[MS-ASCNTC]:
ActiveSync Contact Class 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 Open Specification Promise or the Community Promise. 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 iplg@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.
- **Fictitious Names.** The example companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

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.

Preliminary Documentation. This Open Specification provides documentation for past and current releases and/or for the pre-release (beta) version of this technology. This Open Specification is final

Preliminary

Copyright © 2012 Microsoft Corporation.

documentation for past or current releases as specifically noted in the document, as applicable; it is preliminary documentation for the pre-release (beta) versions. Microsoft will release final documentation in connection with the commercial release of the updated or new version of this technology. As the documentation may change between this preliminary version and the final version of this technology, there are risks in relying on preliminary documentation. To the extent that you incur additional development obligations or any other costs as a result of relying on this preliminary documentation, you do so at your own risk.

Revision Summary

Date	Revision History	Revision Class	Comments
12/03/2008	1.0.0	Major	Initial Release.
04/10/2009	2.0.0	Major	Updated technical content and applicable product releases.
07/15/2009	3.0.0	Major	Revised and edited for technical content.
11/04/2009	4.0.0	Major	Updated and revised the technical content.
02/10/2010	5.0.0	Major	Updated and revised the technical content.
05/05/2010	6.0.0	Major	Updated and revised the technical content.
08/04/2010	7.0	Major	Significantly changed the technical content.
11/03/2010	7.1	Minor	Clarified the meaning of the technical content.
03/18/2011	7.2	Minor	Clarified the meaning of the technical content.
08/05/2011	8.0	Major	Significantly changed the technical content.
10/07/2011	8.1	Minor	Clarified the meaning of the technical content.
01/20/2012	9.0	Major	Significantly changed the technical content.
04/27/2012	9.0	No change	No changes to the meaning, language, or formatting of the technical content.

Preliminary

Copyright © 2012 Microsoft Corporation.

Table of Contents

1 Introduction 6
1.1 Glossary 6
1.2 References 6
1.2.1 Normative References 6
1.2.2 Informative References 7
1.3 Overview 7
1.4 Relationship to Other Protocols 7
1.5 Prerequisites/Preconditions 7
1.6 Applicability Statement 7
1.7 Versioning and Capability Negotiation 8
1.8 Vendor-Extensible Fields 8
1.9 Standards Assignments 8

2 Messages 9
2.1 Transport 9
2.2 Message Syntax 9
2.2.1 Namespaces 11
2.2.2 Elements 11
2.2.2.1 AccountName 14
2.2.2.2 Alias 14
2.2.2.3 Anniversary 14
2.2.2.4 AssistantName 15
2.2.2.5 AssistantPhoneNumber 15
2.2.2.6 Birthday 15
2.2.2.7 Body 15
2.2.2.8 BusinessAddressCity 15
2.2.2.9 BusinessAddressCountry 16
2.2.2.10 BusinessAddressPostalCode 16
2.2.2.11 BusinessAddressState 16
2.2.2.12 BusinessAddressStreet 16
2.2.2.13 BusinessFaxNumber 16
2.2.2.14 BusinessPhoneNumber 17
2.2.2.15 Business2PhoneNumber 17
2.2.2.16 CarPhoneNumber 17
2.2.2.17 Categories 17
2.2.2.18 Category 17
2.2.2.19 Children 18
2.2.2.20 Child 18
2.2.2.21 CompanyMainPhone 18
2.2.2.22 CompanyName 18
2.2.2.23 CustomerId 18
2.2.2.24 Department 19
2.2.2.25 Email1Address 19
2.2.2.26 Email2Address 19
2.2.2.27 Email3Address 19
2.2.2.28 FileAs 19
2.2.2.29 FirstName 20
2.2.2.30 GovernmentId 20
2.2.2.31 HomeAddressCity 20
2.2.2.32 HomeAddressCountry 20

Preliminary

Copyright © 2012 Microsoft Corporation.

2.2.2.33 HomeAddressPostalCode 21
2.2.2.34 HomeAddressState 21
2.2.2.35 HomeAddressStreet 21
2.2.2.36 HomeFaxNumber 21
2.2.2.37 HomePhoneNumber 21
2.2.2.38 Home2PhoneNumber 22
2.2.2.39 IMAddress 22
2.2.2.40 IMAddress2 22
2.2.2.41 IMAddress3 22
2.2.2.42 JobTitle 22
2.2.2.43 LastName 23
2.2.2.44 ManagerName 23
2.2.2.45 MiddleName 23
2.2.2.46 MMS 23
2.2.2.47 MobilePhoneNumber 23
2.2.2.48 NickName 24
2.2.2.49 OfficeLocation 24
2.2.2.50 OtherAddressCity 24
2.2.2.51 OtherAddressCountry 24
2.2.2.52 OtherAddressPostalCode 24
2.2.2.53 OtherAddressState 25
2.2.2.54 OtherAddressStreet 25
2.2.2.55 PagerNumber 25
2.2.2.56 Picture 25
2.2.2.57 RadioPhoneNumber 25
2.2.2.58 Spouse 26
2.2.2.59 Suffix 26
2.2.2.60 Title 26
2.2.2.61 WebPage 26
2.2.2.62 WeightedRank 26
2.2.2.63 YomiCompanyName 27
2.2.2.64 YomiFirstName 27
2.2.2.65 YomiLastName 27

3 Protocol Details 28
3.1 Client Details 28
3.1.1 Abstract Data Model 28
3.1.2 Timers 28
3.1.3 Initialization 28
3.1.4 Higher-Layer Triggered Events 28
3.1.4.1 Synchronizing Contact Data Between Client and Server 28
3.1.4.2 Searching a Server for Contact Data 28
3.1.4.3 Requesting Details for Specific Contacts 28
3.1.4.4 Refreshing the Recipient Information Cache 28
3.1.5 Message Processing Events and Sequencing Rules 29
3.1.5.1 ItemOperations Command Request 29
3.1.5.2 Search Command Request 29
3.1.5.3 Sync Command Request 29
3.1.5.3.1 Truncating the Contact Notes Field 29
3.1.5.3.2 Omitting Ghosted Properties from a Sync Change Request 30
3.1.6 Timer Events 30
3.1.7 Other Local Events 30
3.2 Server Details 30

Copyright © 2012 Microsoft Corporation.

