[MS-ASCAL]:
ActiveSync Calendar Class Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
12/03/2008	1.0.0	Major	Initial Release.
04/10/2009	2.0.0	Major	Updated technical content and applicable product releases.
07/15/2009	3.0.0	Major	Revised and edited for technical content.
11/04/2009	4.0.0	Major	Updated and revised the technical content.
02/10/2010	5.0.0	Major	Updated and revised the technical content.
05/05/2010	6.0.0	Major	Updated and revised the technical content.
08/04/2010	7.0	Major	Significantly changed the technical content.
11/03/2010	8.0	Major	Significantly changed the technical content.
03/18/2011	8.1	Minor	Clarified the meaning of the technical content.

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1 Introduction

Mobile devices that communicate by using the ActiveSync protocol are able to exchange **calendar** data. The ActiveSync Calendar Class protocol specifies the ActiveSync protocol format for the interchange of calendar data.

1.1 Glossary

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

class
resource
XML

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

calendar
category
ghosted
Globally Routable User Agent URI (GRUU)
meeting
meeting request
organizer
recipient
recurrence pattern
recurring series
reminder
Uniform Resource Locator (URL)
user agent client (UAC)
Wireless Application Protocol (WAP) Binary XML (WBXML)
XML namespace
XML schema

The following terms are specific to this document:

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

1.2 References

1.2.1 Normative References

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

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

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

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

[MS-ASHTTP] Microsoft Corporation, "ActiveSync HTTP Protocol Specification", December 2008.

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

[MS-OXOCAL] Microsoft Corporation, "Appointment and Meeting Object Protocol Specification", June 2008.

[MS-SIPRE] Microsoft Corporation, "Session Initiation Protocol (SIP) Routing Extensions", June 2008.

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

[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] World Wide Web Consortium, "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation 8 December 2009, http://www.w3.org/TR/REC-xml-names/

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

1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "Windows Protocols Master Glossary", March 2007.

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

1.3 Overview

The ActiveSync Calendar Class protocol specifies an **XML** representation of calendar data as used in various ActiveSync commands.

1.4 Relationship to Other Protocols

The ActiveSync Calendar Class protocol specifies an XML representation of calendar data that is used by the commands that are specified in [MS-ASCMD]. The protocol that controls the transmission of these commands between client and server is specified in [MS-ASHTTP].

Some elements in the calendar **class** support being **ghosted**. The use of ghosted properties is specified in [MS-ASCMD] section 2.2.3.154.

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

1.5 Prerequisites/Preconditions

None.

1.6 Applicability Statement

This protocol specifies a set of elements for use in communicating calendar data using the commands specified in [MS-ASCMD]. This set of elements is applicable when communicating calendar and **meeting request** information between a mobile device and a server. These elements are not applicable when sending other types of information supported by the ActiveSync protocol.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

The **Calendar** class consists of a series of XML elements that are embedded inside a collection that is transmitted as specified in [MS-ASCMD]. The XML block that contains the **Calendar** class elements is transmitted in either the Request Body of a Request, or in the Response Body of a Response.

The elements of the **Calendar** class are defined in two namespaces: **Calendar**, whose elements are specified in this document, and **AirSyncBase**, whose elements are specified in [MS-ASAIRS].

2.2 Message Syntax

The markup MUST be well-formed XML, as specified in [XML], and use the commands that are specified in [MS-ASCMD].

The XML markup that constitutes the Request Body or the Response Body is transmitted between client and server by using **Wireless Application Protocol (WAP) Binary XML (WBXML)** [MS-ASWBXML].

The following is the XML schema definition for the **Calendar** class response in ActiveSync. Unless otherwise noted, the elements in this class are specified in the **CAL** namespace, using the mechanisms specified in [XMLNS] and [XMLSCHEMA1]. The following represents the full set of data that can be returned by the **Sync** command. The relationship between these elements and other ActiveSync protocol commands is specified in section 3.1.5.

```
<?xml version="1.0" ?>
<xs:schema xmlns:tns="Calendar:" attributeFormDefault="unqualified"
elementFormDefault="qualified"
targetNamespace="Calendar:" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:xs=http://www.w3.org/2001/XMLSchema xmlns:airsyncbase="AirSyncBase:">
     <xs:import namespace="AirSyncBase:" schemaLocation="AirSyncBase.xsd"/>
     <xs:element name="Timezone" type="xs:timezone" />
     <xs:element name="AllDayEvent" type="xs:unsignedByte" />

     <xs:element name="BusyStatus" type="xs:unsignedByte">
          <xs:simpleType>
               <xs:restriction base="xs:unsignedByte">
                    <xs:minInclusive value="0"/>
                    <xs:maxInclusive value="5"/>
               </xs:restriction>
          </xs:simpleType>
     </xs:element>
     <xs:element name="OrganizerName" type="xs:string" />
     <xs:element name="OrganizerEmail" type="xs:string" />
     <xs:element name="DtStamp" type="xs:dateTime" />
     <xs:element name="EndTime" type="xs:dateTime" />
     <xs:element name="Location" type="xs:string" />
     <xs:element name="Reminder" type="xs:unsignedInt" />
     <xs:element name="Sensitivity" type="xs:unsignedByte">
          <xs:simpleType>
               <xs:restriction base="xs:unsignedByte">
                    <xs:minInclusive value="0"/>
                    <xs:maxInclusive value="3"/>
               </xs:restriction>
```

```
            </xs:simpleType>
        </xs:element>
        <xs:element name="Subject" type="xs:string" />
        <xs:element name="StartTime" type="xs:dateTime" />
        <xs:element name="UID" type="xs:string">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:maxLength value="300"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:element>
        <xs:element minOccurs="0" name="MeetingStatus">
            <xs:simpleType>
                <xs:restriction base="xs:unsignedByte">
                    <xs:enumeration value="1"/>
                    <xs:enumeration value="0"/>
                    <xs:enumeration value="3"/>
                    <xs:enumeration value="5"/>
                    <xs:enumeration value="7"/>
                    <xs:enumeration value="9"/>
                    <xs:enumeration value="11"/>
                    <xs:enumeration value="13"/>
                    <xs:enumeration value="15"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:element>

        <xs:element name="Attendees">
            <xs:complexType>
                <xs:sequence minOccurs="0">
                    <xs:element name="Attendee" maxOccurs="unbounded">
                        <xs:complexType>
                            <xs:all>
                                <xs:element name="Email" type="xs:string" />
                                <xs:element name="Name" type="xs:string" />
                                <xs:element name="AttendeeStatus"
  minOccurs="0">
                                    <xs:simpleType>
                                    <xs:restriction
  base="xs:unsignedByte">
                                    <xs:enumeration value="0"/>
                                    <xs:enumeration value="2"/>
                                    <xs:enumeration value="3"/>
                                    <xs:enumeration value="4"/>
                                    <xs:enumeration value="5"/>
                                    </xs:restriction>
                                    </xs:simpleType>
                                </xs:element>
                                <xs:element name="AttendeeType" type="xs:unsignedByte">
                                    <xs:simpleType>
                                    <xs:restriction
  base="xs:unsignedByte">
                                    <xs:enumeration value="1"/>
                                    <xs:enumeration value="2"/>
                                    <xs:enumeration value="3"/>
                                    </xs:restriction>
                                    </xs:simpleType>
                                </xs:element>
                            </xs:all>
```

```
                    </xs:complexType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="Categories">
        <xs:complexType>
            <xs:sequence minOccurs="0">
                <xs:element maxOccurs="300" name="Category" type="xs:string" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="Recurrence">
        <xs:complexType>
            <xs:all minOccurs="0">
                <xs:sequence>
                    <xs:element name="Type">
                        <xs:simpleType>
                            <xs:restriction base="xs:unsignedByte">
                                <xs:minInclusive value="0"/>
                                <xs:maxInclusive value="6"/>
                              </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                    <xs:element minOccurs="0" name="Occurrences"
type="xs:unsignedShort" />
                    <xs:element name="Interval">
                        <xs:simpleType>
                            <xs:restriction base="xs:unsignedShort">
                                <xs:minInclusive value="0"/>
                                <xs:maxInclusive value="999"/>
                            </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                    <xs:element name="WeekOfMonth">
                        <xs:simpleType>
                            <xs:restriction base="xs:unsignedByte">
                                <xs:minInclusive value="1"/>
                                <xs:maxInclusive value="5"/>
                            </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                    <xs:element minOccurs="0" name="DayOfWeek">
                        <xs:simpleType>
                            <xs:restriction base="xs:unsignedShort">
                                <xs:minInclusive value="0"/>
                                <xs:maxInclusive value="127"/>
                            </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                    <xs:element minOccurs="0" name="MonthOfYear">
                        <xs:simpleType>
                            <xs:restriction base="xs:unsignedByte">
                                <xs:minInclusive value="1"/>
                                <xs:maxInclusive value="12"/>
                            </xs:restriction>
                        </xs:simpleType>
                    </xs:element>
                    <xs:element minOccurs="0" name="Until"
```

```
type="xs:dateTime" />
                        <xs:element minOccurs="0" name="DayOfMonth">
                             <xs:simpleType>
                                  <xs:restriction base="xs:unsignedByte">
                                       <xs:minInclusive value="1"/>
                                       <xs:maxInclusive value="127"/>
                                  </xs:restriction>
                             </xs:simpleType>
                        </xs:element>
                        <xs:element minOccurs="0" name="CalendarType">
                             <xs:simpleType>
                                  <xs:restriction base="xs:unsignedByte">
                                       <xs:minInclusive value="0"/>
                                       <xs:maxInclusive value="23"/>
                                  </xs:restriction>
                             </xs:simpleType>
                        </xs:element>
                        <xs:element minOccurs="0" name="IsLeapMonth">
                             <xs:simpleType>
                                  <xs:restriction base="xs:unsignedByte">
                                       <xs:minInclusive value="0"/>
                                       <xs:maxInclusive value="1"/>
                                  </xs:restriction>
                             </xs:simpleType>
                        </xs:element>
                        <xs:element minOccurs="0" name="FirstDayOfWeek">
                             <xs:simpleType>
                                  <xs:restriction base="xs:unsignedByte">
                                       <xs:minInclusive value="0"/>
                                       <xs:maxInclusive value="6"/>
                                  </xs:restriction>
                              </xs:simpleType>
                         </xs:element>
                    </xs:sequence>
               </xs:all>
          </xs:complexType>
     </xs:element>
     <xs:element name="Exceptions">
          <xs:complexType>
               <xs:sequence minOccurs="0">
                    <xs:element name="Exception" maxOccurs="1000">

                        <xs:all>
                             <xs:element minOccurs="0" name="Deleted"
type="xs:unsignedByte" />
                             <xs:element name="ExceptionStartTime"
type="xs:dateTime" />
                             <xs:element minOccurs="0" name="Subject"
type="xs:string" />
                             <xs:element minOccurs="0" name="StartTime"
type="xs:dateTime" />
                             <xs:element minOccurs="0" name="EndTime"
type="xs:dateTime" />
                             <xs:element name="Body" type="airsyncbase:Body" />
                             <xs:element minOccurs="0" name="Location"
type="xs:string" />
                             <xs:element minOccurs="0" name="Categories">
                                  <xs:complexType>
                                       <xs:sequence>
```

```
                                        <xs:element maxOccurs="300" name="Category"
type="xs:string" />
                                   </xs:sequence>
                              </xs:complexType>
                         </xs:element>
                         <xs:element minOccurs="0" name="Sensitivity">
                              <xs:simpleType>
                                   <xs:restriction base="xs:unsignedByte">
                                        <xs:minInclusive value="0"/>
                                        <xs:maxInclusive value="3"/>
                                   </xs:restriction>
                              </xs:simpleType>
                         </xs:element>
                         <xs:element minOccurs="0" name="BusyStatus">
                              <xs:simpleType>
                                   <xs:restriction base="xs:unsignedByte">
                                        <xs:minInclusive value="0"/>
                                        <xs:maxInclusive value="5"/>
                                   </xs:restriction>
                              </xs:simpleType>
                         </xs:element>
                         <xs:element minOccurs="0"
 name="AllDayEvent" type="xs:unsignedByte" />
                         <xs:element minOccurs="0" name="Reminder"
type="xs:unsignedInt" />
                         <xs:element minOccurs="0" name="DtStamp"
type="xs:dateTime" />
                         <xs:element minOccurs="0" name="MeetingStatus">
                              <xs:simpleType>
                                   <xs:restriction
base="xs:unsignedByte">
                                        <xs:enumeration value="1"/>
                                        <xs:enumeration value="0"/>
                                        <xs:enumeration value="3"/>
                                        <xs:enumeration value="5"/>
                                        <xs:enumeration value="7"/>
                                        <xs:enumeration value="9"/>
                                        <xs:enumeration value="11"/>
                                        <xs:enumeration value="13"/>
                                        <xs:enumeration value="15"/>
                                   </xs:restriction>
                              </xs:simpleType>
                         </xs:element>
                         <xs:element minOccurs="0"
 name="AppointmentReplyTime" type="xs:dateTime" />
                         <xs:element minOccurs="0" name="ResponseType"
type="xs:unsignedInt" />

                    </xs:all>
               </xs:element>
          </xs:sequence>
     </xs:complexType>
</xs:element>
<xs:element name="ResponseRequested" type="xs:boolean" />
<xs:element name="AppointmentReplyTime" type="xs:dateTime" />
<xs:element name="ResponseType" type="xs:unsignedInt" />
<xs:element name="DisallowNewTimeProposal" type="xs:boolean" />
<xs:element name="OnlineMeetingConfLink" type="xs:string" />
<xs:element name="OnlineMeetingExternalLink" type="xs:string" />
```

