xs:sequence>
        <xs:element name="Conversations"
          type="t:ArrayOfConversationsType"
          minOccurs="0"
        />
        <xs:element name="HighlightTerms"
          type="t:ArrayOfHighlightTermsType"
          minOccurs="0"
        />
        <xs:element name="TotalConversationsInView"
          type="xs:int"
          minOccurs="0"
        />
        <xs:element name="IndexedOffset"
          type="xs:int"
          minOccurs="0"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

The following table lists and describes the child elements of the **FindConversationResponseMessageType** 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.

Element name	Type	Description
HighlightTerms	t:ArrayOfHighlightTermsType ([MS-OXWSCDATA] section 2.2.4.6)	Specifies an array of highlight terms.
TotalConversationsInView	xs:int ([XMLSCHEMA2])	Specifies the total number of conversations returned.
IndexedOffset	xs:int	Specifies the indexed offset from the origin of the search results.

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 3.1.4.1.4.2)	Specifies the flag status for conversation items.

3.1.4.1.4.1 t:ConversationQueryTraversalType

The **ConversationQueryTraversalType** simple type specifies whether a query of conversation items is shallow or deep. [<12>](#)

```
<xs:simpleType name="ConversationQueryTraversalType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Shallow" />
    <xs:enumeration value="Deep" />
  </xs:restriction>
</xs:simpleType>
```

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

Value name	Description
Shallow	Specifies a shallow query.
Deep	Specifies a deep query.

3.1.4.1.4.2 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.

3.1.4.1.4.3 t:ViewFilterType

The **ViewFilterType** simple type specifies a filter for conversation items returned in a response. [<13>](#)

```

<xs:simpleType name="ViewFilterType">
  <xs:annotation>
    <xs:documentation>Types of view filters for finding
items/conversations</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="All" />
    <xs:enumeration value="Flagged" />
    <xs:enumeration value="HasAttachment" />
    <xs:enumeration value="ToOrCcMe" />
    <xs:enumeration value="Unread" />
    <xs:enumeration value="TaskActive" />
    <xs:enumeration value="TaskOverdue" />
    <xs:enumeration value="TaskCompleted" />
    <xs:enumeration value="Suggestions" />
    <xs:enumeration value="SuggestionsRespond" />
    <xs:enumeration value="SuggestionsDelete" />
  </xs:restriction>
</xs:simpleType>

```

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

Value name	Description
All	Specifies that no filter is applied
Flagged	Specifies a filter for all flagged conversation items.
HasAttachment	Specifies a filter for all conversation items with attachments.

Value name	Description
ToOrCcMe	Specifies a filter for all conversation items with the receiver specified on the To and Cc recipient list.
Unread	Specifies a filter for all unread conversation items.
TaskActive	Specifies a filter for all active tasks.
TaskOverdue	Specifies a filter for all overdue tasks.
TaskCompleted	Specifies a filter for all completed tasks.
Suggestions	Specifies a filter for all suggestions.
SuggestionsRespond	Specifies a filter for suggestions and items to respond to. <14>
SuggestionsDelete	Specifies a filter for suggestions and items to delete. <15>

3.1.4.2 GetConversationItems

The **GetConversationItems** operation specifies the WSDL messages that are used to request and return the contents of a conversation in a mailbox. [<16>](#)

```
<wsdl:operation name="GetConversationItems">
  <wsdl:input message="tns:GetConversationItemsSoapIn"/>
  <wsdl:output message="tns:GetConversationItemsSoapOut"/>
</wsdl:operation>
```

3.1.4.2.1 Messages

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

Message name	Description
GetConversationItemsSoapIn	Specifies the SOAP message that represents a request for the contents of a conversation.
GetConversationItemsSoapOut	Specifies the SOAP message that contains the contents of a conversation.

3.1.4.2.1.1 GetConversationItemsSoapIn Message

The **GetConversationItemsSoapIn** WSDL message specifies the SOAP message that represents a request to return the contents of a conversation.

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

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

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

Part name	Element/type	Description
Request	tns:GetConversationItems	Specifies the SOAP body of the request to return the contents of a conversation. This part is required.
Impersonation	t:ExchangeImpersonation ([MS-OXWSCDATA] section 2.2.5.3)	Specifies a SOAP header that identifies the user whom the client application is impersonating. This part is optional.
RequestVersion	t:RequestServerVersion ([MS-OXWSCDATA] section 2.2.5.9)	Specifies a SOAP header that identifies the schema version for the GetConversationItems operation request.