Preliminary

3.2.1 Abstract Data Model 30
3.2.2 Timers 30
3.2.3 Initialization 31
3.2.4 Higher-Layer Triggered Events 31
3.2.4.1 Synchronizing Contact Data Between Client and Server 31
3.2.4.2 Searching for Contact Data 31
3.2.4.3 Retrieving Details for Specific Contacts 31
3.2.4.4 Refreshing the Recipient Information Cache 31
3.2.5 Message Processing Events and Sequencing Rules 31
3.2.5.1 ItemOperations Command Response 31
3.2.5.2 Search Command Response 32
3.2.5.3 Sync Command Response 32
3.2.5.3.1 Omitting Ghosted Properties from a Sync Change Request 32
3.2.6 Timer Events 32
3.2.7 Other Local Events 32

4 Protocol Examples 33

5 Security 35
5.1 Security Considerations for Implementers 35
5.2 Index of Security Parameters 35

6 Appendix A: Product Behavior 36

7 Change Tracking 37

8 Index 38

Preliminary

Copyright © 2012 Microsoft Corporation.

1 Introduction

The ActiveSync Contact Class Protocol enables the communication of **contact (2)** data between a mobile device and the server in the ActiveSync protocol.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. Sections 1.5 and 1.9 are also normative but cannot contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

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

Coordinated Universal Time (UTC)
distinguished name (DN)
XML

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

alias
base64 encoding
contact
Folder object
ghosted
recipient information cache
Wireless Application Protocol (WAP) Binary XML (WBXML)
XML element
XML namespace
XML schema
XML schema definition (XSD)

The following terms are specific to this document:

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

1.2 References

References to Microsoft Open Specifications documentation do not include a publishing year because links are to the latest version of the documents, which are updated frequently. References to other documents include a publishing year when one is available.

1.2.1 Normative References

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

[MS-ASAIRS] Microsoft Corporation, "ActiveSync AirSyncBase Namespace Protocol Specification".

[MS-ASCMD] Microsoft Corporation, "ActiveSync Command Reference Protocol Specification".

Preliminary

Copyright © 2012 Microsoft Corporation.

[MS-ASDTYPE] Microsoft Corporation, "ActiveSync Data Types".

[MS-ASWBXML] Microsoft Corporation, "ActiveSync WAP Binary XML (WBXML) Algorithm".

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

[XML] World Wide Web Consortium, "Extensible Markup Language (XML) 1.0 (Fourth Edition)", W3C Recommendation, August 2006, http://www.w3.org/TR/2006/REC-xml-20060816/

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, http://www.w3.org/TR/2009/REC-xml-names-20091208/

[XMLSCHEMA1] Thompson, H.S., Ed., Beech, D., Ed., Maloney, M., Ed., and Mendelsohn, N., Ed., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/

1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "Windows Protocols Master Glossary".

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

1.3 Overview

This protocol describes an **XML** representation of contacts (2) that are used for client and server communication as described in [MS-ASCMD]. The contact data is included in protocol command requests when contact data is sent from the client to the server, and is included in protocol command responses when contact data is returned from the server to the client.

1.4 Relationship to Other Protocols

This protocol describes the XML representation of contacts (2) that are used by the command requests and command responses that are described in [MS-ASCMD]. The protocol governing the transmission of these commands between the client and the server is described in [MS-ASCMD]. The **Wireless Application Protocol (WAP) Binary XML (WBXML)**, as described in [MS-ASWBXML], is used to transmit the XML markup that constitutes the request body and the response body.

Some elements in the **Contact** class support being **ghosted**. The use of ghosted properties is described in [MS-ASCMD] section 2.2.3.164.

All data types in this document conform to the data type definitions that are described in [MS-ASDTYPE]. Common **XML schema** elements used by other classes are defined in [MS-ASAIRS].

1.5 Prerequisites/Preconditions

None.

1.6 Applicability Statement

This protocol describes a set of **XML elements** that are used to communicate contact (2) data when using the commands described in [MS-ASCMD]. This set of elements is applicable when communicating contact information between a mobile device and a server. These elements are not applicable when communicating other types of information that are supported by the ActiveSync protocol.

Preliminary

Copyright © 2012 Microsoft Corporation.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

Preliminary

Copyright © 2012 Microsoft Corporation.

2 Messages

2.1 Transport

This protocol consists of a series of XML elements that are embedded inside of a command request or command response, as specified in [MS-ASCMD].

The XML markup that constitutes the request body or the response body that is transmitted between the client and the server uses Wireless Application Protocol (WAP) Binary XML (WBXML), as specified in [MS-ASWBXML].

2.2 Message Syntax

The markup that is used by this protocol MUST be well-formed XML, as specified in [XML].

This protocol defines XML schema elements for the **Contact** class, which represents a contact (2).

The XML schema for the **Contact** class elements in the **Contacts** namespace is defined as follows, in accordance with the rules specified in [XMLSCHEMA1].

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:tns="Contacts:" attributeFormDefault="unqualified"
elementFormDefault="qualified" targetNamespace="Contacts:"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase="AirSyncBase:"
xmlns:contacts2="Contacts2:">
     <xs:import namespace="AirSyncBase:" schemaLocation="AirSyncBase.xsd"/>
     <xs:import namespace="Contacts2:" schemaLocation="Contacts2.xsd" />
     <xs:element name="Anniversary" type="xs:dateTime" />
     <xs:element name="AssistantName" type="xs:string" />
     <xs:element name="AssistantPhoneNumber" type="xs:string" />
     <xs:element name="Birthday" type="xs:dateTime" />
     <xs:element name="Business2PhoneNumber" type="xs:string" />
     <xs:element name="BusinessAddressCity" type="xs:string" />
     <xs:element name="BusinessPhoneNumber" type="xs:string" />
     <xs:element name="WebPage" type="xs:string" />
     <xs:element name="BusinessAddressCountry" type="xs:string" />
     <xs:element name="Department" type="xs:string" />
     <xs:element name="Email1Address" type="xs:string" />
     <xs:element name="Email2Address" type="xs:string" />
     <xs:element name="Email3Address" type="xs:string" />
     <xs:element name="BusinessFaxNumber" type="xs:string" />
     <xs:element name="FileAs" type="xs:string" />
     <xs:element name="Alias" type="xs:string" />
     <xs:element name="WeightedRank" type="xs:int" />
     <xs:element name="FirstName" type="xs:string" />
     <xs:element name="MiddleName" type="xs:string" />
     <xs:element name="HomeAddressCity" type="xs:string" />
     <xs:element name="HomeAddressCountry" type="xs:string" />
     <xs:element name="HomeFaxNumber" type="xs:string" />
     <xs:element name="HomePhoneNumber" type="xs:string" />
     <xs:element name="Home2PhoneNumber" type="xs:string" />
     <xs:element name="HomeAddressPostalCode" type="xs:string" />
     <xs:element name="HomeAddressState" type="xs:string" />
     <xs:element name="HomeAddressStreet" type="xs:string" />
     <xs:element name="MobilePhoneNumber" type="xs:string" />
     <xs:element name="Suffix" type="xs:string" />
     <xs:element name="CompanyName" type="xs:string" />
```

Preliminary

Copyright © 2012 Microsoft Corporation.