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

The portion of the AirSyncBase namespace used by the **Calendar** class is defined as follows. For 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="NativeBodyType" type="xs:unsignedByte"/>
</xs:schema>
```

2.2.1 Namespaces

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

Prefix	Namespace URI	Reference
None	**Calendar**	
airsyncbase	**AirSyncBase**	[MS-ASAIRS]
airsync	**AirSync**	[MS-ASCMD] section 2.2.2.19
itemoperations	**ItemOperations**	[MS-ASCMD] section 2.2.2.8
search	**Search**	[MS-ASCMD] section 2.2.2.14
xs	**http://www.w3.org/2001/XMLSchema**	[XMLSCHEMA1]

2.2.2 Elements

The following table summarizes the set of common XML schema elements that are defined or used by this specification. XML schema elements that are specific to a particular operation are defined with the operation.

Calendar class elements MUST NOT have child elements in either the command request or response.

Element	Description
Timezone (section 2.2.2.1)	The time zone of the calendar item.
AllDayEvent (section 2.2.2.2)	Specifies whether this calendar item runs for the entire day.
airsyncbase:Body (section 2.2.2.3)	The body text of the calendar item.
BusyStatus (section 2.2.2.4)	Specifies whether the **recipient** is busy at the specified time.
OrganizerName (section 2.2.2.5)	The name of the user who created this calendar item.

Element	Description
OrganizerEmail (section 2.2.2.6)	The e-mail address of the user who created this calendar item.
DtStamp (section 2.2.2.7)	The time at which this calendar item was created or modified.
EndTime (section 2.2.2.8)	The end time of the calendar item.
Location (section 2.2.2.9)	The place where the event specified by the calendar item occurs.
Reminder (section 2.2.2.10)	The number of minutes before a calendar item's start time to display a **reminder** notice.
Sensitivity (section 2.2.2.11)	The recommended privacy policy for this calendar item.
Subject (section 2.2.2.12)	The summary of the calendar item.
StartTime (section 2.2.2.13)	The start time of the calendar item.
UID (section 2.2.2.14)	A unique, 300 digit hexadecimal ID generated by the client when the calendar item is created.
MeetingStatus (section 2.2.2.15)	The status of the **meeting**.
Attendees (section 2.2.2.16)	The collection of attendees for this calendar item.
Attendee (section 2.2.2.16.1)	An attendee who is invited to the event.
Email (section 2.2.2.16.1.1)	The e-mail address of the attendee.
Name (section 2.2.2.16.1.2)	The name of the attendee.
AttendeeStatus (section 2.2.2.16.1.3)	The attendee's acceptance status.
AttendeeType (section 2.2.2.16.1.4)	Specifies whether the attendee is required, optional, or a **resource**.
Categories (section 2.2.2.17)	The collection of categories for this calendar item
Category (section 2.2.2.17.1)	A category for this calendar item.
Recurrence (section 2.2.2.18)	The recurrence information for this calendar item
Type (section 2.2.2.18.1)	The type of the recurrence.
Occurrences (section 2.2.2.18.2)	The number of recurrences.
Interval (section 2.2.2.18.3)	The interval between recurrences.
WeekOfMonth (section 2.2.2.18.4)	The week of the month for this recurrence.
DayOfWeek (section 2.2.2.18.5)	The day of the week for this recurrence.
MonthOfYear (section 2.2.2.18.6)	The month of the year for this recurrence.
Until (section 2.2.2.18.7)	The end date and time of this recurrence.
DayOfMonth (section 2.2.2.18.8)	The day of the month of this recurrence.

Element	Description
CalendarType (section 2.2.2.18.9)	The calendar system used by this recurrence.
IsLeapMonth (section 2.2.2.18.10)	Specifies whether the recurrence of this appointment is to take place on the embolismic (leap) month.
FirstDayOfWeek (section 2.2.2.18.11)	Specifies which day is considered the first day of the calendar week for this recurrence.
Exceptions (section 2.2.2.19)	A collection of exceptions to the **recurrence pattern** of this calendar item.
Exception (section 2.2.2.19.1)	An exception to this calendar item's recurrence.
Deleted (section 2.2.2.19.1.1)	Specifies whether this exception has been deleted.
ExceptionStartTime (section 2.2.2.19.1.2)	The start time of the recurring meeting.
Subject (section 2.2.2.19.1.3)	The subject of the calendar item exception.
StartTime (section 2.2.2.19.1.4)	The start time of this exception.
EndTime (section 2.2.2.19.1.5)	The end time of this exception.
Location (section 2.2.2.19.1.6)	The location of this exception.
Category (section 2.2.2.19.1.7.1)	A category assigned to this exception.
Sensitivity (section 2.2.2.19.1.8)	The sensitivity level of this exception.
BusyStatus (section 2.2.2.19.1.9)	The busy status of the meeting **organizer**.
AllDayEvent (section 2.2.2.19.1.10)	Specifies whether this exception is an all-day event.
Reminder (section 2.2.2.19.1.11)	The number of minutes before a calendar item’s start time to display a reminder notice.
DtStamp (section 2.2.2.19.1.12)	The date and time that this exception was created.
MeetingStatus (section 2.2.2.19.1.13)	The status of this exception.
AppointmentReplyTime (section 2.2.2.19.1.14)	The date and time the user responded to this exception request.
ResponseType (section 2.2.2.19.1.15)	The type of response made by the user to this exception to a recurring meeting.
airsyncbase:Body (section 2.2.2.19.1.16)	The body text of the exception item.
ResponseRequested (section 2.2.2.20)	Specifies whether a response to this meeting request is required.
AppointmentReplyTime (section 2.2.2.21)	The date and time that the user responded to the meeting request.
ResponseType (section 2.2.2.22)	The type of response made by the user to a meeting request.
DisallowNewTimeProposal (section	Specifies whether recipients of this meeting request can

Element	Description
2.2.2.23)	propose a new time for the meeting.
airsyncbase:NativeBodyType (section 2.2.2.24)	Specifies how the body text of the calendar item is stored on the server.
OnlineMeetingConfLink (section 2.2.2.25)	A **Globally Routable User Agent URI (GRUU)** ([MS-SIPRE]) for an online meeting.
OnlineMeetingExternalLink (section 2.2.2.26)	A **Uniform Resource Locator (URL)** for an online meeting.

2.2.2.1 Timezone

The **Timezone** element is an optional element that specifies the time zone of the calendar item.

The value of the **Timezone** element is a **TimeZone** type, as specified in [MS-ASDTYPE] section 2.6.4.

The **TimeZone** element can be ghosted.

2.2.2.2 AllDayEvent

The **AllDayEvent** element is an optional element that specifies whether the calendar item runs for the entire day.

The value of the **AllDayEvent** element MUST be one of those listed in the following table.

Value	Description
0	Is not an all day event.
1	Is an all day event.

An item marked as an all day event is understood to begin on midnight of the current day and to end on midnight of the next day.

The **AllDayEvent** element can be ghosted.

2.2.2.3 airsyncbase:Body

The **airsyncbase:Body** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies the body text of the calendar item. It is defined as an element in the **AirSyncBase** namespace.

The **airsyncbase:Body** element is specified in [MS-ASAIRS] section 2.2.2.4.

2.2.2.4 BusyStatus

The **BusyStatus** element is an optional element that specifies whether the recipient is busy at the time of the meeting.

The value of the **BusyStatus** element MUST be one of those listed in the following table.

Value	Description
0	Free
1	Tentative
2	Busy
3	Out of Office

The **BusyStatus** element can be ghosted.

2.2.2.5 OrganizerName

The **OrganizerName** element is an optional element that specifies the name of the user who created this calendar item.

The **OrganizerName** element can be ghosted.

2.2.2.6 OrganizerEmail

The **OrganizerEmail** element is an optional element that specifies the e-mail address of the user who created this calendar item.

The value of the **OrganizerEmail** element is a valid e-mail address format, as specified in [MS-ASDTYPE] section 2.6.2.

The **OrganizerEmail** element can be ghosted.

2.2.2.7 DtStamp

The **DtStamp** element is an optional element that specifies the time that this calendar item was created or modified.

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

The **DtStamp** element can be ghosted.

2.2.2.8 EndTime

The **EndTime** element is a required element that specifies the end time of this calendar item.

The **EndTime** element MUST be present in the response even if the value of the **AllDayEvent** element is 1.

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

The **EndTime** element can be ghosted.

2.2.2.9 Location

The **Location** element is an optional element that specifies the place where the event specified by the calendar item occurs.

The **Location** element can be ghosted.

2.2.2.10 Reminder

The **Reminder** element is an optional element that specifies the number of minutes before a calendar item's start time to display a reminder notice.

The **Reminder** element can be ghosted.

2.2.2.11 Sensitivity

The **Sensitivity** element is an optional child element that specifies the recommended privacy policy for this calendar item.

The value of the **Sensitivity** element MUST be one of those listed in the following table.

Value	Description
0	Normal
1	Personal
2	Private
3	Confidential

The **Sensitivity** element can be ghosted.

2.2.2.12 Subject

The **Subject** element is a required element that specifies the subject of the calendar item.

The **Subject** element can be ghosted.

2.2.2.13 StartTime

The **StartTime** element is a required element that specifies the start time of the calendar item.

A **Sync** command request MUST contain one instance of the **StartTime** element. If this element is not included in a **Sync** command request, then the server MUST return a protocol status error 6. **Sync** command status errors are defined in [MS-ASCMD] section 2.2.3.152.16.

A **Sync** command response MUST contain one instance of the **StartTime** element.

