[MS-OXDSCLI]: Autodiscover Publishing and Lookup Protocol Specification

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Revision Summary			
Author	Date	Version	Comments
Microsoft Corporation	April 4, 2008	0.1	Initial Availability.
Microsoft Corporation	April 25, 2008	0.2	Revised and updated property names and other technical content.
Microsoft Corporation	June 27, 2008	1.0	Initial Release.
Microsoft Corporation	August 6, 2008	1.01	Revised and edited technical content.
Microsoft Corporation	September 3, 2008	1.02	Revised and edited technical content.
Microsoft Corporation	December 3, 2008	1.03	Revised and edited technical content.
Microsoft Corporation	March 4, 2009	1.04	Revised and edited technical content.
Microsoft Corporation	April 10, 2009	2.0	Updated technical content and applicable product releases.

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1 Introduction

This document specifies the Autodiscover Publishing and Lookup Protocol that is used by clients to locate the Autodiscover HTTP service.

This protocol enables Autodiscover servers to publish their locations. Autodiscover enables the client to retrieve URLs that are needed to gain access to the Web services that are offered by the **server**.

1.1 Glossary

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

Autodiscover client

Autodiscover server

domain

Domain Name System (DNS)

ESSDN

Exchange Control Panel (ECP)

FQDN

GUID

Hypertext Transfer Protocol (HTTP)

Hypertext Transfer Protocol over Secure Socket Layer (HTTPS)

Lightweight Directory Access Protocol (LDAP)

Secure Sockets Layer (SSL)

service connection point

Short Message Service (SMS)

The following terms are specific to this document:

Web server: A computer running Internet Information Server (IIS) or equivalent that stores Web pages that can be retrieved by a client.

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

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

[MS-OXWOAB] Microsoft Corporation, "Offline Address Book (OAB) Retrieval Protocol Specification", June 2008.

[MS-OXWOOF] Microsoft Corporation, "Out of Office (OOF) Web Service Protocol Specification", June 2008.

[RFC2068] Fielding, R., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2068, January 1997, http://www.ietf.org/rfc/rfc2068.txt.

[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.

[RFC2246] Dierks, T. and Allen, C., "The TLS Protocol Version 1.0", RFC 2246, January 1999, http://www.ietf.org/rfc/rfc2246.txt.

[RFC2518] Goland Y., et al., "HTTP Extensions for Distributed Authoring – WEBDAV", RFC 2518, February 1999, http://www.ietf.org/rfc/rfc2518.txt.

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

[RFC2818] Rescorla, E., "HTTP over TLS", RFC 2818, May 2000, http://www.ietf.org/rfc/rfc2818.txt.

[RFC2822] Resnick, P., Ed., "Internet Message Format", RFC 2822, April 2001, http://www.ietf.org/rfc/rfc2822.txt.

[RFC3986] Berners-Lee, T., Fielding, R., and Masinter, L., "Uniform Resource Identifier (URI): Generic Syntax", RFC 3986, January 2005, http://www.ietf.org/rfc/rfc3986.txt.

[XML] Bray, T., et al., "Extensible Markup Language (XML) 1.0 (Fifth Edition)", http://www.w3.org/TR/REC-xml/.

1.2.2 Informative References

[MS-NSPI] Microsoft Corporation, "Name Service Provider Interface (NSPI) Protocol Specification", June 2008.

[MS-OXABREF] Microsoft Corporation, "Address Book Name Service Provider Interface (NSPI) Referral Protocol Specification", June 2008.

[MS-OXCRPC] Microsoft Corporation, "Wire Format Protocol Specification", June 2008.

[MS-OXDISCO] Microsoft Corporation, "Autodiscover HTTP Service Protocol Specification", June 2008.

[MS-OXWAVLS] Microsoft Corporation, "Availability Web Service Protocol Specification", June 2008.

[MS-RPCH] Microsoft Corporation, "Remote Procedure Call Over HTTP Protocol Specification", July 2006, http://go.microsoft.com/fwlink/?LinkId=121108.

[RFC1939] Myers, J. and Rose, M., "Post Office Protocol – Version 3", RFC 1939, May 1996, http://www.ietf.org/rfc/rfc1939.txt.

[RFC2821] Klensin, J., "Simple Mail Transfer Protocol", RFC 2821, April 2001, http://www.ietf.org/rfc/rfc2821.txt.

[RFC3501] Crispin, M., "Internet Message Access Protocol – Version 4rev1", RFC 3501, March 2003, http://www.ietf.org/rfc/rfc3501.txt.

1.3 Protocol Overview

The Autodiscover Publishing and Lookup protocol is a set of methods, headers, and content types that extend the HTTP/1.1 protocol. HTTP/1.1 is specified in [RFC2616]. The Autodiscover Publishing and Lookup protocol enables **Autodiscover clients** to learn e-mail configuration settings for specific e-mail addresses from **Autodiscover servers**.

This document specifies the following Autodiscover operations:

- A mechanism for Autodiscover clients to issue queries against Autodiscover servers.
- A mechanism for Autodiscover servers to send client configuration data to Autodiscover clients.
- A mechanism for Autodiscover servers to send referrals to Autodiscover clients.

1.4 Relationship to Other Protocols

The Autodiscover Publishing and Lookup protocol, as specified in this document, and the Autodiscover HTTP Service protocol, as specified in [MS-OXDISCO], work together to use the standard HTTP mechanisms defined in [RFC2068] to provide client management over the Internet. This protocol requires the Autodiscover HTTP Service protocol, as specified in [MS-

OXDISCO], to discover the server and to allow **Autodiscover clients** to find **Autodiscover servers** that support this protocol.

This protocol relies on HTTP 1.1, as specified in [RFC2616]. It relies on **HTTPS**, as specified in [RFC2818], for data protection services.

1.5 Prerequisites/Preconditions

This specification requires a Web server that supports the POST command.

This specification also requires that **Autodiscover clients** have URIs that point to **Autodiscover servers**. Autodiscover clients may have obtained these URIs with the Autodiscover **HTTP** Service protocol.

The Autodiscover Publishing and Lookup protocol assumes that the client has found the Autodiscover Server via the Autodiscover HTTP Service protocol, as specified in [MS-OXDISCO].

1.6 Applicability Statement

The Autodiscover Publishing and Lookup protocol can be used by a client to discover e-mail configuration settings for a given e-mail address.

1.7 Versioning and Capability Negotiation

Different versions of this protocol can be negotiated by using the **AcceptableResponseSchema**, which is specified in section 2.2.2.1.1.1.1.

