[MS-OXWOOF]:
Out of Office (OOF) Web Service Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
04/04/2008	0.1	Major	Initial Availability.
06/27/2008	1.0	Major	Initial Release.
08/06/2008	1.0.1	Editorial	Revised and edit technical content.
09/03/2008	1.0.2	Editorial	Updated references.
12/03/2008	1.0.3	Editorial	Updated IP notice.
02/04/2009	1.0.4	Editorial	Revised and edited technical content.
03/04/2009	1.0.5	Editorial	Revised and edited technical content.
04/10/2009	2.0	Major	Updated technical content and applicable product releases.
07/15/2009	3.0	Major	Revised and edited for technical content.
11/04/2009	3.1.0	Minor	Updated the technical content.
02/10/2010	4.0.0	Major	Updated and revised the technical content.
05/05/2010	4.1.0	Minor	Updated the technical content.
08/04/2010	5.0	Major	Significantly changed the technical content.
11/03/2010	6.0	Major	Significantly changed the technical content.

Contents

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1 Introduction

This document specifies the Out of Office (OOF) Web Service protocol, which defines the interaction between a client and a server that configures response messages that are sent automatically in response to e-mail messages that are sent to people who are out of the office.

1.1 Glossary

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

Coordinated Universal Time (UTC)
external users
Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
mailbox
OOF message
Out of Office (OOF)
Secure Sockets Layer (SSL)
Simple Mail Transfer Protocol (SMTP)
SOAP body
SOAP fault
SOAP message
Web Services Description Language (WSDL)
WSDL message
WSDL port type
XML
XML namespace
XML schema

The following terms are specific to this document:

external OOF message: An OOF message that is sent to external users.

internal users: Users who are within the organization.

OOF settings: The values that determine whether an OOF message is sent, to whom it is sent, and the contents of the message.

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-OXDSCLI] Microsoft Corporation, "Autodiscover Publishing and Lookup Protocol Specification", April 2008.

[MS-OXWSADISC] Microsoft Corporation, "Autodiscover Publishing and Lookup SOAP-Based Web Service Protocol Specification", July 2009.

[MS-OXWSCDATA] Microsoft Corporation, "Common Web Service Data Types", July 2009.

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

[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

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", W3C Note, 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., 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

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

1.3   Overview

The Out of Office (OOF) Web Service protocol enables a protocol client to manage the messages that users configure to be sent automatically in response to incoming e-mail by the server when the user is away from the office or unable to respond. The protocol client can set messages for both internal and external e-mail correspondents, start and stop sending **OOF messages**, and schedule the messages so that they are enabled for a specific duration.

The Out of Office (OOF) Web Service protocol defines the interaction between a client and a server that configures **OOF settings** and OOF messages for users. The conditions in which the OOF message is sent are determined by the OOF settings.

1.4   Relationship to Other Protocols

Clients contact the OOF Web Service protocol by using the SOAP protocol [SOAP1.1] over **HTTP** or **HTTPS** [RFC2616], as shown in the following figures.
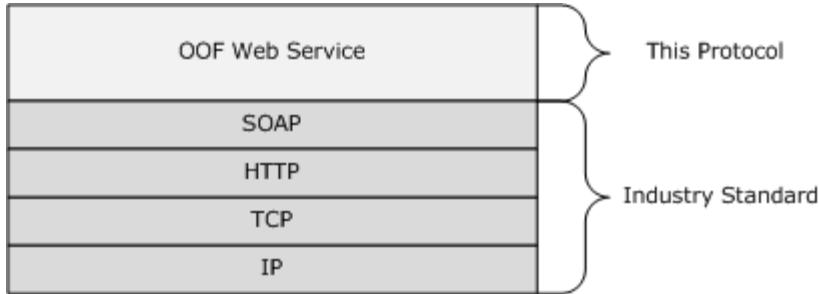
Figure 1: SOAP over HTTP
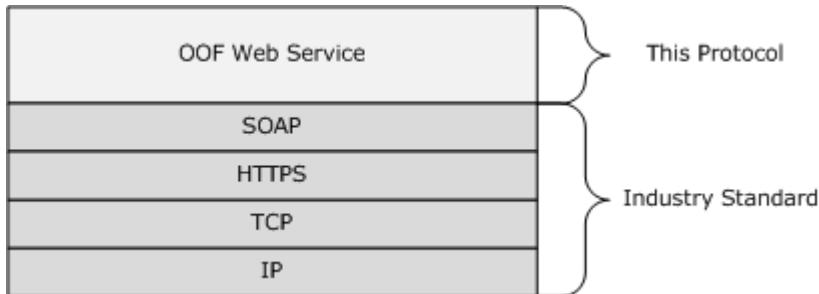
Figure 2: SOAP over HTTPS

1.5   Prerequisites/Preconditions

The **endpoint URL** that is returned by either the Autodiscover Publishing and Lookup SOAP-Based Web Service protocol [MS-OXWSADISC] or the Autodiscover Publishing and Lookup protocol [MS-OXDSCLI] is a required argument for forming the HTTP request to the Web server that hosts this protocol. The operations that this protocol uses cannot be accessed unless the correct endpoint that services the target **mailbox** is identified for the HTTP Web requests that target the Out of Office (OOF) Web Service protocol operations.