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

The **StartTime** element can be ghosted.

2.2.2.14 UID

The **UID** element is an optional element that specifies a random hexadecimal ID generated by the client when the calendar item is created. The maximum length of this element is 300 characters.

The **UID** element can be ghosted.

2.2.2.15 MeetingStatus

The **MeetingStatus** element is an optional element that specifies the status of the meeting.

The value of the **MeetingStatus** element MUST be one of those listed in the following table.

Value	Description
0	Is not a meeting.
1	Is a meeting.
3	Meeting received.
5	Meeting is canceled.
7	Meeting is canceled and received.
9	Same as 1.
11	Same as 3.
13	Same as 5.
15	Same as 7.

The **MeetingStatus** element can be ghosted.

2.2.2.16 Attendees

The **Attendees** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies the collection of attendees for this calendar item.

The **Attendees** element can only have the following child element:

- **Attendee** (section 2.2.2.16.1): This element is optional.

2.2.2.16.1 Attendee

The **Attendee** element is a **container** ([MS-ASDTYPE] section 2.2) element that specifies an attendee who is invited to the event. It is a child element of the **Attendees** element (section 2.2.2.16).

The **Attendee** element can only have the following child elements:

- **Email** (section 2.2.2.16.1.1): One instance of this element is required.
- **Name** (section 2.2.2.16.1.2): One instance of this element is required.
- **AttendeeStatus** (section 2.2.2.16.1.3): This element is optional.
- **AttendeeType** (section 2.2.2.16.1.4): This element is optional.

The **Attendee** element can be ghosted. The use of ghosted properties is specified in [MS-ASCMD] section 2.2.3.154.

2.2.2.16.1.1 Email

The **Email** element is a required child element of the **Attendee** element (section 2.2.2.16.1) that specifies the e-mail address of an attendee.

A command request or response has a minimum of one **Email** element per **Attendee** element.

A command request or response has a maximum of one **Email** element per **Attendee** element.

The value of the **Email** element MAY be any arbitrary string. It is recommended that the string adhere to the **Email Address** type, as specified in [MS-ASDTYPE] section 2.6.2. A server MUST recognize when this value is not formatted as an **Email Address**, and MUST replace it with suitable placeholder text.

2.2.2.16.1.2 Name

The **Name** element is a required child element of the **Attendee** element (section 2.2.2.16.1) that specifies the name of an attendee.

A command request or response has a minimum of one **Name** element per **Attendee** element.

A command request or response has a maximum of one **Name** element per **Attendee** element.

2.2.2.16.1.3 AttendeeStatus

The **AttendeeStatus** element is an optional child element of the **Attendee** element (section 2.2.2.16.1) that specifies the attendee's acceptance status.

A **Sync** command request (section 3.1.5.3) has a maximum of one **AttendeeStatus** element per **Attendee** element.

A command response has a maximum of one **AttendeeStatus** element per **Attendee** element.

The value of the **AttendeeStatus** element MUST be one of those listed in the following table.

Value	Description
0	Response unknown
2	Tentative
3	Accept
4	Decline
5	Not responded

2.2.2.16.1.4 AttendeeType

The **AttendeeType** element is an optional child element of the **Attendee** element (section 2.2.2.16.1) that specifies whether this attendee is required, optional, or a resource.

A command response has a maximum of one **AttendeeType** element per **Attendee** element.

The value of the **AttendeeType** element MUST be one of those specified in the following table.

Value	Description
1	Required
2	Optional
3	Resource

2.2.2.17 Categories

The **Categories** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies a collection of categories for this calendar item.

The **Categories** element can only have the following child element:

- **Category** (section 2.2.2.17.1): This element is optional.

The **Categories** element can be ghosted.

2.2.2.17.1 Category

The **Category** element is an optional child element of the **Categories** element (section 2.2.2.17) that specifies a **category** for this calendar item.

A command request SHOULD limit itself to no more than 300 **Category** elements per **Categories** element.

A command response SHOULD limit itself to no more than 300 **Category** elements per **Categories** element.

2.2.2.18 Recurrence

The **Recurrence** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies the recurrence information for this calendar item.

The **Recurrence** element can only have the following child elements:

- **Type** (section 2.2.2.18.1): One instance of this element is required.
- **Occurrences** (section 2.2.2.18.2): This element is optional.
- **Interval** (section 2.2.2.18.3): This element is optional.
- **WeekOfMonth** (section 2.2.2.18.4): This element is optional.
- **DayOfWeek** (section 2.2.2.18.5): This element is optional.
- **MonthOfYear** (section 2.2.2.18.6): This element is optional.
- **Until** (section 2.2.2.18.7): This element is optional.
- **DayOfMonth** (section 2.2.2.18.8): This element is optional.
- **CalendarType** (section 2.2.2.18.9): This element is optional in daily and yearly recurrences.
- **IsLeapMonth** (section 2.2.2.18.10): This element is optional.
- **FirstDayOfWeek** (section 2.2.2.18.11): This element is optional.

The following limitations apply to the **Recurrence** element:

- Multiple **Recurrence** elements MUST NOT start on the same day.
- Multiple occurrences of the **Recurrence** element MUST NOT overlap. An exception that modifies the start date of an instance in the **recurring series** MUST occur on a date that is sometime after the end of the prior instance and before the start of the next instance in the recurring

series. The same is true if the prior or next instance in the recurring series is defined as an exception by using the **Exceptions** element.

For more details about recurrence patterns, see [MS-OXOCAL] section 2.2.1.44.

The **Recurrence** element can be ghosted.

2.2.2.18.1 Type

The **Type** element is a required child element of the **Recurrence** element (section 2.2.2.18) that specifies the type of the recurrence.

A command request or response has a minimum of one **Type** element per **Recurrence** element.

A command request or response has a maximum of one **Type** element per **Recurrence** element.

The value of the **Type** element MUST be one of those listed in the following table.

Value	Description
0	Recurs daily.
1	Recurs weekly.
2	Recurs monthly.
3	Recurs monthly on the nth day.
5	Recurs yearly.
6	Recurs yearly on the nth day.

2.2.2.18.2 Occurrences

The **Occurrences** element is an optional child element of the **Recurrence** element (section 2.2.2.18) that specifies the number of occurrences before the series ends.

A command request or response has a maximum of one **Occurrences** element per **Recurrence** element.

The **Occurrences** element and the **Until** element (section 2.2.2.18.7) are mutually exclusive. It is recommended that only one of these elements be included in a **Recurrence** element (section 2.2.2.18) in a **Sync** command request. If both elements are included, then the server MUST respect the value of the **Occurrences** element and ignore the **Until** element.

The value of the **Occurrences** element is an integer. The maximum value is 999.

2.2.2.18.3 Interval

The **Interval** element is an optional child element of the **Recurrence** element (section 2.2.2.18) that specifies the interval between recurrences.

A command request or response has a maximum of one **Interval** element per **Recurrence** element.

The value of the **Interval** element is an integer with a maximum value of 999.

2.2.2.18.4 WeekOfMonth

The **WeekOfMonth** element is a child element of the **Recurrence** element (section 2.2.2.18) that specifies the week of the month for the recurrence.

A command request or response has a minimum of one **WeekOfMonth** element per **Recurrence** element when the value of the **Type** element (section 2.2.2.18.1) is either 3 or 6.

A command request or response has a maximum of one **WeekOfMonth** element per **Recurrence** element.

The value of the **WeekOfMonth** element MUST be between 1 and 5. The value of 5 designates the last week of the month.

The **WeekOfMonth** element MUST only be included in requests or responses when the **Type** element (section 2.2.2.18.1) is set to a value of 3 or 6. When a client request is issued with the **WeekOfMonth** element in other instances, the server responds with a status error 6 (conversion error).

2.2.2.18.5 DayOfWeek

The **DayOfWeek** element is a child element of the **Recurrence** element (section 2.2.2.18) that specifies the day of the week for the recurrence.

A command request or response has a maximum of one **DayOfWeek** element per **Recurrence** element.

The value of the **DayOfWeek** element MUST be either one of the values, or the sum of more than one of the values (in which case this task recurs on more than one day) listed in the following table. The value of the **DayOfWeek** element MUST NOT be greater than 127.

Value	Description
1	Sunday
2	Monday
4	Tuesday
8	Wednesday
16	Thursday
32	Friday
64	Saturday
127	The last day of the month. Used as a special value in monthly or yearly recurrences.

The **DayOfWeek** element MUST only be included in requests or responses when the **Type** element (section 2.2.2.18.1) is set to a value of 0, 1, 3, or 6. When a client request is issued with the **DayOfWeek** element in other instances, the server responds with a status error 6 (conversion error).

2.2.2.18.6 MonthOfYear

The **MonthOfYear** element is a child element of the **Recurrence** element (section 2.2.2.18) that specifies the month of the year for the recurrence.