1.8 Vendor-Extensible Fields

Vendors may pass additional XML elements to **Autodiscover clients** from the **Autodiscover server**. To do so, the vendor should use a separate XML namespace and pass this in the **AcceptableResponseSchema**.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

Messages are transported by using an HTTP POST, as specified in [RFC2518] and [RFC2068].

This protocol should be used with SSL/TLS, as specified in [RFC2246]. If SSL is not provided, it will limit the abilities of client-to-server communications.

2.2 Message Syntax

All messages sent between the **Autodiscover client** and the **Autodiscover server** are XML messages.

2.2.1 Namespaces

Autodiscover requests are in the "http://schemas.microsoft.com/exchange/autodiscover/outlook/requestschema/2006" namespace.

Autodiscover responses are in the "http://schemas.microsoft.com/exchange/autodiscover/outlook/responseschema/2006a" namespace.

2.2.2 Common Schema

2.2.2.1 Common Elements

2.2.2.1.1 Autodiscover

2.2.2.1.1.1 Request

The **Request** element contains the request to the Autodiscover service.

The **AcceptableResponseSchema** elements and the **EmailAddress** or **LegacyDN** MUST be child elements of the **Request**. The expected version is "http://schemas.microsoft.com/exchange/autodiscover/outlook/responseschema/2006a".

2.2.2.1.1.1.1 AcceptableResponseSchema

The **AcceptableResponseSchema** element identifies the schema for an Autodiscover response. For details, see section 1.7.

Clients MUST include this element.

2.2.2.1.1.1.2 EmailAddress

The **EMailAddress** element identifies the e-mail address of the account for which the configuration information will be retrieved.

This element is an alternative for an Autodiscover request. It is used when a mailbox exists on a server.

If omitted, then the **LegacyDN** MUST be present.

If both the **EmailAddress** and the **LegacyDN** are present, then the server MUST use the **LegacyDN**.

2.2.2.1.1.1.3 LegacyDN

The **LegacyDN** element identifies a user's mailbox by a legacy distinguished name. The **LegacyDN** is also known as the **ESSDN**, the naming scheme that defines the user.

The **EmailAddress** element is an element for an Autodiscover request. It is used when a mailbox exists on a server. The **LegacyDN** element provides an alternative element for an Autodiscover request.

The **LegacyDN** element is an optional element in the request. If omitted, then the **EmailAddress** MUST be present.

If both the **EmailAddress** and the **LegacyDN** elements are present, then the server MUST use the **LegacyDN**.

2.2.2.1.1.2 Response

The **Response** element contains the response from the Autodiscover service that includes a list of URLs that are used to establish a binding with Web Services.

The following elements can be child elements of **Response**.

2.2.2.1.1.2.1 User

This element group provides user-specific information. Servers MUST include this element.

The following elements can be child elements of **User**.

2.2.2.1.1.2.1.1 DisplayName

The **DisplayName** element represents the user's display name.

The server MUST include this element.

2.2.2.1.1.2.1.2 LegacyDN

The **LegacyDN** element identifies a user's mailbox by legacy distinguished name. The **LegacyDN** is also known as the **ESSDN**, the naming scheme that defines the user.

The Server MUST include the **LegacyDN** element if EXCH and EXPR protocol sections are returned.

2.2.2.1.1.2.1.3 DeploymentId

The **DeploymentId** element uniquely identifies the server forest in a GUID format.

The **DeploymentId** element is returned when the user is within a server forest. The returned value is the GUID identifier of the Active Directory forest in which the mailbox user account is contained.

2.2.2.1.1.2.2 Account

The **Account** element specifies account settings for the user.

The following elements can be child elements of **Account**.

2.2.2.1.1.2.2.1 AccountType

The **AccountType** element represents the account type. At this time, the only possible **AccountType** is "email."

2.2.2.1.1.2.2.2 Action

The **Action** element provides information that is used to determine whether another Autodiscover request is required to return the user configuration information.

If the **Action** is "**settings**," then the Autodiscover server has returned configuration settings in the **Protocol** element.

If the **Action** is "**redirectAddr**" then the **Autodiscover server** has returned a **RedirectAddr** element and the **Autodiscover client** MUST perform another Autodiscover with the new address.

2.2.2.1.1.2.2.3 RedirectAddr

The **RedirectAddr** element specifies the e-mail address that should be used for a subsequent Autodiscover request. If present, the client should perform another Autodiscover by using the e-mail address provided in the **RedirectAddr** element.

The **RedirectAddr** element is returned when the server requires another e-mail address to perform another Autodiscover request. If omitted, then the Action is "**settings**".

2.2.2.1.1.2.2.4 Protocol

The **Protocol** element that contains the specifications for connecting a client to the server that has the Client Access server role installed.

The **Protocol** element is returned unless there is a redirection to a **RedirectAddr**. If the server does not return a protocol section, then it MUST return a **RedirectAddr** or an error.

If either internal or external access is not available for Exchange Web Services, the **Protocol** element within either the External or Internal element will be omitted.

2.2.2.1.1.2.2.4.1 AD

The AD element specifies the Active Directory server used in conjunction with the mailbox. The element contains the FQDN of an LDAP server that the client can connect to for directory information.

2.2.2.1.1.2.2.4.2 ASUrl

The **ASUrl** element specifies the URL of the best endpoint instance of Availability Web Services for an e-mail enabled user. See [MS-OXWAVLS].

If the **ASUrl** element is omitted, then the client is not made aware of the best endpoint available to the availability service.

The **ASUrl** element is returned when the server implements a URL for internal or external access.

2.2.2.1.1.2.2.4.3 AuthPackage

The **AuthPackage** element specifies the authentication scheme that is used when authenticating against the computer that has the Mailbox server role installed. The **AuthPackage** is used only when the **Type** element has a text value of EXCH or EXPR.

The following are the possible values:

basic

kerb

kerbntlm

Ntlm

certificate

This list is not exhaustive and may expand in the future.

The **AuthPackage** element is returned only when there is an external mailbox server authentication method. If omitted, then the client should use kerbntlm.

2.2.2.1.1.2.2.4.4 AuthRequired

The **AuthRequired** element specifies whether authentication is required. The possible values are **on** and **off**. If a value is not specified, the default value is **on**.

The **AuthRequired** element is returned only when the **Type** element has a text value of POP3.

