

[MS-XWDCAL]: WebDAV Extensions for Calendar Support Protocol Specification

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1 Introduction

This document specifies property extensions to [RFC4918], [MS-WDVME], [MS-WDVSE], and [MS-WDV] to allow for creation and manipulation of **Calendar** objects by using WebDAV. This protocol specifies properties that will allow clients to find the address for a user's default calendar, get and set events on a calendar, find the address to a user's default free/busy time, and get access to the user's free/busy time.

1.1 Glossary

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

access control list (s)

appointment

attendee

Calendar object

delegate

exception

Hypertext Transfer Protocol (HTTP)

Hypertext Transfer Protocol over Secure Socket Layer (HTTPS)

meeting

recurrence pattern

Uniform Resource Identifier (URI)

Uniform Resource Locator (URL)

WebDAV

WebDAV client

WebDAV server

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

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[MS-OXCDATA] Microsoft Corporation, "Data Structures Protocol Specification", June 2008.

[MS-OXCFOLD] Microsoft Corporation, "Folder Object Protocol Specification", June 2008.

[MS-OXCICAL] Microsoft Corporation, "iCalendar to Appointment Object Conversion Protocol Specification", June 2008.

[MS-OXCMAIL] Microsoft Corporation, "RFC2822 and MIME to E-Mail Object Conversion Protocol Specification", June 2008.

[MS-OXCMSG] Microsoft Corporation, "Message and Attachment Object Protocol Specification", June 2008.

[MS-OXCSTOR] Microsoft Corporation, "Store Object Protocol Specification", June 2008.

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

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

[MS-OXOCNTC] Microsoft Corporation, "Contact Object Protocol Specification", June 2008.

[MS-OXORMDR] Microsoft Corporation, "Reminder Settings Protocol Specification", June 2008.

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[MS-WDVSE] Microsoft Corporation, "Web Distributed Authoring and Versioning (WebDAV) Protocol: Server Extensions", August 2008, <http://go.microsoft.com/fwlink/?LinkID=134710>.

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[RFC2291] Slein, J., Vitali, F., Whitehead, E., and Durand, D., "Requirements for a Distributed Authoring and Versioning Protocol for the World Wide Web", RFC 2291, February 1998, <http://www.ietf.org/rfc/rfc2291.txt>.

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

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

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[RFC4791] Daboo, C., Desruisseaux, B., and Dusseault, L., "Calendaring Extensions to WebDAV (CalDAV)", RFC 4791, March 2007, <http://www.ietf.org/rfc/rfc4791.txt>.

[RFC4918] Dusseault, L. ed., "HTTP Extensions for Web Distributed Authoring and Versioning", RFC4918, June 2007, <http://www.ietf.org/rfc/rfc4918.txt>.

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

1.2.2 Informative References

None.

1.3 Protocol Overview

This document specifies the properties used to exchange **Calendar object** data between a calendaring client and calendaring server by using **WebDAV**, as specified in [RFC4918].

1.4 Relationship to Other Protocols

This specification is dependent on the WebDAV Protocol, as specified in [RFC4918]. WebDAV, in turn, relies on **Hypertext Transfer Protocol (HTTP)** 1.1, as specified in [RFC2616]. These extensions also rely on the **Hypertext Transfer Protocol over Secure Socket Layer (HTTPS)**, as specified in [RFC2818], for data protection services.

This protocol is also dependent on the client, server and Microsoft extensions to [RFC4918] as specified in [MS-WDV], [MS-WDVSE], and [MS-WDVME].

This specification is similar in scope to [RFC4791], however the requirements for [MS-XWDCAL] were created prior to [RFC4791] and while the two protocols contain many similar concepts, the two protocols are not fully compatible with each other.

All properties in this specification are listed in [MS-OXPROPS]. The data type and format of the properties are specified in [MS-OXCDATA].

1.5 Prerequisites/Preconditions

This specification requires the following:

- A **WebDAV server**, as defined in [RFC2291].
- The **WebDAV client** contains a **URL** that points to the WebDAV server.
- The WebDAV client obtains the URL through some out-of-band mechanism.
- The WebDAV client and server support WebDAV **access control lists (ACL)**, as specified in [RFC3744].
- The WebDAV client and server support ETags, as specified in [RFC2616] section 14.9.
- The WebDAV client and server support iCalendar, as specified in [RFC2445] as a media type for the **Calendar object** resource format.

1.6 Applicability Statement

A client can use this protocol to exchange **Calendar object** data with a calendar server by using **WebDAV**.

1.7 Versioning and Capability Negotiation

Supported Transports: [MS-XWDCAL] uses **HTTP** [RFC2616] and **HTTPS** [RFC2818] as its only transports.

Versioning: This document introduces no new versioning mechanisms except those that already exist in **WebDAV** and **HTTP** as specified in [RFC4918] and [RFC2616].

Capability Negotiation: Clients can call the **PROPFIND** method on the root folder for the urn:schemas:httpmail:calendar property. If the property exists, then the server supports this protocol.

1.8 Vendor-Extensible Properties

This protocol uses **HTTP** status codes as defined in [RFC2616] section 10 and [RFC4918] section 11.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

Messages are transported using **HTTP**, as specified in [RFC4918] and [RFC2616].

2.2 Message Syntax

By using the **PROPFIND** and **PROPPATCH** methods, properties are available for query and manipulation on **Calendar objects**. Namespaces such as **DAV:**, `http://schemas.microsoft.com/repl/`, and `urn:schemas:httpmail:` all provide access to general messaging properties used to transport Calendar object data, and are utilized by other message types as well. Whereas the `urn:schemas:calendar`, `http://schemas.microsoft.com/exchange` namespaces provide access to calendar specific properties.

For each property in this section, the following information is provided:

- The canonical name of the property
- The WebDAV name of the property
- The property set in which the property belongs
- The data type for the property

2.2.1 DAV: Namespace Properties

The **DAV:** namespace defines properties for general WebDAV data access.

2.2.1.1 PidNameContentClass

Canonical name: PidNameContentClass

Property set: PS_INTERNET_HEADERS {00020386-0000-0000-C000-000000000046}

Property name: DAV:contentclass

Data type: PtypString, 0x001F

Area: Common

Alternate names: DAV:contentclass

Identifies the content class for the **Calendar object**. For calendar objects, the value of this property **MUST** be set to "urn:content-classes:appointment".

The **PidNameContentClass** property is further specified in [MS-OXCMAIL] section 2.1.2.2.

2.2.1.2 PidNameDavId

Canonical name: PidNameDavId

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: DAV:id

Data type: PtypString, 0x001F

Area: Common

Alternate names: DAV:id

Specifies a unique ID for the calendar item.

2.2.1.3 PidNameDavIsCollection

Canonical name: PidNameDavIsCollection

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: DAV:iscollection

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: DAV:iscollection

Indicates whether a **Calendar object** is a **collection**, as specified in [MS-WDVME] section 2.2.9.1.

2.2.1.4 PidNameDavIsStructuredDocument

Canonical name: PidNameDavIsStructuredDocument

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: DAV:isstructureddocument

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: DAV:isstructureddocument

Indicates whether a **Calendar object** is a structured document, as specified in [MS-XWDSTRUCTDOC].

2.2.1.5 PidNameDavParentName

Canonical name: PidNameDavParentName

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: DAV:parentname

Data type: PtypString, 0x001F

Area: Common

Alternate names: DAV:parentname

Specifies the name of the **folder** that contains the **Calendar object**.

2.2.1.6 PidNameDavUid

Canonical name: PidNameDavUid

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: DAV:uid

Data type: PtypString, 0x001F

Area: Common

Alternate names: DAV:uid

Specifies the unique identifier for an item.

2.2.1.7 PidTagAttributeHidden

Canonical name: PidTagAttributeHidden

Property name: DAV:ishidden

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: DAV:ishidden

Indicates whether an item is hidden, as specified in [MS-WDVME] section 2.2.9.3.

2.2.1.8 PidTagAttributeReadOnly

Canonical name: PidTagAttributeReadOnly

Property name: DAV:isreadonly

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: DAV:isreadonly

Indicates whether an item can be modified or deleted. A value of **TRUE** indicates read only, a value of **FALSE** indicates read-write.

2.2.1.9 PidTagComment

Canonical name: PidTagComment

Property name: DAV:comment

Data type: PtypString, 0x001F

Area: Common

Alternate names: DAV:comment

Specifies a comment for the **Calendar object**.

