[MS-OXSHRMSG]:
Sharing Message Attachment Schema

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Revision Summary

Date	Revision History	Revision Class	Comments
11/04/2009	1.0.0	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.

Table of Contents

1   Introduction

This document specifies the Sharing Message Attachment schema, which defines the schema for an **XML** 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.

1.1   Glossary

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

Augmented Backus-Naur Form (ABNF)
shared folder
XML
XML namespace
XML schema

The following terms are specific to this document:

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

1.2   References

1.2.1   Normative References

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

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

[MS-OXWSMSHR] Microsoft Corporation, "Folder Sharing Web Service Protocol Specification", November 2009.

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

[RFC5234] Crocker, D., Ed., and Overell, P., "Augmented BNF for Syntax Specifications: ABNF", RFC 5234, STD 68, January 2008, http://www.ietf.org/rfc/rfc5234.txt

[XML] Bray, T., Paoli, J., Sperberg-McQueen, C., Eds., et al., "Extensible Markup Language (XML) 1.0 (Fifth Edition)", W3C Recommendation, November 2008, http://www.w3.org/TR/REC-xml/

[XMLENC] Eastlake, D., Ed., Reagle, J., Ed., Imamura, T., et al., "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., Eds., et al., "Namespaces in XML 1.0 (Third Edition)", December 2009, http://www.w3.org/TR/REC-xml-names/

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

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

1.2.2   Informative References

None.

1.3   Overview

The Sharing Message Attachment schema specifies the authentication and identification information that is required for two servers to set up a sharing relationship on behalf of client applications. The sharing message attachment is composed of three main elements: the type of invitation, the e-mail address and name of the initiator, and the sharing invitation.

1.4   Relationship to Protocols and Other Structures

The Sharing Message Attachment schema is used by the Folder Sharing Web Service protocol [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 defined in [MS-OXWSMSHR].

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

1.5   Applicability Statement

The XML document that is defined by the Sharing Message Attachment 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

This document covers versioning issues in the following areas:

- **Structure versions:** None.

- **Localization:** None.

1.7   Vendor-Extensible Fields

None.

2 Structures

2.1 Sharing Message Attachment Namespace

The elements of the sharing message attachment are defined in the following namespace:

http://schemas.microsoft.com/exchange/sharing/2008/

Sharing message attachments use encryption elements that are defined by [XMLENC]:

http://www.w3.org/2001/04/xmlenc

Sharing message attachments use encryption data elements that are defined by [MS-OXWSMSHR]:

http://schemas.microsoft.com/exchange/services/2006/types

2.2 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"?>

A formal definition in **Augmented Backus-Naur Form (ABNF)**, as specified in [RFC5234], of the XML processing instructions is as follows:

UDC_PI = '<?MicrosoftWindowsSharePointServices ' CONTENT_ID_TYPE '?>' CRLF

CONTENT_ID_TYPE = 'ContentTypeID="0x010100B4CBD48E029A4AD8B62CB0E41868F2B0"'

2.3 Sharing Message Schema

The following sections specify the elements and attributes of the sharing message attachment.

2.3.1 DataTypeType Simple Type

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

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

Enumeration

The following value is defined by the **t:DataTypeType** simple type:

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

2.3.2 InitiatorType Complex Type

The **InitiatorType** complex type specifies the name and e-mail 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>
```

Child Elements

Element	Type	Description
Name	xs:string	The display name of the entity that initiates the sharing relationship.
SmtpAddress	xs:string	The e-mail address of the entity that initiates the sharing relationship.

2.3.3 InvitationType Complex Type

The **InvitationType** complex 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="Providers"
      type="t:ProvidersType"
     />
  </xs:sequence>
</xs:complexType>
```

Child Elements

Element	Type	Description
Providers	t:ProvidersType	One or more folders to share and the encrypted information that is required to set up the shared folders.