A command request or response has a minimum of one **MonthOfYear** element per **Recurrence** element if the value of the **Type** element is either 5 or 6.

A command request or response has a maximum of one **MonthOfYear** element per **Recurrence** element.

The value of the **MonthOfYear** element MUST be between 1 and 12.

The **MonthOfYear** element MUST only be included in requests or responses when the **Type** element (section 2.2.2.18.1) is set to a value of 5 or 6. When a client request is issued with the **MonthOfYear** element in other instances, the server responds with a status error 6 (conversion error).

2.2.2.18.7 Until

The **Until** element is an optional child element of the **Recurrence** element (section 2.2.2.18) that specifies the end date and time of this recurrence.

A command request or response has a maximum of one **Until** element per **Recurrence** element.

The **Until** element and the **Occurrences** element (section 2.2.2.18.2) are mutually exclusive. It is recommended that only one of these elements be included in a **Recurrence** element in a **Sync** command request. If both are included, then the server MUST respect the value of the **Occurrences** element and ignore the **Until** element.

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

2.2.2.18.8 DayOfMonth

The **DayOfMonth** element is a child element of the **Recurrence** element (section 2.2.2.18) that specifies the day of the month for the recurrence.

A command request or response has a minimum of one **DayOfMonth** element per **Recurrence** element when the value of the **Type** element (section 2.2.2.18.1) is either 2 or 5.

A command request or response has a maximum of one **DayOfMonth** element per **Recurrence** element.

The value of the **DayOfMonth** element MUST be between 1 and 31.

The **DayOfMonth** element MUST only be included in requests or responses when the **Type** element is set to a value of 2 or 5. When a client request is issued with the **DayOfMonth** element in other instances, the server responds with a status error 6 (conversion error).

2.2.2.18.9 CalendarType

The **CalendarType** element<1> is a child element of the **Recurrence** element (section 2.2.2.18) that specifies the calendar system used by the recurrence.

A command request has a maximum of one **CalendarType** element per **Recurrence** element when the **Type** element (section 2.2.2.18.1) is set to a value of 2, 3, 5, or 6. Otherwise, the server responds with a status error 6 (conversion error).

A command response has a minimum of one **CalendarType** element per **Recurrence** element when the **Type** element is set to a value of 2, 3, 5, or 6. Otherwise, this element is optional in command responses.

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

Value	Description
0	Default
1	Gregorian
2	Gregorian (United States)
3	Japanese Emperor Era
4	Taiwan
5	Korean Tangun Era
6	Hijri (Arabic Lunar)
7	Thai
8	Hebrew Lunar
9	Gregorian (Middle East French)
10	Gregorian (Arabic)
11	Gregorian (Transliterated English)
12	Gregorian (Transliterated French)
14	Japanese Lunar
15	Chinese Lunar
16	Saka Era. Reserved. MUST NOT be used. Status value 6 is returned by the server in a **Sync** response ([MS-ASCMD] section 2.2.2.19) when this value is used.
17	Chinese Lunar (Eto). Reserved. MUST NOT be used. Status value 6 is returned by the server in a **Sync** response ([MS-ASCMD] section 2.2.2.19) when this value is used.
18	Korean Lunar (Eto). Reserved. MUST NOT be used. Status value 6 is returned by the server in a **Sync** response ([MS-ASCMD] section 2.2.2.19) when this value is used.
19	Japanese Rokuyou Lunar. Reserved. MUST NOT be used. Status value 6 is returned by the server in a **Sync** response ([MS-ASCMD] section 2.2.2.19) when this value is used.
20	Korean Lunar
23	Um al-Qura. Reserved. MUST NOT be used. Status value 6 is returned by the server in a **Sync** response ([MS-ASCMD] section 2.2.2.19) when this value is used.

The server MAY return a value of 0 (Default) when a client specifies a value of 1 (Gregorian).

2.2.2.18.10 IsLeapMonth

The **IsLeapMonth** element<2> is an optional child element of the **Recurrence** element (section 2.2.2.18.1) that specifies whether the recurrence of this appointment takes place on the embolismic (leap) month.

A command request has a maximum of one **IsLeapMonth** element per **Recurrence** element (section 2.2.2.18.1).

A command response has a maximum of one **IsLeapMonth** element per **Recurrence** element (section 2.2.2.18.1).

This element only applies when the **CalendarType** element (section 2.2.2.18.9) specifies a calendar system that incorporates an embolismic (leap) month. Examples include lunisolar calendar systems such as Hebrew Lunar and Chinese Lunar. This element has no effect when specified in conjunction with the Gregorian calendar.

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

Value	Description
0	False
1	True

The default value of the **IsLeapMonth** element is 0 (False).

2.2.2.18.11 FirstDayOfWeek

The **FirstDayOfWeek**<3> element is a child element of the **Recurrence** element (section 2.2.2.18) that specifies which day is considered the first day of the calendar week for this recurrence.

A command request has a maximum of one **FirstDayOfWeek** element per **Recurrence** element.

A command response has a maximum of one **FirstDayOfWeek** element per **Recurrence** element. The server MUST return a **FirstDayOfWeek** element when the value of the **Type** element (section 2.2.2.18.1) is 1.

This element disambiguates recurrences 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 the **FirstDayOfWeek** element MUST be one of the following. If the client uses the **Sync** command to transmit a value not included in this table, the server MUST return protocol status error 6. **Sync** command status values are specified in [MS-ASCMD] section 2.2.3.152.16.

Value	Description
0	Sunday
1	Monday
2	Tuesday

Value	Description
3	Wednesday
4	Thursday
5	Friday
6	Saturday

2.2.2.19 Exceptions

The **Exceptions** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies a collection of exceptions to the recurrence pattern of this calendar item.

The **Exceptions** element can only have the following child element:

- **Exception** (section 2.2.2.19.1): This element is optional.

The **Exceptions** element can be ghosted.

2.2.2.19.1 Exception

The **Exception** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies an exception to this calendar item's recurrence. It is a child element of the **Exceptions** element (section 2.2.2.19).

A command request or response has zero or more **Exception** elements per **Exceptions** element.

The **Exception** element can only have the following child elements:

- **Deleted** (section 2.2.2.19.1.1): This element is optional.
- **ExceptionStartTime** (section 2.2.2.19.1.2): One instance of this element is required.
- **EndTime** (section 2.2.2.19.1.5): This element is optional.
- **airsyncbase:Body** (section 2.2.2.19.1.16): This element is optional.
- **Location** (section 2.2.2.19.1.6): This element is optional.
- **Categories** (section 2.2.2.19.1.7): This element is optional.
- **Sensitivity** (section 2.2.2.19.1.8): This element is optional.
- **BusyStatus** (section 2.2.2.19.1.9): This element is optional.
- **AllDayEvent** (section 2.2.2.19.1.10): This element is optional.
- **Reminder** (section 2.2.2.19.1.11): This element is optional.
- **DtStamp** (section 2.2.2.19.1.12): This element is optional.
- **MeetingStatus** (section 2.2.2.19.1.13): This element is optional.
- **AppointmentReplyTime** (section 2.2.2.19.1.14): This element is optional in command responses. It is not included in command requests.

- **ResponseType** (section 2.2.2.19.1.15): This element is optional in command responses. It is not included in command requests.

2.2.2.19.1.1 Deleted

The **Deleted** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies whether this exception to the calendar item has been deleted.

A command request or response has a maximum of one **Deleted** element per **Exception** element.

An exception will be deleted when the **Deleted** element is included as a child element with a value of 1.

2.2.2.19.1.2 ExceptionStartTime

The **ExceptionStartTime** element is a required child element of the **Exception** element (section 2.2.2.19.1) that specifies the start time of the original recurring meeting.

A command request or response has a minimum of one **ExceptionStartTime** element per **Exception** element.

A command request or response has a maximum of one **ExceptionStartTime** element per **Exception** element.

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

2.2.2.19.1.3 Subject

The **Subject** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the subject of the calendar item exception.

If not specified as a child element of the **Exception** element, the value of this element is assumed to be the same as the value of the **Subject** element (section 2.2.2.12) for the parent calendar item.

The **Subject** element can be ghosted.

2.2.2.19.1.4 StartTime

The **StartTime** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the start time of this exception.

If not specified as a child element of the **Exception** element, the value of the **StartTime** element is assumed to be the same as the value of the **StartTime** element (section 2.2.2.13) for the parent calendar item.

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

The **StartTime** element can be ghosted.

2.2.2.19.1.5 EndTime

The **EndTime** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the end time of the exception.

A command request or response has a maximum of one **EndTime** element per **Exception** element.

If not specified as a child element of the **Exception** element, the value of the **EndTime** element is assumed to be the same as the value of the **EndTime** element (section 2.2.2.8) for the parent calendar item.

