[MS-ASHTTP]:
ActiveSync HTTP Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
12/03/2008	1.0		Initial release.
02/04/2009	1.01		Revised and edited technical content.
03/04/2009	1.02		Revised and edited technical content.
04/10/2009	2.0		Updated technical content and applicable product releases.
07/15/2009	3.0	Major	Revised and edited for technical content.

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1   Introduction

All communication between the client and server is initiated by the client and is based on request/response commands. When the client communicates with the server, the client sends a request to the server as an **HTTP POST**, by using UTF-8 encoding. The server sends back a response to the HTTP POST. The request and response each have a **header** and might have a body. The header format is dictated by the HTTP/1.1 standard. The HTTP **POST** request header contains certain parameters that are set by the client, as specified later in this **document**. The HTTP **POST** response header is created by the server, and its contents are specified later in this document. The format of the body for both request and response depends on the type of request. Generally, the request/response body contains **WAP Binary XML (WBXML)** formatted data.

In addition to the HTTP **POST** request/response commands, the HTTP **OPTIONS** command specifies the command to be implemented.

The ActiveSync protocol is designed to enable a client device to synchronize data with the data that is stored on the server.

1.1   Glossary

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

collection
GUID
Hypertext Transfer Protocol (HTTP)
MIME
Secure Sockets Layer (SSL)
S/MIME
Uniform Resource Identifier (URI)
Uniform Resource Locator (URL)
WAP Binary XML (WBXML)
Web server
XML

The following terms are specific to this document:

ActiveSync synchronization: The process of reconciling differences between data that is stored on the client and the server.

base64 encoding: An encoding for binary data that represents the original bytes as a sequence of encoded bytes, where each encoded byte can be interpreted as a printable ASCII character. For details, see [RFC4648].

server ID: A unique identifier assigned by the server to each object that can be synchronized. The client stores the server ID for each object and is able to locate an object when given a server ID.

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

1.2 References

1.2.1 Normative References

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

[MS-ASAIRS] Microsoft Corporation, "ActiveSync AirSyncBase Namespace Protocol Specification", December 2008.

[MS-ASCAL] Microsoft Corporation, "ActiveSync Calendar Class Protocol Specification", December 2008.

[MS-ASCMD] Microsoft Corporation, "ActiveSync Command Reference Protocol Specification", December 2008.

[MS-ASCNTC] Microsoft Corporation, "ActiveSync Contact Class Protocol Specification", December 2008.

[MS-ASDOC] Microsoft Corporation, "ActiveSync Document Class Protocol Specification", December 2008.

[MS-ASDTYPE] Microsoft Corporation, "ActiveSync Data Types Protocol Specification", December 2008.

[MS-ASEMAIL] Microsoft Corporation, "ActiveSync E-Mail Class Protocol Specification", December 2008.

[MS-ASPROV] Microsoft Corporation, "ActiveSync Provisioning Protocol Specification", December 2008.

[MS-ASTASK] Microsoft Corporation, "ActiveSync Tasks Class Protocol Specification", December 2008.

[MS-ASWBXML] Microsoft Corporation, "ActiveSync WAP Binary XML (WBXML) Protocol Specification", December 2008.

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

[RFC1945] Berners, Lee T., Fielding, R., Frystyk, H., "Hypertext Transfer Protocol -- HTTP/1.0", RFC 1945, May 1996,http://www.ietf.org/rfc/rfc1945.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.

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

[RFC4648] Josefsson, S., "The Base16, Base32, and Base64 Data Encodings", RFC 4648, October 2006, http://www.ietf.org/rfc/rfc4648.txt.

[RFC822] Crocker, D.H., "Standard for ARPA Internet Text Messages", RFC 822, August 1982, http://www.ietf.org/rfc/rfc0822.txt.

[WBXML] W3C, "WAP Binary XML Content Format", June 1999, http://www.w3.org/TR/wbxml/.

1.2.2 Informative References

[MSDN-APM] Microsoft Corporation, "ASP.NET Performance Monitoring, and When to Alert Administrators", http://go.microsoft.com/fwlink/?LinkId=107389.

1.3 Protocol Overview

This specification describes the ActiveSync protocol, which is used to write software that will synchronize server software with a client mobile device. The protocol relies on a client/server architecture. The server is a **Web server** and is running the **ActiveSync synchronization** server software. The client is the mobile device. In this specification, the term client is used to refer to the software that is running on the device and communicating to the server by means of the ActiveSync protocol. The term server refers to the **synchronization** engine that communicates the synchronization protocol to the client.

The HTTP **POST** request header contains certain parameters that are set by the client, as specified later in this document. The HTTP **POST** response header is created by the server. Each HTTP **POST** contains a single command, such as the Sync command. A typical session includes several commands and, therefore, several HTTP **POSTs**.

1.4 Relationship to Other Protocols

The ActiveSync protocol uses an HTTP connection between the client and server. A TCP/IP network transports **messages** between a client and server by using the HTTP protocol, by means of a **series** of request and response calls. The protocols specified in [MS-ASAIRS], [MS-ASCAL], [MS-ASCMD], [MS-ASCNTC], [MS-ASDOC], [MS-ASDTYPE], [MS-ASEMAIL], [MS-ASPROV], [MS-ASTASK], and [MS-ASWBXML] use the ActiveSync protocol.

1.5 Prequisites/Preconditions

None

1.6 Applicability Statement

None

1.7 Versioning and Capability Negotiation

None

1.8 Vendor-Extensible Fields

None

1.9 Standards Assignments

None

2 Messages

2.1 Transport

Messages are transported by using HTTP **POST**, as specified in [RFC2518] and [RFC2616]. The query parameters in the request **URI** MAY be base64-encoded (see section 2.2.1.1.1.1). The body of the HTTP Message contains the **XML** that is required by the command being communicated in the Message. The commands are specified in [MS-ASCMD].

2.2 Message Syntax

The XML markup that constitutes the Request Body or the Response Body is transmitted between client and server by using WAP Binary XML (WBXML) [WBXML].

The following are the three general types of messages:

- Request

- Response

- HTTP Options

2.2.1 Request

The client creates a Message by using the HTTP **POST** command to initate communications between the client and the server.

2.2.1.1 Request Format

Each command is sent from the client to the server as an HTTP **POST** containing command data. As specified by HTTP, the format is as follows:

```
Request-line
Request-headers
CR/LF
Request Body
```

2.2.1.1.1 Request Line

The request line consists of the method indicator, **POST**, followed by the URI, followed by the HTTP version, as follows:

```
POST <URI> HTTP/1.1
```

The URI consists of a scheme indicator and the host name, which are optional, and the path, followed by a query value that contains all the parameters and some of the request headers. The query value can be either **plain text** or a **base64-encoded** byte sequence.

Base64 encoding is optional. For details on base64 encoding, see [RFC4648].

The format of the URI is either of the following:

```
/Microsoft-Server-ActiveSync?<text query value>
/Microsoft-Server-ActiveSync?<base64-encoded query value>
```

The following examples are equivalent:

```
/Microsoft-Server-ActiveSync?
Cmd=Sync&User=fakeuser@Contoso.com&DeviceId=v140&DeviceType=SmartPhone
/Microsoft-Server-ActiveSync?
Q21kPVN5bmMmVXNlcj1mYWtldXNlckBDb250b3NvLmNvbSZEZXZpY2VJZD12MTQwJkRldmljZVR5cGU9U21hcnRQaG9uZSA=
```

For more details about base64-encoded URIs, see section [2.2.1.1.1.1](#).

2.2.1.1.1.1 Base64-encoded URI

The following is an example of a base64-encoded URI query value:

```
/Microsoft-Server-ActiveSync?
Q21kPVN5bmMmVXNlcj1mYWtldXNlckBDb250b3NvLmNvbSZEZXZpY2VJZD12MTQwJkRldmljZVR5cGU9U21hcnRQaG9uZSA=
```

The base64-encoded sequence of bytes represents the URI request parameters. The following table provides the details of the base64-encoded sequence of bytes. This byte sequence is divided into fields in the same order as the following table.

Size	Field	Description
1 byte	Protocol version	An integer that specifies the version of the ActiveSync protocol that is being used. This value MUST be 140.
1 byte	Command code	An integer that specifies the command (see table of command codes in section [2.2.1.1.1.3](#)).
2 bytes	Locale	An integer that specifies the **locale** of the language that is used for the response.
1 byte	Device ID length	An integer that specifies the length of the device ID. A value of 0 indicates that the device ID field is absent.
0 - 16 bytes	Device ID	A string or a **GUID** that identifies the device. A Windows Mobile device will use a GUID.
1 byte	**Policy key** length	An integer that specifies the length of the policy key. The only valid values are 0 or 4. A value of 0 indicates that the policy key field is absent.
0 or 4 bytes	Policy key	An integer that indicates the **state** of policy settings on the client device.
1 byte	Device type length	An integer that specifies the length of the device type value.
0 - 16 bytes	Device type	A string that specifies the type of client device. For details, see section [2.2.1.1.1.4](#).

Size	Field	Description
Variable	Command parameters	A set of parameters that varies depending on the command. Each parameter consists of a tag, length, and value field in that order. For details, see section 2.2.1.1.1.5.

2.2.1.1.1.2 Command-Specific URI Parameters

The following URI parameters, sometimes called command parameters, are specific to the ActiveSync commands.For more details about specific commands, see [MS-ASCMD].

Parameter	Description	Used by
AttachmentName	A string that specifies the name of the **attachment** file to be retrieved.	GetAttachment <1>
CollectionId	A string that specifies the **server ID** of the **collection** that contains the Message to be forwarded or replied to.	SmartForward, SmartReply
ItemId	A string that specifies the server ID of the Message item to be forwarded or replied to.	SmartForward, SmartReply
LongId	A string that references a result set that was returned in the Search command response.	SmartForward, SmartReply
Occurrence	A string that specifies the ID of a particular occurrence in a recurring **meeting**.	SmartForward, SmartReply
SaveInSent	A character that specifies whether a copy of the Message will be saved in the **Sent Items folder**. Set this parameter to T to instruct the server to save the Message in the user's Sent Items folder; otherwise, set the parameter to F. The SaveInSent parameter is set to F by default.	SmartForward, SmartReply, SendMail

2.2.1.1.1.3 Command Codes

The following table provides the numeric codes that correspond to the ActiveSync commands. The numeric code is used in the command-code field of the URI to specify the command. For more details, see [MS-ASCMD].

Code	Command	Description
0	Sync	Synchronizes changes in a collection between the client and the server.
1	SendMail	Sends mail to the server. This command is issued in the HTTP POSTcommand's Uniform Resource Identifier (URI), and does not contain an XML body. The body will instead contain the **MIME**-formatted Message.
2	SmartForward	Forwards messages without retrieving the full Message from the server.
3	SmartReply	Replies to messages without retrieving the full Message from the server.
4	GetAttachment	Retrieves an e-mail attachment from the server. <2>
9	FolderSync	Synchronizes the collection hierarchy but does not synchronize the items in the collections.

Code	Command	Description
10	FolderCreate	Creates an e-mail, **calendar**, or **contacts folder** on the server.
11	FolderDelete	Deletes a folder from the server.
12	FolderUpdate	Moves a folder from one location to another on the server and is used to rename folders.
13	MoveItems	Moves items from one folder to another.
14	GetItemEstimate	Gets an estimate of the number of items in a folder that is synchronized.
15	MeetingResponse	Used to accept, tentatively accept, or decline a **meeting request** in the user's **Inbox**.
16	Search	Finds and retrieves information about contacts and **recipients** in the **Global Address List**.
17	Settings	Supports getting and setting global **properties**, such as **Out of Office (OOF)** and device information.
18	Ping	Requests that the server monitor specified folders for changes that would require the client to resynchronize.
19	ItemOperations	Identifies the body of the request or response as containing a set of commands operating on items.
20	Provision	Gets the security policy settings set by the server administrator, such as the user's minimum password length requirement.
21	ResolveRecipients	Resolves a list of supplied recipients and optionally fetches their **S/MIME** certificates so that clients can send encrypted S/MIME e-mail messages.
22	ValidateCert	Validates a certificate that has been received through an S/MIME mail.

2.2.1.1.1.4   Device Types

Any string to specify a device can be valid. "SP" specifies a SmartPhone and "PPC" specifies a PocketPC. Other devices send a unique string for their specific device. Each request from the device includes this string.

2.2.1.1.1.5   Command Parameters

The following table lists the fields of a command parameter.

Size	Field	Description
1 byte	Tag	An integer that specifies the name of the parameter.
1 byte	Length of value	An integer that specifies the length of the parameter value.
Variable	Value	The value of the parameter.

The following table lists the tag values that correspond to the names of the command parameters. The table also lists the commands that can use each parameter. For additional details about the AttachmentName, CollectionId, ItemId, LongId, and Occurrence command parameters, see section 2.2.1.1.1.2.

Tag	Parameter Name
0	AttachmentName
1	CollectionId
2	CollectionName
3	ItemId
4	LongId
5	ParentId
6	Occurrence
7	Options
8	User

The following table describes the Options and User command parameters.

Parameter	Description	Used By
Options	A single-byte bitmask that specifies command options.The following bits are valid: 0x01: SaveInSent 0x02: AcceptMultiPart	SmartReply, SmartForward, SendMail, ItemOperations
User	A string that specifies the user ID in a format that can be logged in the Web server log.	Any command

2.2.1.1.1.6   Device ID

A string to specify the device. The **DeviceId** is a unique **identifier** for the device. Each request from the device includes this string.

2.2.1.1.2   Request Headers

The HTTP/1.1 protocol defines several headers that can be sent from the client to the server on a HTTP **POST**request. The headers follow the request line in the HTTP portion of a request. The following headers MUST be supplied for ActiveSync synchronization protocol requests. Note that requests are UTF-8 encoded.