The **PidTagComment** property is further specified in [MS-OXCFOLD] section 2.3.2.2.2.

2.2.1.10 PidTagSubfolder

Canonical name: PidTagSubfolder

Property name: DAV:isfolder

Data type: PtypBoolean, 0x000B

Area: Mail, Calendar, Document
Alternate names: DAV:isfolder

Specifies whether an item is a **folder**. A value of **TRUE** indicates the item is a folder and is viewable in the mail client. A value of **FALSE** indicates the item is not a folder.

The **PidTagSubfolder** property is further specified in [MS-WDVME] section 2.2.9.2.

2.2.1.11 PidTagUrlName

Canonical name: PidTagUrlName
Property name: DAV:href
Data type: PtypString, 0x001F
Area: Calendar, Document
Alternate names: DAV:href

The absolute **URL** of the calendar item.

2.2.2 urn:schemas:calendar: Namespace Properties

The urn:schemas:calendar: namespace defines properties specifically for **Calendar object** support. Many of the properties in this namespace provide access to Exchange protocol iCalendar properties specified in [MS-OXCICAL]. [MS-OXCICAL] specifies how these properties can be imported and exported from the Exchange protocol Calendar properties, as specified in [MS-OXOCAL].

2.2.2.1 PidLidAppointmentReplyTime

Canonical name: PidLidAppointmentReplyTime
Property name: urn:schemas:calendar:replytime
Data type: PtypTime, 0x0040
Area: Common
Alternate names: urn:schemas:calendar:replytime

Identifies the date and time when an **attendee** replied to a **meeting** request. You can use this value to determine which response is the most recent when an attendee sends more than one response to a meeting request.

This property corresponds to **X-MICROSOFT-CDO-REPLYTIME**, as specified in [MS-OXCICAL] section 2.2.1.20.37.

2.2.2.2 PidLidAppointmentSubType

Canonical name: PidLidAppointmentSubType
Property name: urn:schemas:calendar:alldayevent
Data type: PtypBoolean, 0x000B
Area: Common
Alternate names: urn:schemas:calendar:alldayevent

Specifies whether the **appointment** or **meeting** is scheduled for an entire day. Setting this property does not affect the start time or the end time of the appointment or meeting.

The **PidLidAppointmentSubType** property is further specified in [MS-OXOCAL] section 2.2.1.9.

2.2.2.3 PidLidFreeBusyLocation

Canonical name: PidLidFreeBusyLocation

Property name: urn:schemas:calendar:fburl

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:fburl

Specifies the **URL** of the free/busy public folder.

The **PidLidFreeBusyLocation** property is further specified in [MS-OXOCNTC] section 2.2.1.9.10.

The format of the fburl property is as follows:

```
fburl = http domain location company group user legacydn [start] [end]
```

```
http = "http://" / "https://"
```

```
domain = atom ;Server name
```

```
atom = 1*atext
```

```
atext = ALPHA / DIGIT / "!" / "#" / "$" / "%" / "&" / "'" / "*" / "+" / "-" / "/" / "=" / "?" / "^" / "_" / "`" / "{" / "|" / "}" / "~" ; Any character except controls, SP, and specials.
```

```
ALPHA = %x41-5A / %x61-7A ; A-Z / a-z
```

```
DIGIT = %x30x39 ; 0-9
```

```
location = "/public/" atom "/non_ipm_subtree/SCHEDULE+ FREE BUSY/EX:" ;specify the location of the free busy folder as specified in [MS-OXOCAL] ;section 3.1.4.1.2
```

```
company = "/o=" atom ;Specify the /o from the LegacyDN
```

```
group = "/ou=" atom ;Specify the /ou from the LegacyDN
```

```
user = "USER-/"
```

```
legacydn = atom ;Specify the rest of the LegacyDN after the OU portion
```

```
start = "?start" year "-" month "-" day
```



```

end = "&end=" year "-" month "-" day

year = 4*DIGIT / obs-year

month = obs-month

day = ([FWS] 1*2DIGIT) / obs-day

atom = [CFWS] 1*atext [CFWS]

atext = ALPHA / DIGIT / "!" / "#" / "$" / "%"
/ "&" / "'" / "*" / "+" / "-" / "/" / "="
/ "?" / "^" / "_" / "`" / "{" / "|" / "}" / "~"

```

For example:

```

http://<domain>/public/MAPITLH/non_ipm_subtree/SCHEDULE+ FREE BUSY/EX:/o=<o
from legacyDN of User>/ou=<OU from legacyDN of User>/USER-/<rest of the
User's legacyDN after the OU part>?start1999-01-05&end=1999-01-08

```

The location of the free/busy information for a user's calendar SHOULD be published as a directory attribute.<1> The directory attribute SHOULD be queried through LDAP.

2.2.2.4 PidLidLocation

Canonical name: PidLidLocation
Property name: urn:schemas:calendar:location
Data type: PtypString, 0x001F
Area: Common
Alternate names: urn:schemas:calendar:location

The location of an **appointment** or **meeting**.

This property corresponds to the **LOCATION** property, as specified in [MS-OXCICAL] section 2.2.1.20.15.

2.2.2.5 PidLidOwnerCriticalChange

Canonical name: PidLidOwnerCriticalChange
Property name: urn:schemas:calendar:dtstamp
Data type: PtypTime, 0x0040
Area: Common
Alternate names: urn:schemas:calendar:dtstamp

Identifies the datetime that a **Calendar object** was created.

This property corresponds to the **DTSTAMP** property, as specified in [MS-OXCICAL] section 2.2.1.20.9.

2.2.2.6 PidLidResponseStatus

Canonical name: PidLidResponseStatus

Property name: urn:schemas:calendar:attendeestatus

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: urn:schemas:calendar:attendeestatus

Specifies the status of the **attendee**.

The **PidLidResponseStatus** property is further specified in [MS-OXOCAL] section 2.2.1.11.

2.2.2.7 PidNameCalendarAttendeeRole

Canonical name: PidNameCalendarAttendeeRole

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:attendeerole

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: urn:schemas:calendar:attendeerole

Specifies the role of the **attendee**. The following table lists valid values:

Description	Value
Required	0
Optional	1
Nonparticipant, but copied for reference	2
Chair	3

2.2.2.8 PidNameCalendarBusystatus

Canonical name: PidNameCalendarBusystatus

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:busystatus

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:busystatus

Specifies whether the **attendee** is busy at the time of an **appointment** on their calendar. The following states are possible:

- Out of the office (OOF)
- Busy
- Tentative
- Free

This property corresponds to **X-MICROSOFT-CDO-BUSYSTATUS**, which is further specified in [MS-OXCICAL] section 2.2.1.20.31.

2.2.2.9 PidNameCalendarContact

Canonical name: PidNameCalendarContact

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:contact

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:contact

Identifies the name of a contact who is an **attendee** of a **meeting**.

This property corresponds to the **CONTACT** property, as specified in [MS-OXCICAL] section 2.2.1.20.6.

2.2.2.10 PidNameCalendarContactUrl

Canonical name: PidNameCalendarContactUrl

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:contacturl

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:contacturl

Identifies the **URL** where you can access contact information in HTML format.

2.2.2.11 PidNameCalendarCreated

Canonical name: PidNameCalendarCreated

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:created

Data type: PtypTime, 0x0040

Area: Common

Alternate names: urn:schemas:calendar:created

Identifies the date and time that the organizer created the **appointment** or **meeting**.

This property corresponds to the **CREATED** property, as specified in [MS-OXCICAL] section 2.2.1.20.7.

2.2.2.12 PidNameCalendarDescriptionUrl

Canonical name: PidNameCalendarDescriptionUrl

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:descriptionurl

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:descriptionurl

The **URL** of a resource that contains a description of an **appointment** or **meeting**. This property is further specified in [RFC2445] section 4.2.1 as the ALTREP DESCRIPTION property, which is a **Uniform Resource Identifier (URI)**. URIs can contain only US-ASCII characters. The server SHOULD assume that URIs in this property contain only US-ASCII characters, and therefore the server does not perform character-encoding conversions.

2.2.2.13 PidNameCalendarDuration

Canonical name: PidNameCalendarDuration

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:duration

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: urn:schemas:calendar:duration

Identifies the duration, in seconds, of an **appointment** or **meeting**.

