

# [MS-OXWSADISC]: AutoDiscover Publishing and Lookup SOAP-based Web Service Protocol Specification

---

## Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft's Open Specification Promise (available here: <http://www.microsoft.com/interop/osp>) or the Community Promise (available here: <http://www.microsoft.com/interop/cp/default.mspx>). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting [iplq@microsoft.com](mailto:iplq@microsoft.com).
- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights.

**Reservation of Rights.** All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

**Tools.** The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.

## Revision Summary

Date	Revision History	Revision Class	Comments
07/15/2009	1.0	Major	Initial Availability.

PRELIMINARY

# Table of Contents

<b>1 Introduction .....</b>	<b>6</b>
1.1 Glossary.....	6
1.2 References.....	6
1.2.1 Normative References .....	6
1.2.2 Informative References .....	7
1.3 Protocol Overview .....	7
1.4 Relationship to Other Protocols.....	9
1.5 Prerequisites/Preconditions.....	9
1.6 Applicability Statement.....	9
1.7 Versioning and Capability Negotiation.....	10
1.8 Vendor Extensible Fields.....	10
1.9 Standards Assignments .....	10
<b>2 Messages .....</b>	<b>11</b>
2.1 Transport.....	11
2.2 Common Message Syntax.....	11
2.2.1 Namespaces.....	11
2.2.2 Simple Types .....	12
2.2.3 Complex Types.....	12
2.2.4 Elements.....	12
2.2.4.1 GetFederationInformationRequestMessage Element.....	12
2.2.4.2 GetFederationInformationResponseMessage Element.....	12
2.2.4.3 GetUserSettingsRequestMessage Element.....	13
2.2.4.4 GetUserSettingsResponseMessage Element .....	13
2.2.4.5 GetFederationInformationRequest Element.....	14
2.2.4.6 GetFederationInformationResponse Element.....	14
2.2.5 Attributes.....	14
2.2.6 Groups.....	14
2.2.7 Attribute Groups .....	14
2.2.8 Messages .....	14
<b>3 Protocol Details.....</b>	<b>15</b>
3.1 AutoDiscover Server Details .....	15
3.1.1 Abstract Data Model.....	15
3.1.2 Timers .....	15
3.1.3 Initialization .....	15
3.1.4 Message Processing Events and Sequencing .....	15
3.1.4.1 GetFederationInformation.....	15
3.1.4.1.1 Simple Types .....	16
3.1.4.1.2 Complex Types.....	16
3.1.4.1.3 Elements.....	16
3.1.4.1.4 Attributes.....	16
3.1.4.1.5 Groups.....	16
3.1.4.1.6 Attribute Groups .....	16
3.1.4.1.7 Messages .....	16
3.1.4.1.7.1 tns:GetFederationInformationRequestMessage .....	16
3.1.4.1.7.2 tns:GetFederationInformationResponseMessage .....	16
3.1.4.2 GetUserSettings .....	17
3.1.4.2.1 Simple Types .....	17
3.1.4.2.1.1 t:ExchangeVersion Simple Type.....	17

3.1.4.2.1.2	t:ErrorCode Simple Type .....	18
3.1.4.2.2	Complex Types.....	19
3.1.4.2.2.1	m:GetUserSettingsRequest Complex Type .....	19
3.1.4.2.2.2	m:AutodiscoverRequest Complex Type .....	20
3.1.4.2.2.3	m:Users Complex Type .....	20
3.1.4.2.2.4	m:User Complex Type.....	20
3.1.4.2.2.5	m:RequestedSettings Complex Type.....	21
3.1.4.2.2.6	m:GetUserSettingsResponse Complex Type.....	21
3.1.4.2.2.7	m:AutodiscoverResponse Complex Type.....	22
3.1.4.2.2.8	m:UserResponse Complex Type.....	22
3.1.4.2.2.9	m:UserSettingErrors Complex Type .....	23
3.1.4.2.2.10	m:ArrayOfUserResponse Complex Type .....	23
3.1.4.2.2.11	m:UserSettingError Complex Type.....	24
3.1.4.2.2.12	m:UserSettings Complex Type.....	24
3.1.4.2.2.13	m:UserSetting Complex Type .....	25
3.1.4.2.2.14	m:StringSetting Complex Type.....	25
3.1.4.2.2.15	m:WebClientUrlCollectionSetting Complex Type.....	26
3.1.4.2.2.16	m:WebClientUrls Complex Type.....	26
3.1.4.2.2.17	m:WebClientUrl Complex Type .....	27
3.1.4.2.3	Elements.....	27
3.1.4.2.3.1	GetUserSettingsRequest Element.....	27
3.1.4.2.3.2	AutodiscoverRequest Element.....	28
3.1.4.2.3.3	Users Element.....	28
3.1.4.2.3.4	User Element .....	28
3.1.4.2.3.5	RequestedSettings Element.....	28
3.1.4.2.3.6	ExchangeVersion Element .....	28
3.1.4.2.3.7	RequestedServerVersion Element.....	29
3.1.4.2.3.8	GetUserSettingsResponse Element .....	29
3.1.4.2.3.9	AutodiscoverResponse Element .....	29
3.1.4.2.3.10	ErrorCode Element.....	29
3.1.4.2.3.11	ArrayOfUserResponse Element .....	29
3.1.4.2.3.12	UserResponse Element.....	30
3.1.4.2.3.13	UserSettingErrors Element.....	30
3.1.4.2.3.14	UserSettingError Element.....	30
3.1.4.2.3.15	UserSettings Element.....	30
3.1.4.2.3.16	UserSetting Element.....	30
3.1.4.2.3.17	SettingName Element.....	31
3.1.4.2.3.18	StringSetting Element .....	31
3.1.4.2.3.19	WebClientUrlCollectionSetting Element .....	31
3.1.4.2.3.20	WebClientUrls Element.....	31
3.1.4.2.3.21	WebClientUrl Element.....	31
3.1.4.2.4	Attributes.....	32
3.1.4.2.5	Groups.....	32
3.1.4.2.6	Attribute Groups .....	32
3.1.4.2.7	Messages .....	32
3.1.4.2.7.1	tns:GetUserSettingsRequestMessage .....	32
3.1.4.2.7.2	tns:GetUserSettingsResponseMessage.....	32
3.1.5	Timer Events.....	32
3.1.6	Other Local Events .....	32
3.2	Client Details.....	32
3.2.1	Abstract Data Model.....	33
3.2.2	Timers .....	33
3.2.3	Initialization .....	33

3.2.4	Message Processing Events and Sequencing .....	33
3.2.5	Timer Events.....	33
3.2.6	Other Local Events .....	33
<b>4</b>	<b>Protocol Examples .....</b>	<b>34</b>
<b>5</b>	<b>Security.....</b>	<b>36</b>
5.1	Security Considerations for Implementers.....	36
5.2	Index of Security Parameters .....	36
<b>6</b>	<b>Appendix A: Full WSDL .....</b>	<b>37</b>
6.1	WSDL.....	37
6.2	Messages XSD.....	38
6.3	Types XSD .....	42
<b>7</b>	<b>Appendix B: Product Behavior .....</b>	<b>43</b>
<b>8</b>	<b>Change Tracking .....</b>	<b>44</b>
<b>9</b>	<b>Index.....</b>	<b>45</b>

# 1 Introduction

This document specifies the Autodiscover protocol, which sends the request-response messages for retrieving the user settings configuration information. Clients use the Autodiscover protocol to get specific configuration settings by passing in their e-mail address as simple strings.