2.2.2.1.1.2.2.4.5 CertPrincipalName

The **CertPrincipalName** element specifies the Secure Sockets Layer (SSL) certificate principal name that is required to connect to the server by using SSL.

If the **CertPrincipalName** element is not specified, the default is set to msstd:SERVER, where SERVER is the value that is specified in the **Server** element. For example, if SERVER is specified as Contoso.com and **CertPrincipalName** is left blank with SSL turned on, the default value of **CertPrincipalName** would be msstd:Contoso.com.

The **CertPrincipalName** element is returned only when connection to the server is authenticated with SSL

2.2.2.1.1.2.2.4.6 EcpUrl

The **EcpUrl** element is the base ECP URL consisting of the following:

- Protocol – requires "https".
- Host – Host name.
- Path – ECP path within the host server.

The **EcpUrl** element would appear similar to:
`https://machine.domain.Contoso.com/ecp`

The ECP URLs are formed by joining the **EcpUrl** with the landing page path for the respective entry points. For example, the full URL for a Voicemail link would be <EcpUrl>+<EcpUrl-um> (`https://machine.domain.Contoso.com/ecp + ?p=customize/voicemail.aspx&exsvurl=1`).<1>

2.2.2.1.1.2.2.4.7 EcpUrl-um

The **EcpUrl-um** element, in conjunction with the **EcpUrl** element, specifies the landing page path for Voicemail. The **EcpUrl-um** element would appear similar to: `?p=customize/voicemail.aspx&exsvurl=1`<2>

2.2.2.1.1.2.2.4.8 EcpUrl-aggr

The **EcpUrl-aggr** element, in conjunction with the **EcpUrl** element, specifies the landing page path for E-mail aggregation. The **EcpUrl-aggr** element would appear similar to: `?p=personalsettings/EmailSubscriptions.slab&exsvurl=1`<3>

2.2.2.1.1.2.2.4.9 EcpUrl-sms

The **EcpUrl-sms** element, in conjunction with the **EcpUrl** element, specifies the landing page path for Mobile Notifications/SMS. The **EcpUrl-sms** element would appear similar to: `?p=sms/textmessaging.slab&exsvurl=1`<4>

2.2.2.1.1.2.2.4.10 EcpUrl-mt

The **EcpUrl-mt** element, in conjunction with the **EcpUrl** element, specifies the landing page path for E-Message Tracking. The **EcpUrl-mt** element specified here provides tracking information pertinent to a specific message. The **EcpUrl-mt** element contains parameters that must be substituted by the client as follows:

- <IsOWA> = n.
- <MsgID> = Internet message identifier of the message as specified by the message-id. See [RFC2822].
- <Mbx> = The SMTP address of the User's mailbox.
- <Sender> = The SMTP address of the message's sender.

The **EcpUrl-mt** element would appear similar to:
`PersonalSettings/DeliveryReport.aspx?exsvurl=1&IsOWA=<IsOWA>&MsgID=<MsgID>&Mbx=<Mbx>&Sender=<Sender>` <5>

2.2.2.1.1.2.2.4.11 EcpUrl-ret

The **EcpUrl-ret** element, in conjunction with the **EcpUrl** element, specifies the landing page path for Retention Tags. The **EcpUrl-ret** element would appear similar to: `?p=organize/retentionpolicytags.slab&exsvurl=1`<6>

2.2.2.1.1.2.2.4.12 EwsUrl

The **EwsUrl** element specifies the URL for the web services virtual directory.

2.2.2.1.1.2.2.4.13 MdbDN

The **MdbDN** element represents the legacy distinguished name of the mailbox database.

2.2.2.1.1.2.2.4.14 OABUrl

The **OABUrl** element specifies the Offline Address Book configuration server URL for a server. See [MS-OXWOAB] for details on services available at this URL.

The **OABUrl** element is returned if there is an internal or external Offline Address Book

2.2.2.1.1.2.2.4.15 OOFUrl

The **OOFUrl** element specifies the URL of the best instance of the Availability service for a mail-enabled user. See [MS-OXWOOF] for details about services available at this URL.

The **OOFUrl** element is returned when the server implements a URL for internal or external access. If the **OOFUrl** element is omitted, then the Out of Office services are not available to the client.

2.2.2.1.1.2.2.4.16 Port

The **Port** element specifies the port that is used to connect to the store. See [MS-OXCRPC].

The **Port** element is not returned when the **Server** element contains a URL.

2.2.2.1.1.2.2.4.17 PublicFolderServer

The PublicFolderServer element specifies the FQDN for the public folder server.

2.2.2.1.1.2.2.4.18 Server

The **Server** element specifies the name of the mail server.

The text value identifies the server. For protocols such as EXCH, EXPR, POP3, SMTP, IMAP, or NNTP, this value will be either a host name or an IP address.

2.2.2.1.1.2.2.4.19 ServerDN

The **ServerDN** element specifies the distinguished name of the computer that is running the e-mail server. The **ServerDN** element is used only when **Type** is equal to EXCH.

2.2.2.1.1.2.2.4.20 ServerVersion

The **ServerVersion** element represents the version number of the server software. It is a 32-bit value expressed in hexadecimal. The **ServerVersion** element is used only when **Type** is equal to EXCH or EXPR.

2.2.2.1.1.2.2.4.21 TTL

The **TTL** element specifies the Time to Live, in hours, during which the settings remain valid. A value of zero indicates that rediscovery is not required.

The **TTL** element is returned when the TTL value is anything other than the default value of 1.

2.2.2.1.1.2.2.4.22 Type

The **Type** element identifies the type of the configured mail account. The following Types are defined:

EXCH: If the type is "EXCH," then the protocol section contains information that the Autodiscover client can use to communicate with the mailbox via MAPI/RPC. For details, see [MS-OXCRPC].The **AuthPackage** element can be used. The **ServerVersion** element can be used. The **ServerDN** element can be used.

EXPR: If the type is "EXPR," then the protocol section contains information that the Autodiscover client can use to communicate when they are outside the firewall, including RPC/HTTP connections. For details, see [MS-RPCH]. The **AccountType** element MUST be set to e-mail. The **AuthPackage** element can be used. The **ServerVersion** element can be used.

POP3: If the Type is "POP3" then the Protocol section contains settings the client can use to communicate with the mail server via the POP3 protocol. See [RFC1939].

SMTP: If the Type is "SMTP" then the Protocol section contains settings the client can use to send mail via SMTP. See [RFC2821].

IMAP: If the Type is "IMAP" then the Protocol section contains settings the client can use to communicate with the mail server via the IMAP protocol. See [RFC3501].

