

[MS-OXWSXPROP]: Extended Properties Structure

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Revision Summary

Date	Revision History	Revision Class	Comments
07/15/2009	1.0	Major	Initial Availability.
11/04/2009	1.1.0	Minor	Updated the technical content.
02/10/2010	2.0.0	Major	Updated and revised the technical content.
05/05/2010	2.0.1	Editorial	Revised and edited the technical content.
08/04/2010	3.0	Major	Significantly changed the technical content.
11/03/2010	4.0	Major	Significantly changed the technical content.
03/18/2011	5.0	Major	Significantly changed the technical content.
08/05/2011	6.0	Major	Significantly changed the technical content.
10/07/2011	6.0	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	7.0	Major	Significantly changed the technical content.
04/27/2012	7.0	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	7.0	No change	No changes to the meaning, language, or formatting of the technical content.
10/08/2012	8.0	Major	Significantly changed the technical content.
02/11/2013	8.0	No change	No changes to the meaning, language, or formatting of the technical content.
07/26/2013	8.0	No change	No changes to the meaning, language, or formatting of the technical content.
11/18/2013	8.0	No change	No changes to the meaning, language, or formatting of the technical content.
02/10/2014	8.0	No change	No changes to the meaning, language, or formatting of the technical content.
04/30/2014	9.0	Major	Significantly changed the technical content.
07/31/2014	9.0	No change	No changes to the meaning, language, or formatting of the technical content.
10/30/2014	9.1	Minor	Clarified the meaning of the technical content.

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1 Introduction

The Extended Properties Structure is used by clients to manipulate extended properties on various types of objects. Extended properties are custom properties that users set on items and folders in a server's mailbox.

Sections 1.7 and 2 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in [\[RFC2119\]](#). All other sections and examples in this specification are informative.

1.1 Glossary

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

GUID
Messaging Application Programming Interface (MAPI)
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 defined in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

References to Microsoft Open Specification documents 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.

[MS-DCOM] Microsoft Corporation, "[Distributed Component Object Model \(DCOM\) Remote Protocol](#)".

[MS-DTYP] Microsoft Corporation, "[Windows Data Types](#)".

[MS-OAUT] Microsoft Corporation, "[OLE Automation Protocol](#)".

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

[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>

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

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

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

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

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

1.3 Overview

The Extended Properties Structure is used by protocols that handle items and folders.

1.4 Relationship to Protocols and Other Structures

This structure is used by operations that are part of the Core Items Web Service Protocol, as described in [\[MS-OXWSCORE\]](#), and the Folder and Folder Permissions Web Service Protocol, as described in [\[MS-OXWSFOLD\]](#).

Extended properties can be added or updated by using the following operations:

- The **CreateItem** operation, as described in [\[MS-OXWSCORE\]](#) section 3.1.4.2. The **CreateItem** operation creates items on the server.
- The **UpdateItem** operation, as described in [\[MS-OXWSCORE\]](#) section 3.1.4.9. The **UpdateItem** operation updates items on the server.
- The **GetItem** operation, as specified in [\[MS-OXWSCORE\]](#) section 3.1.4.4. The **GetItem** operation gets items on the server.
- The **CreateFolder** operation, as described in [\[MS-OXWSFOLD\]](#) section 3.1.4.2. The **CreateFolder** operation creates folders on the server.
- The **UpdateFolder** operation, as described in [\[MS-OXWSFOLD\]](#) section 3.1.4.8. The **UpdateFolder** operation modifies properties of a folder on the server.
- The **FindItem** operation, as described in [\[MS-OXWSSRCH\]](#) section 3.1.4.2. The **FindItem** operation finds items on the server.

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

1.5 Applicability Statement

The information provided in this document applies to protocols that use extended properties.

1.6 Versioning and Localization

This specification covers versioning issues in the following areas:

- **Structure Versions:** This structure specifies the only version of the Extended Properties Structure.
- **Localization:** This structure specifies no locale-specific processes or data.

1.7 Vendor-Extensible Fields

None.

2 Structures

2.1 Extended Properties

The following sections specify the namespaces, elements, complex types, and simple types of the Extended Properties Structure. The elements and types use type definitions that are specified in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#).

2.1.1 Extended Properties 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
s	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]
t	http://schemas.microsoft.com/exchange/services/2006/types	
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA2]

2.1.2 ExtendedFieldURI Element

The **ExtendedFieldURI** element specifies an extended **Messaging Application Programming Interface (MAPI)** property.

```
<xs:element name="ExtendedFieldURI"
  type="t:PathToExtendedFieldType"
  substitutionGroup="t:Path"
/>
```

This element allows substitution of the **Path** element, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.3.8, for the **PathToExtendedFieldType** complex type as specified in section [2.1.6](#).