## 1.1 Glossary

The following terms are defined in [\[MS-OXGLOS\]](#):

**Hypertext Transfer Protocol (HTTP)**  
**Hypertext Transfer Protocol over Secure Socket Layers (HTTPS)**  
**SOAP body**  
**SOAP fault**  
**SOAP header**  
**Web Services Description Language (WSDL)**  
**WSDL message**  
**WSDL port type**  
**XML**  
**XML namespace**  
**XML schema**

The following terms are specific to this document:

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

## 1.2 References

### 1.2.1 Normative References

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

[MS-OXGLOS] Microsoft Corporation, "[Exchange Server Protocols Master Glossary](#)", June 2008.

[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>.

[SOAP1.1] Box, D., et al., "Simple Object Access Protocol (SOAP) 1.1", May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>.

[WSA10] WS-Addressing 1.0 Namespace <http://www.w3.org/2005/08/addressing/>

[WS-addr-core] Web Services Addressing 1.0 – Core, W3C Recommendation 9 May 2006, <http://www.w3.org/TR/ws-addr-core/>

[WS-addr-Metadata] Web Services Addressing 1.0 – Metadata, W3C Recommendation 4 September 2007, <http://www.w3.org/TR/ws-addr-metadata/>

[WS-Addressing] Web Services Addressing (WS-Addressing), W3C Member Submission 10 August 2004, <http://www.w3.org/Submission/2004/SUBM-ws-addressing-20040810/>

[WS-MetadataExchange] Web Services Metadata Exchange (WS-MetadataExchange), August 2006, <http://schemas.xmlsoap.org/ws/2004/09/mex/>

[WS-Policy] Web Services Policy Framework (WS-Policy) and Web Services Policy Attachment (WS-PolicyAttachment), <http://specs.xmlsoap.org/ws/2004/09/policy/>

[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/>

[WSDLSOAP] WSDL 1.1 Binding Extension for SOAP 1.2 <http://www.w3.org/Submission/2006/SUBM-wsd11soap12-20060405/>

[XMLNS] World Wide Web Consortium, "Namespaces in XML 1.0 (Second Edition)", August 2006, <http://www.w3.org/TR/REC-xml-names/>

[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

None.

### 1.3 Protocol Overview

The AutoDiscover Web Service protocol allows clients to learn e-mail configuration settings for specific e-mail address. The web services implements a single web method named GetUserSettings to request specific configuration settings by passing in the e-mail address. The following user configuration settings MAY be returned in a valid server response, if they are implemented by the server.

Configuration Setting	Description
UserDisplayName	The display name of the user.
UserDN	The legacy distinguished name of the user.
UserDeploymentId	The deployment identifier of the user.
InternalMailboxServer	The fully qualified domain name of the mailbox server.
InternalRpcClientServer	The fully qualified domain name of the RPC client server.
InternalMailboxServerDN	The legacy distinguished name of the mailbox server.
InternalEcpUrl	The internal URL of the server Control Panel.
InternalEcpVoicemailUrl	The internal URL of the server Control Panel for VoiceMail Customization.
InternalEcpEmailSubscriptionsUrl	The internal URL of the server Control Panel for e-mail Subscriptions.
InternalEcpTextMessagingUrl	The internal URL of the server Control Panel for Text

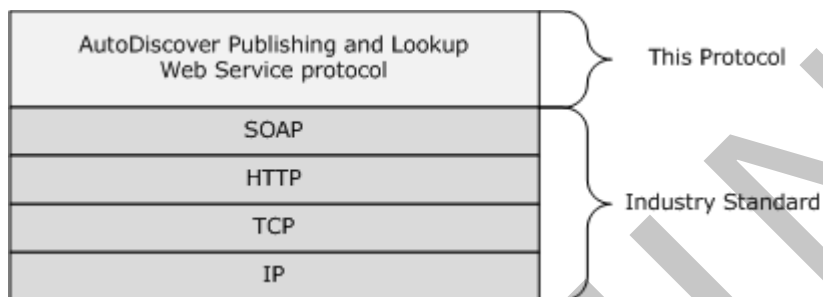
<b>Configuration Setting</b>	<b>Description</b>
	Messaging.
InternalEcpDeliveryReportUrl	The internal URL of the server Control Panel for Delivery Reports.
InternalEwsUrl	The internal URL of the server's Web Services.
InternalOABUrl	The internal URL of the Offline Address Book.
InternalUMUrl	The internal URL of the Unified Messaging services.
InternalWebClientUrls	The internal URLs of the server's web client.
MailboxDN	The distinguished name of the mailbox database of the user's mailbox.
PublicFolderServer	The name of the Public Folders server.
ActiveDirectoryServer	The name of the Active Directory server.
ExternalMailboxServer	The name of the RPC over HTTP server.
ExternalMailboxServerRequiresSSL	Indicates whether the RPC over HTTP server requires SSL.
ExternalMailboxServerAuthenticationMethods	The authentication methods supported by the RPC over HTTP server.
EcpVoicemailUrlFragment	The URL fragment of the server Control Panel for VoiceMail Customization.
EcpEmailSubscriptionsUrlFragment	The URL fragment of the server Control Panel for e-mail Subscriptions.
EcpTextMessagingUrlFragment	The URL fragment of the server Control Panel for Text Messaging.
EcpDeliveryReportUrlFragment	The URL fragment of the server Control Panel for Delivery Reports.
ExternalEcpUrl	The external URL of the server Control Panel.
ExternalEcpVoicemailUrl	The external URL of the server Control Panel for VoiceMail Customization.
ExternalEcpEmailSubscriptionsUrl	The external URL of the server Control Panel for e-mail Subscriptions.
ExternalEcpTextMessagingUrl	The external URL of the server Control Panel for Text Messaging.
ExternalEcpDeliveryReportUrl	The external URL of the server Control Panel for Delivery Reports.
ExternalEwsUrl	The external URL of the server's Web Services.
ExternalOABUrl	The external URL of the Offline Address Book.
ExternalUMUrl	The external URL of the Unified Messaging services.



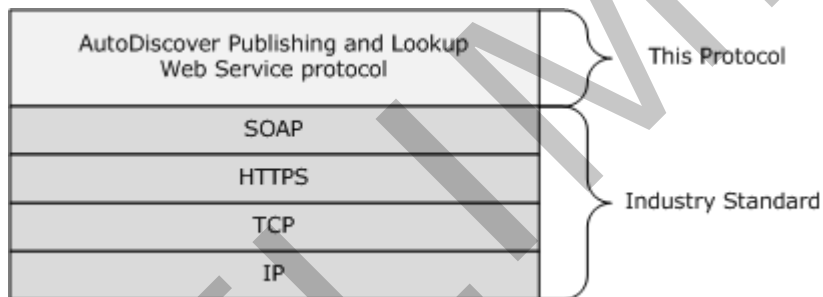
Configuration Setting	Description
ExternalWebClientUrls	The external URLs of the Server web client.
CrossOrganizationSharingEnabled	Indicates that cross-organization sharing is enabled.
AlternateMailboxes	Collection of alternate mailboxes.
CasVersion	The version of the Client Access Server serving the request (e.g. 14.XX.YYY.ZZZ)
EwsSupportedSchemas	Comma-separated list of schema versions supported by server's Web Services.

## 1.4 Relationship to Other Protocols

The Autodiscover Web Service protocol uses SOAP over **HTTP** and SOAP over **HTTPS**, as in the following figures.



**Figure 1: Figure 1:SOAP over HTTP**



**Figure 2: Figure 2:SOAP over HTTPS**

## 1.5 Prerequisites/Preconditions

None.

## 1.6 Applicability Statement

The protocol specified in this document is applicable to environments that are to perform an auto discovery of a user from the user's e-mail address, using the server's Web Services.

## 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** portType version.

**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.

## 1.9 Standards Assignments

None.

