[MS-ASEMAIL]:
ActiveSync E-Mail Class Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
12/03/2008	1.0.0	Major	Initial Release.
02/04/2009	1.0.1	Editorial	Revised and edited technical content.
03/04/2009	1.0.2	Editorial	Revised and edited technical content.
04/10/2009	2.0.0	Major	Updated technical content and applicable product releases.
07/15/2009	3.0.0	Major	Revised and edited for technical content.
11/04/2009	4.0.0	Major	Updated and revised the technical content.
02/10/2010	5.0.0	Major	Updated and revised the technical content.
05/05/2010	6.0.0	Major	Updated and revised the technical content.
08/04/2010	7.0	Major	Significantly changed the technical content.
11/03/2010	7.1	Minor	Clarified the meaning of the technical content.
03/18/2011	7.2	Minor	Clarified the meaning of the technical content.
08/05/2011	8.0	Major	Significantly changed the technical content.

Table of Contents

1   Introduction

The ActiveSync E-Mail Class Protocol enables the communication of e-mail data between a mobile device and the server in the ActiveSync protocol.

Sections 1.8, 2, and 3 of this specification are normative and contain RFC 2119 language. Sections 1.5 and 1.9 are also normative but cannot contain RFC 2119 language. All other sections and examples in this specification are informative.

1.1   Glossary

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

> **base64**
> **code page**
> **Coordinated Universal Time (UTC)**
> **Voice over IP (VoIP)**
> **XML**

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

> **base64 encoding**
> **binary large object (BLOB)**
> **blind carbon copy (Bcc) recipient**
> **calendar**
> **Calendar folder**
> **Calendar object**
> **clear-signed message**
> **conversation**
> **delegate**
> **delivery receipt**
> **Hypertext Markup Language (HTML)**
> **Inbox folder**
> **mailbox**
> **meeting**
> **message part**
> **Multipurpose Internet Mail Extensions (MIME)**
> **non-delivery report**
> **non-read receipt**
> **opaque-signed message**
> **Out of Office (OOF)**
> **read receipt**
> **recipient**
> **recurrence pattern**
> **S/MIME (Secure/Multipurpose Internet Mail Extensions)**
> **tentative**
> **Uniform Resource Identifier (URI)**
> **Wireless Application Protocol (WAP) Binary XML (WBXML)**
> **XML element**
> **XML namespace**
> **XML schema**
> **XML schema definition (XSD)**

The following terms are specific to this document:

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

1.2   References

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.

[E164] ITU-T, "The International Public Telecommunication Numbering Plan", Recommendation E.164, February 2005, http://www.itu.int/rec/T-REC-E.164/e

Note   There is a charge to download the specification.

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

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

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

[MS-ASCON] Microsoft Corporation, "ActiveSync Conversations Protocol Specification".

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

[MS-ASMS] Microsoft Corporation, "ActiveSync Short Message Service Protocol Specification".

[MS-ASRM] Microsoft Corporation, "ActiveSync Rights Management Protocol Specification".

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

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

[MS-IPFFX] Microsoft Corporation, "InfoPath Form File Format Specification".

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

[RFC3261] Rosenberg, J., Schulzrinne, H., Camarillo, G., Johnston, A., Peterson, J., Sparks, R., Handley, M., and Schooler, E., "SIP: Session Initiation Protocol", RFC 3261, June 2002, http://www.ietf.org/rfc/rfc3261.txt

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

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

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

1.2.2 Informative References

[MS-ASHTTP] Microsoft Corporation, "ActiveSync HTTP Protocol Specification".

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

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

1.3 Overview

This protocol describes the **XML** representation of e-mail message data that is used for client and server communication as described in [MS-ASCMD]. The e-mail message data is included in protocol command requests when e-mail message data is sent from the client to the server, and is included in protocol command responses when e-mail message data is returned from the server to the client.

1.4 Relationship to Other Protocols

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

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

1.5 Prerequisites/Preconditions

None.

1.6 Applicability Statement

This protocol describes a set of **XML elements** that are used to communicate e-mail data when using the commands described in [MS-ASCMD]. This set of elements is applicable when communicating e-mail data such as to, from, and subject, as well as body, attachment, flag, and meeting request information between a mobile device and a server. These elements are not applicable when sending **calendar**, task, note, or contact data between a mobile device and a server.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

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

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

2.2 Message Syntax

The markup MUST be well-formed XML, as specified in [XML], using the commands specified in [MS-ASCMD].

This protocol defines XML schema elements for the E-mail class, which represents an e-mail item.

The XML schema for the E-mail class is defined as follows, in accordance with the rules specified in [XMLNS] and [XMLSCHEMA1].

Elements of the **E-mail** class are defined in five namespaces: **Email**, **Email2**, **Tasks**, **AirSyncBase**, and **RightsManagement**. This section provides full or partial **XSDs** for these namespaces, as applicable.

The **Email** namespace is defined as follows.

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:tns="Email:" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:" xmlns:tasks="Tasks:"
xmlns:rightsmanagement="RightsManagement" targetNamespace="Email:"
elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="AirSyncBase:" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="Tasks:" schemaLocation="Tasks.xsd"/>
  <xs:import namespace="Email2:" schemaLocation="Email2.xsd"/>
  <xs:element name="To">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:maxLength value="32768"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Cc" type="xs:string"/>
  <xs:element name="From">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:maxLength value="32768"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Subject" type="xs:string"/>
  <xs:element name="ReplyTo" type="xs:string"/>
  <xs:element name="DateReceived" type="xs:dateTime"/>
  <xs:element name="DisplayTo" type="xs:string"/>
  <xs:element name="ThreadTopic" type="xs:string"/>
  <xs:element name="Importance" type="xs:unsignedByte"/>
  <xs:element name="Read" type="xs:boolean"/>
```

```
<xs:element name="MessageClass" type="xs:string"/>
<xs:element name="MeetingRequest">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="AllDayEvent" type="xs:unsignedByte" minOccurs="0"/>
      <xs:element name="StartTime" type="xs:dateTime" minOccurs="1"/>
      <xs:element name="DtStamp" type="xs:dateTime" />
      <xs:element name="EndTime" type="xs:dateTime" />
      <xs:element name="InstanceType" type="xs:unsignedByte" />
      <xs:element name="Location" minOccurs="0">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:maxLength value="32768"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>
      <xs:element name="Organizer" type="xs:string" minOccurs="0"/>
      <xs:element name="RecurrenceId" type="xs:dateTime" minOccurs="0"/>
      <xs:element name="Reminder" type="xs:unsignedShort" minOccurs="0"/>
      <xs:element name="ResponseRequested" type="xs:unsignedByte" minOccurs="0"/>
      <xs:element name="Recurrences" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="Recurrence" >
              <xs:complexType>
                <xs:sequence>
                  <xs:element name="Type" type="xs:unsignedByte" />
                  <xs:element name="Interval" type="xs:integer" />
                  <xs:element name="Until" type="xs:dateTime" />
                  <xs:element name="Occurrences" type="xs:integer" minOccurs="0"/>
                  <xs:element name="WeekOfMonth" type="xs:integer" minOccurs="0"/>
                  <xs:element name="DayOfMonth" type="xs:integer" minOccurs="0"/>
                  <xs:element name="DayOfWeek" type="xs:integer" minOccurs="0"/>
                  <xs:element name="MonthOfYear" type="xs:integer" minOccurs="0"/>
                  <xs:element ref="email2:CalendarType" minOccurs="0"/>
                  <xs:element ref="email2:IsLeapMonth" minOccurs="0"/>
                  <xs:element ref="email2:FirstDayOfWeek" minOccurs="0"/>
                </xs:sequence>
              </xs:complexType>
            </xs:element>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="Sensitivity" type="xs:integer" minOccurs="0"/>
      <xs:element name="BusyStatus" type="xs:integer" minOccurs="0"/>
      <xs:element name="TimeZone" type="xs:string" />
      <xs:element name="GlobalObjId" type="xs:string" />
      <xs:element name="DisallowNewTimeProposal" type="xs:unsignedByte" minOccurs="0"/>
      <xs:element ref="email2:MeetingMessageType" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="InternetCPID" type="xs:string"/>
<xs:element name="Flag">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="tasks:Subject" minOccurs="0"/>
      <xs:element name="Status" type="xs:integer" minOccurs="0"/>
      <xs:element name="FlagType" type="xs:string" minOccurs="0"/>
```

```
            <xs:element ref="tasks:DateCompleted" minOccurs="0"/>
            <xs:element name="CompleteTime" type="xs:dateTime" minOccurs="0"/>
            <xs:element ref="tasks:StartDate" minOccurs="0"/>
            <xs:element ref="tasks:DueDate" minOccurs="0"/>
            <xs:element ref="tasks:UtcStartDate" minOccurs="0"/>
            <xs:element ref="tasks:UtcDueDate" minOccurs="0"/>
            <xs:element ref="tasks:ReminderSet" minOccurs="0"/>
            <xs:element ref="tasks:ReminderTime" minOccurs="0"/>
            <xs:element ref="tasks:OrdinalDate" minOccurs="0"/>
            <xs:element ref="tasks:SubOrdinalDate" minOccurs="0"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="ContentClass" type="xs:string"/>
    <xs:element name="Categories">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="Category" minOccurs="0" maxOccurs="300"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:group name="TopLevelSchemaProps">
      <xs:sequence>
        <xs:element name="To"/>
        <xs:element name="Cc"/>
        <xs:element name="From"/>
        <xs:element name="ReplyTo"/>
        <xs:element name="DateReceived"/>
        <xs:element name="Subject"/>
        <xs:element name="DisplayTo"/>
        <xs:element name="Importance"/>
        <xs:element name="Read"/>
        <xs:element name="MessageClass"/>
        <xs:element name="MeetingRequest"/>
        <xs:element name="ThreadTopic"/>
        <xs:element name="InternetCPID"/>
      </xs:sequence>
    </xs:group>
</xs:schema>
```

The **Email2** namespace is defined as follows.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:tns="Email2:" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:email2="Email2" targetNamespace="Email2:" elementFormDefault="qualified"
attributeFormDefault="unqualified">
  <xs:element name="UmCallerID" type="xs:string"/>
  <xs:element name="UmUserNotes" type="xs:string"/>
  <xs:element name="UmAttDuration" type="xs:integer"/>
  <xs:element name="UmAttOrder" type="xs:integer"/>
  <xs:element name="ConversationId" type="xs:string"/>
  <xs:element name="ConversationIndex" type="xs:string"/>
  <xs:element name="LastVerbExecuted" type="xs:integer"/>
  <xs:element name="LastVerbExecutionTime" type="xs:dateTime"/>
  <xs:element name="ReceivedAsBcc" type="xs:unsignedByte"/>
  <xs:element name="Sender" type="xs:string"/>
  <xs:element name="CalendarType" type="xs:integer"/>
  <xs:element name="IsLeapMonth" type="xs:unsignedByte"/>
```

```
   <xs:element name="AccountId" type="xs:string"/>
   <xs:element name="FirstDayOfWeek" type="xs:unsignedByte"/>
   <xs:element name="MeetingMessageType" type="xs:unsignedByte"/>
 </xs:schema>
```

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

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

The portion of the **RightsManagement** namespace that is used by the **E-mail** class is defined as follows. For more details about the complete **RightsManagement** XSD, see [MS-ASRM] section 2.2.

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:rightsmanagement="RightsManagement:"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="RightsManagement:"
targetNamespace="RightsManagement:" elementFormDefault="qualified"
attributeFormDefault="unqualified">
  <xs:element name="RightsManagementLicense">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="TemplateId" type="rm:NonEmptyStringType"/>
        <xs:element name="TemplateName" type="rm:NonEmptyStringType"/>
        <xs:element name="TemplateDescription" type="rm:NonEmptyStringType"/>
        <xs:element name="EditAllowed" type="xs:boolean"/>
        <xs:element name="ReplyAllowed" type="xs:boolean"/>
        <xs:element name="ReplyAllAllowed" type="xs:boolean"/>
        <xs:element name="ForwardAllowed" type="xs:boolean"/>
        <xs:element name="ModifyRecipientsAllowed" type="xs:boolean"/>
        <xs:element name="ExtractAllowed" type="xs:boolean"/>
        <xs:element name="PrintAllowed" type="xs:boolean"/>
        <xs:element name="ExportAllowed" type="xs:boolean"/>
        <xs:element name="ProgrammaticAccessAllowed" type="xs:boolean"/>
        <xs:element name="Owner" type="xs:boolean"/>
        <xs:element name="ContentExpiryDate" type="xs:dateTime"/>
        <xs:element name="ContentOwner" type="rm:NonEmptyStringType"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

For more details about how **E-mail** class elements are used within the **ItemOperations** command ([MS-ASCMD] section 2.2.2.8), the **Search** command ([MS-ASCMD] section 2.2.2.14) and the **Sync** command ([MS-ASCMD] section 2.2.2.19), see sections 3.1.5 and 3.2.5.

2.2.1 Namespaces

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

Prefix	Namespace URI	Reference
(none)	**Email**	
email2	**Email2**	
airsync	**AirSync**	[MS-ASCMD] section 2.2.2.19
airsyncbase	**AirSyncBase**	[MS-ASAIRS]
calendar	**Calendar**	[MS-ASCAL]
itemoperations	**ItemOperations**	[MS-ASCMD] section 2.2.2.8
rm	**RightsManagement**	[MS-ASRM]
search	**Search**	[MS-ASCMD] section 2.2.2.14
tasks	**Tasks**	[MS-ASTASK]
xs	**http://www.w3.org/2001/XMLSchema**	[XMLSCHEMA1]

2.2.2 Elements

Elements of the **E-mail** class are defined in five namespaces: **Email**, **Email2**,<1> **AirSyncBase**, **Tasks**, and **RightsManagement**.<2> All elements defined in the **Email** namespace and the **Email2** namespace, as well as the top-level elements imported from the **AirSyncBase** namespace, **Tasks** namespace, and **RightsManagement** namespace, are specified in this document. However, elements defined in the **AirSyncBase** namespace are further specified in [MS-ASAIRS].

The following table summarizes the set of common XML schema elements that are defined by this specification. Elements that are specific to a particular operation are specified further in sections 3.1.5.1, 3.1.5.2, 3.1.5.3, 3.2.5.1, 3.2.5.2, and 3.2.5.3.

Element name	Description
To (section 2.2.2.67)	Specifies the list of **recipients (1)**.
Cc (section 2.2.2.11)	Specifies the list of secondary recipients.
From (section 2.2.2.29)	Specifies the e-mail address of the message sender.
Subject (section 2.2.2.63)	Specifies the subject of the e-mail message or the subject of the flag as it would appear in a task list.
ReplyTo (section 2.2.2.55)	Specifies the e-mail address to which replies will be addressed

Element name	Description
	by default.
DateReceived (section 2.2.2.17)	Specifies the date and time that the message was received on the server.
DisplayTo (section 2.2.2.22)	Specifies the names of the primary recipients of the message.
ThreadTopic (section 2.2.2.65)	Specifies the topic used in **conversation** reading.
Importance (section 2.2.2.31)	Specifies the importance of the message, as determined by the sender.
Read (section 2.2.2.47)	Specifies whether the message has been read.
airsyncbase:Attachments (section 2.2.2.4)	Specifies the collection of **airsyncbase:Attachment** elements.
airsyncbase:Attachment (section 2.2.2.3)	Specifies the e-mail attachment.
airsyncbase:DisplayName (section 2.2.2.21)	Specifies the name of the attachment file as displayed to the user.
email2:UmAttOrder (section 2.2.2.70)	Specifies the order of electronic voice mail attachments.
email2:UmAttDuration (section 2.2.2.69)	Specifies the duration of electronic voicemail attachments.
airsyncbase:Body (section 2.2.2.5)	Specifies a description of the body text, along with its data.
MessageClass (section 2.2.2.41)	Specifies the message class of this e-mail message.
MeetingRequest (section 2.2.2.40)	Specifies a meeting request accompanying an e-mail message.
AllDayEvent (section 2.2.2.2)	Specifies whether the calendar item is an all-day event.
StartTime (section 2.2.2.61)	Specifies the date and time that the meeting starts.
DtStamp (section 2.2.2.23)	Specifies the date and time that the calendar item was created.
EndTime (section 2.2.2.25)	Specifies the date and time that the meeting ends.
InstanceType (section 2.2.2.32)	Specifies the type of calendar item.
Location (section 2.2.2.38)	Specifies the location for the calendar item.
Organizer (section 2.2.2.46)	Specifies the e-mail alias of the **meeting** organizer.
RecurrenceId (section 2.2.2.50)	Specifies a specific instance of a recurring calendar item.
Reminder (section 2.2.2.52)	Specifies the number of seconds prior to the calendar item's start time that a reminder is displayed.
ResponseRequested (section 2.2.2.56)	Specifies whether the originator of the meeting has requested a response.
Recurrences (section 2.2.2.51)	Specifies a collection of **Recurrence** elements.
Recurrence (section 2.2.2.49)	Specifies a collection of **Recurrence** elements that describe

Element name	Description
	when and how often this meeting recurs.
Type (section 2.2.2.68)	Specifies the recurrence type of the recurring meeting.
Interval (section 2.2.2.34)	Specifies the interval between recurrences of the recurring meeting.
Until (section 2.2.2.73)	Specifies the end time of a series of recurrence meetings.
Occurrences (section 2.2.2.44)	Specifies the number of occurrences before the series of recurring meeting ends.
WeekOfMonth (section 2.2.2.76)	Specifies the week of the month of the recurring meeting.
DayOfMonth (section 2.2.2.18)	Specifies the day of the month of the recurring meeting.
DayOfWeek (section 2.2.2.19)	Specifies the day of the week of the recurring meeting.
MonthOfYear (section 2.2.2.42)	Specifies the month of the year of the recurring meeting.
email2:CalendarType (section 2.2.2.8)	Specifies the type of calendar associated with the recurrence.
email2:IsLeapMonth (section 2.2.2.35)	Specifies whether the recurrence takes place in the leap month of the given year.
email2:FirstDayOfWeek (section 2.2.2.26)	Specifies the day that is considered the first day of the calendar week for this recurrence.
Sensitivity (section 2.2.2.59)	Specifies the confidentiality level of the meeting request.
BusyStatus (section 2.2.2.7)	Specifies the intended busy status for the meeting request.
TimeZone (section 2.2.2.66)	Specifies the time zone specified when the calendar item was created.
GlobalObjId (section 2.2.2.30)	Specifies a random 76-digit hexadecimal ID generated by the client for the meeting request.
DisallowNewTimeProposal (section 2.2.2.20)	Specifies whether recipients can propose a new meeting time.
email2:MeetingMessageType (section 2.2.2.39)	Specifies the type of the meeting message.
InternetCPID (section 2.2.2.33)	Specifies the original **code page** ID from the **MIME** message.
Flag (section 2.2.2.27)	Specifies the flag associated with the item, along with the item's current status.
Status (section 2.2.2.62)	Specifies the current status of the flag.
FlagType (section 2.2.2.28)	Specifies the type of the flag.
tasks:DateCompleted (section 2.2.2.16)	Specifies the date on which the flagged item was completed.
CompleteTime (section 2.2.2.12)	Specifies the time at which the flagged item was marked as finished.