2.1.3 NonEmptyArrayOfExtendedPropertyType Complex Type

The **NonEmptyArrayOfExtendedPropertyType** complex type represents an extended property. This array has at least one member. [<1>](#)

```
<xs:complexType name="NonEmptyArrayOfExtendedPropertyType">
  <xs:choice>
    <xs:element name="ExtendedProperty" type="t:ExtendedPropertyType" maxOccurs="unbounded"/>
  </xs:choice>
</xs:complexType>
```

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

Element name	Type	Description
ExtendedProperty	ExtendedPropertyType (section 2.1.5)	Specifies an extended property instance, including both its path identifier and its associated value.

2.1.4 t:NonEmptyArrayOfPropertyValuesType Complex Type

The **NonEmptyArrayOfPropertyValuesType** complex type represents a collection of values for an extended property. This array has at least one member.

```
<xs:complexType name="NonEmptyArrayOfPropertyValuesType">
  <xs:choice>
    <xs:element name="Value"
      type="xs:string"
      maxOccurs="unbounded"
    />
  </xs:choice>
</xs:complexType>
```

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

Element name	Type	Description
Value	xs:string ([XMLSCHEMA2])	Specifies a value for an extended property.

2.1.5 t:ExtendedPropertyType Complex Type

The **ExtendedPropertyType** complex type specifies extended properties on folders and items. This complex type represents an extended property instance, including both its path identifier and its associated value.

```
<xs:complexType name="ExtendedPropertyType">
  <xs:sequence>
    <xs:element name="ExtendedFieldURI"
      type="t:PathToExtendedFieldType"
    />
    <xs:choice>
      <xs:element name="Value"
        type="xs:string"
      />
      <xs:element name="Values"
        type="t:NonEmptyArrayOfPropertyValuesType"
      />
    </xs:choice>
  </xs:sequence>
</xs:complexType>
```

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

Element name	Type	Description
ExtendedFieldURI	t:PathToExtendedFieldType	Specifies the path to the extended property.
Value	xs:string ([XMLSCHEMA2])	Specifies a single value for the property specified by the ExtendedFieldURI element.
Values	t:NonEmptyArrayOfPropertyValuesType (section 2.1.4)	Specifies two or more values for the property specified by the ExtendedFieldURI element.

2.1.6 t:PathToExtendedFieldType Complex Type

The **PathToExtendedFieldType** complex type specifies an extended property. The **PathToExtendedFieldType** complex type extends the **BasePathToElementType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.14.

```
<xs:complexType name="PathToExtendedFieldType">
  <xs:complexContent>
    <xs:extension
      base="t:BasePathToElementType"
    >
      <xs:attribute name="DistinguishedPropertySetId"
        type="t:DistinguishedPropertySetType"
        use="optional"
      />
      <xs:attribute name="PropertySetId"
        type="t:GuidType"
        use="optional"
      />
      <xs:attribute name="PropertyTag"
        type="t:PropertyTagType"
        use="optional"
      />
      <xs:attribute name="PropertyName"
        type="xs:string"
        use="optional"
      />
      <xs:attribute name="PropertyId"
        type="xs:int"
        use="optional"
      />
      <xs:attribute name="PropertyType"
        type="t:MapiPropertyTypeType"
        use="required"
      />
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

The following table summarizes the set of common **XML schema** attribute definitions defined by this specification.

Attribute name	Type	Description
DistinguishedPropertySetId	t:DistinguishedPropertySetType ([MS-OXWSCDATA] section 2.2.5.11)	Specifies well-known property set IDs for extended properties. If this attribute is used, the PropertySetId and PropertyTag attributes cannot be used. This attribute MUST be used with the PropertyType attribute and either the PropertyId or PropertyName attribute.
PropertySetId	t:GuidType (section 2.1.7)	Specifies an extended property set or namespace by its identifying GUID . If this attribute is used, the DistinguishedPropertySetId and PropertyTag attributes cannot be used. This attribute MUST be used with the PropertyType attribute and either the PropertyId or PropertyName attribute.
PropertyTag	t:PropertyTagType (section 2.1.9)	Specifies the property tag. The PropertyTag attribute can be represented as either a hexadecimal value or a decimal value. If the PropertyTag attribute is used, the DistinguishedPropertySetId , PropertySetId , PropertyName , and PropertyId attributes MUST NOT be used.
PropertyName	xs:string ([XMLSCHEMA2])	Specifies an extended property by its name. This attribute MUST be coupled with either the DistinguishedPropertySetId or PropertySetId attribute.
PropertyId	xs:int ([XMLSCHEMA2])	Specifies an extended property by its dispatch ID. This attribute MUST be coupled with either the DistinguishedPropertySetId or PropertySetId attribute.
PropertyType	t:MapiPropertyTypeType (section 2.1.8)	Specifies the property type of an extended property.

2.1.7 t:GuidType Simple Type

The **GuidType** simple type specifies an extended property set or namespace by its identifying GUID.