```
      <xs:element name="OtherAddressCity" type="xs:string" />
      <xs:element name="OtherAddressCountry" type="xs:string" />
      <xs:element name="CarPhoneNumber" type="xs:string" />
      <xs:element name="OtherAddressPostalCode" type="xs:string" />
      <xs:element name="OtherAddressState" type="xs:string" />
      <xs:element name="OtherAddressStreet" type="xs:string" />
      <xs:element name="PagerNumber" type="xs:string" />
      <xs:element name="Title" type="xs:string" />
      <xs:element name="BusinessAddressPostalCode" type="xs:string" />
      <xs:element name="LastName" type="xs:string" />
      <xs:element name="Spouse" type="xs:string" />
      <xs:element name="BusinessAddressState" type="xs:string" />
      <xs:element name="BusinessAddressStreet" type="xs:string" />
      <xs:element name="JobTitle" type="xs:string" />
      <xs:element name="YomiFirstName" type="xs:string" />
      <xs:element name="YomiLastName" type="xs:string" />
      <xs:element name="YomiCompanyName" type="xs:string" />
      <xs:element name="OfficeLocation" type="xs:string" />
      <xs:element name="RadioPhoneNumber" type="xs:string" />
      <xs:element name ="Picture" type="xs:string"/>
      <xs:element name="Categories">
           <xs:complexType>
                <xs:sequence>
                     <xs:element maxOccurs="300" name="Category" minOccurs="0"
type="xs:string" />
                </xs:sequence>
           </xs:complexType>
      </xs:element>
      <xs:element name="Children">
           <xs:complexType>
                <xs:sequence minOccurs="0">
                     <xs:element maxOccurs="300" name="Child" minOccurs="0" type="xs:string"
/>
                </xs:sequence>
           </xs:complexType>
      </xs:element>
</xs:schema>
```

The XML schema for the **Contact** class elements in the **Contacts2** namespace is defined as follows, in accordance with the rules specified in [XMLSCHEMA1].

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:tns="Contacts2:" attributeFormDefault="unqualified"
elementFormDefault="qualified" targetNamespace="Contacts2:"
xmlns:xs="http://www.w3.org/2001/XMLSchema" >
      <xs:element name="CustomerId" type="xs:string" />
      <xs:element name="GovernmentId" type="xs:string"/>
      <xs:element name="IMAddress" type="xs:string"/>
      <xs:element name="IMAddress2" type="xs:string"/>
      <xs:element name="IMAddress3" type="xs:string"/>
      <xs:element name="ManagerName" type="xs:string"/>
      <xs:element name="CompanyMainPhone" type="xs:string"/>
      <xs:element name="AccountName" type="xs:string" />
      <xs:element name="NickName" type="xs:string" />
      <xs:element name="MMS" type="xs:string"/>
</xs:schema>
```

Preliminary

Copyright © 2012 Microsoft Corporation.

The portion of the **AirSyncBase** namespace that is used by the **Contacts** class is defined as follows. For details about the complete **AirSyncBase** **XSD**, see [MS-ASAIRS] section 2.2.