3.1.4.2.1.2 GetConversationItemsSoapOut Message

The **GetConversationItemsSoapOut** WSDL message specifies the server response SOAP message that contains the contents of a conversation.

```
<wsdl:message name="GetConversationItemsSoapOut">
  <wsdl:part name="GetConversationItemsResult" element="tns:GetConversationItemsResponse" />
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo" />
</wsdl:message>
```

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

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

Part name	Element/type	Description
GetConversationItemsResult	tns:GetConversationItemsResponse	Specifies the SOAP body of the response to a GetConversationItems operation request.
ServerVersion	ServerVersion ([MS-OXWSCDATA] section 2.2.5.10)	Specifies the SOAP header that identifies the server version for the response.

3.1.4.2.2 Elements

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

Element name	Description
GetConversationItems	Specifies a request to return the contents of a conversation in a mailbox.
GetConversationItemsResult	Specifies a response that contains the results of an attempt to return the contents of a conversation in a mailbox.

3.1.4.2.2.1 GetConversationItems Element

The **GetConversationItems** element specifies a request to return the contents of a conversation in a mailbox.

```
<xs:element name="GetConversationItems"
type="m:GetConversationItemsType"
/>
```

3.1.4.2.2.2 GetConversationItemsResponse Element

The **GetConversationItemsResponse** element specifies a response that contains the results of an attempt to return the contents of a conversation in a mailbox.

```
<xs:element name="GetConversationItemsResponse"
type="m:GetConversationItemsResponseType"
/>
```

3.1.4.2.3 Complex Types

The following table lists and describes the XML schema complex type definitions that are specific to the **GetConversationItems** operation.

Complex type name	Description
m:GetConversationItemsType	Specifies the request to retrieve conversation items.
m:GetConversationItemsResponseMessageType	Specifies the response message for the GetConversationItems operation.
m:GetConversationItemsResponseType	Specifies the response for the GetConversationItems operation.

3.1.4.2.3.1 t:ArrayOfConversationNodesType

The **ArrayOfConversationNodesType** complex type specifies an array of conversation nodes. [<17>](#)

```
<xs:complexType name="ArrayOfConversationNodesType">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
    <xs:element name="ConversationNode" type="t:ConversationNodeType"/>
  </xs:choice>
```

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

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

Element name	Type	Description
ConversationNode	t:ConversationNodeType (section 3.1.4.2.3.3)	Specifies a single conversation node.

3.1.4.2.3.2 t:ArrayOfConversationRequestsType

The **ArrayOfConversationRequestsType** complex type specifies one or more conversations to be returned in a response. [<18>](#)

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

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

Element name	Type	Description
Conversation	t:ConversationRequestType (section 3.1.4.2.3.8)	Specifies a conversation to return in a response.

3.1.4.2.3.3 t:ConversationNodeType

The **ConversationNodeType** complex type specifies a node of items in a conversation. [<19>](#)

```
<xs:complexType name="ConversationNodeType">  
  <xs:sequence>  
    <xs:element name="InternetMessageId" type="xs:string" minOccurs="0" maxOccurs="1"/>  
    <xs:element name="ParentInternetMessageId" type="xs:string" minOccurs="0" maxOccurs="1"/>  
    <xs:element name="Items" type="t:NonEmptyArrayOfAllItemsType" minOccurs="0" maxOccurs="1"/>  
  </xs:sequence>  
</xs:complexType>
```

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

Element name	Type	Description
InternetMessageId	xs:string ([XMLSCHEMA2])	Specifies the internet message identifier of this conversation node.
ParentInternetMessageId	xs:string	Specifies the internet message identifier of the

Element name	Type	Description
		parent conversation node.
Items	t:NonEmptyArrayOfAllItemsType (IMS-OXWSCDATA section 2.2.4.42)	Specifies all the items in the conversation node.