## 2 Messages

### 2.1 Transport

The SOAP version supported is SOAP 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** 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	<a href="http://schemas.xmlsoap.org/wsdl/soap/">http://schemas.xmlsoap.org/wsdl/soap/</a>	[SOAP1.1]
wsu	<a href="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd</a>	[MS-OXWSADISC]
soapenc	<a href="http://schemas.xmlsoap.org/soap/encoding/">http://schemas.xmlsoap.org/soap/encoding/</a>	[SOAP1.1]
wsam	<a href="http://www.w3.org/2007/05/addressing/metadata">http://www.w3.org/2007/05/addressing/metadata</a>	[WS-addr-Metadata]
tns	<a href="http://schemas.microsoft.com/exchange/2010/Autodiscover">http://schemas.microsoft.com/exchange/2010/Autodiscover</a>	[MS-OXWSADISC]
wsa	<a href="http://schemas.xmlsoap.org/ws/2004/08/addressing">http://schemas.xmlsoap.org/ws/2004/08/addressing</a>	[WS-Addressing]
wsp	<a href="http://schemas.xmlsoap.org/ws/2004/09/policy">http://schemas.xmlsoap.org/ws/2004/09/policy</a>	[WS-Policy]
wsap	<a href="http://schemas.xmlsoap.org/ws/2004/08/addressing/policy">http://schemas.xmlsoap.org/ws/2004/08/addressing/policy</a>	TBD
xsd	<a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a>	[XMLSCHEMA1], [XMLSCHEMA2]
msc	<a href="http://schemas.microsoft.com/ws/2005/12/wsdl/contract">http://schemas.microsoft.com/ws/2005/12/wsdl/contract</a>	TBD
wsaw	<a href="http://www.w3.org/2006/05/addressing/wsdl">http://www.w3.org/2006/05/addressing/wsdl</a>	[WS-addr-core]
soap12	<a href="http://schemas.xmlsoap.org/wsdl/soap12">http://schemas.xmlsoap.org/wsdl/soap12</a>	[WSDLSOAP]
wsa10	<a href="http://www.w3.org/2005/08/addressing">http://www.w3.org/2005/08/addressing</a>	[WSA10]
wsx	<a href="http://schemas.xmlsoap.org/ws/2004/09/mex">http://schemas.xmlsoap.org/ws/2004/09/mex</a>	[WS-MetadataExchange]
targetNamespace	<a href="http://schemas.microsoft.com/exchange/2010/Autodiscover">http://schemas.microsoft.com/exchange/2010/Autodiscover</a>	[MS-OXWSADISC]
wsdl	<a href="http://schemas.xmlsoap.org/wsdl/">http://schemas.xmlsoap.org/wsdl/</a>	<a href="#">[WSDL]</a>

## 2.2.2 Simple Types

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

## 2.2.3 Complex Types

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

## 2.2.4 Elements

The following **XML schema** element definitions are specific to this operation.

### 2.2.4.1 GetFederationInformationRequestMessage Element

The [GetFederationInformationRequestMessage](#) prepares a call to the server, requesting configuration data for the security token service (STS). The [GetFederationInformationResponseMessage](#) contains the Federation settings.

```
<xs:element name="GetFederationInformationRequestMessage">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Request"
        type="tns:GetFederationInformationRequest"
        nillable="true"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

Child Elements

Element	Type
Request	<a href="#">tns:GetFederationInformationRequest</a>

### 2.2.4.2 GetFederationInformationResponseMessage Element

The [GetFederationInformationResponseMessage](#) returns to the caller the Federations configuration settings that were requested in the [GetFederationInformationRequestMessage](#) call.

The security token service (STS) is specified in the response message.

```
<xs:element name="GetFederationInformationResponseMessage">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Response"
        type="tns:GetFederationInformationResponse"
        nillable="true"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

## Child Elements

Element	Type
Response	tns:GetFederationInformationResponse

### 2.2.4.3 GetUserSettingsRequestMessage Element

The [GetUserSettingsRequestMessage](#) prepares a call to the server, specifying the configuration settings to be returned along with the e-mail address of the user to be discovered. The [GetUserSettingsResponseMessage](#) contains the User Setting requested in this call.

```
<xs:element name="GetUserSettingsRequestMessage">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Request"
        type="tns:GetUserSettingsRequest"
        nillable="true"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

## Child Elements

Element	Type
Request	<a href="#">tns:GetUserSettingsRequest</a>

### 2.2.4.4 GetUserSettingsResponseMessage Element

The [GetUserSettingsResponseMessage](#) returns to the caller the user's configuration settings that were requested in the [GetUserSettingsRequestMessage](#) call.

The Name-Value pairs for each returned User Setting is included in the Response. The Autodiscover Service returns only the requested configuration settings.

```
<xs:element name="GetUserSettingsResponseMessage">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Response"
        type="tns:GetUserSettingsResponse"
        nillable="true"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

## Child Elements

Element	Type
Response	<a href="#">tns:GetUserSettingsResponse</a>

### 2.2.4.5 GetFederationInformationRequest Element

The [GetFederationInformationRequest](#) prepares a call to the server, requesting configuration data for the security token service (STS).

```
<xs:element name="GetFederationInformationRequest"
  type="tns:GetFederationInformationRequest"
  nillable="true"
/>
```

### 2.2.4.6 GetFederationInformationResponse Element

The [GetFederationInformationResponse](#) returns to the caller the Federations configuration settings

```
<xs:element name="GetFederationInformationResponse"
  type="tns:GetFederationInformationResponse"
  nillable="true"
/>
```

## 2.2.5 Attributes

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

## 2.2.6 Groups

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

## 2.2.7 Attribute Groups

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

## 2.2.8 Messages

This specification does not define any common **XML schema** message definitions.

## 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 AutoDiscover Server Details

The Autodiscovery Web Service protocol allows the user to determine specific user configuration settings by e-mail address.

Operation	Description
<a href="#">GetUserSettings</a>	Performs an Autodiscovery for the specified user and returns the requested configuration settings.

#### 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

This protocol includes the operation listed in the following table.

Operation	Description
<a href="#">GetFederationInformation</a>	Gets the configuration data for the security token service.
<a href="#">GetUserSettings</a>	Gets the specified configurations settings for the e-mail user.

##### 3.1.4.1 GetFederationInformation

Gets Federation information, including Federated domain names and target URLs, from an external server organization.

Request

Message Format	Description
<a href="#">tns:GetFederationInformationRequestMessage Messages</a>	Specifies the [SOAP] message that requests the server Federation Information.

Response

Message Format	Description
<a href="#">tns:GetFederationInformationResponseMessage Messages</a>	Specifies the [SOAP] message returned by the server in response.

### 3.1.4.1.1 Simple Types

This specification does not define any specific **XML schema** simple type definitions for this operation.

### 3.1.4.1.2 Complex Types

This specification does not define any specific **XML schema** complex type definitions for this operation.

### 3.1.4.1.3 Elements

This specification does not define any specific **XML schema** element type definitions for this operation.

### 3.1.4.1.4 Attributes

This specification does not define any specific **XML schema** attribute definitions for this operation.

### 3.1.4.1.5 Groups

This specification does not define any specific **XML schema** group definitions for this operation.

### 3.1.4.1.6 Attribute Groups

This specification does not define any specific **XML schema** attribute group definitions for this operation.

### 3.1.4.1.7 Messages

The following **WSDL message** definitions are specific to this operation.

#### 3.1.4.1.7.1 tns:GetFederationInformationRequestMessage

The [GetFederationInformationRequestMessage](#) message contains one part.

Part Name	Element/Type	Description
parameters	tns:GetFederationInformationRequestMessage	This part specifies the request.

#### 3.1.4.1.7.2 tns:GetFederationInformationResponseMessage

The [GetFederationInformationResponseMessage](#) message contains one part.