1.6   Applicability Statement

The **OOF** Web Service protocol is applicable to SOAP-based clients [SOAP1.1].

1.7   Versioning and Capability Negotiation

- **Supported Transports:** This protocol uses SOAP 1.1.

- **Protocol Versions:** This protocol has a single **WSDL port type**.

- **Security and Authentication Methods:** This protocol relies on the Web server that hosts it to perform authentication.

- **Localization:** This protocol includes text strings in various messages.

1.8   Vendor-Extensible Fields

None.

1.9   Standards Assignments

None.

2 Messages

2.1 Transport

Messages are transported by using SOAP version 1.1. For details, see [SOAP1.1].

2.2 Common Message Syntax

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

2.2.1 Namespaces

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

Prefix	Namespace URI	Reference
soap	http://schemas.xmlsoap.org/WSDL/soap	[SOAP1.1]
tns	http://schemas.microsoft.com/exchange/services/2006/messages	
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 XML schema message definitions.

2.2.3 Elements

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

Element	Description
t:Mailbox	Identifies a user's mailbox by using an e-mail address.

2.2.3.1 t:Mailbox Element

The <Mailbox> element identifies a user's mailbox by using an e-mail address.

```
<xs:element name="Mailbox"
```

```
    type="t:EmailAddress"
  />
```

2.2.4   Complex Types

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

Complex Type	Description
t:UserOofSettings	Specifies the OOF settings.

2.2.4.1   t:UserOofSettings Complex Type

The **UserOofSetting** complex type specifies the OOF settings.

```
<xs:complexType name="UserOofSettings">
  <xs:sequence>
    <xs:element name="OofState"
      type="t:OofState"
      minOccurs="1"
      maxOccurs="1"
     />
    <xs:element name="ExternalAudience"
      type="t:ExternalAudience"
      maxOccurs="1"
      minOccurs="1"
     />
    <xs:element name="Duration"
      type="t:Duration"
      minOccurs="0"
      maxOccurs="1"
     />
    <xs:element name="InternalReply"
      type="t:ReplyBody"
     />
    <xs:element name="ExternalReply"
      type="t:ReplyBody"
     />
  </xs:sequence>
</xs:complexType>
```

Child Elements

Element	Type	Description
OofState	t:OofState	Indicates the user's OOF state. MUST be present.
ExternalAudience	t:ExternalAudience	Indicates how **external users** are handled. MUST be present.

Element	Type	Description
Duration	t:Duration	Indicates the duration for which the OOF status is enabled if the OOF state in the <OofState> element is set to Scheduled. The times SHOULD<1> be in **UTC**. Can be present. MUST be present if the <OofState> element is set to Scheduled when calling the **SetUserOofSettings** operation (section 3.1.4.1).
InternalReply	t:ReplyBody	Contains the body of the OOF response message that is sent to **internal users**. Can be present.
ExternalReply	t:ReplyBody	Contains the body of the OOF response message that is sent to external users. Can be present.

2.2.5   Simple Types

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

Simple Type	Description
t:ExternalAudience	Specifies a value that determines to whom **external OOF messages** are sent.
t:OofState	Specifies the state of the user's mailbox with respect to OOF.

2.2.5.1   t:ExternalAudience Simple Type

The **ExternalAudience** simple type specifies a value that determines to whom external OOF messages are sent.

```
<xs:simpleType name="ExternalAudience">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="None"
     />
    <xs:enumeration
      value="Known"
     />
    <xs:enumeration
      value="All"
     />
  </xs:restriction>
</xs:simpleType>
```

Enumeration

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

Value	Description
None	Specifies that mail sent from external users will not get an OOF message.
Known	Specifies that mail sent from external users that are known to the user will receive an OOF message in response to the mail they sent. A known user is one that appears in the user's list of contacts in any of their contacts folders in their mailbox.
All	Specifies that the external OOF message will be sent to all external users.

2.2.5.2   t:OofState

The **OofState** type specifies the state of the user's mailbox with respect to OOF.

```
<xs:simpleType name="OofState">
<xs:restriction base="xs:string">
<xs:enumeration value="Disabled" />
<xs:enumeration value="Enabled" />
<xs:enumeration value="Scheduled" />
</xs:restriction>
</xs:simpleType>
```

Value	Description
Disabled	Specifies that OOF behavior is disabled.
Enabled	Specifies that OOF state is enabled – this indicates that OOF messages will be sent.
Scheduled	Specifies that the OOF status is set to Enabled for the time period identified by the **Duration** element.