This property corresponds to the **DURATION** property, as specified in [MS-OXCICAL] section 2.2.1.20.12.

2.2.2.14 PidNameCalendarExceptionDate

Canonical name: PidNameCalendarExceptionDate

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:exdate

Data type: PtypMultipleTime, 0x1040

Area: Common

Alternate names: urn:schemas:calendar:exdate

Identifies a list of dates that are **exceptions** to a recurring **appointment**. Exceptions are instances of the appointment that have been deleted or changed.

This property corresponds to the **EXDATE** property, as specified in [MS-OXCICAL] section 2.2.1.20.13.

The **PidNameCalendarExceptionDate** property is combined with the following property to specify the complete **recurrence pattern**:

- The **PidTagICalendarStartTime** property (section 2.2.2.41)
- The **PidNameICalendarRecurrenceRule** property (section 2.2.2.37)
- The **PidNameICalendarRecurrenceDate** property (section 2.2.2.36)
- The **PidNameCalendarExceptionRule** property (section 2.2.2.15)

2.2.2.15 PidNameCalendarExceptionRule

Canonical name: PidNameCalendarExceptionRule

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:exrule

Data type: PtypMultipleString, 0x101F
Area: Common
Alternate names: urn:schemas:calendar:exrule

Specifies an **exception** rule for a recurring **appointment**. An exception rule is a repeating pattern of exceptions.

This property corresponds to the **EXRULE** property, as specified in [RFC2445].

The **PidNameCalendarExceptionRule** property is combined with the following properties to specify the complete **recurrence pattern**:

- The **PidTagICalendarStartTime** property (section 2.2.2.41)
- The **PidNameICalendarRecurrenceRule** property (section 2.2.2.37)
- The **PidNameICalendarRecurrenceDate** property (section 2.2.2.36)
- The **PidNameCalendarExceptionDate** property (section 2.2.2.14)

2.2.2.16 **PidNameCalendarGeoLatitude**

Canonical name: PidNameCalendarGeoLatitude
Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}
Property name: urn:schemas:calendar:geolatitude
Data type: PtypFloating64, 0x0005
Area: Common
Alternate names: urn:schemas:calendar:geolatitude

Specifies the geographical latitude of the location of an **appointment**. Positive values from 0 to 90 specify degrees of northern latitude. Negative values from 0 to -90 specify degrees of southern latitude.

This property corresponds to the **GEO** latitude property, as specified in [RFC2445] section 4.8.1.6.

If a value for **PidNameCalendarGeoLatitude** is set, a value for **PidNameCalendarGeoLongitude** SHOULD also be set. If only one of the two values is set, the value SHOULD NOT be saved.

2.2.2.17 **PidNameCalendarGeoLongitude**

Canonical name: PidNameCalendarGeoLongitude
Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}
Property name: urn:schemas:calendar:geolongitude
Data type: PtypFloating64, 0x0005
Area: Common
Alternate names: urn:schemas:calendar:geolongitude

Specifies the geographical longitude of the location of an **appointment**. Positive values from 0 to 180 specify degrees of eastern longitude. Negative values from 0 to -180 specify degrees of western longitude.

This property corresponds to the **GEO** longitude property, as specified in [RFC2445] section 4.8.1.6.

If a value for **PidNameCalendarGeoLongitude** is set, a value for **PidNameCalendarGeoLatitude** SHOULD also be set. If only one of the two values is set, the value SHOULD NOT be saved.

2.2.2.18 **PidNameCalendarInstanceType**

Canonical name: PidNameCalendarInstanceType

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:instancetype

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: urn:schemas:calendar:instancetype

Specifies the type of an **appointment**. The following types are possible:

- Single appointment
- Master recurring appointment
- Instance of a recurring appointment
- **Exception** to a recurring appointment

This property cannot be directly imported and exported from a **Calendar object** property. Use this property to populate **PidLidMeetingType** and **PidLidAppointmentRecur**, as specified in [MS-OXOCAL] section 2.

The following table lists the valid values for the **PidNameCalendarInstanceType** property:

Description	Value
Single appointment	0
Master appointment	1
Single instance exception to a recurring meeting or appointment.	2
Exception to a recurring meeting or appointment.	3

Clients SHOULD NOT change the value of this property.

The server SHOULD automatically set this property when changes to the appointment are committed. For example, assume a recurring appointment that has the **PidNameCalendarInstanceType** property set to master (1). If all of the **recurrence patterns** and **exceptions** that are associated with this appointment or meeting are deleted, and the

appointment or meeting is saved, the server SHOULD update the instance type to single instance (2). If the original value of the **PidNameCalendarInstanceType** property is single instance (2) or exception, the value does not change.

2.2.2.19 **PidNameCalendarIsOrganizer**

Canonical name: PidNameCalendarIsOrganizer

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:isorganizer

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: urn:schemas:calendar:isorganizer

Specifies whether an **attendee** is the organizer of an **appointment** or **meeting**.

2.2.2.20 **PidNameCalendarLastModified**

Canonical name: PidNameCalendarLastModified

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:lastmodified

Data type: PtypTime, 0x0040

Area: Common

Alternate names: urn:schemas:calendar:lastmodified

Specifies the date and time when an **appointment** was last modified.

This property corresponds to the **LAST-MODIFIED** property, as specified in [MS-OXCICAL] section 2.2.1.20.14.

This value SHOULD be stored in the **appointment** stream separate from **PidTagLastModificationTime**.

2.2.2.21 **PidNameCalendarLocationUrl**

Canonical name: PidNameCalendarLocationUrl

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:locationurl

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:locationurl

Specifies a **URL** where you can access location information in HTML format.

This property corresponds to the **X-MS-OLK-MWSURL** property, as specified in [MS-OXCICAL] section 2.2.1.20.54.

2.2.2.22 PidNameCalendarMeetingStatus

Canonical name: PidNameCalendarMeetingStatus

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:meetingstatus

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:meetingstatus

Specifies the status of an **appointment** or **meeting**. The following states are possible.

- Tentative
- Confirmed
- Cancelled

This property corresponds to the **STATUS** property, as specified in [RFC2445] section 4.8.1.11.

The following table lists the valid values of the meeting status property:

Description	Value
Meeting cancelled	CANCELLED
Meeting confirmed	CONFIRMED
Meeting is tentative	TENTATIVE

2.2.2.23 PidNameCalendarMethod

Canonical name: PidNameCalendarMethod

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:method

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:method

Specifies the iCalendar method that is associated with an **appointment** object.

This property corresponds to the **METHOD** property, as specified in [MS-OXCICAL] section 2.2.1.1.

2.2.2.24 PidNameCalendarProductId

Canonical name: PidNameCalendarProductId

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:prodid

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:prodid

Identifies the product that created the iCalendar-formatted stream.

This property corresponds to the **PRODID** property, as specified in [MS-OXCICAL] section 2.2.1.2.

2.2.2.25 **PidNameCalendarRecurrenceIdRange**

Canonical name: PidNameCalendarRecurrenceIdRange

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:recurrenceidrange

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:recurrenceidrange

Specifies which instances of a recurring **appointment** the **PidNameCalendarRecurrenceIdRange** property refers to. The value **ThisAndFuture** refers to the instance specified by the **recurrenceid** property and to all later instances of the recurring appointment. The value **ThisAndPrior** refers to the instance specified by the **recurrenceid** property and to all earlier instances of the recurring appointment. The default value is **None**, which means that the **recurrenceid** property refers to a single instance.

This property corresponds to the **RANGE** property, as specified in [RFC2445] section 4.2.13.

2.2.2.26 **PidNameCalendarReminderOffset**

Canonical name: PidNameCalendarReminderOffset

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:reminderoffset

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: urn:schemas:calendar:reminderoffset

Identifies the number of seconds before an **appointment** starts that a reminder is to be displayed.

For appointments that are received as iCalendar messages, this value SHOULD be taken from the first **VALARM** calendar component of the appointment.

This property corresponds to the **TRIGGER** property, as specified in [MS-OXCICAL] section 2.2.1.20.61.1.

2.2.2.27 **PidNameCalendarResources**

Canonical name: PidNameCalendarResources

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:resources

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:resources

Identifies a list of resources, such as rooms and video equipment, which are available for an **appointment**. This property is specified by mailto **URIs**, and separated by commas.

This property corresponds to the **RESOURCES** property, as specified in [MS-OXCICAL] section 2.2.1.20.21.