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

2.2.2.19.1.6 Location

The **Location** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the location of the exception.

A command request or response has a maximum of one **Location** element per **Exception** element.

If not specified as a child element of the **Exception** element, the value of the **Location** element is assumed to be the same as the value of the **Location** element (section 2.2.2.9) for the parent calendar item.

2.2.2.19.1.7 Categories

The **Categories** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies the categories for this exception. It is a child element of the **Exception** element (section 2.2.2.19.1).

A command request or response has a maximum of one **Categories** element per **Exception** element.

The **Categories** element can only have the following child element:

- **Category** (section 2.2.2.19.1.7.1): At least one instance of this element is required.

2.2.2.19.1.7.1 Category

The **Category** element is an optional child element of the **Categories** element (section 2.2.2.19.1.7) that specifies a category to which the exception is assigned.

A command request is limited to no more than 300 **Category** elements per **Categories** element.

A command response is limited to no more than 300 **Category** elements per **Categories** element.

2.2.2.19.1.8 Sensitivity

The **Sensitivity** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the sensitivity level of this exception.

A command request or response has a maximum of one **Sensitivity** element per **Exception** element.

If not specified as a child element of the **Exception** element, the **Sensitivity** element is assumed to have the same value as the value of the **Sensitivity** element (section 2.2.2.11) for the parent calendar item.

For a list of allowed values for this element, see the **Sensitivity** element (section 2.2.2.11).

2.2.2.19.1.9 BusyStatus

The **BusyStatus** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the busy status of the meeting organizer.

A command request or response has a maximum of one **BusyStatus** element per **Exception** element.

If not specified as a child element of the **Exception** element, the value of the **BusyStatus** element is assumed to be the same as the value of the **BusyStatus** element (section 2.2.2.4) for the parent calendar item.

For a list of valid values for this element, see section 2.2.2.4.

2.2.2.19.1.10 AllDayEvent

The **AllDayEvent** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies whether this exception is an all-day event.

A command request or response has a maximum of one **AllDayEvent** element per **Exception** element.

If not specified as a child element of the **Exception** element, the value of the **AllDayEvent** element is assumed to be the same as the value of the **AllDayEvent** element (section 2.2.2.2) for the parent calendar item.

For a list of valid values for the **AllDayEvent** element, see section 2.2.2.2.

2.2.2.19.1.11 Reminder

The **Reminder** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the number of minutes before a calendar item's start time to display a reminder notice.

A command request or response has a maximum of one **Reminder** element per **Exception** element.

If not specified as a child element of the **Exception** element, the value of the **Reminder** element is assumed to be the same as the value of the **Reminder** element (section 2.2.2.10) for the parent calendar item.

2.2.2.19.1.12 DtStamp

The **DtStamp** element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the date and time that this exception was created.

A command request or response has a maximum of one **DtStamp** element per **Exception** element.

If not specified as a child element of the **Exception** element, the value of the **DtStamp** element is assumed to be the same as the value of the **DtStamp** element (section 2.2.2.7) for the parent calendar item.

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

2.2.2.19.1.13 MeetingStatus

The **MeetingStatus** element<4> is an optional child element of the **Exception** element that specifies the status of this exception.

If not specified as a child element of the **Exception** element, the value of the **MeetingStatus** element is assumed to be the same as the value of the **MeetingStatus** element (section 2.2.2.15) for the parent calendar item.

For a list of valid values for the **MeetingStatus** element, see section 2.2.2.15.

2.2.2.19.1.14 AppointmentReplyTime

The **AppointmentReplyTime**<5> element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the date and time the user responded to the exception request.

A command request MUST NOT include the **AppointmentReplyTime** element.

A command response has a maximum of one **AppointmentReplyTime** element per **Exception** element.

If the meeting request has been neither accepted nor tentatively accepted, the server MUST NOT include the **AppointmentReplyTime** element in a response.

2.2.2.19.1.15 ResponseType

The **ResponseType**<6> element is an optional child element of the **Exception** element (section 2.2.2.19.1) that specifies the type of response made by the user to an exception to a recurring meeting.

A command request MUST NOT include the **ResponseType** element.

A command response has a maximum of one **ResponseType** element per **Exception** element.

If not specified as a child element of the **Exception** element, the value of the **ResponseType** element is assumed to be the same as the value of the **ResponseType** element (section 2.2.2.22) for the parent calendar item.

For a list of valid values for the **ResponseType** element, see section 2.2.2.22.

2.2.2.19.1.16 airsyncbase:Body

The **airsyncbase:Body** element is an optional **container** ([MS-ASDTYPE] section 2.2) element that specifies the body text of the exception item. It is a child element of the **Exception** element (section 2.2.2.19.1).

A command request or response has a maximum of one **airsyncbase:Body** element per **Exception** element.

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

2.2.2.20 ResponseRequested

The **ResponseRequested**<7> element is an optional element that specifies whether a response to the meeting request is required.

The value of the **ResponseRequested** element is a **Boolean** property, as specified in [MS-ASDTYPE] section 2.1.

2.2.2.21 AppointmentReplyTime

The **AppointmentReplyTime**<8> element is an optional element that specifies the date and time that the current user responded to this meeting request.

A command request MUST NOT include the **AppointmentReplyTime** element.

A command response has a maximum of one **AppointmentReplyTime** element per response.

If no action has been taken on a meeting request, the server MUST NOT include the **AppointmentReplyTime** element in a response.

2.2.2.22 ResponseType

The **ResponseType**<9> element is an optional element that specifies the type of response the user sent to a meeting request.

A command request MUST NOT include the **ResponseType** element.

A command response has a maximum of one **ResponseType** element per response.

The value of the **ResponseType** element MUST be one of the following:

Value	Description
0	None. The user's response to the meeting has not yet been received.
1	Organizer. The current user is the organizer of the meeting and, therefore, no reply is required.
2	Tentative. The user is unsure whether he or she will attend.
3	Accepted. The user has accepted the meeting request.
4	Declined. The user has declined the meeting request.
5	Not Responded. The user has not yet responded to the meeting request.

2.2.2.23 DisallowNewTimeProposal

The **DisallowNewTimeProposal**<10> element is an optional element that specifies whether a meeting request recipient can propose a new time for the scheduled meeting.

A command request does not need to include the **DisallowNewTimeProposal** element. If it is not included in a command request, then the default value for this element is 0 (False).

A command response has one **DisallowNewTimeProposal** element per response.

The value of the **DisallowNewTimeProposal** element is a **Boolean** value, as specified in [MS-ASDTYPE] section 2.1.

2.2.2.24 airsyncbase:NativeBodyType

The **airsyncbase:NativeBodyType** element is an optional element that specifies how the body text of the calendar item is stored on the server. It is defined as an element in the **AirSyncBase** namespace.

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

2.2.2.25 OnlineMeetingConfLink

The **OnlineMeetingConfLink** element is an optional element that contains a GRUU for an online meeting. This GRUU can be used by a **user agent client (UAC)** to connect to an online conference.

A command request MUST NOT contain the **OnlineMeetingConfLink** element.

A command response contains at most one **OnlineMeetingConfLink** element per response.

The value of the **OnlineMeetingConfLink** element SHOULD be a GRUU as specified in [MS-SIPRE].

2.2.2.26 OnlineMeetingExternalLink

The **OnlineMeetingExternalLink** element is an optional element that contains a URL for an online meeting.

A command request MUST NOT contain the **OnlineMeetingExternalLink** element.

A command response contains, at most, one **OnlineMeetingExternalLink** element per response.

The value of the **OnlineMeetingExternalLink** element SHOULD be a valid URL.

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.

Calendar class: a structured XML text block that adheres to the XML schema definition specified in section 2.2. It is included by the server as part of a full XML response to the client commands specified in section 3.1.4. **Calendar** class data is included in command requests sent to the server when calendar items need to be retrieved, searched, or synchronized. For more details about processing command requests, see section 3.1.4.