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:airsyncbase="AirSyncBase:" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="AirSyncBase:" targetNamespace="AirSyncBase:" elementFormDefault="qualified"
attributeFormDefault="unqualified">
  <xs:element name="Body"/>
</xs:schema>
```

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
airsyncbase	**AirSyncBase**	[MS-ASAIRS]
(none)	**Contacts**	
contacts2	**Contacts2**	
airsync	**AirSync**	[MS-ASCMD] section 2.2.2.19
itemoperations	**ItemOperations**	[MS-ASCMD] section 2.2.2.8
search	**Search**	[MS-ASCMD] section 2.2.2.14
xs	**http://www.w3.org/2001/XMLSchema**	[XMLSCHEMA1]

2.2.2 Elements

Elements of the **Contact** class are defined in three namespaces: **Contacts**, **Contacts2**, and **AirSyncBase**. All **Contact** class elements are specified in this document; however, elements defined in the **AirSyncBase** namespace are further specified in [MS-ASAIRS].

Except where otherwise specified in the following sections, each element of the **Contact** class is used in ActiveSync command requests and responses as follows:

- As an optional child element of the **itemoperations:Schema** element ([MS-ASCMD] section 2.2.3.145) in **ItemOperations** command requests ([MS-ASCMD] section 2.2.2.8.2)
- As an optional child element of the **itemoperations:Properties** element ([MS-ASCMD] section 2.2.3.128.1) in **ItemOperations** command responses ([MS-ASCMD] section 2.2.2.8.3)
- As an optional child element of the **search:Properties** element ([MS-ASCMD] section 2.2.3.128.2) in **Search** command responses ([MS-ASCMD] section 2.2.2.14.2)
- As an optional child element of the **airsync:ApplicationData** element ([MS-ASCMD] section 2.2.3.11) in **Sync** command requests ([MS-ASCMD] section 2.2.2.19.1)
- As an optional child element of the **airsync:ApplicationData** element ([MS-ASCMD] section 2.2.3.11) in **Sync** command responses ([MS-ASCMD] section 2.2.2.19.2)

Preliminary

Copyright © 2012 Microsoft Corporation.

The following table summarizes the set of common XML schema element definitions defined or used by this specification. XML schema element definitions that are specific to one or more particular operations are specified further in sections 3.1.5.1, 3.1.5.2, 3.1.5.3, 3.2.5.1, 3.2.5.2, and 3.2.5.3.

Element name	Description
Anniversary (section 2.2.2.3)	The wedding anniversary date for the contact.
AssistantName (section 2.2.2.4)	The name of the contact's assistant.
AssistantPhoneNumber (section 2.2.2.5)	The phone number of the contact's assistant.
Birthday (section 2.2.2.6)	The birth date of the contact.
Business2PhoneNumber (section 2.2.2.15)	The second business telephone number for the contact.
BusinessAddressCity (section 2.2.2.8)	The business city of the contact.
BusinessPhoneNumber (section 2.2.2.14)	The business telephone number for the contact.
WebPage (section 2.2.2.61)	The Web site or personal Web page for the contact.
BusinessAddressCountry (section 2.2.2.9)	The business country/region for the contact.
Department (section 2.2.2.24)	The department name for the contact.
Email1Address (section 2.2.2.25)	The first e-mail address for the contact.
Email2Address (section 2.2.2.26)	The second e-mail address for the contact.
Email3Address (section 2.2.2.27)	The third e-mail address for the contact.
BusinessFaxNumber (section 2.2.2.13)	The business fax number for the contact.
FileAs (section 2.2.2.28)	The filing string for the contact.
Alias (section 2.2.2.2)	The user's **alias**.
WeightedRank (section 2.2.2.62)	The rank this entry possesses in the **recipient information cache**.
FirstName (section 2.2.2.29)	The contact's first name.
MiddleName (section 2.2.2.45)	The contact's middle name.
HomeAddressCity (section 2.2.2.31)	The home city for the contact.
HomeAddressCountry (section 2.2.2.32)	The home country/region for the contact.
HomeFaxNumber (section 2.2.2.36)	The home fax number for the contact.
HomePhoneNumber (section 2.2.2.37)	The home phone number for the contact.
Home2PhoneNumber (section 2.2.2.38)	The second home phone number for the contact.
HomeAddressPostalCode (section 2.2.2.33)	The home postal code for the contact.
HomeAddressState (section 2.2.2.34)	The home state for the contact.

Preliminary

Copyright © 2012 Microsoft Corporation.

Element name	Description
HomeAddressStreet (section 2.2.2.35)	The home street address for the contact.
MobilePhoneNumber (section 2.2.2.47)	The mobile phone number for the contact.
Suffix (section 2.2.2.59)	The suffix for the contact's name.
CompanyName (section 2.2.2.22)	The company name for the contact.
OtherAddressCity (section 2.2.2.50)	The city of the contact's alternative address.
OtherAddressCountry (section 2.2.2.51)	The country/region of the contact's alternative address.
CarPhoneNumber (section 2.2.2.16)	The car telephone number for the contact.
OtherAddressPostalCode (section 2.2.2.52)	The postal code of the contact's alternative address.
OtherAddressState (section 2.2.2.53)	The state of the contact's alternative address.
OtherAddressStreet (section 2.2.2.54)	The street address of the contact's alternative address.
PagerNumber (section 2.2.2.55)	The pager number for the contact.
Title (section 2.2.2.60)	The contact's business title.
BusinessAddressPostalCode (section 2.2.2.10)	The business postal code for the contact.
LastName (section 2.2.2.43)	The contact's last name.
Spouse (section 2.2.2.58)	The name of the contact's spouse/partner.
BusinessAddressState (section 2.2.2.11)	The business state for the contact.
BusinessAddressStreet (section 2.2.2.12)	The business street address for the contact.
JobTitle (section 2.2.2.42)	The contact's job title.
YomiFirstName (section 2.2.2.64)	The Japanese phonetic rendering of the first name of the contact.
YomiLastName (section 2.2.2.65)	The Japanese phonetic rendering of the last name of the contact.
YomiCompanyName (section 2.2.2.63)	The Japanese phonetic rendering of the company name for the contact.
OfficeLocation (section 2.2.2.49)	The office location for the contact.
RadioPhoneNumber (section 2.2.2.57)	The radio telephone number for the contact.
contacts2:CustomerId (section 2.2.2.23)	The customer identifier (ID) for the contact.
contacts2:GovernmentId (section 2.2.2.30)	The government-assigned identifier (ID) for the contact.
contacts2:IMAddress (section 2.2.2.39)	The instant messaging address for the contact.
contacts2:IMAddress2 (section 2.2.2.40)	The alternative instant messaging address for the contact.

Preliminary

Copyright © 2012 Microsoft Corporation.

Element name	Description
contacts2:IMAddress3 (section 2.2.2.41)	The tertiary instant messaging address for the contact.
contacts2:ManagerName (section 2.2.2.44)	The **distinguished name (DN) (1)** of the manager for the contact.
contacts2:CompanyMainPhone (section 2.2.2.21)	The main telephone number for the contact's company.
contacts2:AccountName (section 2.2.2.1)	The account name and/or number for the contact.
contacts2:NickName (section 2.2.2.48)	The nickname for the contact.
contacts2:MMS (section 2.2.2.46)	The Multimedia Messaging Service (MMS) address for the contact.
Picture (section 2.2.2.56)	The file, which is encoded with **base64 encoding**, containing the picture of the contact.
Categories (section 2.2.2.17)	A collection of user labels assigned to the contact.
Category (section 2.2.2.18)	A category that is assigned to the contact.
Children (section 2.2.2.19)	A collection of the contact's children.
Child (section 2.2.2.20)	One of the contact's children.
airsyncbase:Body (section 2.2.2.7)	The notes for this contact.

2.2.2.1 AccountName

The **contacts2:AccountName** element specifies the account name and/or number for the contact. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.2 Alias

The **Alias** element<1> specifies the user's alias. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

The **Alias** element is only returned in a recipient information cache request. For more details about the interaction with the recipient information cache, see [MS-ASCMD] section 2.2.3.170.3.

2.2.2.3 Anniversary

The **Anniversary** element specifies the wedding anniversary date for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

Copyright © 2012 Microsoft Corporation.

Preliminary

The value of this element is a **datetime** data type in **Coordinated Universal Time (UTC)** format, as specified in [MS-ASDTYPE] section 2.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.4 AssistantName

The **AssistantName** element specifies the name of the contact's assistant. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.5 AssistantPhoneNumber

The **AssistantPhoneNumber** element specifies the phone number of the contact's assistant. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.6 Birthday

The **Birthday** element specifies the birth date of the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **datetime** data type in Coordinated Universal Time (UTC) format, as specified in [MS-ASDTYPE] section 2.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.7 Body

The **airsyncbase:Body** element is a **container** ([MS-ASDTYPE] section 2.2) element that specifies the notes for the contact. It is defined as an element in the **AirSyncBase** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2. For more details about the **airsyncbase:Body** element, see [MS-ASAIRS] section 2.2.2.4.

2.2.2.8 BusinessAddressCity

The **BusinessAddressCity** element specifies the business city of the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

Preliminary

Copyright © 2012 Microsoft Corporation.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.9 BusinessAddressCountry

The **BusinessAddressCountry** element specifies the business country/region of the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.10 BusinessAddressPostalCode

The **BusinessAddressPostalCode** element specifies the business postal code for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

2.2.2.11 BusinessAddressState

The **BusinessAddressState** element specifies the business state for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.12 BusinessAddressStreet

The **BusinessAddressStreet** element specifies the business street address for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.13 BusinessFaxNumber

The **BusinessFaxNumber** element specifies the business fax number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

Preliminary

Copyright © 2012 Microsoft Corporation.

2.2.2.14 BusinessPhoneNumber

The **BusinessPhoneNumber** element specifies the primary business phone number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.15 Business2PhoneNumber

The **Business2PhoneNumber** element specifies the secondary business telephone number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.16 CarPhoneNumber

The **CarPhoneNumber** element specifies the car telephone number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.17 Categories

The **Categories** element is a **container** ([MS-ASDTYPE] section 2.2) element that specifies a collection of user labels assigned to the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The **Categories** element has the following child element:

- **Category** (section 2.2.2.18): At least one instance of this element is required.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.18 Category

The **Category** element is a required child element of the **Categories** element (section 2.2.2.17) that specifies a category that is assigned to the contact. It is defined as an element in the **Contacts** namespace.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

