[MS-OXSHRMSG]:

Sharing Message Attachment Schema

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Revision Summary

Date	Revision History	Revision Class	Comments
11/4/2009	1.0.0	Major	Initial Availability
2/10/2010	1.1.0	Minor	Updated the technical content.
5/5/2010	1.1.1	Editorial	Revised and edited the technical content.
8/4/2010	2.0	Major	Significantly changed the technical content.
11/3/2010	2.1	Minor	Clarified the meaning of the technical content.
3/18/2011	3.0	Major	Significantly changed the technical content.
8/5/2011	3.1	Minor	Clarified the meaning of the technical content.
10/7/2011	3.1	None	No changes to the meaning, language, or formatting of the technical content.
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2/10/2014	6.0	None	No changes to the meaning, language, or formatting of the technical content.
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10/30/2014	6.0	None	No changes to the meaning, language, or formatting of the technical content.
3/16/2015	7.0	Major	Significantly changed the technical content.
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6/13/2016	8.1	Minor	Clarified the meaning of the technical content.
9/14/2016	8.1	None	No changes to the meaning, language, or formatting of the technical content.
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Date	Revision History	Revision Class	Comments
10/1/2018	10.0	Major	Significantly changed the technical content.
4/22/2021	11.0	Major	Significantly changed the technical content.
8/17/2021	12.0	Major	Significantly changed the technical content.

Table of Contents

1 Introduction

The Sharing Message Attachment Schema defines the schema for a document that is used to establish a sharing relationship between two servers on behalf of client applications. This document contains identification information and encrypted tokens that enable the two servers to authenticate and establish the sharing relationship.

Sections 1.7 and 2 of this specification are normative. All other sections and examples in this specification are informative.

1.1 Glossary

This document uses the following terms:

folder: A file system construct. File systems organize a volume's data by providing a hierarchy of objects, which are referred to as folders or directories, that contain files and can also contain other folders.

Hypertext Transfer Protocol (HTTP): An application-level protocol for distributed, collaborative, hypermedia information systems (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

shared folder: A folder for which a sharing relationship has been created to share items in the folder between two servers.

Uniform Resource Identifier (URI): A string that identifies a resource. The URI is an addressing mechanism defined in Internet Engineering Task Force (IETF) Uniform Resource Identifier (URI): Generic Syntax [RFC3986].

XML: The Extensible Markup Language, as described in [XML1.0].

XML document: A document object that is well formed, as described in [XML10/5], and might be valid. An XML document has a logical structure that is composed of declarations, elements, comments, character references, and processing instructions. It also has a physical structure that is composed of entities, starting with the root, or document, entity.

XML namespace: A collection of names that is used to identify elements, types, and attributes in XML documents identified in a URI reference [RFC3986]. A combination of XML namespace and local name allows XML documents to use elements, types, and attributes that have the same names but come from different sources. For more information, see [XMLNS-2ED].

XML namespace prefix: An abbreviated form of an **XML namespace**, as described in [XML].

XML schema: A description of a type of **XML document** that is typically expressed in terms of constraints on the structure and content of documents of that type, in addition to the basic syntax constraints that are imposed by **XML** itself. An XML schema provides a view of a document type at a relatively high level of abstraction.

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

1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the Errata.

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information.

[MS-OXWSMSHR] Microsoft Corporation, "Folder Sharing Web Service Protocol".

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

[RFC2445] Dawson, F., and Stenerson, D., "Internet Calendaring and Scheduling Core Object Specification (iCalendar)", RFC 2445, November 1998, http://www.rfc-editor.org/rfc/rfc2445.txt

[XMLENC] Imamura, T., Dillaway, B., and Simon, E., "XML Encryption Syntax and Processing", W3C Recommendation, December 2002, http://www.w3.org/TR/2002/REC-xmlenc-core-20021210/

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

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

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

[XML] World Wide Web Consortium, "Extensible Markup Language (XML) 1.0 (Fourth Edition)", W3C Recommendation 16 August 2006, edited in place 29 September 2006, http://www.w3.org/TR/2006/REC-xml-20060816/

1.2.2 Informative References

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

1.3 Overview

This schema specifies the authentication and identification information that is required for two servers to set up a sharing relationship on behalf of client applications.