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 Calendar Data with a Server

A client initiates synchronization of calendar class data with the server by sending a **Sync** command request.

3.1.4.2 Searching a Server for a Calendar Item

A client searches for calendar class data by sending a **Search** command request to the server.

3.1.4.3 Requesting Details for One or More Calendar Items

Calendar class data for one or more individual calendar items is requested by the client using the **ItemOperations** command, which is a wrapper for the **itemoperations:Fetch** element. An **ItemOperations** command can contain multiple **Fetch** elements.

3.1.4.4 Omitting Ghosted Properties from a Sync Change Request

When a **Sync** operation ([MS-ASCMD] section 2.2.2.19) is performed with a nonzero **airsync:SyncKey** element value, the client uses the **airsync:Supported** element ([MS-ASCMD] section 2.2.3.154) of the **Sync** request to signify which properties are not ghosted. In subsequent **Sync** requests, the client includes only the set of **airsync:Supported** elements from the **Sync** request's **airsync:Change** element.

For more information on ghosted properties, see [MS-ASCMD] section 2.2.3.154.

3.1.4.5 Creating a New Meeting Request

When a user creates a meeting on the client, the client creates a meeting request within the user's calendar, and sends e-mail with the properly formatted meeting requests to the specified attendees. As the server receives the attendee responses, the organizer receives updates to the meeting request within the **Sync** command response. An example showing how a meeting request is included in a **Sync** command response is specified in [MS-ASCMD] section 4.15.3.

3.1.5 Message Processing Events and Sequencing Rules

The following section specifies how various elements of the calendar 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 the **ItemOperations** command to retrieve specific calendar items from the server using the **itemoperations:Fetch** element. An **ItemOperations** request can contain multiple **itemoperations:Fetch** elements.

Any of the elements for the calendar class can be included in an **ItemOperations** command request.

Calendar class elements MUST be transmitted as child elements of the **airsync:Schema** element ([MS-ASCMD] section 2.2.3.135).

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

3.1.5.2 Search Command Request

A client uses the **Search** command to retrieve calendar class items from the server that match the criteria specified by the client.

The elements for the calendar class MUST NOT be included in a **Search** command request.

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

3.1.5.3 Sync Command Request

A client uses the **Sync** command to synchronize its **Calendar** class items for a specified user with the calendars that are currently stored by the server.

Any of the elements for the **Calendar** class can be included in a **Sync** command request as child elements of the **airsync:ApplicationData** element in either an **airsync:Add** element request ([MS-ASCMD] section 2.2.3.7.2) or an **airsync:Change** element request ([MS-ASCMD] section 2.2.3.23).

Calendar class elements can be transmitted as child elements of the **airsync:Supported** element ([MS-ASCMD] section 2.2.3.154) in order to support ghosted elements. A specific subset of the **Calendar** class elements is required in this instance. The full list is specified in [MS-ASCMD] section 2.2.3.154.

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

3.1.5.3.1 Indicating Deleted Elements in Exceptions

If an element in a recurring calendar item has been deleted in an **Exception** element (section 2.2.2.19.1), the client sends an empty tag for this element to remove the inherited value from the server. For example, if the **Location** element (section 2.2.2.19.1.6) has been deleted for an exception, the client sends an empty **Location** element in a **Sync** command request.

A client cannot remove an inherited element value from an exception if that property is ghosted.

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.

Calendar class: a structured XML text block that adheres to the XML schema definition specified in section 2.1. It is included by the server as part of a full XML response to the client commands specified in section 3.1.4. Calendar class data is included in command requests sent to the server when calendar items need to be retrieved, searched, or synchronized. For more details about processing command requests, see section 3.2.5.

Command response: A WBXML formatted message that adheres to the command schemas specified in [MS-ASCMD]. The server returns a calendar class XML block for every task that matches the criteria specified by the client command request.

3.2.2 Timers

None.

3.2.3 Initialization

None.

3.2.4 Higher-Layer Triggered Events

3.2.4.1 Synchronizing Calendar Data with a Server

A client initiates synchronization of calendar class data with the server by sending a **Sync** command request. The server responds with a **Sync** command response.

3.2.4.2 Searching a Server for a Calendar Item

A client searches for calendar class data by sending a **Search** command request to the server. The server responds with a **Search** command response.

3.2.4.3 Requesting Details for One or More Calendar Items

Calendar class data for one or more individual calendar items is requested by the client using the **ItemOperations** command request, which is a wrapper for the **itemoperations:Fetch** element. An **ItemOperations** command request can contain multiple **itemoperations:Fetch** elements. The server responds with an **ItemOperations** command response.

3.2.4.4 Omitting Ghosted Properties from a Sync Change Request

When a **Sync** operation ([MS-ASCMD] section 2.2.2.19) is performed with a nonzero **airsync:SyncKey** element value, the client uses the **airsync:Supported** element of the **Sync** request to signify which properties are not ghosted. In subsequent **Sync** requests, the client includes only these elements in the **Sync** request's **airsync:Change** element ([MS-ASCMD] section 2.2.3.23). Ghosted elements are not sent to the server. Instead of deleting these excluded properties, the server preserves their previous value.

For more information on ghosted properties, see [MS-ASCMD] section 2.2.3.154.

3.2.5 Message Processing Events and Sequencing Rules

The following section specifies how various elements of the calendar class are used in the context of specific ActiveSync commands. Command details are specified in [MS-ASCMD].

3.2.5.1 ItemOperations Command Response

A client uses the **ItemOperations** command to retrieve specific calendar items from the server using the **itemoperations:Fetch** element. An **ItemOperations** request can contain multiple **itemoperations:Fetch** elements.

Any of the elements for the calendar class can be included in an **ItemOperations** command response. If an **airsync:Schema** element was included in the command request, the elements returned MUST be restricted to the elements included in the command request's **airsync:Schema** element.

Calendar class elements MUST be returned as child elements of the **Properties** element ([MS-ASCMD] section 2.2.3.118).

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

3.2.5.2 Search Command Response

A client uses the **Search** command to retrieve calendar class items from the server that match the criteria specified by the client.

Any of the elements for the calendar class can be included in a **Search** command response.

Calendar class elements MUST be returned as child elements of the **search:Properties** element ([MS-ASCMD] section 2.2.3.118).

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

3.2.5.3 Sync Command Response

A client uses the **Sync** command to synchronize its **Calendar** class items for a specified user with the calendars that are currently stored by the server.

Any of the elements for the **Calendar** class can be included in a **Sync** command response as child elements of the **airsync:ApplicationData** element in either an **Add** element response ([MS-ASCMD] section 2.2.3.7.2) or a **Change** element response ([MS-ASCMD] section 2.2.3.23).

If one or more properties of a recurring exception (that is, any child elements of the **Exception** element (section 2.2.2.19.1)) have been deleted, the server MUST transmit an empty element to indicate that this property is not inherited from the recurrence.

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

3.2.5.3.1 Removing Exceptions

If an **Exceptions** element (section 2.2.2.19) is not specified in a **Sync** command response, then any exceptions previously defined are unchanged. If a particular **Exception** element (section 2.2.2.19.1) is excluded from a **Sync** command response, then that particular exception remains unchanged.

3.2.5.3.2 Indicating Deleted Elements in Exceptions

If an element in a recurring calendar item has been deleted in an **Exception** element (section 2.2.2.19.1), the server MUST send an empty tag for this element. For example, if the **Location** element (section 2.2.2.19.1.6) has been deleted for an exception, the server MUST send an empty **Location** element to indicate this to the client.

3.2.6 Timer Events

None.

3.2.7 Other Events

None.

4 Protocol Examples

4.1 Synchronizing Calendar Data

The following example shows a client requesting calendar data synchronization with a server, and the server's response. The elements of the calendar class are included in the server response as child elements of the **airsync:ApplicationData** element, which is itself a child element of either the **airsync:Add** or the **airsync:Change** element.

Request:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>850479756</SyncKey>
      <CollectionId>1</CollectionId>
      <DeletesAsMoves/>
      <GetChanges/>
    </Collection>
  </Collections>
</Sync>
```