Preliminary

Copyright © 2012 Microsoft Corporation.

A command request or response has a minimum of one **Category** element per **Categories** element. It can have up to 300 elements per **Categories** element.

2.2.2.19 Children

The **Children** element is a **container** ([MS-ASDTYPE] section 2.2) element that specifies a collection of the contact's children. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The **Children** element has the following child element:

- **Child** (section 2.2.2.20): This element is optional.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.20 Child

The **Child** element is an optional child element of the **Children** element that specifies a child of the contact. It is defined as an element in the **Contacts** namespace.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

A command request or response has zero or more **Child** elements per **Children** element. It can have up to 300 elements per **Children** element.

2.2.2.21 CompanyMainPhone

The **contacts2:CompanyMainPhone** element specifies the main telephone number for the contact's company. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.22 CompanyName

The **CompanyName** element specifies the company name for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.23 CustomerId

The **contacts2:CustomerId** element specifies the customer identifier (ID) for the contact. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

Preliminary

Copyright © 2012 Microsoft Corporation.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.24 Department

The **Department** element specifies the department name for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.25 Email1Address

The **Email1Address** element specifies the first e-mail address for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.2.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

The **Email1Address** element is one of the **Contact** class elements that is returned in a recipient information cache request. For more details about interacting with the recipient information cache, see [MS-ASCMD] section 2.2.3.170.3.

2.2.2.26 Email2Address

The **Email2Address** element specifies the second e-mail address for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.2.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.27 Email3Address

The **Email3Address** element specifies the third e-mail address for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.2.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.28 FileAs

The **FileAs** element specifies the filing string for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

Preliminary

Copyright © 2012 Microsoft Corporation.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

The **FileAs** element is one of the **Contact** class elements that is returned in a recipient information cache request. For more details about the interaction with the recipient information cache, see [MS-ASCMD] section 2.2.3.170.3.

2.2.2.29 FirstName

The **FirstName** element specifies the first name of the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.30 GovernmentId

The **contacts2:GovernmentId** element specifies the government-assigned identifier (ID) for the contact. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.31 HomeAddressCity

The **HomeAddressCity** element specifies the home city for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.32 HomeAddressCountry

The **HomeAddressCountry** element specifies the home country/region for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

Preliminary

Copyright © 2012 Microsoft Corporation.

2.2.2.33 HomeAddressPostalCode

The **HomeAddressPostalCode** element specifies the home postal code for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.34 HomeAddressState

The **HomeAddressState** element specifies the home state for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.35 HomeAddressStreet

The **HomeAddressStreet** element specifies the home street address for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.36 HomeFaxNumber

The **HomeFaxNumber** element specifies the home fax number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.37 HomePhoneNumber

The **HomePhoneNumber** element specifies the home phone number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

Preliminary

Copyright © 2012 Microsoft Corporation.

2.2.2.38 Home2PhoneNumber

The **Home2PhoneNumber** element specifies the alternative home phone number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.39 IMAddress

The **contacts2:IMAddress** element specifies the instant messaging address for the contact. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.40 IMAddress2

The **contacts2:IMAddress2** element specifies the alternative instant messaging address for the contact. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.41 IMAddress3

The **contacts2:IMAddress3** element specifies the tertiary instant messaging address for the contact. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.42 JobTitle

The **JobTitle** element specifies the contact's job title. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

Preliminary

Copyright © 2012 Microsoft Corporation.

2.2.2.43 LastName

The **LastName** element specifies the contact's last name. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.44 ManagerName

The **contacts2:ManagerName** element specifies the distinguished name (DN) (1) of the contact's manager. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.45 MiddleName

The **MiddleName** element specifies the middle name of the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.46 MMS

The **contacts2:MMS** element specifies the Multimedia Messaging Service (MMS) address for the contact. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.47 MobilePhoneNumber

The **MobilePhoneNumber** element specifies the mobile phone number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

Preliminary

Copyright © 2012 Microsoft Corporation.

2.2.2.48 NickName

The **contacts2:NickName** element specifies the nickname for the contact. It is defined as an element in the **Contacts2** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.49 OfficeLocation

The **OfficeLocation** element specifies the office location for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.50 OtherAddressCity

The **OtherAddressCity** element specifies the city for the contact's alternate address. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.51 OtherAddressCountry

The **OtherAddressCountry** element specifies the country/region of the contact’s alternate address. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.52 OtherAddressPostalCode

The **OtherAddressPostalCode** element specifies the postal code of the contact’s alternate address. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

Preliminary

Copyright © 2012 Microsoft Corporation.

2.2.2.53 OtherAddressState

The **OtherAddressState** element specifies the state of the contact's alternate address. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.54 OtherAddressStreet

The **OtherAddressStreet** element specifies the street address of the contact's alternate address. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.55 PagerNumber

The **PagerNumber** element specifies the pager number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.56 Picture

The **Picture** element specifies the file that contains the picture of the contact. The value of the **Picture** element SHOULD be a stream that is encoded with base64 encoding. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

The value of the **Picture** element MUST be limited to 48 KB of binary content that is encoded with base64 encoding, or an image size of around 36 KB. Since base64 encoding is nondeterministic, the actual maximum size of the image can vary. If the value of the **Picture** element exceeds 48 KB of content with base64 encoding, the server MUST return a status error of 6.

2.2.2.57 RadioPhoneNumber

The **RadioPhoneNumber** element specifies the radio phone number for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.3.

Preliminary

Copyright © 2012 Microsoft Corporation.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.58 Spouse

The **Spouse** element specifies the name of the contact's spouse/partner. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.59 Suffix

The **Suffix** element specifies the suffix for the contact's name. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.60 Title

The **Title** element specifies the contact's business title. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.61 WebPage

The **WebPage** element specifies the Web site or personal Web page for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.62 WeightedRank

The **WeightedRank** element<2> specifies the rank of this contact entry in the recipient information cache. It is defined as an element in the **Contacts** namespace.

The value of this element is an **integer** data type, as specified in [MS-ASDTYPE] section 2.5.

Preliminary

Copyright © 2012 Microsoft Corporation.

Clients can use the **WeightedRank** element to determine which entries in a recipient information cache list should be displayed first in an auto-completion field. Higher values of the **WeightedRank** element identify the most relevant entries.

The **WeightedRank** element is only returned in a recipient information cache request. For more details about the interaction with the recipient information cache, see [MS-ASCMD] section 2.2.3.170.3.

2.2.2.63 YomiCompanyName

The **YomiCompanyName** element specifies the Japanese phonetic rendering of the company name for the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.64 YomiFirstName

The **YomiFirstName** element specifies the Japanese phonetic rendering of the first name of the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

2.2.2.65 YomiLastName

The **YomiLastName** element specifies the Japanese phonetic rendering of the last name of the contact. It is defined as an element in the **Contacts** namespace and is used in ActiveSync command requests and responses as specified in section 2.2.2.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6.

This element can be ghosted. For details about the use of ghosted properties, see [MS-ASCMD] section 2.2.3.164.

Preliminary

Copyright © 2012 Microsoft Corporation.

3 Protocol Details

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 that described in this document.

Contact class: A structured XML text block that specifies a contact and adheres to the XML schema specified in section 2.2. It is returned by the server to the client as part of a full XML response to the client command requests specified in section 3.1.5.

Command request: A WBXML formatted message that adheres to the command schemas specified in [MS-ASCMD].

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Synchronizing Contact Data Between Client and Server

A client initiates synchronization of **Contact** class data with the server by sending a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) to the server.

3.1.4.2 Searching a Server for Contact Data

A client searches for **Contact** class data by sending a **Search** command request ([MS-ASCMD] section 2.2.2.14.1) to the server.

3.1.4.3 Requesting Details for Specific Contacts