Part Name	Element/Type	Description
parameters	tns:GetFederationInformationResponseMessage	This part specifies the response.

### 3.1.4.2 GetUserSettings

Retrieves the specified settings for a user.

Request

Message Format	Description
<a href="#">tns:GetUserSettingsRequestMessage</a>	Specifies the [SOAP] message that requests the user configuration setting.

Response

Message Format	Description
<a href="#">tns:GetUserSettingsResponseMessage</a>	Specifies the [SOAP] message returned by the server in response.

#### 3.1.4.2.1 Simple Types

The following **XML schema** simple type definitions are specific to this operation.

##### 3.1.4.2.1.1 t:ExchangeVersion Simple Type

An enumeration that defines the server versions used with this protocol

```
<xs:simpleType>
  <xs:restriction>
    <xs:simpleType name="ExchangeVersion">
      <xs:restriction
        base="xs:string"
      >
        <xs:enumeration
          value="Exchange2009"
        />
      </xs:restriction>
    </xs:simpleType>
  </xs:restriction>
</xs:simpleType>
```

Enumeration

The following value is defined by the simple type:

Value	Description
Exchange2009	Defines the available server release version.

### 3.1.4.2.1.2 t:ErrorCode Simple Type

Specifies the error codes that returned by the Autodiscover service.

```
<xs:simpleType name="ErrorCode">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="NoError"
    />
    <xs:enumeration
      value="RedirectAddress"
    />
    <xs:enumeration
      value="RedirectUrl"
    />
    <xs:enumeration
      value="InvalidUser"
    />
    <xs:enumeration
      value="InvalidSetting"
    />
    <xs:enumeration
      value="InvalidRequest"
    />
    <xs:enumeration
      value="SettingIsNotAvailable"
    />
    <xs:enumeration
      value="ServerBusy"
    />
    <xs:enumeration
      value="InvalidDomain"
    />
    <xs:enumeration
      value="NotFederated"
    />
  </xs:restriction>
</xs:simpleType>
```

#### Enumeration

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

Value	Description
NoError	There was no error.
RedirectAddress	The caller must follow the e-mail address redirection that was returned by Autodiscover.
RedirectUrl	The caller must follow the URL redirection that was returned by Autodiscover.
InvalidUser	The user that was passed in the request is invalid.

Value	Description
InvalidSetting	A specified setting is invalid.
InvalidRequest	The request is invalid.
SettingIsNotAvailable	A specified setting is not available.
ServerBusy	The server is too busy to process the request.
InvalidDomain	The requested domain is not valid.
NotFederated	The organization is not federated.

### 3.1.4.2.2 Complex Types

The following **XML schema** complex type definitions are specific to this operation.

#### 3.1.4.2.2.1 m:GetUserSettingsRequest Complex Type

Retrieves the specified settings for a user. The `GetUserSettingsRequest` contains the e-mail address for the user to perform the `AutoDiscovery` and the `Settings` to be returned by the server. Returns a `UserResponse` object containing the requested settings for the specified user.

```

<xs:complexType name="GetUserSettingsRequest"
  mixed="false"
>
  <xs:complexContent
    mixed="false"
  >
    <xs:extension
      base="tns:AutodiscoverRequest"
    >
      <xs:sequence>
        <xs:element name="Users"
          type="tns:Users"
          nillable="true"
        />
        <xs:element name="RequestedSettings"
          type="tns:RequestedSettings"
          nillable="true"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
Users	<a href="#">tns:Users</a>	The e-mail addresses of the users being autodiscovered.
RequestedSettings	<a href="#">tns:RequestedSettings</a>	The configuration settings being requested.

### 3.1.4.2.2.2 m:AutodiscoverRequest Complex Type

Autodiscover client requests HTTP Posts of an Autodiscover XML that contains an e-mail address.

```
<xs:complexType name="AutodiscoverRequest">
  <xs:sequence />
</xs:complexType>
```

### 3.1.4.2.2.3 m:Users Complex Type

A collection of User types to have configuration settings autodiscovered.

```
<xs:complexType name="Users">
  <xs:sequence>
    <xs:element name="User"
      type="tns:User"
      nillable="true"
      minOccurs="0"
      maxOccurs="unbounded"
    />
  </xs:sequence>
</xs:complexType>
```

Child Elements

Element	Type	Description
User	<a href="#">tns:User</a>	The user to be autodiscovered.

### 3.1.4.2.2.4 m:User Complex Type

The user to be autodiscovered. The autodiscover service uses the e-mail address, the Mailbox element, if it is present. If the e-mail address is omitted, the autodiscover service uses the LegacyDN to discover the user's settings. If the LegacyDN is null, the Mailbox element MUST be present.

```
<xs:complexType name="User">
  <xs:sequence>
    <xs:element name="LegacyDN"
      type="xs:string"
      nillable="true"
      minOccurs="0"
    />
    <xs:element name="Mailbox"
      type="xs:string"
      nillable="true"
    />
  </xs:sequence>
</xs:complexType>
```

Child Elements

Element	Type	Description
LegacyDN	xs:string	Identifies a user's mailbox by a legacy distinguished name.
Mailbox	xs:string	The e-mail address of the user to be discovered.

### 3.1.4.2.2.5 m:RequestedSettings Complex Type

Specifies the configuration settings to be returned by the server in the autodiscovery process.

```
<xs:complexType name="RequestedSettings">
  <xs:sequence>
    <xs:element name="Setting"
      type="xs:string"
      nillable="true"
      minOccurs="0"
      maxOccurs="unbounded"
    />
  </xs:sequence>
</xs:complexType>
```

Child Elements

Element	Type	Description
Setting	xs:string	The configuration settings to be returned.

### 3.1.4.2.2.6 m:GetUserSettingsResponse Complex Type

The response contains an array of user responses. The user response contains the configuration settings for the specific user.

```
<xs:complexType name="GetUserSettingsResponse"
  mixed="false"
>
  <xs:complexContent
    mixed="false"
  >
    <xs:extension
      base="tns:AutodiscoverResponse"
    >
      <xs:sequence>
        <xs:element name="UserResponses"
          type="tns:ArrayOfUserResponse"
          nillable="true"
          minOccurs="0"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

## Child Elements

Element	Type	Description
UserResponses	<a href="#">tns:ArrayOfUserResponse</a>	Contains the response for each user.

### 3.1.4.2.2.7 m:AutodiscoverResponse Complex Type

The base class for all response returned by the Autodiscover service. It introduces the `ErrorCode` and `ErrorMessage` properties.

```
<xs:complexType>
  <xs:sequence>
    <xs:element name="ErrorCode"
      type="tns:ErrorCode"
      minOccurs="0"
    />
    <xs:element name="ErrorMessage"
      type="xs:string"
      nillable="true"
      minOccurs="0"
    />
  </xs:sequence>
</xs:complexType>
```

## Child Elements

Element	Type	Description
ErrorCode	<a href="#">tns:ErrorCode</a>	The error code associated with this response.
ErrorMessage	xs:string	The error message associated with this response.

### 3.1.4.2.2.8 m:UserResponse Complex Type

Represents a response to a [GetUserSettings](#) for an individual user. The server returns only the configuration settings requested by the client.

```
<xs:complexType
  mixed="false"
>
  <xs:complexContent
    mixed="false"
  >
    <xs:extension
      base="tns:AutodiscoverResponse"
    >
      <xs:sequence>
        <xs:element name="RedirectTarget"
          type="xs:string"
          nillable="true"
          minOccurs="0"
        />
        <xs:element name="UserSettingErrors"

```

```

        type="tns:UserSettingErrors"
        nillable="true"
        minOccurs="0"
      />
      <xs:element name="UserSettings"
        type="tns:UserSettings"
        nillable="true"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:extension>
</xs:complexContent>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
RedirectTarget	xs:string	The redirectionTarget (URL or email address).
UserSettingErrors	<a href="#">tns:UserSettingErrors</a>	Error information for settings that could not be returned.
UserSettings	<a href="#">tns:UserSettings</a>	The requested settings for the user.

#### 3.1.4.2.2.9 m:UserSettingErrors Complex Type

Error information for settings that could not be returned.