Element name	Description
tasks:StartDate (section 2.2.2.60)	Specifies the start date of the flagged item.
tasks:DueDate (section 2.2.2.24)	Specifies the due date of the flagged item.
tasks:UtcStartDate (section 2.2.2.75)	Specifies the **Coordinated Universal Time (UTC)** value of the local **tasks:StartDate**.
tasks:UtcDueDate (section 2.2.2.74)	Specifies the UTC value of the local **tasks:DueDate**.
tasks:ReminderSet (section 2.2.2.53)	Specifies whether a reminder has been set for this flagged item.
tasks:ReminderTime (section 2.2.2.54)	Specifies the date and time that the reminder is scheduled to occur.
tasks:OrdinalDate (section 2.2.2.45)	Specifies the time at which the client set the flag.
tasks:SubOrdinalDate (section 2.2.2.64)	Specifies a string used to sort items.
airsyncbase:NativeBodyType (section 2.2.2.43)	Specifies the format in which the item is stored on the server.
ContentClass (section 2.2.2.13)	Specifies the content class of the data.
email2:UmCallerID (section 2.2.2.71)	Specifies the callback telephone number of the person who called or left an electronic voice message.
email2:UmUserNotes (section 2.2.2.72)	Specifies user notes related to an electronic voice message.
email2:ConversationId (section 2.2.2.14)	Specifies a unique identifier for a conversation.
email2:ConversationIndex (section 2.2.2.15)	Specifies a set of dates and times used by clients to generate a conversation tree view.
email2:LastVerbExecuted (section 2.2.2.36)	Specifies the last action, such as reply or forward, which was taken on the message so that the client can display the appropriate icon.
email2:LastVerbExecutionTime (section 2.2.2.37)	Specifies the time when the **email2:LastVerbExecuted** was performed on the message.
email2:ReceivedAsBcc (section 2.2.2.48)	Specifies whether the recipient was blind carbon copied on a message.
email2:Sender (section 2.2.2.58)	Specifies the user that actually sent the message when the message was not sent by the user identified by **From**.
Categories (section 2.2.2.9)	Specifies the user-selected categories for this message.
Category (section 2.2.2.10)	Specifies the category for this e-mail item.
airsyncbase:BodyPart (section 2.2.2.6)	Specifies the unique **message part** of the requested message along with other meta-data properties.
email2:AccountId (section 2.2.2.1)	Specifies the ID of the account that received the message.

Element name	Description
rm:RightsManagementLicense (section 2.2.2.57)	Specifies the rights management settings.

2.2.2.1 AccountId

The **email2:AccountId** element<3> is an optional element that specifies a unique identifier for the account that received a message. It is defined as an element in the **Email2** namespace.

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

The **email2:AccountId** element value SHOULD equal one of the **email2:AccountId** element values included in the **Settings** command response ([MS-ASCMD] section 2.2.2.16.2), which lists the all aggregate accounts that the user subscribes to. In the event that the **email2:AccountId** element value does not equal one of the **email2:AccountId** element values included in the **Settings** command response, the client SHOULD handle the case without error, as the message was aggregated from an unknown account or an account that has been removed from the aggregate account list.

The **email2:AccountId** element is not included for e-mail messages that were sent to the primary account, as identified by the **PrimarySmtpAddress** element ([MS-ASCMD] section 2.2.3.117).

2.2.2.2 AllDayEvent

The **AllDayEvent** element is an optional child element of the **MeetingRequest** element (section 2.2.2.40) that specifies whether the meeting request is for an all-day event. It is defined as an element in the **Email** namespace.

The value of this element is an **unsignedByte** data type, as specified in [MS-ASDTYPE] section 2.7.

If the value of this element is set to 1, the meeting request corresponds to an all-day event. If the value of this element is set to 0 (zero), the meeting request does not correspond to an all-day event.

2.2.2.3 Attachment

The **airsyncbase:Attachment** element is a required **container** ([MS-ASDTYPE] section 2.2) element that represents an e-mail attachment. It is a child element of the **airsyncbase:Attachments** element (section 2.2.2.4) and is defined in the **AirSyncBase** namespace.

For more details about the **airsyncbase:Attachment** element and its child elements, see [MS-ASAIRS] section 2.2.2.6.1.

2.2.2.4 Attachments

The **airsyncbase:Attachments** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that contains a collection of **airsyncbase:Attachment** elements (section 2.2.2.3). It is defined as an element in the **AirSyncBase** namespace.

The **airsyncbase:Attachments** element can contain the following child element:

▪ **airsyncbase:Attachment**: This element is required.

For more details about the **airsyncbase:Attachments** element, see [MS-ASAIRS] section 2.2.2.6.

2.2.2.5 Body

The **airsyncbase:Body** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies details about the body of an e-mail.

When included in a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2), a **Search** command response ([MS-ASCMD] section 2.2.2.14.2), or an **ItemOperations** command response ([MS-ASCMD] section 2.2.2.8.3), the **airsyncbase:Body** element can contain the following child elements:

- **airsyncbase:Type** ([MS-ASAIRS] section 2.2.2.2.1). This element is required.

- **airsyncbase:EstimatedDataSize** ([MS-ASAIRS] section 2.2.2.4.2). This element is optional.

- **airsyncbase:Truncated** ([MS-ASAIRS] section 2.2.2.4.3). This element is optional.

- **airsyncbase:Data** ([MS-ASAIRS] section 2.2.2.4.4). This element is optional in **Sync** command responses and **Search** command responses and is only included if a nonzero **airsyncbase:Preview** ([MS-ASAIRS] section 2.2.2.2.4) element value was included in the command request. This element is optional in **ItemOperations** command responses and is only included if a nonzero **airsyncbase:TruncationSize** ([MS-ASAIRS] section 2.2.2.2.2) element value was included in the request and the **airsyncbase:AllOrNone** ([MS-ASAIRS] section 2.2.2.2.3) element value included in the request does not restrict content from being returned in the response.

The **airsyncbase:Body** element is defined as an element in the **AirSyncBase** namespace, and is further specified in [MS-ASAIRS] section 2.2.2.4.

2.2.2.6 BodyPart

The **airsyncbase:BodyPart** element<4> is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies details about the message part of an e-mail message. It is defined as an element in the **AirSyncBase** namespace.

For more details about the **airsyncbase:BodyPart** element and its child elements, see [MS-ASAIRS] section 2.2.2.5.

2.2.2.7 BusyStatus

The **BusyStatus** element is an optional child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the busy status of the recipient (1) for the meeting, once the meeting request is accepted. It is defined as an element in the **Email** namespace.

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

The value of this element MUST be one of the values listed in the following table.

Value	Meaning
0	Free
1	Tentative
2	Busy
3	**Out of Office (OOF)**

If this element is not present, a default value of 1 MUST be assumed.

2.2.2.8 CalendarType

The **email2:CalendarType**<5> element is a child element of the **Recurrence** element (section 2.2.2.49) that specifies the type of calendar associated with the recurrence. This element is required in server responses and is optional in client requests. A default value of 0 (zero) is assumed if the element is not included in client requests. It is defined as an element in the **Email2** namespace.

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

The following table lists valid values for the **email2:CalendarType** element.

Value	Meaning
0	Default
1	Gregorian
2	Gregorian US
3	Japan
4	Taiwan
5	Korea
6	Hijri
7	Thai
8	Hebrew
9	GregorianMeFrench
10	Gregorian Arabic
11	Gregorian translated English
12	Gregorian translated French
14	Japanese Lunar
15	Chinese Lunar
20	Korean Lunar

Clients that send an unsupported **email2:CalendarType** value to the server will receive an error in the command response.

2.2.2.9 Categories

The **Categories** element<6> is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies a collection of user-selected categories assigned to the e-mail message. It is defined as an element in the **Email** namespace.

The **Categories** element can contain the following child element:

- **Category** (section 2.2.2.10): This element is optional.

An empty **Categories** element is included in a **Sync** ([MS-ASCMD] section 2.2.2.19) **Add** ([MS-ASCMD] section 2.2.3.7.2) command if no child **Category** elements have been set on the message. A **Sync Change** ([MS-ASCMD] section 2.2.3.23) command that contains an empty **Categories** element indicates that all categories associated with the message have been removed. A **Sync Change** command that does not contain a **Categories** element indicates that the categories on the message have not changed.

2.2.2.10 Category

The **Category** element<7> is an optional child element of the **Categories** element (section 2.2.2.9) that specifies a category that is assigned to the e-mail item. It is defined as an element in the **Email** namespace.

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

A command request SHOULD include no more than 300 **Category** child elements per **Categories** element.

2.2.2.11 Cc

The **Cc** element is an optional element that specifies the list of secondary recipients (1) of a message. It is defined as an element in the **Email** namespace.

The message is directed at the primary recipient as specified by the **To** element (section 2.2.2.67), but the secondary recipients also receive a copy of the message.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6. The value of this element contains one or more e-mail addresses. If there are multiple e-mail addresses, they are separated by commas.

2.2.2.12 CompleteTime

The **CompleteTime** element is an optional child element of the **Flag** element (section 2.2.2.27) that identifies the time at which a flagged item was marked as finished. It is defined as an element in the **Email** namespace.

The **CompleteTime** element is required to mark a flagged item as complete. If a message includes a value for the **CompleteTime** element, the message SHOULD also include a value for the **tasks:DateCompleted** element. The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

A maximum of one **CompleteTime** child element is allowed per **Flag** element.

2.2.2.13 ContentClass

The **ContentClass** element is an optional element that specifies the content class of the data. It is defined as an element in the **Email** namespace.

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

For e-mail messages, the value of this element MUST be set to "urn:content-classes:message".

2.2.2.14 ConversationId

The **email2:ConversationId** element<8> is a required element that specifies a unique identifier for a conversation. It is defined as an element in the **Email2** namespace.

The value of this element is a **byte array** data type, as specified in [MS-ASDTYPE] section 2.6.1.

The client MUST NOT change the **email2:ConversationId** element value. The server returns a **Status** element value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) when the **email2:ConversationId** element is included within a **Change** element ([MS-ASCMD] section 2.2.3.23) in a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1).

The **email2:ConversationId** content is transferred as an opaque **binary large object (BLOB)** within the WBXML tags.

For more details about conversations, see [MS-ASCON].

2.2.2.15   ConversationIndex

The **email2:ConversationIndex** element<9> is a required element that contains a set of timestamps used by clients to generate a conversation tree view. The first timestamp identifies the date and time when the message was originally sent by the server. Additional timestamps are added when the message is forwarded or replied to. The **email2:ConversationIndex** element is defined as an element in the **Email2** namespace.

The value of this element is a **byte array** data type, as specified in [MS-ASDTYPE] section 2.6.1.

For more details about the **email2:ConversationIndex** element, see [MS-ASCON] section 2.2.2.4.

2.2.2.16   DateCompleted

The **tasks:DateCompleted** element is an optional child element of the **Flag** element (section 2.2.2.27) that identifies the date on which a flagged item was completed. It is defined as an element in the **Tasks** namespace.

The **tasks:DateCompleted** element is required to mark a flagged item as complete. If a message includes a value for the **tasks:DateCompleted** element, the **CompleteTime** element (section 2.2.2.12) is also required. The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

A maximum of one **tasks:DateCompleted** child element is allowed per **Flag** element.

2.2.2.17   DateReceived

The **DateReceived** element is an optional element that specifies the date and time the message was received by the current recipient (1). It is defined as an element in the **Email** namespace. The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

2.2.2.18   DayOfMonth

The **DayOfMonth** element is an optional child element of the **Recurrence** element (section 2.2.2.49) that specifies the day of the month on which the meeting recurs. It is defined as an element in the **Email** namespace.

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

This element is required when the **Type** element (section 2.2.2.68) is set to a value of 2 (that is, the meeting recurs monthly on the Nth day of the month), or a value of 5 (that is, the meeting recurs yearly on the Nth day of the Nth month each year).

For examples that show how to set meeting recurrence intervals, see section 4.2.

2.2.2.19   DayOfWeek

The **DayOfWeek** element is an optional child element of the **Recurrence** element (section 2.2.2.49) that specifies the day of the week on which this meeting recurs. It is defined as an element in the **Email** namespace.

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

This element is required when the **Type** element (section 2.2.2.68) is set to a value of 1 (that is, the meeting recurs weekly), or a value of 6 (that is, the meeting recurs yearly on the Nth day of the week of the Nth month each year).

The value of this element MUST be the sum of a minimum of one and a maximum of seven independent values from the following table.

Value	Meaning
1	Sunday
2	Monday
4	Tuesday
8	Wednesday
16	Thursday
32	Friday
64	Saturday

These values can be added together to specify that the meeting occurs on more than one day of the week.

For examples that show how to set meeting recurrence intervals, see section 4.2.

2.2.2.20   DisallowNewTimeProposal

The **DisallowNewTimeProposal** element<10> is an optional child element of the **MeetingRequest** element (section 2.2.2.40) that indicates whether recipients (1) can propose a new meeting time for the meeting. It is defined as an element in the **Email** namespace.

If this element is not specified, the value defaults to 0 (zero), meaning that new time proposals are allowed. A nonzero value indicates that new time proposals are not allowed.

The value of this element is an **unsignedByte** data type, as specified in [MS-ASDTYPE] section 2.7.

2.2.2.21   DisplayName

The **airsyncbase:DisplayName** element is an optional child element of the **airsyncbase:Attachment** element (section 2.2.2.3) that specifies the name of the attachment file as it is displayed to the user. It is defined as an element in the **AirSyncBase** namespace.

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

For more details about the **DisplayName** element, see [MS-ASAIRS] section 2.2.2.6.1.1.

2.2.2.22 DisplayTo

The **DisplayTo** element is an optional element that specifies the e-mail addresses of the primary recipients (1) of this message. It is defined as an element in the **Email** namespace.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6. The value of this element contains one or more display names. If there are multiple display names, they are separated by semi-colons.

2.2.2.23 DtStamp

The **DtStamp** element is a required child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the date and time the calendar item was created. It is defined as an element in the **Email** namespace.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

2.2.2.24 DueDate

The **tasks:DueDate** element is an optional child element of the **Flag** element (section 2.2.2.27) that specifies when the flagged item is due. It is defined as an element in the **Tasks** namespace.

When a flag is updated, the **tasks:DueDate** element value MUST NOT occur before the **tasks:StartDate** element (section 2.2.2.60) value. The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if this condition is not met.

To set a flag, the **tasks:StartDate** element, **tasks:DueDate** element, **tasks:UtcStartDate** element (section 2.2.2.75), and **tasks:UtcDueDate** element (section 2.2.2.74) either all MUST be set, or all MUST be NULL. The server returns a **Status** element value of 6 in the **Sync** response if this condition is not met.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

A maximum of one **tasks:DueDate** child element is allowed per **Flag** element. The result of including more than one **tasks:DueDate** child element per **Flag** element is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.25 EndTime

The **EndTime** element is a required child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the date and time when the meeting ends. It is defined as an element in the **Email** namespace.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

2.2.2.26 FirstDayOfWeek

The **email2:FirstDayOfWeek**<11> element is an optional child element of the **Recurrence** element (section 2.2.2.49) that specifies which day is considered the first day of the calendar week for the recurrence. It is defined as an element in the **Email2** namespace.