To establish folder sharing, the client creates a sharing message **XML document** based on this schema and sends the document as an attachment on an email message. For more information about **folder** sharing and sending an attachment, see [MS-OXWSMSHR].

1.4 Relationship to Protocols and Other Structures

This schema is used by the Folder Sharing Web Service Protocol, as described in [MS-OXWSMSHR], to provide authentication and identification information when a **shared folder** relationship is established between two servers. The operations that provide the encrypted token and folder information that is required by the servers to establish the sharing relationship are described in [MS-OXWSMSHR].

Encrypted data elements of the sharing message structure are described in [MS-OXWSMSHR]. The format of the encrypted data that are contained in the encrypted data elements is described in [XMLENC].

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

1.5 Applicability Statement

The **XML document** that is defined by this schema enables servers to share information on behalf of client applications with less risk of exposing secrets to those client applications. The encrypted data section of the sharing message is passed between the client applications while the information within the sharing message is protected.

1.6 Versioning and Localization

None.

1.7 Vendor-Extensible Fields

None.

2 Structures

2.1 Sharing Message Schema

The following sections specify the elements and attributes of the sharing message attachment. The elements and attributes use type definitions from [XMLSCHEMA1] and [XMLSCHEMA2].

2.1.1 Sharing Message Attachment Namespace

This schema defines and references various **XML namespaces** using 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
tns	http://schemas.microsoft.com/exchange/sharing/2008	
xs	http://www.w3.org/2001/XMLSchema	**[XMLSCHEMA1]**
enc	http://www.w3.org/2001/04/xmlenc#	**[XMLENC]**
ews	http://schemas.microsoft.com/exchange/services/2006/types	**[MS-OXWSMSHR]**

2.1.2 Sharing Message Attachment Processing Instructions

The following **XML** processing instruction tag, as specified in [XML] section 2.6, MUST appear in the sharing message attachment file.

<?xml version="1.0"?>

2.1.3 t:AcceptOfRequestType Complex Type

The **AcceptOfRequestType** complex type specifies that the request for access is granted.

```
<xs:complexType name="AcceptOfRequestType">
  <xs:sequence>
    <xs:element name="Title" type="xs:string" minOccurs="0" />
    <xs:element name="Providers" type="t:ProvidersType" />
  </xs:sequence>
</xs:complexType>
```

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

Element name	Type	Description
Title	**xs:string** [XMLSCHEMA2]	The display name of the folder list.
Providers	**t:ProvidersType** (section 2.1.9)	The **folders** and the encrypted information to which access is accepted.

2.1.4 t:DataTypeType Simple Type

The **DataTypeType** simple type defines the valid sharing message attachment types.

```
<xs:simpleType name="DataTypeType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="calendar"
     />
  </xs:restriction>
</xs:simpleType>
```

The following value is defined by the **DataTypeType** simple type.

Value	Meaning
calendar	The sharing message attachment is for a calendar.

2.1.5 t:DenyOfRequestType Complex Type

The **DenyOfRequestType** complex type specifies that the request for access is denied. Any permission previously granted is revoked.

```
<xs:complexType name="DenyOfRequestType">
  <xs:sequence>
    <xs:element name="Providers" type="t:ProvidersType" />
  </xs:sequence>
</xs:complexType>
```

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

Element name	Type	Description
Providers	**t:ProvidersType** (section 2.1.9)	The **folders** and the encrypted data to which access is denied.

2.1.6 t:InitiatorType Complex Type

The **InitiatorType** complex type specifies the name and email address of the entity that initiates the sharing relationship.

```
<xs:complexType name="InitiatorType">
  <xs:sequence>
    <xs:element name="Name"
      type="xs:string"
     />
    <xs:element name="SmtpAddress"
      type="xs:string"
     />
  </xs:sequence>
```

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

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

Element name	Type	Description
Name	**xs:string** [XMLSCHEMA2]	The display name of the entity that initiates the sharing relationship.
SmtpAddress	**xs:string**	The email address of the entity that initiates the sharing relationship.

