[MS-OXWSMSHR]:
Folder Sharing Web Service Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
11/04/2009	1.0	Major	Initial availability.
02/10/2010	1.1.0	Minor	Updated the technical content.
05/05/2010	1.1.1	Editorial	Revised and edited the technical content.
08/04/2010	2.0	Major	Significantly changed the technical content.
11/03/2010	2.0	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	3.0	Major	Significantly changed the technical content.
08/05/2011	3.1	Minor	Clarified the meaning of the technical content.
10/07/2011	3.1	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	4.0	Major	Significantly changed the technical content.
04/27/2012	4.0	No change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1 Introduction

The Folder Sharing Web Service Protocol is responsible for managing **calendars** that are shared among users in separate organizations. Clients use the Folder Sharing Web Service Protocol to share calendar appointments, get appointments, and update appointments.

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 over Secure Sockets Layer (HTTPS)
XML

The following terms are defined in [MS-OXGLOS]:

calendar
mailbox
shared folder
Simple Mail Transfer Protocol (SMTP)
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 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-OXSHRMSG] Microsoft Corporation, "Sharing Message Attachment Schema".

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

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

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

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

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

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", May 2000, http://www.w3.org/TR/2000/NOTE-SOAP-20000508/

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, http://www.w3.org/TR/2001/NOTE-wsdl-20010315

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

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

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

1.2.2 Informative References

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

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

[MS-OXWSLVID] Microsoft Corporation, "Federated Internet Authentication Web Service Protocol Specification".

[MS-OXWSSYNC] Microsoft Corporation, "Mailbox Contents Synchronization Web Service Protocol Specification".

1.3 Overview

The Folder Sharing Web Service Protocol specifies data types and operations that enable client applications to manage cross-organization sharing of folder items. This sharing enables a client in one organization to access information from another organization, such as calendar free/busy information. This protocol is applicable to person-to-person sharing scenarios; it does not address organizations sharing information on behalf of the entire organization. The protocol defines operations that are used to create an opaque data structure that authorizes sharing, getting **shared folder** information, and initiating synchronization of shared folders.

1.4 Relationship to Other Protocols

The Folder Sharing Web Service Protocol uses SOAP over **HTTPS**, as described in [RFC2818], as shown in the following layering diagram.
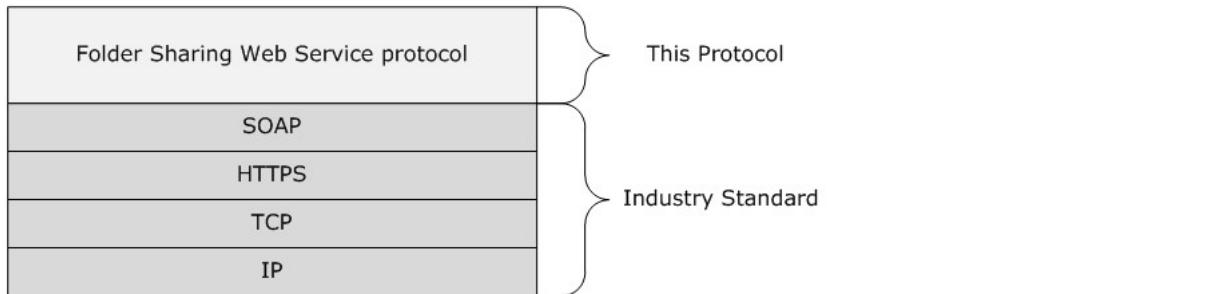
Figure 1: This protocol in relation to other protocols

Clients that implement this protocol use operations from the protocols listed in the following table to perform work.

Protocol	Description
Core Items Web Service Protocol [MS-OXWSCORE]	Subscribing clients can use the **CreateItem** operation ([MS-OXWSCORE] section 3.1.4.2) to create the local shared folder.
Federated Internet Authentication Web Service Protocol [MS-OXWSLVID]	Servers can use Federated Internet Authentication Web Service Protocol [MS-OXWSLVID] client operations to obtain authentication tokens to establish sharing relationships among users.
Folders and Folder Permissions Web Service Protocol [MS-OXWSFOLD]	Clients can use the **GetFolder** operation ([MS-OXWSFOLD] section 3.1.4.6) to retrieve information about folders to be shared, and they can use the **UpdateFolder** operation ([MS-OXWSFOLD] section 3.1.4.8) to update permissions on shared folders.
Mailbox Contents Synchronization Web Service Protocol [MS-OXWSSYNC]	Clients can use Mailbox Contents Synchronization Web Service Protocol [MS-OXWSSYNC] operations to synchronize the local shared folder on the server with the client's local data store.

1.5   Prerequisites/Preconditions

None.

1.6   Applicability Statement

The Folder Sharing Web Service Protocol is applicable to SOAP-based clients, as described in [SOAP1.1].

1.7   Versioning and Capability Negotiation

This document covers versioning in the following areas:

- **Supported Transports:** This protocol uses SOAP 1.1 over HTTPS, as described in section 2.1 and in [SOAP1.1].

- **Protocol Versions:** This protocol specifies only one **WSDL port type** version. The WSDL version of the request is identified by using the **t:RequestServerVersion** element, as described in [MS-OXWSCDATA] section 2.2.4.9, and the version of the server responding to the request is identified by using the **t:SesrverVersionInfo** element, as described in [MS-OXWSCDATA] section 2.2.4.10.

- **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 supported is SOAP 1.1. For details, see [SOAP1.1].

2.2 Common Message Syntax

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

2.2.1 Namespaces

This specification defines and references various **XML namespaces** by using the mechanisms specified in [XMLNS]. Although this specification associates a specific XML namespace prefix for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

Prefix	Namespace URI	Reference
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
tns	http://schemas.microsoft.com/exchange/services/2006/messages	
s	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]
targetNamespace	http://schemas.microsoft.com/exchange/services/2006/messages	
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
t	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

The following table summarizes the set of common XML schema complex type definitions that are defined by this specification. XML schema complex type definitions that are specific to a particular operation are defined with the operation.

Release: Sunday, April 22, 2012

Complex type	Description
GetSharingFolderResponseMessageType	Specifies the response from the **GetSharingFolder** operation (section 3.1.4.3).
GetSharingMetadataResponseMessageType	Specifies the response message from the **GetSharingMetadata** operation (section 3.1.4.4).
RefreshSharingFolderResponseMessageType	Specifies the response message from the **RefreshSharingFolder** operation (section 3.1.4.5).
ArrayOfEncryptedSharedFolderDataType	Specifies an array of encrypted folder data that is passed between servers by the client.
ArrayOfInvalidRecipientsType	Specifies a list of sharing request recipients with whom a sharing relationship could not be created.
EncryptedDataContainerType	Specifies an opaque container for encrypted data passed between servers by the client.
EncryptedSharedFolderDataType	Specifies encrypted folder information that is passed between servers by the client.
InvalidRecipientType	Specifies a recipient with whom a sharing relationship could not be created.