2.2.2.28 PidNameCalendarRsvp

Canonical name: PidNameCalendarRsvp

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:rsvp

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: urn:schemas:calendar:rsvp

Specifies whether the organizer of an **appointment** or **meeting** requested a response.

2.2.2.29 PidNameCalendarSequence

Canonical name: PidNameCalendarSequence

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:sequence

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: urn:schemas:calendar:sequence

Specifies the sequence number of a version of an **appointment**.

This property corresponds to the **SEQUENCE** property, as specified in [MS-OXCICAL] section 2.2.1.20.22.

The server SHOULD increment the sequence number when one or more of the following properties is changed: **PidTagICalendarStartTime**, **PidTagICalendarEndTime**, **PidNameCalendarDuration**, **PidNameICalendarRecurrenceDate**, **PidNameICalendarRecurrenceRule**, **PidNameCalendarExceptionDate**, or **PidNameCalendarExceptionRule** property.

Clients SHOULD NOT change this value.

2.2.2.30 PidNameCalendarTimeZone

Canonical name: PidNameCalendarTimeZone

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:timezone

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:timezone

Specifies the time zone of an **appointment** or **meeting**. This property enables you to define time zones that are not defined by the **PidNameCalendarTimeZoneId** property. If you specify this property, the **PidNameCalendarTimeZoneId** property SHOULD be ignored.

This property corresponds to the **VTIMEZONE** calendar component, as specified in [MS-OXCICAL] section 2.2.1.19.

An example of this property is provided in section 4.2.2.

2.2.2.31 **PidNameCalendarTimeZoneId**

Canonical name: PidNameCalendarTimeZoneId

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:timezoneid

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: urn:schemas:calendar:timezoneid

Specifies the timezone identifier of an **appointment** or **meeting**.

This property corresponds to the **TZID** property, as specified in [MS-OXCICAL] section 2.2.1.19.1.

This property SHOULD be ignored if the **PidNameCalendarTimeZone** property is specified.

The following table lists the valid values of the **PidNameCalendarTimeZoneId** property:

Name	Value	Description
UTC	0	Coordinated Universal Time (UTC)
GMT	1	Greenwich Mean Time (same as UTC)
Lisbon	2	Dublin, Edinburgh, Lisbon, London (UTC + 0:00)
Paris	3	Brussels, Copenhagen, Madrid, Paris, Vilnius (UTC + 1:00)
Berlin	4	Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna (UTC + 1:00)
EasternEurope	5	Eastern Europe (UTC + 2:00)
Prague	6	Belgrade, Pozsony, Budapest, Ljubljana, Prague (UTC + 1:00)
Athens	7	Athens, Istanbul, Minsk (UTC + 2:00)
Brasilia	8	Brasilia (UTC - 3:00)
AtlanticCanada	9	Atlantic time (UTC - 4:00)
Eastern	10	Eastern time (UTC - 5:00)
Central	11	Central time (UTC - 6:00)

Mountain	12	Mountain time (UTC - 7:00)
Pacific	13	Pacific time (UTC - 8:00)
Alaska	14	Alaska (UTC - 9:00)
Hawaii	15	Hawaii (UTC - 10:00)
MidwayIsland	16	Midway Island, Samoa (UTC - 11:00)
Wellington	17	Auckland, Wellington (UTC + 12:00)
Brisbane	18	Brisbane (UTC + 10:00)
Adelaide	19	Adelaide (UTC + 9:30)
Tokyo	20	Osaka, Sapporo, Tokyo (UTC + 9:00)
HongKong	21	Hong Kong SAR (UTC + 8:00)
Bangkok	22	Bangkok, Hanoi, Jakarta (UTC + 7:00)
Bombay	23	Mumbai, Kolkata, Chennai, New Delhi (UTC + 5:30)
AbuDhabi	24	Abu Dhabi, Muscat (UTC + 4:00)
Tehran	25	Tehran (UTC + 3:30)
Baghdad	26	Baghdad, Kuwait, Riyadh (UTC + 3:00)
Israel	27	Israel (UTC + 2:00)
Newfoundland	28	Newfoundland (UTC - 3:30)
Azores	29	Azores, Cape Verde Islands (UTC - 1:00)
MidAtlantic	30	Mid Atlantic (UTC - 2:00)
Monrovia	31	Casablanca, Monrovia (UTC + 0:00)
BuenosAires	32	Buenos Aires, Georgetown (UTC - 3:00)
Caracas	33	Caracas, La Paz (UTC - 4:00)
Indiana	34	Indiana (UTC - 5:00)
Bogota	35	Bogota, Lima, Quito (UTC - 5:00)
Saskatchewan	36	Saskatchewan (UTC - 6:00)
MexicoCity	37	Mexico City, Tegucigalpa (UTC - 6:00)
Arizona	38	Arizona (UTC - 7:00)
Eniwetok	39	Eniwetok, Kwajalein (UTC - 12:00)
Fiji	40	Fiji Islands, Kamchatka, Marshall Islands (UTC + 12:00)
Magadan	41	Magadan, Solomon Islands, New Caledonia (UTC + 11:00)
Hobart	42	Hobart (UTC + 10:00)
Guam	43	Guam, Port Moresby (UTC + 10:00)
Darwin	44	Darwin (UTC + 9:30)
Beijing	45	Beijing, Chongqing, Urumqi (UTC + 8:00)
Almaty	46	Akmola, Almaty, Dhaka (UTC + 6:00)
Islamabad	47	Islamabad, Karachi, Tashkent (UTC + 5:00)
Kabul	48	Kabul (UTC + 4:30)
Cairo	49	Cairo (UTC + 2:00)
Harare	50	Harare, Pretoria (UTC + 2:00)
Moscow	51	Moscow, St. Petersburg, Volgograd (UTC + 3:00)
InvalidTimeZone	52	Invalid time zone

2.2.2.32 **PidNameCalendarTransparent**

Canonical name: PidNameCalendarTransparent

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:transparent

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:transparent

Specifies whether an **appointment** or **meeting** is visible to busy time searches. Valid values are “opaque” (visible) and “transparent” (invisible).

This property corresponds to the **TRANSP** property, as specified in [MS-OXCICAL] section 2.2.1.20.25.

2.2.2.33 **PidNameCalendarUid**

Canonical name: PidNameCalendarUid

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:uid

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:uid

Specifies the unique identifier of an **appointment** or **meeting**.

This property corresponds to the **UID** property, as specified in [MS-OXCICAL] section 2.2.1.20.26.

2.2.2.34 **PidNameCalendarVersion**

Canonical name: PidNameCalendarVersion

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:version

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:version

Identifies the version of the iCalendar specification that is required to correctly interpret an iCalendar object.

This property corresponds to the **VERSION** property, as specified in [MS-OXCICAL] section 2.2.1.3.

2.2.2.35 **PidNameFrom**

Canonical name: PidNameFrom

Property set: PS_INTERNET_HEADERS {00020386-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:organizer

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:calendar:organizer

Specifies the SMTP e-mail alias of the organizer of an **appointment** or **meeting**. The organizer is the **attendee** with the **PidNameCalendarIsOrganizer** property set to **TRUE**.

This property corresponds to the **ORGANIZER** property, as specified in [MS-OXCICAL] section 2.2.1.20.16.

2.2.2.36 PidNameICalendarRecurrenceDate

Canonical name: PidNameICalendarRecurrenceDate

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:rdate

Data type: PtypMultipleTime, 0x1040

Area: Common

Alternate names: urn:schemas:calendar:rdate

Identifies an array of instances of a recurring **appointment**. The instances are stored as the dates and times of the appointment.

This property corresponds to the **RDATE** property, as specified in [MS-OXCICAL] section 2.2.1.20.18.

The **PidNameICalendarRecurrenceDate** property is combined with the following properties to specify the complete **recurrence pattern**:

- The **PidTagICalendarStartTime** property (section 2.2.2.41)
- The **PidNameICalendarRecurrenceRule** property (section 2.2.2.37)
- The **PidNameCalendarExceptionDate** property (section 2.2.2.14)
- The **PidNameCalendarExceptionRule** property (section 2.2.2.15)

2.2.2.37 PidNameICalendarRecurrenceRule

Canonical name: PidNameICalendarRecurrenceRule

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:calendar:rrule

Data type: PtypMultipleString, 0x101F

Area: Common

Alternate names: urn:schemas:calendar:rrule

Specifies the rule for the pattern that defines a recurring **appointment**. The **PidTagICalendarStartTime** property specifies the first instance of the appointment. The rule is based on the date and time of the first instance.