Header	Required	Value	Notes
Authorization	Yes	**String** ([MS-ASDTYPE] section 2.1)	Specifies that user credentials are sent by using HTTP basic authentication. For details, see section 2.2.1.1.2.1.
Content-Type	Depends on the command.	**String** (Depends on the command. For details about individual commands, see [MS-ASCMD] section 2.2.1.)	Specifies that the **media type** of the request body is WBXML. For more details, see [MS-ASWBXML] Other types of content, such as [RFC822], can also be specified, depending on the command.

2.2.1.1.2.1 Authorization

User credentials are sent from the client to the server by using HTTP basic authentication, in which the credentials are Base64-encoded. SSL SHOULD be enabled between the client and the server whenever this header is sent. For user fakename and password Pa$$word!, the Authorization header would be as follows:

```
Authorization: Basic anNtaXRoOlBhJCR3b3JkIQ==
```

For details about HTTP Basic authentication, see [RFC1945].

2.2.1.1.2.2 Content-Type

The Content-Type header indicates the format of the data sent in the request body. The request body is in WBXML format and a Content-Type header value of application/vnd.ms-sync.WBXML or the shortened string application/vnd.ms-sync would reflect the same information. For more details about Content-Type header, see [MS-ASCMD].

2.2.1.1.3 Request Body

The request body contains data sent to the server. The request body is typically of WBXML content type, but this varies by command. Some commands have no body. For details about the request bodies of individual commands, see [MS-ASCMD].

2.2.2 Response

After receiving and interpreting a request Message, a server responds with an HTTP response Message that contains data returned from the server.

2.2.2.1 Response Format

Each command is sent from the server to the client as in the format of HTTP/1.1. Note that these responses are UTF-8 encoded. As specified by HTTP, the format is the same as for requests:

```
Status-line
Response-headers
CR/LF
Message Body
```

2.2.2.1.1 Status Line

The status line consists of the HTTP version and a status code. The following is an example of a response status line:

```
HTTP/1.1 200 OK
```

The following table lists some common HTTP status codes.

Status code	Description
200 OK	The command succeeded.

Status code	Description
400 Bad Request	There was a problem in the command request or request headers.
401 Unauthorized	The **resource** requires authorization or authorization was refused. For details about how to troubleshoot this error, see section 2.2.2.1.1.2.
403 Forbidden	The user is not enabled for ActiveSync synchronization. For details about how to troubleshoot this error, see section 2.2.2.1.1.2.
404 **Not found**	The specified URI could not be found or the server is not a valid server with ActiveSync.
500 Internal Server Error	The server encountered an unexpected **condition** that prevented it from fulfilling the request. For details about how to troubleshoot this error, see section 2.2.2.1.1.2.
501 Not Implemented	The server does not support the functionality that is required to fulfill the request. This is the appropriate response when the server does not recognize the request method and is not able to support it for any resource.
502 Proxy Error	The specified server could not be found.
503 Service Unavailable	The service is unavailable. For details about how to troubleshoot this error, see section 2.2.2.1.1.3.
507 Insufficient Disk Space	The user's **Mailbox** is full.

The following table lists another possible HTTP status code.

Status code	Description
451 Redirect	The device is trying to connect to the wrong Client Access server. If the X-MS-Location header contains a redirect URL, then the client MUST permanently redirect requests to the new URL. This status code is sent to optimize the **Autodiscover** experience.

2.2.2.1.1.1 HTTP Status Code Categories

The following **table** lists the **categories** for the HTTP status codes.

Status code range	Status type
100 – 199	Informational - Request received, processing is continuing.
200 – 299	Success - The **action** was received, understood, and accepted.
300 – 399	Redirection - Further action MUST be taken to complete the request.
400 – 499	Client error - The request contains incorrect syntax or cannot be fulfilled.
500 – 599	Server error - The server did not fulfill an apparently valid request.

For more details about HTTP status codes, see [RFC2616].

2.2.2.1.1.2   Troubleshooting Tip

The client SHOULD send an Autodiscover command request to the server if any of the following HTTP errors are encountered:

- 401

- 403

- 500

If the user's Mailbox has moved, or if the client is trying to connect to the wrong Client Access server, the server can respond to any command request with error code 451, and include the URL of the correct Client Access server in the **exception** Message. The device MUST redirect all future requests to the new Client Access server by using the URL that was provided. For all other status codes (401, 403, 500), and if the URL is not specified with the 451 status code, follow the full Autodiscover command process, as specified in [MS-ASCMD].

The HTTP **OPTIONS** command is the first command that is sent to the new Client Access server.

2.2.2.1.1.3   Troubleshooting HTTP Error 503

One of the causes of HTTP error 503 is that more users than allowed by the requestQueueLimit have sent requests to a single Client Access server. The error returned by the server resembles the following:

```
OPTIONS /Microsoft-Server-ActiveSync
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0

HTTP/1.1 503 Service Unavailable
Connection: close
Date: Mon, 02 Mar 2009 23:51:51 GMT
Server: Microsoft-IIS/7.0
X-Powered-By: ASP.NET
Content-Type: text/html
```

For details about ASP.NET performance monitoring properties, see [MSDN-APM].

2.2.2.1.1.4   Troubleshooting HTTP Error 451

If the user is attempting to connect to the wrong server, then a 451 Redirect error is returned. The error returned by the server resembles the following:

```
OPTIONS /Microsoft-Server-ActiveSync
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0

HTTP/1.1 451
Date: Tue, 08 Dec 2009 19:43:24 GMT
Server: Microsoft-IIS/7.0
X-Powered-By: ASP.NET
X-AspNet-Version: 2.0.50727
X-MS-Location: https://mail.exchange.microsoft.com/Microsoft-Server-ActiveSync
Cache-Control: private
```

```
Content-Length: 0
```

All subsequent requests to the X-MS-Location SHOULD use the specified URL.

2.2.2.1.2 Response Headers

The ActiveSync protocols and [RFC2616] define several headers that can be sent from the server to the client in a HTTP **POST** response. The headers follow the status line in the HTTP part of a response. The following table lists the headers that are typically useful to the client and are usually sent in responses to the client.

Header	Example value	Notes
Content-Length	56	Required. Specifies the size of the response body in bytes.
Content-Encoding	gzip	Required when the content is base64-encoded; otherwise this header is not included. Specifies the HTTP compression format that is used in the response.
Cache-Control	private	Controls how the response is cached.
Content-Type	application/vnd.ms-sync.WBXML	Required. Specifies that the media-type of the request body is WBXML. Other types of content, such as [RFC822], can also be specified.
Date	Tue, 17 Mar 2009 21:44:09 GMT	Optional. Indicates the date and time at which the response Message originated.
Server	Microsoft-IIS/7.0	Optional. Indicates the software that was used by the origin server to **handle** the request.
MS-Server-ActiveSync	8.1	Optional. Indicates the version of the ActiveSync server that was used to handle the request.
X-MS-RP	2.0,2.1,2.5,12.0,12.1,14.0	Optional. Indicates to the client that the client has to perform a full resynchronization because of a server upgrade.
X-MS-MV	14.0.255	Indicates the Server build version.

Some of the headers in the response can be eliminated when the response is to a HTTP **POST** request and the response has HTTP status 200. When these two conditions are met, only the following headers are necessary in the response:

- Content-Length

- Content-Type

- Content-Encoding

2.2.2.1.3 Response Body

The response body contains data returned from the server. The response body is typically of WBXML content-type, but it varies by command. Some commands have no response body. For details about the response bodies of individual commands, see [MS-ASCMD].

2.2.3 HTTP Options

The HTTP OPTIONS command is used to discover what protocol versions are supported, and which protocol commands are supported on the server. The client can use the HTTP OPTIONS command to determine whether the server supports the same versions of the protocol that the client supports. If the client and server both support multiple versions of the protocol, the client SHOULD use the most recent version (the greatest numbered version) of the protocol that is available on the server.

2.2.4 Namespace

This specification defines and references various XML namespaces by using the mechanisms specified in [MS-ASAIRS]. 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.

2.2.5 Simple Types

None.

2.2.6 Complex Types

None.

2.2.7 Elements

None.

2.2.8 Attributes

None.

2.2.9 Groups

None.

2.2.10 Attributes Groups

None.

2.2.11 Messages

None.

3   Protocol Details

3.1   Common 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.

3.1.2   Timers

None.

3.1.3   Initialization

None.

3.1.4   Higher Layer Triggered Events

None.

3.1.5   Message Processing Events and Sequencing Rules

None.

3.1.6   Timer Events

None.

3.1.7   Other Local Events

None.

4 Examples

4.1 FolderSync Request and Response

The following is a typical ActiveSync protocol command request. The **FolderSync** command, user **alias**, device ID, and device type are specified as Uniform Resource Identifier (URI) query parameters. The Content-Type header specifies that the request body is WBXML. The MS-ASProtocolVersion header specifies that protocol 14.0 is being used. Some command requests contain additional URI query parameters or do not specify a request body. The HTTP **POST** URI command parameter is the same as the command in the topmost element of the request XML body. For details about the commands, see [MS-ASCMD]. The WBXML-encoded body is decoded for clarity. For more details about the associated XSD, see section 6.3.

Request

```
POST /Microsoft-Server-
ActiveSync?Cmd=FolderSync&User=fakename&DeviceId=v140Device&DeviceType=SmartPhone HTTP/1.1
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0
User-Agent: ASOM
Host: Contoso.com

<?xml version="1.0" encoding="utf-8"?>
<FolderSync xmlns="FolderHierarchy:">
  <SyncKey>2</SyncKey>
</FolderSync>
```

The following is a typical FolderSync command response. The status line specifies the HTTP/1.1 protocol and that the command succeeded. The Content-Length header specifies that the response body is 56 bytes and the Content-Type header shows that the response body is in WBXML format. Some command responses do not contain WBXML bodies.

Response

```
HTTP/1.1 200 OK
Content-Type: application/vnd.ms-sync.wbxml
X-MS-MV: 14.0.511
Date: Thu, 12 Mar 2009 19:34:31 GMT
Content-Length: 25

<?xml version="1.0" encoding="utf-8"?>
<FolderSync xmlns:A0="AirSync:" xmlns:A1="POOMCONTACTS:" xmlns:A2="POOMMAIL:"
xmlns:A3="AirNotify:" xmlns:A4="POOMCAL:" xmlns:A5="Move:" xmlns:A6="GetItemEstimate:"
xmlns:A8="MeetingResponse:" xmlns:A9="POOMTASKS:" xmlns:A10="ResolveRecipients:"
xmlns:A11="ValidateCert:" xmlns:A12="POOMCONTACTS2:" xmlns:A13="Ping:" xmlns:A14="Provision:"
xmlns:A15="Search:" xmlns:A16="Gal:" xmlns:A17="AirSyncBase:" xmlns:A18="Settings:"
xmlns:A19="DocumentLibrary:" xmlns:A20="ItemOperations:" xmlns:A21="ComposeMail:"
xmlns:A22="POOMMAIL2:" xmlns:A23="Notes:" xmlns="FolderHierarchy:">
  <Status>1</Status>
  <SyncKey>2</SyncKey>
  <Changes>
    <Count>0</Count>
  </Changes>
</FolderSync>
```

4.2 HTTP OPTIONS Command Request and Response

The following example illustrates the use of the HTTP OPTIONS command. The MS-ASProtocolVersions header in the server response shows that versions 1.0, 2.0, 2.1, 2.5, 12.0, 12.1, and 14.0 of the protocol are supported on the server. The MS-ASProtocolCommands header in the server response lists the commands that are supported. It is recommended that protocol clients not trigger on the build number of the protocol server, which can change because of server updates. The build number shown in the examples might differ from those seen in a development or production environment.

Request

```
OPTIONS /Microsoft-Server-ActiveSync HTTP/1.1
Host: Contoso.com
```

Response

```
HTTP/1.1 200 OK
Cache-Control: private
Allow: OPTIONS,POST
Server: Microsoft-IIS/7.0
MS-Server-ActiveSync: 14.00.0536.000
MS-ASProtocolVersions: 2.0,2.1,2.5,12.0,12.1,14.0
MS-ASProtocolCommands:
Sync,SendMail,SmartForward,SmartReply,GetAttachment,GetHierarchy,CreateCollection,DeleteColle
ction,MoveCollection,FolderSync,FolderCreate,FolderDelete,FolderUpdate,MoveItems,GetItemEstim
ate,MeetingResponse,Search,Settings,Ping,ItemOperations,Provision,ResolveRecipients,ValidateC
ert
MS-ASProtocolRevisions: 12.1r1
Public: OPTIONS,POST
X-MS-MV: 14.0.511
X-AspNet-Version: 2.0.50727
X-Powered-By: ASP.NET
Date: Thu, 12 Mar 2009 20:03:29 GMT
Content-Length: 0
```

4.3 SendMail Request and Response

The following example illustrates the command to send mail to a specific user.

Request

```
POST /Microsoft-Server-
ActiveSync?Cmd=SendMail&User=fakeusername&DeviceId=v140Device&DeviceType=SmartPhone HTTP/1.1
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0
X-MS-PolicyKey: 2034202722
User-Agent: ASOM
Host: BIRSKK-dom.extest.microsoft.com

<?xml version="1.0" encoding="utf-8"?>
<SendMail xmlns:A0="AirSync:" xmlns:A1="POOMCONTACTS:" xmlns:A2="POOMMAIL:"
xmlns:A3="AirNotify:" xmlns:A4="POOMCAL:" xmlns:A5="Move:" xmlns:A6="GetItemEstimate:"
xmlns:A7="FolderHierarchy:" xmlns:A8="MeetingResponse:" xmlns:A9="POOMTASKS:"
xmlns:A10="ResolveRecipients:" xmlns:A11="ValidateCert:" xmlns:A12="POOMCONTACTS2:"
```

```
xmlns:A13="Ping:" xmlns:A14="Provision:" xmlns:A15="Search:" xmlns:A16="Gal:"
xmlns:A17="AirSyncBase:" xmlns:A18="Settings:" xmlns:A19="DocumentLibrary:"
xmlns:A20="ItemOperations:" xmlns="ComposeMail:">
  <ClientId>633724606026842453</ClientId>
  <Mime>From: fakeuser@Contoso.com
To: fakeuser@Contoso.com
Cc:
Bcc:
Subject: From NSync
MIME-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: 7bit
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2900.3350
This is the body text.</Mime>
</SendMail>
```

Response

```
HTTP/1.1 200 OK
X-MS-MV: 14.0.511
Date: Thu, 12 Mar 2009 20:16:22 GMT
Content-Length: 0
```

4.4 CreateFolder Request and Response

The following example illustrates the command to create a new folder. For details about the associated XSD, see section 6.1.