```

<xs:complexType>
  <xs:sequence>
    <xs:element name="UserSettingError"
      type="tns:UserSettingError"
      nillable="true"
      minOccurs="0"
      maxOccurs="unbounded"
    />
  </xs:sequence>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
UserSettingError	<a href="#">tns:UserSettingError</a>	Represents a collection of user settings.

#### 3.1.4.2.2.10 m:ArrayOfUserResponse Complex Type

An array of [m:UserResponse](#) elements containing the responses for each autodiscovery user.

```

<xs:complexType name="ArrayOfUserResponse">
  <xs:sequence>
    <xs:element name="UserResponse"

```

```

        type="tns:UserResponse"
        nillable="true"
        minOccurs="0"
        maxOccurs="unbounded"
    />
</xs:sequence>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
UserResponse	<a href="#">tns:UserResponse</a>	Represents a response to a <a href="#">GetUserSettings</a> for an individual user.

#### 3.1.4.2.2.11 m:UserSettingError Complex Type

Represents an error that occurred while retrieving a user setting.

```

<xs:complexType name="UserSettingError">
  <xs:sequence>
    <xs:element name="ErrorCode"
      type="tns:ErrorCode"
    />
    <xs:element name="ErrorMessage"
      type="xs:string"
      nillable="true"
    />
    <xs:element name="SettingName"
      type="xs:string"
      nillable="true"
    />
  </xs:sequence>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
ErrorCode	<a href="#">tns:ErrorCode</a>	The error code.
ErrorMessage	xs:string	The error message.
SettingName	xs:string	The name of the setting.

#### 3.1.4.2.2.12 m:UserSettings Complex Type

A collection of [tns:UserSetting](#) objects, the base class for all user settings returned by the [GetUserSettings](#) method.

```

<xs:complexType name="UserSettings">
  <xs:sequence>
    <xs:element name="UserSetting"

```



```

        type="tns:UserSetting"
        nillable="true"
        minOccurs="0"
        maxOccurs="unbounded"
      />
    </xs:sequence>
  </xs:complexType>

```

#### Child Elements

Element	Type	Description
UserSetting	<a href="#">tns:UserSetting</a>	Represents the base class for all user settings returned by the <a href="#">GetUserSettings</a> method.

#### 3.1.4.2.2.13 m:UserSetting Complex Type

Represents the user settings to be returned by the [GetUserSettings](#) method.

```

<xs:complexType name="UserSetting">
  <xs:sequence>
    <xs:element name="Name"
      type="xs:string"
      nillable="true"
    />
  </xs:sequence>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
Name	xs:string	The name of the setting.

#### 3.1.4.2.2.14 m:StringSetting Complex Type

Represents a user setting whose value is of type string.

```

<xs:complexType
  mixed="false"
>
  <xs:complexContent
    mixed="false"
  >
    <xs:extension
      base="tns:UserSetting"
    >
      <xs:sequence>
        <xs:element name="Value"
          type="xs:string"
          nillable="true"
          minOccurs="0"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

```

    />
  </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
Value	xs:string	The value of the setting.

#### 3.1.4.2.2.15 m:WebClientUriCollectionSetting Complex Type

Represents a user setting that is a collection of server web client URLs.

```

<xs:complexType
  mixed="false"
>
  <xs:complexContent
    mixed="false"
  >
    <xs:extension
      base="tns:UserSetting"
    >
      <xs:sequence>
        <xs:element name="WebClientUrls"
          type="tns:WebClientUrls"
          nillable="true"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
WebClientUrls	<a href="#">tns:WebClientUrls</a>	The URLs.

#### 3.1.4.2.2.16 m:WebClientUrls Complex Type

The collection of [tns:WebClientUri](#)s. Represents the internal and external URLs of the Exchange web client.

```

<xs:complexType>
  <xs:sequence>
    <xs:element name="WebClientUri"
      type="tns:WebClientUri"
      nillable="true"
      minOccurs="0"
    />
  </xs:sequence>
</xs:complexType>

```

```

        maxOccurs="unbounded"
    />
</xs:sequence>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
WebClientUrl	<a href="#">tns:WebClientUrl</a>	Represents the URL of the server web client.

#### 3.1.4.2.2.17 m:WebClientUrl Complex Type

Represents the URL of the server web client.

```

<xs:complexType>
  <xs:sequence>
    <xs:element name="AuthenticationMethods"
      type="xs:string"
      nillable="true"
    />
    <xs:element name="Url"
      type="xs:string"
      nillable="true"
    />
  </xs:sequence>
</xs:complexType>

```

#### Child Elements

Element	Type	Description
AuthenticationMethods	xs:string	The authentication methods.
Url	xs:string	the URL.

#### 3.1.4.2.3 Elements

The following **XML schema** element definitions are specific to this operation.

##### 3.1.4.2.3.1 GetUserSettingsRequest Element

The [GetUserSettingsRequest](#) element represents the parameters of a call to [GetUserSettings](#).

```

<xs:element name="GetUserSettingsRequest"
  type="tns:GetUserSettingsRequest"
  nillable="true"
/>

```

### 3.1.4.2.3.2 AutodiscoverRequest Element

The [AutodiscoverRequest](#) element represents the base element of all Autodiscover requests.

```
<xs:element name="AutodiscoverRequest"
  type="tns:AutodiscoverRequest"
  nillable="true"
/>
```

### 3.1.4.2.3.3 Users Element

The [Users](#) element represents a list of [Users](#) to be discovered. Each user includes an e-mail address.

```
<xs:element name="Users"
  type="tns:Users"
  nillable="true"
/>
```

### 3.1.4.2.3.4 User Element

The [User](#) element represents the user to be discovered. The user includes an e-mail address.

```
<xs:element name="User"
  type="tns:User"
  nillable="true"
  minOccurs="0"
  maxOccurs="unbounded"
/>
```

### 3.1.4.2.3.5 RequestedSettings Element

The [RequestedSettings](#) element represents the configuration settings to be returned in the autodiscovery.

```
<xs:element name="RequestedSettings"
  type="tns:RequestedSettings"
  nillable="true"
/>
```

### 3.1.4.2.3.6 ExchangeVersion Element

The [ExchangeVersion](#) element specifies the version of this server.

```
<xs:element name="ExchangeVersion"
  type="tns:ExchangeVersion"
  nillable="true"
/>
```

### 3.1.4.2.3.7 RequestedServerVersion Element

The [RequestedServerVersion](#) element specifies the server version.

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

### 3.1.4.2.3.8 GetUserSettingsResponse Element

The [GetUserSettingsResponse](#) element represents the response to a [GetUserSettings](#) operation for an individual user.

```
<xs:element name="GetUserSettingsResponse"
  type="tns:GetUserSettingsResponse"
  nillable="true"
/>
```

### 3.1.4.2.3.9 AutodiscoverResponse Element

The [AutodiscoverResponse](#) element represents the base class for all responses returned by the Autodiscover service. The AutodiscoverResponse introduces the [t:ErrorCode](#) and [tns:ErrorMessage](#) properties

```
<xs:element name="AutodiscoverResponse"
  type="tns:AutodiscoverResponse"
  nillable="true"
/>
```

### 3.1.4.2.3.10 ErrorCode Element

The [ErrorCode](#) element defines the error codes that can be returned by the Autodiscover service.