2.2.4.1   m:GetSharingFolderResponseMessageType Complex Type

The **GetSharingFolderResponseMessageType** complex type specifies the response message from the **GetSharingFolder** operation, as specified in section 3.1.4.3. The **GetSharingFolderResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [MS-OXWSCDATA] section 2.2.3.57.

```
<xs:complexType name="GetSharingFolderResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
      <xs:sequence
        minOccurs="0"
      >
        <xs:element name="SharingFolderId"
          type="t:FolderIdType"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

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

Element name	Type	Description
SharingFolderId	**t:FolderIdType** ([MS-OXWSCDATA] section 2.2.3.31)	Specifies the local folder identifier for a shared folder.

2.2.4.2   m:GetSharingMetadataResponseMessageType Complex Type

The **GetSharingMetadataResponseMessageType** complex type specifies the response message from the **GetSharingMetadata** operation, as specified in section 3.1.4.4. The **GetSharingMetadataResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [MS-OXWSCDATA] section 2.2.3.57.

```xml
<xs:complexType name="GetSharingMetadataResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
      <xs:sequence
        minOccurs="0"
      >
        <xs:element name="EncryptedSharedFolderDataCollection"
          type="t:ArrayOfEncryptedSharedFolderDataType"
         />
        <xs:element name="InvalidRecipients"
          type="t:ArrayOfInvalidRecipientsType"
         />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

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

Element name	Type	Description
EncryptedSharedFolderDataCollection	t:ArrayOfEncryptedSharedFolderDataType (section 2.2.4.4)	Specifies an encrypted payload from the server.
InvalidRecipients	t:ArrayOfInvalidRecipientsType (section 2.2.4.5)	Specifies recipients that belong to an organization that does not enable sharing.

2.2.4.3   m:RefreshSharingFolderResponseMessageType Complex Type

The **RefreshSharingFolderResponseMessageType** complex type specifies the response from the **RefreshSharingFolder** operation, as specified in section 3.1.4.5. The **RefreshSharingFolderResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [MS-OXWSCDATA] section 2.2.3.52.

```xml
<xs:complexType name="RefreshSharingFolderResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
     />
```

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

2.2.4.4   t:ArrayOfEncryptedSharedFolderDataType Complex Type

The **ArrayOfEncryptedSharedFolderDataType** complex type specifies an array of encrypted folder data that is passed between servers by the client.

```
<xs:complexType name="tArrayOfEncryptedSharedFolderDataType">
  <xs:choice
    maxOccurs="unbounded"
    minOccurs="0"
  >
    <xs:element name="EncryptedSharedFolderData"
      type="t:EncryptedSharedFolderDataType"
      />
  </xs:choice>
</xs:complexType>
```

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

Element name	Type	Description
EncryptedSharedFolderData	Section 2.2.4.7	Specifies zero or more encrypted shared folder data items.

2.2.4.5   t:ArrayOfInvalidRecipientsType Complex Type

The **ArrayOfInvalidRecipientsType** complex type specifies a list of sharing request recipients with whom a sharing relationship could not be created.

```
<xs:complexType name="ArrayOfInvalidRecipientsType">
  <xs:choice
    maxOccurs="unbounded"
  >
    <xs:element name="InvalidRecipient"
      type="t:InvalidRecipientType"
      />
  </xs:choice>
</xs:complexType>
```

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

Element	Type	Description
InvalidRecipient	**t:InvalidRecipientType** (section 2.2.4.8)	Specifies a recipient whose organization is not enabled for folder sharing.

2.2.4.6 t:EncryptedDataContainerType Complex Type

The **EncryptedDataContainerType** complex type specifies an opaque container for encrypted data that is passed between servers by the client.

```
<xs:complexType name="EncryptedDataContainerType">
  <xs:sequence>
    <xs:any
      process_contents="skip"
    />
  </xs:sequence>
</xs:complexType>
```

2.2.4.7 t:EncryptedSharedFolderDataType Complex Type

The **EncryptedSharedFolderDataType** complex type specifies encrypted folder information that is passed between servers by the client.

```
<xs:complexType name="EncryptedSharedFolderDataType">
  <xs:sequence>
    <xs:element name="Token"
      type="t:EncryptedDataContainerType"
    />
    <xs:element name="Data"
      type="t:EncryptedDataContainerType"
    />
  </xs:sequence>
</xs:complexType>
```

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

Element	Type	Description
Token	**t:EncryptedDataContainerType** (section 2.2.4.6)	Specifies an identification token.
Data	**t:EncryptedDataContainerType**	Specifies the encrypted data.

2.2.4.8 t:InvalidRecipientType Complex Type

The **InvalidRecipientType** complex type specifies a recipient with whom a sharing relationship could not be created.

```
<xs:complexType name="InvalidRecipientType">
  <xs:sequence>
    <xs:element name="SmtpAddress"
      type="t:NonEmptyStringType"
    />
    <xs:element name="ResponseCode"
      type="t:InvalidRecipientResponseCodeType"
    />
    <xs:element name="MessageText"
```

```
         type="xs:string"
         minOccurs="0"
       />
   </xs:sequence>
 </xs:complexType>
```

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

Element	Type	Description
SmtpAddress	**t:NonEmptyStringType** ([MS-OXWSCDATA] section 2.2.2.19)	Specifies the **SMTP** e-mail address of the recipient.
ResponseCode	**t:InvalidRecipientResponseCodeType** (section 2.2.5.2)	Specifies the reason why the recipient is invalid.
MessageText	**xs:string** ([XMLSCHEMA2])	Specifies the text of an error message. This element can be present.

2.2.5 Simple Types

The following table summarizes the set of common XML schema simple type definitions that are defined by this specification. XML schema simple type definitions that are specific to a particular operation are described with the operation.

Simple Type	Description
SharingDataType	Specifies the type of data that is shared by a shared folder.
InvalidRecipientResponseCodeType	Specifies the reason why a recipient of a folder sharing request was invalid.

2.2.5.1 t:SharingDataType Simple Type

The **SharingDataType** simple type specifies the type of data that is shared by the shared folder.

```
<xs:simpleType>
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
     value="Calendar"
    />
    <xs:enumeration
     value="Contacts"
    />
  </xs:restriction>
</xs:simpleType>
```

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

Value	Description
Calendar	Specifies that the shared folder contains calendar information.
Contacts	Specifies that the shared folder contains contact information.