Request

```
POST /Microsoft-Server-
ActiveSync?Cmd=FolderCreate&User=fakename@Contoso.com&DeviceId=v140Device&DeviceType=SmartPho
ne HTTP/1.1
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0
User-Agent: ASOM
Host: Contoso.com

<?xml version="1.0" encoding="utf-8"?>
<FolderCreate xmlns="FolderHierarchy:">
  <SyncKey>3</SyncKey>
  <ParentId>5</ParentId>
  <DisplayName>CreateNewFolder</DisplayName>
  <Type>12</Type>
</FolderCreate>
```

Response

```
HTTP/1.1 200 OK
Content-Type: application/vnd.ms-sync.wbxml
X-MS-MV: 14.0.511
Date: Thu, 12 Mar 2009 20:26:06 GMT
Content-Length: 24
```

```xml
<?xml version="1.0" encoding="utf-8"?>
<FolderCreate xmlns:A0="AirSync:" xmlns:A1="POOMCONTACTS:" xmlns:A2="POOMMAIL:"
xmlns:A3="AirNotify:" xmlns:A4="POOMCAL:" xmlns:A5="Move:" xmlns:A6="GetItemEstimate:"
xmlns:A8="MeetingResponse:" xmlns:A9="POOMTASKS:" xmlns:A10="ResolveRecipients:"
xmlns:A11="ValidateCert:" xmlns:A12="POOMCONTACTS2:" xmlns:A13="Ping:" xmlns:A14="Provision:"
xmlns:A15="Search:" xmlns:A16="Gal:" xmlns:A17="AirSyncBase:" xmlns:A18="Settings:"
xmlns:A19="DocumentLibrary:" xmlns:A20="ItemOperations:" xmlns:A21="ComposeMail:"
xmlns:A22="POOMMAIL2:" xmlns:A23="Notes:" xmlns="FolderHierarchy:">
  <Status>1</Status>
  <SyncKey>4</SyncKey>
  <ServerId>23</ServerId>
</FolderCreate>
```

5 Security

5.1 Security Considerations for Implementers

There are no special security considerations specific to this specification. It is recommended that communication between the client and server occur across an HTTP connection secured by the Secure Sockets Layer (SSL) protocol.

5.2 Index of Security Parameters

None.

6 Appendix A: XSDs

The computer that is using the ActiveSync protocol enforces the following Extensible Schema Definition ([XSD](#)) when processing protocol requests. Requests that do not adhere to the schema result in the return of a status 4 to the client.

6.1 FolderCreate-request

The following is the request schema for the **FolderCreate** command:

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

    <xs:element name="FolderCreate">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="SyncKey">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="64"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="ParentId">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="64"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="DisplayName">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="256"/>
                            <xs:minLength value="1"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="Type" type="xs:unsignedByte" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.2 FolderDelete-request

The following is the request schema for the **FolderDelete** command:

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        xmlns:tns="FolderHierarchy:"
```

```
               attributeFormDefault="unqualified"
               elementFormDefault="qualified"
               targetNamespace="FolderHierarchy:"
               xmlns:xs="http://www.w3.org/2001/XMLSchema">

    <xs:element name="FolderDelete">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="SyncKey">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="64"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="ServerId">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="64"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.3 FolderSync-request

The following is the request schema for the **FolderSync** command:

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

    <xs:element name="FolderSync">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="SyncKey">
                 <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="64"/>
                    </xs:restriction>
                 </xs:simpleType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.4 FolderUpdate-request

The following is the request schema for the **FolderUpdate** command:

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

    <xs:element name="FolderUpdate">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="SyncKey">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="64"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="ServerId">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="64"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="ParentId">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="64"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="DisplayName">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:maxLength value="256"/>
                            <xs:minLength value="1"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.5 GetItemEstimate-request

The following is the request schema for the **GetItemEstimate** command:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        xmlns:tns="GetItemEstimate:"
        attributeFormDefault="unqualified"
```

```
                elementFormDefault="qualified"
                targetNamespace="GetItemEstimate:"
                xmlns:xs="http://www.w3.org/2001/XMLSchema">

        <xs:import namespace="AirSync:" />
        <xs:element name="GetItemEstimate">
            <xs:complexType>
                <xs:sequence>
                    <xs:element name="Collections">
                        <xs:complexType>
                            <xs:sequence>
                                <xs:element maxOccurs="300" name="Collection">
                                    <xs:complexType>
                                        <xs:sequence>
                                            <xs:element xmlns:q2="AirSync:" ref="q2:SyncKey" />
                                            <xs:element minOccurs="1" name="CollectionId">
                                                <xs:simpleType>
                                                    <xs:restriction base="xs:string">
                                                        <xs:maxLength value="64"/>
                                                    </xs:restriction>
                                                </xs:simpleType>
                                            </xs:element>
                                            <xs:element xmlns:q3="AirSync:"
 ref="q3:ConversationMode" minOccurs="0" maxOccurs="1" />
                                            <xs:element xmlns:q5="AirSync:" ref="q5:Options"
 minOccurs="0" maxOccurs="unbounded">
                                            </xs:element>
                                        </xs:sequence>
                                    </xs:complexType>
                                </xs:element>
                            </xs:sequence>
                        </xs:complexType>
                    </xs:element>
                </xs:sequence>
            </xs:complexType>
        </xs:element>
    </xs:schema>
```

6.6 ItemOperations-request

The following is the request schema for the **ItemOperations** command, including **Fetch** and
EmptyFolderContents:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        id="ItemOperations"
        targetNamespace="ItemOperations:"
        xmlns:search="Search:"
        xmlns:calendar="Calendar:"
        xmlns:contacts2="Contacts2:"
        xmlns:contacts="Contacts:"
        xmlns:email="Email:"
        xmlns:mstns="ItemOperations:"
        xmlns:airsyncbase="AirSyncBase:"
        xmlns:documentLibrary="DocumentLibrary:"
        xmlns:airsync="AirSync:"
        xmlns:xs="http://www.w3.org/2001/XMLSchema"
```

```
            attributeFormDefault="qualified"
            elementFormDefault="qualified">

    <xs:import namespace="DocumentLibrary:"/>
    <xs:import namespace="AirSync:"/>
    <xs:import namespace="AirSyncBase:"/>
    <xs:import namespace="Email:"/>
    <xs:element name="ItemOperations">
        <xs:complexType>
            <xs:choice maxOccurs="unbounded">
                <xs:element name="EmptyFolderContents">
                    <xs:complexType>
                        <xs:all>
                            <xs:element ref="airsync:CollectionId" minOccurs="1"
 maxOccurs="1"/>
                            <xs:element name="Options" minOccurs="0" maxOccurs="1">
                                <xs:complexType>
                                    <xs:all>
                                        <xs:element name="DeleteSubFolders"/>
                                    </xs:all>
                                </xs:complexType>
                            </xs:element>
                        </xs:all>
                    </xs:complexType>
                </xs:element>
                <xs:element name="Fetch">
                    <xs:complexType>
                        <xs:all>
                            <xs:element name="Store">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:minLength value="1"/>
                                        <xs:maxLength value="256"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element ref="airsync:ServerId" minOccurs="0" maxOccurs="1"/>
                            <xs:element ref="airsync:CollectionId" minOccurs="0"
 maxOccurs="1"/>
                            <xs:element ref="documentLibrary:LinkId" minOccurs="0"
 maxOccurs="1"/>
                            <xs:element ref="search:LongId" minOccurs="0" maxOccurs="1"/>
                            <xs:element ref="airsyncbase:FileReference" minOccurs="0"
 maxOccurs="1"/>
                            <xs:element name="Options" minOccurs="0" maxOccurs="1">
                                <xs:complexType>
                                    <xs:choice maxOccurs="unbounded">
                                        <xs:element minOccurs="0" maxOccurs="1"
 name="Schema">
                                            <xs:complexType>
                                                <xs:choice maxOccurs="unbounded">
                                                    <xs:group
 ref="email:TopLevelSchemaProps"/>
                                                    <xs:group
 ref="airsyncbase:TopLevelSchemaProps"/>
                                                    <xs:group
 ref="calendar:TopLevelSchemaProps"/>
                                                    <xs:group
 ref="contacts:TopLevelSchemaProps"/>
```

```xml
                                                <xs:group
ref="contacts2:TopLevelSchemaProps"/>
                                            </xs:choice>
                                        </xs:complexType>
                                    </xs:element>
                                    <xs:element name="Range" minOccurs="0" maxOccurs="1">
                                        <xs:simpleType>
                                            <xs:restriction base="xs:string">
                                                <xs:pattern value="[0-9]{1,9}-[0-
9]{1,9}"/>
                                            </xs:restriction>
                                        </xs:simpleType>
                                    </xs:element>
                                    <xs:element name="UserName">
                                        <xs:simpleType>
                                            <xs:restriction base="xs:string">
                                                <xs:maxLength value="100" />
                                            </xs:restriction>
                                        </xs:simpleType>
                                    </xs:element>
                                    <xs:element name="Password">
                                        <xs:simpleType>
                                            <xs:restriction base="xs:string">
                                                <xs:maxLength value="100" />
                                            </xs:restriction>
                                        </xs:simpleType>
                                    </xs:element>
                                    <xs:element ref="airsync:MIMESupport" minOccurs="0"
maxOccurs="1" />
                                    <xs:element ref="airsyncbase:BodyPreference"
minOccurs="0" maxOccurs="256" />
                                </xs:choice>
                            </xs:complexType>
                        </xs:element>
                    </xs:all>
                </xs:complexType>
            </xs:element>
            <xs:element name="Move">
                <xs:complexType>
                    <xs:all>
                        <xs:element name="ConversationId" type="xs:string" minOccurs="1"
maxOccurs="1"/>
                        <xs:element name="DstFldId" minOccurs="1" maxOccurs="1">
                            <xs:simpleType>
                                <xs:restriction base="xs:string">
                                    <xs:maxLength value="64"/>
                                    <xs:minLength value="1"/>
                                </xs:restriction>
                            </xs:simpleType>
                        </xs:element>
                        <xs:element name="Options" minOccurs="0" maxOccurs="1">
                            <xs:complexType>
                                <xs:all>
                                    <xs:element name="MoveAlways" minOccurs="0"
maxOccurs="1"/>
                                </xs:all>
                            </xs:complexType>
                        </xs:element>
                    </xs:all>
```

```
                        </xs:complexType>
                    </xs:element>
                </xs:choice>
            </xs:complexType>
        </xs:element>
    </xs:schema>
```

6.7 MeetingResponse-request

The following is the request schema for the **MeetingResponse** command:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        xmlns:tns="MeetingResponse:"
        attributeFormDefault="unqualified"
        elementFormDefault="qualified"
        targetNamespace="MeetingResponse:"
        xmlns:search="Search:"
        xmlns:xs="http://www.w3.org/2001/XMLSchema">

    <xs:element name="MeetingResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element maxOccurs="unbounded" name="Request">
                    <xs:complexType>
                        <xs:all>
                            <xs:element name="UserResponse">
                                <xs:simpleType>
                                    <xs:restriction base="xs:unsignedByte">
                                        <xs:enumeration value="3"/>
                                        <xs:enumeration value="1"/>
                                        <xs:enumeration value="2"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element minOccurs="0" name="CollectionId">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:maxLength value="64"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element minOccurs="0" name="RequestId">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:maxLength value="64"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element ref="search:LongId" minOccurs="0" maxOccurs="1"/>
                        </xs:all>
                    </xs:complexType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
```

```
</xs:schema>
```

6.8 MoveItems-request

The following is the request schema for the **MoveItems** command:

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

    <xs:element name="MoveItems">
        <xs:complexType>
            <xs:sequence>
                <xs:element maxOccurs="unbounded" name="Move">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="SrcMsgId">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:maxLength value="64"/>
                                        <xs:minLength value="1"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element name="SrcFldId">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:maxLength value="64"/>
                                        <xs:minLength value="1"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element name="DstFldId">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:maxLength value="64"/>
                                        <xs:minLength value="1"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.9 Ping-request

The following is the request schema for the **Ping** command:

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

    <xs:element name="Ping">
        <xs:complexType>
            <xs:all>
                <xs:element name="HeartbeatInterval" minOccurs="0" maxOccurs="1">
                    <xs:simpleType>
                        <xs:restriction base="xs:integer"/>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="Folders" minOccurs="0" maxOccurs="1">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="Folder" minOccurs="1" maxOccurs="unbounded">
                                <xs:complexType>
                                    <xs:all>
                                        <xs:element name="Id" minOccurs="1" maxOccurs="1">
                                            <xs:simpleType>
                                                <xs:restriction base="xs:string">
                                                    <xs:maxLength value="64"/>
                                                </xs:restriction>
                                            </xs:simpleType>
                                        </xs:element>
                                        <xs:element name="Class" minOccurs="1" maxOccurs="1">
                                            <xs:simpleType>
                                                <xs:restriction base="xs:string">
                                                    <xs:enumeration value="Email"/>
                                                    <xs:enumeration value="Calendar"/>
                                                    <xs:enumeration value="Contacts"/>
                                                    <xs:enumeration value="Tasks"/>
                                                    <xs:enumeration value="Notes"/>
                                                </xs:restriction>
                                            </xs:simpleType>
                                        </xs:element>
                                    </xs:all>
                                </xs:complexType>
                            </xs:element>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
            </xs:all>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.10   Provision-request

The following is the request schema for the **Provision** command:

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