```
<xs:simpleType name="GuidType">
  <xs:restriction
    base="xs:string"
```

```

>
  <xs:pattern
    value="[0-9A-Fa-f]{8}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{12}"
  />
</xs:restriction>
</xs:simpleType>

```

The following pattern is defined by the **GuidType** simple type.

```
[0-9A-Fa-f]{8}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{12}
```

2.1.8 t:MapiPropertyTypeType Simple Type

The **MapiPropertyTypeType** simple type specifies the property type.

```

<xs:simpleType name="MapiPropertyTypeType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="ApplicationTime"
    />
    <xs:enumeration
      value="ApplicationTimeArray"
    />
    <xs:enumeration
      value="Binary"
    />
    <xs:enumeration
      value="BinaryArray"
    />
    <xs:enumeration
      value="Boolean"
    />
    <xs:enumeration
      value="CLSID"
    />
    <xs:enumeration
      value="CLSIDArray"
    />
    <xs:enumeration
      value="Currency"
    />
    <xs:enumeration
      value="CurrencyArray"
    />
    <xs:enumeration
      value="Double"
    />
    <xs:enumeration
      value="DoubleArray"
    />
    <xs:enumeration
      value="Error"
    />
  </xs:restriction>
</xs:simpleType>

```

```

<xs:enumeration
  value="Float"
  />
<xs:enumeration
  value="FloatArray"
  />
<xs:enumeration
  value="Integer"
  />
<xs:enumeration
  value="IntegerArray"
  />
<xs:enumeration
  value="Long"
  />
<xs:enumeration
  value="LongArray"
  />
<xs:enumeration
  value="Null"
  />
<xs:enumeration
  value="Object"
  />
<xs:enumeration
  value="ObjectArray"
  />
<xs:enumeration
  value="Short"
  />
<xs:enumeration
  value="ShortArray"
  />
<xs:enumeration
  value="SystemTime"
  />
<xs:enumeration
  value="SystemTimeArray"
  />
<xs:enumeration
  value="String"
  />
<xs:enumeration
  value="StringArray"
  />
</xs:restriction>
</xs:simpleType>

```

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

Value	Description
ApplicationTime	Specifies a double value that is interpreted as a date and time. The integer part is the date, and the fraction part is the time.
ApplicationTimeArray	Specifies an array of double values that are interpreted as a date and time.

Value	Description
Binary	Specifies a base64-encoded binary value.
BinaryArray	Specifies an array of base64-encoded binary values.
Boolean	Specifies a Boolean "true" or "false" value.
CLSID	Specifies a GUID string.
CLSIDArray	Specifies an array of GUID strings.
Currency	Specifies a 64-bit integer that is interpreted as the number of cents.
CurrencyArray	Specifies an array of 64-bit integers that are interpreted as the number of cents.
Double	Specifies a 64-bit floating-point value.
DoubleArray	Specifies an array of 64-bit floating-point values.
Error	Specifies an SCODE ([MS-OAUT] section 2.2.48) value; this is a 32-bit unsigned integer. This value is not used for restrictions or for getting or setting values. This value exists only for reporting.
Float	Specifies a 32-bit floating-point value.
FloatArray	Specifies an array of 32-bit floating-point values.
Integer	Specifies a signed 32-bit (Int32) integer.
IntegerArray	Specifies an array of signed 32-bit (Int32) integers.
Long	Specifies a signed or unsigned 64-bit (Int64) integer.
LongArray	Specifies an array of signed or unsigned 64-bit (Int64) integers.
Null	Indicates no property value. This value is not used for restrictions or for getting or setting values. This value exists only for reporting.
Object	Specifies a pointer to an object that implements the IUnknown interface ([MS-DCOM] section 3.1.1.5.8). This value is not used for restrictions or for getting or setting values. This value exists only for reporting.
ObjectArray	Specifies an array of pointers to objects that implement the IUnknown interface. This value is not used for restrictions or for getting or setting values. This value exists only for reporting.
Short	Specifies a signed 16-bit integer.
ShortArray	Specifies an array of signed 16-bit integers.
SystemTime	Specifies a 64-bit integer date and time value in the form of a FILETIME ([MS-DTYP] section 2.3.3) structure.
SystemTimeArray	Specifies an array of 64-bit integer date and time values in the form of a FILETIME structure.
String	Specifies a Unicode string.
StringArray	Specifies an array of Unicode strings.

2.1.9 t:PropertyTagType Simple Type

The **PropertyTagType** simple type specifies the property tag.