2.2.6   Attributes

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

2.2.7   Groups

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

2.2.8   Attribute Groups

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

3   Protocol Details

This protocol specifies a way of getting OOF settings and configuring OOF settings for a mailbox.

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   ExchangeServicePortType Server Details

The Out of Office (OOF) Web Service Protocol has two operations to manipulate the OOF settings.

Operation	Description
GetUserOofSettings	Specifies how to get the OOF settings and OOF messages from a user's mailbox.
SetUserOofSettings	Specifies how to set the OOF settings and OOF messages in a user's mailbox.

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.

3.1.2   Timers

None.

3.1.3   Initialization

None.

3.1.4   Message Processing Events and Sequencing Rules

This protocol includes the operations listed in the following table.

Operation	Description
GetUserOofSettings	Gets a user's OOF settings and OOF messages from his or her mailbox.
SetUserOofSettings	Sets a user's OOF settings and OOF messages in his or her mailbox.

3.1.4.1   GetUserOofSettings Operation

The **GetUserOofSettings** operation retrieves the OOF settings and OOF messages from a user's mailbox.

```
<wsdl:operation name="GetUserOofSettings">
    <wsdl:input message="tns:GetUserOofSettingsSoapIn" />
    <wsdl:output message="tns:GetUserOofSettingsSoapOut" />
</wsdl:operation>
```

Request

Message Format	Description
tns:GetUserOofSettingsSoapIn	Specifies the **SOAP message** that represents a request to get the OOF settings and OOF messages from a user's mailbox.

Response

Message Format	Description
tns:GetUserOofSettingsSoapOut	Specifies the SOAP message that is returned by the server in response.

On a successful request, the **GetUserOofSettings** operation MUST return a <GetUserOofSettingsResponse> element with the **ResponseClass** attribute of the <ResponseMessage> element set to "Success". The <ResponseCode> element of the <ResponseMessage> element MUST be set to "NoError".

If the mailbox that is specified in the request does not belong to the user who is making the request, the server MUST return a **SOAP fault**. The following **XML** specifies the **SOAP body** that MUST be returned.

```
<soap:Body>
    <soap:Fault>
      <faultcode>soap:Client</faultcode>
      <faultstring>Microsoft.Exchange.Data.Storage.AccessDeniedException: User is not mailbox
owner. User = *UserID*, MailboxGuid = *MailboxID* ---> User is not mailbox owner.
</faultstring>
      <faultactor>https://CAS01.example.com/EWS/Exchange.asmx</faultactor>
      <detail>
        <ErrorCode xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">-
2146233088</ErrorCode>
      </detail>
    </soap:Fault>
  </soap:Body>
```

The <faultstring> element MUST contain the User ID of the user who is making the request and the Mailbox ID of the mailbox for which the attempt was made to change the OOF message.

3.1.4.1.1   Messages

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

Message	Description
GetUserOofSettingsSoapIn	Specifies the request that retrieves a user's Out of Office (OOF) status.
GetUserOofSettingsSoapOut	Specifies the response from a **GetUserOofSettings** operation (section 3.1.4.1) request.

3.1.4.1.1.1   tns:GetUserOofSettingsSoapIn

The **GetUserOofSettingsSoapIn** WSDL message specifies the SOAP message that represents a request to get the OOF settings for a user.

```
<wsdl:message name="GetUserOofSettingsSoapIn">
  <wsdl:part name="GetUserOofSettingsRequest" element="tns:GetUserOofSettingsRequest"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
</wsdl:message>
```

The two parts of the **GetUserOofSettingsSoapIn** WSDL message are described in the following table.

Part name	Element/type	Description
GetUserOofSettingsRequest	<m:GetUserOofSettingsResponse>	Specifies the request.
Impersonation	<t:ExchangeImpersonation>	Specifies the user that the client application is impersonating. The <t:ExchangeImpersonation> element is defined in [MS-OXWSCDATA] section 2.2.4.2.

3.1.4.1.1.2   tns:GetUserOofSettingsSoapOut

The **GetUserOofSettingsSoapOut** WSDL message specifies the SOAP message that represents a response to a request to get the OOF settings for a user.

```
<wsdl:message name="GetUserOofSettingsSoapOut">
  <wsdl:part name="GetUserOofSettingsResult" element="tns:GetUserOofSettingsResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **GetUserOofSettingsSoapOut** WSDL message contains two parts, as described in the following table.

Part name	Element/type	Description
GetUserOofSettingsResult	**GetUserOofSettingsResponse** (section 3.1.4.1.3.1)	Specifies the response.
ServerVersion	**ServerVersionInfo** ([MS-OXWSCDATA] section 2.2.4.8)	Specifies 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 this operation.

Element	Description
<GetUserOofSettingsRequest>	Specifies the root element in a **GetUserOofSettings** operation request.

Element	Description
<GetUserOofSettingsResponse>	Specifies the root element in a **GetUserOofSettings** operation response.
<OofSettings>	Specifies the OOF settings for a mailbox.

3.1.4.1.2.1   m:GetUserOofSettingsRequest Element

The <GetUserOofSettingsRequest> element specifies the root element in a **GetUserOofSettings** (section 3.1.4.1) request.