3.1.4.2.3.4 t:ConversationResponseType

The **ConversationResponseType** complex type specifies a conversation that is returned in a response. [<20>](#)

```
<xs:complexType name="ConversationResponseType">
  <xs:sequence>
    <xs:element name="ConversationId" type="t:ItemIdType" minOccurs="1" maxOccurs="1"/>
    <xs:element name="SyncState" type="xs:base64Binary" minOccurs="0" maxOccurs="1"/>
    <xs:element name="ConversationNodes" type="t:ArrayOfConversationNodesType"
minOccurs="0" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
```

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

Element name	Type	Description
ConversationId	t:ItemIdType	Specifies the conversation identifier.
SyncState	xs:base64Binary	Specifies the conversation synchronization state.
ConversationNodes	t:ArrayOfConversationNodesType (section 3.1.4.2.3.1)	Specifies the conversation nodes in the conversation.

3.1.4.2.3.5 m:GetConversationItemsType Complex Type

The **GetConversationItemsType** complex type specifies the request to return the contents of a conversation. The **GetConversationItemsType** complex type extends the **ResponseMessageType**.

```
<xs:complexType name="GetConversationItemsType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
    <xs:sequence>
      <xs:element name="ItemShape"
        type="t:ItemResponseShapeType"
        minOccurs="1"
        maxOccurs="1"
      />
      <xs:element name="FoldersToIgnore"
        type="t:NonEmptyArrayOfBaseFolderIdsType"
        minOccurs="0"
        maxOccurs="1"
      />
    </xs:sequence>
  </xs:complexContent>
</xs:complexType>
```

```

<xs:element name="MaxItemsToReturn"
  type="xs:int"
  minOccurs="0"
  maxOccurs="1"
/>
<xs:element name="SortOrder"
  type="t:ConversationNodeSortOrder"
  minOccurs="0"
  maxOccurs="1"
/>
<xs:element name="MailboxScope"
  type="t:MailboxSearchLocationType"
  minOccurs="0"
  maxOccurs="1"
/>
<xs:element name="Conversations"
  type="t:ArrayOfConversationRequestsType"
  minOccurs="1"
/>
</xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

The following table lists the child elements of the **GetConversationItemsType** complex type

Element name	Type	Description
ItemShape	t:ItemResponseShapeType ([MS-OXWSCDATA] section 2.2.4.38)	
FoldersToIgnore	t:NonEmptyArrayOfBaseFolderIdsType ([MS-OXWSCORE] section 2.2.4.11)	Specifies the folders to be ignored in the retrieving conversation items.
MaxItemsToReturn	xs:int	Specifies the maximum number of items to return.
SortOrder	t:ConversationNodeSortOrder (section 3.1.4.2.4.1)	Specifies the sort order for conversation nodes.
MailboxScope	t:MailboxSearchLocationType	Specifies the mailbox scope.
Conversations	t:ArrayOfConversationRequestsType (section 3.1.4.2.3.2)	Specifies an array of conversation requests.

3.1.4.2.3.6 GetConversationItemsResponseMessageType Complex Type

The **GetConversationItemsResponseMessageType** complex type specifies the results of an attempt to return the contents of a conversation. The **GetConversationItemsResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.57.

```

<xs:complexType name="GetConversationItemsResponseMessageType">
  <xs:complexContent>
    <xs:extension

```

```

    base="m:ResponseMessageType"
  >
    <xs:sequence>
      <xs:element name="Conversation"
        type="t:ConversationResponseType"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:extension>
</xs:complexContent>
</xs:complexType>

```

The following table lists the child elements of the **GetConversationItemsResponseMessageType** 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.

3.1.4.2.3.7 GetConversationItemsResponseType Complex Type

The **GetConversationItemsResponseType** complex type specifies the response for a **GetConversationItems** operation. The **GetConversationItemsResponseType** complex type extends the **BaseRequestType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.15.