2.1.7 t:InvitationType Complex Type

The **InvitationType** complex type is a sharing invitation from a sharer to a recipient. This type contains a list of folders to share and the encrypted information that is required to set up the **shared folders**.

```
<xs:complexType name="InvitationType">
  <xs:sequence>
    <xs:element name="Title" type="xs:string" minOccurs="0" />
    <xs:element name="Providers" type="t:ProvidersType"/>
  </xs:sequence>
</xs:complexType>
```

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

Element name	Type	Description
Title	**xs:string** [XMLSCHEMA2]	Display name of the folder list.
Providers	**t:ProvidersType** (section 2.1.9)	One or more **folders** to share and the encrypted information that is required to set up the shared folders.

2.1.8 t:ProviderType Complex Type

The **ProviderType** complex type specifies a **shared folder** name and the encrypted information required to set up the shared folder.

```
<xs:complexType name="ProviderType">
  <xs:sequence>
    <xs:element name="FolderId"
      type="xs:string"
      maxOccurs="1"
      minOccurs="0"
     />
    <xs:element name="EncryptedSharedFolderDataCollection"
      type="t:ArrayOfEncryptedSharedFolderDataType"
      maxOccurs="1"
      minOccurs="0"
     />
```

```
      <xs:element name="BrowseUrl"
        type="xs:string"
        minOccurs="0"
        maxOccurs="1"
       />
      <xs:element name="ICalUrl"
        type="xs:string"
        minOccurs="0"
        maxOccurs="1"
       />
    </xs:sequence>
    <xs:attribute name="Type"
      type="xs:string"
     />
    <xs:attribute name="TargetRecipients"
      type="xs:string"
     />
  </xs:complexType>
```

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

Element name	Type	Description
FolderId	**xs:string** [XMLSCHEMA2]	The identifier for the shared folder.
EncryptedSharedFolderDataCollection	**t:ArrayOfEncryptedSharedFolderDataType** ([MS-OXWSMSHR] section 2.2.4.4)	The encrypted authentication token.
BrowseUrl	**xs:string**	Specifies the **Uniform Resource Identifier (URI)** of a calendar's Web page. MUST be a fully qualified **HTTP** URI.
ICalUrl	**xs:string**	Specifies the URI of the ICalendar format calendar, as specified in [RFC2445]. MUST be a fully qualified HTTP URI.

The following table lists the attributes that are defined for the **ProviderType** complex type.

Attribute name	Type	Description
Type	**xs:string**	Specifies the sharing provider type. MUST be either "ms-exchange-external" or "ms-exchange-publish".<1> If the **Type** attribute is set to "ms-exchange-external", the **FolderID** and **EncryptedSharedFolderDataCollection** elements MUST be set, and the **BrowseUrl** and **ICalUrl** elements MUST NOT be set. If the **Type** attribute is set to "ms-exchange-publish", the **BrowseUrl** and **ICalUrl** element MUST be set, and the **FolderId** and **EncryptedSharedFolderDataCollection** elements MUST NOT be set.

Attribute name	Type	Description
TargetRecipients	**xs:string**	Specifies a semi-colon delimited list of email addresses that this provider applies to.

2.1.9 t:ProvidersType Complex Type

The **ProvidersType** complex type specifies one or more **shared folders** and the encrypted data that is required to share the **folders**.

```
<xs:complexType name="ProvidersType">
  <xs:sequence>
    <xs:element name="Provider"
      type="t:ProviderType"
      maxOccurs="unbounded"
     />
  </xs:sequence>
</xs:complexType>
```

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

Element name	Type	Description
Provider	**t:ProviderType** (section 2.1.8)	A shared folder name and the encrypted information required to set up the shared folder.