```
<xs:element name="GetUserOofSettingsRequest"
  type="tns:GetUserOofSettingsRequest"
 />
```

3.1.4.1.2.2   m:GetUserOofSettingsResponse Element

The <GetUserOofSettingsResponse> element specifies the root element in a **GetUserOofSettings** operation (section 3.1.4.1) response.

```
<xs:element name="GetUserOofSettingsResponse"
  type="tns:GetUserOofSettingsResponse"
 />
```

3.1.4.1.2.3   t:OofSettings Element

The <OofSettings> element specifies the OOF settings for a mailbox.

```
<xs:element name="OofSettings"
  type="t:UserOofSettings"
 />
```

3.1.4.1.3   Complex Types

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

Complex type	Description
GetUserOofSettingsRequest	Contains the arguments that are used to get a user's OOF settings.
GetUserOofSettingsResponse	Contains the response message from the **GetUserOofSettings** operation.

3.1.4.1.3.1   tns:GetUserOofSettingsResponse Complex Type

The **GetUserOofSettingsResponse** complex type contains the response message from the **GetUserOofSettings** operation (section 3.1.4.1) and the OOF settings for the user as specified in the **GetUserOofSettings** operation request.

```
<xs:complexType name="GetUserOofSettingsResponse">
  <xs:sequence>
    <xs:element name="ResponseMessage"
      type="m:ResponseMessageType"
      maxOccurs="1"
      minOccurs="1"
     />
    <xs:element
      maxOccurs="1"
      minOccurs="0"
      ref="t:OofSettings"
     />
    <xs:element name="AllowExternalOof"
      type="t:ExternalAudience"
      maxOccurs="1"
      minOccurs="0"
     />
  </xs:sequence>
</xs:complexType>
```

Child Elements

Element	Type	Description
ResponseMessage	m:ResponseMessageType	Provides descriptive information about the response status. MUST be present.
t:OofSettings	t:OofSettings	Contains the OOF settings. Can be present.
AllowExternalOof	t:ExternalAudience	Contains a value that identifies to whom external OOF messages are sent. Can be present.

3.1.4.1.3.2   tns:GetUserOofSettingsRequest Complex Type

The **GetUserOofSettingsRequest** complex type contains the arguments that are used to get a user's OOF settings.

```
<xs:complexType name="GetUserOofSettingsRequest">
  <xs:complexContent
    mixed="false"
  >
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:sequence>
```

```
          <xs:element
            maxOccurs="1"
            minOccurs="1"
            ref="t:Mailbox"
          />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Child Elements

Element	Type	Description
t:Mailbox	t:Mailbox	Specifies the user for which OOF settings are to be retrieved. MUST be present.

The caller MUST be the owner of the mailbox specified in the request.

3.1.4.2 SetUserOofSettings Operation

The **SetUserOofSettings** operation specifies how to set a mailbox user's OOF settings and response message.

```
<wsdl:operation name="SetUserOofSettings">
  <wsdl:input message="tns:SetUserOofSettingsSoapIn"/>
  <wsdl:output message="tns:SetUserOofSettingsSoapOut"/>
</wsdl:operation>
```

Request

Message Format	Description
tns:SetUserOofSettingsSoapIn	Specifies the SOAP message that represents a request to set the OOF settings and OOF messages for a user's mailbox.

Response

Message Format	Description
tns:SetUserOofSettingsSoapOut	Specifies the SOAP message that is returned by the server in response.

On a successful request, the **SetUserOofSettings** operation MUST return a <SetUserOofSettingsResponse> element with the **ResponseClass** attribute of the <ResponseMessage> element set to "Success". The <ResponseCode> element of the <ResponseMessage> element MUST be set to "NoError".

If the request is unsuccessful, the **SetUserOofSettings** operation MUST return a <SetUserOofSettingsResponse> element with the **ResponseClass** attribute of the <ResponseMessage> element set to "Error". The <ResponseCode> element of the <ResponseMessage> element MUST be set to one of the values listed in the following table.

Error value	Description
ErrorInvalidScheduledOofDuration	Occurs if the specified duration end time is not greater than the start time, or if the end time does not occur in the future, or if the <Duration> element is not set when the <OofState> element is set to "Scheduled".
ErrorInvalidUserOofSettings	Occurs when the request is missing an internal or external reply.

