[MS-OXWSPED]:
Password Expiration Date Web Service Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
10/07/2011	1.0	New	Released new document.
01/20/2012	2.0	Major	Significantly changed the technical content.

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1 Introduction

The Password Expiration Date Web Service Protocol enables client applications to query a server to determine the date when a user's password will expire so that the application can warn the user to change the password.

Sections 1.8, 2, and 3 of this specification are normative and contain RFC 2119 language. Sections 1.5 and 1.9 are also normative but cannot contain RFC 2119 language. All other sections and examples in this specification are informative.

1.1 Glossary

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

Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
XML

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

endpoint
Simple Object Access Protocol (SOAP)
SOAP action
SOAP body
SOAP header
SOAP message
Uniform Resource Locator (URL)
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 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. Please check the archive site, http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624, as an additional source.

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

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[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

[RFC3066] Alvestrand, H., "Tags for the Identification of Language", RFC 3066, January 2001, http://www.ietf.org/rfc/rfc3066.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-OXDSCLI] Microsoft Corporation, "Autodiscover Publishing and Lookup Protocol Specification".

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

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

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, http://www.ietf.org/rfc/rfc2616.txt

1.3 Overview

The Password Expiration Date Web Service Protocol provides an operation that a client application can use to request a user's password expiration date from a server. The application can use this information to present the user with an opportunity to update the password before it expires.

1.4 Relationship to Other Protocols

A client that implements this protocol can use the Autodiscover Publishing and Lookup SOAP-Based Web Service Protocol, as described in [MS-OXWSADISC], or the Autodiscover Publishing and Lookup Protocol, as described in [MS-OXDSCLI], to identify the target **endpoint (4)** to use for each operation.

This protocol uses the SOAP Protocol, as described in [SOAP1.1], to specify the structure information that is exchanged between the client and the server. This protocol uses the XML Protocol, as described in [XMLSCHEMA1] and [XMLSCHEMA2], to describe the message content that is sent to and from the server.

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The Password Expiration Date Web Service Protocol uses **SOAP** over **HTTP**, as described in [RFC2616], and SOAP over **HTTPS**, as described in [RFC2818], as shown in the following layering diagram.

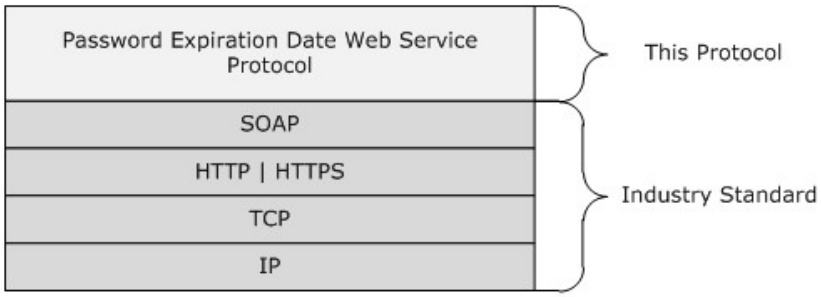

Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

The endpoint (4) **URL** that is returned by either the Autodiscover Publishing Lookup SOAP-Based Web Service Protocol, as described in [MS-OXWSADISC], or the Autodiscover Publishing and Lookup Protocol, as described in [MS-OXDSCLI], is required to form the HTTP request to the Web server that hosts this protocol. The operation that this protocol defines cannot be accessed unless the correct endpoint (4) is identified in the HTTP Web requests that target this protocol.

To get the endpoint (4) URL, the client application must have a valid mail-enabled account to authenticate with the server.

1.6 Applicability Statement

This protocol is applicable to client applications that inform the user about the expiration date of passwords stored on the server.

1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This protocol uses SOAP 1.1, as specified in section 2.1.
- **Protocol Versions:** This protocol specifies only one **WSDL port type** version. The **WSDL** version of the request is identified by using the **t:RequestServerVersion** element, as described in [MS-OXWSCDATA] section 2.2.4.9, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [MS-OXWSCDATA] section 2.2.4.10.
- **Security and Authentication Methods:** This protocol relies on the Web server that is hosting it to perform authentication.
- **Localization:** This protocol includes text strings in various messages. Localization considerations for such strings are specified in section 3.1.4.
- **Capability Negotiation:** None.

1.8 Vendor-Extensible Fields

None.

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1.9 Standards Assignments

None.

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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].

This protocol relies on the Web server that hosts the application to perform authentication. The protocol SHOULD use secure communications by means of HTTPS, as specified in [RFC2818].