2.1.10 t:RequestType Complex Type

The **RequestType** complex type specifies a request for access. The response to this message is either the **AcceptOfRequestType** complex type (section 2.1.3) or the **DenyOfRequestType** complex type (section 2.1.5).

```
<xs:complexType name="RequestType">
  <xs:sequence>
    <xs:element name="Providers" type="t:ProvidersType" />
  </xs:sequence>
</xs:complexType>
```

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

Element name	Type	Description
Providers	**t:ProvidersType** (section 2.1.9)	The **folders** and the encrypted data for which access is requested.

2.1.11 tns:SharingMessage Element

The **SharingMessage** element provides a container for the sharing message attachment elements. The **DataType** element and the **Initiator** element are required in the sharing message attachment **XML document**. At least one of the following elements is also required:

- **Invitation**
- **RequestType**
- **AcceptOfRequest**
- **DenyOfRequest**

```
<xs:element name="SharingMessage">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="DataType" type="t:DataTypeType"/>
      <xs:element name="Initiator" type="t:InitiatorType"/>
      <xs:choice>
        <xs:element name="AcceptOfRequest" type="t:AcceptOfRequestType"/>
        <xs:element name="DenyOfRequest" type="t:DenyOfRequestType"/>
        <xs:sequence>
          <xs:element name="RequestType" type="t:RequestType" minOccurs="0"/>
          <xs:element name="Invitation" type="t:InvitationType" minOccurs="0"/>
        </xs:sequence>
      </xs:choice>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

The following table lists the child elements of the **SharingMessage** element.

Element name	Type	Description
DataType	**t:DataTypeType** (section 2.1.4)	The type of the sharing message attachment. This element must be present in the sharing message attachment.
Initiator	**t:InitiatorType** (section 2.1.6)	The name and email address of the sender of the sharing message attachment. This element must be present in the sharing message attachment.
AcceptOfRequest	**t:AcceptOfRequestType** (section 2.1.3)	Specifies that the request for access is accepted. This element MUST NOT be present if the **DenyOfRequest** element is present.
DenyOfRequest	**t:DenyOfRequestType** (section 2.1.5)	Specifies that the request for access is denied. This element MUST NOT be present if the **AcceptOfRequest** element is present.
RequestType	**t:RequestType** (section 2.1.10)	Specifies a request for access.
Invitation	**t:InvitationType** (section 2.1.7)	Specifies an invitation to share **folders**.

3 Structure Examples

To establish folder sharing, a client that is sharing information sends a Sharing Message Attachment **XML document** to a subscriber as an attachment on an email message. To create the document, the client first calls the **GetSharingMetadata** operation, as described in [MS-OXWSMSHR] section 3.1.4.4. The client then creates the document based on the Sharing Message Attachment schema. The **EncryptedSharedFolderDataCollection** element of the **GetSharingMetadataResponse** element, as described in [MS-OXWSMSHR] section 3.1.4.4.2.2, is inserted into the Sharing Message Attachment XML document as the **EncryptedSharedFolderDataCollection** element of the **ProviderType** element. For more information about folder sharing and sending an attachment, see [MS-OXWSMSHR].

This section contains an example sharing message XML document. The document specifies a request to share a calendar item, and the initiator is User1. The **FolderId** element has been shortened for readability. The **EncryptedSharedFolderData** element is copied from the **GetSharingMetadata** response example in [MS-OXWSMSHR] section 4.2.