If the mailbox that is specified in the request does not belong to the user who is making the request, the server MUST return a SOAP fault. The following XML specifies the SOAP body that MUST be returned.

```
<soap:Body>
    <soap:Fault>
      <faultcode>soap:Client</faultcode>
      <faultstring>Microsoft.Exchange.Data.Storage.AccessDeniedException: User is not mailbox
owner. User = *UserID*, MailboxGuid = *MailboxID* ---> User is not mailbox owner.
</faultstring>
      <faultactor>https://CAS01.example.com/EWS/Exchange.asmx</faultactor>
      <detail>
        <ErrorCode xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">-
2146233088</ErrorCode>
      </detail>
    </soap:Fault>
  </soap:Body>
```

The <faultstring> element MUST contain the User ID of the user who is making the request and the Mailbox ID of the mailbox for which the attempt was made to change the OOF message.

3.1.4.2.1 Messages

The following table summarizes the WSDL message definitions that are specific to this operation.

Message	Description
SetUserOofSettingsSoapIn	Specifies the request that sets a user's Out of Office (OOF) status.
SetUserOofSettingsSoapOut	Specifies the response from the **SetUserOofSettings** operation.

3.1.4.2.1.1 tns:SetUserOofSettingsSoapIn

The **SetUserOofSettingsSoapIn** WSDL message specifies the SOAP message that represents a request to set the OOF settings for a user.

```
<wsdl:message name="SetUserOofSettingsSoapIn">
    <wsdl:part name="SetUserOofSettingsRequest" element="tns:SetUserOofSettingsRequest"/>
    <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
</wsdl:message>
```

The parts of the **SetUserOofSettingsSoapIn** WSDL message are described in the following table.

Part name	Element/type	Description
SetUserOofSettingsRequest	<m:SetUserOofSettingsRequest>	Specifies the request.
Impersonation	<t:ExchangeImpersonation>	Specifies the user that the client application is impersonating. The <t:ExchangeImpersonation> element is defined in [MS-OXWSCDATA] section 2.2.4.2.

3.1.4.2.1.2 tns:SetUserOofSettingsSoapOut

The **SetUserOofSettingsSoapOut** WSDL message specifies the SOAP message that represents the response from a request to set the OOF settings for a user.

```
<wsdl:message name="GetUserOofSettingsSoapOut">
  <wsdl:part name="GetUserOofSettingsResult" element="tns:GetUserOofSettingsResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **SetUserOofSettingsSoapOut** WSDL message contains two parts, as described in the following table.

Part name	Element/type	Description
SetUserOofSettingsResult	**SetUserOofSettingsResponse** (section 3.1.4.2.3.1)	Specifies the response that contains the requested OOF settings.
ServerVersion	**ServerVersionInfo** ([MS-OXWSCDATA] section 2.2.4.8)	Specifies the server version for the response.

3.1.4.2.2 SetUserOofSettings Elements

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

Element	Description
<SetUserOofSettingsRequest>	Specifies the base element for a **SetUserOofSettings** operation request.
<SetUserOofSettingsResponse>	Specifies the base element for a **SetUserOofSettings** operation response.
<UserOofSettings>	Specifies the OOF settings for a mailbox.

3.1.4.2.2.1 m:SetUserOofSettingsRequest Element

The <SetUserOofSettingsRequest> element specifies the base element for a **SetUserOofSettings** operation (section 3.1.4.2) request.

```
<xs:element name="SetUserOofSettingsRequest"
  type="tns:SetUserOofSettingsRequest"
```

```
    />
```

3.1.4.2.2.2   m:SetUserOofSettingsResponse Element

The <SetUserOofSettingsResponse> element specifies the base element for a **SetUserOofSettings** operation (section 3.1.4.2) response.

```
<xs:element name="SetUserOofSettingsResponse"
  type="tns:SetUserOofSettingsResponse"
 />
```

3.1.4.2.2.3   t:UserOofSettings Element

The <UserOofSettings> element specifies the OOF settings for a mailbox.

```
<xs:element name="UserOofSettings"
  type="t:UserOofSettings"
 />
```

3.1.4.2.3   Complex Types

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

Complex Type	Description
SetUserOofSettingsRequest	Specifies the arguments that are used to set a mailbox user's OOF settings.
SetUserOofSettingsResponse	Contains the response message from the **SetUserOofSettings** operation.

3.1.4.2.3.1   tns:SetUserOofSettingsResponse Complex Type

The **SetUserOofSettingsResponse** complex type specifies the result of a **SetUserOofSettingsRequest** complex type (section 3.1.4.2.3.2) message attempt.