A client requests **Contact** class data for one or more contacts by sending an **ItemOperations** command request ([MS-ASCMD] section 2.2.2.8.2) to the server that contains one or more **itemoperations:Fetch** elements ([MS-ASCMD] section 2.2.3.63.1).

3.1.4.4 Refreshing the Recipient Information Cache

A client retrieves a minimal set of **Contact** class data from the server by issuing a **Sync** command request ([MS-ASCMD] section 2.2.2.19) against **Folder object** type 19 (that is, the recipient information cache). For more details about the use of this Folder object type in a **Sync** command request, see [MS-ASCMD] section 2.2.3.30.5.

Preliminary

Copyright © 2012 Microsoft Corporation.

3.1.5 Message Processing Events and Sequencing Rules

The following sections define how various elements of the **Contact** class are used in the context of specific ActiveSync commands. Command details are specified in [MS-ASCMD].

3.1.5.1 ItemOperations Command Request

A client uses an **ItemOperations** command request ([MS-ASCMD] section 2.2.2.8.2) that contains one or more **itemoperations:Fetch** elements ([MS-ASCMD] section 2.2.3.63.1) to retrieve data from the server for one or more contact items.

Any of the elements that belong to the **Contact** class, as specified in section 2.2.2, can be included in an **ItemOperations** command request.

The client can restrict the elements returned by the **ItemOperations** command response ([MS-ASCMD] section 2.2.2.8.3) by including top-level schema elements for the **Contact** class as child elements of the **itemoperations:Schema** element ([MS-ASCMD] section 2.2.3.145) in the **ItemOperations** command request. For the **Contact** class, every element is considered a top-level schema element.

The **ItemOperations** command is specified in [MS-ASCMD] section 2.2.2.8.

3.1.5.2 Search Command Request

A client uses the **Search** command request ([MS-ASCMD] section 2.2.2.14.1) to retrieve **Contact** class items that match the criteria specified by the client.

None of the elements that belong to the **Contact** class, as specified in section 2.2.2, can be included in a **Search** command request.

The **Search** command is specified in [MS-ASCMD] section 2.2.2.14.

3.1.5.3 Sync Command Request

A client uses the **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) to synchronize its **Contact** class items for a specified user with the contacts currently stored by the server.

Any of the elements that belong to the **Contact** class, as specified in section 2.2.2, can be included in a **Sync** command request as child elements of the **airsync:ApplicationData** element ([MS-ASCMD] section 2.2.3.11) within either an **airsync:Add** element ([MS-ASCMD] section 2.2.3.7.2) or an **airsync:Change** element ([MS-ASCMD] section 2.2.3.24).

Contact class elements can be transmitted as child elements of the **Supported** element ([MS-ASCMD] section 2.2.3.164) in order to support ghosted elements. <3>

The **Sync** command is specified in [MS-ASCMD] section 2.2.2.19.

3.1.5.3.1 Truncating the Contact Notes Field

A client can request that the server truncate the contents of the **airsyncbase:Body** element (section 2.2.2.7) in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) or **ItemOperations** command response ([MS-ASCMD] section 2.2.2.8.3) by including the **airsyncbase:TruncationSize** element ([MS-ASAIRS] section 2.2.2.21.2) in a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) or **ItemOperations** command request ([MS-ASCMD] section 2.2.2.8.2). The behavior of **airsyncbase:TruncationSize** is specified in [MS-ASAIRS] section 2.2.2.21.2.

Preliminary

Copyright © 2012 Microsoft Corporation.

Once a client requests truncation, the server will truncate the contents of the **airsyncbase:Body** element in all subsequent **Sync** command responses. A client can request that the server no longer truncate the contents of the **airsyncbase:Body** element by sending an **airsyncbase:BodyPreference** element ([MS-ASAIRS] section 2.2.2.7) in the request that contains a **Type** element ([MS-ASAIRS] section 2.2.2.22.4) to specify the desired format, but does not include the **airsyncbase:TruncationSize** element.

If an **airsyncbase:Body** element is not included in the request that is sent from the client to the server, the server MUST NOT delete the stored Notes for the contact.

Client devices that do not support the notes field for contacts can omit the **airsyncbase:Body** element when synchronizing contact information with a server.

3.1.5.3.2 Omitting Ghosted Properties from a Sync Change Request

At the beginning of a session (that is, when the value of the **SyncKey** element ([MS-ASCMD] section 2.2.3.166.4) in a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) is 0 (zero)), the client uses the **airsync:Supported** element ([MS-ASCMD] section 2.2.3.164) in the **Sync** command request to specify which properties are not ghosted. In subsequent **Sync** command requests, the client includes only the set of **airsync:Supported** elements from the **Sync** command request's **airsync:Change** element.

For more information on ghosted properties, see [MS-ASCMD] section 2.2.3.164.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

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 that described in this document.

Contact class: A structured XML text block that specifies a contact and adheres to the XML schema specified insection 2.2. It is returned by the server as part of a full XML response to the client requests specified in section 3.1.5.

Command request: A WBXML formatted message that adheres to the command schemas specified in [MS-ASCMD].

3.2.2 Timers

None.

Preliminary

Copyright © 2012 Microsoft Corporation.

3.2.3 Initialization

None.

3.2.4 Higher-Layer Triggered Events

3.2.4.1 Synchronizing Contact Data Between Client and Server

Synchronization of **Contact** class data between client and server is initiated by the client, as specified in section 3.1.4.1. The server responds with a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2).

3.2.4.2 Searching for Contact Data

Searching for **Contact** class data is initiated by the client, as specified in section 3.1.4.2. The server responds with a **Search** command response ([MS-ASCMD] section 2.2.2.14.2).

3.2.4.3 Retrieving Details for Specific Contacts

Retrieval of **Contact** class data for one or more contact items is initiated by the client, as specified in section 3.1.4.3. The server responds with an **ItemOperations** command response ([MS-ASCMD] section 2.2.2.8.3).

3.2.4.4 Refreshing the Recipient Information Cache

Retrieval of a minimal set of **Contact** class data that represents the recipient information cache is initiated by the client, as specified in section 3.1.4.4. The server responds with a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) that includes only the following elements from the **Contact** class:

- **Email1Address** (section 2.2.2.25)
- **FileAs** (section 2.2.2.28)
- **Alias** (section 2.2.2.2)
- **WeightedRank** (section 2.2.2.62)

This use of the **Sync** command is further specified in [MS-ASCMD] section 2.2.3.30.5.

3.2.5 Message Processing Events and Sequencing Rules

The following sections define how various elements of the **Contact** class are used in the context of specific ActiveSync commands. Command details are specified in [MS-ASCMD].

3.2.5.1 ItemOperations Command Response

When a client uses an **ItemOperations** command request ([MS-ASCMD] section 2.2.2.8.2) to retrieve data from the server for one or more contact items, as specified in section 3.1.5.1, the server responds with an **ItemOperations** command response ([MS-ASCMD] section 2.2.2.8.3).

Any of the elements that belong to the **Contact** class, as specified in section 2.2.2, can be included in an **ItemOperations** command response. If an **itemoperations:Schema** element ([MS-ASCMD] section 2.2.3.145) is included in the **ItemOperations** command request, the elements returned in

Preliminary

Copyright © 2012 Microsoft Corporation.

the **ItemOperations** command response **MUST** be restricted to the elements that were included as child elements of the **itemoperations:Schema** element in the command request.

Contact class elements are returned as child elements of the **itemoperations:Properties** element ([MS-ASCMD] section 2.2.3.128) in the **ItemOperations** command response.

The **ItemOperations** command is specified in [MS-ASCMD] section 2.2.2.8.

3.2.5.2 Search Command Response

When a client uses the **Search** command request ([MS-ASCMD] section 2.2.2.14.1) to retrieve **Contact** class items that match the criteria specified by the client, as specified in section 3.1.5.2, the server responds with a **Search** command response ([MS-ASCMD] section 2.2.2.14.2).

Any of the elements that belong to the **Contact** class, as specified in section 2.2.2, can be included in a **Search** command response.

Contact class elements are returned as child elements of the **search:Properties** element ([MS-ASCMD] section 2.2.3.128) in the **Search** command response.

The **Search** command is specified in [MS-ASCMD] section 2.2.2.14.

3.2.5.3 Sync Command Response

When a client uses the **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) to synchronize its **Contact** class items for a specified user with the contacts currently stored by the server, as specified in section 3.1.5.3, the server responds with a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2).

Any of the elements that belong to the **Contact** class, as specified in section 2.2.2, can be included in a **Sync** command response as child elements of the **airsync:ApplicationData** element ([MS-ASCMD] section 2.2.3.11) within either an **airsync:Add** element ([MS-ASCMD] section 2.2.3.7.2) or an **airsync:Change** element ([MS-ASCMD] section 2.2.3.24).

The **Sync** command is specified in [MS-ASCMD] section 2.2.2.19.

3.2.5.3.1 Omitting Ghosted Properties from a Sync Change Request

At the beginning of a session (that is, when the value of the **SyncKey** element ([MS-ASCMD] section 2.2.3.166.4) in a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) is 0 (zero))), the client uses the **airsync:Supported** element ([MS-ASCMD] section 2.2.3.164) in the **Sync** command request to specify which properties are not ghosted. In subsequent **Sync** command requests, the client includes only these elements from the **Sync** request's **airsync:Change** element. Ghosted elements are not sent to the server. Instead of deleting these excluded properties, the server preserves their previous value.

For more details about ghosted properties, see [MS-ASCMD] section 2.2.3.164.

3.2.6 Timer Events

None.

3.2.7 Other Local Events

None.

Preliminary

Copyright © 2012 Microsoft Corporation.

4 Protocol Examples

The following example demonstrates a client request to synchronize contact data with the server, and the server response. In this example, the server returns a single new contact, represented by elements of the **Contact** class that are child elements of the **airsync:ApplicationData** element ([MS-ASCMD] section 2.2.3.11) under an **airsync:Add** element ([MS-ASCMD] section 2.2.3.7.2) in the server response.

Note For the sake of brevity, the value of the **Picture** element in the server response, which is a representation of the image encoded with base64 encoding, has been truncated.

Request:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>2006814013</SyncKey>
      <CollectionId>2</CollectionId>
      <DeletesAsMoves/>
      <GetChanges/>
    </Collection>
  </Collections>
</Sync>
```