A command request has a maximum of one **email2:FirstDayOfWeek** child element per **Recurrence** element. A command response has a maximum of one **email2:FirstDayOfWeek** child element per **Recurrence** element.

This element disambiguates recurrences when attendees live across localities that define a different starting day for the calendar week. If this element is not included in the client request, the server SHOULD identify the first day of the week for this recurrence according to the preconfigured options of the user creating the calendar item.

The value of this element is an unsignedByte data type, as specified in [MS-ASDTYPE] section 2.7.

The value of the **email2:FirstDayOfWeek** element MUST be one of the values listed in the following table. If the client uses the **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) to transmit a value that is not included in this table, the server MUST return protocol status error 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2). **Sync** command status values are specified in [MS-ASCMD] section 2.2.3.152.16.

Value	Meaning
0	Sunday
1	Monday
2	Tuesday
3	Wednesday
4	Thursday
5	Friday
6	Saturday

2.2.2.27 Flag

The **Flag** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that defines the flag associated with the item and indicates the item's current status. It is defined as an element in the **Email** namespace.

If flags are present on the e-mail item, the **Flag** element contains one or more child elements that define the flag. If no flags are present on the e-mail item, the **Flag** element SHOULD be included in the command as an empty container element (that is, "<Flag/>").

The **Flag** element can contain the following child elements:

▪ **tasks:Subject** (section 2.2.2.63): This element is optional.

▪ **Status** (section 2.2.2.62): This element is optional.

▪ **FlagType** (section 2.2.2.28): This element is optional.

▪ **tasks:DateCompleted** (section 2.2.2.16): This element is optional.

▪ **CompleteTime** (section 2.2.2.12): This element is optional.

▪ **tasks:StartDate** (section 2.2.2.60): This element is optional.

▪ **tasks:DueDate** (section 2.2.2.24): This element is optional.

▪ **tasks:UtcStartDate** (section 2.2.2.75): This element is optional.

▪ **tasks:UtcDueDate** (section 2.2.2.74): This element is optional.

- **tasks:ReminderSet** (section 2.2.2.53): This element is optional.

- **tasks:ReminderTime** (section 2.2.2.54): This element is optional.

- **tasks:OrdinalDate** (section 2.2.2.45): This element is optional.

- **tasks:SubOrdinalDate** (section 2.2.2.64): This element is optional.

2.2.2.28 FlagType

The **FlagType** element is an optional child element of the **Flag** element (section 2.2.2.27) that specifies the type of the flag. It is defined as an element in the **Email** namespace.

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

The **FlagType** element is not required if the e-mail message is a meeting request or response.

This element value is customizable, and is commonly set to "Flag for follow up" or "for Follow Up".

A maximum of one **FlagType** child element is allowed per **Flag**.

2.2.2.29 From

The **From** element is an optional element that specifies the e-mail address of the message sender. It is defined as an element in the **Email** namespace.

The value of the **From** element is an **e-mail address**, as specified in [MS-ASDTYPE] section 2.6.2, and has a maximum length of 32,768 characters.

2.2.2.30 GlobalObjId

The **GlobalObjId** element is a required child element of the **MeetingRequest** element (section 2.2.2.40) that contains a random 76-digit hexadecimal ID generated by the client for the meeting request. It is defined as an element in the **Email** namespace.

2.2.2.31 Importance

The **Importance** element is an optional element that specifies the importance of the message, as assigned by the sender. It is defined as an element in the **Email** namespace.

The value of this element is an **unsignedByte** data type, as specified in [MS-ASDTYPE] section 2.7.

The value of this element MUST be one of the values listed in the following table.

Value	Meaning
0 (zero)	Low importance
1	Normal importance
2	High importance

If this element is omitted from a command response, then clients MUST assume a value of 1 as the default value.

2.2.2.32 InstanceType

The **InstanceType** element is a required child element of the **MeetingRequest** element (section 2.2.2.40) that specifies whether the calendar item is a single or recurring appointment. It is defined as an element in the **Email** namespace.

The value of this element is an **unsignedByte** data type, as specified in [MS-ASDTYPE] section 2.7.

The value of this element MUST be one of the values listed in the following table.

Value	Meaning
0	Single appointment.
1	Master recurring appointment.
2	Single instance of a recurring appointment.
3	Exception to a recurring appointment.

2.2.2.33 InternetCPID

The **InternetCPID** element is a required element that contains the original code page ID from the MIME message. It is defined as an element in the **Email** namespace.

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

2.2.2.34 Interval

The **Interval** element is a required child element of the **Recurrence** element (section 2.2.2.49) that specifies the interval between meeting recurrences. It is defined as an element in the **Email** namespace.

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

An **Interval** element value of 1 indicates that the meeting occurs every week, month, or year, depending upon the value of the **Type** element (section 2.2.2.68). An **Interval** element value of 2 indicates that the meeting occurs every other week, month, or year.

For examples that show how to set meeting recurrence intervals, see section 4.2.

2.2.2.35 IsLeapMonth

The **email2:IsLeapMonth**<12> element is an optional child element of the **Recurrence** element (section 2.2.2.49) that specifies whether the recurrence takes place in the leap month of the given year. It is defined as an element in the **Email2** namespace.

The value of this element is an **unsignedByte** data type, as specified in [MS-ASDTYPE] section 2.7.

This element is required in server responses and is optional in client requests. A default value of 0 (zero, meaning FALSE) is used if the element value is not specified in the client request.

2.2.2.36 LastVerbExecuted

The **email2:LastVerbExecuted** element<13> is an optional element that indicates the last action, such as reply or forward, that was taken on the message. It is defined as an element in the **Email2**

namespace. The client can use the value of this element to display the appropriate icon for the message.

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

The following table lists the valid values for this element.

Value	Meaning
0	Unknown
1	REPLYTOSENDER
2	REPLYTOALL
3	FORWARD

The value of this element, together with the value of the **LastVerbExecutionTime** element (section 2.2.2.37), represents the reply state of the message.

2.2.2.37   LastVerbExecutionTime

The **email2:LastVerbExecutionTime** element<14> is an optional element that indicates the date and time when the action specified by the **email2:LastVerbExecuted** element (section 2.2.2.36) was performed on the message. It is defined as an element in the **Email2** namespace.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

The value of the **LastVerbExecuted** element (section 2.2.2.36), together with the value of this element, represents the reply state of the message.

2.2.2.38   Location

The **Location** element is an optional child element of the **MeetingRequest** element (section 2.2.2.40) that specifies where the meeting will occur. It is defined as an element in the **Email** namespace.

The value of the **Location** element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6, and has a maximum length of 32,768 characters.

2.2.2.39   MeetingMessageType

The **email2:MeetingMessageType** element<15> is a required child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the type of meeting message. It is defined as an element in the **Email2** namespace.

The value of this element is an **unsignedByte** value, as specified in [MS-ASDTYPE] section 2.7.

The **email2:MeetingMessageType** value is not change tracked within e-mail messages, and therefore is not updated if the value is changed after the meeting request is sent to the client.

The value of this element MUST be one of the values listed in the following table.

Value	Meaning
0	A silent update was performed, or the message type is unspecified.

Value	Meaning
1	Initial meeting request.
2	Full update.
3	Informational update.
4	Outdated. A newer meeting request or meeting update was received after this message.
5	Identifies the delegator's copy of the meeting request.
6	Identifies that the meeting request has been delegated and the meeting request cannot be responded to.

If this element is missing, then a default of 0 (zero) MUST be assumed.

2.2.2.40   MeetingRequest

The **MeetingRequest** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that contains information about the meeting. It is defined as an element in the **Email** namespace.

The **MeetingRequest** element is included message data when the message is a meeting request and the client's user is an attendee. The **MeetingRequest** element is not included in the message content of calendar items in the **Calendar folder** or normal e-mail messages. If a message contains the **MeetingRequest** element, the client can respond to the meeting request by using the **MeetingResponse** command, as specified in [MS-ASCMD] section 2.2.2.9.

The **MeetingRequest** element can contain the following child elements:

- **AllDayEvent** (section 2.2.2.2): This element is optional.

- **StartTime** (section 2.2.2.61): One instance of this element is required.

- **DtStamp** (section 2.2.2.23): One instance of this element is required.

- **EndTime** (section 2.2.2.25): One instance of this element is required.

- **InstanceType** (section 2.2.2.32): One instance of this element is required.

- **Location** (section 2.2.2.38): This element is optional.

- **Organizer** (section 2.2.2.46): This element is optional.

- **RecurrenceId** (section 2.2.2.50): This element is optional.

- **Reminder** (section 2.2.2.52): This element is optional.

- **ResponseRequested** (section 2.2.2.56): This element is optional.

- **Recurrences** (section 2.2.2.51): This element is optional.

- **Sensitivity** (section 2.2.2.59): This element is optional.

- **BusyStatus** (section 2.2.2.7): This element is optional.

- **TimeZone** (section 2.2.2.66): One instance of this element is required.

- **GlobalObjId** (section 2.2.2.30): One instance of this element is required.

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

- **MeetingMessageType** (section 2.2.2.39): One instance of this element is required.

2.2.2.41   MessageClass

The **MessageClass** element is an optional element that specifies the message class of this e-mail message. It is defined as an element in the **Email** namespace.

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

The **MessageClass** element value provides a hint that the client can use to aid in processing the item. This protocol does not validate that the item has the correct **MessageClass** element value, nor does it update incorrect values.

The value of the **MessageClass** element SHOULD be one of the values listed in the following table or derive from one of the values listed in the following table. This protocol supports the following message classes as well as all subclasses of the same namespaces.

Value	Meaning
IPM.Note	Normal e-mail message.
IPM.Note.SMIME	The message is encrypted and can also be signed.
IPM.Note.SMIME.MultipartSigned	The message is clear signed.
IPM.Note.Receipt.SMIME	The message is a secure **read receipt**.
IPM.InfoPathForm	An InfoPath form, as specified by [MS-IPFFX].
IPM.Schedule.Meeting	Meeting request.
IPM.Notification.Meeting	Meeting notification.
IPM.Post	Post.
IPM.Octel.Voice	Octel voice message.
IPM.Voicenotes	Electronic voice notes.
IPM.Sharing	Shared message.

In addition, certain administrative messages have a message class that is derived from one of the message classes listed in the preceding table. The format of this value is a prefix of "REPORT" and a suffix that indicates the type of report. For these administrative messages, the value of the **MessageClass** element MUST be one of the following values.

Value	Meaning
REPORT.IPM.NOTE.NDR	**Non-delivery report** for a standard message.
REPORT.IPM.NOTE.DR	**Delivery receipt** for a standard message.
REPORT.IPM.NOTE.DELAYED	Delivery receipt for a delayed message.
*REPORT.IPM.NOTE.IPNRN	Read receipt for a standard message.

Value	Meaning
*REPORT.IPM.NOTE.IPNNRN	**Non-read receipt** for a standard message.
REPORT.IPM.SCHEDULE. MEETING.REQUEST.NDR	Non-delivery report for a meeting request.
REPORT.IPM.SCHEDULE.MEETING.RESP.POS.NDR	Non-delivery report for a positive meeting response (accept).
REPORT.IPM.SCHEDULE.MEETING.RESP.TENT.NDR	Non-delivery report for a **Tentative** meeting response.
REPORT.IPM.SCHEDULE.MEETING.CANCELED.NDR	Non-delivery report for a cancelled meeting notification.
REPORT.IPM.NOTE.SMIME.NDR	Non-delivery report for a Secure MIME (**S/MIME**) encrypted and **opaque-signed message**.
*REPORT.IPM.NOTE.SMIME.DR	Delivery receipt for an S/MIME encrypted and opaque-signed message.
*REPORT.IPM.NOTE.SMIME.MULTIPARTSIGNED.NDR	Non-delivery report for an S/MIME **clear-signed message**.
*REPORT.IPM.NOTE.SMIME.MULTIPARTSIGNED.DR	Delivery receipt for an S/MIME clear-signed message.

2.2.2.42 MonthOfYear

The **MonthOfYear** element is an optional child element of the **Recurrence** element (section 2.2.2.49) that specifies the month of the year in which the meeting recurs. It is defined as an element in the **Email** namespace.

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

This element is required when the **Type** element (section 2.2.2.68) is set to a value of 6, indicating that the meeting recurs yearly on the Nth day of the week of the Nth month.

2.2.2.43 NativeBodyType

The **airsyncbase:NativeBodyType** element is an optional element that specifies how the e-mail message is stored on the server. It is defined as an element in the **AirSyncBase** namespace.

The value of this element is an **enumeration** data type, as specified in [MS-ASDTYPE] section 2.4.

For details about the **airsyncbase:NativeBodyType** element, see [MS-ASAIRS] section 2.2.2.7.

2.2.2.44 Occurrences

The **Occurrences** element is an optional child element of the **Recurrence** element (section 2.2.2.49) that specifies the number of occurrences before the series of recurring meetings ends. It is defined as an element in the **Email** namespace.

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

2.2.2.45   OrdinalDate

The **tasks:OrdinalDate** element is an optional child element of the **Flag** element (section 2.2.2.27) that identifies the time at which the client set the flag. It is defined as an element in the **Tasks** namespace.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

A maximum of one **tasks:OrdinalDate** child element is allowed per **Flag** element. The result of including more than one **tasks:OrdinalDate** child element per **Flag** element is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.46   Organizer

The **Organizer** element is an optional child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the coordinator of the meeting. It is defined as an element in the **Email** namespace.

The value of this element is an **e-mail address**, as specified in [MS-ASDTYPE] section 2.6.2.

2.2.2.47   Read

The **Read** element is an optional element that specifies whether the e-mail message has been viewed by the current recipient (1). It is defined as an element in the **Email** namespace.

A value of 1 (TRUE) indicates the e-mail message has been viewed by the current recipient; a value of 0 (zero, meaning FALSE) indicates the e-mail message has not been viewed by the current recipient.

The value of this element is a **boolean** data type, as specified in [MS-ASDTYPE] section 2.1. If a non-**boolean** value is used in a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1), the server responds with **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2).

2.2.2.48   ReceivedAsBcc

The **email2:ReceivedAsBcc** element<16> is an optional element that indicates to the user that they are a **blind carbon copy (Bcc) recipient** on the e-mail. It is defined as an element in the **Email2** namespace.

The value of this element is a **boolean** data type, as specified in [MS-ASDTYPE] section 2.1.

Clients MUST not change the **email2:ReceivedAsBcc** element value. If the client changes this element value, the server responds with **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2).

The **email2:ReceivedAsBcc** element is not included in the command response if the value is 0 (zero, meaning FALSE).

2.2.2.49   Recurrence

The **Recurrence** element is a **container** ([MS-ASDTYPE] section 2.2) element that defines when and how often the meeting recurs. It is defined as an element in the **Email** namespace.

The **Recurrence** element is a required child element of the **Recurrences** element (section 2.2.2.51).

The **Recurrences** element can contain the following child elements:

- **Type** (section 2.2.2.68): One instance of this element is required.
- **Interval** (section 2.2.2.34): One instance of this element is required.
- **Until** (section 2.2.2.73): One instance of this element is required.
- **Occurrences** (section 2.2.2.44): This element is optional.
- **WeekOfMonth** (section 2.2.2.76): This element is optional.
- **DayOfMonth** (section 2.2.2.18): This element is optional.
- **DayOfWeek** (section 2.2.2.19): This element is optional.
- **MonthOfYear** (section 2.2.2.42): This element is optional.
- **email2:CalendarType** (section 2.2.2.8): This element is optional.
- **email2:IsLeapMonth** (section 2.2.2.35): This element is optional.
- **email2:FirstDayOfWeek** (section 2.2.2.26): This element is optional.

2.2.2.50   RecurrenceId

The **RecurrenceId** element is an optional child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the date and time of this instance of a recurring meeting. It is defined as an element in the **Email** namespace.

The server MUST include this element in response messages to indicate a single instance exception to a recurring meeting; otherwise, the server MUST NOT include this element.

The value of this element MUST be the date and time corresponding to this instance of a recurring item.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

2.2.2.51   Recurrences

The **Recurrences** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that contains details about the recurrence pattern of the meeting. It is a child element of the **MeetingRequest** element (section 2.2.2.40) and is defined as an element in the **Email** namespace.

If the **Recurrences** element is included as a child element of the **MeetingRequest** element, it indicates that the meeting has a **recurrence pattern**.

The **Recurrences** element can contain the following child element:

- **Recurrence** (section 2.2.2.49): This element is required.

2.2.2.52   Reminder

The **Reminder** element is an optional child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the number of seconds prior to the calendar item's start time that a reminder will be displayed. It is defined as an element in the **Email** namespace.

2.2.2.53 ReminderSet

The **tasks:ReminderSet** element is an optional child element of the **Flag** element (section 2.2.2.27) that specifies whether a reminder has been set for the task. It is defined as an element in the **Tasks** namespace.

The value of this element is an **unsignedByte** data type, as specified in [MS-ASDTYPE] section 2.7.

The value of this element is set to 1 if a reminder has been set for the task; otherwise, the value of this element is set to 0 (zero). The default value is 0 (zero).