```
<xs:simpleType name="PropertyTagType">
  <xs:union
    memberTypes="xs:unsignedShort"
  >
  <xs:simpleType
    id="HexPropertyTagType"
  >
    <xs:restriction
      base="xs:string"
    >
      <xs:pattern
        value="(0x|0X) [0-9A-Fa-f] {1,4}"
      />
    </xs:restriction>
  </xs:simpleType>
</xs:union>
</xs:simpleType>
```

The following pattern is defined by the **PropertyTagType** simple type.

```
(0x|0X) [0-9A-Fa-f] {1,4}
```

Note that the property tag can be represented in either hexadecimal or decimal form.

3 Structure Examples

The following examples show how extended properties are created and retrieved.

3.1 Creating Extended Properties

The following example creates and sends mail with three extended properties.

The client constructs the request **XML** and sends the newly created message to the server. The message has three custom properties. The first custom property is named **Expiration Date** and has a string value set to a time of "12/25/2009 3:25:15 PM". The second custom property is named **Employee Type** and has a string value set to "Part Time". The third custom property is named **MyFlag** and has an integer value set to "4". Each of these extended properties becomes part of the message. The **PropertySetId** attribute values are GUIDs, and are shown in the following examples.

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
  xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <t:RequestServerVersion Version="Exchange2013" />
  </soap:Header>
  <soap:Body>
    <m:CreateItem MessageDisposition="SendAndSaveCopy">
      <m:SavedItemFolderId>
        <t:DistinguishedFolderId Id="sentitems" />
      </m:SavedItemFolderId>
      <m:Items>
        <t:Message>
          <t:Subject>Interesting</t:Subject>
          <t:Body BodyType="HTML">The merger is finalized.</t:Body>
          <t:ExtendedProperty>
            <t:ExtendedFieldURI PropertySetId="c11ff724-aa03-4555-9952-8fa248a11c3e"
              PropertyName="Expiration Date" PropertyType="String" />
            <t:Value>12/25/2009 3:25:15 PM</t:Value>
          </t:ExtendedProperty>
          <t:ExtendedProperty>
            <t:ExtendedFieldURI PropertySetId="24a3075f-a8b7-4181-a9ed-708a947b8765"
              PropertyName="Employee Type" PropertyType="String" />
            <t:Value>Part Time</t:Value>
          </t:ExtendedProperty>
          <t:ExtendedProperty>
            <t:ExtendedFieldURI PropertySetId="75a5486f-9267-49ca-9b4e-3d04ca9ec179"
              PropertyName="MyFlag" PropertyType="Integer" />
            <t:Value>4</t:Value>
          </t:ExtendedProperty>
          <t:ToRecipients>
            <t:Mailbox>
              <t:EmailAddress>User1@Contoso.com</t:EmailAddress>
            </t:Mailbox>
            <t:Mailbox>
              <t:EmailAddress>User2@Contoso.com</t:EmailAddress>
            </t:Mailbox>
          </t:ToRecipients>
        </t:Message>
      </m:Items>
    </m:CreateItem>
  </soap:Body>
</soap:Envelope>
```

```

    </m:CreateItem>
  </soap:Body>
</soap:Envelope>

```

The server constructs the response XML and sends it to the client, as shown in the following example.

```

<?xml version="1.0" encoding="utf-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <h:ServerVersionInfo MajorVersion="14"
      MinorVersion="1"
      MajorBuildNumber="63"
      MinorBuildNumber="0"
      Version="Exchange2013"
      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">
    <m:CreateItemResponse
      xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
      xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types">
      <m:ResponseMessages>
        <m:CreateItemResponseMessage ResponseClass="Success">
          <m:ResponseCode>NoError</m:ResponseCode>
          <m:Items />
        </m:CreateItemResponseMessage>
      </m:ResponseMessages>
    </m:CreateItemResponse>
  </s:Body>
</s:Envelope>

```

3.2 Retrieving Extended Properties

The following example gets a message and retrieves the three specified extended properties.