```
<xs:element name="ErrorCode"
  type="tns:ErrorCode"
  nillable="true"
/>
```

### 3.1.4.2.3.11 ArrayOfUserResponse Element

An array of [UserResponse](#) elements each [ArrayOfUserResponse](#) element contains the requested settings for the specified user.

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

```
type="tns:ArrayOfUserResponse"
nillable="true"
/>
```

#### 3.1.4.2.3.12 UserResponse Element

A [UserResponse](#) element contains the requested settings for the specified user.

```
<xs:element name="UserResponse"
type="tns:UserResponse"
nillable="true"
/>
```

#### 3.1.4.2.3.13 UserSettingErrors Element

The [UserSettingErrors](#) element gets error information for settings that could not be returned.

```
<xs:element name="UserSettingErrors"
type="tns:UserSettingErrors"
nillable="true"
/>
```

#### 3.1.4.2.3.14 UserSettingError Element

The [UserSettingError](#) element represents an error that occurred while retrieving a user setting.

```
<xs:element name="UserSettingError"
type="tns:UserSettingError"
nillable="true"
/>
```

#### 3.1.4.2.3.15 UserSettings Element

The [UserSettings](#) element represents the user settings that were submitted in a request or returned by an Autodiscover response.

```
<xs:element name="UserSettings"
type="tns:UserSettings"
nillable="true"
/>
```

#### 3.1.4.2.3.16 UserSetting Element

The [UserSetting](#) element represents the base class for all user settings returned by the GetUserSettings method.

```
<xs:element name="UserSetting"
  type="tns:UserSetting"
  nillable="true"
/>
```

#### 3.1.4.2.3.17 SettingName Element

The [SettingName](#) element represents the name of the setting in the request or response.

```
<xs:element name="SettingName"
  type="xs:string"
  nillable="true"
/>
```

#### 3.1.4.2.3.18 StringSetting Element

The [StringSetting](#) element represents a user setting whose value is of type string.

```
<xs:element name="StringSetting"
  type="tns:StringSetting"
  nillable="true"
/>
```

#### 3.1.4.2.3.19 WebClientUrlCollectionSetting Element

The [WebClientUrlCollectionSetting](#) element represents a user setting that is a collection of server web client URLs.

```
<xs:element name="WebClientUrlCollectionSetting"
  type="tns:WebClientUrlCollectionSetting"
  nillable="true"
/>
```

#### 3.1.4.2.3.20 WebClientUrls Element

The [WebClientUrls](#) element represents the internal and external URLs of the server web client.

```
<xs:element name="WebClientUrls"
  type="tns:WebClientUrls"
  nillable="true"
/>
```

#### 3.1.4.2.3.21 WebClientUrl Element

The [WebClientUrl](#) element represents the URL of the server web client.

```

<xs:element name="WebClientUrl"
  type="tns:WebClientUrl"
  nillable="true"
/>

```

#### 3.1.4.2.4 Attributes

This specification does not define any specific **XML schema** attribute definitions for this operation.

#### 3.1.4.2.5 Groups

This specification does not define any specific **XML schema** group definitions for this operation.

#### 3.1.4.2.6 Attribute Groups

This specification does not define any specific **XML schema** attribute group definitions for this operation.

#### 3.1.4.2.7 Messages

The following **WSDL message** definitions are specific to this operation.

##### 3.1.4.2.7.1 tns:GetUserSettingsRequestMessage

The [tns:GetUserSettingsRequestMessage Messages](#) has one part.

Part Name	Element/Type	Description
parameters	<a href="#">tns:GetUserSettingsRequestMessage</a>	Represents the parameters of a call to <a href="#">GetUserSettings</a> request.

##### 3.1.4.2.7.2 tns:GetUserSettingsResponseMessage

The [tns:GetUserSettingsResponseMessage Messages](#) has one part.

Part Name	Element/Type	Description
parameters	<a href="#">tns:GetUserSettingsResponseMessage</a>	Represents a response to a call to <a href="#">GetUserSettings</a> .

#### 3.1.5 Timer Events

None.

#### 3.1.6 Other Local Events

None.

### 3.2 Client Details

Client 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 that are returned by the transport are passed directly back to the higher-layer protocol or application.

### **3.2.1 Abstract Data Model**

None.

### **3.2.2 Timers**

None.

### **3.2.3 Initialization**

None.

### **3.2.4 Message Processing Events and Sequencing**

None.

### **3.2.5 Timer Events**

None.

### **3.2.6 Other Local Events**

None.

## 4 Protocol Examples

The following is an example of an Autodiscovery Request and Response. Note that only the requested user settings are returned to the client.

The client constructs the Autodiscover Request XML and sends it to the server.

```
<?xml version="1.0" encoding="utf-8"?>
  <soap:Envelope xmlns:a="http://schemas.microsoft.com/exchange/2010/Autodiscover"
    xmlns:wsa="http://www.w3.org/2005/08/addressing" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
    <soap:Header>
      <a:RequestedServerVersion>Exchange2010</a:RequestedServerVersion>
    </soap:Header>
    <wsa:Action>http://schemas.microsoft.com/exchange/2010/Autodiscover/Autodiscover/GetUserSettings</wsa:Action>
    <wsa:To>https://vyjbuh-dom.extest.microsoft.com/autodiscover/autodiscover.svc</wsa:To>
    </soap:Header>
    <soap:Body>
      <a:GetUserSettingsRequestMessage
        xmlns:a="http://schemas.microsoft.com/exchange/2010/Autodiscover">
        <a:Request>
          <a:Users>
            <a:User>
              <a:Mailbox>E14User2@vyjbuh-dom.extest.microsoft.com</a:Mailbox>
            </a:User>
          </a:Users>
          <a:RequestedSettings>
            <a:Setting>UserDisplayName</a:Setting>
            <a:Setting>UserDN</a:Setting>
            <a:Setting>UserDeploymentId</a:Setting>
            <a:Setting>InternalMailboxServer</a:Setting>
            <a:Setting>MailboxDN</a:Setting>
            <a:Setting>ActiveDirectoryServer</a:Setting>
            <a:Setting>CasVersion</a:Setting>
            <a:Setting>EwsSupportedSchemas</a:Setting>
          </a:RequestedSettings>
        </a:Request>
      </a:GetUserSettingsRequestMessage>
    </soap:Body>
  </soap:Envelope>
```

The server constructs the Autodiscover Response XML and sends it to the client.

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
      s:mustUnderstand="1">http://schemas.microsoft.com/exchange/2010/Autodiscover/Autodiscover/GetUserSettingsResponse</a:Action>
    </s:Header>
    <s:Body>
      <GetUserSettingsResponseMessage
        xmlns="http://schemas.microsoft.com/exchange/2010/Autodiscover">
        <Response xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
          <ErrorCode>NoError</ErrorCode>
          <ErrorMessage />
          <UserResponses>