```
        xmlns:tns="Provision:"
        attributeFormDefault="unqualified"
        elementFormDefault="qualified"
        targetNamespace="Provision:"
        xmlns:xs="http://www.w3.org/2001/XMLSchema">

    <xs:element name="Provision">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="Policies" minOccurs="0" maxOccurs="1">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="Policy" minOccurs="1" maxOccurs="1">
                                <xs:complexType>
                                    <xs:sequence>
                                        <xs:element name="PolicyType" type="xs:string"
 minOccurs="1" maxOccurs="1" />
                                        <xs:element name="PolicyKey" type="xs:string"
 minOccurs="0" maxOccurs="1" />
                                        <xs:element name="Status" type="xs:string"
 minOccurs="0" maxOccurs="1" />
                                    </xs:sequence>
                                </xs:complexType>
                            </xs:element>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
                <xs:element name="RemoteWipe" minOccurs="0" maxOccurs="1">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="Status" type="xs:string" minOccurs="1"
 maxOccurs="1" />
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.11   ResolveRecipients-request

The following is the request schema for the **ResolveRecipients** command:

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

  <xs:element name="ResolveRecipients">
    <xs:complexType>
      <xs:choice minOccurs="1" maxOccurs="unbounded">
        <xs:element name="To" minOccurs="0" maxOccurs="1000">
          <xs:simpleType>
            <xs:restriction base="xs:string">
```

```
                <xs:maxLength value="256"/>
              </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="Options" minOccurs="0" maxOccurs="1">
          <xs:complexType>
            <xs:all minOccurs="1" maxOccurs="1">
              <xs:element name="CertificateRetrieval" minOccurs="0" maxOccurs="1">
                <xs:simpleType>
                  <xs:restriction base="xs:integer">
                    <xs:minInclusive value="1"/>
                    <xs:maxInclusive value="3"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="MaxCertificates" minOccurs="0" maxOccurs="1">
                <xs:simpleType>
                  <xs:restriction base="xs:integer">
                    <xs:minInclusive value="0"/>
                    <xs:maxInclusive value="9999"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="MaxAmbiguousRecipients" minOccurs="0" maxOccurs="1">
                <xs:simpleType>
                  <xs:restriction base="xs:integer">
                    <xs:minInclusive value="0"/>
                    <xs:maxInclusive value="9999"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
            </xs:all>
          </xs:complexType>
        </xs:element>
      </xs:choice>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

6.12 Search-DocumentLibrary-request

The following is the request schema for the **DocumentLibrary** command:

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

    <xs:element name="LinkId">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:minLength value="0"/>
                <xs:maxLength value="2048"/>
            </xs:restriction>
```

```
            </xs:simpleType>
        </xs:element>
    </xs:schema>
```

6.13 Search-request

The following is the request schema for the **Search** command:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        id="Search"
        targetNamespace="Search:"
        xmlns:calendar="Calendar:"
        xmlns:contacts2="Contacts2:"
        xmlns:contacts="Contacts:"
        xmlns:email="Email:"
        xmlns:mstns="Search:"
        xmlns="Search:"
        xmlns:airSync="AirSync:"
        xmlns:airsyncbase="AirSyncBase:"
        xmlns:documentLibrary="DocumentLibrary:"
        xmlns:xs="http://www.w3.org/2001/XMLSchema"
        attributeFormDefault="qualified"
        elementFormDefault="qualified">

    <xs:import namespace="DocumentLibrary:"/>
    <xs:import namespace="AirSync:"/>
    <xs:import namespace="AirSyncBase:"/>
    <xs:import namespace="Email:"/>
    <xs:element name="LongId">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:minLength value="1"/>
                <xs:maxLength value="256"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:complexType name="EmptyTag" />
    <xs:complexType name="queryType" mixed="true">
        <xs:sequence>
            <xs:choice maxOccurs="unbounded">
                <xs:element name="And" type="queryType"/>
                <xs:element name="Or" type="queryType"/>
                <xs:element name="FreeText" type="xs:string" />
                <xs:element ref="airSync:Class" />
                <xs:element ref="airSync:CollectionId" />
                <xs:element name="ConversationId" type="xs:string" minOccurs="0"
  maxOccurs="1"/>
                <xs:element name="EqualTo" minOccurs="0">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element ref="documentLibrary:LinkId" minOccurs="1"
  maxOccurs="1"/>
                            <xs:element minOccurs="1" name="Value">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:maxLength value="1024"/>
```

```
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
                <xs:element name="GreaterThan">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element ref="email:DateReceived" minOccurs="1"
 maxOccurs="1"/>
                            <xs:element minOccurs="1" name="Value">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:maxLength value="1024"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
                <xs:element name="LessThan">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element ref="email:DateReceived" minOccurs="1"
 maxOccurs="1"/>
                            <xs:element minOccurs="1" name="Value">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:maxLength value="1024"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
            </xs:choice>
        </xs:sequence>
    </xs:complexType>
    <xs:element name="Search">
        <xs:complexType>
            <xs:choice maxOccurs="unbounded">
                <xs:element name="Store">
                    <xs:complexType>
                        <xs:all>
                            <xs:element name="Name">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:minLength value="1"/>
                                        <xs:maxLength value="256"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element name="Query" minOccurs="1" type="queryType" />
                            <xs:element name="Options" minOccurs="0" maxOccurs="1">
                                <!-- Must differentiate between document library and Mailbox
 options...!-->
                                <xs:complexType>
                                    <xs:choice maxOccurs="unbounded">
```

```
                                                    <xs:element ref="airSync:MIMESupport" minOccurs="0"
   maxOccurs="1" />
                                                    <xs:element ref="airsyncbase:BodyPreference"
   minOccurs="0" maxOccurs="unbounded" />
                                                    <xs:element name="Schema">
                                                        <xs:complexType>
                                                            <xs:choice maxOccurs="unbounded">
                                                                <xs:element ref="airSync:Class" />
                                                            </xs:choice>
                                                        </xs:complexType>
                                                    </xs:element>
                                                    <xs:element name="Range">
                                                        <xs:simpleType>
                                                            <xs:restriction base="xs:string">
                                                                <xs:pattern value="[0-9]{1,3}-[0-
   9]{1,3}"/>
                                                            </xs:restriction>
                                                        </xs:simpleType>
                                                    </xs:element>
                                                    <xs:element name="UserName">
                                                        <xs:simpleType>
                                                            <xs:restriction base="xs:string">
                                                                <xs:maxLength value="100" />
                                                            </xs:restriction>
                                                        </xs:simpleType>
                                                    </xs:element>
                                                    <xs:element name="Password">
                                                        <xs:simpleType>
                                                            <xs:restriction base="xs:string">
                                                                <xs:maxLength value="100" />
                                                            </xs:restriction>
                                                        </xs:simpleType>
                                                    </xs:element>
                                                    <xs:element name="DeepTraversal" type="EmptyTag" />
                                                    <xs:element name="RebuildResults" type="EmptyTag" />
                                                </xs:choice>
                                            </xs:complexType>
                                        </xs:element>
                                    </xs:all>
                                </xs:complexType>
                            </xs:element>
                        </xs:choice>
                    </xs:complexType>
                </xs:element>
   </xs:schema>
```

6.14   SendMail

The following is the request schema for the **SendMail** command:

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

```
            <xs:element name="SendMail">
                <xs:complexType>
                    <xs:all>
                        <xs:element name="ClientId" minOccurs="1" maxOccurs="1">
                            <xs:simpleType>
                                <xs:restriction base="xs:string">
                                    <xs:minLength value="1"/>
                                    <xs:maxLength value="40"/>
                                </xs:restriction>
                            </xs:simpleType>
                        </xs:element>
                        <xs:element name="SaveInSentItems" minOccurs="0" maxOccurs="1" />
                        <xs:element name="Mime" type="xs:string" minOccurs="1" maxOccurs="1" />
                    </xs:all>
                </xs:complexType>
            </xs:element>
        </xs:schema>
```

6.15 Settings-request

The following is the request schema for the **Settings** command:

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

    <xs:simpleType name="EmptyStringType">
        <xs:restriction base="xs:string">
            <xs:maxLength value="0"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="NonEmptyStringType">
        <xs:restriction base="xs:string">
            <xs:minLength value="1"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="DeviceInformationStringType">
        <xs:restriction base="xs:string">
            <xs:maxLength value="1024"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:element name="Settings">
        <xs:complexType>
            <xs:all>
                <xs:element name="Oof" minOccurs="0" maxOccurs="1">
                    <xs:complexType>
                        <xs:choice>
                            <xs:element name="Get">
                                <xs:complexType>
```

```
                                      <xs:sequence>
                                             <xs:element name="BodyType"
type="tns:NonEmptyStringType" minOccurs="1" maxOccurs="1" />
                                      </xs:sequence>
                               </xs:complexType>
                        </xs:element>
                        <xs:element name="Set">
                               <xs:complexType>
                                      <xs:sequence>
                                             <xs:element name="OofState"
type="tns:NonEmptyStringType" minOccurs="0" maxOccurs="1" />
                                             <xs:element name="StartTime"
type="tns:NonEmptyStringType" minOccurs="0" maxOccurs="1" />
                                             <xs:element name="EndTime"
type="tns:NonEmptyStringType" minOccurs="0" maxOccurs="1" />
                                             <xs:element name="OofMessage" minOccurs="0"
maxOccurs="3">
                                                    <xs:complexType>
                                                           <xs:all>
                                                                  <xs:element name="AppliesToInternal"
type="tns:EmptyStringType" minOccurs="0" maxOccurs="1" />
                                                                  <xs:element name="AppliesToExternalKnown"
type="tns:EmptyStringType" minOccurs="0" maxOccurs="1" />
                                                                  <xs:element
name="AppliesToExternalUnknown" type="tns:EmptyStringType" minOccurs="0" maxOccurs="1" />
                                                                  <xs:element name="Enabled"
type="tns:NonEmptyStringType" minOccurs="0" maxOccurs="1" />
                                                                  <xs:element name="ReplyMessage"
type="xs:string" minOccurs="0" maxOccurs="1" />
                                                                  <xs:element name="BodyType"
type="tns:NonEmptyStringType" minOccurs="0" maxOccurs="1" />
                                                           </xs:all>
                                                    </xs:complexType>
                                             </xs:element>
                                      </xs:sequence>
                               </xs:complexType>
                        </xs:element>
                 </xs:choice>
          </xs:complexType>
   </xs:element>
   <xs:element name="DevicePassword" minOccurs="0" maxOccurs="1">
          <xs:complexType>
                 <xs:choice>
                        <xs:element name="Set">
                               <xs:complexType>
                                      <xs:sequence>
                                             <xs:element name="Password" type="xs:string"
minOccurs="1" maxOccurs="1" />
                                      </xs:sequence>
                               </xs:complexType>
                        </xs:element>
                 </xs:choice>
          </xs:complexType>
   </xs:element>
   <xs:element name="DeviceInformation" minOccurs="0" maxOccurs="1">
          <xs:complexType>
                 <xs:choice>
                        <xs:element name="Set">
                               <xs:complexType>
                                      <xs:all>
```

```
                                                <xs:element name="Model"
type="tns:DeviceInformationStringType" maxOccurs="1" minOccurs="0" />
                                                <xs:element name="IMEI"
type="tns:DeviceInformationStringType" maxOccurs="1" minOccurs="0" />
                                                <xs:element name="FriendlyName"
type="tns:DeviceInformationStringType" maxOccurs="1" minOccurs="0" />
                                                <xs:element name="OS"
type="tns:DeviceInformationStringType" maxOccurs="1" minOccurs="0" />
                                                <xs:element name="OSLanguage"
type="tns:DeviceInformationStringType" maxOccurs="1" minOccurs="0" />
                                                <xs:element name="PhoneNumber"
type="tns:DeviceInformationStringType" maxOccurs="1" minOccurs="0" />
                                                <xs:element name="UserAgent"
type="tns:DeviceInformationStringType" maxOccurs="1" minOccurs="0" />
                                                <xs:element name="EnableOutboundSMS" minOccurs="0"
maxOccurs="1">
                                                    <xs:simpleType>
                                                        <xs:restriction base="xs:integer">
                                                            <xs:minInclusive value="0"/>
                                                            <xs:maxInclusive value="1"/>
                                                        </xs:restriction>
                                                    </xs:simpleType>
                                                </xs:element>
                                                <xs:element name="MobileOperator"
type="tns:DeviceInformationStringType" maxOccurs="1" minOccurs="0" />
                                            </xs:all>
                                        </xs:complexType>
                                    </xs:element>
                                </xs:choice>
                            </xs:complexType>
                        </xs:element>
                        <xs:element name="UserInformation" minOccurs="0" maxOccurs="1">
                            <xs:complexType>
                                <xs:choice>
                                    <xs:element minOccurs="1" maxOccurs="1" name="Get"
type="tns:EmptyStringType"/>
                                </xs:choice>
                            </xs:complexType>
                        </xs:element>
                    </xs:all>
                </xs:complexType>
            </xs:element>
        </xs:schema>
```

6.16 SmartForward-request

The following is the request schema for the **SmartForward** command:

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

    <xs:element name="SmartForward">
        <xs:complexType>
```

```
                <xs:all>
                    <xs:element name="ClientId" minOccurs="1" maxOccurs="1">
                        <xs:simpleType>
                            <xs:restriction base="xs:string">
                                <xs:minLength value="1"/>
                                <xs:maxLength value="40"/>
                            </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                    <xs:element name="Source" minOccurs="1" maxOccurs="1">
                        <xs:complexType>
                            <xs:all>
                                <xs:element name="FolderId" minOccurs="0" maxOccurs="1">
                                    <xs:simpleType>
                                        <xs:restriction base="xs:string">
                                            <xs:minLength value="1"/>
                                            <xs:maxLength value="64"/>
                                        </xs:restriction>
                                    </xs:simpleType>
                                </xs:element>
                                <xs:element name="ItemId" minOccurs="0" maxOccurs="1">
                                    <xs:simpleType>
                                        <xs:restriction base="xs:string">
                                            <xs:minLength value="1"/>
                                            <xs:maxLength value="64"/>
                                        </xs:restriction>
                                    </xs:simpleType>
                                </xs:element>
                                <xs:element name="LongId" minOccurs="0" maxOccurs="1">
                                    <xs:simpleType>
                                        <xs:restriction base="xs:string">
                                            <xs:minLength value="1"/>
                                            <xs:maxLength value="256"/>
                                        </xs:restriction>
                                    </xs:simpleType>
                                </xs:element>
                                <xs:element name="InstanceId" type="xs:string" minOccurs="0"
  maxOccurs="1" />
                            </xs:all>
                        </xs:complexType>
                    </xs:element>
                    <xs:element name="SaveInSentItems" minOccurs="0" maxOccurs="1" />
                    <xs:element name="ReplaceMime" minOccurs="0" maxOccurs="1" />
                    <xs:element name="Mime" type="xs:string" minOccurs="1" maxOccurs="1" />
                </xs:all>
            </xs:complexType>
        </xs:element>
    </xs:schema>
```