This property corresponds to the **RRULE** property, as specified in [MS-OXCICAL] section 2.2.1.20.19.

The **PidNameICalendarRecurrenceRule** property is combined with the following properties to specify the complete **recurrence pattern**:

- The **PidTagICalendarStartTime** property (section 2.2.2.41)
- The **PidNameICalendarRecurrenceDate** property (section 2.2.2.36)
- The **PidNameCalendarExceptionDate** property (section 2.2.2.14)
- The **PidNameCalendarExceptionRule** property (section 2.2.2.15)

2.2.2.38 **PidTagCdoRecurrenceid**

Canonical name: PidTagCdoRecurrenceid

Property name: urn:schemas:calendar:recurrenceid

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: urn:schemas:calendar:recurrenceid

A recurrence identifier that identifies a specific instance of a recurring **appointment**. This property SHOULD be used with the **PidNameCalendarSequence** property to uniquely identify the instance. The value of the recurrence identifier is the starting date and time of the specific instance.

The **PidNameCalendarRecurrenceIdRange** property can modify the meaning of the **PidTagCdoRecurrenceid** property to refer to multiple instances of a recurring appointment.

This property corresponds to the **RECURRENCE-ID** property, as specified in [MS-OXCICAL] section 2.2.1.20.20.

2.2.2.39 **PidTagICalendarEndTime**

Canonical name: PidTagICalendarEndTime

Property name: urn:schemas:calendar:dtend

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: urn:schemas:calendar:dtend

Identifies the date and time when the **appointment** or **meeting** ends.

This property corresponds to the **DTEND** property, as specified in [MS-OXCICAL] section 2.2.1.20.8.

2.2.2.40 **PidTagICalendarReminderNextTime**

Canonical name: PidTagICalendarReminderNextTime

Property name: urn:schemas:calendar:remindernexttime

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: urn:schemas:calendar:remindernexttime

Identifies the date and time for the activation of the next reminder.

2.2.2.41 **PidTagICalendarStartTime**

Canonical name: PidTagICalendarStartTime

Property name: urn:schemas:calendar:dtstart

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: urn:schemas:calendar:dtstart

Identifies the date and time when an **appointment** or **meeting** starts.

This property corresponds to the **DTSTART** property, as specified in [MS-OXCICAL] section 2.2.1.20.10.

The **PidTagICalendarStartTime** property is combined with the following properties to specify the complete **recurrence pattern**:

- The **PidNameICalendarRecurrenceDate** property (section 2.2.2.36)
- The **PidNameICalendarRecurrenceRule** property (section 2.2.2.37)
- The **PidNameCalendarExceptionDate** property (2.2.2.14)
- The **PidNameCalendarExceptionRule** property (2.2.2.15)

2.2.2.42 **PidTagLastModificationTime**

Canonical name: PidTagLastModificationTime

Property name: urn:schemas:calendar:lastmodifiedtime

Data type: PtypTime, 0x0040

Area: Common

Alternate names: urn:schemas:calendar:lastmodifiedtime

The date and time when an **appointment** was last saved.

The **PidTagLastModificationTime** property is further specified in [MS-OXCMSG] section 2.2.2.2.

This property can have a different value in the appointment of the organizer and in the copy of each **attendee**. The server SHOULD update this value when any method saves an appointment.

2.2.2.43 PidTagResponseRequested

Canonical name: PidTagResponseRequested

Property name: urn:schemas:calendar:responserequested

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: urn:schemas:calendar:responserequested

Indicates whether the originator of the **meeting** requested a response. A value of **TRUE** indicates a response is requested, a value of **FALSE** indicates no response is requested.

This property corresponds to the **RSVP** property, as specified in [MS-OXCICAL] section 2.2.1.20.2.5.

For outgoing meeting requests, if **PidTagResponseRequested** is **TRUE**, the iCalendar RSVP property of all **attendees** SHOULD be set to **TRUE**, or if **PidTagResponseRequested** is **FALSE**, the RSVP property of all attendees SHOULD be set to **FALSE**. For incoming meeting requests, if the iCalendar RSVP property of any attendee is **TRUE**, then **PidTagResponseRequested** SHOULD be set to **TRUE**, or if RSVP for all attendees is **FALSE**, then **PidTagResponseRequested** SHOULD be set to **FALSE**.

The **PidTagResponseRequested** property SHOULD be set to **FALSE** if the meeting does not have an organizer. The organizer is an attendee with the **PidNameCalendarIsOrganizer** property set to **TRUE**.

2.2.2.44 vfreebusy component

The **vfreebusy** component contains free/busy information when the default iCalendar format is not used. The **vfreebusy** component can contain a request for free/busy information, a response containing free/busy information, or free/busy information to publish.

The following schema identifies the format of the **vfreebusy** component:

```
<?xml version="1.0" encoding="utf-8" ?>
<xs:schema attributeFormDefault="unqualified"
elementFormDefault="qualified" targetNamespace="urn:schemas:calendar:"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="vfreebusy">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="freebusyresp">
          <xs:complexType>
            <xs:sequence>
              <xs:element minOccurs="0" maxOccurs="1" name="attendee">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:pattern value="^MAILTO:\w+[\w-\.]*\@\w+((-
\w+)|(\w*))\.[a-z]{2,3}$" />
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

```

        <xs:element minOccurs="1" maxOccurs="1" name="dtstamp">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:pattern value="^([0-9]{2,4}):([0-1][0-9]):([0-3][0-9])T([0-2][0-9]):([0-5][0-9])(:([0-5][0-9]))?" />
                </xs:restriction>
            </xs:simpleType>
        </xs:element>
        <xs:element minOccurs="0" name="uid">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:pattern value="^([0-9]{2,4})([0-1][0-9])([0-3][0-9])T([0-2][0-9])([0-5][0-9])([0-5][0-9][0-9])-\w+[\w-\.]*\@[\w+((-\w+)|(\w*))\].[a-z]{2,3}" />
                </xs:restriction>
            </xs:simpleType>
        </xs:element>
        <xs:element minOccurs="1" maxOccurs="1" name="freebusy">
            <xs:complexType>
                <xs:sequence>
                    <xs:element minOccurs="1" maxOccurs="unbounded"
name="fbitem">
                        <xs:complexType>
                            <xs:sequence>
                                <xs:element minOccurs="1" maxOccurs="1"
name="dtstart" type="xs:dateTime" />
                                <xs:element minOccurs="0" maxOccurs="1"
name="duration">
                                    <xs:simpleType>
                                        <xs:union memberTypes="xs:duration
xs:dateTime" />
                                    </xs:simpleType>
                                </xs:element>
                                <xs:element minOccurs="0" maxOccurs="1"
name="dtend" type="xs:dateTime" />
                                <xs:element minOccurs="0" maxOccurs="1"
name="busystatus">
                                    <xs:simpleType>
                                        <xs:restriction base="xs:string">
                                            <xs:enumeration value="FREE" />
                                            <xs:enumeration value="TENTATIVE" />
                                            <xs:enumeration value="BUSY" />
                                            <xs:enumeration value="OOF" />
                                        </xs:restriction>
                                    </xs:simpleType>
                                </xs:element>
                            </xs:sequence>
                        </xs:complexType>
                    </xs:element>
                </xs:sequence>
            </xs:complexType>
        </xs:element>
        <xs:attribute name="href" type="xs:string" />

```