The client constructs the request XML and sends it to the server. The client is requesting the specified message with the three named extended properties — **Expiration Date**, **Employee Type**, and **MyFlag**. The **PropertySetId** attribute values are GUIDs, and are shown in the following examples. Note that the **ItemId** and **ChangeKey** attributes have been shortened to preserve readability.

```

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
  xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <t:RequestServerVersion Version="Exchange2013" />
  </soap:Header>
  <soap:Body>
    <m:GetItem>
      <m:ItemShape>

```



```

    <t:BaseShape>IdOnly</t:BaseShape>
    <t:AdditionalProperties>
      <t:ExtendedFieldURI PropertySetId="c11ff724-aa03-4555-9952-8fa248a11c3e"
PropertyName="Expiration Date" PropertyType="String" />
      <t:ExtendedFieldURI PropertySetId="24a3075f-a8b7-4181-a9ed-708a947b8765"
PropertyName="Employee Type" PropertyType="String" />
      <t:ExtendedFieldURI PropertySetId="75a5486f-9267-49ca-9b4e-3d04ca9ec179"
PropertyName="MyFlag" PropertyType="Integer" />
    </t:AdditionalProperties>
  </m:ItemShape>
  <m:ItemIds>
    <t:ItemId Id="AAMkAGIwODEy" ChangeKey="CQAAABYAAA" />
  </m:ItemIds>
</m:GetItem>
</soap:Body>
</soap:Envelope>

```

The server constructs the response XML and sends it to the client. In this example, three extended properties are returned; these are the custom properties that were generated when the message was created. The **PropertySetId**, **PropertyName**, and **PropertyType** attributes are included in the response.

```

<?xml version="1.0" encoding="utf-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <h:ServerVersionInfo MajorVersion="14" MinorVersion="1" MajorBuildNumber="63"
MinorBuildNumber="0"
      Version="Exchange2013"
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">
    <m:GetItemResponse
xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types">
      <m:ResponseMessages>
        <m:GetItemResponseMessage ResponseClass="Success">
          <m:ResponseCode>NoError</m:ResponseCode>
          <m:Items>
            <t:Message>
              <t:ItemId Id="AAMkAGIwODEy" ChangeKey="CQAAABYAAA" />
              <t:ExtendedProperty>
                <t:ExtendedFieldURI PropertySetId="c11ff724-aa03-4555-9952-8fa248a11c3e"
PropertyName="Expiration Date" PropertyType="String" />
                <t:Value>12/25/2009 3:25:15 PM </t:Value>
              </t:ExtendedProperty>
              <t:ExtendedProperty>
                <t:ExtendedFieldURI PropertySetId="24a3075f-a8b7-4181-a9ed-708a947b8765"
PropertyName="Employee Type" PropertyType="String" />
                <t:Value>Part Time</t:Value>
              </t:ExtendedProperty>
              <t:ExtendedProperty>
                <t:ExtendedFieldURI PropertySetId="75a5486f-9267-49ca-9b4e-3d04ca9ec179"
PropertyName="MyFlag" PropertyType="Integer" />
                <t:Value>4</t:Value>
            </t:Message>
          </m:Items>
        </m:GetItemResponseMessage>
      </m:ResponseMessages>
    </m:GetItemResponse>
  </s:Body>
</Envelope>

```

```
        </t:ExtendedProperty>
      </t:Message>
    </m:Items>
  </m:GetItemResponseMessage>
</m:ResponseMessages>
</m:GetItemResponse>
</s:Body>
</s:Envelope>
```

4 Security

4.1 Security Considerations for Implementers

None.

4.2 Index of Security Fields

None.

5 Appendix A: Full XML Schema

MS-OXWSXPROP-types.xsd includes the file listed in the following table. To operate correctly, this file has to be present in the folder that contains the types schema for this structure.

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

The following sections specify the namespaces, elements, complex types, and simple types of the Extended Properties Structure. The elements and types use type definitions that are specified in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#).