DAV: If the Type is "DAV" then the Protocol section contains settings the client can use to communicate with the mail server via the DAV protocol. See [RFC2518].

WEB: If the Type is "WEB" then the Protocol section contains settings the client can use to connect via a Web browser. The **AccountType** element MUST be set to email.

The server MUST return this element.

2.2.2.1.1.2.2.4.23 SSL

The **SSL** element specifies whether SSL is required for log on.

The possible values are **on** and **off**. If this element is not present, then the default value is **on**.

If the **SSL** element is on, then the **SSL** element is returned.

2.2.2.1.1.2.2.4.24 UMUrl

The **UMUrl** element specifies the [RFC3986] URL of the best instance of the Unified Messaging Web service for a mail-enabled user.

The **UMUrl** element is returned when the server implements a URL for internal or external access. If the **UMUrl** element is omitted, then the Unified Messaging services may not be available to the client.

2.2.2.1.1.2.2.4.25 Internal

The **Internal** element contains the collection of web access URLs that a client can connect to when it is inside the firewall.

If the server is configured for internal access to Exchange Web Services, then the **Internal** element will contain a **Protocol** element, as specified in section 2.2.2.1.1.2.2.4.

The **OWAUrl** element contained within the **Internal** element describes the [RFC3986] URL and authentication schema that is used to access a particular computer that is running with the Client Access role.

The **OWAUrl** can have an AuthenticatonMethod attribute. This attribute can be one of the following values:

- WindowsIntegrated: Integrated Windows Authentications
- FBA: Forms-based Authentication
- NTLM: NTLM Authentication
- Digest: Digest Authentication
- Basic: Basic Authentication

2.2.2.1.1.2.2.4.26 External

The **External** element contains the collection of Outlook Web Access URLs that a client can connect to outside of the firewall.

The **External** element is returned when the server is configured for an External URL.

If the server is configured for external access to Exchange Web Services, then the **External** element will contain a **Protocol** element, as specified in section 2.2.2.1.1.2.2.4.

The **OWAUrl** element contained within the **External** element describes the [RFC3986] URL and authentication schema that is used to access a particular computer that is running with the Client Access server role.

The **OWAUrl** can have an AuthenticatonMethod attribute. This attribute can be one of the following values:

- WindowsIntegrated: Integrated Windows Authentications
- FBA: Forms-based Authentication
- NTLM: NTLM Authentication
- Digest: Digest Authentication
- Basic: Basic Authentication

2.2.2.1.1.2.2.5 AlternativeMailbox

The **AlternativeMailbox** element contains the subelements that represent the additional mailbox that clients can open.

The **AlternativeMailbox** element is returned only when there is an alternative mailbox associated with the user. <7>

2.2.2.1.1.2.2.5.1 Type

The **Type** element identifies the type of the additional mail account.

Currently, the "Archive" mailbox is the only supported type. <8>

2.2.2.1.1.2.2.5.2 DisplayName

The **DisplayName** element represents the additional mailbox user's display name. This string may be used to override how a client will display the user's name in the alternative mailbox.<9>

2.2.2.1.1.2.2.5.3 LegacyDN

The **LegacyDN** element identifies the additional mailbox by legacy distinguished name. The **LegacyDN** is also known as the **ESSDN**, the naming scheme that defines the alternative user. <10>

2.2.2.1.1.2.2.5.4 Server

The **Server** element maps to the FQDN of the additional mail server. <11>

2.2.2.1.1.2.2.6 Error

The **Error** element contains an Autodiscover error response, which has two attributes.

Attribute	Description
Time	Represents the time when the error response was returned.
Id	Represents a hash of the name of the server that has the Client Access server role installed.

2.2.2.1.1.2.2.6.1 ErrorCode

The **ErrorCode** element contains the error code for an error Autodiscover response.

The current Error codes are:

- 500—The e-mail address cannot be found. The Autodiscover Server does not know how to provide configuration information for the requested e-mail address.
- 501—BadAddress. The Autodiscover server knows of the given e-mail address but is unable to provide configuration information because the given e-mail address has no configuration options.
- 601—The Autodiscover server was unable to provide configuration information of the requested type.
- 602—Bad Address. The Autodiscover server knows of the given e-mail address but is unable to provide configuration information because of configuration errors.
- 603—The Autodiscover server threw an internal error.
- The list of error codes expand in the future. Clients MUST accept new error codes.

The **ErrorCode** element is returned when an error occurs.

2.2.2.1.1.2.2.6.2 DebugData

The **DebugData** element contains the debug data for an Autodiscover error response. The contents will depend on the implementation of the Autodiscover server.

The **DebugData** element is returned when an error occurs.

2.2.2.1.1.2.2.6.3 Message

The **Message** element contains the error message for an error Autodiscover response. It is recommended that the **Message** element be in the form of a human-readable error message.

The **Message** element is returned when an error occurs.

3 Protocol Details

The following sections specify details of the Autodiscover Publishing and Lookup Protocol, including abstract data models and message processing rules.

3.1 Client Details

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 what is described in this document.

It is important for clients to recognize that all Autodiscover URIs generated by [MS-OXDISCO] or returned in a RedirectAddr may not reference valid Autodiscover servers. Clients must tolerate this and not abandon the Autodiscover operation.

3.1.2 Timers

The available timers:

- HTTP Timeout, as specified in [RFC2068].
- The TTL in the Autodiscover Response. Autodiscover clients are asked to respect the TTL. That is, they should cache the results of an Autodiscover operation and use the cached value if the client needs to Autodiscover that e-mail address again before the TTL expires. The TTL time value is as specified in section 2.2.2.1.1.2.2.4.21.

3.1.3 Initialization

It is assumed the Autodiscover client has an e-mail address it wants to discover information about.

It is assumed the Autodiscover client has a list of URIs that may or may not be Autodiscover Server URIs. This list could be generated using the [MS-OXDISCO] protocol. The list could also be preconfigured.

3.1.4 Higher-Layer Triggered Events

None.

3.1.5 Message Processing Events and Sequencing Rules

At a high level the Autodiscover client SHOULD:

1. Acquires an e-mail address it wants to learn about.
2. Executes the [MS-OXDISCO] with that e-mail address. This will generate a list of URIs that may or may not provide Autodiscover services.
3. Iteratively execute an Autodiscover query against each URI.
4. If the response to a given query is anything other than a valid Autodiscover Response XML, then return to step 3 and issue the query with a different URI.
5. If the Response Group contains a RedirectAddr, then substitute the redirectAddr for the e-mail address and return to step 1.
6. If the Response Group contains User, Account and Protocol Settings, then use the settings as needed.