```
<xs:complexType name="SetUserOofSettingsResponse">
  <xs:sequence>
    <xs:element name="ResponseMessage"
      type="m:ResponseMessageType"
      minOccurs="0"
      maxOccurs="1"
     />
  </xs:sequence>
</xs:complexType>
```

Child Elements

Element	Type	Description
ResponseMessage	m:ResponseMessageType	Provides descriptive information about the response status. Can be present.

3.1.4.2.3.2 tns:SetUserOofSettingsRequest Complex Type

The **SetUserOofSettingsRequest** complex type specifies the arguments that are used to set a mailbox user's OOF settings.

```
<xs:complexType name="SetUserOofSettingsRequest">
  <xs:complexContent
    mixed="false"
  >
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:sequence>
        <xs:element
          maxOccurs="1"
          minOccurs="1"
          ref="t:Mailbox"
        />
        <xs:element
          maxOccurs="1"
          minOccurs="1"
          ref="t:UserOofSettings"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Child Elements

Element	Type	Description
t:Mailbox	t:Mailbox	Specifies the mailbox user. MUST be present.
t:UserOofSettings	t:UserOofSettings	Specifies the OOF settings. MUST be present.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4   Protocol Examples

4.1   GetUserOofSettings Request

The following example shows how to get a specified user's OOF settings.

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <GetUserOofSettingsRequest
xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
      <Mailbox xmlns="http://schemas.microsoft.com/exchange/services/2006/types">
        <Address>user@example.com</Address>
      </Mailbox>
    </GetUserOofSettingsRequest>
  </soap:Body>
</soap:Envelope>
```

4.2   GetUserOofSettings Response

The following example shows a successful response to get a user's OOF settings.

```
<?xml version="1.0" encoding="utf-8" ?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Header>
    <t:ServerVersionInfo MajorVersion="8" MinorVersion="1" MajorBuildNumber="240"
MinorBuildNumber="5" xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types" />
  </soap:Header>
  <soap:Body>
    <GetUserOofSettingsResponse
xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
      <ResponseMessage ResponseClass="Success">
        <ResponseCode>NoError</ResponseCode>
      </ResponseMessage>
      <OofSettings xmlns="http://schemas.microsoft.com/exchange/services/2006/types">
        <OofState>Enabled</OofState>
        <ExternalAudience>All</ExternalAudience>
        <Duration>
          <StartTime>2008-02-01T00:00:00</StartTime>
          <EndTime>2008-02-02T00:00:00</EndTime>
        </Duration>
        <InternalReply>
          <Message>I am out of office. This is my internal reply.</Message>
        </InternalReply>
        <ExternalReply>
          <Message>I am out of office. This is my external reply.</Message>
        </ExternalReply>
      </OofSettings>
      <AllowExternalOof>All</AllowExternalOof>
    </GetUserOofSettingsResponse>
  </soap:Body>
</soap:Envelope>
```

4.3   SetUserOofSettings Request

The following example shows how to set a specified user's OOF settings.

```xml
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <SetUserOofSettingsRequest
xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
      <Mailbox xmlns="http://schemas.microsoft.com/exchange/services/2006/types">
        <Address>u1@example.com</Address>
        <RoutingType>SMTP</RoutingType>
      </Mailbox>
      <UserOofSettings xmlns="http://schemas.microsoft.com/exchange/services/2006/types">
        <OofState>Enabled</OofState>
        <ExternalAudience>All</ExternalAudience>
        <InternalReply>
          <Message>I am out of office. This is my internal reply.</Message>
        </InternalReply>
        <ExternalReply>
          <Message>I am out of office. This is my external reply.</Message>
        </ExternalReply>
      </UserOofSettings>
    </SetUserOofSettingsRequest>
  </soap:Body>
</soap:Envelope>
```

4.4   SetUserOofSettings Successful Response

The following example shows a successful response to a **SetUserOofSettings** operation request.

```xml
<?xml version="1.0" encoding="utf-8" ?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Header>
    <t:ServerVersionInfo MajorVersion="8" MinorVersion="1" MajorBuildNumber="240"
MinorBuildNumber="5" xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types" />
  </soap:Header>
  <soap:Body>
    <SetUserOofSettingsResponse
xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
      <ResponseMessage ResponseClass="Success">
        <ResponseCode>NoError</ResponseCode>
      </ResponseMessage>
    </SetUserOofSettingsResponse>
  </soap:Body>
</soap:Envelope>
```

4.5   SetUserOofSettings Failure Response

The following example shows an unsuccessful response to a **SetUserOofSettings** operation
request.