2.2 Common Message Syntax

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

2.2.1 Namespaces

This specification defines and references various **XML namespaces** 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 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	
xs	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	
m	http://schemas.microsoft.com/exchange/services/2006/messages	

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.

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2.2.4 Complex Types

This specification does not define any common XML schema complex type definitions.

2.2.5 Simple Types

This specification does not define any common XML schema simple type definitions.

2.2.6 Attributes

This specification does not define any common XML schema attribute definitions.

2.2.7 Groups

This specification does not define any common XML schema group definitions.

2.2.8 Attribute Groups

This specification does not define any common XML schema attribute group definitions.

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3 Protocol Details

The client side of this protocol is simply a pass-through. That is, no additional timers or other state is required on the client side of this protocol. Calls made by the higher-layer protocol or application are passed directly to the transport, and the results returned by the transport are passed directly back to the higher-layer protocol or application.

3.1 ExchangeServerPortType Server Details

The Password Expiration Date Web Service Protocol defines a single port type that enables clients to retrieve the password expiration date for a mailbox account.

3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model, as long as their external behavior is consistent with that specified in this document.

This protocol is used to retrieve password expiration dates from the server so that client applications can pass this information on to users. Note that the client in each case is not required to maintain the password expiration date. Rather, the client can use this protocol to request the password expiration date whenever it is needed.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

This protocol includes the operation that is listed and described in the following table.

Operation name	Description
GetPasswordExpirationDate	Gets the password expiration date for a mailbox account.

3.1.4.1 GetPasswordExpirationDate Operation

The **GetPasswordExpirationDate** operation provides the mailbox account password expiration date.

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

```
<wsdl:portType name="ExchangeServicePortType">
   <wsdl:operation name="GetPasswordExpirationDate">
      <wsdl:input message="tns:GetPasswordExpirationDateSoapIn" />
      <wsdl:output message="tns:GetPasswordExpirationDateSoapOut" />
   </wsdl:operation>
```


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```
</wsdl:portType>
```

The following is the WSDL binding specification for this operation.

```
<wsdl:operation name="GetPasswordExpirationDate">
   <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetPasswordExpiratio
nDate" />
      <wsdl:input>
         <soap:header message="tns:GetPasswordExpirationDateSoapIn" part="MailboxCulture"
use="literal"/>
         <soap:header message="tns:GetPasswordExpirationDateSoapIn" part="RequestVersion"
use="literal"/>
         <soap:body parts="request" use="literal" />
      </wsdl:input>
      <wsdl:output>
         <soap:body parts="GetPasswordExpirationDateResult" use="literal" />
         <soap:header message="tns:GetPasswordExpirationDateSoapOut" part="ServerVersion"
use="literal"/>
   </wsdl:output>
</wsdl:operation>
```

3.1.4.1.1 Messages

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

Message name	Description
GetPasswordExpirationDateSoapIn	Specifies the **SOAP message** that requests the password expiration date.
GetPasswordExpirationDateSoapOut	Specifies the SOAP message that is returned by the server in response.

3.1.4.1.1.1 GetPasswordExpirationDateSoapIn Message

The **GetPasswordExpirationDateSoapIn** WSDL message specifies the **GetPasswordExpiration** operation request to return the password expiration date.

```
<wsdl:message name="GetPasswordExpirationDateSoapIn">
   <wsdl:part name="request" element="tns:GetPasswordExpirationDate"/>
   <wsdl:part name="MailboxCulture" element="t:MailboxCulture" />
   <wsdl:part name="RequestVersion" element="t:RequestServerVersion" />
</wsdl:message>
```

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

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

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Part name	Element/type	Description
request	**m:GetPasswordExpirationDate** (section 3.1.4.1.2.1)	Specifies the **SOAP body** of the request containing the information that is required to check the mailbox account password expiration date.
MailboxCulture	**t:MailboxCulture** ([MS-OXWSCDATA] section 2.2.3.39)	Specifies a **SOAP header** that identifies the culture to be used for accessing the mailbox. The cultures are defined in [RFC3066].
RequestVersion	**t:RequestServerVersion** ([MS-OXWSCDATA] section 2.2.4.9)	Specifies a SOAP header that identifies the schema version for the **GetPasswordExpirationDate** operation request.

3.1.4.1.1.2 GetPasswordExpirationDateSoapOut Message

The **GetPasswordExpirationDateSoapOut** WSDL message specifies the server response to a **GetPasswordExpirationDate** operation request.