7. If the Response Group contains an error, then choose the next URI and proceed to step 3.
8. If no more URIs are available to Autodiscover against, then nothing could be discovered for the given e-mail address.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

3.1.8 AutodiscoverRequest

Autodiscover client requests HTTP Posts of an Autodiscover XML that contains an e-mail address or **LegacyDN**. The **LegacyDN** is also known as the ESSDN.

example:

```
    <Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/outlook/r
equestschema/2006">
       <Request>
         <EMailAddress>user@contoso.com</EMailAddress>

<AcceptableResponseSchema>http://schemas.microsoft.com/exchange/aut
odiscover/outlook/responseschema/2006a</AcceptableResponseSchema>
       </Request>
     </Autodiscover>
```

The AcceptableResponseSchema is the schema of responses that the client understands is shown below:

```
    <AcceptableResponseSchema>http://schemas.microsoft.com/exchang
e/autodiscover/outlook/responseschema/2006a</AcceptableResponseSche
ma>
```

The following are the five categories of responses.

- The URI is not functional. The URI may not be a valid Autodiscover server.
- The HTTP Post returns an HTTP 302 Redirection. In this case, the Autodiscover client should repost to the redirected server.
- The Autodiscover server returns a RedirectAddr.
- The Autodiscover server returns configuration Information.

- The Autodiscover server returns error information.

3.1.8.1 Nonfunctional URIs

[MS-OXDISCO] does not guarantee that the generated URIs are valid Autodiscover server URIs. In addition, network resources can become unavailable for many reasons. When a client reaches a nonfunctional URI, it is best not to abandon the Autodiscover operation. It is recommended to continue the Autodiscover operation.

3.1.8.2 HTTP 302 Redirects

If the POST returns a redirection URL via an HTTP 302 Redirect, then the client should repost the request to the redirection URL.

3.1.8.3 Autodiscover Redirect

Autodiscover servers can return a redirection with a Redirection Address.

An example of a redirect address is as follows:

```
    <?xml version="1.0" encoding="utf-8"?>
    <Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/responses
chema/2006">
      <Response
xmlns="http://schemas.microsoft.com/exchange/autodiscover/outlook/r
esponseschema/2006a">
        <Account>
          <Action>redirectAddr</Action>
          <RedirectAddr>user@subdomain.contoso.com</RedirectAddr>
        </Account>
      </Response>
    </Autodiscover>
```

3.1.8.4 Autodiscover Configuration Information

What follows is an example of Autodiscover Configuration. The Autodiscover Response contains a User and an Account with protocol settings.

```
    <?xml version="1.0" encoding="utf-8"?>
    <Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/responses
chema/2006">
      <Response
xmlns="http://schemas.microsoft.com/exchange/autodiscover/outlook/r
esponseschema/2006a">
        <User>
          <DisplayName>User Display Name</DisplayName>
```

```
<LegacyDN>/o=microsoft/ou=Contoso/cn=Recipients/cn=486021</LegacyDN
>
          <DeploymentId>30c3a927-42aa-5de8-91e3-
8e5b4655ed00</DeploymentId>
        </User>
        <Account>
          <AccountType>email</AccountType>
          <Action>settings</Action>
          <Protocol>
            <Type>EXCH</Type>
            <Server>ExchangeServer.Contoso.com</Server>
            <ServerDN>/o=Contoso/ou=Exchange Administrative Group
(GZZHBOHF23SPELT)/cn=Configuration/cn=Servers/cn=ExchangeServer</Se
rverDN>
            <ServerVersion>720180F0</ServerVersion>
            <MdbDN>/o=Contoso/ou=Exchange Administrative Group
(GZZHBOHF23SPELT)/cn=Configuration/cn=Servers/cn=ExchangeServer/cn=
Microsoft Private MDB</MdbDN>

<PublicFolderServer>PublicFolderServer.Contoso.com</PublicFolderSer
ver>
            <AD>ADServer.Contoso.com</AD>

<ASUrl>https://mail.Contoso.com/ews/exchange.asmx</ASUrl>
            <EwsUrl>https://mail.
Contoso.com/ews/exchange.asmx</EwsUrl>
            <OOFUrl>https://mail.
Contoso.com/ews/exchange.asmx</OOFUrl>
            <UMUrl>https://mail.
Contoso.com/unifiedmessaging/service.asmx</UMUrl>
            <OABUrl>https://mail. Contoso.com/oab/68b5509d-87f6-
4e78-a9ff-74d7d9572787/</OABUrl>
          </Protocol>
          <Protocol>
            <Type>EXPR</Type>
            <Server>RPCHTTPServer.Contoso.com</Server>
            <SSL>On</SSL>
            <AuthPackage>Ntlm</AuthPackage>
            <ASUrl>https://mail.Contoso.com/ews/exchange.asmx</ASUrl>
            <EcpUrl>https://mail.Contoso.com/ecp</EcpUrl>
            <EcpUrl-
um>?p=customize/voicemail.aspx&amp;exsvurl=1</EcpUrl-um>
            <EcpUrl-
aggr>?p=personalsettings/EmailSubscriptions.slab&amp;exsvurl=1</Ecp
Url-aggr>
            <EcpUrl-
sms>?p=sms/textmessaging.slab&amp;exsvurl=1</EcpUrl-sms>
            <EcpUrl-
mt>PersonalSettings/DeliveryReport.aspx?exsvurl=1&amp;IsOWA=&lt;IsO
WA&gt;&amp;MsgID=&lt;MsgID&gt;&amp;Mbx=&lt;Mbx&gt;&amp;Sender=&lt;S
ender&gt;</EcpUrl-mt>
```

```
            <EcpUrl-
ret>?p=organize/retentionpolicytags.slab&amp;exsvurl=1</EcpUrl-ret>

<EwsUrl>https://mail.Contoso.com/ews/exchange.asmx</EwsUrl>

<OOFUrl>https://mail.Contoso.com/ews/exchange.asmx</OOFUrl>

<UMUrl>https://mail.Contoso.com/unifiedmessaging/service.asmx</UMUr
l>
            <OABUrl>https://mail.Contoso.com/oab/58b5509d-87f6-
4e78-a9ff-74d7d9572787/</OABUrl>
          </Protocol>
          <Protocol>
            <Type>WEB</Type>
            <External>
              <OWAUrl
AuthenticationMethod="Fba">https://mail.Contoso.com/owa</OWAUrl>
              <Protocol>
                <Type>EXPR</Type>

<ASUrl>https://mail.Contoso.com/ews/exchange.asmx</ASUrl>
              </Protocol>
            </External>
            <Internal>
              <OWAUrl AuthenticationMethod="Ntlm,
WindowsIntegrated">https:/Internal.mail.Contoso.com/owa</OWAUrl>
              <OWAUrl AuthenticationMethod="Basic,
Fba">https://mail.Contoso.com/owa</OWAUrl>
              <Protocol>
                <Type>EXCH</Type>

<ASUrl>https://mail.Contoso.com/ews/exchange.asmx</ASUrl>
              </Protocol>
            </Internal>
          </Protocol>
        </Account>
      </Response>
    </Autodiscover>
```