2.2.5.2 t:InvalidRecipientResponseCodeType Simple Type

The **InvalidRecipientResponseCodeType** simple type specifies the reason why a recipient of a folder sharing request was invalid.

```
<xs:simpleType name="InvalidRecipientResponseCodeType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="CannotObtainTokenFromSTS"
    />
    <xs:enumeration
      value="RecipientOrganizationNotFederated"
    />
    <xs:enumeration
      value="SystemPolicyBlocksSharingWithThisRecipient"
    />
  </xs:restriction>
</xs:simpleType>
```

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

Value	Description
CannotObtainTokenFromSTS	Specifies that there was a problem obtaining a security token from the security token server (STS).
RecipientOrganizationNotFederated	Specifies that a sharing relationship is not available with the organization specified in the recipient's SMTP e-mail address.
SystemPolicyBlocksSharingWithThisRecipient	Specifies that the system administrator has set a system policy that blocks sharing with the specified recipient.

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 that are returned by the transport are passed directly back to the higher-layer protocol or application.

3.1   ExchangeServicePortType Server Details

This protocol defines a single port type with three operations. In addition, this protocol uses one operation specified in [MS-OXWSCORE] and two operations specified in [MS-OXWSFOLD]. These operations enable client implementations to establish a sharing relationship between two servers and to manage the folders necessary for that sharing relationship.

3.1.1   Abstract Data Model

This protocol uses a sharing message, as defined in [MS-OXSHRMSG], to establish folder sharing. The **GetSharingMetadata** operation (section 3.1.4.4) gets the **EncryptedSharedFolderDataType** complex type (section 2.2.4.7) elements that are required to populate the **SharingMessage** element in the **XML** sharing message, as specified in [MS-OXSHRMSG] section 2.1.8.

This protocol requires two clients: a publishing client that is sharing information on behalf of a user, and a subscribing client that is accessing the shared information. To establish the relationship, the two clients perform the following actions.

Publisher actions:

- Call the **GetSharingMetadata** operation (section 3.1.4.4) to get an opaque authentication token that identifies the sharing invitation.

- Construct a Sharing Message Attachment XML document, as specified in [MS-OXSHRMSG], from the response from the **GetSharingMetadata** operation (section 3.1.4.4). The **EncryptedSharedFolderDataCollection** element of the **GetSharingMetaDataResponse** section 3.1.4.4.2.2) element is inserted into the Sharing Message Attachment XML document as the **EncryptedSharedFolderDataCollection** element of the **ProviderType** element, as specified in [MS-OXSHRMSG] section 2.1.6.

- Use the **GetFolder** operation, as specified in [MS-OXWSFOLD] section 3.1.4.6, to get the permission list for the shared folder.

- Use the **UpdateFolder** operation, as specified in [MS-OXWSFOLD] section 3.1.4.8, to add the new subscriber to the permission list.

- Send the Sharing Message Attachment XML document to the subscriber as an attachment on an e-mail message. The attachment requires the following headers:

  - Content-Type: application/x-sharing-metadata-xml;

  - Content-Disposition: attachment; filename="sharing_metadata.xml"

Subscriber actions:

- Call the **CreateItem** operation, as specified in [MS-OXWSCORE] section 3.1.4.2, with an **AcceptSharingInvitationType** element, as specified in [MS-OXWSCDATA] section 2.2.3.3.

▪ Get the local sharing folder identifier by calling the **GetSharingFolder** operation (section 3.1.4.3). The local sharing folder is created by the previous call to the **CreateItem** operation.

Start synchronizing the local sharing folder on the server by calling the **RefreshSharingFolder** operation (section 3.1.4.5) with the local sharing folder identifier that is returned by the **GetSharingFolder** operation (section 3.1.4.3).

3.1.2   Timers

None.

3.1.3   Initialization

None.

3.1.4   Message Processing Events and Sequencing Rules

This protocol specifies the operations that are listed in the following table.

Operation	Description
GetSharingFolder	Gets the folder identifier of a specified shared folder.
GetSharingMetadata	Requests an encrypted XML payload that identifies the participants in a shared folder exchange.
RefreshSharingFolder	Requests that the server update shared folder information.

This protocol uses the operations that are listed in the following table.

Operation	Specified in	Description
CreateItem	[MS-OXWSCORE] section 3.1.4.2	Creates a folder sharing response message.
GetFolder	[MS-OXWSFOLD] section 3.1.4.6	Gets a specified folder so that the access permissions can be changed.
UpdateFolder	[MS-OXWSFOLD] section 3.1.4.8	Updates the access permissions on the specified folder to enable folder sharing.

3.1.4.1   CreateItem Operation

The **CreateItem** operation, as specified in [MS-OXWSCORE] section 3.1.4.2, creates **AcceptSharingInvitationType** complex type elements, as specified in [MS-OXWSCDATA] section 2.2.3.3.

```
<wsdl:operation name="CreateItem">
    <wsdl:input message="tns:CreateItemSoapIn" />
    <wsdl:output message="tns:CreateItemSoapOut" />
</wsdl:operation>
```

The **Items** child element of the **CreateItem** child element, as specified in [MS-OXWSCORE] section 3.1.4.2.2.1, that specifies the XML request MUST contain one **AcceptSharingInvitationType**

complex type element, as specified in [MS-OXWSCDATA] section 2.2.3.3. All other elements MUST be empty.

3.1.4.2 GetFolder Operation

The **GetFolder** operation, as specified in [MS-OXWSFOLD] section 3.1.4.6, gets a shared folder so that the access permissions on a shared folder can be modified.

3.1.4.3 GetSharingFolder Operation

The **GetSharingFolder** operation gets the local folder identifier of a specified shared folder.

The following is the WSDL port type specification for this operation.

```
<wsdl:operation name="GetSharingFolder">
    <wsdl:input message="tns:GetSharingFolderSoapIn"/>
    <wsdl:output message="tns:GetSharingFolderSoapOut"/>
</wsdl:operation>
```

The following is the WSDL binding specification for this operation.

```
<wsdl:operation name="GetSharingFolder">
   <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetSharingFolder"/>
   <wsdl:input>
      <soap:body parts="request" use="literal"/>
      <soap:header message="tns:GetSharingFolderSoapIn" part="RequestVersion" use="literal"/>
   </wsdl:input>
   <wsdl:output>
      <soap:body parts="GetSharingFolderResult" use="literal"/>
      <soap:header message="tns:GetSharingFolderSoapOut" part="ServerVersion" use="literal"/>
   </wsdl:output>
</wsdl:operation>
```

The **GetSharingFolder** operation returns the local folder identifier of a specified shared folder. After the local folder identifier is returned, the **RefreshSharingFolder** operation, as specified in section 3.1.4.5, is used to request that the server synchronize the shared folder information.