6.17   SmartReply-request

The following is the request schema for the **SmartReply** command:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        xmlns:tns="ComposeMail:"
        attributeFormDefault="unqualified"
```

```
                    elementFormDefault="qualified"
                    targetNamespace="ComposeMail:"
                    xmlns:xs="http://www.w3.org/2001/XMLSchema">

    <xs:element name="SmartReply">
        <xs:complexType>
            <xs:all>
                <xs:element name="ClientId" minOccurs="1" maxOccurs="1">
                    <xs:simpleType>
                        <xs:restriction base="xs:string">
                            <xs:minLength value="1"/>
                            <xs:maxLength value="40"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element name="Source" minOccurs="1" maxOccurs="1">
                    <xs:complexType>
                        <xs:all>
                            <xs:element name="FolderId" minOccurs="0" maxOccurs="1">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:minLength value="1"/>
                                        <xs:maxLength value="64"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element name="ItemId" minOccurs="0" maxOccurs="1">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:minLength value="1"/>
                                        <xs:maxLength value="64"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element name="LongId" minOccurs="0" maxOccurs="1">
                                <xs:simpleType>
                                    <xs:restriction base="xs:string">
                                        <xs:minLength value="1"/>
                                        <xs:maxLength value="256"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                            <xs:element name="InstanceId" type="xs:string" minOccurs="0"
  maxOccurs="1" />
                        </xs:all>
                    </xs:complexType>
                </xs:element>
                <xs:element name="SaveInSentItems" minOccurs="0" maxOccurs="1" />
                <xs:element name="ReplaceMime" minOccurs="0" maxOccurs="1" />
                <xs:element name="Mime" type="xs:string" minOccurs="1" maxOccurs="1" />
            </xs:all>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.18 Sync-Calendar-request

The following is the request schema for the **Sync-calendar** command:

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        xmlns:calendar="Calendar:"
        attributeFormDefault="unqualified"
        elementFormDefault="qualified"
        xmlns:airsyncbase="AirSyncBase:"
        targetNamespace="Calendar:"
        xmlns:xs="http://www.w3.org/2001/XMLSchema"
        xmlns="Calendar:">
    <xs:import namespace="AirSyncBase:"/>
    <xs:element name="TimeZone" type="xs:string" />
    <xs:element name="AllDayEvent" type="xs:unsignedByte" />
    <xs:element name="BusyStatus">
        <xs:simpleType>
            <xs:restriction base="xs:unsignedByte">
                <xs:minInclusive value="0"/>
                <xs:maxInclusive value="5"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="OrganizerName" type="xs:string" />
    <xs:element name="OrganizerEmail" type="xs:string" />
    <xs:element name="DtStamp" type="xs:string" />
    <xs:element name="EndTime" type="xs:string" />
    <xs:element name="Location" type="xs:string" />
    <xs:element name="Reminder" type="xs:unsignedInt" />
    <xs:element name="Sensitivity">
        <xs:simpleType>
            <xs:restriction base="xs:unsignedByte">
                <xs:minInclusive value="0"/>
                <xs:maxInclusive value="3"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="Subject" type="xs:string" />
    <xs:element name="StartTime" type="xs:string" />
    <xs:element name="UID">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:maxLength value="300"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="MeetingStatus">
        <xs:simpleType>
            <xs:restriction base="xs:unsignedByte">
                <xs:enumeration value="1"/>
                <xs:enumeration value="0"/>
                <xs:enumeration value="3"/>
                <xs:enumeration value="5"/>
                <xs:enumeration value="7"/>
                <xs:enumeration value="9"/>
                <xs:enumeration value="11"/>
                <xs:enumeration value="13"/>
                <xs:enumeration value="15"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="Attendees">
```

```
<xs:complexType>
    <xs:sequence minOccurs="0">
        <xs:element name="Attendee" maxOccurs="unbounded">
            <xs:complexType>
                <xs:all>
                    <xs:element name="Email" type="xs:string" />
                    <xs:element name="Name" type="xs:string" />
                    <xs:element name="AttendeeStatus" minOccurs="0">
                        <xs:simpleType>
                            <xs:restriction base="xs:unsignedByte">
                                <xs:enumeration value="0"/>
                                <xs:enumeration value="2"/>
                                <xs:enumeration value="3"/>
                                <xs:enumeration value="4"/>
                                <xs:enumeration value="5"/>
                            </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                    <xs:element name="AttendeeType" minOccurs="0">
                        <xs:simpleType>
                            <xs:restriction base="xs:unsignedByte">
                                <xs:enumeration value="1"/>
                                <xs:enumeration value="2"/>
                                <xs:enumeration value="3"/>
                            </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                </xs:all>
            </xs:complexType>
        </xs:element>
    </xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="Categories">
    <xs:complexType>
        <xs:sequence minOccurs="0">
            <xs:element maxOccurs="300" name="Category" type="xs:string" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="DisallowNewTimeProposal" type="xs:boolean" />
<xs:element name="ResponseRequested" type="xs:boolean" />
<xs:element name="Recurrence">
    <xs:complexType>
        <xs:all minOccurs="0">
            <xs:element minOccurs="1" name="Type">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedByte">
                        <xs:minInclusive value="0"/>
                        <xs:maxInclusive value="6"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="0" name="Occurrences" type="xs:unsignedShort" />
            <xs:element minOccurs="0" name="Interval">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedShort">
                        <xs:minInclusive value="0"/>
                        <xs:maxInclusive value="999"/>
```

```
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="0" name="WeekOfMonth">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedByte">
                        <xs:minInclusive value="1"/>
                        <xs:maxInclusive value="5"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="0" name="DayOfWeek">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedShort">
                        <xs:minInclusive value="0"/>
                        <xs:maxInclusive value="127"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="0" name="MonthOfYear">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedByte">
                        <xs:minInclusive value="1"/>
                        <xs:maxInclusive value="12"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="0" name="Until" type="xs:string" />
            <xs:element minOccurs="0" name="DayOfMonth">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedByte">
                        <xs:minInclusive value="1"/>
                        <xs:maxInclusive value="127"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="0" name="CalendarType">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedByte">
                        <xs:minInclusive value="0"/>
                        <xs:maxInclusive value="23"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="0" name="IsLeapMonth">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedByte">
                        <xs:minInclusive value="0"/>
                        <xs:maxInclusive value="1"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
        </xs:all>
    </xs:complexType>
</xs:element>
<xs:element name="Exceptions">
    <xs:complexType>
        <xs:sequence minOccurs="0">
            <xs:element name="Exception" maxOccurs="1000">
```

```xml
<xs:complexType>
    <xs:all>
        <xs:element minOccurs="0" name="Deleted" type="xs:unsignedByte"
 />
        <xs:element name="ExceptionStartTime" type="xs:string" />
        <xs:element minOccurs="0" name="Subject" type="xs:string" />
        <xs:element minOccurs="0" name="StartTime" type="xs:string" />
        <xs:element minOccurs="0" name="EndTime" type="xs:string" />
        <xs:element minOccurs="0" ref="airsyncbase:Body" />
        <xs:element minOccurs="0" name="Location" type="xs:string" />
        <xs:element minOccurs="0" name="Categories">
            <xs:complexType>
                <xs:sequence>
                    <xs:element maxOccurs="300" name="Category"
 type="xs:string" />
                </xs:sequence>
            </xs:complexType>
        </xs:element>
        <xs:element minOccurs="0" name="Sensitivity">
            <xs:simpleType>
                <xs:restriction base="xs:unsignedByte">
                    <xs:minInclusive value="0"/>
                    <xs:maxInclusive value="3"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:element>
        <xs:element minOccurs="0" name="BusyStatus">
            <xs:simpleType>
                <xs:restriction base="xs:unsignedByte">
                    <xs:minInclusive value="0"/>
                    <xs:maxInclusive value="5"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:element>
        <xs:element minOccurs="0" name="AllDayEvent"
 type="xs:unsignedByte" />
        <xs:element minOccurs="0" name="Reminder" type="xs:unsignedInt"
 />
        <xs:element minOccurs="0" name="DtStamp" type="xs:string" />
        <xs:element minOccurs="0" name="MeetingStatus">
            <xs:simpleType>
                <xs:restriction base="xs:unsignedByte">
                    <xs:enumeration value="1"/>
                    <xs:enumeration value="0"/>
                    <xs:enumeration value="3"/>
                    <xs:enumeration value="5"/>
                    <xs:enumeration value="7"/>
                    <xs:enumeration value="9"/>
                    <xs:enumeration value="11"/>
                    <xs:enumeration value="13"/>
                    <xs:enumeration value="15"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:element>
        <xs:element minOccurs="0" name="Attendees">
            <xs:complexType>
                <xs:sequence minOccurs="0">
                    <xs:element name="Attendee" maxOccurs="unbounded">
                        <xs:complexType>
```

```xml
                                              <xs:all>
                                                  <xs:element name="Email" type="xs:string"
  />
                                                  <xs:element name="Name" type="xs:string"
  />
                                                  <xs:element name="AttendeeStatus"
  minOccurs="0">
                                                      <xs:simpleType>
                                                          <xs:restriction
  base="xs:unsignedByte">
                                                              <xs:enumeration value="0"/>
                                                              <xs:enumeration value="2"/>
                                                              <xs:enumeration value="3"/>
                                                              <xs:enumeration value="4"/>
                                                              <xs:enumeration value="5"/>
                                                          </xs:restriction>
                                                      </xs:simpleType>
                                                  </xs:element>
                                                  <xs:element name="AttendeeType"
  minOccurs="0">
                                                      <xs:simpleType>
                                                          <xs:restriction
  base="xs:unsignedByte">
                                                              <xs:enumeration value="1"/>
                                                              <xs:enumeration value="2"/>
                                                              <xs:enumeration value="3"/>
                                                          </xs:restriction>
                                                      </xs:simpleType>
                                                  </xs:element>
                                              </xs:all>
                                          </xs:complexType>
                                      </xs:element>
                                  </xs:sequence>
                              </xs:complexType>
                          </xs:element>
                      </xs:all>
                  </xs:complexType>
              </xs:element>
          </xs:sequence>
      </xs:complexType>
  </xs:element>
  <xs:complexType name="EmptyTag"/>
  <xs:group name="GhostingProps">
      <xs:sequence>
          <xs:choice maxOccurs="unbounded">
              <xs:element name="TimeZone" type="calendar:EmptyTag" />
              <xs:element name="AllDayEvent" type="calendar:EmptyTag" />
              <xs:element name="BusyStatus" type="calendar:EmptyTag" />
              <xs:element name="OrganizerName" type="calendar:EmptyTag" />
              <xs:element name="OrganizerEmail" type="calendar:EmptyTag" />
              <xs:element name="DtStamp" type="calendar:EmptyTag" />
              <xs:element name="EndTime" type="calendar:EmptyTag" />
              <xs:element name="Location" type="calendar:EmptyTag" />
              <xs:element name="Reminder" type="calendar:EmptyTag" />
              <xs:element name="Sensitivity" type="calendar:EmptyTag" />
              <xs:element name="Subject" type="calendar:EmptyTag" />
              <xs:element name="StartTime" type="calendar:EmptyTag" />
              <xs:element name="UID" type="calendar:EmptyTag" />
              <xs:element name="MeetingStatus" type="calendar:EmptyTag" />
```