```

```

<UserResponse>
  <ErrorCode>NoError</ErrorCode>
  <ErrorMessage>No error.</ErrorMessage>
  <RedirectTarget i:nil="true" />
  <UserSettingErrors />
  <UserSettings>
    <UserSetting i:type="StringSetting">
      <Name>UserDisplayName</Name>
      <Value>E14UserTwo</Value>
    </UserSetting>
    <UserSetting i:type="StringSetting">
      <Name>UserDN</Name>
      <Value>/o=First Organization/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=E14UserTwo</Value>
    </UserSetting>
    <UserSetting i:type="StringSetting">
      <Name>UserDeploymentId</Name>
      <Value>da20faca-8535-4aae-b15e-6fa29356c089</Value>
    </UserSetting>
    <UserSetting i:type="StringSetting">
      <Name>CasVersion</Name>
      <Value>14.00.0582.000</Value>
    </UserSetting>
    <UserSetting i:type="StringSetting">
      <Name>EwsSupportedSchemas</Name>
      <Value>Exchange2007, Exchange2007_Sp1, Exchange2010</Value>
    </UserSetting>
    <UserSetting i:type="StringSetting">
      <Name>InternalMailboxServer</Name>
      <Value>EXCH-B-369.VYJBUH-dom.extest.microsoft.com</Value>
    </UserSetting>
    <UserSetting i:type="StringSetting">
      <Name>ActiveDirectoryServer</Name>
      <Value>EXCH-B-369.VYJBUH-dom.extest.microsoft.com</Value>
    </UserSetting>
    <UserSetting i:type="StringSetting">
      <Name>MailboxDN</Name>
      <Value>/o=First Organization/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Configuration/cn=Servers/cn=EXCH-B-369/cn=Microsoft Private MDB</Value>
    </UserSetting>
  </UserSettings>
</UserResponse>
</UserResponses>
</Response>
</GetUserSettingsResponseMessage>
</s:Body>

```

## 5 Security

### 5.1 Security Considerations for Implementers

Auto discovery using this protocol over HTTPS (HTTP with SSL). Not providing SSL will seriously affect the operation of this protocol. The server will not answer Autodiscover queries unless the Autodiscover client has authenticated with the Autodiscover Server.

### 5.2 Index of Security Parameters

None.

## 6 Appendix A: Full WSDL

The Autodiscover Service has a WSDL and an XSD file.

### 6.1 WSDL

See [WSDL] for a specification of the **Web Service Description Language (WSDL)**.

For ease of implementation the full WSDL is provided below:

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
1.0.xsd" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata"
xmlns:tns="http://schemas.microsoft.com/exchange/2010/Autodiscover"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
xmlns:wsp="http://schemas.xmlsoap.org/ws/2004/09/policy"
xmlns:wsap="http://schemas.xmlsoap.org/ws/2004/08/addressing/policy"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:msc="http://schemas.microsoft.com/ws/2005/12/wsdl/contract"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:wsa10="http://www.w3.org/2005/08/addressing"
xmlns:wsx="http://schemas.xmlsoap.org/ws/2004/09/mex"
targetNamespace="http://schemas.microsoft.com/exchange/2010/Autodiscover"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xsd:schema
targetNamespace="http://schemas.microsoft.com/exchange/2010/Autodiscover/Imports">
      <xsd:import namespace="http://schemas.microsoft.com/exchange/2010/Autodiscover"
location="messages.xsd" />
    </xsd:schema>
  </wsdl:types>
  <wsdl:message name="GetUserSettingsRequestMessage">
    <wsdl:part name="parameters" element="tns:GetUserSettingsRequestMessage" />
  </wsdl:message>
  <wsdl:message name="GetUserSettingsRequestMessage_Headers">
    <wsdl:part name="RequestedServerVersion" element="tns:RequestedServerVersion" />
  </wsdl:message>
  <wsdl:message name="GetUserSettingsResponseMessage">
    <wsdl:part name="parameters" element="tns:GetUserSettingsResponseMessage" />
  </wsdl:message>
  <wsdl:message name="GetFederationInformationRequestMessage">
    <wsdl:part name="parameters" element="tns:GetFederationInformationRequestMessage" />
  </wsdl:message>
  <wsdl:message name="GetFederationInformationRequestMessage_Headers">
    <wsdl:part name="RequestedServerVersion" element="tns:RequestedServerVersion" />
  </wsdl:message>
  <wsdl:message name="GetFederationInformationResponseMessage">
    <wsdl:part name="parameters" element="tns:GetFederationInformationResponseMessage" />
  </wsdl:message>
  <wsdl:portType name="Autodiscover">
    <wsdl:operation name="GetUserSettings">
      <wsdl:input
wsaw:Action="http://schemas.microsoft.com/exchange/2010/Autodiscover/Autodiscover/GetUserSett
ings" name="GetUserSettingsRequestMessage" message="tns:GetUserSettingsRequestMessage" />
      <wsdl:output
wsaw:Action="http://schemas.microsoft.com/exchange/2010/Autodiscover/Autodiscover/GetUserSett
```

```

ingsResponse" name="GetUserSettingsResponseMessage"
message="tns:GetUserSettingsResponseMessage" />
</wsdl:operation>
<wsdl:operation name="GetFederationInformation">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/exchange/2010/Autodiscover/Autodiscover/GetFederationInformation" name="GetFederationInformationRequestMessage"
message="tns:GetFederationInformationRequestMessage" />
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/exchange/2010/Autodiscover/Autodiscover/GetFederationInformationResponse" name="GetFederationInformationResponseMessage"
message="tns:GetFederationInformationResponseMessage" />
  </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="DefaultBinding_Autodiscover" type="tns:Autodiscover">
  <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
  <wsdl:operation name="GetUserSettings">
    <soap:operation
soapAction="http://schemas.microsoft.com/exchange/2010/Autodiscover/Autodiscover/GetUserSettings" style="document" />
    <wsdl:input name="GetUserSettingsRequestMessage">
      <soap:header message="tns:GetUserSettingsRequestMessage_Headers"
part="RequestedServerVersion" use="literal" />
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output name="GetUserSettingsResponseMessage">
      <soap:body use="literal" />
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="GetFederationInformation">
    <soap:operation
soapAction="http://schemas.microsoft.com/exchange/2010/Autodiscover/Autodiscover/GetFederationInformation" style="document" />
    <wsdl:input name="GetFederationInformationRequestMessage">
      <soap:header message="tns:GetFederationInformationRequestMessage_Headers"
part="RequestedServerVersion" use="literal" />
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output name="GetFederationInformationResponseMessage">
      <soap:body use="literal" />
    </wsdl:output>
  </wsdl:operation>
</wsdl:binding>
</wsdl:definitions>

```

## 6.2 Messages XSD

See [XMLSCHEMA1] for a specification of the **XML schema definition (XSD)**.

For ease of implementation the message.xsd is provided below:

```

<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:tns="http://schemas.microsoft.com/exchange/2010/Autodiscover"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/2010/Autodiscover"
elementFormDefault="qualified">
  <xs:element name="GetUserSettingsRequestMessage">
    <xs:complexType>
      <xs:sequence>

```

```

        <xs:element name="Request" type="tns:GetUserSettingsRequest"
nillable="true" minOccurs="0"/>
    </xs:sequence>
</xs:complexType>
</xs:element>
<xs:complexType name="GetUserSettingsRequest" mixed="false">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:AutodiscoverRequest">
            <xs:sequence>
                <xs:element name="Users" type="tns:Users" nillable="true"/>
                <xs:element name="RequestedSettings" type="tns:RequestedSettings"
nillable="true"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="GetUserSettingsRequest" type="tns:GetUserSettingsRequest"
nillable="true"/>
<xs:element name="GetFederationInformationRequestMessage">
    <xs:complexType>
        <xs:sequence>
            <xs:element name="Request" type="tns:GetFederationInformationRequest"
nillable="true" minOccurs="0"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="GetFederationInformationRequest" mixed="false">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:AutodiscoverRequest">
            <xs:sequence>
                <xs:element name="Domain" type="xs:string" nillable="true"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="GetFederationInformationRequest"
type="tns:GetFederationInformationRequest" nillable="true"/>
<xs:complexType name="AutodiscoverRequest">
    <xs:sequence/>
</xs:complexType>
<xs:element name="AutodiscoverRequest" type="tns:AutodiscoverRequest" nillable="true"/>
<xs:complexType name="Users">
    <xs:sequence>
        <xs:element name="User" type="tns:User" nillable="true" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="Users" type="tns:Users" nillable="true"/>
<xs:complexType name="User">
    <xs:sequence>
        <xs:element name="LegacyDN" type="xs:string" nillable="true" minOccurs="0"/>
        <xs:element name="Mailbox" type="xs:string" nillable="true" minOccurs="0"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="User" type="tns:User" nillable="true"/>
<xs:complexType name="RequestedSettings">
    <xs:sequence>
        <xs:element name="Setting" type="xs:string" nillable="true" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>

```