3.1.8.5 Autodiscover Server Errors.

Below is an example of an error returned from an Autodiscover server:

```
    <Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/responses
chema/2006">
      <Response>
        <Error Time="17:40:40.6157343" Id="3191339394">
          <ErrorCode>500</ErrorCode>
          <Message>The e-mail address cannot be found.</Message>
           <DebugData />
```

```
      </Error>
    </Response>
  </Autodiscover>
```

3.2 Server Details

3.2.1 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 what is described in this document.

3.2.2 Timers

None.

3.2.3 Initialization

None.

3.2.4 Higher-Layer Triggered Events

None.

3.2.5 Message Processing Events and Sequencing Rules

None.

3.2.6 NoneTimer Events

None.

3.2.7 Other Local Events

None.

3.2.8 Autodiscover Request.

An Autodiscover server MUST respond to POSTS to the URL https://<Server>/autodiscover/autodiscover.xml.

The message body of the HTTP Post MUST be an XML Autodiscover Request as defined in section 2.2.2.1.1.1. See [RFC2068] for details on HTTP Posts.

If the Server does not recognize the e-mail address, it can respond with a 500 error code. Errors and Error Codes are defined in section 2.2.2.1.1.2.2.6.

If the Server recognizes the e-mail address, but knows that configuration data for that e-mail address could be found if the client issued different Autodiscover Request for a more appropriate e-mail address, then the server should respond with a referral to that e-mail address. Responses are defined in section 2.2.2.1.1.2. Referral Addresses are defined in 2.2.2.1.1.2.2.3.

If the server wants to return configuration information to the client, then the server should construct an AutoDiscover Response with <User>, <Account>, <Protocol>, and <AlternativeMailbox> sections. These are defined in sections 2.2.2.1.1.2.1, 2.2.2.1.1.2.2, 2.2.2.1.1.2.2.4, and 2.2.2.1.1.2.2.5.

4 Protocol Examples

Assume the following topology:

The DNS name of the mail server is Mail.Contoso.com.

The DNS name of the Web Service computer is WebService.Contoso.Com. It has a valid SSL certificate.

- Autodiscover Web Services are available at https://WebService.Contoso.Com/AutoDiscover/AutoDiscover.xml

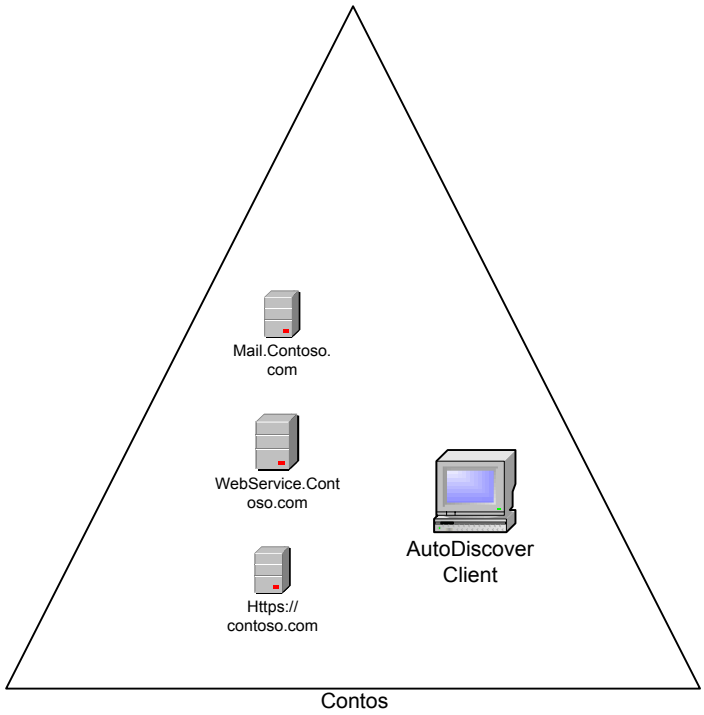

Figure 1: Client and Server Topology

From executing [MS-OXDISCO] the client has the following list of possible Autodiscover servers:

https://Contoso.com/AutoDiscover/AutoDiscover.xml

https://WebService.Contoso.com/AutoDiscover/AutoDiscover.xml

The Autodiscover Service is only available on https://WebService.Contoso.com/AutoDiscover/AutoDiscover.xml, but https://Contoso.com/AutoDiscover/AutoDiscover.xml is configured to HTTP 302 redirect to https://WebService.Contoso.com/AutoDiscover/AutoDiscover.xml

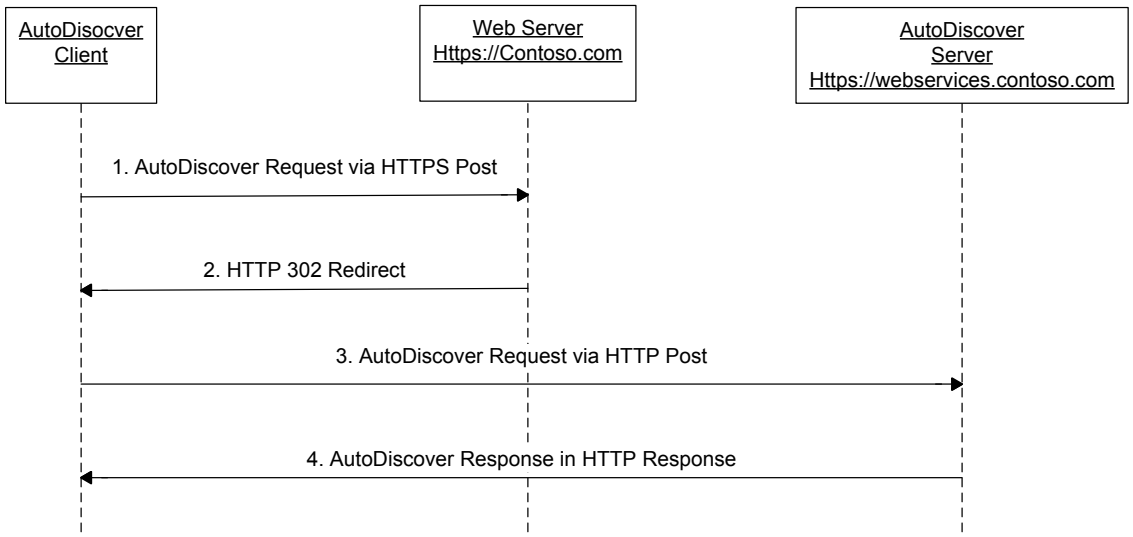

Figure 2: Client and Server Autodiscovery

Step 1.