Response:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:" xmlns:A="AirSyncBase:" xmlns:B="POOMCONTACTS:">
  <Collections>
    <Collection>
      <SyncKey>243360144</SyncKey>
      <CollectionId>2</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>2:1</ServerId>
          <ApplicationData>
            <A:Body>
              <A:Type>3</A:Type>
              <A:EstimatedDataSize>5500</A:EstimatedDataSize>
              <A:Truncated>1</A:Truncated>
            </A:Body>
            <B:WebPage>http://www.contoso.com/</B:WebPage>
            <B:BusinessAddressCountry>United States of America</B:BusinessAddressCountry>
            <B:Email1Address>"Anat Kerry (anat@contoso.com)"
&lt;anat@contoso.com&gt;</B:Email1Address>
            <B:BusinessFaxNumber>(206) 555-0100</B:BusinessFaxNumber>
            <B:FileAs>Kerry, Anat</B:FileAs>
            <B:FirstName>Anat</B:FirstName>
            <B:HomePhoneNumber>(206) 555-0101</B:HomePhoneNumber>
            <B:BusinessAddressCity>Redmond</B:BusinessAddressCity>
            <B:MiddleName>M.</B:MiddleName>
            <B:MobilePhoneNumber>(206) 555-0102</B:MobilePhoneNumber>
            <B:CompanyName>Contoso, Ltd.</B:CompanyName>
            <B:BusinessAddressPostalCode>10021</B:BusinessAddressPostalCode>
            <B:LastName>Kerry</B:LastName>
```

Preliminary

Copyright © 2012 Microsoft Corporation.