```xml
<?xml version="1.0" encoding="utf-8" ?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Header>
    <t:ServerVersionInfo MajorVersion="8" MinorVersion="1" MajorBuildNumber="240"
MinorBuildNumber="5" xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types" />
  </soap:Header>
  <soap:Body>
    <SetUserOofSettingsResponse
xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
      <ResponseMessage ResponseClass="Error">
        <MessageText>The scheduled Out of Office duration is not valid.</MessageText>
        <ResponseCode>ErrorInvalidScheduledOofDuration</ResponseCode>
        <DescriptiveLinkKey>0</DescriptiveLinkKey>
        <MessageXml>
          <ExceptionType
xmlns="http://schemas.microsoft.com/exchange/services/2006/errors">Microsoft.Exchange.InfoWor
ker.Common.OOF.InvalidScheduledOofDuration</ExceptionType>
          <ExceptionCode
xmlns="http://schemas.microsoft.com/exchange/services/2006/errors">158</ExceptionCode>
        </MessageXml>
      </ResponseMessage>
    </SetUserOofSettingsResponse>
  </soap:Body>
</soap:Envelope>
```

5   Security

5.1   Security Considerations for Implementers

The OOF Web Service protocol does not use additional security mechanisms.

5.2   Index of Security Parameters

None.

6 Appendix A: Full WSDL

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

File name	Description	Section
MS-OXWOOF.wsdl	Contains the WSDL for the implementation of this protocol.	6.1
MS-OXWOOF-types.xsd	Contains the XML schema type definitions that are used in this protocol.	6.2
MS-OXWOOF-messages.xsd	Contains the XML schema message definitions that are used in this protocol.	6.3

These files need to be placed in a common folder for the WSDL to validate and operate. Also, any schema files that are referenced in XML <include> or <import> elements by the MS-OXWOOF-types.xsd or MS-OXWOOF-messages.xsd schemas need to be placed in the common folder.

6.1 WSDL

This section contains the contents of the MS-OXWOOF.wsdl file and information about additional files that this schema file needs to operate correctly.

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

File name	Section
MS-OXWOOF-messages.xsd.	6.3

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:s="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types">
  <wsdl:types>
    <xs:schema id="messages" elementFormDefault="qualified" version="Exchange2007_SP1"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
      <xs:include schemaLocation="MS-OXWOOF-messages.xsd"/>
    </xs:schema>
  </wsdl:types>
  <wsdl:message name="GetUserOofSettingsSoapIn">
    <wsdl:part name="GetUserOofSettingsRequest" element="tns:GetUserOofSettingsRequest"/>
  </wsdl:message>
  <wsdl:message name="GetUserOofSettingsSoapOut">
    <wsdl:part name="GetUserOofSettingsResult" element="tns:GetUserOofSettingsResponse"/>
    <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
  </wsdl:message>
  <wsdl:message name="SetUserOofSettingsSoapIn">
    <wsdl:part name="SetUserOofSettingsRequest" element="tns:SetUserOofSettingsRequest"/>
  </wsdl:message>
```

```
<wsdl:message name="SetUserOofSettingsSoapOut">
  <wsdl:part name="SetUserOofSettingsResult" element="tns:SetUserOofSettingsResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
<wsdl:portType name="ExchangeServicePortType">
  <wsdl:operation name="GetUserOofSettings">
    <wsdl:input message="tns:GetUserOofSettingsSoapIn"/>
    <wsdl:output message="tns:GetUserOofSettingsSoapOut"/>
  </wsdl:operation>
  <wsdl:operation name="SetUserOofSettings">
    <wsdl:input message="tns:SetUserOofSettingsSoapIn"/>
    <wsdl:output message="tns:SetUserOofSettingsSoapOut"/>
  </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="ExchangeServiceBinding" type="tns:ExchangeServicePortType">
  <wsdl:documentation>
    <wsi:Claim conformsTo="http://ws-i.org/profiles/basic/1.0" xmlns:wsi="http://ws-
i.org/schemas/conformanceClaim/"/>
  </wsdl:documentation>
  <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"/>
  <wsdl:operation name="GetUserOofSettings">
    <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetUserOofSettings"/
>
    <wsdl:input>
      <soap:body parts="GetUserOofSettingsRequest" use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body parts="GetUserOofSettingsResult" use="literal"/>
      <soap:header message="tns:GetUserOofSettingsSoapOut" part="ServerVersion"
use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="SetUserOofSettings">
    <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/SetUserOofSettings"/
>
    <wsdl:input>
      <soap:body parts="SetUserOofSettingsRequest" use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body parts="SetUserOofSettingsResult" use="literal"/>
      <soap:header message="tns:SetUserOofSettingsSoapOut" part="ServerVersion"
use="literal"/>
    </wsdl:output>
  </wsdl:operation>
</wsdl:binding>
</wsdl:definitions>
```

6.2 Types Schema

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

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

File name	Defining specification
MS-OXWSCDATA-types.xsd	[MS-OXWSCDATA] section 6.3