3.1.4.3.1 Messages

The WSDL message definitions listed in the following table are specific to this operation.

Message name	Description
GetSharingFolderSoapIn	Specifies the **SOAP message** that requests the local identifier of a shared folder.
GetSharingFolderSoapOut	Specifies the SOAP message that is returned in response.

3.1.4.3.1.1 tns:GetSharingFolderSoapIn Message

The **GetSharingFolderSoapIn** WSDL message specifies a request to the **GetSharingFolder** operation.

```
<wsdl:message name="GetSharingFolderSoapIn">
   <wsdl:part name="request" element="tns:GetSharingFolder"/>
   <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
```

The **GetSharingFolderSoapIn** WSDL message is the input message for the **SOAP action** http://schemas.microsoft.com/exchange/services/2006/messages/GetSharingFolder.

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

Part name	Element/type	Description
Request	**tns:GetSharingFolder** (section 3.1.4.3.2.2)	Specifies the **SOAP body** of the request for a local identifier of a shared folder.
RequestVersion	**t:RequestServerVersion** ([MS-OXWSCDATA] section 2.2.4.9)	Specifies a **SOAP header** that identifies the schema version for the **GetSharingFolder** operation request.

3.1.4.3.1.2 tns:GetSharingFolderSoapOut Message

The **GetSharingFolderSoapOut** WSDL message specifies the server response to the **GetSharingFolder** operation request to return the local identifier of a shared folder.

The **GetSharingFolderSoapOut** WSDL message is the output message for the SOAP action http://schemas.microsoft.com/exchange/services/2006/messages/GetSharingFolder.

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

Part name	Element/type	Description
GetSharingFolderResult	**tns:GetSharingFolderResponse** (section 3.1.4.3.2.1)	Specifies the SOAP body of the response to a **GetSharingFolder** operation request.
ServerVersion	**t:ServerVersionInfo** ([MS-OXWSCDATA] section 2.2.4.10)	Specifies a SOAP header that identifies the server version for the response.

3.1.4.3.2 Elements

The XML schema element definitions listed in the following table are specific to this operation.

Element name	Description
GetSharingFolder	Specifies the base request element for the GetSharingFolder operation.
GetSharingFolderResponse	Specifies the response message from the GetSharingFolder operation.

3.1.4.3.2.1 GetSharingFolderResponse Element

The **GetSharingFolderResponse** element specifies the response message from the **GetSharingFolder** operation.

```
<xs:element name="GetSharingFolderResponse"
  type="m:GetSharingFolderResponseMessageType"
 />
```

3.1.4.3.2.2 GetSharingFolder Element

The **GetSharingFolder** element specifies the base request element for the **GetSharingFolder** operation.

```
<xs:element name="GetSharingFolder"
  type="m:GetSharingFolderType"
 />
```

3.1.4.3.3 Complex Types

The XML schema complex type definitions listed in the following table are specific to this operation.

Complex type name	Description
GetSharingFolderType	Specifies the shared folder to be returned from the GetSharingFolder operation.

3.1.4.3.3.1 t:GetSharingFolderType Complex Type

The **GetSharingFolderType** complex type specifies the shared folder to be returned from the **GetSharingFolder** operation.

```
<xs:complexType name="GetSharingFolderType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:sequence>
        <xs:element name="SmtpAddress"
          type="t:NonEmptyStringType"
         />
        <xs:element name="DataType"
          type="t:SharingDataType"
          minOccurs="0"
         />
        <xs:element name="SharedFolderId"
          type="t:NonEmptyStringType"
          minOccurs="0"
         />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

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

Element	Type	Description
SmtpAddress	**t:NonEmptyStringType** ([MS-OXWSCDATA] section 2.2.2.19)	Specifies the SMTP e-mail address of the other party in the sharing relationship.
DataType	**t:SharingDataType** (section 2.2.5.1)	Specifies the type of folder to be returned. This element can be present.
SharedFolderId	**t:NonEmptyStringType**	Specifies the identifier of the shared folder for which the local folder is to be returned. This element can be present.

A **GetSharingFolderType** element MUST include either the **SmtpAddress** and **DataType** elements, or the **SharedFolderId** element. The **GetSharingFolderType** element MUST NOT contain all of those elements.

3.1.4.4 GetSharingMetadata Operation

The **GetSharingMetadata** operation gets an encrypted XML payload that identifies the participants in a shared folder exchange.

The following is the WSDL port type specification for this operation.

```
<wsdl:operation name="GetSharingMetadata">
     <wsdl:input message="tns:GetSharingMetadataSoapIn"/>
     <wsdl:output message="tns:GetSharingMetadataSoapOut"/>
</wsdl:operation>
```

The following is the WSDL binding specification for this operation.

```
<wsdl:operation name="GetSharingMetadata">
   <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetSharingMetadata"/
>
   <wsdl:input>
      <soap:body parts="request" use="literal"/>
      <soap:header message="tns:GetSharingMetadataSoapIn" part="RequestVersion"
use="literal"/>
   </wsdl:input>
   <wsdl:output>
      <soap:body parts="GetSharingMetadataResult" use="literal"/>
      <soap:header message="tns:GetSharingMetadataSoapOut" part="ServerVersion"
use="literal"/>
   </wsdl:output>
</wsdl:operation>
```

3.1.4.4.1 Messages

The WSDL message definitions listed in the following table are specific to this operation.

Message name	Description
GetSharingMetadataSoapIn	Specifies the SOAP message that requests encrypted sharing data from the server.

Message name	Description
GetSharingMetadataSoapOut	Specifies the SOAP message that is returned by the server in response.

3.1.4.4.1.1 tns:GetSharingMetadataSoapIn Message

The **GetSharingMetadataSoapIn** WSDL message specifies the request for an encrypted XML message that identifies the participants in a sharing folder exchange.

```
<wsdl:message name="GetSharingMetadataSoapIn">
   <wsdl:part name="request" element="tns:GetSharingMetadata"/>
   <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
```

The **GetSharingMetadataSoapIn** WSDL message is the input message for the SOAP action http://schemas.microsoft.com/exchange/services/2006/messages/GetSharingMetadata.

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

Part name	Element/type	Description
request	**tns:GetSharingMetadata** (section 3.1.4.4.2.1)	Specifies the SOAP body of the request for folder sharing data.
RequestVersion	**t:RequestServerVersion** ([MS-OXWSCDATA] section 2.2.4.9)	Specifies a SOAP header that identifies the schema version for the **GetSharingMetadata** operation request.

3.1.4.4.1.2 tns:GetSharingMetadataSoapOut Message

The **GetSharingMetadataSoapOut** WSDL message specifies the server response to the GetSharingMetadata operation.