```

    </xs:complexType>
  </xs:element>
  <xs:element minOccurs="0" maxOccurs="1" name="freebusyreq">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="attendee"
type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="dtstamp">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:pattern value="^([0-9]{2,4}):([0-1][0-9]):([0-
3][0-9])T([0-2][0-9]):([0-5][0-9])(:([0-5][0-9]))?" />
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element minOccurs="0" name="uid">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:pattern value="^([0-9]{2,4}) ([0-1][0-9]) ([0-
3][0-9])T([0-2][0-9]) ([0-5][0-9]) ([0-5][0-9][0-9])-\w+[\w-\.]*\@[\w+((-
\w+)|(\w*))\.[a-z]{2,3}" />
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element minOccurs="1" maxOccurs="1" name="freebusy">
          <xs:complexType>
            <xs:sequence>
              <xs:element minOccurs="1" maxOccurs="unbounded"
name="fbitem">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element minOccurs="1" maxOccurs="1"
name="dtstart" type="xs:dateTime" />
                    <xs:element minOccurs="0" maxOccurs="1"
name="duration">
                      <xs:simpleType>
                        <xs:union memberTypes="xs:duration
xs:dateTime" />
                      </xs:simpleType>
                    </xs:element>
                    <xs:element minOccurs="0" maxOccurs="1"
name="dtend" type="xs:dateTime" />
                    <xs:element minOccurs="0" maxOccurs="1"
name="busystatus">
                      <xs:simpleType>
                        <xs:restriction base="xs:string">
                          <xs:enumeration value="FREE" />
                          <xs:enumeration value="TENTATIVE" />
                          <xs:enumeration value="BUSY" />
                          <xs:enumeration value="OOO" />
                        </xs:restriction>
                      </xs:simpleType>
                    </xs:element>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

```

        </xs:complexType>
    </xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
<xs:attribute name="href" type="xs:string" use="required"
/>
    </xs:complexType>
</xs:element>
<xs:element minOccurs="0" maxOccurs="unbounded" name="comment"
type="xs:string" />
<xs:element minOccurs="0" maxOccurs="1" name="busytime">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="attendee">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:pattern value="^MAILTO:\w+[\w-\.]*\@\w+((-
\w+)|(\w*))\.[a-z]{2,3}$" />
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="1" maxOccurs="1" name="dtstamp">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:pattern value="^([0-9]{2,4}):([0-1][0-9]):([0-
3][0-9])T([0-2][0-9]):([0-5][0-9]):([0-5][0-9])?" />
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="0" name="uid">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:pattern value="^([0-9]{2,4})([0-1][0-9])([0-
3][0-9])T([0-2][0-9])([0-5][0-9])([0-5][0-9][0-9])-\w+[\w-\.]*\@\w+((-
\w+)|(\w*))\.[a-z]{2,3}" />
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element minOccurs="1" maxOccurs="1" name="freebusy">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element minOccurs="1" maxOccurs="unbounded"
name="fbitem">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element minOccurs="1" maxOccurs="1"
name="dtstart" type="xs:dateTime" />
                                    <xs:element minOccurs="0" maxOccurs="1"
name="duration">
                                        <xs:simpleType>
                                            <xs:union memberTypes="xs:duration
xs:dateTime" />