```
                        <xs:element name="Attendees" type="calendar:EmptyTag" />
                        <xs:element name="Categories" type="calendar:EmptyTag" />
                        <xs:element name="Recurrence" type="calendar:EmptyTag" />
                        <xs:element name="Exceptions" type="calendar:EmptyTag" />
                </xs:choice>
            </xs:sequence>
        </xs:group>
        <xs:group name="TopLevelSchemaProps">
            <xs:sequence>
                <xs:choice maxOccurs="unbounded">
                        <xs:element name="TimeZone" type="calendar:EmptyTag" />
                        <xs:element name="StartTime" type="calendar:EmptyTag" />
                        <xs:element name="EndTime" type="calendar:EmptyTag" />
                        <xs:element name="Subject" type="calendar:EmptyTag" />
                        <xs:element name="Location" type="calendar:EmptyTag" />
                        <xs:element name="Reminder" type="calendar:EmptyTag" />
                        <xs:element name="AllDayEvent" type="calendar:EmptyTag" />
                        <xs:element name="BusyStatus" type="calendar:EmptyTag" />
                        <xs:element name="Recurrence" type="calendar:EmptyTag" />
                        <xs:element name="Sensitivity" type="calendar:EmptyTag" />
                        <xs:element name="DtStamp" type="calendar:EmptyTag" />
                        <xs:element name="Attendees" type="calendar:EmptyTag" />
                        <xs:element name="Categories" type="calendar:EmptyTag" />
                        <xs:element name="MeetingStatus" type="calendar:EmptyTag" />
                        <xs:element name="OrganizerName" type="calendar:EmptyTag" />
                        <xs:element name="OrganizerEmail" type="calendar:EmptyTag" />
                        <xs:element name="UID" type="calendar:EmptyTag" />
                        <xs:element name="DisallowNewTimeProposal" type="calendar:EmptyTag" />
                        <xs:element name="ResponseRequested" type="calendar:EmptyTag" />
                        <xs:element name="Exceptions" type="calendar:EmptyTag" />
                </xs:choice>
            </xs:sequence>
        </xs:group>
    </xs:schema>
```

6.19   Sync-Contacts2-request

For additional details, see [MS-ASCNTC]. The following is the request schema for the **Sync-Contacts2** command:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        xmlns:contacts2="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:complexType name="EmptyTag"/>
        <xs:group name="GhostingProps">
            <xs:sequence>
                <xs:choice maxOccurs="unbounded">
                    <xs:element name="CustomerId" type="contacts2:EmptyTag"/>
                    <xs:element name="GovernmentId" type="contacts2:EmptyTag"/>
                    <xs:element name="IMAddress" type="contacts2:EmptyTag"/>
                    <xs:element name="IMAddress2" type="contacts2:EmptyTag"/>
                    <xs:element name="IMAddress3" type="contacts2:EmptyTag"/>
                    <xs:element name="ManagerName" type="contacts2:EmptyTag"/>
                    <xs:element name="CompanyMainPhone" type="contacts2:EmptyTag"/>
                    <xs:element name="AccountName" type="contacts2:EmptyTag"/>
                    <xs:element name="NickName" type="contacts2:EmptyTag"/>
                    <xs:element name="MMS" type="contacts2:EmptyTag"/>
                </xs:choice>
            </xs:sequence>
        </xs:group>
        <xs:group name="TopLevelSchemaProps">
            <xs:sequence>
                <xs:choice maxOccurs="unbounded">
                    <xs:element name="CustomerId" type="contacts2:EmptyTag"/>
                    <xs:element name="GovernmentId" type="contacts2:EmptyTag"/>
                    <xs:element name="IMAddress" type="contacts2:EmptyTag"/>
                    <xs:element name="IMAddress2" type="contacts2:EmptyTag"/>
                    <xs:element name="IMAddress3" type="contacts2:EmptyTag"/>
                    <xs:element name="ManagerName" type="contacts2:EmptyTag"/>
                    <xs:element name="CompanyMainPhone" type="contacts2:EmptyTag"/>
                    <xs:element name="AccountName" type="contacts2:EmptyTag"/>
                    <xs:element name="NickName" type="contacts2:EmptyTag"/>
                    <xs:element name="MMS" type="contacts2:EmptyTag"/>
                </xs:choice>
            </xs:sequence>
        </xs:group>
    </xs:schema>
```

6.20   Sync-Contacts-request

For additional details, see [MS-ASCNTC]. The following is the request schema for the **Sync-contacts** command:

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

    <xs:element name="Anniversary" type="xs:dateTime" />
    <xs:element name="AssistantName" type="xs:string" />
    <xs:element name="AssistantPhoneNumber" type="xs:string" />
    <xs:element name="AssistnamePhoneNumber" 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="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" />
<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 minOccurs="0">
            <xs:element maxOccurs="300" name="Category" 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" type="xs:string" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="EmptyTag"/>
<xs:group name="GhostingProps">
    <xs:sequence>
        <xs:choice maxOccurs="unbounded">
```

```
            <xs:element name="Anniversary" type="contacts:EmptyTag"/>
            <xs:element name="Birthday" type="contacts:EmptyTag"/>
            <xs:element name="WebPage" type="contacts:EmptyTag"/>
            <xs:element name="Children" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressCountry" type="contacts:EmptyTag"/>
            <xs:element name="Department" type="contacts:EmptyTag"/>
            <xs:element name="Email1Address" type="contacts:EmptyTag"/>
            <xs:element name="Email2Address" type="contacts:EmptyTag"/>
            <xs:element name="Email3Address" type="contacts:EmptyTag"/>
            <xs:element name="BusinessFaxNumber" type="contacts:EmptyTag"/>
            <xs:element name="FileAs" type="contacts:EmptyTag"/>
            <xs:element name="FirstName" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressCity" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressCountry" type="contacts:EmptyTag"/>
            <xs:element name="HomeFaxNumber" type="contacts:EmptyTag"/>
            <xs:element name="HomePhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="Home2PhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressPostalCode" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressState" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressStreet" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressCity" type="contacts:EmptyTag"/>
            <xs:element name="MiddleName" type="contacts:EmptyTag"/>
            <xs:element name="MobilePhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="Suffix" type="contacts:EmptyTag"/>
            <xs:element name="CompanyName" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressCity" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressCountry" type="contacts:EmptyTag"/>
            <xs:element name="CarPhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressPostalCode" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressState" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressStreet" type="contacts:EmptyTag"/>
            <xs:element name="PagerNumber" type="contacts:EmptyTag"/>
            <xs:element name="Title" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressPostalCode" type="contacts:EmptyTag"/>
            <xs:element name="AssistantName" type="contacts:EmptyTag"/>
            <xs:element name="AssistantPhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="AssistnamePhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="LastName" type="contacts:EmptyTag"/>
            <xs:element name="Spouse" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressState" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressStreet" type="contacts:EmptyTag"/>
            <xs:element name="BusinessPhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="Business2PhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="JobTitle" type="contacts:EmptyTag"/>
            <xs:element name="YomiFirstName" type="contacts:EmptyTag"/>
            <xs:element name="YomiLastName" type="contacts:EmptyTag"/>
            <xs:element name="YomiCompanyName" type="contacts:EmptyTag"/>
            <xs:element name="OfficeLocation" type="contacts:EmptyTag"/>
            <xs:element name="RadioPhoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="Picture" type="contacts:EmptyTag"/>
            <xs:element name="Categories" type="contacts:EmptyTag"/>
        </xs:choice>
    </xs:sequence>
</xs:group>
<xs:group name="TopLevelSchemaProps">
    <xs:sequence>
        <xs:choice maxOccurs="unbounded">
            <xs:element name="Anniversary" type="contacts:EmptyTag"/>
            <xs:element name="Birthday" type="contacts:EmptyTag"/>
```

```
            <xs:element name="Webpage" type="contacts:EmptyTag"/>
            <xs:element name="Children" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressCountry" type="contacts:EmptyTag"/>
            <xs:element name="Department" type="contacts:EmptyTag"/>
            <xs:element name="Email1Address" type="contacts:EmptyTag"/>
            <xs:element name="Email2Address" type="contacts:EmptyTag"/>
            <xs:element name="Email3Address" type="contacts:EmptyTag"/>
            <xs:element name="BusinessFaxNumber" type="contacts:EmptyTag"/>
            <xs:element name="FileAs" type="contacts:EmptyTag"/>
            <xs:element name="FirstName" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressCity" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressCountry" type="contacts:EmptyTag"/>
            <xs:element name="HomeFaxNumber" type="contacts:EmptyTag"/>
            <xs:element name="HomeTelephoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="Home2TelephoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressPostalCode" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressState" type="contacts:EmptyTag"/>
            <xs:element name="HomeAddressStreet" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressCity" type="contacts:EmptyTag"/>
            <xs:element name="MiddleName" type="contacts:EmptyTag"/>
            <xs:element name="MobileTelephoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="Suffix" type="contacts:EmptyTag"/>
            <xs:element name="CompanyName" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressCity" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressCountry" type="contacts:EmptyTag"/>
            <xs:element name="CarTelephoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressPostalCode" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressState" type="contacts:EmptyTag"/>
            <xs:element name="OtherAddressStreet" type="contacts:EmptyTag"/>
            <xs:element name="PagerNumber" type="contacts:EmptyTag"/>
            <xs:element name="Title" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressPostalCode" type="contacts:EmptyTag"/>
            <xs:element name="AssistantName" type="contacts:EmptyTag"/>
            <xs:element name="AssistantTelephoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="LastName" type="contacts:EmptyTag"/>
            <xs:element name="Spouse" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressState" type="contacts:EmptyTag"/>
            <xs:element name="BusinessAddressStreet" type="contacts:EmptyTag"/>
            <xs:element name="BusinessTelephoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="Business2TelephoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="JobTitle" type="contacts:EmptyTag"/>
            <xs:element name="YomiFirstName" type="contacts:EmptyTag"/>
            <xs:element name="YomiLastName" type="contacts:EmptyTag"/>
            <xs:element name="YomiCompanyName" type="contacts:EmptyTag"/>
            <xs:element name="OfficeLocation" type="contacts:EmptyTag"/>
            <xs:element name="RadioTelephoneNumber" type="contacts:EmptyTag"/>
            <xs:element name="Categories" type="contacts:EmptyTag"/>
            <xs:element name="Picture" type="contacts:EmptyTag"/>
         </xs:choice>
      </xs:sequence>
    </xs:group>
  </xs:schema>
```

6.21 Sync-Email-request

For additional details, see [MS-ASEMAIL]. The following is the request schema for the **Sync-Email** command:

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        xmlns:email="Email:"
        attributeFormDefault="unqualified"
        elementFormDefault="qualified"
        targetNamespace="Email:"
        xmlns:xs="http://www.w3.org/2001/XMLSchema"
        xmlns:tasks="Tasks:">

    <xs:import namespace="Tasks:"/>
    <xs:element name="Read" type="xs:unsignedByte" />
    <xs:element name="DateReceived">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:maxLength value="1024"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="Flag">
        <xs:complexType>
            <xs:choice minOccurs="0" maxOccurs="unbounded">
                <xs:element name="Status" maxOccurs="1" type="xs:unsignedByte" />
                <xs:element name="FlagType" maxOccurs="1" type="xs:string" />
                <xs:element name="CompleteTime" maxOccurs="1" type="xs:string" />
                <xs:element ref="tasks:StartDate" maxOccurs="1"/>
                <xs:element ref="tasks:UtcStartDate" maxOccurs="1"/>
                <xs:element ref="tasks:DueDate" maxOccurs="1"/>
                <xs:element ref="tasks:UtcDueDate" maxOccurs="1"/>
                <xs:element ref="tasks:DateCompleted" maxOccurs="1"/>
                <xs:element ref="tasks:ReminderSet" maxOccurs="1"/>
                <xs:element ref="tasks:ReminderTime" maxOccurs="1"/>
                <xs:element ref="tasks:Subject" maxOccurs="1"/>
                <xs:element ref="tasks:OrdinalDate" maxOccurs="1"/>
                <xs:element ref="tasks:SubOrdinalDate" maxOccurs="1"/>
            </xs:choice>
        </xs:complexType>
    </xs:element>
    <xs:element name="To">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:maxLength value="1024"/>
          </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="From">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:maxLength value="1024"/>
          </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="InternetCPID" type="xs:integer" />
    <xs:element name="Importance" type="xs:unsignedByte" />
    <xs:element name="Categories">
        <xs:complexType>
            <xs:sequence minOccurs="0">
                <xs:element maxOccurs="300" name="Category" type="xs:string" />
            </xs:sequence>
        </xs:complexType>
```

```
        </xs:element>
        <xs:complexType name="EmptyTag"/>
        <xs:group name="GhostingProps">
            <xs:sequence>
                <xs:choice maxOccurs="unbounded">
                    <xs:element name="To" type="email:EmptyTag" />
                    <xs:element name="From" type="email:EmptyTag" />
                    <xs:element name="DateReceived" type="email:EmptyTag" />
                    <xs:element name="Body" type="email:EmptyTag" />
                    <xs:element name="InternetCPID" type="email:EmptyTag" />
                    <xs:element name="Read" type="email:EmptyTag" />
                    <xs:element name="Flag" type="email:EmptyTag" />
                    <xs:element name="Importance" type="email:EmptyTag" />
                </xs:choice>
            </xs:sequence>
        </xs:group>
        <xs:group name="TopLevelSchemaProps">
            <xs:sequence>
                <xs:choice maxOccurs="unbounded">
                    <xs:element name="To" type="email:EmptyTag"/>
                    <xs:element name="CC" type="email:EmptyTag"/>
                    <xs:element name="From" type="email:EmptyTag"/>
                    <xs:element name="ReplyTo" type="email:EmptyTag"/>
                    <xs:element name="DateReceived" type="email:EmptyTag"/>
                    <xs:element name="Subject" type="email:EmptyTag"/>
                    <xs:element name="DisplayTo" type="email:EmptyTag"/>
                    <xs:element name="Importance" type="email:EmptyTag"/>
                    <xs:element name="Read" type="email:EmptyTag"/>
                    <xs:element name="MessageClass" type="email:EmptyTag"/>
                    <xs:element name="MeetingRequest" type="email:EmptyTag"/>
                    <xs:element name="ThreadTopic" type="email:EmptyTag"/>
                    <xs:element name="InternetCPID" type="email:EmptyTag"/>
                </xs:choice>
            </xs:sequence>
        </xs:group>
    </xs:schema>
```

6.22 SyncNotes-request

The following is the request schema for the **SyncNotes** command:

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

    <xs:element name="Subject" type="xs:string"/>
    <xs:element name="MessageClass" type="xs:string"/>
    <xs:element name="LastModifiedDate" type="xs:string"/>
    <xs:element name="Categories">
        <xs:complexType>
            <xs:sequence minOccurs="0">
                <xs:element maxOccurs="300" name="Category" type="xs:string" />
```

```
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

6.23 Sync-request

The following is the request schema for the **Sync** command:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
        xmlns:tns="AirSync:"
        attributeFormDefault="unqualified"
        elementFormDefault="qualified"
        targetNamespace="AirSync:"
        xmlns:xs="http://www.w3.org/2001/XMLSchema"
        xmlns:contacts="Contacts:"
        xmlns:contacts2="Contacts2:"
        xmlns:calendar="Calendar:"
        xmlns:email="Email:"
        xmlns:airsyncbase="AirSyncBase:"
        xmlns:tasks="Tasks:"
        xmlns:notes="Notes:">

    <xs:import namespace="Contacts2:"/>
    <xs:import namespace="Contacts:"/>
    <xs:import namespace="Email:"/>
    <xs:import namespace="Calendar:"/>
    <xs:import namespace="AirSyncBase:"/>
    <xs:import namespace="Tasks:"/>
    <xs:import namespace="Notes:"/>

    <xs:element name="MIMESupport">
        <xs:simpleType>
            <xs:restriction base="xs:unsignedByte">
                <xs:minInclusive value="0" />
                <xs:maxInclusive value="2" />
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="CollectionId">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:maxLength value="64"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="ServerId">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:maxLength value="64"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="ConversationMode"/>
    <xs:element name="Options">
      <xs:complexType>
```

```
          <xs:choice minOccurs="1" maxOccurs="unbounded">
            <xs:element name="FilterType">
              <xs:simpleType>
                <xs:restriction base="xs:unsignedByte">
                  <xs:minInclusive value="0"/>
                  <xs:maxInclusive value="8"/>
                </xs:restriction>
              </xs:simpleType>
            </xs:element>
            <xs:element name="Class" type="xs:string" maxOccurs="1" />
            <xs:element name="MaxItems">
              <xs:simpleType>
                <xs:restriction base="xs:integer">
                  <xs:minInclusive value="1"/>
                </xs:restriction>
              </xs:simpleType>
            </xs:element>
          </xs:choice>
        </xs:complexType>
      </xs:element>
      <xs:element name="SyncKey">
          <xs:simpleType>
              <xs:restriction base="xs:string">
                  <xs:maxLength value="64"/>
              </xs:restriction>
          </xs:simpleType>
      </xs:element>
      <xs:element name="Class" type="xs:string"/>
      <xs:element name="Sync">
        <xs:complexType>
          <xs:sequence minOccurs="1" maxOccurs="1">
            <xs:element name="Collections" minOccurs="0" maxOccurs="1">
              <xs:complexType>
                <xs:sequence>
                  <xs:element minOccurs="0" maxOccurs="unbounded" name="Collection">
                    <xs:complexType>
                      <xs:sequence>
                        <xs:element name="SyncKey">
                          <xs:simpleType>
                            <xs:restriction base="xs:string">
                              <xs:maxLength value="64"/>
                            </xs:restriction>
                          </xs:simpleType>
                        </xs:element>
                        <xs:element minOccurs="0" name="NotifyGUID" type="xs:string"/>
                        <xs:element minOccurs="1" name="CollectionId">
                          <xs:simpleType>
                            <xs:restriction base="xs:string">
                              <xs:maxLength value="64"/>
                            </xs:restriction>
                          </xs:simpleType>
                        </xs:element>
                        <xs:element minOccurs="0" name="Supported">
                          <xs:complexType mixed="true">
                            <xs:sequence minOccurs="0">
                              <xs:choice maxOccurs="unbounded">
                                <xs:group ref="contacts:GhostingProps"/>
                                <xs:group ref="contacts2:GhostingProps"/>
                                <xs:group ref="calendar:GhostingProps"/>
```

```
                          </xs:choice>
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                    <xs:element minOccurs="0" name="DeletesAsMoves"/>
                    <xs:element minOccurs="0" name="GetChanges"/>
                    <xs:element minOccurs="0" name="WindowSize">
                      <xs:simpleType>
                        <xs:restriction base="xs:integer">
                          <xs:minInclusive value="0"/>
                        </xs:restriction>
                      </xs:simpleType>
                    </xs:element>
                    <xs:element name="ConversationMode" minOccurs="0" maxOccurs="1"/>
                    <xs:element minOccurs="0" name="Options">
                      <xs:complexType>
                        <xs:choice maxOccurs="unbounded">
                          <xs:element name="FilterType" minOccurs="0">
                            <xs:simpleType>
                              <xs:restriction base="xs:unsignedByte">
                                <xs:minInclusive value="0"/>
                                <xs:maxInclusive value="8"/>
                              </xs:restriction>
                            </xs:simpleType>
                          </xs:element>
                          <xs:element name="Class" type="xs:string" minOccurs="0"
  maxOccurs="1" />
                          <xs:element ref="airsyncbase:BodyPreference" minOccurs="0"
  maxOccurs="unbounded" />
                          <xs:element minOccurs="0" name="Conflict" type="xs:unsignedByte"/>
                          <xs:element minOccurs="0" maxOccurs="1" name="MIMESupport">
                            <xs:simpleType>
                              <xs:restriction base="xs:unsignedByte">
                                <xs:minInclusive value="0" />
                                <xs:maxInclusive value="2" />
                              </xs:restriction>
                            </xs:simpleType>
                          </xs:element>
                          <xs:element minOccurs="0" maxOccurs="1" name="MIMETruncation">
                            <xs:simpleType>
                              <xs:restriction base="xs:unsignedByte">
                                <xs:minInclusive value="0" />
                                <xs:maxInclusive value="8" />
                              </xs:restriction>
                            </xs:simpleType>
                          </xs:element>
                          <xs:element name="MaxItems" minOccurs="0" maxOccurs="1">
                            <xs:simpleType>
                              <xs:restriction base="xs:integer">
                                <xs:minInclusive value="1"/>
                              </xs:restriction>
                            </xs:simpleType>
                          </xs:element>
                        </xs:choice>
                      </xs:complexType>
                    </xs:element>
                    <xs:element minOccurs="0" name="Commands">
                      <xs:complexType>
                        <xs:choice maxOccurs="unbounded">
```

```
                                  <xs:element minOccurs="0" maxOccurs="unbounded" name="Change">
                                    <xs:complexType>
                                      <xs:sequence>
                                        <xs:element name="ServerId">
                                          <xs:simpleType>
                                            <xs:restriction base="xs:string">
                                              <xs:maxLength value="64"/>
                                            </xs:restriction>
                                          </xs:simpleType>
                                        </xs:element>
                                        <xs:element name="ApplicationData">
                                          <xs:complexType>
                                            <xs:sequence>
                                              <xs:choice maxOccurs="unbounded">
                                                <xs:element ref="email:Flag"/>
                                                <xs:element ref="email:Read"/>
                                                <xs:element ref="email:Categories"/>
                                                <xs:element ref="calendar:OrganizerName"/>
                                                <xs:element ref="calendar:OrganizerEmail"/>
                                                <xs:element ref="calendar:Exceptions"/>
                                                <xs:element ref="calendar:Attendees"/>
                                                <xs:element ref="calendar:DisallowNewTimeProposal"/>
                                                <xs:element ref="calendar:ResponseRequested"/>
                                                <xs:element ref="calendar:TimeZone"/>
                                                <xs:element ref="calendar:AllDayEvent"/>
                                                <xs:element ref="airsyncbase:NativeBodyType"/>
                                                <xs:element ref="airsyncbase:Body"/>
                                                <xs:element ref="calendar:BusyStatus"/>
                                                <xs:element ref="calendar:Categories"/>
                                                <xs:element ref="calendar:DtStamp"/>
                                                <xs:element ref="calendar:EndTime"/>
                                                <xs:element ref="calendar:Location"/>
                                                <xs:element ref="calendar:MeetingStatus"/>
                                                <xs:element ref="calendar:Reminder"/>
                                                <xs:element ref="calendar:Sensitivity"/>
                                                <xs:element ref="calendar:Subject"/>
                                                <xs:element ref="calendar:StartTime"/>
                                                <xs:element ref="calendar:UID"/>
                                                <xs:element ref="calendar:Recurrence"/>
                                                <xs:element ref="contacts:Anniversary"/>
                                                <xs:element ref="contacts:AssistantName"/>
                                                <xs:element ref="contacts:AssistantPhoneNumber"/>
                                                <xs:element ref="contacts:AssistnamePhoneNumber"/>
                                                <xs:element ref="contacts:Birthday"/>
                                                <xs:element ref="contacts:Business2PhoneNumber"/>
                                                <xs:element ref="contacts:BusinessAddressCity"/>
                                                <xs:element ref="contacts:BusinessAddressCountry"/>
                                                <xs:element
   ref="contacts:BusinessAddressPostalCode"/>
                                                <xs:element ref="contacts:BusinessAddressState"/>
                                                <xs:element ref="contacts:BusinessAddressStreet"/>
                                                <xs:element ref="contacts:BusinessFaxNumber"/>
                                                <xs:element ref="contacts:BusinessPhoneNumber"/>
                                                <xs:element ref="contacts:CarPhoneNumber"/>
                                                <xs:element ref="contacts:Categories"/>
                                                <xs:element ref="contacts:Children"/>
                                                <xs:element ref="contacts:CompanyName"/>
                                                <xs:element ref="contacts:Department"/>
                                                <xs:element ref="contacts:Email1Address"/>
```

```
<xs:element ref="contacts:Email2Address"/>
<xs:element ref="contacts:Email3Address"/>
<xs:element ref="contacts:FileAs"/>
<xs:element ref="contacts:FirstName"/>
<xs:element ref="contacts:MiddleName"/>
<xs:element ref="contacts:Home2PhoneNumber"/>
<xs:element ref="contacts:HomeAddressCity"/>
<xs:element ref="contacts:HomeAddressCountry"/>
<xs:element ref="contacts:HomeAddressPostalCode"/>
<xs:element ref="contacts:HomeAddressState"/>
<xs:element ref="contacts:HomeAddressStreet"/>
<xs:element ref="contacts:HomeFaxNumber"/>
<xs:element ref="contacts:HomePhoneNumber"/>
<xs:element ref="contacts:JobTitle"/>
<xs:element ref="contacts:LastName"/>
<xs:element ref="contacts:MobilePhoneNumber"/>
<xs:element ref="contacts:OfficeLocation"/>
<xs:element ref="contacts:OtherAddressCity"/>
<xs:element ref="contacts:OtherAddressCountry"/>
<xs:element ref="contacts:OtherAddressPostalCode"/>
<xs:element ref="contacts:OtherAddressState"/>
<xs:element ref="contacts:OtherAddressStreet"/>
<xs:element ref="contacts:PagerNumber"/>
<xs:element ref="contacts:RadioPhoneNumber"/>
<xs:element ref="contacts:Spouse"/>
<xs:element ref="contacts:Suffix"/>
<xs:element ref="contacts:Title"/>
<xs:element ref="contacts:WebPage"/>
<xs:element ref="contacts:YomiCompanyName"/>
<xs:element ref="contacts:YomiFirstName"/>
<xs:element ref="contacts:Picture"/>
<xs:element ref="contacts2:CustomerId"/>
<xs:element ref="contacts2:GovernmentId"/>
<xs:element ref="contacts2:IMAddress"/>
<xs:element ref="contacts2:IMAddress2"/>
<xs:element ref="contacts2:IMAddress3"/>
<xs:element ref="contacts2:ManagerName"/>
<xs:element ref="contacts2:CompanyMainPhone"/>
<xs:element ref="contacts2:AccountName"/>
<xs:element ref="contacts2:NickName"/>
<xs:element ref="contacts2:MMS"/>
<xs:element ref="contacts:YomiLastName"/>
<xs:element ref="tasks:Complete"/>
<xs:element ref="tasks:Subject"/>
<xs:element ref="tasks:Categories"/>
<xs:element ref="tasks:DateCompleted"/>
<xs:element ref="tasks:DueDate"/>
<xs:element ref="tasks:UtcDueDate"/>
<xs:element ref="tasks:Importance"/>
<xs:element ref="tasks:Recurrence"/>
<xs:element ref="tasks:ReminderSet"/>
<xs:element ref="tasks:ReminderTime"/>
<xs:element ref="tasks:Sensitivity"/>
<xs:element ref="tasks:StartDate"/>
<xs:element ref="tasks:UtcStartDate"/>
<xs:element ref="notes:Subject"/>
<xs:element ref="notes:MessageClass"/>
<xs:element ref="notes:LastModifiedDate"/>
<xs:element ref="notes:Categories"/>
```