```
<wsdl:message name="GetSharingMetadataSoapOut">
   <wsdl:part name="GetSharingMetadataResult" element="tns:GetSharingMetadataResponse"/>
   <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **GetSharingMetadataSoapOut** WSDL message is the output message for the SOAP action http://schemas.microsoft.com/exchange/services/2006/messages/GetSharingMetadata.

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

Part name	Element/type	Description
GetSharingMetadataResult	**tns:GetSharingMetadataResponse** (section 3.1.4.4.2.2)	Specifies the SOAP body of the response.
ServerVersion	**t:ServerVersionInfo** ([MS-OXWSCDATA] section 2.2.4.10)	Specifies SOAP header that identifies the server version for the response.

3.1.4.4.2 Elements

The XML schema element definitions listed in the following table are specific to this operation.

Element name	Description
GetSharingMetadata	Specifies the base request for the GetSharingMetadata operation.
GetSharingMetadataResponse	Specifies the response from the GetSharingMetadata operation.

3.1.4.4.2.1 GetSharingMetadata Element

The **GetSharingMetadata** element specifies the base request for the **GetSharingMetadata** operation.

```
<xs:element name="GetSharingMetadata"
  type="m:GetSharingMetadataType"
 />
```

3.1.4.4.2.2 GetSharingMetadataResponse Element

The **GetSharingMetadataResponse** element specifies the response from the **GetSharingMetadata** operation.

```
<xs:element name="GetSharingMetadataResponse"
  type="m:GetSharingMetadataResponseMessageType"
 />
```

3.1.4.4.3 Complex Types

The XML schema complex type definitions listed in the following table are specific to this operation.

Complex type name	Description
ArrayOfSmtpAddressType	Specifies an array of SMTP e-mail addresses.
GetSharingMetadataType	Specifies the sharing folder and recipients for the GetSharigeMetadata operation.

3.1.4.4.3.1 t:ArrayOfSmtpAddressType Complex Type

The **ArrayOfSmtpAddressType** complex type specifies an array of SMTP e-mail addresses.

```
<xs:complexType name="ArrayOfSmtpAddressType">
  <xs:choice
    maxOccurs="unbounded"
  >
    <xs:element name="SmtpAddress"
      type="t:NonEmptyStringType"
     />
  </xs:choice>
```

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

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

Element	Type	Description
SmtpAddress	**t:NonEmptyStringType** ([MS-OXWSCDATA] section 2.2.2.19)	Specifies an SMTP e-mail address.

3.1.4.4.3.2   m:GetSharingMetadataType Complex Type

The **GetSharingMetadataType** complex type specifies the sharing folder and recipients for the **GetSharingMetadata** operation. The **GetSharingMetadataType** complex type extends the **BaseRequestType** complex type, as specified in [MS-OXWSCDATA] section 2.2.3.15.

```
<xs:complexType name="GetSharingMetadataType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:sequence>
        <xs:element name="IdOfFolderToShare"
          type="t:FolderIdType"
         />
        <xs:element name="SenderSmtpAddress"
          type="t:NonEmptyStringType"
         />
        <xs:element name="Recipients"
          type="t:ArrayOfSmtpAddressType"
         />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

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

Element	Type	Description
IdOfFolderToShare	**t:FolderIdType** ([MS-OXWSCDATA] section 2.2.3.31)	Specifies the identifier for an existing folder on the server that will be shared.
SenderSmtpAddress	**t:NonEmptyStringType** ([MS-OXWSCDATA] section 2.2.2.19)	Specifies a user e-mail address. The address MUST correspond to the **mailbox** that contains the folder that is identified in the **IdOfFolderToShare** element.
Recipients	**t:ArrayOfSmtpAddressType** (section 3.1.4.4.3.1)	Specifies the e-mail addresses of one or more entities that will be granted access to the mailbox folder.

3.1.4.5 RefreshSharingFolder Operation

The **RefreshSharingFolder** operation requests that the server synchronize shared folder information to the local sharing folder.

The following is the WSDL port type specification for this operation.

```
<wsdl:operation name="RefreshSharingFolder">
     <wsdl:input message="tns:RefreshSharingFolderSoapIn"/>
     <wsdl:output message="tns:RefreshSharingFolderSoapOut"/>
</wsdl:operation>
```

The following is the WSDL binding specification for this operation.

```
<wsdl:operation name="RefreshSharingFolder">
    <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/RefreshSharingFolder
"/>
    <wsdl:input>
       <soap:body parts="request" use="literal"/>
       <soap:header message="tns:RefreshSharingFolderSoapIn" part="RequestVersion"
use="literal"/>
       </wsdl:input>
    <wsdl:output>
       <soap:body parts="RefreshSharingFolderResult" use="literal"/>
       <soap:header message="tns:RefreshSharingFolderSoapOut" part="ServerVersion"
use="literal"/>
    </wsdl:output>
</wsdl:operation>
```

3.1.4.5.1 Messages

The **WSDL** message definitions listed in the following table are specific to this operation.

Message name	Description
RefreshSharingFolderSoapIn	Specifies the SOAP message that requests that a local shared folder be synchronized with the remote server.
RefreshSharingFolderSoapOut	Specifies the SOAP message that is returned by the server in response.

3.1.4.5.1.1 tns:RefreshSharingFolderSoapIn Message

The **RefreshSharingFolderSoapIn** WSDL message specifies a request to synchronize a shared folder with a remote server.

```
<wsdl:message name="RefreshSharingFolderSoapIn">
    <wsdl:part name="request" element="tns:RefreshSharingFolder"/>
    <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
```

The **RefreshSharingFolderSoapIn** WSDL message is the input message for the SOAP action http://schemas.microsoft.com/exchange/services/2006/messages/RefreshSharingFolder.

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

Part name	Element/type	Description
request	**tns:RefreshSharingFolder** (section 3.1.4.5.2.1)	Specifies the SOAP body of the request to synchronize a shared folder.
RequestVersion	**t:RequestServerVersion** ([MS-OXWSCDATA] section 2.2.4.9)	Specifies a SOAP header that identifies the schema version for the **RefreshSharingFolder** operation request.

3.1.4.5.1.2   tns:RefreshSharingFolderSoapOut Message

The **RefreshSharingFolderSoapOut** WSDL message specifies the server response to the **RefreshSharingFolder** operation.

```
<wsdl:message name="RefreshSharingFolderSoapOut">
   <wsdl:part name="RefreshSharingFolderResult"
       element="tns:RefreshSharingFolderResponse"/>
   <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **RefreshSharingFolderSoapOut** WSDL message is the output message for the SOAP action http://schemas.microsoft.com/exchange/services/2006/messages/RefreshSharingFolder.