A maximum of one **tasks:ReminderSet** child element is allowed per **Flag** element. The result of including more than one **tasks:ReminderSet** child element per **Flag** element is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.54 ReminderTime

The **tasks:ReminderTime** element is an optional child element of the **Flag** element (section 2.2.2.27) that identifies the date and time that the reminder is scheduled to occur. It is defined as an element in the **Tasks** namespace.

The value of this element is a **dateTime** value, as specified in [MS-ASDTYPE] section 2.3.

The **tasks:ReminderTime** element MUST be set if the **tasks:ReminderSet** element value is set to 1 (TRUE). The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if the **tasks:ReminderSet** element value is set to 1 (TRUE) and the **tasks:ReminderTime** element is not included in the **Sync** command request ([MS-ASCMD] section 2.2.2.19.1).

A maximum of one **tasks:ReminderTime** child element is allowed per **Flag** element. The result of including more than one **tasks:ReminderTime** child element per **Flag** element is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.55 ReplyTo

The **ReplyTo** element is an optional element that specifies the e-mail address(es) to which replies will be addressed by default. It is defined as an element in the **Email** namespace.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6. The value of this element contains one or more e-mail addresses. If there are multiple e-mail addresses, they are separated by a semi-colon.

2.2.2.56 ResponseRequested

The **ResponseRequested** element is an optional child element of the **MeetingRequest** element (2.2.2.40) that specifies whether the organizer has requested a response to the meeting request. It is defined as an element in the **Email** namespace.

The value of this element is an **unsignedByte** data type, as specified in [MS-ASDTYPE] section 2.7.

A **ResponseRequested** element value of 1 indicates that a response is requested; a **ResponseRequested** element value of 0 (zero) indicates that a response is not requested.

2.2.2.57 RightsManagementLicense

The **rm:RightsManagementLicense** element<17> is an optional **container** ([MS-ASDTYPE] section 2.2) element that encapsulates the rights management settings for the e-mail item. The **rm:RightsManagementLicense** element and its child elements are defined as part of the **RightsManagement** namespace, as specified in [MS-ASRM] section 2.2.2.14.

2.2.2.58 Sender

The **email2:Sender** element<18> is an optional element that indicates the message was not sent from the user identified by the **From** element (section 2.2.2.29). It is defined as an element in the **Email2** namespace.

The value of the **Sender** element is an **e-mail address**, as specified in [MS-ASDTYPE] section 2.6.2.

This element is set by the server and is read-only on the client. If the client attempts to change this value, the server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2).

If present, the **email2:Sender** element identifies the user that actually sent the message, and the **From** element identifies the user on whose behalf the message was sent. Use of the **email2:Sender** element indicates that the sender of the item had **delegate** access to the **From** user's **mailbox**.

The **email2:Sender** element is not sent to the client when the **email2:Sender** element and the **From** element have the same value, or when the **email2:Sender** element value is NULL.

2.2.2.59 Sensitivity

The **Sensitivity** element is an optional child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the confidentiality level of the meeting request. It is defined as an element in the **Email** namespace.

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

The value of this element MUST be one of the values listed in the following table.

Value	Meaning
0	Normal
1	Personal
2	Private
3	Confidential

If this element not present, then a default of 0 (zero) MUST be assumed.

2.2.2.60 StartDate

The **tasks:StartDate** element is an optional child element of the **Flag** element (section 2.2.2.27) that specifies when the flagged item was begun. It is defined as an element in the **Tasks** namespace.

When a flag is updated, the **tasks:StartDate** element value MUST NOT occur after the **tasks:DueDate** element (section 2.2.2.24) value. The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if this condition is not met.

To set a flag, the **tasks:StartDate** element, **tasks:DueDate** element, **tasks:UtcStartDate** element (section 2.2.2.75), and **tasks:UtcDueDate** element (section 2.2.2.74) either all MUST be set, or all MUST be NULL. The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if this condition is not met.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

A maximum of one **tasks:StartDate** child element is allowed per **Flag** element. The result of including more than one **tasks:StartDate** child element per **Flag** element is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.61 StartTime

The **StartTime** element is a required child element of the **MeetingRequest** element (section 2.2.2.40) that specifies when the meeting begins. It is defined as an element in the **Email** namespace.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

2.2.2.62 Status

The **Status** element is an optional child element of the **Flag** element (section 2.2.2.27) that specifies the current status of the flag. It is defined as an element in the **Email** namespace.

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

The value of this element MUST be one of the values in the following table.

Value	Meaning
0	The flag is cleared.
1	The status is set to complete.
2	The status is set to active.

The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if the flag **Status** element is set to a value other than 0, 1, or 2.

A maximum of one **Status** element is allowed per **Flag**. The result of including more than one **Status** element per **Flag** is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.63 Subject

As a top-level element of the **E-mail** class, the **Subject** element is an optional element that specifies the subject of the e-mail message. It is defined as an element in the **Email** namespace.

As an optional child element of the **Flag** element (section 2.2.2.27), the **tasks:Subject** element specifies the subject of the flag. It is defined as an element in the **Tasks** namespace. The client or server SHOULD set the value of the **tasks:Subject** element to the subject of the message when an item is flagged. A maximum of one **tasks:Subject** child element is allowed per **Flag** element.

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

2.2.2.64 SubOrdinalDate

The **tasks:SubOrdinalDate** element is an optional child element of the **Flag** element (section 2.2.2.27) that specifies a value that can be used for sorting. It is defined as an element in the **Tasks** namespace.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6. It can contain any **string** value and can be used for sorting if there are duplicate **tasks:OrdinalDate** element (section 2.2.2.45) values.

A maximum of one **tasks:SubOrdinalDate** child element is allowed per **Flag** element. The result of including more than one **tasks:SubOrdinalDate** child element per **Flag** element is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.65 ThreadTopic

The **ThreadTopic** element is an optional element that specifies the topic used for conversation threading. It is defined as an element in the **Email** namespace.

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

2.2.2.66 TimeZone

The **TimeZone** element is a required child element of the **MeetingRequest** element (section 2.2.2.40) that specifies the time zone specified when the calendar item was created. It is defined as an element in the **Email** namespace.

The value of this element is a **string** data type ([MS-ASDTYPE] section 2.6) in **TimeZone** format, as specified in [MS-ASDTYPE] section 2.6.4.

2.2.2.67 To

The **To** element is an optional element that specifies the list of primary recipients (1) of a message. It is defined as an element in the **Email** namespace.

The value of this element contains one or more e-mail addresses. If there are multiple e-mail addresses, they are separated by commas.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6, and has a maximum length of 32,768 characters.

2.2.2.68 Type

The **Type** element is a required child element of the **Recurrence** element (section 2.2.2.49) that specifies how the meeting recurs. It is defined as an element in the **Email** namespace.

The value of this element is an **unsignedByte** data type, as specified in [MS-ASDTYPE] section 2.7.

The value of this element MUST be one of the values in the following table.

Value	Meaning
0	The meeting recurs daily.
1	The meeting recurs weekly.
2	The meeting recurs monthly on the Nth day of the month.
3	The meeting recurs monthly.
5	The meeting recurs yearly on the Nth day of the Nth month each year.
6	The meeting recurs yearly on the Nth day of the week of the Nth month each year.

2.2.2.69   UmAttDuration

The **email2:UmAttDuration** element<19> is an optional child element of the **airsyncbase:Attachment** element (section 2.2.2.3) that specifies the duration of the most recent electronic voice mail attachment in seconds. It is defined as an element in the **Email2** namespace.

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

This element MUST only be used for electronic voice message attachments. This value is set by the server and is read-only for the client.

This element MUST only be included for messages with a **MessageClass** element (section 2.2.2.41) value that begins with the prefix of "IPM.Note.Microsoft.Voicemail", "IPM.Note.RPMSG.Microsoft.Voicemail", or "IPM.Note.Microsoft.Missed.Voice".

2.2.2.70   UmAttOrder

The **email2:UmAttOrder** element<20> is an optional child element of the **airsyncbase:Attachment** element (section 2.2.2.3) that identifies the order of electronic voice mail attachments. It is defined as an element in the **Email2** namespace.

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

This value is set by the server and is read-only for the client.

The most recent voice mail attachment in an e-mail item MUST have an **email2:UmAttOrder** value of 1. Whenever a new electronic voice message associated with the same e-mail item is received, the new voice attachment is appended to the end of the list and all electronic voice attachments are renumbered.

This element MUST only be included for messages with a **MessageClass** element (section 2.2.2.41) value that begins with the prefix of "IPM.Note.Microsoft.Voicemail", "IPM.Note.RPMSG.Microsoft.Voicemail", or "IPM.Note.Microsoft.Missed.Voice".

2.2.2.71   UmCallerID

The **email2:UmCallerID** element<21> is an optional element that specifies the callback telephone number of the person who called or left an electronic voice message. It is defined as an element in the **Email2** namespace.

The **string** ([MS-ASDTYPE] section 2.6) value of this element is either formatted as an E.164 telephone number, as specified in [E164], or as a session initiated protocol link to initiate a **Voice over IP (VoIP)** call. For more details about session initiated protocol links, see [RFC3261].

This element is sent from the server to the client, and MUST NOT be sent from the client to the server. The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if the client attempts to send the **email2:UmCallerId** element to the server. The **email2:UmCallerID** element is not included in the command response, or is empty in the command response, if the call originated as a private, blocked, or otherwise anonymous call.

This element MUST only be included for messages with one of the following **MessageClass** values:

- IPM.Note.Microsoft.Voicemail

- IPM.Note.Microsoft.Voicemail.UM

- IPM.Note.Microsoft.Voicemail.UM.CA

- IPM.Note.RPMSG.Microsoft.Voicemail

- IPM.Note.RPMSG.Microsoft.Voicemail.UM

- IPM.Note.RPMSG.Microsoft.Voicemail.UM.CA

- IPM.Note.Microsoft.Missed.Voice

Only one **email2:UmCallerID** element is allowed per message. In order to enable future VoIP scenarios, the server SHOULD send this element to the client regardless of the client's current VoIP capabilities.

2.2.2.72   UmUserNotes

The **email2:UmUserNotes** element<22> is an optional element that contains user notes related to an electronic voice message. It is defined as an element in the **Email2** namespace.

The value of this element is a **string** data type, as specified in [MS-ASDTYPE] section 2.6. The server truncates notes larger than 16,374 bytes, to 16,374 bytes.

This element is sent from the server to the client, and MUST NOT be sent from the client to the server. The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if the client attempts to send the **email2:UmUserNotes** element to the server.

This element MUST only be included for messages with one of the following **MessageClass** values:

- IPM.Note.Microsoft.Voicemail

- IPM.Note.Microsoft.Voicemail.UM

- IPM.Note.Microsoft.Voicemail.UM.CA

- IPM.Note.RPMSG.Microsoft.Voicemail

- IPM.Note.RPMSG.Microsoft.Voicemail.UM

- IPM.Note.RPMSG.Microsoft.Voicemail.UM.CA

- IPM.Note.Microsoft.Missed.Voice

Only one **email2:UserNotes** element is allowed per message.

2.2.2.73 Until

The **Until** element is a required child element of the **Recurrence** element (section 2.2.2.49) that specifies the end date and time of a recurring meeting. It is defined as an element in the **Email** namespace.

The value of this element is a **dateTime** value, as specified in [MS-ASDTYPE] section 2.3.

2.2.2.74 UtcDueDate

The **tasks:UtcDueDate** element is an optional child element of the **Flag** element (section 2.2.2.27) that contains the **UTC** value of the local **tasks:DueDate** element (section 2.2.2.24) value. It is defined as an element in the **Tasks** namespace.

When a flag is updated, the **tasks:UtcDueDate** element value MUST NOT occur before the **tasks:UtcStartDate** element (section 2.2.2.75) value. The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if this condition is not met.

To set a flag, the **tasks:StartDate** element (section 2.2.2.60), **tasks:DueDate** element, **tasks:UtcStartDate** element, and **tasks:UtcDueDate** element either all MUST be set, or all MUST be NULL. The server returns a **Status** element value of 6 in the **Sync** command response if this condition is not met.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

A maximum of one **tasks:UtcDueDate** child element is allowed per **Flag** element. The result of including more than one **tasks:UtcDueDate** child elements per **Flag** element is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.75 UtcStartDate

The **tasks:UtcStartDate** element is an optional child element of the **Flag** element (section 2.2.2.27) that contains the UTC value of the local **tasks:StartDate** element (section 2.2.2.60) value. It is defined as an element in the **Tasks** namespace.

When a flag is updated, the **tasks:UtcStartDate** element value MUST occur before the **tasks:UtcDueDate** element (section 2.2.2.74) value. The server returns a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 in the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) if this condition is not met.

To set a flag, the **tasks:StartDate** element, **tasks:DueDate** element (section 2.2.2.24), **tasks:UtcStartDate** element, and **tasks:UtcDueDate** element either all MUST be set, or all MUST be NULL. The server returns a **Status** element value of 6 in the **Sync** command response if this condition is not met.

The value of this element is a **dateTime** data type, as specified in [MS-ASDTYPE] section 2.3.

A maximum of one **tasks:UtcStartDate** child element is allowed per **Flag** element. The result of including more than one **tasks:UtcStartDate** child elements per **Flag** element is undefined. The server MAY return a protocol status error in response to such a command request.

2.2.2.76 WeekOfMonth

The **WeekOfMonth** element is an optional child element of the **Recurrence** element (section 2.2.2.49) that specifies the week of the month in which the meeting recurs. It is defined as an element in the **Email** namespace.

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

This element is required when the **Type** element (section 2.2.2.68) value is set to 6 (indicating that the meeting recurs yearly on the Nth day of the week during the Nth month each year).

3 Protocol Details

3.1 Client Details

3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

E-mail class: A set of XML elements that specifies an e-mail message and adheres to the schema definition specified in section 2.2. **E-mail** class data is included in command requests sent to the server when e-mail messages need to be retrieved or synchronized. For more details about processing command requests, see section 3.1.5.

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

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Synchronizing E-Mail Data Between Client and Server

A client initiates synchronization of **E-mail** class data with the server by sending a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) to the server, as specified in section 3.1.5.3.

3.1.4.2 Sending E-Mail

A client sends an e-mail message by sending a **SendMail** command request ([MS-ASCMD] section 2.2.2.15.1) to the server.

3.1.4.3 Searching a Server for E-Mail Data

A client searches for **E-mail** class data on the server by sending a **Search** command request ([MS-ASCMD] section 2.2.2.14.1) to the server, as specified in section 3.1.5.2.

3.1.4.4 Retrieving Data for One or More E-Mail Items

A client requests **E-mail** class data for one or more individual e-mail items by sending an **ItemOperations** command request ([MS-ASCMD] section 2.2.2.8.2) to the server that contains one or more **itemoperations:Fetch** elements ([MS-ASCMD] section 2.2.3.60.1), as specified in section 3.1.5.1.

3.1.4.5   Sending and Receiving Meeting Requests

When a user creates an appointment or meeting on the client, the calendar item is added to the server by using the **Sync** command ([MS-ASCMD] section 2.2.2.19). If the meeting has attendees, the client uses the **SendMail** command request ([MS-ASCMD] section 2.2.2.15.1) to send meeting requests to the attendees. When an attendee's **Inbox folder** is synchronized, the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) from the server contains the new meeting request that is to be added to the attendee's Inbox folder. When an attendee's Calendar folder is synchronized, the **Sync** command response from the server contains the new calendar item that is to be added to the attendee's Calendar folder. For an example that demonstrates the process of uploading a meeting to the server, sending meeting request, adding a meeting request to an attendee's Inbox folder, and adding a meeting to an attendee's Calendar folder, see [MS-ASCMD] section 4.15.

3.1.4.6   Updating E-Mail Flags on the Server

A client can add a flag to an e-mail message, mark a flag on an e-mail message as complete, or clear a flag from an e-mail message by sending a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) to the server, as specified in sections 3.1.5.3 and 3.1.5.3.1.

3.1.4.7   Determining Whether a Meeting Request Corresponds to an Existing Calendar Object

Clients that need to determine whether the **GlobalObjId** element (section 2.2.2.30) value for a meeting request corresponds to an existing **Calendar object** in the Calendar folder need to convert the **GlobalObjId** element value to a **calendar:UID** value ([MS-ASCAL] section 2.2.2.44) to make the comparison. The following process can be used to convert the **GlobalObjId** element value to a **UID** value:

1. Decode the **GlobalObjId** element value, assuming **base64 encoding**, to determine its length.

2. Determine whether the **GlobalObjId** element value is an OutlookID or a vCal ID. The **GlobalObjId** element value is an OutlookID if any of the following conditions are true:

   ▪If the length of the **GlobalObjId** element value is less than 53 bytes.

   ▪If bytes 41-48 of the **GlobalObjId** element value do not equal "vCal-Uid".

   ▪If the value of bytes 37-40, which represent the length of the data that follows, are less than 13 or greater than the remaining length of the **GlobalObjId** element value.

3. If the **GlobalObjId** element value is an OutlookID, hex encode the entire **base64** decoded **GlobalObjID** element value, and zero out bytes 17-20. The resulting value is the **UID** value.