```
<?xml version="1.0"?>
<SharingMessage>
  <DataType>calendar</DataType>
  <Initiator>
    <Name>User1</Name>
    <SmtpAddress>user1@contoso.com</SmtpAddress>
  </Initiator>
  <RequestType>
    <Providers>
      <Provider Type="ms-exchange-external"
          TargetRecipients="user2@contoso.com;user3@contoso.com">
        <FolderId>AAMkADc1YjI=</FolderId>
        <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>
                      <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>
        </Provider>
      </Providers>
    </RequestType>
  </SharingMessage>
```

4 Security

4.1 Security Considerations for Implementers

None.

4.2 Index of Security Fields

None.

5 Appendix A: Full XML Schema

For ease of implementation, the following is the complete **XML schema** for the sharing message attachment **XML document**.

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:t="http://schemas.microsoft.com/exchange/sharing/2008"
xmlns:tns="http://schemas.microsoft.com/exchange/sharing/2008"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:enc="http://www.w3.org/2001/04/xmlenc#"
xmlns:ews="http://schemas.microsoft.com/exchange/services/2006/types"
targetNamespace="http://schemas.microsoft.com/exchange/sharing/2008"
elementFormDefault="qualified" version="Exchange2016" id="types">

  <xs:import namespace="http://www.w3.org/2001/04/xmlenc#"/>
  <xs:import namespace="http://schemas.microsoft.com/services/exchange/2006/types" />

  <xs:simpleType name="DataTypeType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="calendar"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="InitiatorType">
    <xs:sequence>
      <xs:element name="Name" type="xs:string"/>
      <xs:element name="SmtpAddress" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="ProviderType">
    <xs:sequence>
      <xs:element name="FolderId" type="xs:string"
        maxOccurs="1" minOccurs="0"/>
      <xs:element name="EncryptedSharedFolderDataCollection"
        type="t:ArrayOfEncryptedSharedFolderDataType"
        maxOccurs="1" minOccurs="0"/>
      <xs:element name="BrowseUrl" type="xs:string"
        minOccurs="0" maxOccurs="1"/>
      <xs:element name="ICalUrl" type="xs:string"
        minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
    <xs:attribute name="Type" type="xs:string"/>
    <xs:attribute name="TargetRecipients" type="xs:string"/>
  </xs:complexType>

  <xs:complexType name="ProvidersType">
    <xs:sequence>
      <xs:element name="Provider" type="t:ProviderType" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="InvitationType">
    <xs:sequence>
      <xs:element name="Title" type="xs:string" minOccurs="0" />
      <xs:element name="Providers" type="t:ProvidersType"/>
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="RequestType">
    <xs:sequence>
      <xs:element name="Providers" type="t:ProvidersType" />
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="AcceptOfRequestType">
```

```
      <xs:sequence>
        <xs:element name="Title" type="xs:string" minOccurs="0" />
        <xs:element name="Providers" type="t:ProvidersType" />
      </xs:sequence>
    </xs:complexType>

    <xs:complexType name="DenyOfRequestType">
      <xs:sequence>
        <xs:element name="Providers" type="t:ProvidersType" />
      </xs:sequence>
    </xs:complexType>

    <xs:element name="SharingMessage">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="DataType" type="t:DataTypeType"/>
          <xs:element name="Initiator" type="t:InitiatorType"/>
          <xs:choice>
            <xs:element name="AcceptOfRequest" type="t:AcceptOfRequestType" />
            <xs:element name="DenyOfRequest" type="t:DenyOfRequestType" />
            <xs:sequence>
              <xs:element name="RequestType" type="t:RequestType" minOccurs="0" />
              <xs:element name="Invitation" type="t:InvitationType" minOccurs="0" />
            </xs:sequence>
          </xs:choice>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:schema>
```

6 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include updates to those products.

- Microsoft Exchange Server 2010
- Microsoft Exchange Server 2013
- Microsoft Exchange Server 2016
- Microsoft Exchange Server 2019
- Microsoft Outlook 2010
- Microsoft Outlook 2013
- Microsoft Outlook 2016
- Microsoft Outlook 2019
- Microsoft Outlook 2021

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

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

<1> Section 2.1.8: Exchange 2010, Exchange 2013, Exchange 2016, and Exchange 2019 only accept the "ms-exchange-external" value for the **Type** attribute.

7 Change Tracking

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

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

- A document revision that incorporates changes to interoperability requirements.
- A document revision that captures changes to protocol functionality.

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

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

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

Section	Description	Revision class
6 Appendix B: Product Behavior	Updated list of supported products.	major

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