```
            <B:BusinessAddressState>WA</B:BusinessAddressState>
            <B:BusinessAddressStreet>234 Main St.</B:BusinessAddressStreet>
            <B:BusinessPhoneNumber>(206) 555-0103</B:BusinessPhoneNumber>
            <B:JobTitle>Development Manager</B:JobTitle>
            <B:Picture>/9j/4AAQSkZJRgABAQEAYABgAAD/...</B:Picture>
            <A:NativeBodyType>3</A:NativeBodyType>
          </ApplicationData>
        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

Preliminary

Copyright © 2012 Microsoft Corporation.

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

Preliminary

Copyright © 2012 Microsoft Corporation.

6 Appendix A: Product Behavior

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

- Microsoft® Exchange Server 2007 Service Pack 1 (SP1)
- Microsoft® Exchange Server 2010
- Microsoft® Exchange Server 15 Technical Preview

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

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

<1> Section 2.2.2.2: The **Alias** element is not supported when the value of the MS-ASProtocolVersion header is set to 12.1.

<2> Section 2.2.2.62: The **WeightedRank** element is not supported when the value of the MS-ASProtocolVersion header is set to 12.1.

<3> Section 3.1.5.3: The **Sync** command returns a **Status** value of 4 when the **Supported** element is included in a **Sync** request where the MS-ASProtocolVersion is set to 12.1 and the request is sent to an Exchange 2007 SP1 server.

Preliminary

Copyright © 2012 Microsoft Corporation.

7 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

Preliminary

Copyright © 2012 Microsoft Corporation.

8 Index

A

Abstract data model
  client 28
  server 30
Applicability 7

C

Capability negotiation 8
Change tracking 37
Client
  abstract data model 28
  initialization 28
  message processing 29
  other local events 30
  sequencing rules 29
  timer events 30
  timers 28

D

Data model - abstract
  client 28
  server 30

E

Elements
  AccountName 14
  Alias 14
  Anniversary 14
  AssistantName 15
  AssistantPhoneNumber 15
  Birthday 15
  Body 15
  Business2PhoneNumber 17
  BusinessAddressCity 15
  BusinessAddressCountry 16
  BusinessAddressPostalCode 16
  BusinessAddressState 16
  BusinessAddressStreet 16
  BusinessFaxNumber 16
  BusinessPhoneNumber 17
  CarPhoneNumber 17
  Categories 17
  Category 17
  Child 18
  Children 18
  CompanyMainPhone 18
  CompanyName 18
  CustomerId 18
  Department 19
  Email1Address 19
  Email2Address 19
  Email3Address 19
  FileAs 19
  FirstName 20
  GovernmentId 20
  Home2PhoneNumber 22
  HomeAddressCity 20
  HomeAddressCountry 20
  HomeAddressPostalCode 21
  HomeAddressState 21
  HomeAddressStreet 21
  HomeFaxNumber 21
  HomePhoneNumber 21
  IMAddress 22
  IMAddress2 22
  IMAddress3 22
  JobTitle 22
  LastName 23
  ManagerName 23
  MiddleName 23
  MMS 23
  MobilePhoneNumber 23
  NickName 24
  OfficeLocation 24
  OtherAddressCity 24
  OtherAddressCountry 24
  OtherAddressPostalCode 24
  OtherAddressState 25
  OtherAddressStreet 25
  PagerNumber 25
  Picture 25
  RadioPhoneNumber 25
  Spouse 26
  Suffix 26
  Title 26
  WebPage 26
  WeightedRank 26
  YomiCompanyName 27
  YomiFirstName 27
  YomiLastName 27
Elements message 11
Examples 33

F

Fields - vendor-extensible 8

G

Glossary 6

I

Implementer - security considerations 35
Index of security parameters 35
Informative references 7
Initialization
  client 28
  server 31
Introduction 6

M

Message processing

Preliminary

Copyright © 2012 Microsoft Corporation.

client 29
server 31
Messages
Elements 11
Namespaces 11
syntax 9
transport 9

N

Namespaces message 11
Normative references 6

O

Other local events
client 30
server 32
Overview (synopsis) 7

P

Parameters - security index 35
Preconditions 7
Prerequisites 7
Product behavior 36

R

References 6
informative 7
normative 6
Relationship to other protocols 7

S

Security
implementer considerations 35
parameter index 35
Sequencing rules
client 29
server 31
Server
abstract data model 30
initialization 31
message processing 31
other local events 32
sequencing rules 31
timer events 32
timers 30
Standards assignments 8

T

Timer events
client 30
server 32
Timers
client 28
server 30
Tracking changes 37
Transport 9

V

Vendor-extensible fields 8
Versioning 8

Preliminary

Copyright © 2012 Microsoft Corporation.