```

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

```

3.1.4.2.3.8 t:ConversationRequestType

The **ConversationRequestType** complex type specifies a conversation to return in a response. [<21>](#)

```

<xs:complexType name="ConversationRequestType">
  <xs:sequence>
    <xs:element name="ConversationId" type="t:ItemIdType" minOccurs="1" maxOccurs="1"/>
    <xs:element name="SyncState" type="xs:base64Binary" minOccurs="0" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>

```

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

Element name	Type	Description
ConversationId	t:ItemIdType ([MS-OXWSCORE] section 2.2.4.19)	Specifies the conversation identifier.

Element name	Type	Description
SyncState	xs:base64Binary	Specifies the conversation synchronization state.

3.1.4.2.4 Simple Types

The following table lists and describes the XML schema simple type definitions that are specific to the **GetConversationItems** operation

Simple type name	Description
t: ConversationNodeSortOrder	Specifies how conversation nodes are ordered in the response.

3.1.4.2.4.1 t:ConversationNodeSortOrder

The **ConversationNodeSortOrder** simple type specifies how conversation nodes are ordered in the response. <22>

```
<xs:simpleType name="ConversationNodeSortOrder">
  <xs:restriction base="xs:string">
    <xs:enumeration value="TreeOrderAscending"/>
    <xs:enumeration value="TreeOrderDescending"/>
    <xs:enumeration value="DateOrderAscending"/>
    <xs:enumeration value="DateOrderDescending"/>
  </xs:restriction>
</xs:simpleType>
```

The following table lists the values that are defined by the **ConversationNodeSortOrder** simple type.

Value name	Description
TreeOrderAscending	Specifies that the conversation node sort order is ascending based on the position in the node tree.
TreeOrderDescending	Specifies that the conversation node sort order is descending based on the position in the node tree.
DateOrderAscending	Specifies that the conversation node sort order is ascending based on the last date in the node tree.
DateOrderDescending	Specifies that the conversation node sort order is descending based on the last date in the node tree.

3.1.4.3 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:operation>
```



```

    <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>

```

3.1.4.3.1 Messages

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

Message name	Description
ApplyConversationActionSoapIn (section 3.1.4.3.1.1)	Specifies the SOAP message that represents a request to apply actions to items in a specified conversation.
ApplyConversationActionSoapOut (section 3.1.4.3.1.2)	Specifies the SOAP message that represents a response to a request to apply actions to items in a specified conversation.

3.1.4.3.1.1 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 3.1.4.3.2.1)	Specifies the SOAP body of the request to apply conversation actions. This part is required.
Impersonation	ExchangeImpersonation ([MS-OXWSCDATA] section 2.2.5.3)	Specifies a SOAP header that identifies the user whom the client application is impersonating. This part is optional.
RequestVersion	RequestServerVersion ([MS-OXWSCDATA] section 2.2.5.9)	Specifies a SOAP header that identifies the schema version for the ApplyConversationAction operation request.

3.1.4.3.1.2 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 3.1.4.3.2.2)	Specifies the SOAP body of the response to a ApplyConversationAction operation request.
ServerVersion	ServerVersionInfo ([MS-OXWSCDATA] section 2.2.5.10)	Specifies the SOAP header that identifies the server version for the response.

3.1.4.3.2 Elements

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

Element name	Description
ApplyConversationAction (section 3.1.4.3.2.1)	Specifies a request to apply actions to a conversation in a mailbox.
ApplyConversationActionResponse (section 3.1.4.3.2.2)	Specifies a response that contains the results of an

Element name	Description
3.1.4.3.2.2)	attempt to apply conversation actions to a conversation in a mailbox.

3.1.4.3.2.1 ApplyConversationAction Element

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

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

3.1.4.3.2.2 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"
/>
```

3.1.4.3.3 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 3.1.4.3.3.1)	Specifies the contents of a response that contains the results of an attempt to apply conversation actions to a conversation in mailbox.
ApplyConversationActionType (section 3.1.4.3.3.2)	Specifies the contents of a request to apply actions to a conversation in a mailbox.
ConversationActionType (section 3.1.4.3.3.3)	Specifies a single action to be applied to a conversation.
NonEmptyArrayOfApplyConversationActionType (section 3.1.4.3.3.4)	Specifies an array of actions to be applied to one or more conversations.

3.1.4.3.3.1 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 2.2.4.16.

```

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

```

3.1.4.3.3.2 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 2.2.4.15.