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

Part name	Element/type	Description
RefreshSharingFolderResult	tns:RefreshSharingFolderResponse (section 3.1.4.5.2.2)	Specifies the SOAP body of the response to the **RefreshSharingFolder** operation.
ServerVersion	**t:ServerVersionInfo** ([MS-OXWSCDATA] section 2.2.4.10)	Specifies a SOAP header that identifies the server version for the response.

3.1.4.5.2   Elements

The **XML schema** element definitions listed in the following table are specific to this operation.

Element name	Description
RefreshSharingFolder	Specifies the base request for the RefreshSharingFolder operation.
RefreshSharingFolderResponse	Specifies the response from the RefreshSharingFolder operation.

3.1.4.5.2.1   RefreshSharingFolder Element

The **RefreshSharingFolder** element specifies the base request for the **RefreshSharingFolder** operation.

```
<xs:element name="RefreshSharingFolder"
  type="m:RefreshSharingFolderType"
 />
```

3.1.4.5.2.2 RefreshSharingFolderResponse Element

The **RefreshSharingFolderResponse** element specifies the response from the
RefreshSharingFolder operation.

```
<xs:element name="RefreshSharingFolderResponse"
  type="m:RefreshSharingFolderResponseMessageType"
 />
```

3.1.4.5.3 Complex Types

The **XML schema** complex type definitions listed in the following table are specific to this operation.

Complex type name	Description
RefreshSharingFolderType	Specifies the base request for the RefreshSharingFolder operation.

3.1.4.5.3.1 m:RefreshSharingFolderType Complex Type

The **RefreshSharingFolderType** complex type specifies the request for the
RefreshSharingFolder operation. The **RefreshSharingFolderType** complex type extends the
BaseRequestType complex type, as specified in [MS-OXWSCDATA] section 2.2.3.15.

```
<xs:complexType name="RefreshSharingFolderType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:sequence>
        <xs:element name="SharingFolderId"
          type="t:FolderIdType"
         />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

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

Element	Type	Description
SharingFolderId	**t:FolderIdType** ([MS-OXWSCDATA] section 2.2.3.31)	Specifies the local identifier of the shared folder to refresh from the associated server.

3.1.4.6 UpdateFolder Operation

The **UpdateFolder** operation, as specified in [MS-OXWSFOLD] section 3.1.4.8, updates the access permissions on a shared folder when a sharing relationship is created.

```
<wsdl:operation name="UpdateFolder">
    <wsdl:input message="tns:UpdateFolderSoapIn"/>
    <wsdl:output message="tns:UpdateFolderSoapOut"/>
</wsdl:operation>
```

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

4.1 GetSharingMetadata Request

The following XML example is a request to the **GetSharingMetadata** operation, as described in section 3.1.4.4. The **Id** attribute of the **IdOfFolderToShare** element has been shortened for readability.

```
<q:Envelope xmlns:ext="http://schemas.microsoft.com/exchange/services/2006/types"
   xmlns:exm="http://schemas.microsoft.com/exchange/services/2006/messages"
   xmlns:q="http://schemas.xmlsoap.org/soap/envelope/">
 <q:Header>
   <ext:RequestServerVersion Version="Exchange2010"></ext:RequestServerVersion>
 </q:Header>
 <q:Body>
   <exm:GetSharingMetadata>
     <exm:IdOfFolderToShare Id="AAMkADc1YjI="/>
     <exm:SenderSmtpAddress>user1@contoso.com</exm:SenderSmtpAddress>
     <exm:Recipients>
       <ext:SmtpAddress>user2@contoso.com</ext:SmtpAddress>
     </exm:Recipients>
   </exm:GetSharingMetadata>
 </q:Body>
</q:Envelope>
```

4.2 GetSharingMetadata Response

The following XML example is the response from the **GetSharingMetadata** operation, as described in section 3.1.4.4. The contents of the **KeyIdentifier**, **CypherValue**, and **CypherData** elements has been shortened for readability.

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <h:ServerVersionInfo MajorVersion="14" MinorVersion="1" MajorBuildNumber="225"
MinorBuildNumber="45" Version="Exchange2010_SP1"
xmlns:h="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"/>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <GetSharingMetadataResponse ResponseClass="Success"
xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
      <ResponseCode>NoError</ResponseCode>
      <EncryptedSharedFolderDataCollection>
        <EncryptedSharedFolderData
xmlns="http://schemas.microsoft.com/exchange/services/2006/types">
          <Token>
            <EncryptedData Id="Assertion0" Type="http://www.w3.org/2001/04/xmlenc#Element"
xmlns="http://www.w3.org/2001/04/xmlenc#">
              <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#tripledes-
cbc"></EncryptionMethod>
              <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
                <EncryptedKey>
```

29 / 43

```
                    <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#rsa-oaep-
mgf1p"></EncryptionMethod>
                    <ds:KeyInfo Id="keyinfo">
                      <wsse:SecurityTokenReference xmlns:wsse="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">
                        <wsse:KeyIdentifier
                          EncodingType="http://docs.oasis-
                                    open.org/wss/2004/01/oasis-200401-wss-soap-
                                    message-security-1.0#Base64Binary"
                          ValueType="http://docs.oasis-open.org/wss/2004/01/oasis-
                                    200401-wss-x509-token-profile-
                                    1.0#X509SubjectKeyIdentifier">
                          nR+jNSYQR9eSkgOpEog/xQ==</wsse:KeyIdentifier>
                      </wsse:SecurityTokenReference>
                    </ds:KeyInfo>
                    <CipherData>
                      <CipherValue>arNGOQ+nYwa/…==</CipherValue>
                    </CipherData>
                  </EncryptedKey>
                </ds:KeyInfo>
                <CipherData>
                  <CipherValue>KhP6tqH4…=</CipherValue>
                </CipherData>
              </EncryptedData>
            </Token>
            <Data>
              <EncryptedData Type="http://www.w3.org/2001/04/xmlenc#Element"
                          xmlns="http://www.w3.org/2001/04/xmlenc#">
                <EncryptionMethod
                  Algorithm="http://www.w3.org/2001/04/xmlenc#aes256-cbc"/>
                <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
                  <EncryptedKey xmlns="http://www.w3.org/2001/04/xmlenc#">
                    <EncryptionMethod
                      Algorithm="http://www.w3.org/2001/04/xmlenc#kw-tripledes"/>
                    <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
                      <KeyName>key</KeyName>
                    </KeyInfo>
                    <CipherData>
                      <CipherValue>
                        SqPZz6UU…
                      </CipherValue>
                    </CipherData>
                  </EncryptedKey>
                </KeyInfo>
                <CipherData>
                  <CipherValue>+QXPTi49k…=</CipherValue>
                </CipherData>
              </EncryptedData>
            </Data>
          </EncryptedSharedFolderData>
        </EncryptedSharedFolderDataCollection>
        <InvalidRecipients/>
      </GetSharingMetadataResponse>
    </s:Body>
</s:Envelope>
```

5 Security

5.1 Security Considerations for Implementers

This protocol does not use any additional security mechanisms.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

The following table lists the XML files that are required to implement the functionality that is specified in this document. The contents of each file are included in this section.