```
                                </xs:choice>
                              </xs:sequence>
                            </xs:complexType>
                          </xs:element>
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                    <xs:element minOccurs="0" maxOccurs="unbounded" name="Delete">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element name="ServerId">
                            <xs:simpleType>
                              <xs:restriction base="xs:string">
                                <xs:maxLength value="64"/>
                              </xs:restriction>
                            </xs:simpleType>
                          </xs:element>
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                    <xs:element minOccurs="0" maxOccurs="unbounded" name="Add">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element name="Class" type="xs:string" minOccurs="0"
  maxOccurs="1" />
                          <xs:element name="ClientId">
                            <xs:simpleType>
                              <xs:restriction base="xs:string">
                                <xs:maxLength value="64"/>
                              </xs:restriction>
                            </xs:simpleType>
                          </xs:element>
                          <xs:element name="ApplicationData">
                            <xs:complexType>
                              <xs:sequence>
                                <xs:choice maxOccurs="unbounded">
                                  <xs:element ref="calendar:OrganizerName"/>
                                  <xs:element ref="calendar:OrganizerEmail"/>
                                  <xs:element ref="calendar:Exceptions"/>
                                  <xs:element ref="calendar:Attendees"/>
                                  <xs:element ref="calendar:DisallowNewTimeProposal"/>
                                  <xs:element ref="calendar:ResponseRequested"/>
                                  <xs:element ref="calendar:TimeZone"/>
                                  <xs:element ref="calendar:AllDayEvent"/>
                                  <xs:element ref="airsyncbase:NativeBodyType"/>
                                  <xs:element ref="airsyncbase:Body"/>
                                  <xs:element ref="calendar:BusyStatus"/>
                                  <xs:element ref="calendar:Categories"/>
                                  <xs:element ref="calendar:DtStamp"/>
                                  <xs:element ref="calendar:EndTime"/>
                                  <xs:element ref="calendar:Location"/>
                                  <xs:element ref="calendar:MeetingStatus"/>
                                  <xs:element ref="calendar:Reminder"/>
                                  <xs:element ref="calendar:Sensitivity"/>
                                  <xs:element ref="calendar:Subject"/>
                                  <xs:element ref="calendar:StartTime"/>
                                  <xs:element ref="calendar:UID"/>
                                  <xs:element ref="calendar:Recurrence"/>
                                  <xs:element ref="contacts:Anniversary"/>
```

```
                                        <xs:element ref="contacts:AssistantName"/>
                                        <xs:element ref="contacts:AssistantPhoneNumber"/>
                                        <xs:element ref="contacts:AssistnamePhoneNumber"/>
                                        <xs:element ref="contacts:Birthday"/>
                                        <xs:element ref="contacts:Business2PhoneNumber"/>
                                        <xs:element ref="contacts:BusinessAddressCity"/>
                                        <xs:element ref="contacts:BusinessAddressCountry"/>
                                        <xs:element
     ref="contacts:BusinessAddressPostalCode"/>
                                        <xs:element ref="contacts:BusinessAddressState"/>
                                        <xs:element ref="contacts:BusinessAddressStreet"/>
                                        <xs:element ref="contacts:BusinessFaxNumber"/>
                                        <xs:element ref="contacts:BusinessPhoneNumber"/>
                                        <xs:element ref="contacts:CarPhoneNumber"/>
                                        <xs:element ref="contacts:Categories"/>
                                        <xs:element ref="contacts:Children"/>
                                        <xs:element ref="contacts:CompanyName"/>
                                        <xs:element ref="contacts:Department"/>
                                        <xs:element ref="contacts:Email1Address"/>
                                        <xs:element ref="contacts:Email2Address"/>
                                        <xs:element ref="contacts:Email3Address"/>
                                        <xs:element ref="contacts:FileAs"/>
                                        <xs:element ref="contacts:FirstName"/>
                                        <xs:element ref="contacts:MiddleName"/>
                                        <xs:element ref="contacts:Home2PhoneNumber"/>
                                        <xs:element ref="contacts:HomeAddressCity"/>
                                        <xs:element ref="contacts:HomeAddressCountry"/>
                                        <xs:element ref="contacts:HomeAddressPostalCode"/>
                                        <xs:element ref="contacts:HomeAddressState"/>
                                        <xs:element ref="contacts:HomeAddressStreet"/>
                                        <xs:element ref="contacts:HomeFaxNumber"/>
                                        <xs:element ref="contacts:HomePhoneNumber"/>
                                        <xs:element ref="contacts:JobTitle"/>
                                        <xs:element ref="contacts:LastName"/>
                                        <xs:element ref="contacts:MobilePhoneNumber"/>
                                        <xs:element ref="contacts:OfficeLocation"/>
                                        <xs:element ref="contacts:OtherAddressCity"/>
                                        <xs:element ref="contacts:OtherAddressCountry"/>
                                        <xs:element ref="contacts:OtherAddressPostalCode"/>
                                        <xs:element ref="contacts:OtherAddressState"/>
                                        <xs:element ref="contacts:OtherAddressStreet"/>
                                        <xs:element ref="contacts:PagerNumber"/>
                                        <xs:element ref="contacts:RadioPhoneNumber"/>
                                        <xs:element ref="contacts:Spouse"/>
                                        <xs:element ref="contacts:Suffix"/>
                                        <xs:element ref="contacts:Title"/>
                                        <xs:element ref="contacts:WebPage"/>
                                        <xs:element ref="contacts:YomiCompanyName"/>
                                        <xs:element ref="contacts:YomiFirstName"/>
                                        <xs:element ref="contacts:YomiLastName"/>
                                        <xs:element ref="contacts:Picture"/>
                                        <xs:element ref="contacts2:CustomerId"/>
                                        <xs:element ref="contacts2:GovernmentId"/>
                                        <xs:element ref="contacts2:IMAddress"/>
                                        <xs:element ref="contacts2:IMAddress2"/>
                                        <xs:element ref="contacts2:IMAddress3"/>
                                        <xs:element ref="contacts2:ManagerName"/>
                                        <xs:element ref="contacts2:CompanyMainPhone"/>
                                        <xs:element ref="contacts2:AccountName"/>
```

```
                                    <xs:element ref="contacts2:NickName"/>
                                    <xs:element ref="contacts2:MMS"/>
                                    <xs:element ref="tasks:Complete"/>
                                    <xs:element ref="tasks:Subject"/>
                                    <xs:element ref="tasks:Categories"/>
                                    <xs:element ref="tasks:DateCompleted"/>
                                    <xs:element ref="tasks:DueDate"/>
                                    <xs:element ref="tasks:UtcDueDate"/>
                                    <xs:element ref="tasks:Importance"/>
                                    <xs:element ref="tasks:Recurrence"/>
                                    <xs:element ref="tasks:ReminderSet"/>
                                    <xs:element ref="tasks:ReminderTime"/>
                                    <xs:element ref="tasks:Sensitivity"/>
                                    <xs:element ref="tasks:StartDate"/>
                                    <xs:element ref="tasks:UtcStartDate"/>
                                    <xs:element ref="notes:Subject"/>
                                    <xs:element ref="notes:MessageClass"/>
                                    <xs:element ref="notes:LastModifiedDate"/>
                                    <xs:element ref="notes:Categories"/>
                                    <xs:element ref="email:To"/>
                                    <xs:element ref="email:From"/>
                                    <xs:element ref="email:DateReceived"/>
                                    <xs:element ref="email:InternetCPID"/>
                                    <xs:element ref="email:Importance"/>
                                    <xs:element ref="email:Flag"/>
                                    <xs:element ref="email:Read"/>
                                </xs:choice>
                            </xs:sequence>
                        </xs:complexType>
                    </xs:element>
                </xs:sequence>
            </xs:complexType>
        </xs:element>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="Fetch">
            <xs:complexType>
                <xs:sequence>
                    <xs:element name="ServerId">
                        <xs:simpleType>
                            <xs:restriction base="xs:string">
                                <xs:maxLength value="64"/>
                            </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                </xs:sequence>
            </xs:complexType>
        </xs:element>
    </xs:choice>
</xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="Wait" minOccurs="0" maxOccurs="1">
  <xs:simpleType>
    <xs:restriction base="xs:integer">
      <xs:minInclusive value="1"/>
```

```
                <xs:maxInclusive value="59"/>
              </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="HeartbeatInterval" minOccurs="0" maxOccurs="1">
          <xs:simpleType>
            <xs:restriction base="xs:integer">
              <xs:minInclusive value="1"/>
              <xs:maxInclusive value="3540"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="WindowSize" minOccurs="0" maxOccurs="1">
          <xs:simpleType>
            <xs:restriction base="xs:integer">
              <xs:minInclusive value="0"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="Partial" minOccurs="0" maxOccurs="1" />
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

6.24 Sync-Tasks-request

The following is the request schema for the **Sync-Tasks** command:

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

    <xs:element name="Subject" type="xs:string"/>
    <xs:element name="Categories">
        <xs:complexType>
            <xs:sequence minOccurs="0">
                <xs:element maxOccurs="300" name="Category" type="xs:string" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="Complete" type="xs:unsignedByte"/>
    <xs:element name="DateCompleted" type="xs:string"/>
    <xs:element name="DueDate" type="xs:string"/>
    <xs:element name="UtcDueDate" type="xs:string"/>
    <xs:element name="Importance" type="xs:unsignedByte"/>
    <xs:element name="Recurrence">
        <xs:complexType>
            <xs:all minOccurs="0">
                <xs:element minOccurs="1" name="Type">
                    <xs:simpleType>
                        <xs:restriction base="xs:unsignedByte">
```

```
                            <xs:minInclusive value="0"/>
                            <xs:maxInclusive value="6"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element minOccurs="0" name="Start" type="xs:string" />
                <xs:element minOccurs="0" name="Until" type="xs:string" />
                <xs:element minOccurs="0" name="Occurrences" type="xs:unsignedShort" />
                <xs:element minOccurs="0" name="Interval">
                    <xs:simpleType>
                        <xs:restriction base="xs:unsignedShort">
                            <xs:minInclusive value="0"/>
                            <xs:maxInclusive value="999"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element minOccurs="0" name="DayOfWeek">
                    <xs:simpleType>
                        <xs:restriction base="xs:unsignedShort">
                            <xs:minInclusive value="0"/>
                            <xs:maxInclusive value="127"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element minOccurs="0" name="DayOfMonth">
                    <xs:simpleType>
                        <xs:restriction base="xs:unsignedByte">
                            <xs:minInclusive value="1"/>
                            <xs:maxInclusive value="127"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element minOccurs="0" name="WeekOfMonth">
                    <xs:simpleType>
                        <xs:restriction base="xs:unsignedByte">
                            <xs:minInclusive value="1"/>
                            <xs:maxInclusive value="5"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element minOccurs="0" name="MonthOfYear">
                    <xs:simpleType>
                        <xs:restriction base="xs:unsignedByte">
                            <xs:minInclusive value="1"/>
                            <xs:maxInclusive value="12"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element minOccurs="0" name="Regenerate" type="xs:unsignedByte"/>
                <xs:element minOccurs="0" name="DeadOccur" type="xs:unsignedByte"/>
                <xs:element minOccurs="0" name="CalendarType">
                    <xs:simpleType>
                        <xs:restriction base="xs:unsignedByte">
                            <xs:minInclusive value="0"/>
                            <xs:maxInclusive value="23"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
                <xs:element minOccurs="0" name="IsLeapMonth">
```

```
                    <xs:simpleType>
                        <xs:restriction base="xs:unsignedByte">
                            <xs:minInclusive value="0"/>
                            <xs:maxInclusive value="1"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
            </xs:all>
        </xs:complexType>
    </xs:element>
    <xs:element name="ReminderSet" type="xs:unsignedByte"/>
    <xs:element name="ReminderTime" type="xs:string"/>
    <xs:element name="Sensitivity">
        <xs:simpleType>
            <xs:restriction base="xs:unsignedByte">
                <xs:minInclusive value="0"/>
                <xs:maxInclusive value="3"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
    <xs:element name="StartDate" type="xs:string"/>
    <xs:element name="UtcStartDate" type="xs:string"/>
    <xs:element name="OrdinalDate" type="xs:string"/>
    <xs:element name="SubOrdinalDate" type="xs:string"/>
</xs:schema>
```

6.25 ValidateCert-request

The following is the request schema for the **ValidateCert** command:

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

    <xs:element name="ValidateCert">
        <xs:complexType>
            <xs:all minOccurs="0" maxOccurs="1">
                <xs:element name="CertificateChain" minOccurs="0" maxOccurs="1">
                    <xs:complexType>
                        <xs:choice maxOccurs="unbounded">
                            <xs:element name="Certificate" minOccurs="1"
 maxOccurs="unbounded">
                                <xs:simpleType>
                                    <xs:restriction base="xs:base64Binary">
                                        <xs:minLength value="4"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                        </xs:choice>
                    </xs:complexType>
                </xs:element>
                <xs:element name="Certificates" minOccurs="1" maxOccurs="1">
                    <xs:complexType>
```

```
                        <xs:choice maxOccurs="unbounded">
                            <xs:element name="Certificate" minOccurs="1"
 maxOccurs="unbounded">
                                <xs:simpleType>
                                    <xs:restriction base="xs:base64Binary">
                                        <xs:minLength value="4"/>
                                    </xs:restriction>
                                </xs:simpleType>
                            </xs:element>
                        </xs:choice>
                    </xs:complexType>
                </xs:element>
                <xs:element name="CheckCrl" minOccurs="0" maxOccurs="1">
                    <xs:simpleType>
                        <xs:restriction base="xs:integer">
                            <xs:minInclusive value="0"/>
                            <xs:maxInclusive value="1"/>
                        </xs:restriction>
                    </xs:simpleType>
                </xs:element>
            </xs:all>
        </xs:complexType>
    </xs:element>
 </xs:schema>
```

7 Appendix B: Product Behavior

The information in this specification is applicable to the following product versions:

- Microsoft Exchange Server 2007

- Microsoft Exchange Server 2010

Exceptions, if any, are noted below. If a service pack number appears with the product version, behavior changed in that service pack. The new behavior also applies to subsequent service packs of the product unless otherwise specified.

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

<1> Section 2.2.1.1.1.2: The GetAttachment command is only supported when the MS-ASProtocolVersion header is set to 12.1 or 12.0 in the GetAttachment command request. The GetAttachment command is not supported for MS-ASProtocolVersion 14.0 – use the Fetch element of the ItemOperations command instead.

<2> Section 2.2.1.1.1.3: The GetAttachment command is only supported when the MS-ASProtocolVersion header is set to 12.1 or 12.0 in the GetAttachment command request. The GetAttachment command is not supported for MS-ASProtocolVersion 14.0 – use the Fetch element of the ItemOperations command instead.

8 Change Tracking

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

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