```

<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>

```

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

Element name	Type	Description
ConversationActions	t:NonEmptyArrayOfApplyConversationActionType (section 3.1.4.3.3.4)	Specifies a collection of conversations and the actions to apply to them. This element MUST be present.

3.1.4.3.3.3 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" 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:sequence>
</xs:complexType>

```

```

    <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:element name="RetentionPolicyType" type="t:RetentionType" minOccurs="0"
maxOccurs="1"/>
    <xs:element name="RetentionPolicyTagId" type="xs:string" minOccurs="0" maxOccurs="1"/>
    <xs:element name="Flag" type="t:FlagType" minOccurs="0" maxOccurs="1"/>
    <xs:element name="SuppressReadReceipts" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
  </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 3.1.4.3.4.1)	Specifies the action to perform on the conversation specified by the ConversationId element. This element MUST be present.
ConversationId	t:ItemIdType ([MS-OXWSCORE] section 2.2.4.19)	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 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 name	Type	Description
		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 2.2.4.11)	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 2.2.3.9)	Specifies how items in a conversation are deleted. This element MUST be present when the Action element value is set to "AlwaysDelete" or "Delete".
RetentionPolicyType	RetentionType	Specifies the retention policy for the item. <23>
RetentionPolicyTagId	xs:string ([XMLSCHEMA2])	Specifies the retention policy tag identifier. <24>
Flag	FlagType ([MS-OXWSCORE] section 2.2.4.2)	Specifies a flag on an item. <25>
SuppressReadReceipts	xs:boolean ([XMLSCHEMA2])	Specifies whether to suppress a read receipt. <26>

3.1.4.3.3.4 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>
```

```

    />
  </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 3.1.4.3.3.3)	Specifies a single conversation action. At least one instance of this element MUST be present.

3.1.4.3.4 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 3.1.4.3.4.1)	Specifies the action to apply to items in a conversation.

3.1.4.3.4.1 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:enumeration value="SetRetentionPolicy" />
    <xs:enumeration value="Flag" />
  </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.

Value name	Description
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.
SetRetentionPolicy	Specifies that items in the conversation are to have the retention policy set. <27>
Flag	Specifies a flag on an item. <28>

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="Exchange2013"
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="GetConversationItems">
      <wSDL:input message="tns:GetConversationItemsSoapIn"/>
      <wSDL:output message="tns:GetConversationItemsSoapOut"/>
    </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="GetConversationItems">
        <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetConversationItems
"/>
        <wsdl:input>
            <soap:body parts="request" use="literal"/>
            <soap:header message="tns:GetConversationItemsSoapIn" part="RequestVersion"
use="literal"/>
            <soap:header message="tns:GetConversationItemsSoapIn" part="Impersonation"
use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body parts="GetConversationItemsResult" use="literal"/>
            <soap:header message="tns:GetConversationItemsSoapOut" 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:message name="GetConversationItemsSoapIn">
  <wsdl:part name="request" element="tns:GetConversationItems"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
<wsdl:message name="GetConversationItemsSoapOut">
  <wsdl:part name="GetConversationItemsResult" element="tns:GetConversationItemsResponse"/>
  <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="Exchange2013"
  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:choice>
            <xs:choice minOccurs="0">
              <xs:element name="IndexedPageItemView" type="t:IndexedPageViewType"/>
              <xs:element name="SeekToConditionPageItemView"
                type="t:SeekToConditionPageViewType"/>
            </xs:choice>
            <xs:element name="SortOrder" type="t:NonEmptyArrayOfFieldOrdersType"
              minOccurs="0"/>
            <xs:element name="ParentFolderId" type="t:TargetFolderIdType" minOccurs="1"/>
            <xs:element name="MailboxScope" type="t:MailboxSearchLocationType" minOccurs="0"
              maxOccurs="1"/>
            <xs:element name="QueryString" type="m:QueryStringType" minOccurs="0"
              maxOccurs="1"/>
            <xs:element name="ConversationShape" type="t:ConversationResponseShapeType"
              minOccurs="0" maxOccurs="1"/>
          </xs:sequence>
          <xs:attribute name="Traversal" type="t:ConversationQueryTraversalType"
            use="optional"/>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>
  </xs:schema>
```

```

        <xs:attribute name="ViewFilter" type="t:ViewFilterType" use="optional"/>
    </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" minOccurs="0"/>
                <xs:element name="HighlightTerms" type="t:ArrayOfHighlightTermsType"
minOccurs="0"/>
                <xs:element name="TotalConversationsInView" type="xs:int" minOccurs="0"/>
                <xs:element name="IndexedOffset" type="xs:int" minOccurs="0"/>
            </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:complexType name="GetConversationItemsType">
    <xs:complexContent>
        <xs:extension base="m:BaseRequestType">
            <xs:sequence>
                <xs:element name="ItemShape" type="t:ItemResponseShapeType" minOccurs="1"
maxOccurs="1"/>
                <xs:element name="FoldersToIgnore" type="t:NonEmptyArrayOfBaseFolderIdsType"
minOccurs="0" maxOccurs="1"/>
                <xs:element name="MaxItemsToReturn" type="xs:int" minOccurs="0" maxOccurs="1"/>
                <xs:element name="SortOrder" type="t:ConversationNodeSortOrder" minOccurs="0"
maxOccurs="1"/>
                <xs:element name="MailboxScope" type="t:MailboxSearchLocationType" minOccurs="0"
maxOccurs="1"/>
                <xs:element name="Conversations" type="t:ArrayOfConversationRequestsType"
minOccurs="1"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="GetConversationItems" type="m:GetConversationItemsType"/>
<xs:complexType name="GetConversationItemsResponseMessageType">
    <xs:complexContent>
        <xs:extension base="m:ResponseMessageType">