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/types"
elementFormDefault="qualified" version="Exchange2010" id="types">
  <xs:import namespace="http://www.w3.org/XML/1998/namespace"/>

  <xs:include schemaLocation="MS-OXWSCDATA-types.xsd" />

  <xs:element name="Mailbox" type="t:EmailAddress"/>

  <xs:simpleType name="OofState">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Disabled"/>
      <xs:enumeration value="Enabled"/>
      <xs:enumeration value="Scheduled"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="ExternalAudience">
    <xs:restriction base="xs:string">
      <xs:enumeration value="None"/>
      <xs:enumeration value="Known"/>
      <xs:enumeration value="All"/>
    </xs:restriction>
  </xs:simpleType>

  <xs:complexType name="UserOofSettings">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="OofState" type="t:OofState"/>
      <xs:element minOccurs="1" maxOccurs="1" name="ExternalAudience"
type="t:ExternalAudience"/>
      <xs:element minOccurs="0" maxOccurs="1" name="Duration" type="t:Duration"/>
      <xs:element minOccurs="0" maxOccurs="1" name="InternalReply" type="t:ReplyBody"/>
      <xs:element minOccurs="0" maxOccurs="1" name="ExternalReply" type="t:ReplyBody"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="OofSettings" type="t:UserOofSettings"/>
  <xs:element name="UserOofSettings" type="t:UserOofSettings"/>
</xs:schema>
```

6.3   Messages Schema

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

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

File name	Defining specification/section
MS-OXWSCDATA-messages.xsd	[MS-OXWSCDATA] section 6.3
MS-OXWOOF-types.xsd	Section 6.2

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages"
elementFormDefault="qualified" version="Exchange2010" id="messages">
  <xs:include schemaLocation="MS-OXWSCDATA-messages.xsd"/>
  <xs:import namespace="http://schemas.microsoft.com/exchange/services/2006/types"
schemaLocation="MS-OXWOOF-types.xsd"/>
  <xs:complexType name="GetUserOofSettingsRequest">
    <xs:complexContent mixed="false">
      <xs:extension base="m:BaseRequestType">
        <xs:sequence>
          <xs:element minOccurs="1" maxOccurs="1" ref="t:Mailbox"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="GetUserOofSettingsRequest" type="tns:GetUserOofSettingsRequest"/>
  <xs:complexType name="GetUserOofSettingsResponse">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="ResponseMessage"
type="m:ResponseMessageType"/>
      <xs:element minOccurs="0" maxOccurs="1" ref="t:OofSettings"/>
      <xs:element minOccurs="0" maxOccurs="1" name="AllowExternalOof"
type="t:ExternalAudience"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="GetUserOofSettingsResponse" type="tns:GetUserOofSettingsResponse"/>
  <xs:complexType name="SetUserOofSettingsRequest">
    <xs:complexContent mixed="false">
      <xs:extension base="m:BaseRequestType">
        <xs:sequence>
          <xs:element minOccurs="1" maxOccurs="1" ref="t:Mailbox"/>
          <xs:element minOccurs="1" maxOccurs="1" ref="t:UserOofSettings"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="SetUserOofSettingsRequest" type="tns:SetUserOofSettingsRequest"/>
  <xs:complexType name="SetUserOofSettingsResponse">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ResponseMessage"
type="m:ResponseMessageType"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="SetUserOofSettingsResponse" type="tns:SetUserOofSettingsResponse"/>
</xs:schema>
```

7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products:

- Microsoft® Office Outlook® 2007

- Microsoft® Exchange Server 2007

- Microsoft® Outlook® 2010

- 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. 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 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.

<1> Section 2.2.4.1: Exchange 2007 does not require that the <Duration> element be specified in UTC.

8 Change Tracking

This section identifies changes that were made to the [MS-OXWOOF] protocol document between the August 2010 and November 2010 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.

- Changes made for template compliance.

- 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 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.

- 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 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.

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
1.1 Glossary	56613 Added the terms "HTTP" and "SOAP message" to the list of terms that are defined in [MS-OXGLOS].	N	Content updated.
1.2.1 Normative References	51374 Added reference information for [MS-OXDSCLI] and [MS-OXWSADISC].	N	Content updated.
1.5 Prerequisites/Preconditions	51374 Added information about prerequisite protocols.	N	Content updated.
3.1.4.1.1.1 tns:GetUserOofSettingsSoapIn	57855 Added the Impersonation part to the GetUserOofSettingsSoapIn message.	N	Content updated.
3.1.4.2.1.1 tns:SetUserOofSettingsSoapIn	57855 Added the Impersonation part to the SetUserOofSettingsSoapIn message.	Y	Content updated.
4.5 SetUserOofSettings Failure Response	56233 Updated the title of the section.	N	Content updated.

Release: Tuesday, October 26, 2010

9 Index