```
<wsdl:message name="GetPasswordExpirationDateSoapOut">
   <wsdl:part name="GetPasswordExpirationDateResult"
element="tns:GetPasswordExpirationDateResponse" />
   <wsdl:part name="ServerVersion" element="t:ServerVersionInfo" />
</wsdl:message>
```

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

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

Part name	Element/type	Description
GetPasswordExpirationDateResult	**m:GetPasswordExpirationDateResponse** (section 3.1.4.1.2.2)	Specifies the SOAP body of the response that contains the requested password expiration date.
ServerVersion	**t:ServerVersionInfo** ([MS-OXWSCDATA] section 2.2.4.10)	Specifies a SOAP header that identifies the server version for the response.

3.1.4.1.2 Elements

The following table summarizes the XML schema element definitions that are specific to the **GetPasswordExpirationDate** operation.

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Element name	Description
GetPasswordExpirationDate	Specifies the root element in a **GetPasswordExpirationDate** operation request.
GetPasswordExpirationDateResponse	Specifies the root element in the response to a **GetPasswordExpirationDate** operation request.

3.1.4.1.2.1 m:GetPasswordExpirationDate Element

The **GetPasswordExpirationDate** element specifies the root element in a **GetPasswordExpirationDate** operation request.

```
<xs:element name="GetPasswordExpirationDate" type="m:GetPasswordExpirationDateType" />
```

3.1.4.1.2.2 m:GetPasswordExpirationDateResponse Element

The **GetPasswordExpirationDateResponse** element specifies the root element in the response to a **GetPasswordExpirationDate** operation request.

```
<xs:element name="GetPasswordExpirationDateResponse"
type="m:GetPasswordExpirationDateResponseMessageType"/>
```

3.1.4.1.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to the **GetPasswordExpirationDate** operation.

Complex type name	Description
GetPasswordExpirationDateType	Specifies the parameters that are used to obtain the password expiration date.
GetPasswordExpirationDateResponseMessageType	Specifies the data to be returned in the response.

3.1.4.1.3.1 m:GetPasswordExpirationDateType Complex Type

The **GetPasswordExpirationDateType** complex type specifies the parameters that are used to obtain the password expiration date. The **GetPasswordExpirationDateType** complex type extends the **BaseRequestType** complex type, as specified in [MS-OXWSCDATA] section 2.2.3.15.

```
<xs:complexType name="GetPasswordExpirationDateType">
   <xs:complexContent>
      <xs:extension base="m:BaseRequestType">
         <xs:sequence>
            <xs:element name="MailboxSmtpAddress" type="xs:string" minOccurs="0"
maxOccurs="1"/>
         </xs:sequence>
      </xs:extension>
   </xs:complexContent>
</xs:complexType>
```

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The following table lists and describes the child element of the **GetPasswordExpirationDateType** complex type.

Element name	Type	Description
MailboxSmtpAddress	**xs:string** [XMLSCHEMA2]	Specifies the e-mail address of the mailbox account for which password expiration information will be returned. This element can be present. If it is present, it MUST appear only once.

3.1.4.1.3.2 m:GetPasswordExpirationDateResponseMessageType

The **GetPasswordExpirationDateResponseMessageType** complex type specifies the password expiration date information returned in a **GetPasswordExpirationDate** operation response. The **GetPasswordExpirationDateResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [MS-OXWSCDATA] section 2.2.3.57.

```
<xs:complexType name="GetPasswordExpirationDateResponseMessageType">
   <xs:complexContent>
      <xs:extension base="m:ResponseMessageType">
         <xs:sequence>
            <xs:element name="PasswordExpirationDate" type="xs:dateTime"/>
         </xs:sequence>
      </xs:extension>
   </xs:complexContent>
</xs:complexType>
```

The following table lists and describes the child element of the **GetPasswordExpirationDateResponseMessageType** complex type.

Element name	Type	Description
PasswordExpirationDate	**xs:dateTime** [XMLSCHEMA2]	Specifies the password expiration date for a mailbox account. This element MUST be present, and it MUST appear only once.

3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

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3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

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4 Protocol Examples

4.1 GetPasswordExpirationDate Request

The following XML example is a request to the **GetPasswordExpirationDate** operation, as described in section 3.1.4.1.

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/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">
  <soap:Header>
  </soap:Header>
  <soap:Body>
    <tns:GetPasswordExpirationDate>
      <tns:MailboxSmtpAddress>user1@contoso.com</tns:MailboxSmtpAddress>
    </tns:GetPasswordExpirationDate>
  </soap:Body>
</soap:Envelope>
```

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5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

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6 Appendix A: Full WSDL

The **XML** files that are listed in the following table are required in order to implement the functionality specified in this document.