```



```

    <xs:sequence>
      <xs:element name="Conversation" type="t:ConversationResponseType" minOccurs="0"/>
    </xs:sequence>
  </xs:extension>
</xs:complexContent>
</xs:complexType>
<xs:complexType name="GetConversationItemsResponseType">
  <xs:complexContent>
    <xs:extension base="m:BaseResponseMessageType"/>
  </xs:complexContent>
</xs:complexType>
<xs:element name="GetConversationItemsResponse" type="m:GetConversationItemsResponseType"/>
</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="Exchange2013"
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:include schemaLocation="MS-OXWSEDISC-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="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:enumeration value="SetRetentionPolicy" />
      <xs:enumeration value="Flag" />
    </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:sequence>
  </xs:complexType>

```

```

    <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:element name="RetentionPolicyType" type="t:RetentionType" minOccurs="0"
maxOccurs="1"/>
    <xs:element name="RetentionPolicyTagId" type="xs:string" minOccurs="0" maxOccurs="1"/>
    <xs:element name="Flag" type="t:FlagType" minOccurs="0" maxOccurs="1"/>
    <xs:element name="SuppressReadReceipts" type="xs:boolean" 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:element name="LastModifiedTime" type="xs:dateTime" minOccurs="0"/>
    <xs:element name="InstanceKey" type="xs:base64Binary" minOccurs="0"/>
    <!-- Maps to ConversationItemSchema.ConversationPreview-->
    <xs:element name="Preview" type="xs:string" minOccurs="0"/>
    <!-- Maps to ConversationItemSchema.NextPredictedAction-->

```

```

    <xs:element name="NextPredictedAction" type="t:PredictedMessageType"
minOccurs="0" />
    <!-- Maps to ConversationItemSchema.GroupingAction-->
    <xs:element name="GroupingAction" type="t:PredictedMessageType" minOccurs="0"/>
    <!-- Flag for the mailbox scope this conversation was found in -->
    <xs:element name="MailboxScope" type="t:MailboxSearchLocationType" minOccurs="0"/>
    <!-- Maps to ConversationItemSchema.ConversationIconIndex-->
    <xs:element name="IconIndex" type="t:IconIndexType" minOccurs="0"/>
    <!-- Maps to ConversationItemSchema.ConversationGlobalIconIndex-->
    <xs:element name="GlobalIconIndex" type="t:IconIndexType" minOccurs="0"/>
    <!-- Maps to ConversationItemSchema.ConversationDraftItemIds-->
    <xs:element name="DraftItemIds" 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:simpleType name="ConversationQueryTraversalType">
  <xs:annotation>
    <xs:documentation>Types of sub-tree traversal for conversations</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="Shallow"/>
    <xs:enumeration value="Deep"/>
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="ConversationResponseShapeType">
  <xs:sequence>
    <xs:element name="BaseShape" type="t:DefaultShapeNamesType"/>
    <xs:element name="AdditionalProperties" type="t:NonEmptyArrayOfPathsToElementType"
minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="ConversationRequestType">
  <xs:sequence>
    <xs:element name="ConversationId" type="t:ItemIdType" minOccurs="1" maxOccurs="1"/>
    <xs:element name="SyncState" type="xs:base64Binary" minOccurs="0" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfConversationRequestsType">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
    <xs:element name="Conversation" type="t:ConversationRequestType"/>
  </xs:choice>
</xs:complexType>
<xs:complexType name="ConversationNodeType">
  <xs:sequence>
    <xs:element name="InternetMessageId" type="xs:string" minOccurs="0" maxOccurs="1"/>
    <xs:element name="ParentInternetMessageId" type="xs:string" minOccurs="0"
maxOccurs="1"/>
    <xs:element name="Items" type="t:NonEmptyArrayOfAllItemsType" minOccurs="0"
maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfConversationNodesType">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
    <xs:element name="ConversationNode" type="t:ConversationNodeType"/>
  </xs:choice>