```

        </xs:sequence>
    </xs:complexType>
    <xs:element name="RequestedSettings" type="tns:RequestedSettings" nillable="true"/>
    <xs:simpleType name="ExchangeVersion">
        <xs:restriction base="xs:string">
            <xs:enumeration value="Exchange2009"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:element name="ExchangeVersion" type="tns:ExchangeVersion" nillable="true"/>
    <xs:element name="RequestedServerVersion" type="tns:ExchangeVersion"/>
    <xs:complexType name="Domains">
        <xs:sequence>
            <xs:element name="Domain" type="xs:string" nillable="true" minOccurs="0"
maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
    <xs:element name="GetUserSettingsResponseMessage">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="Response" type="tns:GetUserSettingsResponse"
nillable="true" minOccurs="0"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="GetUserSettingsResponse" mixed="false">
        <xs:complexContent mixed="false">
            <xs:extension base="tns:AutodiscoverResponse">
                <xs:sequence>
                    <xs:element name="UserResponses" type="tns:ArrayOfUserResponse"
nillable="true" minOccurs="0"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:element name="GetUserSettingsResponse" type="tns:GetUserSettingsResponse"
nillable="true"/>
    <xs:element name="GetFederationInformationResponseMessage">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="Response" type="tns:GetFederationInformationResponse"
nillable="true" minOccurs="0"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="GetFederationInformationResponse" mixed="false">
        <xs:complexContent mixed="false">
            <xs:extension base="tns:AutodiscoverResponse">
                <xs:sequence>
                    <xs:element name="Domains" type="tns:Domains" nillable="true"
minOccurs="0"/>
                    <xs:element name="ApplicationUri" type="xs:string" nillable="true"
minOccurs="0"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:element name="GetFederationInformationResponse"
type="tns:GetFederationInformationResponse" nillable="true"/>
    <xs:complexType name="AutodiscoverResponse">
        <xs:sequence>

```



```

        <xs:element name="ErrorCode" type="tns:ErrorCode" minOccurs="0"/>
        <xs:element name="ErrorMessage" type="xs:string" nillable="true"
minOccurs="0"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="AutodiscoverResponse" type="tns:AutodiscoverResponse"
nillable="true"/>
<xs:simpleType name="ErrorCode">
    <xs:restriction base="xs:string">
        <xs:enumeration value="NoError"/>
        <xs:enumeration value="RedirectAddress"/>
        <xs:enumeration value="RedirectUrl"/>
        <xs:enumeration value="InvalidUser"/>
        <xs:enumeration value="InvalidSetting"/>
        <xs:enumeration value="InvalidRequest"/>
        <xs:enumeration value="SettingIsNotAvailable"/>
        <xs:enumeration value="ServerBusy"/>
        <xs:enumeration value="InvalidDomain"/>
        <xs:enumeration value="NotFederated"/>
    </xs:restriction>
</xs:simpleType>
<xs:element name="ErrorCode" type="tns:ErrorCode" nillable="true"/>
<xs:complexType name="ArrayOfUserResponse">
    <xs:sequence>
        <xs:element name="UserResponse" type="tns:UserResponse" nillable="true"
minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfUserResponse" type="tns:ArrayOfUserResponse" nillable="true"/>
<xs:complexType name="UserResponse" mixed="false">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:AutodiscoverResponse">
            <xs:sequence>
                <xs:element name="RedirectTarget" type="xs:string" nillable="true"
minOccurs="0"/>
                <xs:element name="UserSettingErrors" type="tns:UserSettingErrors"
nillable="true" minOccurs="0"/>
                <xs:element name="UserSettings" type="tns:UserSettings"
nillable="true" minOccurs="0"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="UserResponse" type="tns:UserResponse" nillable="true"/>
<xs:complexType name="UserSettingErrors">
    <xs:sequence>
        <xs:element name="UserSettingError" type="tns:UserSettingError"
nillable="true" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="UserSettingErrors" type="tns:UserSettingErrors" nillable="true"/>
<xs:complexType name="UserSettingError">
    <xs:sequence>
        <xs:element name="ErrorCode" type="tns:ErrorCode"/>
        <xs:element name="ErrorMessage" type="xs:string" nillable="true"/>
        <xs:element name="SettingName" type="xs:string" nillable="true"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="UserSettingError" type="tns:UserSettingError" nillable="true"/>

```

```

<xs:complexType name="UserSettings">
  <xs:sequence>
    <xs:element name="UserSetting" type="tns:UserSetting" nillable="true"
minOccurs="0" maxOccurs="unbounded" />
  </xs:sequence>
</xs:complexType>
<xs:element name="UserSettings" type="tns:UserSettings" nillable="true"/>
<xs:complexType name="UserSetting">
  <xs:sequence>
    <xs:element name="Name" type="xs:string" nillable="true"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="UserSetting" type="tns:UserSetting" nillable="true"/>
<xs:complexType name="StringSetting" mixed="false">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:UserSetting">
      <xs:sequence>
        <xs:element name="Value" type="xs:string" nillable="true"
minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="StringSetting" type="tns:StringSetting" nillable="true"/>
<xs:complexType name="WebClientUrlCollectionSetting" mixed="false">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:UserSetting">
      <xs:sequence>
        <xs:element name="WebClientUrls" type="tns:WebClientUrls"
nillable="true"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:element name="WebClientUrlCollectionSetting"
type="tns:WebClientUrlCollectionSetting" nillable="true"/>
<xs:complexType name="WebClientUrls">
  <xs:sequence>
    <xs:element name="WebClientUrl" type="tns:WebClientUrl" nillable="true"
minOccurs="0" maxOccurs="unbounded" />
  </xs:sequence>
</xs:complexType>
<xs:element name="WebClientUrls" type="tns:WebClientUrls" nillable="true"/>
<xs:complexType name="WebClientUrl">
  <xs:sequence>
    <xs:element name="AuthenticationMethods" type="xs:string" nillable="true"/>
    <xs:element name="Url" type="xs:string" nillable="true"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="WebClientUrl" type="tns:WebClientUrl" nillable="true"/>
</xs:schema>

```

### 6.3 Types XSD

This protocol does not define a types XSD file.

## 7 Appendix B: Product Behavior

The information in this specification is applicable to the Autodiscovery Web Service.

PRELIMINARY

## 8 Change Tracking

This section will report content and/or editorial changes, beginning with the next release.

PRELIMINARY

## 9 Index

### A

[Applicability](#)

### C

[Capability negotiation](#)

[Change tracking](#)

Client

[abstract data model](#)

[initialization](#)

[local events](#)

[message processing](#)

[overview](#)

[sequencing rules](#)

[timer events](#)

[timers](#)

### F

[Full WSDL](#)

### G

[Glossary](#)

### I

[Introduction](#)

### M

Messages

[overview](#)

[syntax](#)

[transport](#)

### O

[Overview \(synopsis\)](#)

### P

[Preconditions](#)

[Prerequisites](#)

[Product behavior](#)

### R

[Relationship to other protocols](#)

### S

Security

[implementer considerations](#)

[overview](#)

[parameter index](#)

Server

[abstract data model](#)

[initialization](#)

[local events](#)

[message processing](#)

[overview](#)

[sequencing rules](#)

[timer events](#)

[timers](#)

[Standards assignments](#)

### T

[Tracking changes](#)

### V

[Vendor-extensible fields](#)

[Versioning](#)