File name	Description	Section
MS-OXWSMSHR.wsdl	Contains the WSDL for the implementation of this protocol.	6
MS-OXWSMSHR-messages.xsd	Contains the XML schema message definitions that are used in this protocol.	7.1
MS-OXWSMSHR-types.xsd	Contains the XML schema type definitions that are used in this protocol.	7.2
MS-OXWSCORE-messages.xsd	Contains XML schema message definitions that are referred to by this protocol.	[MS-OXWSCORE] section 7.1
MS-OXWSFOLD-types.xsd	Contains XML schema type definitions that are referred to by this protocol.	[MS-OXWSFOLD] section 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 referenced in XML **include** or **import** elements by the MS-OXWSMSHR-types.xsd or MS-OXWSMSHR-messages.xsd schemas have to be placed in the common folder.

This section contains the contents of the MS-OXWSMSHR.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:s="http://www.w3.org/2001/XMLSchema" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
    <wsdl:types>
        <xs:schema id="messages" elementFormDefault="qualified" version="Exchange2010"
xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:tns="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"
xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
<!--
            <xs:import
namespace="http://schemas.microsoft.com/exchange/services/2006/types" schemaLocation="MS-
OXWSMSHR-types.xsd"/>-->
            <!-- Add global elements and types from messages.xsd -->
                <xs:include schemaLocation="MS-OXWSMSHR-messages.xsd"/>
                <xs:include schemaLocation="MS-OXWSCORE-messages.xsd"/>
                <xs:include schemaLocation="MS-OXWSFOLD-messages.xsd"/>

        </xs:schema>
        <xs:schema id="types" elementFormDefault="qualified" version="Exchange2010"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
```

```
                <xs:import namespace="http://www.w3.org/XML/1998/namespace"/>
                <!-- Add global elements and types from types.xsd -->
        </xs:schema>
    </wsdl:types>
    <wsdl:portType name="ExchangeServicePortType">
        <wsdl:operation name="GetSharingMetadata">
                <wsdl:input message="tns:GetSharingMetadataSoapIn"/>
                <wsdl:output message="tns:GetSharingMetadataSoapOut"/>
        </wsdl:operation>
        <wsdl:operation name="RefreshSharingFolder">
                <wsdl:input message="tns:RefreshSharingFolderSoapIn"/>
                <wsdl:output message="tns:RefreshSharingFolderSoapOut"/>
        </wsdl:operation>
        <wsdl:operation name="GetSharingFolder">
                <wsdl:input message="tns:GetSharingFolderSoapIn"/>
                <wsdl:output message="tns:GetSharingFolderSoapOut"/>
        </wsdl:operation>
        <wsdl:operation name="CreateItem">
                <wsdl:input message="tns:CreateItemSoapIn"/>
                <wsdl:output message="tns:CreateItemSoapOut"/>
        </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="GetSharingMetadata">
                <soap:operation
 soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetSharingMetadata"/
 >
                <wsdl:input>
                        <soap:body parts="request" use="literal"/>
                        <soap:header message="tns:GetSharingMetadataSoapIn" part="RequestVersion"
 use="literal"/>
                </wsdl:input>
                <wsdl:output>
                        <soap:body parts="GetSharingMetadataResult" use="literal"/>
                        <soap:header message="tns:GetSharingMetadataSoapOut" part="ServerVersion"
 use="literal"/>
                </wsdl:output>
        </wsdl:operation>
        <!-- RefreshSharingFolder -->
        <wsdl:operation name="RefreshSharingFolder">
                <soap:operation
 soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/RefreshSharingFolder
 "/>
                <wsdl:input>
                        <soap:body parts="request" use="literal"/>
                        <soap:header message="tns:RefreshSharingFolderSoapIn"
 part="RequestVersion" use="literal"/>
                </wsdl:input>
                <wsdl:output>
                        <soap:body parts="RefreshSharingFolderResult" use="literal"/>
                        <soap:header message="tns:RefreshSharingFolderSoapOut"
 part="ServerVersion" use="literal"/>
                </wsdl:output>
        </wsdl:operation>
        <!-- GetSharingFolder -->
```

```
            <wsdl:operation name="GetSharingFolder">
                <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetSharingFolder"/>
                <wsdl:input>
                    <soap:body parts="request" use="literal"/>
                    <soap:header message="tns:GetSharingFolderSoapIn" part="RequestVersion"
use="literal"/>
                </wsdl:input>
                <wsdl:output>
                    <soap:body parts="GetSharingFolderResult" use="literal"/>
                    <soap:header message="tns:GetSharingFolderSoapOut" part="ServerVersion"
use="literal"/>
                </wsdl:output>
            </wsdl:operation>
            <wsdl:operation name="CreateItem">
                <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/CreateItem"/>
                <wsdl:input>
                    <soap:header message="tns:CreateItemSoapIn" part="Impersonation"
use="literal"/>
                    <soap:header message="tns:CreateItemSoapIn" part="MailboxCulture"
use="literal"/>
                    <soap:header message="tns:CreateItemSoapIn" part="RequestVersion"
use="literal"/>
                    <soap:header message="tns:CreateItemSoapIn" part="TimeZoneContext"
use="literal"/>
                    <soap:body parts="request" use="literal"/>
                </wsdl:input>
                <wsdl:output>
                    <soap:body parts="CreateItemResult" use="literal"/>
                    <soap:header message="tns:CreateItemSoapOut" part="ServerVersion"
use="literal"/>
                </wsdl:output>
            </wsdl:operation>
    </wsdl:binding>
    <wsdl:message name="CreateItemSoapIn">
        <wsdl:part name="request" element="tns:CreateItem"/>
        <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
        <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
        <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
        <wsdl:part name="TimeZoneContext" element="t:TimeZoneContext"/>
    </wsdl:message>
    <wsdl:message name="CreateItemSoapOut">
        <wsdl:part name="CreateItemResult" element="tns:CreateItemResponse"/>
        <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
    </wsdl:message>
    <wsdl:message name="GetSharingMetadataSoapIn">
        <wsdl:part name="request" element="tns:GetSharingMetadata"/>
        <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
    </wsdl:message>
    <wsdl:message name="GetSharingMetadataSoapOut">
        <wsdl:part name="GetSharingMetadataResult"
element="tns:GetSharingMetadataResponse"/>
        <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
    </wsdl:message>
    <wsdl:message name="RefreshSharingFolderSoapIn">
        <wsdl:part name="request" element="tns:RefreshSharingFolder"/>
        <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
    </wsdl:message>
    <wsdl:message name="RefreshSharingFolderSoapOut">
```

```
        <wsdl:part name="RefreshSharingFolderResult"
element="tns:RefreshSharingFolderResponse"/>
        <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
    </wsdl:message>
    <wsdl:message name="GetSharingFolderSoapIn">
        <wsdl:part name="request" element="tns:GetSharingFolder"/>
        <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
    </wsdl:message>
    <wsdl:message name="GetSharingFolderSoapOut">
        <wsdl:part name="GetSharingFolderResult" element="tns:GetSharingFolderResponse"/>
        <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-OXWSMSHR-types.xsd or MS-OXWSMSHR-messages.xsd schemas have to be placed in the common folder along with the files listed in the table.