4. If the **GlobalObjId** element value is a vCal ID, the length of the **UID** value to be extracted is equal to the length of the data, as specified bytes 37-40, minus 12 bytes for the vCal marker, minus one byte for null-terminating **00** byte at the end of the vCal ID.

5. Using the length of the **UID** value calculated in the previous step, extract that number of bytes beginning at byte 53. These extracted bytes are the **UID** value.

For an example of this process, see section 4.4.

3.1.5   Message Processing Events and Sequencing Rules

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

3.1.5.1 ItemOperations Command Request

A client uses an **ItemOperations** command request ([MS-ASCMD] section 2.2.2.8.2) that contains one or more **itemoperations:Fetch** elements ([MS-ASCMD] section 2.2.3.60.1) to retrieve data from the server for one or more specific e-mail items.

Only the following elements of the **E-mail** class can be included in an **ItemOperations** command request:

- **To** (section 2.2.2.67)

- **Cc** (section 2.2.2.11)

- **From** (section 2.2.2.29)

- **ReplyTo** (section 2.2.2.55)

- **DateReceived** (section 2.2.2.17)

- **Subject** (section 2.2.2.63)

- **DisplayTo** (section 2.2.2.22)

- **Importance** (section 2.2.2.31)

- **Read** (section 2.2.2.47)

- **MessageClass** (section 2.2.2.41)

- **MeetingRequest** (section 2.2.2.40)

- **ThreadTopic** (section 2.2.2.65)

- **InternetCPID** (section 2.2.2.33)

If included in an **ItemOperations** command request, each of these elements MUST be transmitted as a child element of the **itemoperations:Schema** element ([MS-ASCMD] section 2.2.3.135).

For more details about the **ItemOperations** command, see [MS-ASCMD] section 2.2.2.8.

3.1.5.2 Search Command Request

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

Elements that belong to the **E-mail** class, as specified in section 2.2.2, MUST NOT be included in a **Search** command request.

For more details about the **Search** command, see [MS-ASCMD] section 2.2.2.14.

3.1.5.3 Sync Command Request

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

E-mail class elements included in a **Sync** command request MUST be transmitted as child elements of the **airsync:ApplicationData** element ([MS-ASCMD] section 2.2.3.10) within either an

airsync:Add element ([MS-ASCMD] section 2.2.3.7.2) or an **airsync:Change** element ([MS-ASCMD] section 2.2.3.23).

The following **E-mail** class elements can be child elements of the **airsync:ApplicationData** element when the **airsync:ApplicationData** element appears within the **airsync:Change** element in a **Sync** command request:

- **Flag** (section 2.2.2.27)

- **Read** (section 2.2.2.47)

- **Categories** (section 2.2.2.9)

Email namespace elements that are child elements of the **airsync:ApplicationData** element when the **airsync:ApplicationData** element appears within the **airsync:Add** element in a **Sync** command request are not used to synchronize **E-mail** class content; instead, those elements are used to synchronize **SMS** class content. For more details about the **SMS** class, see [MS-ASMS].

For more details about the **Sync** command, see [MS-ASCMD] section 2.2.2.19.

3.1.5.3.1   Updating E-Mail Flags

A client uses the following elements within a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) to specify flags:

- **Flag** (section 2.2.2.27)

- **tasks:Subject** (section 2.2.2.63)

- **Status** (section 2.2.2.62)

- **FlagType** (section 2.2.2.28)

- **tasks:DateCompleted** (section 2.2.2.16)

- **CompleteTime** (section 2.2.2.12)

- **tasks:StartDate** (section 2.2.2.60)

- **tasks:DueDate** (section 2.2.2.24)

- **tasks:UtcStartDate** (section 2.2.2.75)

- **tasks:UtcDueDate** (section 2.2.2.74)

- **tasks:ReminderSet** (section 2.2.2.53)

- **tasks:ReminderTime** (section 2.2.2.54)

- **tasks:OrdinalDate** (section 2.2.2.45)

- **tasks:SubOrdinalDate** (section 2.2.2.64)

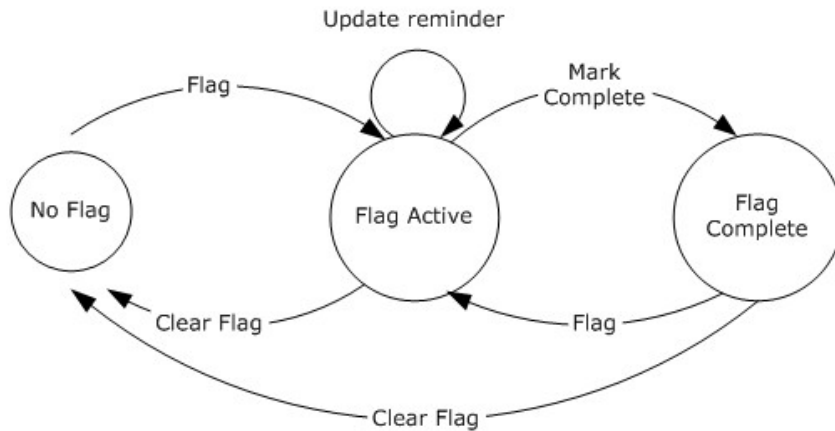The following figure shows the life cycle of a flag.

Figure 1: Flag life cycle

For details about the flag action (clear, set, mark complete) that the server will invoke when updating flags based upon the information specified in the **Sync** command request, see section 3.2.5.3.2.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

3.2 Server Details

3.2.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

E-mail class: A set of XML elements that specifies an e-mail message and adheres to the schema definition specified in section 2.2. **E-mail** class data is returned by the server to the client as part of the full XML response to the client requests that are specified in section 3.1.5. For more details about processing command responses, see section 3.2.5.

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

3.2.2 Timers

None.

3.2.3 Initialization

None.

3.2.4 Higher-Layer Triggered Events

3.2.4.1 Synchronizing E-Mail Data Between Client and Server

Synchronization of **E-mail** class data between client and server is initiated by the client, as specified in section 3.1.4.1. The server responds with a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2), as specified in section 3.2.5.3.

3.2.4.2 Searching for E-Mail Data

Searching for **E-mail** class data is initiated by the client, as specified in section 3.1.4.3. The server responds with a **Search** command response ([MS-ASCMD] section 2.2.2.14.2), as specified in section 3.2.5.2.

3.2.4.3 Retrieving Data for One or More E-Mail Items

Retrieval of **E-mail** class data for one or more e-mail items is initiated by the client, as specified in section 3.1.4.4. The server responds with an **ItemOperations** command response ([MS-ASCMD] section 2.2.2.8.3), as specified in section 3.2.5.1.

3.2.5 Message Processing Events and Sequencing Rules

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

3.2.5.1 ItemOperations Command Response

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

Any of the elements that belong to the **E-mail** class, as specified in section 2.2.2, can be included in an **ItemOperations** command response. If an **airsync:Schema** element ([MS-ASCMD] section 2.2.3.135) is included in the **ItemOperations** command request, then the elements returned in the **ItemOperations** command response MUST be restricted to the elements that were included as child elements of the **airsync:Schema** element in the command request.

E-mail class elements MUST be returned as child elements of the **itemoperations:Properties** element ([MS-ASCMD] section 2.2.3.118.1) in the **ItemOperations** command response.

For more details about the **ItemOperations** command, see [MS-ASCMD] section 2.2.2.8.

3.2.5.2 Search Command Response

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

Any of the elements that belong to the **E-mail** class, as specified in section 2.2.2, can be included in a **Search** command response as child elements of the **search:Properties** element ([MS-ASCMD] section 2.2.3.118.2).

If **E-mail** class elements are included in the **Search** command request, the **Search** command response from the server contains a **search:Status** element ([MS-ASCMD] section 2.2.3.152.12) value of 2 as a child element of the **search:Store** element ([MS-ASCMD] section 2.2.3.153.2).

For more details about the **Search** command, see [MS-ASCMD] section 2.2.2.14.

3.2.5.3 Sync Command Response

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

Any of the elements that belong to the **E-mail** class, as specified in section 2.2.2, can be included in a **Sync** command response.

E-mail class elements MUST be returned as child elements of the **airsync:ApplicationData** element ([MS-ASCMD] section 2.2.3.10) within either an **airsync:Add** element ([MS-ASCMD] section 2.2.3.7.2) or an **airsync:Change** element ([MS-ASCMD] section 2.2.3.23) in the **Sync** command response.

For more details about the **Sync** command, see [MS-ASCMD] section 2.2.2.19.

3.2.5.3.1 Sending E-Mail Changes to the Client

A server can partition e-mail changes into one or more of the following categories:

- Changes to the **Read** flag (section 2.2.2.47)

- Changes to the **Flag** properties (section 2.2.2.27)

- Changes to other ActiveSync E-Mail Class Protocol properties, such as **Subject** (section 2.2.2.63)

- Changes to non-ActiveSync E-Mail Class Protocol properties

If only the **Read** flag has changed for an e-mail item, the server SHOULD include the **Read** element as the only child element of the **airsync:ApplicationData** element ([MS-ASCMD] section 2.2.3.10) within the **airsync:Change** element ([MS-ASCMD] section 2.2.3.23) for that e-mail item in the **Sync** command response.

If only **Flag** properties have changed for an e-mail item, the server SHOULD include the **Flag** element as the only child element of the **airsync:ApplicationData** element within the **airsync:Change** element for that e-mail item in the **Sync** command response.

If ActiveSync E-Mail Class Protocol properties of an e-mail item other than the **Read** flag and **Flag** properties have changed for an e-mail item, the server MUST specify all e-mail properties as child elements of the **airsync:ApplicationData** element within the **airsync:Change** element for that e-mail item in the **Sync** command response.

If only non-ActiveSync E-Mail Class Protocol properties of an e-mail item have changed, the server SHOULD not include an **airsync:Change** element for that e-mail item in the **Sync** command response.

The following table specifies what the server MUST return to the client for an e-mail item in the **Sync** command response, based upon which properties have changed for the e-mail item.

Release: Sunday, July 31, 2011

Read flag changed	Flag properties changed	Other ActiveSync E-Mail Class Protocol properties changed	Non-ActiveSync E-Mail Class Protocol properties changed	Server action for e-mail item in Sync command response
No	No	No	No	Send nothing to client
No	No	No	Yes	Send nothing to client
No	No	Yes	No	Send full item **airsync:Change** to client
No	No	Yes	Yes	Send full item **airsync:Change** to client
No	Yes	No	No	Send **Flag** block only
No	Yes	No	Yes	Send **Flag** block only
No	Yes	Yes	No	Send full item **airsync:Change** to client
No	Yes	Yes	Yes	Send full item **airsync:Change** to client
Yes	No	No	No	Send **Read** flag only
Yes	No	No	Yes	Send **Read** flag only
Yes	No	Yes	No	Send full item **airsync:Change** to client
Yes	No	Yes	Yes	Send full item **airsync:Change** to client
Yes	Yes	No	No	Send **Read** flag and **Flag** block
Yes	Yes	No	Yes	Send **Read** flag and **Flag** block
Yes	Yes	Yes	No	Send full item **airsync:Change** to client

3.2.5.3.2   Updating E-Mail Flags

For every flag update that the client sends to the server in a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1), the server can update the flag on the e-mail message by using the **Change** element ([MS-ASCMD] section 2.2.3.23) of the **Sync** command ([MS-ASCMD] section 2.2.2.19). The server uses the logic specified in the following table to determine which flag action (clear, set, mark complete) to invoke when updating flag status based on the value of the **Status** element (section 2.2.2.62) in the **Sync** command request.

Action	Required Properties from Device
Flag an item (basic)	**Status** = 2 **FlagType** (section 2.2.2.28) = "Flag for follow up" **tasks:StartDate** (section 2.2.2.60) and **tasks:UtcStartDate** (section 2.2.2.75) **tasks:DueDate** (section 2.2.2.24) and **tasks:UtcDueDate** (section 2.2.2.74) or **Status** = 2 **tasks:DateCompleted** (section 2.2.2.16)
Flag an item (task flagging)	**Status** = 2 **tasks:Subject** (section 2.2.2.63) = user defined **FlagType** = "Flag for follow up" **tasks:StartDate** and **tasks:UtcStartDate** **tasks:DueDate** and **tasks:UtcDueDate** **tasks:ReminderSet** (section 2.2.2.53) **tasks:ReminderTime** (section 2.2.2.54) or **Status** = 2 **tasks:DateCompleted**
Mark an item complete (basic)	**Status** = 1 **CompleteTime** (section 2.2.2.12) **tasks:DateCompleted**
Mark an item complete (task flagging)	**Status** = 1 **CompleteTime** **tasks:DateCompleted**
Clearing the flag on an item	**Status** = 0 or **Flag** node empty
Clearing the flag on an item (task flagging)	**Status** = 0 or **Flag** node empty
Update the flag metadata (basic)	All updated properties
Update flag metadata (task flagging)	All updated properties

The **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) includes an **airsync:Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 6 if any of the required elements listed in the table are missing from the **Sync** command request.

3.2.6 Timer Events

None.

3.2.7 Other Local Events

None.

4   Protocol Examples

The examples in this section use decoded values of the **Uniform Resource Identifier (URI)** query parameters and the message body for clarity. The URI query parameter is encoded with base64 encoding and the body is WBXML-encoded when sent across the wire. For more information about the base64 encoding used in the URI query parameter, see [MS-ASHTTP] section 2.2.1.1.1. For more information about WBXML encoding, see [MS-ASWBXML].

4.1   Synchronizing E-Mail

4.1.1   Synchronizing Only E-Mail Metadata

The following example demonstrates a client request to synchronize e-mail metadata in the Inbox folder with the server, and the server response. The **CollectionId** element ([MS-ASCMD] section 2.2.3.29.5) in the **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) identifies the Inbox folder as the folder to synchronize, and because the request does not specify that the response include e-mail body content, only e-mail metadata is included in the response. In this example, the server returns metadata for one e-mail item. The **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) includes the estimated size and body type of the e-mail message, but does not include the body of the message.

Request:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>927479200</SyncKey>
      <CollectionId>5</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
    </Collection>
  </Collections>
</Sync>
```

Response:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:"
xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>927479210</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>5:1</ServerId>
          <ApplicationData>
            <email:To>"Device User" &lt;someone1@example.com&gt;</email:To>
            <email:From>"Device User 2" &lt;someone2@example.com&gt;</email:From>
            <email:Subject>New mail message</email:Subject>
            <email:DateReceived>2009-07-29T19:25:37.817Z</email:DateReceived>
            <email:DisplayTo>Device User</email:DisplayTo>
```

```
                    <email:ThreadTopic>New mail message</email:ThreadTopic>
                    <email:Importance>1</email:Importance>
                    <email:Read>0</email:Read>
                    <airsyncbase:Body>
                      <airsyncbase:Type>2</airsyncbase:Type>
                      <airsyncbase:EstimatedDataSize>116575</airsyncbase:EstimatedDataSize>
                      <airsyncbase:Truncated>1</airsyncbase:Truncated>
                    </airsyncbase:Body>
                    <email:MessageClass>IPM.Note</email:MessageClass>
                    <email:InternetCPID>1252</email:InternetCPID>
                    <email:Flag />
                    <email:ContentClass>urn:content-classes:message</email:ContentClass>
                    <airsyncbase:NativeBodyType>2</airsyncbase:NativeBodyType>
                    <email2:ConversationId>FF68022058BD485996BE15F6F6D99320</email2:ConversationId>
                    <email2:ConversationIndex>CA2CFA8A23</email2:ConversationIndex>
                    <email:Categories />
                </ApplicationData>
              </Add>
            </Commands>
          </Collection>
        </Collections>
    </Sync>
```

4.1.2 Synchronizing E-Mail Metadata and Body

The following example demonstrates a client request to synchronize both e-mail metadata and body with the server, and the server response. The **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) includes the **airsyncbase:BodyPreference** element ([MS-ASAIRS] section 2.2.2.2) to request that the server return e-mail body in **Hypertext Markup Language (HTML)** format (**airsyncbase:Type** element ([MS-ASAIRS] section 2.2.2.2.1) value is 2) with each e-mail body truncated to 5,120 bytes (**airsyncbase:TruncationSize** element ([MS-ASAIRS] section 2.2.2.2.2) value is 5120). In this example, the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) includes the metadata and body for one HTML e-mail message.

Note Although not shown in this example, **Sync** command requests can include multiple **airsyncbase:BodyPreference** elements to specify different **airsyncbase:TruncationSize** values for each **airsyncbase:Type** value.