```

```

        </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" maxOccurs="1"
name="dtend" type="xs:dateTime" />
    <xs:element minOccurs="0" maxOccurs="1"
name="busystatus">
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:enumeration value="FREE" />
                <xs:enumeration value="TENTATIVE" />
                <xs:enumeration value="BUSY" />
                <xs:enumeration value="OOF" />
            </xs:restriction>
        </xs:simpleType>
    </xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
<xs:attribute name="href" type="xs:string" />
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

The iCalendar recurrence properties **rrule** (**PidNameCalendarRecurrenceDate**), **exrule** (**PidNameCalendarExceptionRule**), **rdate** (**PidNameCalendarRecurrenceDate**), and **exdate** (**PidNameCalendarExceptionDate**) are not permitted within the **vfreebusy** component. Recurring events are expanded into individual events by using the **freebusy** component.

The **vfreebusy** calendar component **MUST** include either the **freebusyreq**, **freebusyresp**, or **busytime** calendar components. The **vfreebusy** calendar component can include the comment property.

The **freebusyreq**, **freebusyresp**, and **busytime** components each **MUST** include the **attendee**, **dtstamp**, **uid** properties and the **freebusy** component.

The **freebusy** component **MUST** include at least one **fbitem** component.

The **fbitem** component **MUST** include **dtstart**, **dtend**, and **busystatus** properties, or the **dtstart** and **duration** properties.

The attendee property is the **MAILTO URI**, as specified in [RFC 1738] section 3.5, of the person invited to attend the meeting.

The **comment** property is a string commenting on the **vfreebusy** component.

The elements of the **vfreebusy** component are not the same as the similarly named **urn:schemas:calendar** properties. The syntax of the **vfreebusy** elements are specified in the XSD provided earlier in this section.

An example using the **vfreebusy** component is provided in section 4.5.

2.2.3 urn:schemas:httpmail: Namespace Properties

The urn:schemas:httpmail: namespace defines properties for general **WebDAV** data access. Some properties in this namespace provide access to the properties specified in [MS-OXCMAIL], and [MS-OXCMSG].

2.2.3.1 PidNameHttpmailCalendar

Canonical name: PidNameHttpmailCalendar

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:httpmail:calendar

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:httpmail:calendar

Specifies the **URL** for the calendar folder for a particular user. This property **MUST** be set by the server on a user's root mailbox folder to identify the URL to their calendar folder.

2.2.3.2 PidNameHttpmailHtmlDescription

Canonical name: PidNameHttpmailHtmlDescription

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:httpmail:htmldescription

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:httpmail:htmldescription

Specifies the HTML content of the message.

2.2.3.3 PidNameHttpmailSendMessage

Canonical name: PidNameHttpmailSendMessage

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas:httpmail:sendmsg

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:httpmail:sendmsg

Specifies the mail submission **URI** to which outgoing mail is submitted.

2.2.3.4 PidTagBody

Canonical name: PidTagBody

Property name: urn:schemas:httpmail:textdescription

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:httpmail:textdescription

Specifies the plain text content of the message.

The **PidTagBody** property is further specified in [MS-OXCMSG] section 2.2.1.20.1.

2.2.3.5 PidTagHasAttachments

Canonical name: PidTagHasAttachments

Property name: urn:schemas:httpmail:hasattachment

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: urn:schemas:httpmail:hasattachment

Indicates whether or not the message has attachments.

The **PidTagHasAttachments** property is further specified in [MS-OXCMSG] section 2.2.1.2.

2.2.3.6 PidTagNormalizedSubject

Canonical name: PidTagNormalizedSubject

Property name: urn:schemas:httpmail:normalizedsubject

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas:httpmail:normalizedsubject

Specifies the normalized subject of the **Calendar object**.

The **PidTagNormalizedSubject** property is further specified in [MS-OXCMSG] section 2.2.1.10.

2.2.3.7 PidTagPriority

Canonical name: PidTagPriority

Property name: urn:schemas:httpmail:priority

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: urn:schemas:httpmail:priority

The **PidTagPriority** property is further specified in [MS-OXCMSG] section 2.2.1.12.

2.2.3.8 PidTagRead

Canonical name: PidTagRead
Property name: urn:schemas:httpmail:read
Data type: PtypBoolean, 0x000B
Area: Common
Alternate names: urn:schemas:httpmail:read

Indicates whether the **Calendar object** has been read.

2.2.3.9 PidTagSubject

Canonical name: PidTagSubject
Property name: urn:schemas:httpmail:subject
Data type: PtypString, 0x001F
Area: Common
Alternate names: urn:schemas:httpmail:subject

Indicates the subject of the message. This property corresponds to the Subject header field of [RFC822]. This property differs from the **PidNameInternetSubject** property only in that all [RFC1522] encoded characters are decoded and returned as Unicode characters.

2.2.4 urn:schemas:mailheader: Namespace Properties

The urn:schemas:mailheader: namespace defines one property that is used by **Calendar objects**.

2.2.4.1 PidNameInternetSubject

Canonical name: PidNameInternetSubject
Property set: PS_INTERNET_HEADERS {00020386-0000-0000-C000-000000000046}
Property name: urn:schemas:mailheader:subject
Data type: PtypString, 0x001F
Area: Common
Alternate names: urn:schemas:mailheader:subject

Specifies the subject of the message. This property differs from the **PidTagSubject** property only in that all [RFC1522] encoded characters are not decoded.

2.2.5 urn:schemas-microsoft-com:exch-data: Namespace Properties

The urn:schemas-microsoft-com:exch-data: namespace defines three property that are used by **Calendar objects**.

2.2.5.1 PidNameExchDatabaseSchema

Canonical name: PidNameExchDatabaseSchema
Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas-microsoft-com:exch-data:baseschema
Data type: PtypMultipleString, 0x101F
Area: Common
Alternate names: urn:schemas-microsoft-com:exch-data:baseschema

Specifies an array of **URLs** identifying other folders within the same store that contain schema definition items.

The **PidNameExchDatabaseSchema** property SHOULD be used in conjunction with the **PidNameExchDataSchemaCollectionReference** property to define a folder's schema scope. Set this property on any folder containing schema definition items to identify subsequent folders to search for schema items. Applications SHOULD always check the current folder before proceeding to the folders identified by the **PidNameExchDatabaseSchema** property.

The order in which the URLs are listed in this property is significant. When searching for schema definition items, applications perform a breadth-first search for definition items within the folder's schema scope starting in the folder identified by schema-collection-ref property. Folders subsequently identified by the **PidNameExchDatabaseSchema** property of this schema collection folder are then searched in the order that they appear in the property. During the search, the first encountered definition item is always used, and other subsequent definition items are ignored. Each **PidNameExchDatabaseSchema** folder can then in turn define its own set of **PidNameExchDatabaseSchema** folders. These folders are searched in the order that they appear in the property

2.2.5.2 PidNameExchDataExpectedContentClass

Canonical name: PidNameExchDataExpectedContentClass
Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}
Property name: urn:schemas-microsoft-com:exch-data:expected-content-class
Data type: PtypMultipleString, 0x101F
Area: Common
Alternate names: urn:schemas-microsoft-com:exch-data:expected-content-class

Specifies an array of names indicating the expected content classes of items within a folder.

The **PidNameExchDataExpectedContentClass** property is an array (list) of content class names that are designated as expected for items in the folder. This property does not itself define these content classes and does not define in what folder or folders the associated content class and property definition items are kept. Applications SHOULD search for these definitions within the folder's schema scope. Additionally, the **PidNameExchDataExpectedContentClass** property SHOULD NOT impose a restriction on what the value of an item's content class can be; it simply designates the list of names as expected for items within the folder.

The **PidNameExchDataExpectedContentClass**, **PidNameExchDataSchemaCollectionReference**, and **PidNameExchDatabaseSchema**

properties SHOULD be used together to define a folder's schema. Folders can contain separate content class and property definitions specific to a particular application.

2.2.5.3 PidNameExchDataSchemaCollectionReference

Canonical name: PidNameExchDataSchemaCollectionReference

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas-microsoft-com:exch-data:schema-collection-ref

Data type: PtypString, 0x001F

Area: Common

Alternate names: urn:schemas-microsoft-com:exch-data:schema-collection-ref

Specifies an array of names indicating the expected content classes of items within a folder.

Use this property to define the first folder within its schema scope. The value SHOULD be the **URL** of the first folder in which to search for schema content class and property definition items. If no value is set, the folder's schema scope SHOULD default to the non_ipm_subtree/Schema folder in that public store or mailbox store.

2.2.6 urn:schemas-microsoft-com:office:office Namespace Properties

The urn:schemas-microsoft-com:office:office namespace defines one property that is used by **Calendar objects**.

2.2.6.1 PidNameKeywords

Canonical name: PidNameKeywords

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: urn:schemas-microsoft-com:office:office#Keywords

Data type: PtypMultipleString, 0x101F

Area: Common

Alternate names: urn:schemas-microsoft-com:office:office#Keywords

Specifies a list of keywords for the **Calendar object**. The **PidNameKeywords** property is further specified in [MS-OXCMSG] section 2.2.1.17.

2.2.7 http://schemas.microsoft.com/mapi/ Namespace Properties

The http://schemas.microsoft.com/mapi/ namespace defines some properties specifically for **Calendar object** support. Many of the Calendar object properties in this namespace provide access to calendar and reminder properties specified in [MS-OXOCAL] and [MS-OXRMDR].

2.2.7.1 PidLidAllAttendeesString

Canonical name: PidLidAllAttendeesString

Property name: http://schemas.microsoft.com/mapi/allattendeesstring

Data type: PtypString, 0x001F

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/allattendeestring>

The **PidLidAllAttendeesString** property is further specified in [MS-OXOCAL] section 2.2.1.16.

2.2.7.2 PidLidAppointmentDuration

Canonical name: PidLidAppointmentDuration

Property name: <http://schemas.microsoft.com/mapi/apptduration>

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/apptduration>

The **PidLidAppointmentDuration** property is further specified in [MS-OXOCAL] section 2.2.1.7.

2.2.7.3 PidLidAppointmentEndDate

Canonical name: PidLidAppointmentEndDate

Property set: PSETID_Appointment {00062002-0000-0000-C000-000000000046}

Property name: <http://schemas.microsoft.com/mapi/apptenddate>

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: <http://schemas.microsoft.com/mapi/apptenddate>

Indicates the date the appointment ends.

2.2.7.4 PidLidAppointmentEndTime

Canonical name: PidLidAppointmentEndTime