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema 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/types"
elementFormDefault="qualified" version="Exchange2013" id="types">
  <xs:include schemaLocation="MS-OXWSCDATA-types.xsd"/>
  <xs:element name="ExtendedFieldURI" type="t:PathToExtendedFieldType"
substitutionGroup="t:Path"/>
  <xs:complexType name="ExtendedPropertyType">
    <xs:sequence>
      <xs:element name="ExtendedFieldURI" type="t:PathToExtendedFieldType"/>
      <xs:choice>
        <xs:element name="Value" type="xs:string"/>
        <xs:element name="Values" type="t:NonEmptyArrayOfPropertyValuesType"/>
      </xs:choice>
    </xs:sequence>
  </xs:complexType>
  <xs:simpleType name="GuidType">
    <xs:restriction base="xs:string">
      <xs:pattern value="[0-9A-Fa-f]{8}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{4}-[0-9A-Fa-f]{12}"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="MapiPropertyTypeType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="ApplicationTime"/>
      <xs:enumeration value="ApplicationTimeArray"/>
      <xs:enumeration value="Binary"/>
      <xs:enumeration value="BinaryArray"/>
      <xs:enumeration value="Boolean"/>
      <xs:enumeration value="CLSID"/>
      <xs:enumeration value="CLSIDArray"/>
      <xs:enumeration value="Currency"/>
      <xs:enumeration value="CurrencyArray"/>
      <xs:enumeration value="Double"/>
      <xs:enumeration value="DoubleArray"/>
      <xs:enumeration value="Error"/>
      <xs:enumeration value="Float"/>
      <xs:enumeration value="FloatArray"/>
      <xs:enumeration value="Integer"/>
      <xs:enumeration value="IntegerArray"/>
      <xs:enumeration value="Long"/>
      <xs:enumeration value="LongArray"/>
      <xs:enumeration value="Null"/>
      <xs:enumeration value="Object"/>
    </xs:restriction>
  </xs:simpleType>

```

```

    <xs:enumeration value="ObjectArray"/>
    <xs:enumeration value="Short"/>
    <xs:enumeration value="ShortArray"/>
    <xs:enumeration value="SystemTime"/>
    <xs:enumeration value="SystemTimeArray"/>
    <xs:enumeration value="String"/>
    <xs:enumeration value="StringArray"/>
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="NonEmptyArrayOfPropertyValuesType">
  <xs:choice>
    <xs:element name="Value" type="xs:string" maxOccurs="unbounded"/>
  </xs:choice>
</xs:complexType>
<xs:complexType name="NonEmptyArrayOfExtendedPropertyType">
  <xs:choice>
    <xs:element name="ExtendedProperty" type="t:ExtendedPropertyType"
maxOccurs="unbounded"/>
  </xs:choice>
</xs:complexType>
<xs:complexType name="PathToExtendedFieldType">
  <xs:complexContent>
    <xs:extension base="t:BasePathToElementType">
      <xs:attribute name="DistinguishedPropertySetId" type="t:DistinguishedPropertySetType"
use="optional"/>
      <xs:attribute name="PropertySetId" type="t:GuidType" use="optional"/>
      <xs:attribute name="PropertyTag" type="t:PropertyTagType" use="optional"/>
      <xs:attribute name="PropertyName" type="xs:string" use="optional"/>
      <xs:attribute name="PropertyId" type="xs:int" use="optional"/>
      <xs:attribute name="PropertyType" type="t:MapiPropertyTypeType" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:simpleType name="PropertyTagType">
  <xs:union memberTypes="xs:unsignedShort">
    <xs:simpleType id="HexPropertyTagType">
      <xs:restriction base="xs:string">
        <xs:pattern value="(0x|0X) [0-9A-Fa-f]{1,4}"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:union>
</xs:simpleType>
</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 released service packs:

- Microsoft Exchange Server 2007
- Microsoft Exchange Server 2010
- Microsoft Exchange Server 2013

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

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

[<1> Section 2.1.3:](#) Exchange 2007 and Exchange 2010 do not use the **NonEmptyArrayOfExtendedPropertyType** complex type.

7 Change Tracking

This section identifies changes that were made to the [MS-OXWSXPROP] protocol document between the July 2014 and October 2014 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

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

- A document revision that incorporates changes to interoperability requirements or functionality.
- The removal of a document from the documentation set.

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

The revision class **Editorial** means that the formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

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

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.
- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.

- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

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

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

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

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
2.1.1 Extended Properties Namespaces	Added the xs namespace.	N	New content added.
2.1.1 Extended Properties Namespaces	Removed "targetNamespace" from Namespaces table.	N	Content removed.
2.1.6 t:PathToExtendedFieldType Complex Type	Updated the description of PropertyTag.	N	Content updated.

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