```

```

</xs:complexType>
<xs:complexType name="ConversationResponseType">
  <xs:sequence>
    <xs:element name="ConversationId" type="t:ItemIdType" minOccurs="1" maxOccurs="1"/>
    <xs:element name="SyncState" type="xs:base64Binary" minOccurs="0" maxOccurs="1"/>
    <xs:element name="ConversationNodes" type="t:ArrayOfConversationNodesType"
minOccurs="0" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
<xs:simpleType name="ConversationNodeSortOrder">
  <xs:restriction base="xs:string">
    <xs:enumeration value="TreeOrderAscending"/>
    <xs:enumeration value="TreeOrderDescending"/>
    <xs:enumeration value="DateOrderAscending"/>
    <xs:enumeration value="DateOrderDescending"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="ViewFilterType">
  <xs:annotation>
    <xs:documentation>Types of view filters for finding
items/conversations</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="All"/>
    <xs:enumeration value="Flagged"/>
    <xs:enumeration value="HasAttachment"/>
    <xs:enumeration value="ToOrCcMe"/>
    <xs:enumeration value="Unread"/>
    <xs:enumeration value="TaskActive"/>
    <xs:enumeration value="TaskOverdue"/>
    <xs:enumeration value="TaskCompleted"/>
    <xs:enumeration value="Suggestions"/>
    <xs:enumeration value="SuggestionsRespond"/>
    <xs:enumeration value="SuggestionsDelete"/>
  </xs:restriction>
</xs:simpleType>
</xs:schema>

```

8 Appendix C: Product Behavior

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

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

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

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

[<1> Section 3.1.4.1.3.3:](#) Exchange 2010 does not use the **ConversationResponseShapeType** complex type.

[<2> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **LastModifiedTime** element.

[<3> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **InstanceKey** element.

[<4> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **GlobalParentFolderIds** element.

[<5> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **NextPredictedAction** element.

[<6> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **GroupingAction** element.

[<7> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **MailboxScope** element.

[<8> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **IconIndex** element.

[<9> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **GlobalIconIndex** element.

[<10> Section 3.1.4.1.3.4:](#) Exchange 2010 does not use the **DraftItemIds** element.

[<11> Section 3.1.4.1.3.5:](#) Exchange 2007 and Exchange 2010 do not use the **SeekToConditionPageItemView**, **MailboxScope**, **QueryString**, **ConversationShape**, **Traversal**, or **ViewFilter** elements.

[<12> Section 3.1.4.1.4.1:](#) Exchange 2010 does not use the **ConversationQueryTraversalType** simple type. The **ConversationQueryTraversalType** simple type was introduced in Exchange 2013.

[<13> Section 3.1.4.1.4.3:](#) Exchange 2010 does not use the **ViewFilterType** simple type. The **ViewFilterType** simple type was introduced in Exchange 2013.

[<14> Section 3.1.4.1.4.3:](#) Exchange 2010 and Exchange 2013 do not use the **SuggestionsRespond** value. Exchange 2010 and Exchange 2013 will return an empty set if this filter value is used in a request.

<15> [Section 3.1.4.1.4.3:](#) Exchange 2010 and Exchange 2013 do not use the **SuggestionsDelete** value. Exchange 2010 and Exchange 2013 will return an empty set if this filter value is used in a request.