7.1 Messages Schema

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

MS-OXWSMSHR-messages.xsd references the files listed in the following table. For the schema file to operate correctly, these files have to be in the folder that contains the WSDL, types schema, and messages schema files for this protocol.

File name	Defined in
MS-OXWSCDATA-messages.xsd	[MS-OXWSCDATA] section 7.1
MS-OXWSMSHR-types.xsd	7.2

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:tns="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"
elementFormDefault="qualified" version="Exchange2010" id="messages">
  <xs:import namespace="http://schemas.microsoft.com/exchange/services/2006/types"
schemaLocation="MS-OXWSMSHR-types.xsd"/>
<xs:include schemaLocation="MS-OXWSCDATA-messages.xsd"/>

  <xs:complexType name="GetSharingFolderType">
    <xs:complexContent>
      <xs:extension base="m:BaseRequestType">
        <xs:sequence>
          <xs:element name="SmtpAddress" type="t:NonEmptyStringType"/>
          <xs:element name="DataType" type="t:SharingDataType" minOccurs="0"/>
          <xs:element name="SharedFolderId" type="t:NonEmptyStringType" minOccurs="0"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="GetSharingFolder" type="m:GetSharingFolderType"/>
<xs:complexType name="GetSharingFolderResponseMessageType">
  <xs:complexContent>
    <xs:extension base="m:ResponseMessageType">
      <xs:sequence minOccurs="0">
```

```
            <xs:element name="SharingFolderId" type="t:FolderIdType"/>
          </xs:sequence>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>
    <xs:element name="GetSharingFolderResponse" type="m:GetSharingFolderResponseMessageType"/>
    <xs:complexType name="GetSharingMetadataType">
      <xs:complexContent>
        <xs:extension base="m:BaseRequestType">
          <xs:sequence>
            <xs:element name="IdOfFolderToShare" type="t:FolderIdType"/>
            <xs:element name="SenderSmtpAddress" type="t:NonEmptyStringType"/>
            <xs:element name="Recipients" type="t:ArrayOfSmtpAddressType"/>
          </xs:sequence>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>
    <xs:element name="GetSharingMetadata" type="m:GetSharingMetadataType"/>
    <xs:complexType name="GetSharingMetadataResponseMessageType">
      <xs:complexContent>
        <xs:extension base="m:ResponseMessageType">
          <xs:sequence minOccurs="0">
            <xs:element name="EncryptedSharedFolderDataCollection"
 type="t:ArrayOfEncryptedSharedFolderDataType"/>
            <xs:element name="InvalidRecipients" type="t:ArrayOfInvalidRecipientsType"/>
          </xs:sequence>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>
    <xs:element name="GetSharingMetadataResponse"
 type="m:GetSharingMetadataResponseMessageType"/>
    <xs:complexType name="RefreshSharingFolderType">
      <xs:complexContent>
        <xs:extension base="m:BaseRequestType">
          <xs:sequence>
            <xs:element name="SharingFolderId" type="t:FolderIdType"/>
          </xs:sequence>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>
    <xs:element name="RefreshSharingFolder" type="m:RefreshSharingFolderType"/>
    <xs:complexType name="RefreshSharingFolderResponseMessageType">
      <xs:complexContent>
        <xs:extension base="m:ResponseMessageType"/>
      </xs:complexContent>
    </xs:complexType>
    <xs:element name="RefreshSharingFolderResponse"
 type="m:RefreshSharingFolderResponseMessageType"/>
</xs:schema>
```

7.2 Types Schema

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

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

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

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/types"
elementFormDefault="qualified" version="Exchange2010" id="types">
  <xs:import namespace="http://www.w3.org/XML/1998/namespace"/>
  <xs:include schemaLocation="MS-OXWSCDATA-types.xsd"/>
  <xs:complexType name="ArrayOfSmtpAddressType">
    <xs:choice maxOccurs="unbounded">
      <xs:element name="SmtpAddress" type="t:NonEmptyStringType"/>
    </xs:choice>
  </xs:complexType>
  <xs:complexType name="ArrayOfEncryptedSharedFolderDataType">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element name="EncryptedSharedFolderData" type="t:EncryptedSharedFolderDataType"/>
    </xs:choice>
  </xs:complexType>
  <xs:complexType name="EncryptedSharedFolderDataType">
    <xs:sequence>
      <xs:element name="Token" type="t:EncryptedDataContainerType"/>
      <xs:element name="Data" type="t:EncryptedDataContainerType"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="EncryptedDataContainerType">
    <xs:sequence>
      <xs:any namespace="##other" processContents="skip"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="ArrayOfInvalidRecipientsType">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element name="InvalidRecipient" type="t:InvalidRecipientType"/>
    </xs:choice>
  </xs:complexType>
  <xs:complexType name="InvalidRecipientType">
    <xs:sequence>
      <xs:element name="SmtpAddress" type="t:NonEmptyStringType"/>
      <xs:element name="ResponseCode" type="t:InvalidRecipientResponseCodeType"/>
      <xs:element name="MessageText" type="xs:string" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
  <xs:simpleType name="InvalidRecipientResponseCodeType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="RecipientOrganizationNotFederated"/>
      <xs:enumeration value="CannotObtainTokenFromSTS"/>
      <xs:enumeration value="SystemPolicyBlocksSharingWithThisRecipient"/>
      <xs:enumeration value="RecipientOrganizationFederatedWithUnknownTokenIssuer"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="SharingSecurity" type="t:EncryptedDataContainerType"/>
  <xs:simpleType name="SharingDataType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Calendar"/>
      <xs:enumeration value="Contacts"/>
    </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

- Microsoft® Exchange Server 15 Technical Preview

- Microsoft® Outlook® 2010

- Microsoft® Outlook® 15 Technical Preview

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

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

9   Change Tracking

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

10 Index