Response:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:" xmlns:calendar="Calendar:" xmlns:airsyncbase="AirSyncBase:">
  <Collections>
    <Collection>
      <SyncKey>664578668</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
      <Commands>
        <Change>
          <ServerId>1:12</ServerId>
          <ApplicationData>

<calendar:Timezone>4AEAAFAAYQBjAGkAZgBpAGMAIABTAHQAYQBuAGQAYQByAGQAIABUAGkAbQBlAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAsAAAABAAIAAAAAAAAAAAAAAFAAYQBjAGkAZgBpAGMAIABEAG
EAeQBsAGkAZwBoAHQAIABUAGkAbQBlAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAMAAAACAAIAAAA
AAAAAxP///w==</calendar:Timezone>
            <calendar:DtStamp>20081002T231357Z</calendar:DtStamp>
            <calendar:StartTime>20081010T190000Z</calendar:StartTime>
            <calendar:Subject>Lunch meeting</calendar:Subject>

<calendar:UID>040000008200E00074C5B7101A82E008000000001027EAEDA124C901000000000000000001000000
0C58EA426C0CFF24AB3125200707153B1</calendar:UID>
            <calendar:OrganizerName>Rajesh M. Patel</calendar:OrganizerName>
            <calendar:OrganizerEmail>rajeshpatel@contoso.com</calendar:OrganizerEmail>
            <calendar:Location>Cafeteria A</calendar:Location>
            <calendar:EndTime>20081010T203000Z</calendar:EndTime>
            <airsyncbase:Body>
              <airsyncbase:Type>3</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>5669</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
```

```
            <calendar:Sensitivity>0</calendar:Sensitivity>
            <calendar:BusyStatus>3</calendar:BusyStatus>
            <calendar:AllDayEvent>0</calendar:AllDayEvent>
            <calendar:Reminder>15</calendar:Reminder>
            <calendar:MeetingStatus>0</calendar:MeetingStatus>
            <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
          </ApplicationData>
        </Change>
        <Add>
          <ServerId>1:13</ServerId>
          <ApplicationData>

<calendar:Timezone>4AEAAFAAYQBjAGkAZgBpAGMAIABTAHQAYQBuAGQAYQByAGQAIABUAGkAbQBlAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAsAAAABAAIAAAAAAAAAAAAAAAFAAYQBjAGkAZgBpAGMAIABEAGEAeQBsAGkAZwBoAHQAIABUAGk
AbQBlAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAMAAAACAAIAAAAAAAAAxP///w==</calendar:Timezone>
            <calendar:DtStamp>20081002T231335Z</calendar:DtStamp>
            <calendar:StartTime>20081013T170000Z</calendar:StartTime>
            <calendar:Subject>Dry Run of TechEd Presentation</calendar:Subject>

<calendar:UID>040000008200E00074C5B7101A82E008000000009003C9E1A924C901000000000000000001000000
0B3635D1E1A2FF54FA575AB96797F532F</calendar:UID>
            <calendar:OrganizerName>Rajesh M. Patel</calendar:OrganizerName>
            <calendar:OrganizerEmail>rajeshpatel@contoso.com</calendar:OrganizerEmail>
            <calendar:Location>Conf Room 33-A/1298</calendar:Location>
            <calendar:EndTime>20081013T180000Z</calendar:EndTime>
            <airsyncbase:Body>
              <airsyncbase:Type>3</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>5669</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
            <calendar:Sensitivity>0</calendar:Sensitivity>
            <calendar:BusyStatus>2</calendar:BusyStatus>
            <calendar:AllDayEvent>0</calendar:AllDayEvent>
            <calendar:Reminder>15</calendar:Reminder>
            <calendar:MeetingStatus>0</calendar:MeetingStatus>
            <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
          </ApplicationData>
        </Add>
        <Add>
          <ServerId>1:14</ServerId>
          <ApplicationData>

<calendar:Timezone>4AEAAFAAYQBjAGkAZgBpAGMAIABTAHQAYQBuAGQAYQByAGQAIABUAGkAbQBlAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAsAAAABAAIAAAAAAAAAAAAAAAFAAYQBjAGkAZgBpAGMAIABEAGEAeQBsAGkAZwBoAHQAIABUAGk
AbQBlAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAMAAAACAAIAAAAAAAAAxP///w==</calendar:Timezone>
            <calendar:DtStamp>20081002T231639Z</calendar:DtStamp>
            <calendar:StartTime>20081013T190000Z</calendar:StartTime>
            <calendar:Subject>Team Meeting</calendar:Subject>

<calendar:UID>040000008200E00074C5B7101A82E008000000000060043DFCA924C901000000000000000001000000
097F14EF755AC454BA30EFA7B1B315E43</calendar:UID>
            <calendar:OrganizerName>Rajesh M. Patel</calendar:OrganizerName>
            <calendar:OrganizerEmail>rajeshpatel@contoso.com</calendar:OrganizerEmail>
            <calendar:Location>My office</calendar:Location>
            <calendar:EndTime>20081013T193000Z</calendar:EndTime>
            <calendar:Recurrence>
              <calendar:Type>3</calendar:Type>
              <calendar:Interval>1</calendar:Interval>
              <calendar:Until>20090713T190000Z</calendar:Until>
              <calendar:WeekOfMonth>2</calendar:WeekOfMonth>
```

```
            <calendar:DayOfWeek>2</calendar:DayOfWeek>
          </calendar:Recurrence>
          <airsyncbase:Body>
            <airsyncbase:Type>3</airsyncbase:Type>
            <airsyncbase:EstimatedDataSize>5769</airsyncbase:EstimatedDataSize>
            <airsyncbase:Truncated>1</airsyncbase:Truncated>
          </airsyncbase:Body>
          <calendar:Sensitivity>0</calendar:Sensitivity>
          <calendar:BusyStatus>2</calendar:BusyStatus>
          <calendar:AllDayEvent>0</calendar:AllDayEvent>
          <calendar:Reminder>15</calendar:Reminder>
          <calendar:MeetingStatus>0</calendar:MeetingStatus>
          <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
        </ApplicationData>
      </Add>
    </Commands>
  </Collection>
 </Collections>
</Sync>
```

4.2 Synchronizing Recurring Appointments with Exceptions

The following appointment received from the server is a weekly recurring appointment with a single exception.

Request:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:calendar="Calendar:" xmlns:airsyncbase="AirSyncBase:" xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>1958804782</SyncKey>
      <CollectionId>1</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
    </Collection>
  </Collections>
</Sync>
```

Response:

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:calendar="Calendar:" xmlns:airsyncbase="AirSyncBase:" xmlns="AirSync:">
  <Collections>
    <Collection>
      <SyncKey>573512161</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>1:1</ServerId>
          <ApplicationData>

<calendar:TimeZone>4AEAACgARwBNAFQALQAwADgAOgAwADAAKQAgAFAAYQBjAGkAZgBpAGMAIABUAGkA
```

```
bQBlACAAKABVAFMAIAAmACAAQwAAAAsAAAABAAIAAAAAAAAAAAAAAACgARwBNAFQALQAwADgAOgAwA
DAAKQAgAFAAYQBjAGkAZgBpAGMAIABUAGkAbQBlACAAKABVAFMAIAAmACAAQwAAAAMAAAACAAIAAA
AAAAAAxP///w==</calendar:TimeZone>
            <calendar:DtStamp>20090415T165811Z</calendar:DtStamp>
            <calendar:StartTime>20090417T170000Z</calendar:StartTime>
            <calendar:Subject>Recurring appointment test</calendar:Subject>

<calendar:UID>040000008200E00074C5B7101A82E00800000000B0CD1F52EBBDC9010000000000000
00010000000B05E442FCB2CA443BF3D99B51A729FE6</calendar:UID>
            <calendar:OrganizerName>Rajesh M. Patel</calendar:OrganizerName>
            <calendar:OrganizerEmail>rajeshpatel@contoso.com </calendar:OrganizerEmail>
            <calendar:Location>My office</calendar:Location>
            <calendar:EndTime>20090417T180000Z</calendar:EndTime>
            <calendar:Recurrence>
              <calendar:Type>1</calendar:Type>
              <calendar:Interval>1</calendar:Interval>
              <calendar:Occurrences>3</calendar:Occurrences>
              <calendar:DayOfWeek>32</calendar:DayOfWeek>
            </calendar:Recurrence>
            <airsyncbase:Body>
              <airsyncbase:Type>3</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>238</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
            <calendar:Sensitivity>0</calendar:Sensitivity>
            <calendar:BusyStatus>2</calendar:BusyStatus>
            <calendar:AllDayEvent>0</calendar:AllDayEvent>
            <calendar:Reminder>15</calendar:Reminder>
            <calendar:Exceptions>
              <calendar:Exception>
                <calendar:Deleted>1</calendar:Deleted>
                <calendar:ExceptionStartTime>20090424T170000Z</calendar:ExceptionStartTime>
              </calendar:Exception>
            </calendar:Exceptions>
            <calendar:MeetingStatus>0</calendar:MeetingStatus>
            <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
            <calendar:ResponseRequested>1</calendar:ResponseRequested>
            <calendar:ResponseType>1</calendar:ResponseType>
          </ApplicationData>
        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