<16> [Section 3.1.4.2:](#) Exchange 2010 does not use the **GetConversationItems** operation.

<17> [Section 3.1.4.2.3.1:](#) Exchange 2010 does not use the **ArrayOfConversationNodesType** complex type.

<18> [Section 3.1.4.2.3.2:](#) Exchange 2010 does not use the **ArrayOfConversationRequestsType** complex type.

<19> [Section 3.1.4.2.3.3:](#) Exchange 2010 does not use the **ConversationNodeType** complex type.

<20> [Section 3.1.4.2.3.4:](#) Exchange 2010 does not use the **ConversationResponseType** complex type.

<21> [Section 3.1.4.2.3.8:](#) Exchange 2010 does not use the **ConversationRequestType** complex type.

<22> [Section 3.1.4.2.4.1:](#) Exchange 2010 does not use the **ConversationNodeSortOrder** simple type.

<23> [Section 3.1.4.3.3.3:](#) Exchange 2007 and Exchange 2010 do not support the **RetentionPolicyType** value.

<24> [Section 3.1.4.3.3.3:](#) Exchange 2007 and Exchange 2010 do not support the **RetentionPolicyTagId** value.

<25> [Section 3.1.4.3.3.3:](#) Exchange 2007 and Exchange 2010 do not support the **Flag** element.

<26> [Section 3.1.4.3.3.3:](#) Exchange 2007 and Exchange 2010 do not support the **SuppressReadReceipt** element.

<27> [Section 3.1.4.3.4.1:](#) Exchange 2007 and Exchange 2010 do not support the **SetRetentionPolicy** value.

<28> [Section 3.1.4.3.4.1:](#) Exchange 2007 and Exchange 2010 do not support the **Flag** value.

9 Change Tracking

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

10 Index

A

Abstract data model
 [server](#) 11
[Applicability](#) 7
[Attribute groups](#) 10
[Attributes](#) 10

C

[Capability negotiation](#) 7
[Change tracking](#) 55
[Complex types](#) 10

D

Data model - abstract
 [server](#) 11

E

Events
 [local - server](#) 40
 [timer - server](#) 40

F

[Fields - vendor-extensible](#) 8
[Full WSDL](#) 44
[Full XML Schema](#) 47
 [Messages Schema](#) 47
 [Types Schema](#) 49

G

[Glossary](#) 5
[Groups](#) 10

I

[Implementer - security considerations](#) 43
[Index of security parameters](#) 43
[Informative references](#) 6
Initialization
 [server](#) 11
[Introduction](#) 5

L

Local events
 [server](#) 40

M

Message processing
 [server](#) 11
Messages
 [attribute groups](#) 10
 [attributes](#) 10

[complex types](#) 10
[elements](#) 9
[enumerated](#) 9
[groups](#) 10
[namespaces](#) 9
[simple types](#) 10
[syntax](#) 9
[transport](#) 9

N

[Namespaces](#) 9
[Normative references](#) 5

O

Operations
 [ApplyConversationAction](#) 32
 [FindConversation](#) 11
 [GetConversationItems](#) 25
[Overview \(synopsis\)](#) 6

P

[Parameters - security index](#) 43
[Preconditions](#) 7
[Prerequisites](#) 7
[Product behavior](#) 53

R

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

S

Security
 [implementer considerations](#) 43
 [parameter index](#) 43
Sequencing rules
 [server](#) 11
Server
 [abstract data model](#) 11
 [ApplyConversationAction operation](#) 32
 [FindConversation operation](#) 11
 [GetConversationItems operation](#) 25
 [initialization](#) 11
 [local events](#) 40
 [message processing](#) 11
 [sequencing rules](#) 11
 [timer events](#) 40
 [timers](#) 11
[Simple types](#) 10
[Standards assignments](#) 8
Syntax
 [messages - overview](#) 9

T

Timer events

[server](#) 40

Timers

[server](#) 11

[Tracking changes](#) 55

[Transport](#) 9

Types

[complex](#) 10

[simple](#) 10

V

[Vendor-extensible fields](#) 8

[Versioning](#) 7

W

[WSDL](#) 44

X

[XML Schema](#) 47

[Messages Schema](#) 47

[Types Schema](#) 49