File name	Description	Section
MS-OXWSPED.wsdl	Contains the WSDL for the implementation of this protocol.	6
MS-OXWSPED-messages.xsd	Contains the XML schema type definitions that are used in this protocol.	7

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-OXWSPED-messages.xsd schema have to be placed in the common folder with these files.

This section contains the contents of the MS-OXWSPED.wsdl file.

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/messages"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
   <wsdl:types>
   <xs:schema id="messages" elementFormDefault="qualified" version="Exchange2010_SP2"
      xmlns:t="http://schemas.microsoft.com/exchange/services/2006/tpes"
      xmlns:xs="http://www.w3.org/2001/XMLSchema"
      targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
         <xs:include schemaLocation="MS-OXWSPED-messages.xsd" />
      </xs:schema>
</wsdl:types>
   <wsdl:message name="GetPasswordExpirationDateSoapIn">
      <wsdl:part name="request" element="tns:GetPasswordExpirationDate"/>
      <wsdl:part name="MailboxCulture" element="t:MailboxCulture" />
      <wsdl:part name="RequestVersion" element="t:RequestServerVersion" />
   </wsdl:message>
   <wsdl:message name="GetPasswordExpirationDateSoapOut">
      <wsdl:part name="GetPasswordExpirationDateResult"
element="tns:GetPasswordExpirationDateResponse" />
      <wsdl:part name="ServerVersion" element="t:ServerVersionInfo" />
   </wsdl:message>

   <wsdl:portType name="ExchangeServicePortType">
        <wsdl:operation name="GetPasswordExpirationDate">
          <wsdl:input message="tns:GetPasswordExpirationDateSoapIn" />
          <wsdl:output message="tns:GetPasswordExpirationDateSoapOut" />
        </wsdl:operation>
   </wsdl:portType>

        <wsdl:operation name="GetPasswordExpirationDate">
        <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetPasswordExpiratio
nDate" />
        <wsdl:input>
          <soap:header message="tns:GetPasswordExpirationDateSoapIn" part="MailboxCulture"
use="literal"/>
```

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```
          <soap:header message="tns:GetPasswordExpirationDateSoapIn" part="RequestVersion"
use="literal"/>
          <soap:body parts="request" use="literal" />
        </wsdl:input>
        <wsdl:output>
          <soap:body parts="GetPasswordExpirationDateResult" use="literal" />
          <soap:header message="tns:GetPasswordExpirationDateSoapOut" part="ServerVersion"
use="literal"/>
        </wsdl:output>
      </wsdl:operation>
</wsdl:definitions>
```

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7 Appendix B: Full XML Schema

For ease of implementation, this section includes the full XML schema for this protocol.

This file has to be placed in a common folder in order for the WSDL to validate and operate.

This schema includes the file listed in the following table. To operate correctly, this file has to be present in the folder that contains the WSDL and schema file for this protocol.

File name	Defining specification
MS-OXWSCDATA-messages.xsd	[MS-OXWSCDATA] section 7.1

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages"
elementFormDefault="qualified" version="Exchange2010" id="messages">
   <xs:include schemaLocation="MS-OXWSCDATA-messages.xsd"/>
   <xs:complexType name="GetPasswordExpirationDateType">
      <xs:complexContent>
         <xs:extension base="m:BaseRequestType">
            <xs:sequence>
               <xs:element name="MailboxSmtpAddress" type="xs:string" minOccurs="0"
maxOccurs="1"/>
            </xs:sequence>
         </xs:extension>
      </xs:complexContent>
   </xs:complexType>

   <xs:element name="GetPasswordExpirationDate" type="m:GetPasswordExpirationDateType" />

   <xs:complexType name="GetPasswordExpirationDateResponseMessageType">
      <xs:complexContent>
         <xs:extension base="m:ResponseMessageType">
            <xs:sequence>
               <xs:element name="PasswordExpirationDate" type="xs:dateTime"/>
            </xs:sequence>
         </xs:extension>
      </xs:complexContent>
   </xs:complexType>

   <xs:element name="GetPasswordExpirationDateResponse"
type="m:GetPasswordExpirationDateResponseMessageType"/>
</xs:schema>
```

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8 Appendix C: Product Behavior

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

- Microsoft® Exchange Server 2010 Service Pack 2 (SP2)
- Microsoft® Exchange Server 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.

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9 Change Tracking

This section identifies changes that were made to the [MS-OXWSPED] protocol document between the October 2011 and January 2012 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.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

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 language and 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 or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

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.

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- 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 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 protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
8 Appendix C: Product Behavior	Added Exchange 15 Technical Preview to the list of applicable product versions.	Y	Content updated.

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