Request:

```
  <?xml version="1.0" encoding="utf-8"?>
  <Sync xmlns:AirSyncBase="airsyncbase:" xmlns="AirSync:">
    <Collections>
      <Collection>
        <SyncKey>1534587728</SyncKey>
        <CollectionId>5</CollectionId>
        <DeletesAsMoves>1</DeletesAsMoves>
        <GetChanges>1</GetChanges>
        <WindowSize>512</WindowSize>
        <Options>
          <MIMESupport>0</MIMESupport>
          <airsyncbase:BodyPreference>
            <airsyncbase:Type>2</airsyncbase:Type>
            <airsyncbase:TruncationSize>5120</airsyncbase:TruncationSize>
          </airsyncbase:BodyPreference>
        </Options>
```

```
      </Collection>
    </Collections>
  </Sync>
```

Response:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:email2="Email2" xmlns:airsyncbase="AirSyncBase:"
xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>1174511196</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>5:10</ServerId>
          <ApplicationData>
            <email:To>"Device User" &lt;someone1@example.com&gt;</email:To>
            <email:From>"Device User2" &lt;someone2@example.com&gt;</email:From>
            <email:Subject>Sample HTML message</email:Subject>
            <email:DateReceived>2009-02-19T01:43:25.266Z</email:DateReceived>
            <email:DisplayTo>Device User</email:DisplayTo>
            <email:ThreadTopic>Sample HTML message</email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>0</email:Read>
            <airsyncbase:Body>
              <airsyncbase:Type>2</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>375</airsyncbase:EstimatedDataSize>
              <airsyncbase:Data>&lt;html dir="ltr"&gt;
            &lt;head&gt;
            &lt;meta http-equiv="Content-Type" content="text/html; charset=utf-8"&gt;
            &lt;style id="owaParaStyle"&gt;
            &lt;!--
            p
            {margin-top:0px;
            margin-bottom:0px}
            --&gt;
            &lt;/style&gt;
            &lt;/head&gt;
            &lt;body&gt;
            &lt;div style="font-size:13px; color:#000000; direction:ltr; font-
family:Tahoma"&gt;
              &lt;div&gt;This is&amp;nbsp;the body of an&amp;nbsp;HTML e-mail
message.&lt;/div&gt;
              &lt;/div&gt;
              &lt;/body&gt;
              &lt;/html&gt;
              </airsyncbase:Data>
            </airsyncbase:Body>
            <email:MessageClass>IPM.Note</email:MessageClass>
            <email:InternetCPID>28591</email:InternetCPID>
            <email:Flag />
            <email:ContentClass>urn:content-classes:message</email:ContentClass>
            <airsyncbase:NativeBodyType>2</airsyncbase:NativeBodyType>
            <email2:ConversationId>FF68022058BD485996BE15F6F6D99320</email2:ConversationId>
            <email2:ConversationIndex>CA2CFA8A23</email2:ConversationIndex>
            <email:Categories />
```

```
          </ApplicationData>
        </Add>
        <Change>
          <ServerId>5:8</ServerId>
          <ApplicationData>
            <email:Read>1</email:Read>
          </ApplicationData>
        </Change>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

4.1.3   Synchronizing E-Mail Attachments

Each example in this section demonstrates a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) that contains an attachment.

4.1.3.1   Synchronizing an E-Mail with an Electronic Voice Mail Attachment

The following example shows a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) returned by the server to the client that contains one e-mail item with an electronic voice mail attachment. The e-mail item data is contained within an **Add** element ([MS-ASCMD] section 2.2.3.7.2), conveying to the client that the e-mail item (with attachment) needs to be created on the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:" xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:"
xmlns:email2="Email2:">
  <Collections>
    <Collection>
      <SyncKey>1336143213</SyncKey>
      <CollectionId>20</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>20:2</ServerId>
          <ApplicationData>
            <email:To>"Device User" &lt;someone@example.com&gt;</email:To>
            <email:From>"7125550123" &lt;7125550123&gt;</email:From>
            <email:Subject>Voice Mail from 7125550123 (3 seconds)</email:Subject>
            <email:DateReceived>2007-11-06T23:42:16.829Z</email:DateReceived>
            <email:DisplayTo>Device User</email:DisplayTo>
            <email:ThreadTopic>Voice Mail from 7125550123 (3 seconds)</email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>1</email:Read>
            <airsyncbase:Attachments>
              <airsyncbase:Attachment>
                <airsyncbase:DisplayName>7125550123 (3 seconds) Voice
 Mail.wma</airsyncbase:DisplayName>
                <airsyncbase:FileReference>20%3a2%3a0</airsyncbase:FileReference>
                <airsyncbase:Method>1</airsyncbase:Method>
                <airsyncbase:EstimatedDataSize>9025</airsyncbase:EstimatedDataSize>
                <email2:UmAttOrder>1</email2:UmAttOrder>
                <email2:UmAttDuration>3</email2:UmAttDuration>
              </airsyncbase:Attachment>
            </airsyncbase:Attachments>
            <airsyncbase:Body>
```

```
            <airsyncbase:Type>3</airsyncbase:Type>
            <airsyncbase:EstimatedDataSize>1512</airsyncbase:EstimatedDataSize>
            <airsyncbase:Truncated>1</airsyncbase:Truncated>
          </airsyncbase:Body>
          <email:MessageClass>IPM.Note.Microsoft.Voicemail.UM.CA</email:MessageClass>
          <email:InternetCPID>20127</email:InternetCPID>
          <email:ContentClass>urn:content-classes:message</email:ContentClass>
          <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
          <email2:CallerID>7125550123</email2:CallerID>
          <email2:UserNotes>7125550123</email2:UserNotes>
        </ApplicationData>
      </Add>
    </Commands>
  </Collection>
 </Collections>
</Sync>
```

4.1.3.2   Synchronizing an E-mail with a Text Attachment

The following example shows the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2)
returned by the server to the client that contains one e-mail item with a text attachment. The e-mail
item data is contained within an **Add** element ([MS-ASCMD] section 2.2.3.7.2), conveying to the
client that the e-mail item (with attachment) needs to be created on the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:"
xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>334239291</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>5:3</ServerId>
          <ApplicationData>
            <email:To>"Device User" &lt;someone1@example.com&gt;</email:To>
            <email:From>"Device User2" &lt;someone2@example.com&gt;</email:From>
            <email:Subject>With Attachment</email:Subject>
            <email:DateReceived>2009-03-04T22:48:41.211Z</email:DateReceived>
            <email:DisplayTo>Device User</email:DisplayTo>
            <email:ThreadTopic>With Attachment</email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>0</email:Read>
            <airsyncbase:Attachments>
              <airsyncbase:Attachment>
                <airsyncbase:DisplayName>Test.txt</airsyncbase:DisplayName>
                <airsyncbase:FileReference>5%3a3%3a0</airsyncbase:FileReference>
                <airsyncbase:Method>1</airsyncbase:Method>
                <airsyncbase:EstimatedDataSize>84</airsyncbase:EstimatedDataSize>
              </airsyncbase:Attachment>
            </airsyncbase:Attachments>
            <airsyncbase:Body>
              <airsyncbase:Type>1</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>33</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
```

```
                        <email:MessageClass>IPM.Note</email:MessageClass>
                        <email:InternetCPID>20127</email:InternetCPID>
                        <email:Flag />
                        <email:ContentClass>urn:content-classes:message</email:ContentClass>
                        <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
                        <email2:ConversationId>¥gÈtent-cl<email2:ConversationId>
                        <email2:ConversationIndex>…<email2:ConversationIndex>
                        <email:Categories />
                    </ApplicationData>
                </Add>
            </Commands>
        </Collection>
    </Collections>
</Sync>
```

4.1.4 Deleting an E-Mail

The following example demonstrates a client request to delete an e-mail from the server, and the server response. In this example, the **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) specifies that the server delete the e-mail message that has a **ServerId** ([MS-ASCMD] section 2.2.3.141.6) value of 5:10 and the **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) indicates that the e-mail was deleted successfully by returning a **Status** element ([MS-ASCMD] section 2.2.3.152.16) value of 1.

Request:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>1174511196</SyncKey>
      <CollectionId>5</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
      <Commands>
        <Delete>
          <ServerId>5:10</ServerId>
        </Delete>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

Response:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>721953595</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
    </Collection>
  </Collections>
```

```
    </Sync>
```

4.1.5   Synchronizing Meeting Requests

Each example in this section demonstrates a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) that contains a meeting request.

4.1.5.1   Synchronizing a Non-Recurring Meeting Request

The following example shows a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) returned by the server to the client that contains one meeting request for a non-recurring meeting. The meeting request data is contained within an **Add** element ([MS-ASCMD] section 2.2.3.7.2), conveying to the client that the meeting request needs to be created on the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:"
xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>1419832287</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>5:13</ServerId>
          <ApplicationData>
            <email:To>"Device User" &lt;someone1@example.com&gt;</email:To>
            <email:From>"Device User2" &lt;someone2@example.com&gt;</email:From>
            <email:Subject>Example Meeting Request</email:Subject>
            <email:DateReceived>2009-02-19T08:35:17.922Z</email:DateReceived>
            <email:DisplayTo>Device User</email:DisplayTo>
            <email:ThreadTopic>Example Meeting Request</email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>0</email:Read>
            <airsyncbase:Body>
              <airsyncbase:Type>3</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>437</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
            <email:MessageClass>IPM.Schedule.Meeting.Request</email:MessageClass>
            <email:MeetingRequest>
              <email:AllDayEvent>0</email:AllDayEvent>
              <email:StartTime>2009-02-20T15:30:00.000Z</email:StartTime>
              <email:DtStamp>2009-02-19T08:35:15.786Z</email:DtStamp>
              <email:EndTime>2009-02-20T16:30:00.000Z</email:EndTime>
              <email:InstanceType>0</email:InstanceType>
              <email:Location>Cafe</email:Location>
              <email:Organizer>"Device User2" &lt;someone2@example.com&gt;</email:Organizer>
              <email:Reminder>900</email:Reminder>
              <email:ResponseRequested>1</email:ResponseRequested>
              <email:Sensitivity>0</email:Sensitivity>
              <email:BusyStatus>2</email:BusyStatus>

  <email:TimeZone>aAEAACgARwBNAFQALQAwADYAOgAwADAAKQAgAEMAZQBuAHQAcgBhAGwAIABUAGkAbQBlACAAKABVA
  FMAIAAmACAAQwAAAAsAAAABAAIAAAAAAAAAAAAAAAAAAAAAAAAAACgARwBNAFQALQAwADYAOgAwADAAKQAgAEMAZQBuAHQAcgBhAGwAIAA
  BUAGkAbQBlACAAKABVAFMAIAAmACAAQwAAAAMAAAACAAIAAAAAAAAAxP///w==</email:TimeZone>
```

```
<email:GlobalObjId>BAAAAIIA4AB0xbcQGoLgCAAAAADYSxf9bJLJAQAAAAAAAAAEAAAAJEHL7SUox5GtgQV1TYDY4
A=</email:GlobalObjId>
            </email:MeetingRequest>
            <email:InternetCPID>28591</email:InternetCPID>
            <email:Flag />
            <email:ContentClass>urn:content-classes:calendarmessage</email:ContentClass>
            <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
            <email2:ConversationId>LõØ‡*û@à²&#x1A;&#x15;EñMØ±</email2:ConversationId>
            <email2:ConversationIndex>É'lý&#x1F;</email2:ConversationIndex>
            <email:Categories />
          </ApplicationData>
        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

4.1.5.2   Synchronizing a Recurring Meeting Request

The following example shows a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) returned by the server to the client that contains one meeting request for a recurring meeting. The meeting occurs every month (**Type** element (section 2.2.2.68) value is 3 and **Interval** element (section 2.2.2.34) value is 1), in the third week of the month (**WeekOfMonth** element (section 2.2.2.76) value is 3), on Tuesday (**DayOfWeek** element (section 2.2.2.19) value is 4). The meeting request data is contained within an **Add** element ([MS-ASCMD] section 2.2.3.7.2), conveying to the client that the meeting request needs to be created on the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:"
xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>2086787787</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>5:14</ServerId>
          <ApplicationData>
            <email:To>"Device User" &lt;someone1@example.com&gt;</email:To>
            <email:From>"Device User2" &lt;someone2@example.com&gt;</email:From>
            <email:Subject>Monthly Meeting</email:Subject>
            <email:DateReceived>2009-02-19T08:47:21.842Z</email:DateReceived>
            <email:DisplayTo>Device User</email:DisplayTo>
            <email:ThreadTopic>Monthly Meeting</email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>0</email:Read>
            <airsyncbase:Body>
              <airsyncbase:Type>3</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>503</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
            <email:MessageClass>IPM.Schedule.Meeting.Request</email:MessageClass>
            <email:MeetingRequest>
              <email:AllDayEvent>0</email:AllDayEvent>
              <email:StartTime>2009-03-17T20:00:00.000Z</email:StartTime>
```

```
                <email:DtStamp>2009-02-19T08:47:19.527Z</email:DtStamp>
                <email:EndTime>2009-03-17T21:00:00.000Z</email:EndTime>
                <email:InstanceType>1</email:InstanceType>
                <email:Location>My Office</email:Location>
                <email:Organizer>"Device User2" &lt;someone2@example.com&gt;</email:Organizer>
                <email:Reminder>900</email:Reminder>
                <email:ResponseRequested>1</email:ResponseRequested>
                <email:Recurrences>
                  <email:Recurrence>
                    <email:Type>3</email:Type>
                    <email:Interval>1</email:Interval>
                    <email:Until>20091229T210000Z</email:Until>
                    <email:WeekOfMonth>3</email:WeekOfMonth>
                    <email:DayOfWeek>4</email:DayOfWeek>
                  </email:Recurrence>
                </email:Recurrences>
                <email:Sensitivity>0</email:Sensitivity>
                <email:BusyStatus>2</email:BusyStatus>

   <email:TimeZone>aAEAACgARwBNAFQALQAwADYAOgAwADAAKQAgAEMAZQBuAHQAcgBhAGwAIABUAGkAbQBlACAAKABVA
FMAIAAmACAAQwAAAsAAAABAAIAAAAAAAAAAAACgARwBNAFQALQAwADYAOgAwADAAKQAgAEMAZQBuAHQAcgBhAGwAIA
BUAGkAbQBlACAAKABVAFMAIAAmACAAQwAAAMAAAACAAIAAAAAAAAxP///w==</email:TimeZone>

   <email:GlobalObjId>BAAAAIIA4AB0xbcQGoLgCAAAAADok5WnbpLJAQAAAAAAAAAAEAAAAP4Ao5IYwQdKiFkDBeGTtg
Y=</email:GlobalObjId>
              </email:MeetingRequest>
              <email:InternetCPID>28591</email:InternetCPID>
              <email:Flag />
              <email:ContentClass>urn:content-classes:calendarmessage</email:ContentClass>
              <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
              <email2:ConversationId>'MÅ□'&amp;Kä°V÷ŽÓ&#x16;xû</email2:ConversationId>
              <email2:ConversationIndex>É'n¬„</email2:ConversationIndex>
              <email:Categories />
            </ApplicationData>
          </Add>
        </Commands>
      </Collection>
    </Collections>
  </Sync>
```

4.1.6   Retrieving E-Mail Metadata and Body

The following example demonstrates a client request to retrieve the metadata and body of a specific e-mail, and the server response. In the **ItemOperations** command request ([MS-ASCMD] section 2.2.2.8.2), the e-mail to be retrieved is identified by the **ServerId** element ([MS-ASCMD] section 2.2.3.141.5) value. In this example, the contents of the **airsyncbase:Data** element ([MS-ASAIRS] section 2.2.2.4.4) in the **ItemOperations** command response ([MS-ASCMD] section 2.2.2.8.3) is XML-escaped (that is, not HTML). However, as these values are passed over the wire by using WBXML, they are passed unencoded (that is, the contents of the **airsyncbase:Data** element contains the characters "<" and ">").

Request:

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsync="AirSync:" xmlns:airsyncbase="AirSyncBase:"
xmlns="ItemOperations:">
  <Fetch>
```

```
    <Store>Mailbox</Store>
    <airsync:CollectionId>5</airsync:CollectionId>
    <airsync:ServerId>5:10</airsync:ServerId>
    <Options>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>2</airsyncbase:Type>
      </airsyncbase:BodyPreference>
    </Options>
  </Fetch>
</ItemOperations>
```

Response:

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsync="AirSync:" xmlns:email="Email:"
xmlns:airsyncbase="AirSyncBase:" xmlns:email2="Email2:" xmlns="ItemOperations:">
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <airsync:CollectionId>5</airsync:CollectionId>
      <airsync:ServerId>5:10</airsync:ServerId>
      <airsync:Class>Email</airsync:Class>
      <Properties>
        <email:To>"Device User" &lt;someone1@example.com&gt;</email:To>
        <email:From>"Device User2" &lt;someone2@example.com&gt;</email:From>
        <email:Subject>Fetch this content.</email:Subject>
        <email:DateReceived>2009-02-19T01:43:25.266Z</email:DateReceived>
        <email:DisplayTo>Device User</email:DisplayTo>
        <email:ThreadTopic>Fetch this content.</email:ThreadTopic>
        <email:Importance>1</email:Importance>
        <email:Read>0</email:Read>
        <airsyncbase:Body>
          <airsyncbase:Type>2</airsyncbase:Type>
          <airsyncbase:EstimatedDataSize>376</airsyncbase:EstimatedDataSize>
          <airsyncbase:Data>&lt;html dir="ltr"&gt;
&lt;head&gt;
&lt;meta http-equiv="Content-Type" content="text/html; charset=utf-8"&gt;
&lt;style&gt;&lt;/style&gt;&lt;style id="owaParaStyle"&gt;
&lt;!--
p
{margin-top:0px;
margin-bottom:0px}
--&gt;
&lt;/style&gt;
&lt;/head&gt;
&lt;body&gt;
&lt;div style="font-size:13px; color:#000000; direction:ltr; font-family:Tahoma"&gt;
&lt;div&gt;This is the content that was truncated.&lt;/div&gt;
&lt;/div&gt;
&lt;/body&gt;
&lt;/html&gt;
</airsyncbase:Data>
        </airsyncbase:Body>
        <email:MessageClass>IPM.Note</email:MessageClass>
        <email:InternetCPID>28591</email:InternetCPID>
        <email:Flag />
        <email:ContentClass>urn:content-classes:message</email:ContentClass>
```

```
            <airsyncbase:NativeBodyType>2</airsyncbase:NativeBodyType>
            <email2:ConversationId>€%ÿ&#x18;&#x8;:B˜</email2:ConversationId>
            <email2:ConversationIndex>&#x18;&#x8</email2:ConversationIndex>
          </Properties>
        </Fetch>
      </Response>
    </ItemOperations>
```

4.2 Setting the Recurrence Pattern for a Recurring Meeting

The examples in this section demonstrate some sample recurrence patterns that can be described by using child elements of the **Recurrence** element (section 2.2.2.49) in command requests and responses that contain a meeting request for a recurring meeting.