4.3 Setting Attendee Status from the Server

The following appointment has one attendee. Note that the organizer is not included in the attendee list. The organizer's information is specified by the **OrganizerEmail** and **OrganizerName** elements.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync:" xmlns:calendar="Calendar:"
xmlns:airsyncbase="AirSyncBase:">
  <Collections>
    <Collection>
      <Class>Calendar</Class>
```

```
        <SyncKey>3</SyncKey>
        <CollectionId>1</CollectionId>
        <Status>1</Status>
        <Commands>
          <Add>
            <ServerId>1:2</ServerId>
            <ApplicationData>
              <calendar:Timezone>4AEAAFAAYQBjAGkAZgBpAGMAIAB
              TAHQAYQBuAGQAYQByAGQAIABUAGkAbQBlAAAAAAAAAAA
              AAAAAAAAAAAAAAAAAAAAAAAoAAAAFAAIAAAAAAAAAAA
              AAAFAAYQBjAGkAZgBpAGMAIABEAGEAeQBsAGkAZwBoAHQA
              IABUAGkAbQBlAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
              QAAAABAAIAAAAAAAAAxP///w==</calendar:Timezone>
              <calendar:DtStamp>20051103T010509Z</calendar:DtStamp>
              <calendar:StartTime>20051103T230000Z</calendar:StartTime>
              <calendar:Subject>test meeting</calendar:Subject>
              <calendar:UID>040000008200E00074C5B7101A82E0080000000
              0B0FD68A212E0C501000000000000000000100000008C46B9A4960AF
              340871367CEC57B4543</calendar:UID>
              <calendar:Attendees>
                <calendar:Attendee>
                  <calendar:Email>rich@adventure-works.com
                  </calendar:Email>
                  <calendar:Name>Rich Haddock</calendar:Name>
                  <calendar:AttendeeStatus>0</calendar:AttendeeStatus>
                  <calendar:AteendeeType>1</calendar:AttendeeType>
                </calendar:Attendee>
              </calendar:Attendees>
              <calendar:OrganizerName>Administrator
              </calendar:OrganizerName>
              <calendar:OrganizerEmail>Administrator@adventure-
              works.com</calendar:OrganizerEmail>
              <calendar:Location>34/1123</calendar:Location>
              <calendar:EndTime>20051104T000000Z</calendar:EndTime>
              <airsyncbase:Body>
                <airsyncbase:Type>1</airsyncbase:Type>
                <airsyncbase:NonTruncatedSize>28
                </airsyncbase:NonTruncatedSize>
              </airsyncbase:Body>
              <calendar:Sensitivity>0</calendar:Sensitivity>
              <calendar:BusyStatus>2</calendar:BusyStatus>
              <calendar:AllDayEvent>0</calendar:AllDayEvent>
              <calendar:Reminder>15</calendar:Reminder>
              <calendar:MeetingStatus>1</calendar:MeetingStatus>
            </ApplicationData>
          </Add>
        </Commands>
      </Collection>
    </Collections>
  </Sync>
```

The following server response is a change for the same calendar item after the attendee has accepted (note the status change from 0 to 3).

```
  <?xml version="1.0" encoding="utf-8"?>
  <Sync xmlns="AirSync:" xmlns:calendar="Calendar:"
```

```
xmlns:airsyncbase="AirSyncBase:">
  <Collections>
    <Collection>
      <Class>Calendar</Class>
      <SyncKey>4</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
      <Commands>
        <Change>
          <ServerId>1:2</ServerId>
          <ApplicationData>
            <calendar:Timezone>4AEAAFAAYQBjAGkAZgBpAGMAIABTAHQAY
            QBuAGQAYQByAGQAIABUAGkAbQBlAAAAAAAAAAAAAAAAAAAAAAAAAAAA
            AAAAAAAAAoAAAAFAAIAAAAAAAAAAAAAAFAAYQBjAGkAZgBpAGMAIA
            BEAGEAeQBsAGkAZwBoAHQAIABUAGkAbQBlAAAAAAAAAAAAAAAAAAAAA
            AAAAAAAAAAAAAAAQAAAABAAIAAAAAAAAAxP///w==
            </calendar:Timezone>
            <calendar:DtStamp>20051103T013759Z</calendar:DtStamp>
            <calendar:StartTime>20051103T230000Z</calendar:StartTime>
            <calendar:Subject>test meeting</calendar:Subject>
            <calendar:UID>040000008200E00074C5B7101A82E008000000000B
            0FD68A212E0C5010000000000000000100000008C46B9A4960AF
            340871367CEC57B4543</calendar:UID>
            <calendar:Attendees>
              <calendar:Attendee>
                <calendar:Email>rich@adventure-works.com
                </calendar:Email>
                <calendar:Name>Rich Haddock</calendar:Name>
                <calendar:Status>3</calendar:Status>
                <calendar:Type>1</calendar:Type>
              </calendar:Attendee>
            </calendar:Attendees>
            <calendar:OrganizerName>Administrator
            </calendar:OrganizerName>
            <calendar:OrganizerEmail>Administrator@adventure-
            works.com</calendar:OrganizerEmail>
            <calendar:Location>34/1123</calendar:Location>
            <calendar:EndTime>20051104T000000Z</calendar:EndTime>
            <airsyncbase:Body>
              <airsyncbase:Type>1</airsyncbase:Type>
              <airsyncbase:NonTruncatedSize>28
              </airsyncbase:NonTruncatedSize>
            </airsyncbase:Body>
            <calendar:Sensitivity>0</calendar:Sensitivity>
            <calendar:BusyStatus>2</calendar:BusyStatus>
            <calendar:AllDayEvent>0</calendar:AllDayEvent>
            <calendar:Reminder>15</calendar:Reminder>
            <calendar:MeetingStatus>1</calendar:MeetingStatus>
          </ApplicationData>
        </Change>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

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
- Microsoft® Exchange Server 2010 Service Pack 1 (SP1)

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 2.2.2.18.9: The **CalendarType** element is not supported when the MS-ASProtocolVersion header is set to 12.1 or 14.0.

<2> Section 2.2.2.18.10: The **IsLeapMonth** element is not supported when the MS-ASProtocolVersion header is set to 12.1.

<3> Section 2.2.2.18.11: The **FirstDayOfWeek** element is not supported when the MS-ASProtocolVersion header is set to 12.1 or 14.0.

<4> Section 2.2.2.19.1.13: The **MeetingStatus** element is not supported when the value of the MS-ASProtocolVersion header is set to 12.1 or 14.0.

<5> Section 2.2.2.19.1.14: The **AppointmentReplyTime** element is not supported when the value of the MS-ASProtocolVersion header is set to 12.1.

<6> Section 2.2.2.19.1.15: The **ResponseType** element is not supported when the value of the MS-ASProtocolVersion header is set to 12.1.

<7> Section 2.2.2.20: The **ResponseRequested** element is not supported when the value of the MS-ASProtocolVersion header is set to 12.1.

<8> Section 2.2.2.21: The **AppointmentReplyTime** element is not supported when the value of the MS-ASProtocolVersion header is set to 12.1.

<9> Section 2.2.2.22: The **ResponseType** element is not supported when the value of the MS-ASProtocolVersion element is set to 12.1.

<10> Section 2.2.2.23: The **DisallowNewTimeProposal** element is not supported when the value of the MS-ASProtocolVersion header is set to 12.1.

7 Change Tracking

This section identifies changes that were made to the [MS-ASCAL] protocol document between the November 2010 and March 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
1.4 Relationship to Other Protocols	Updated [MS-ASCMD] section reference.	N	Content updated.
2.2 Message Syntax	Changed "Wide Area Protocol (WAP) Binary XML (WBXML)" to "Wireless Application Protocol (WAP) Binary XML (WBXML)".	N	Content updated.
2.2.2.13 StartTime	Updated [MS-ASCMD] section reference.	N	Content updated.
2.2.2.16.1 Attendee	Updated [MS-ASCMD] section reference.	N	Content updated.
2.2.2.18.11 FirstDayOfWeek	Updated [MS-ASCMD] section reference.	N	Content updated.
3.1.4.4 Omitting Ghosted Properties from a Sync Change Request	Updated [MS-ASCMD] section references.	N	Content updated.
3.1.5.1 ItemOperations Command Request	Updated [MS-ASCMD] section reference.	N	Content updated.
3.1.5.3 Sync Command Request	Updated [MS-ASCMD] section references.	N	Content updated.
3.2.4.4 Omitting Ghosted Properties	Updated [MS-ASCMD] section references.	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
from a Sync Change Request			
3.2.5.1 ItemOperations Command Response	Updated [MS-ASCMD] section reference.	N	Content updated.
3.2.5.2 Search Command Response	Updated [MS-ASCMD] section reference.	N	Content updated.
3.2.5.3 Sync Command Response	Updated [MS-ASCMD] section references.	N	Content updated.

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