2.3.4 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"
     />
    <xs:element name="EncryptedSharedFolderDataCollection"
      type="t:ArrayOfEncryptedSharedFolderDataType"
     />
  </xs:sequence>
  <xs:attribute name="Type"
    type="xs:string"
   />
  <xs:attribute name="TargetRecipients"
    type="xs:string"
   />
</xs:complexType>
```

Child Elements

Element	Type	Description
FolderId	xs:string	The identifier for the shared folder.
EncryptedSharedFolderDataCollection	t:ArrayOfEncryptedSharedFolderDataType	The encrypted authentication token, as specified in [XMLENC].

Attributes

Name	Type	Description
Type	xs:string	Specifies the sharing provider type. MUST be "ms-exchange-external".
TargetRecipients	xs:string	Specifies a semi-colon delimited list of e-mail addresses that this provider applies to.

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

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

Child Elements

Element	Type	Description
Provider	t:ProviderType	One or more shared folder providers.

2.3.6 SharingMesasge Element

The <SharingMessage> element provides a container for the sharing message attachment elements.

```
<xs:element name="SharingMesasge">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="DataType"
        type="t:DataTypeType"
       />
      <xs:element name="Initiator"
        type="t:InitiatorType"
       />
      <xs:element name="Invitation"
        type="t:InvitationType"
       />
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

Child Elements

Element	Type	Description
DataType	t:DataTypeType	The type of the sharing message attachment.
Initiator	t:InitiatorType	The name and e-mail address of the sender of the sharing message attachment.
Invitation	t:InvitationType	The details of the sharing invitation.

3 Structure Examples

The following is the complete **XML schema** for the sharing message attachment XML document.

[XML Schema]

```xml
<?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:xml="http://www.w3.org/XML/1998/namespace"
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="Exchange2010" 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"/>
      <xs:element name="EncryptedSharedFolderDataCollection"
type="ews:ArrayOfEncryptedSharedFolderDataType"/>
    </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">
```

```xml
        <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>
```

4   Security Considerations

None.

5 Appendix A: Product Behavior

The information in this specification is applicable to the following product versions. References to product versions include released service packs.

- Microsoft® Exchange Server 2010

Exceptions, if any, are noted below. If a service pack number appears with the product version, behavior changed in that service pack. The new behavior also applies to subsequent service packs of the product unless otherwise specified.

Unless otherwise specified, any statement of optional behavior in this specification 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 product does not follow the prescription.

6 Change Tracking

This section identifies changes made to [MS-OXSHRMSG] protocol documentation between February 2010 and May 2010 releases. Changes are classed as major, minor, or editorial.

Major changes affect protocol interoperability or implementation. Examples of major changes are:

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

- An extensive rewrite, addition, or deletion of major portions of content.

- A protocol is deprecated.

- The removal of a document from the documentation set.

- Changes made for template compliance.

Minor changes do not affect protocol interoperability or implementation. Examples are updates to fix technical accuracy or ambiguity at the sentence, paragraph, or table level.

Editorial changes apply to grammatical, formatting, and style issues.

No changes means that the document is identical to its last release.

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

- New content added.

- Content update.

- Content removed.

- New product behavior note added.

- Product behavior note updated.

- Product behavior note removed.

- New protocol syntax added.

- Protocol syntax updated.

- Protocol syntax removed.

- New content added due to protocol revision.

- Content updated due to protocol revision.

- Content removed due to protocol revision.

- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.

- Protocol syntax removed due to protocol revision.

- New content added for template compliance.

- Content updated for template compliance.

- Content removed for template compliance.

- Obsolete document removed.

Editorial changes always have the revision type "Editorially updated."

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

Protocol syntax refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.

Protocol revision refers to changes made to a protocol that affect the bits that are sent over the wire.

Changes are listed in the following table. If you need further information, please contact protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Revision Type
1.3 Overview	Updated the section title.	N	Content updated for template compliance.

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