The Autodiscover client is configured to use the e-mail address User@Contoso.com.

The client constructs the Autodiscover Request XML:

```
    <Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/outlook/r
equestschema/2006">
       <Request>
         <EMailAddress>user@contoso.com</EMailAddress>
    <AcceptableResponseSchema>http://schemas.microsoft.com/exchang
e/autodiscover/outlook/responseschema/2006a</AcceptableResponseSche
ma>
       </Request>
    </Autodiscover>
```

and HTTP Posts it to:

https://Contoso.com/AutoDiscover/AutoDiscover.xml

Step 2.

The client is returned a HTTP 302 redirection to:
https://WebService.Contoso.com/AutoDiscover/AutoDiscover.xml

Step 3.

The client then reposts the request to this URL.

Step 4.

The server knows that the mailbox is on Mail.Contoso.Com and that web services are on https://WebService.Contoso.com/AutoDiscover/AutoDiscover.xml. The server constructs the following Response XML. <12>

```
<Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/responseschem
a/2006">
  <Response
xmlns="http://schemas.microsoft.com/exchange/autodiscover/outlook/respo
nseschema/2006a">
    <User>
      <DisplayName>User Display Name</DisplayName>
      <LegacyDN>/o=First Organization/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn= User Display Name</LegacyDN>
      <DeploymentId>5493afdb-cf6c-4d96-bec3-5709e2d9ad69</DeploymentId>
    </User>
    <Account>
      <AccountType>email</AccountType>
      <Action>settings</Action>
      <Protocol>
        <Type>EXCH</Type>
        <Server>Machine.domain.Contoso.com</Server>
        <ServerDN>/o=First Organization/ou=Exchange Administrative
Group
(FYDIBOHF23SPDLT)/cn=Configuration/cn=Servers/cn=machine</ServerDN>
        <ServerVersion>738081E2</ServerVersion>
        <MdbDN>/o=First Organization/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Configuration/cn=Servers/cn=machine/cn=Microsoft
Private MDB</MdbDN>
        <AD>machine.domain.Contoso.com</AD>

<ASUrl>https://machine.domain.Contoso.com/EWS/Exchange.asmx</ASUrl>
        <EwsUrl>https://machine.domain.Contoso.com
/EWS/Exchange.asmx</EwsUrl>
        <EcpUrl>https://machine.domain.Contoso.com /ecp</EcpUrl>
        <EcpUrl-um>?p=customize/voicemail.aspx&amp;exsvurl=1</EcpUrl-
um>
        <EcpUrl-
aggr>?p=personalsettings/EmailSubscriptions.slab&amp;exsvurl=1</EcpUrl-
aggr>
```

```
        <EcpUrl-sms>?p=sms/textmessaging.slab&amp;exsvurl=1</EcpUrl-
sms>
        <EcpUrl-
mt>PersonalSettings/DeliveryReport.aspx?exsvurl=1&amp;IsOWA=&lt;IsOWA&g
t;&amp;MsgID=&lt;MsgID&gt;&amp;Mbx=&lt;Mbx&gt;&amp;Sender=&lt;Sender&gt
;</EcpUrl-mt>
        <EcpUrl-
ret>?p=organize/retentionpolicytags.slab&amp;exsvurl=1</EcpUrl-ret>
        <OOFUrl>https://machine.domain.Contoso.com
/EWS/Exchange.asmx</OOFUrl>
        <UMUrl>https://machine.domain.Contoso.com
/EWS/UM2007Legacy.asmx</UMUrl>
        <OABUrl>http://machine.domain.Contoso.com /OAB/8706ac4e-cde7-
4d08-a23f-9d6be9b58f04/</OABUrl>
      </Protocol>
      <Protocol>
        <Type>WEB</Type>
        <Internal>
          <OWAUrl AuthenticationMethod="Basic,
Fba">https://machine.domain.Contoso.com /owa</OWAUrl>
          <Protocol>
            <Type>EXCH</Type>
            <ASUrl>https://machine.domain.Contoso.com
/EWS/Exchange.asmx</ASUrl>
          </Protocol>
        </Internal>
      </Protocol>
      <AlternativeMailbox>
        <Type>Archive</Type>
        <DisplayName>User Archive</DisplayName>
        <LegacyDN>/o=First Organization/ou=Exchange Administrative
Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=User Display
Name/guid=1cfd66a7-23cb-40cb-a735-daddcb98c1b8</LegacyDN>
        <Server>machine.domain.Contoso.com </Server>
      </AlternativeMailbox>
    </Account>
  </Response>
</Autodiscover>
```

5 Security

5.1 Security Considerations for Implementers

Microsoft Office will only perform an auto discovery using this protocol over HTTPS (HTTP with SSL). Not providing SSL will seriously affect the operation of this protocol.