To set a recurrence to occur on the 15th day of every month, use the following values:

Type element (section 2.2.2.68) value = 2

Interval element (section 2.2.2.34) value = 1

DayOfMonth element (section 2.2.2.18) value = 15

To set a recurrence to occur on the 31st day of every other month, use the following values:

Type element value = 2

Interval element value = 2

DayOfMonth element value = 31

To set a recurrence to occur every weekday for one week, use the following values:

Type element value = 0

Interval element value = 1

Occurrences element (section 2.2.2.44) value = 5

DayOfWeek element (section 2.2.2.19) value = 62

4.3 Setting the Flag on an E-Mail

The examples in this section show how to use the **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) and **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) to set e-mail flags on the client and the server.

Note the following:

▪ Implicit deletes: If an element is not present within the **Flag** container element (section 2.2.2.27) in a request or response, then the corresponding property is deleted.

▪ Although elements from the **Tasks** namespace do appear in the following examples, all properties are saved on the e-mail item only. No task items are created.

4.3.1 Setting a Flag

The following example shows a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) sent from the client to the server to set a flag with a start date and due date, but with no reminder.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:tasks="Tasks:" xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>1520171944</SyncKey>
      <CollectionId>5</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
      <Commands>
        <Change>
          <ServerId>5:3</ServerId>
          <ApplicationData>
            <email:Read>1</email:Read>
            <email:Flag>
              <email:Status>2</email:Status>
              <email:FlagType>for Follow Up</email:FlagType>
              <tasks:StartDate>2009-02-24T08:00:00.000Z</tasks:StartDate>
              <tasks:UtcStartDate>2009-02-24T08:00:00.000Z</tasks:UtcStartDate>
              <tasks:DueDate>2009-02-25T12:00:00.000Z</tasks:DueDate>
              <tasks:UtcDueDate>2009-02-25T12:00:00.000Z</tasks:UtcDueDate>
              <tasks:ReminderSet>0</tasks:ReminderSet>
            </email:Flag>
          </ApplicationData>
        </Change>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

The following example shows a **Sync** command response ([MS-ASCMD] section 2.2.2.19.2) sent from the server to the client to set a flag with a start date, a due date, and a reminder.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:tasks="Tasks:" xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>735431712</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
      <Commands>
        <Change>
          <ServerId>5:7</ServerId>
          <ApplicationData>
            <email:Flag>
              <tasks:DueDate>2009-02-20T08:00:00.000Z</tasks:DueDate>
              <tasks:UtcDueDate>2009-02-20T08:00:00.000Z</tasks:UtcDueDate>
              <tasks:UtcStartDate>2009-02-19T08:00:00.000Z</tasks:UtcStartDate>
              <tasks:Subject>With Reminder</tasks:Subject>
              <email:Status>2</email:Status>
              <email:FlagType>Flag for follow up</email:FlagType>
              <tasks:StartDate>2009-02-19T08:00:00.000Z</tasks:StartDate>
```

```
        <tasks:ReminderSet>1</tasks:ReminderSet>
        <tasks:ReminderTime>2009-02-19T21:00:00.000Z</tasks:ReminderTime>
      </email:Flag>
    </ApplicationData>
  </Change>
        </Commands>
      </Collection>
    </Collections>
</Sync>
```

4.3.2   Marking a Flag as Complete

The following example shows a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) sent from the client to the server to mark a flag as complete. The **Status** element (section 2.2.2.62) value of 1 indicates that the flag status is complete. The **tasks:DateCompleted** element (section 2.2.2.16) value indicates when the user updated the e-mail flag in the client to mark it as complete, and the **CompleteTime** element (section 2.2.2.12) value indicates the time that the item was marked as finished.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:tasks="Tasks:" xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>509846121</SyncKey>
      <CollectionId>5</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
      <Commands>
        <Change>
          <ServerId>5:5</ServerId>
          <ApplicationData>
            <email:Read>1</email:Read>
            <email:Flag>
              <email:Status>1</email:Status>
              <email:FlagType>Flag for follow up</email:FlagType>
              <email:CompleteTime>2009-02-19T08:30:00.000Z</email:CompleteTime>
              <tasks:StartDate>2009-02-19T08:00:00.000Z</tasks:StartDate>
              <tasks:UtcStartDate>2009-02-19T08:00:00.000Z</tasks:UtcStartDate>
              <tasks:DueDate>2009-02-19T08:00:00.000Z</tasks:DueDate>
              <tasks:UtcDueDate>2009-02-19T08:00:00.000Z</tasks:UtcDueDate>
              <tasks:DateCompleted>2009-02-19T09:30:00.000Z</tasks:DateCompleted>
              <tasks:ReminderSet>0</tasks:ReminderSet>
              <tasks:ReminderTime>2009-02-24T20:00:00.000Z</tasks:ReminderTime>
              <tasks:Subject>Please follow up</tasks:Subject>
            </email:Flag>
          </ApplicationData>
        </Change>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

4.3.3 Clearing a Flag

The following example shows a **Sync** command request ([MS-ASCMD] section 2.2.2.19.1) sent from the client to the server to clear a flag on an e-mail item. The **Status** element (section 2.2.2.62) value of 0 (zero) indicates that the flag is cleared.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email:" xmlns:tasks="Tasks:" xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>1401532757</SyncKey>
      <CollectionId>5</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
      <Commands>
        <Change>
          <ServerId>5:5</ServerId>
          <ApplicationData>
            <email:Read>1</email:Read>
            <email:Flag>
              <email:Status>0</email:Status>
              <email:FlagType>Flag for follow up</email:FlagType>
              <email:CompleteTime>2009-02-19T08:30:00.000Z</email:CompleteTime>
              <tasks:StartDate>2009-02-19T08:00:00.000Z</tasks:StartDate>
              <tasks:UtcStartDate>2009-02-19T08:00:00.000Z</tasks:UtcStartDate>
              <tasks:DueDate>2009-02-19T08:00:00.000Z</tasks:DueDate>
              <tasks:UtcDueDate>2009-02-19T08:00:00.000Z</tasks:UtcDueDate>
              <tasks:DateCompleted>2009-02-20T09:30:00.000Z</tasks:DateCompleted>
              <tasks:ReminderSet>0</tasks:ReminderSet>
              <tasks:ReminderTime>2009-02-24T20:00:00.000Z</tasks:ReminderTime>
              <tasks:Subject>Please follow up</tasks:Subject>
            </email:Flag>
          </ApplicationData>
        </Change>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

4.4 Converting a GlobalObjId to a UID

The following examples demonstrate how to convert a **GlobalObjId** value to a **UID** value. For more information about the process used for this conversion, see section 3.1.4.7.

Example 1

1. Given the following **GlobalObjId** value:

```
GlobalObjID=BAAAAIIA4AB0xbcQGoLgCAfUCRDgQMnBJoXEAQAAAAAAAAAAEAAAAAvw7UtuTulOnjnjhns3jv
M=
```

2. Decoded from base64 encoding, the **GlobalObjID** is equal to:

```
Bytes 1-16:  <04><00><00><00><82><00><E0><00><74><C5><B7><10><1A><82><E0><08>
Bytes 17-20: <07><D4><09><10>
```

```
Bytes 21-36: <E0><40><C9><C1><26><85><C4><01><00><00><00><00><00><00><00><00>
Bytes 37-40: <10><00><00><00>
Bytes 41-56: <0B><F0><ED><4B><6E><4E><E9><4E><9E><39><E3><86><7B><37><8E><F3>
```

3. Because bytes 41-48 do not equal "vCal-Uid", this **GlobalObjId** is an OutlookID. Bytes 17-20 are converted to zeros and the entire value is hex encoded, resulting in the following **UID** value:

```
UID=040000008200E00074C5B7101A82E00800000000E040C9C12685C401000000000000000000100000000B
F0ED4B6E4EE94E9E39E3867B378EF3
```

Example 2

1. Given the following **GlobalObjId** value:

```
GlobalObjID=BAAAAIIA4AB0xbcQGoLgCAAAAAAAAAAAAAAAAAAAAAAAAAAMwAAAHZDYWwtVWlkAQAAAHs4MT
QxMkQzQy0yQTI0LTRFOUQtQjIwRS0xMUY3QkJFOTI3OTl9AA==
```

2. Decoded from base64 encoding, the **GlobalObjID** is equal to:

```
Bytes 1-16:   <04><00><00><00><82><00><E0><00><74><C5><B7><10><1A><82><E0><08>
Bytes 17-20:  <00><00><00><00>
Bytes 21-36:  <00><00><00><00><00><00><00><00><00><00><00><00><00><00><00><00>
Bytes 37-40:  <33><00><00><00>
Bytes 41-52:  vCal-Uid<01><00><00><00>
Bytes 53-91:  {81412D3C-2A24-4E9D-B20E-11F7BBE92799}<00>
```

3. Bytes 37-40 indicate the length of the data to follow is 51 bytes. 51 – 13 = 38 bytes for the length of the **UID**.

4. The 38 bytes beginning at byte 53 result in the **UID** value:

```
UID={81412D3C-2A24-4E9D-B20E-11F7BBE92799}
```

5   Security

5.1   Security Considerations for Implementers

None.

5.2   Index of Security Parameters

None.

6   Appendix A: Product Behavior

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

- Microsoft® Exchange Server 2007 Service Pack 1 (SP1)

- Microsoft® Exchange Server 2010

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

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

<1> Section 2.2.2: The **Email2** namespace is not supported when the MS-ASProtocolVersion header is set to 12.1.

<2> Section 2.2.2: The **RightsManagement** namespace is not supported when the MS-ASProtocolVersion header is set to 12.1 or 14.0.

<3> Section 2.2.2.1: The **email2:AccountId** element is not supported when the MS-AS-ProtocolVersion header is set to 12.1 or 14.0.

<4> Section 2.2.2.6: The **airsyncbase:BodyPart** element is not supported when the MS-AS-ProtocolVersion header is set to 12.1 or 14.0.

<5> Section 2.2.2.8: The **email2:CalendarType** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<6> Section 2.2.2.9: The **Categories** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<7> Section 2.2.2.10: The **Category** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<8> Section 2.2.2.14: The **email2:ConversationId** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<9> Section 2.2.2.15: The **email2:ConversationIndex** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<10> Section 2.2.2.20: The **DisallowNewTimeProposal** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<11> Section 2.2.2.26: The **email2:FirstDayOfWeek** element is not supported when the MS-ASProtocolVersion header is set to 12.1 or 14.0.

<12> Section 2.2.2.35: The **email2:IsLeapMonth** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<13> Section 2.2.2.36: The **email2:LastVerbExecuted** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<14> Section 2.2.2.37: The **email2:LastVerbExecutionTime** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<15> Section 2.2.2.39: The **email2:MeetingMessageType** element is not supported when the MS-AS-ProtocolVersion header is set to 12.1 or 14.0.

<16> Section 2.2.2.48: The **email2:ReceivedAsBcc** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<17> Section 2.2.2.57: The **rm:RightsManagementLicense** element is not supported when the MS-AS-ProtocolVersion header is set to 12.1 or 14.0.

<18> Section 2.2.2.58: The **email2:Sender** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<19> Section 2.2.2.69: The **email2:UmAttDuration** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<20> Section 2.2.2.70: The **email2:UmAttOrder** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<21> Section 2.2.2.71: The **email2:UmCallerID** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<22> Section 2.2.2.72: The **email2:UmUserNotes** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

7 Change Tracking

This section identifies changes that were made to the [MS-ASEMAIL] protocol document between the March 2011 and August 2011 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.

- An extensive rewrite, addition, or deletion of major portions of content.

- The removal of a document from the documentation set.

- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.

- Content updated.

- Content removed.

- New product behavior note added.

- Product behavior note updated.

- Product behavior note removed.

- New protocol syntax added.

- Protocol syntax updated.

- Protocol syntax removed.

- New content added due to protocol revision.

- Content updated due to protocol revision.

- Content removed due to protocol revision.

- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.

- Protocol syntax removed due to protocol revision.

- New content added for template compliance.

- Content updated for template compliance.

- Content removed for template compliance.

- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated.**

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.

- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
1 Introduction	Added information about which sections of the specification are normative and can contain RFC 2119 language.	Y	Content updated for template compliance.
1 Introduction	Revised the introductory paragraph to state the purpose of the protocol.	N	Content updated.
1.3 Overview	Removed the link to the glossary from the word "attachment".	N	Content updated.
1.3 Overview	Updated content to state the purpose of the protocol, added reference to [MS-ASCMD], and removed information about specific characteristics of e-mail data.	N	Content updated.
1.4 Relationship to Other Protocols	Removed the link to the glossary from the word "message".	N	Content updated.
1.4 Relationship to Other Protocols	Updated content to remove information about the specific elements of e-mail message data that are defined in [MS-ASAIRS].	N	Content updated.
1.4 Relationship to Other Protocols	Added reference to [MS-ASHTTP] and updated description of how [MS-ASWBXML] relates to this protocol.	N	Content updated.
1.6 Applicability Statement	Replaced "set of elements" with "set of XML elements".	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
1.7 Versioning and Capability Negotiation	Changed the name of the section from Versioning and Localization to Versioning and Capability Negotiation.	N	Content updated.
2.1 Transport	Revised first paragraph to focus on the ActiveSync E-Mail Class Protocol instead of the E-mail class.	N	Content updated.
2.1 Transport	Moved information about WBXML from the Message Syntax section.	N	New content added.
2.1 Transport	Moved information about the namespaces in which E-mail class elements are defined to the Elements section.	N	Content removed.
2.2 Message Syntax	Moved information about WBXML to the Transport section.	N	Content removed.
2.2 Message Syntax	Removed specific section reference for [XML].	N	Content updated.
2.2 Message Syntax	Added information to specify what the protocol defines.	N	New content added.
2.2 Message Syntax	Removed information that is duplicated in the Elements section (which elements this specification defines).	N	Content removed.
2.2 Message Syntax	Added reference to [XMLNS].	N	Content updated.
2.2.1 Namespaces	Changed the value of Prefix for the Email Namespace URI from "None" to "(none)".	N	Content updated.
2.2.1 Namespaces	Updated table to remove entries for the following Namespace URIs: Contacts, Contacts2, DocumentLibrary, Notes.	N	Content removed.
2.2.2 Elements	Revised the subsections within the Elements section to remove the namespace prefix from element names in section titles and reorganize the subsections alphabetically.	N	Content updated.
2.2.2 Elements	Revised the structure of subsections within the Elements section to consolidate information about elements of the same name that are used in multiple contexts.	N	Content updated.
2.2.2 Elements	Removed the link to the glossary from the word "properties".	N	Content updated.
2.2.2 Elements	Moved information about namespaces in which E-mail class elements are defined from the Transport section.	N	New content added.
2.2.2	Revised data within the table to consolidate	N	Content

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
Elements	information about elements of the same name that are used in multiple contexts.		updated.
2.2.2 Elements	Removed references to [MS-ASHTTP] from the behavior note about support for the Email2 namespace.	N	Product behavior note updated.
2.2.2 Elements	Removed the statement about the E-mail class elements not having child elements in the request or response.	N	Content removed.
2.2.2 Elements	Added information about element data type to each subsection within the Elements section (where necessary).	Y	Content updated.
2.2.2 Elements	Added information about the namespace in which the element is defined to each subsection within the Elements section (where necessary).	N	Content updated.
2.2.2 Elements	Specified the namespace prefix for the DisplayName element.	N	Content updated.
2.2.2 Elements	Added specific section references for commands and elements to each subsection within the Elements section (where necessary).	N	Content updated.
2.2.2 Elements	Updated description of the FlagType element.	N	Content updated.
2.2.2.1 AccountId	Changed "messages" to "e-mail messages".	N	Content updated.
2.2.2.4 Attachments	Updated content to specify that the element is defined in the AirSyncBase namespace.	N	Content updated.
2.2.2.5 Body	Specified namespace prefix for the following elements: Type, EstimatedDataSize, Truncated, Data, Preview, TruncationSize, AllOrNone.	N	Content updated.
2.2.2.9 Categories	Updated information about how the Categoreis element is used in Sync Add commands and Sync Change commands.	N	Content updated.
2.2.2.12 CompleteTime	Specified the namespace prefix for the DateCompleted element.	N	Content updated.
2.2.2.12 CompleteTime	Updated content to specify that if this element is included, the tasks:DateCompleted element SHOULD also be included.	Y	Content updated.
2.2.2.14 ConversationId	Updated information about restrictions on using the ConversationId element.	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
2.2.2.21 DisplayName	Specified the namespace prefix for the DisplayName element.	N	Content updated.
2.2.2.27 Flag	Updated information about how to use the flag element in commands.	N	Content updated.
2.2.2.30 GlobalObjId	Moved details about determining whether a meeting request corresponds to an existing calendar object to the Determining Whether a Meeting Request Corresponds to an Existing Calendar Object section.	N	Content removed.
2.2.2.30 GlobalObjId	Moved example that demonstrates converting a GlobalObjId to a UID to the Converting a GlobalObjId to a UID section.	N	Content removed.
2.2.2.35 IsLeapMonth	Changed "value of FALSE (0)" to "value of 0 (zero, meaning FALSE)".	N	Content updated.
2.2.2.36 LastVerbExecuted	Updated content to specify the elements that represent the reply state of the message.	Y	Content updated.
2.2.2.37 LastVerbExecutionTime	Updated content to specify the elements that represent the reply state of the message.	Y	Content updated.
2.2.2.38 Location	Removed product behavior note about client behavior.	Y	Product behavior note removed.
2.2.2.40 MeetingRequest	Updated content to specify that the element contains information about the meeting.	N	Content updated.
2.2.2.41 MessageClass	Replaced the acronym "NDR" with the term "non-delivery report".	N	Content updated.
2.2.2.41 MessageClass	Removed implementation-specific details about how the MessageClass element value affects how a message is opened.	Y	Content removed.
2.2.2.41 MessageClass	Updated content to specify that this protocol supports the listed MessageClass element values as well as subclasses that derive from the listed MessageClass element values.	Y	Content updated.
2.2.2.41 MessageClass	Changed the value "IPM.Schedule.Meeting.Request" to "IPM.Schedule.Meeting".	Y	Content updated.
2.2.2.47 Read	Replaced "value of TRUE" with "value of 1 (TRUE)".	N	Content updated.
2.2.2.47 Read	Replaced "value of FALSE" with "value of 0 (zero, meaning FALSE)".	N	Content updated.
2.2.2.48 ReceivedAsBcc	Replaced "were blind carbon copied on an e-mail" with "are a blind carbon copy (Bcc)	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
	recipient on the e-mail".		
2.2.2.48 ReceivedAsBcc	Replaced "if the value is FALSE" with "if the value is 0 (zero, meaning FALSE)".	N	Content updated.
2.2.2.49 Recurrence	Updated content to specify that the Occurrences element is an optional child element of the Recurrence element.	Y	Content updated.
2.2.2.51 Recurrences	Updated the description of the element.	N	Content updated.
2.2.2.53 ReminderSet	Updated the description of the element.	N	Content updated.
2.2.2.54 ReminderTime	Replaced "tasks:ReminderSet is TRUE (1)" with "tasks:ReminderSet element value is set to 1 (TRUE)".	N	Content updated.
2.2.2.58 Sender	Removed information about client implementation (how the client displays the e-mail message).	N	Content removed.
2.2.2.63 Subject	Moved information about the tasks:Subject element from the tasks:Subject section.	N	New content added.
3.1.1 Abstract Data Model	Changed "elements" to "XML elements".	N	Content updated.
3.1.1 Abstract Data Model	Updated content to specify the schema that describes the E-mail class.	N	Content updated.
3.1.4.1 Synchronizing E-Mail Data Between Client and Server	Changed the title of the section from Synchronize E-mail Between Client and Server to Synchronizing E-mail Data Between Client and Server.	N	Content updated.
3.1.4.2 Sending E-Mail	Changed the title of the section from Send E-mail to Sending E-mail.	N	Content updated.
3.1.4.2 Sending E-Mail	Removed reference to an example in [MS-ASCMD].	N	Content removed.
3.1.4.3 Searching a Server for E-Mail Data	Updated sentence to remove the term "message database".	N	Content updated.
3.1.4.3 Searching a Server for E-Mail Data	Changed the title of the section from Search E-mail to Searching a Server for E-mail Data.	N	Content updated.
3.1.4.4 Retrieving Data for One or More E-Mail Items	Changed the title of the section from Retrieve Individual E-mail to Retrieving Data for One or More E-mail Items.	N	Content updated.
3.1.4.4 Retrieving Data for One or	Revised sentence structure and added specific	N	Content

Release: Sunday, July 31, 2011

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
More E-Mail Items	section reference for the Fetch element.		updated.
3.1.4.5 Sending and Receiving Meeting Requests	Changed the title of the section from Send and Receive Meeting Requests to Sending and Receiving Meeting Requests.	N	Content updated.
3.1.4.5 Sending and Receiving Meeting Requests	Revised sentence structure and added specific section references for the commands mentioned.	N	Content updated.
3.1.4.6 Updating E-Mail Flags on the Server	Changed the title of the section from Send Flag Updates to the Server to Updating E-mail Flags on the Server.	N	Content updated.
3.1.4.6 Updating E-Mail Flags on the Server	Moved details about how the client updates flags to the Updating E-mail Flags section.	N	Content updated.
3.1.4.6 Updating E-Mail Flags on the Server	Moved details about how the server updates flags to the Updating E-mail Flags section.	N	Content updated.
3.1.4.7 Determining Whether a Meeting Request Corresponds to an Existing Calendar Object	Added a section that specifies how to determine whether a meeting request corresponds to an existing calendar object.	Y	New content added.
3.1.4.7 Determining Whether a Meeting Request Corresponds to an Existing Calendar Object	Moved details about determining whether a meeting request corresponds to an existing calendar object from the GlobalObjId section.	N	New content added.
3.1.5.1 ItemOperations Command Request	Revised sentence structure and added specific section references for commands and elements.	N	Content updated.
3.1.5.1 ItemOperations Command Request	Updated content to eliminate use of the term "top-level schema properties".	N	Content updated.
3.1.5.1 ItemOperations Command Request	Removed the ItemOperations command request schema.	Y	Content removed.
3.1.5.1 ItemOperations Command Request	Specified a namespace prefix for the Fetch element and the Schema element.	N	Content updated.
3.1.5.2 Search Command Request	Revised sentence structure and added specific section references for commands.	N	Content updated.
3.1.5.2 Search Command Request	Moved details about the server response to the Search Command Response section.	N	Content removed.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
3.1.5.3 Sync Command Request	Specified a namespace prefix for the ApplicationData element and the Add element.	N	Content updated.
3.1.5.3 Sync Command Request	Revised sentence structure and added specific section references for commands and elements.	N	Content updated.
3.1.5.3 Sync Command Request	Removed the Sync command request schema.	Y	Content removed.
3.1.5.3 Sync Command Request	Updated content to specify the potential parent elements of the airsync:ApplicationData element.	N	Content updated.
3.1.5.3.1 Updating E-Mail Flags	Added a section to contain content moved from the Updating E-mail Flags on the Server section.	N	New content added.
3.1.5.3.1 Updating E-Mail Flags	Added a list of the elements used to specify flags.	N	Content updated.
3.2.1 Abstract Data Model	Changed "elements" to "XML elements".	N	Content updated.
3.2.1 Abstract Data Model	Updated content to reference the commands specified in the Message Processing Events and Sequencing Rules section instead of explicitly listing operations.	N	Content updated.
3.2.1 Abstract Data Model	Updated content to remove information about server behavior from the Command response definition.	N	Content updated.
3.2.4 Higher-Layer Triggered Events	Moved information about sending e-mail changes to the client to the Sync Command Response section.	N	Content updated.
3.2.4.1 Synchronizing E-Mail Data Between Client and Server	Changed the title of the section from Synchronize E-mail Between Client and Server to Synchronizing E-mail Data Between Client and Server.	N	Content updated.
3.2.4.2 Searching for E-Mail Data	Changed the title of the section from Search E-mail to Searching for E-mail Data.	N	Content updated.
3.2.4.3 Retrieving Data for One or More E-Mail Items	Changed the title of the section from Retrieve Individual E-mail to Retrieving Data for One or More E-mail Items.	N	Content updated.
3.2.5.1 ItemOperations Command Response	Specified a namespace prefix for the Schema element and the Properties element.	N	Content updated.
3.2.5.1 ItemOperations Command	Added introductory paragraph to specify when a server responds with an ItemOperations	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
Response	command response.		
3.2.5.1 ItemOperations Command Response	Updated content to reference the Elements section for a list of elements that belong to the E-mail class.	N	Content updated.
3.2.5.1 ItemOperations Command Response	Removed the ItemOperations command response schema.	Y	Content removed.
3.2.5.2 Search Command Response	Moved details about the server response from the Search Command Request section.	N	New content added.
3.2.5.2 Search Command Response	Removed the Search command response schema.	Y	Content removed.
3.2.5.2 Search Command Response	Updated content to reference the Elements section for a list of elements that belong to the E-mail class.	N	Content updated.
3.2.5.2 Search Command Response	Added introductory paragraph to specify when a server responds with a Search command response.	N	Content updated.
3.2.5.2 Search Command Response	Specified a namespace prefix for the Properties element and added specific section references for all commands and elements mentioned.	N	Content updated.
3.2.5.3 Sync Command Response	Moved information about sending e-mail changes to the client from the Higher-Layer Triggered Events section.	N	Content updated.
3.2.5.3 Sync Command Response	Added introductory paragraph to specify when a server responds with an Sync command response.	N	Content updated.
3.2.5.3 Sync Command Response	Updated content to reference the Elements section for a list of elements that belong to the E-mail class.	N	Content updated.
3.2.5.3 Sync Command Response	Specified a namespace prefix for the ApplicationData element and added specific section references for all commands and elements mentioned.	N	Content updated.
3.2.5.3 Sync Command Response	Specified that the airsync:ApplicationData element appears within either the airsync:Add element or airsync:Change element in a Sync command response.	N	Content updated.
3.2.5.3 Sync Command Response	Removed the Sync command response schema.	Y	Content removed.
3.2.5.3.1 Sending E-Mail Changes to	Changed the title of the section from Send Changes to the Client to Sending E-mail	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
the Client	Changes to the Client.		
3.2.5.3.1 Sending E-Mail Changes to the Client	Updated information about the data the server includes in a Sync command response in various scenarios.	N	Content updated.
3.2.5.3.1 Sending E-Mail Changes to the Client	Updated content to add specific section references for all commands and elements mentioned.	N	Content updated.
3.2.5.3.1 Sending E-Mail Changes to the Client	Revised table column headings and changed "N" to "No" and "Y" to "Yes" throughout the table.	N	Content updated.
3.2.5.3.1 Sending E-Mail Changes to the Client	Changed "other e-mail elements" to "other ActiveSync E-Mail Class Protocol properties".	N	Content updated.
3.2.5.3.1 Sending E-Mail Changes to the Client	Changed "non-protocol properties" to "non-ActiveSync E-Mail Class Protocol properties".	N	Content updated.
3.2.5.3.2 Updating E-Mail Flags	Added a section to contain content moved from the Updating E-mail Flags on the Server section.	N	New content added.
3.2.5.3.2 Updating E-Mail Flags	Added a section references for all commands and elements mentioned.	N	Content updated.
4.1.1 Synchronizing Only E-Mail Metadata	Moved example of Sync command response with only e-mail metadata from the Example Sync Response for Inbox with Metadata section.	N	Content updated.
4.1.1 Synchronizing Only E-Mail Metadata	Changed the title of the section from Example Sync Request for Inbox with Metadata to Synchronizing Only E-mail Metadata.	N	Content updated.
4.1.1 Synchronizing Only E-Mail Metadata	Editorially revised the introductory paragraph and added a section reference for each element and command mentioned.	N	Content updated.
4.1.2 Synchronizing E-Mail Metadata and Body	Changed the title of the section Example Sync Request for Inbox with Body Preferences to Synchronizing E-mail Metadata and Body.	N	Content updated.
4.1.2 Synchronizing E-Mail Metadata and Body	Moved example of Sync command response with e-mail metadata and body from the Example Sync Response Adding One HTML Message section.	N	Content updated.
4.1.2 Synchronizing E-Mail Metadata and Body	Editorially revised the introductory content and added a section reference for each element and command mentioned.	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
4.1.3 Synchronizing E-Mail Attachments	Added section that describes Sync responses that contain attachments.	N	New content added.
4.1.3.1 Synchronizing an E-Mail with an Electronic Voice Mail Attachment	Changed the section title from Example Sync Response Adding an Electronic Voice Mail Attachment to Synchronizing an E-mail with an Electronic Voice Mail Attachment.	N	Content updated.
4.1.3.1 Synchronizing an E-Mail with an Electronic Voice Mail Attachment	Updated the introductory paragraph to fully specify what the example demonstrates and added a section reference for each element and command mentioned.	N	Content updated.
4.1.3.2 Synchronizing an E-mail with a Text Attachment	Changed the section title from Example Sync Response Adding a Text Attachment to Synchronizing an E-mail with a Text Attachment.	N	Content updated.
4.1.3.2 Synchronizing an E-mail with a Text Attachment	Updated the introductory paragraph to fully specify what the example demonstrates and added a section reference for each element and command mentioned.	N	Content updated.
4.1.4 Deleting an E-Mail	Changed the title of the section from Example Sync Request Deleting One E-mail to Deleting an E-mail.	N	Content updated.
4.1.4 Deleting an E-Mail	Moved example of Sync command response to an e-mail deletion request from the Example Success Sync Response section.	N	Content updated.
4.1.4 Deleting an E-Mail	Updated the introductory paragraph to fully specify what the example demonstrates and added a section reference for each element and command mentioned.	N	Content updated.
4.1.5 Synchronizing Meeting Requests	Added section that describes Sync responses that contain meeting requests.	N	New content added.
4.1.5.1 Synchronizing a Non-Recurring Meeting Request	Updated the introductory paragraph to fully specify what the example demonstrates and added a section reference for each element and command mentioned.	N	Content updated.
4.1.5.1 Synchronizing a Non-Recurring Meeting Request	Changed title of the section from Example Sync Response Adding a Meeting Request to Synchronizing a Non-Recurring Meeting Request.	N	Content updated.
4.1.5.1 Synchronizing a Non-Recurring Meeting Request	Changed title of the section from Example Sync Response Adding a Meeting Request with a Recurrence to Synchronizing a Recurring Meeting Request.	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
4.1.5.2 Synchronizing a Recurring Meeting Request	Updated the introductory paragraph to fully specify what the example demonstrates and added a section reference for each element and command mentioned.	N	Content updated.
4.1.6 Retrieving E-Mail Metadata and Body	Changed the title of the section from Example ItemOperations Request to Retrieving E-mail Metadata and Body.	N	Content updated.
4.1.6 Retrieving E-Mail Metadata and Body	Moved example of ItemOperations command response from the Example ItemOperations Response With Fetched Content section.	N	Content updated.
4.2 Setting the Recurrence Pattern for a Recurring Meeting	Changed the title of the section from Setting MeetingRequest Recurrence Intervals to Setting the Recurrence Pattern for a Recurring Meeting.	N	Content updated.
4.2 Setting the Recurrence Pattern for a Recurring Meeting	Updated introductory paragraph to fully describe the examples that follow and added section references for the elements mentioned.	N	Content updated.
4.3 Setting the Flag on an E-Mail	Editorially updated content and added specific section references for commands and elements mentioned.	N	Content updated.
4.3 Setting the Flag on an E-Mail	Changed the title of the section from Setting Flags on the Client and Server to Setting the Flag on an E-mail.	N	Content updated.
4.3.1 Setting a Flag	Changed the title of the section from Example Sync Request Setting a Flag on the Client to Setting a Flag.	N	Content updated.
4.3.1 Setting a Flag	Moved example of Sync command response for setting an e-mail flag from the Example Sync Request Setting a Flag on the Server section.	N	Content updated.
4.3.2 Marking a Flag as Complete	Changed the title of the section from Example Sync Request Setting the Complete Flag to Marking a Flag as Complete.	N	Content updated.
4.3.2 Marking a Flag as Complete	Updated the introductory paragraph to fully describe the example and added specific section references for commands and elements mentioned.	N	Content updated.
4.3.3 Clearing a Flag	Changed the title of the section from Example Sync Request Clearing a Flag on the Client to Clearing a Flag.	N	Content updated.
4.3.3 Clearing a Flag	Updated the introductory paragraph to fully describe the example and added specific section references for the command and	N	Content updated.

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Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
	element mentioned.		
4.4 Converting a GlobalObjId to a UID	Added section that describes how to convert a GlobalObjId to a UID.	N	New content added.
4.4 Converting a GlobalObjId to a UID	Moved example that demonstrates converting a GlobalObjId to a UID from the GlobalObjId section.	N	New content added.
6 Appendix A: Product Behavior	Removed Exchange Server 2010 Service Pack 1 from the list of applicable products.	N	Content removed.

8 Index