Microsoft Exchange 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: XSDs

6.1 Autodiscover Request XSDs

The following is the AutodiscoverRequest XSD; <13>

```
     <?xml version="1.0" encoding="utf-8"?>
     <xs:schema attributeFormDefault="unqualified"
elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/exchange/autodiscover
/outlook/requestschema/2006"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
       <xs:element name="Autodiscover">
         <xs:complexType>
           <xs:sequence>
             <xs:element name="Request">
               <xs:complexType>
                 <xs:sequence>
                   <xs:element name="EMailAddress" type="xs:string"
/>
                   <xs:element name="AcceptableResponseSchema"
type="xs:string" />
                 </xs:sequence>
               </xs:complexType>
             </xs:element>
           </xs:sequence>
         </xs:complexType>
       </xs:element>
     </xs:schema>
```

6.2 Autodiscover Response XSD

The following is an example of an AutodiscoverResponse XSD. The precise XSD will vary dependent upon the user's installation. This particular XSD example includes the external element. <14>

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
xmlns:tns="http://schemas.microsoft.com/exchange/autodiscover/outlook/r
esponseschema/2006a" attributeFormDefault="unqualified"
elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/exchange/autodiscover/out
look/responseschema/2006a" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="Response">
    <xs:complexType>
      <xs:sequence>
```

```
        <xs:element name="User">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="DisplayName" type="xs:string" />
              <xs:element name="LegacyDN" type="xs:string" />
              <xs:element name="DeploymentId" type="xs:string" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="Account">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="AccountType" type="xs:string" />
              <xs:element name="Action" type="xs:string" />
              <xs:element maxOccurs="unbounded" name="Protocol">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="Type" type="xs:string" />
                    <xs:element minOccurs="0" name="Internal">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element name="OWAUrl">
                            <xs:complexType>
                              <xs:simpleContent>
                                <xs:extension base="xs:string">
                                  <xs:attribute
name="AuthenticationMethod" type="xs:string" use="required" />
                                </xs:extension>
                              </xs:simpleContent>
                            </xs:complexType>
                          </xs:element>
                          <xs:element name="Protocol">
                            <xs:complexType>
                              <xs:sequence>
                                <xs:element name="Type"
type="xs:string" />
                                <xs:element name="ASUrl"
type="xs:string" />
                              </xs:sequence>
                            </xs:complexType>
                          </xs:element>
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                    <xs:element minOccurs="0" name="Server"
type="xs:string" />
                    <xs:element minOccurs="0" name="ServerDN"
type="xs:string" />
                    <xs:element minOccurs="0" name="ServerVersion"
type="xs:float" />
                    <xs:element minOccurs="0" name="MdbDN"
type="xs:string" />
```

```
                    <xs:element minOccurs="0" name="AD"
type="xs:string" />
                    <xs:element minOccurs="0" name="ASUrl"
type="xs:string" />
                    <xs:element minOccurs="0" name="EwsUrl"
type="xs:string" />
                    <xs:element minOccurs="0" name="EcpUrl"
type="xs:string" />
                    <xs:element minOccurs="0" name="EcpUrl-um"
type="xs:string" />
                    <xs:element minOccurs="0" name="EcpUrl-aggr"
type="xs:string" />
                    <xs:element minOccurs="0" name="EcpUrl-sms"
type="xs:string" />
                    <xs:element minOccurs="0" name="EcpUrl-mt"
type="xs:string" />
                    <xs:element minOccurs="0" name="EcpUrl-ret"
type="xs:string" />
                    <xs:element minOccurs="0" name="OOFUrl"
type="xs:string" />
                    <xs:element minOccurs="0" name="UMUrl"
type="xs:string" />
                    <xs:element minOccurs="0" name="OABUrl"
type="xs:string" />
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
              <xs:element name="AlternativeMailbox">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="Type" type="xs:string" />
                    <xs:element name="DisplayName" type="xs:string" />
                    <xs:element name="LegacyDN" type="xs:string" />
                    <xs:element name="Server" type="xs:string" />
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

      </xs:schema>
```

6.3 Autodiscover Error Response XSD

The following is an example of a Response XSD for an error. The precise XSD will vary dependent upon the user's installation.

```
      <?xml version="1.0" encoding="utf-8"?>
```

```
    <xs:schema attributeFormDefault="unqualified"
elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/exchange/autodiscover/respon
seschema/2006" xmlns:xs="http://www.w3.org/2001/XMLSchema">
      <xs:element name="Autodiscover">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="Response">
              <xs:complexType>
                <xs:sequence>
                  <xs:element name="Error">
                    <xs:complexType>
                      <xs:sequence>
                        <xs:element name="ErrorCode"
type="xs:unsignedShort" />
                        <xs:element name="Message" type="xs:string" />
                        <xs:element name="DebugData" />
                      </xs:sequence>
                      <xs:attribute name="Time" type="xs:time"
use="required" />
                      <xs:attribute name="Id" type="xs:unsignedInt"
use="required" />
                    </xs:complexType>
                  </xs:element>
                </xs:sequence>
              </xs:complexType>
            </xs:element>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:schema>
```

7 Appendix B: Office/Exchange Behavior

The information in this specification is applicable to the following versions of Office/Exchange:

- Microsoft Office Outlook 2007
- Microsoft Exchange Server 2007
- Microsoft Outlook 2010
- Microsoft Exchange Server 2010

Exceptions, if any, are noted below. Unless otherwise specified, any statement of optional behavior in this specification prescribed using the terms SHOULD or SHOULD NOT implies Office/Exchange behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies Office/Exchange does not follow the prescription.

<1> Section 2.2.2.1.1.2.2.4.6: The **EcpUrl** element is not supported by Exchange 2007.

<2> Section 2.2.2.1.1.2.2.4.7: The **EcpUrl-um** element is not supported by Exchange 2007.

<3> Section 2.2.2.1.1.2.2.4.8: The **EcpUrl-aggr** element is not supported by Exchange 2007.

<4> Section 2.2.2.1.1.2.2.4.9: The **EcpUrl-sms** element is not supported by Exchange 2007.

<5> Section 2.2.2.1.1.2.2.4.10: The **EcpUrl-mt** element is not supported by or Exchange 2007.

<6> Section 2.2.2.1.1.2.2.4.11: The **EcpUrl-ret** element is not supported by Exchange 2007.

<7> Section 2.2.2.1.1.2.2.5: The **AlternativeMailbox** element is not supported by Exchange 2007.

<8> Section 2.2.2.1.1.2.2.5.1: The **Type** element is not supported by Exchange 2007.

<9> Section 2.2.2.1.1.2.2.5.2: The **DisplayName** element is not supported by Exchange 2007.

<10> Section 2.2.2.1.1.2.2.5.3: The **LegacyDN** element is not supported by Exchange 2007.

<11> Section 2.2.2.1.1.2.2.5.4: The **Server** element is not supported by Exchange 2007.

<12> Section 4: The Exchange 2007 server constructs the Response XML with the elements modified as specified in section 2.

<13> Section 6.1: The Exchange 2007 server AutodiscoverRequest XSD is the same with the elements modified as defined in section 2.

<14> Section 6.2: The Exchange 2007 server AutodiscoverResponse XSD is the same with the elements modified as defined in section 2.

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