Property set: PSETID_Appointment {00062002-0000-0000-C000-000000000046}

Property name: <http://schemas.microsoft.com/mapi/apptendtime>

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: <http://schemas.microsoft.com/mapi/apptendtime>

Indicates the time the appointment ends.

2.2.7.5 PidLidAppointmentEndWhole

Canonical name: PidLidAppointmentEndWhole

Property name: <http://schemas.microsoft.com/mapi/apptendwhole>

Data type: PtypTime, 0x0040

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/apptendwhole>

The **PidLidAppointmentEndWhole** property is further specified in [MS-OXOCAL] section 2.2.1.6.

2.2.7.6 PidLidAppointmentRecur

Canonical name: PidLidAppointmentRecur

Property name: http://schemas.microsoft.com/mapi/apptrecur

Data type: PtypBinary, 0x0102

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/apptrecur

The **PidLidAppointmentRecur** property is further specified in [MS-OXOCAL] section 2.2.1.44.

2.2.7.7 PidLidAppointmentReplyName

Canonical name: PidLidAppointmentReplyName

Property name: http://schemas.microsoft.com/mapi/apptreplyname

Data type: PtypString, 0x001F

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/apptreplyname

Specifies the user who last replied to the **Meeting Request object** or **Meeting Update object**.

The **PidLidAppointmentReplyName** property is further specified in [MS-OXOCAL] section 2.2.3.5.

2.2.7.8 PidLidAppointmentReplyTime

Canonical name: PidLidAppointmentReplyTime

Property name: http://schemas.microsoft.com/mapi/apptreplytime

Data type: PtypTime, 0x0040

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/apptreplytime

Specifies the date and time at which the attendee responded to a received **Meeting Request object** or **Meeting Update object**.

The **PidLidAppointmentReplyTime** property is further specified in [MS-OXOCAL] section 2.2.3.3.

2.2.7.9 PidLidAppointmentSequence

Canonical name: PidLidAppointmentSequence

Property name: http://schemas.microsoft.com/mapi/apptsequence

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/apptsequence

Identifies the **sequence number** of a **Meeting object**.

The **PidLidAppointmentSequence** property is further specified in [MS-OXOCAL] section 2.2.1.1.

2.2.7.10 **PidLidAppointmentStartDate**

Canonical name: PidLidAppointmentStartDate

Property set: PSETID_Appointment {00062002-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/mapi/apptstartdate

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: http://schemas.microsoft.com/mapi/apptstartdate

Identifies the date the appointment starts.

For backward compatibility with older clients, this property SHOULD be set, and when set, it MUST be equal to the value of the **PidLidAppointmentStartWhole** property.

2.2.7.11 **PidLidAppointmentStartTime**

Canonical name: PidLidAppointmentStartTime

Property set: PSETID_Appointment {00062002-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/mapi/apptstarttime

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: http://schemas.microsoft.com/mapi/apptstarttime

Identifies the time the appointment starts.

2.2.7.12 **PidLidAppointmentStartWhole**

Canonical name: PidLidAppointmentStartWhole

Property name: http://schemas.microsoft.com/mapi/apptstartwhole

Data type: PtypTime, 0x0040

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/apptstartwhole

Specifies the start date and time of the event; MUST be in UTC and MUST be less than the value of the **PidLidAppointmentEndWhole** property.

The **PidLidAppointmentStartWhole** property is further specified in [MS-OXOCAL] section 2.2.8.2.3.

2.2.7.13 **PidLidAppointmentStateFlags**

Canonical name: PidLidAppointmentStateFlags

Property name: http://schemas.microsoft.com/mapi/apptstateflags

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/apptstateflags>

Specifies a bit field that describes the state of the object. The flag values are specified in [MS-OXOCAL] section 2.2.1.10.

The **PidLidAppointmentStateFlags** property is further specified in [MS-OXOCAL] section 2.2.1.10.

2.2.7.14 PidLidAppointmentSubType

Canonical name: PidLidAppointmentSubType

Property name: <http://schemas.microsoft.com/mapi/apptsubtype>

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/apptsubtype>

Specifies whether the event is an all-day event.

The **PidLidAppointmentSubType** property is further specified in [MS-OXOCAL] section 2.2.1.9.

2.2.7.15 PidLidAppointmentUpdateTime

Canonical name: PidLidAppointmentUpdateTime

Property set: PSETID_Appointment {00062002-0000-0000-C000-000000000046}

Property name: <http://schemas.microsoft.com/mapi/apptupdatetime>

Data type: PtypTime, 0x0040

Area: Calendar

Alternate names: <http://schemas.microsoft.com/mapi/apptupdatetime>

Indicates the time at which the appointment was last updated.

2.2.7.16 PidLidAttendeeCriticalChange

Canonical name: PidLidAttendeeCriticalChange

Property name: http://schemas.microsoft.com/mapi/attendee_critical_change

Data type: PtypTime, 0x0040

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/attendee_critical_change

Specifies the date and time at which the **meeting-related object** was sent.

The **PidLidAttendeeCriticalChange** property is further specified in [MS-OXOCAL] section 2.2.4.2.

2.2.7.17 PidLidBusyStatus

Canonical name: PidLidBusyStatus

Property name: http://schemas.microsoft.com/mapi/busystatus
Data type: PtypInteger32, 0x0003
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/busystatus

Identifies the availability of a user for the event described by the object. Valid values are specified in [MS-OXOCAL] section 2.2.1.2.

The **PidLidBusyStatus** property is further specified in [MS-OXOCAL] section 2.2.1.2.

2.2.7.18 PidLidCalendarType

Canonical name: PidLidCalendarType
Property name: http://schemas.microsoft.com/mapi/calendar_type
Data type: PtypInteger32, 0x0003
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/calendar_type

When the **Meeting Request object** represents a **recurring series** or an **exception**, this **property** is the value of the **CalendarType** field from the **apptrecur** property. Otherwise, this property is not set and is assumed to be "0" (zero).

The **PidLidCalendarType** property is further specified in [MS-OXOCAL] section 2.2.5.11.

2.2.7.19 PidLidDayInterval

Canonical name: PidLidDayInterval
Property name: http://schemas.microsoft.com/mapi/day_interval
Data type: PtypInteger16, 0x0002
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/day_interval

Identifies the day interval for the **recurrence pattern**.<2>

2.2.7.20 PidLidDayOfMonth

Canonical name: PidLidDayOfMonth
Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}
Property name: http://schemas.microsoft.com/mapi/dayofmonth
Data type: PtypInteger32, 0x0003
Area: Calendar
Alternate names: http://schemas.microsoft.com/mapi/dayofmonth

Identifies the day of the month for the **appointment** or **meeting**.

2.2.7.21 PidLidDelegateMail

Canonical name: PidLidDelegateMail

Property name: http://schemas.microsoft.com/mapi/delegate_mail
Data type: PtypBoolean, 0x000B
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/delegate_mail

Indicates whether a **delegate** responded to the meeting request.

2.2.7.22 **PidLidEndRecurrenceDate**

Canonical name: PidLidEndRecurrenceDate
Property set: PSETID_Meeting {6ED8DA90-450B-101B-98DA-00AA003F1305}
Property name: http://schemas.microsoft.com/mapi/end_recur_date
Data type: PtypInteger32, 0x0003
Area: Calendar
Alternate names: http://schemas.microsoft.com/mapi/end_recur_date

Identifies the end date of the recurrence range.

2.2.7.23 **PidLidEndRecurrenceTime**

Canonical name: PidLidEndRecurrenceTime
Property set: PSETID_Meeting {6ED8DA90-450B-101B-98DA-00AA003F1305}
Property name: http://schemas.microsoft.com/mapi/end_recur_time
Data type: PtypInteger32, 0x0003
Area: Calendar
Alternate names: http://schemas.microsoft.com/mapi/end_recur_time

Identifies the end time of the recurrence range.

2.2.7.24 **PidLidFInvited**

Canonical name: PidLidFInvited
Property name: http://schemas.microsoft.com/mapi/finvited
Data type: PtypBoolean, 0x000B
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/finvited

The **PidLidFInvited** property is further specified in [MS-OXOCAL] section 2.2.8.2.7.

2.2.7.25 **PidLidFlagRequest**

Canonical name: PidLidFlagRequest
Property name: http://schemas.microsoft.com/mapi/request
Data type: PtypTime, 0x0040
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/request

The **PidLidFlagRequest** property is further specified in [MS-OXCMAIL] section 2.1.2.25.

2.2.7.26 **PidLidFOthersAppointment**

Canonical name: PidLidFOthersAppointment

Property set: PSETID_Appointment {00062002-0000-0000-C000-000000000046}

Property name: <http://schemas.microsoft.com/mapi/fothersappt>

Data type: PtypBoolean, 0x000B

Area: Calendar

Alternate names: <http://schemas.microsoft.com/mapi/fothersappt>

2.2.7.27 **PidLidICalendarDayOfWeekMask**

Canonical name: PidLidICalendarDayOfWeekMask

Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}

Property name: <http://schemas.microsoft.com/mapi/dayofweekmask>

Data type: PtypInteger32, 0x0003

Area: Calendar

Alternate names: <http://schemas.microsoft.com/mapi/dayofweekmask>

Identifies the day of the week for the **appointment** or **meeting**.

2.2.7.28 **PidLidIntendedBusyStatus**

Canonical name: PidLidIntendedBusyStatus

Property name: <http://schemas.microsoft.com/mapi/intendedbusystatus>

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/intendedbusystatus>

The **PidLidIntendedBusyStatus** property is further specified in [MS-OXOCAL] section 2.2.5.4.

2.2.7.29 **PidLidIsException**

Canonical name: PidLidIsException

Property name: http://schemas.microsoft.com/mapi/is_exception

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/is_exception

The **PidLidIsException** property is further specified in [MS-OXOCAL] section 2.2.1.35.

2.2.7.30 **PidLidIsRecurring**

Canonical name: PidLidIsRecurring

Property name: http://schemas.microsoft.com/mapi/is_recurring

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/is_recurring

The **PidLidIsRecurring** property is further specified in [MS-OXOCAL] section 2.2.1.13.

2.2.7.31 **PidLidIsSilent**

Canonical name: PidLidIsSilent

Property name: http://schemas.microsoft.com/mapi/is_silent

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/is_silent

The **PidLidIsSilent** property is further specified in [MS-OXOCAL] section 2.2.6.7.

2.2.7.32 **PidLidMeetingWorkspaceUrl**

Canonical name: PidLidMeetingWorkspaceUrl

Property name: http://schemas.microsoft.com/mapi/meetingworkspaceurl

Data type: PtypString, 0x001F

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/meetingworkspaceurl

The **PidLidMeetingWorkspaceUrl** property is further specified in [MS-OXOCAL] section 2.2.1.7.

2.2.7.33 **PidLidMonthInterval**

Canonical name: PidLidMonthInterval

Property name: http://schemas.microsoft.com/mapi/month_interval

Data type: PtypInteger16, 0x0002

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/month_interval

Indicates the monthly interval of the **appointment** or **meeting**.<2>

2.2.7.34 **PidLidMonthOfYear**

Canonical name: PidLidMonthOfYear

Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/mapi/monthofyear

Data type: PtypInteger32, 0x0003

Area: Calendar

Alternate names: http://schemas.microsoft.com/mapi/monthofyear

Indicates the month of the year that the appointment or meeting occurs.

2.2.7.35 **PidLidMonthOfYearMask**

Canonical name: PidLidMonthOfYearMask

Property set: PSETID_Meeting {6ED8DA90-450B-101B-98DA-00AA003F1305}

Property name: http://schemas.microsoft.com/mapi/moy_mask

Data type: PtypInteger32, 0x0003
Area: Calendar
Alternate names: http://schemas.microsoft.com/mapi/moy_mask

Indicates the month of the year that the appointment or meeting occurs.

2.2.7.36 **PidLidNoEndDateFlag**

Canonical name: PidLidNoEndDateFlag
Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}
Property name: <http://schemas.microsoft.com/mapi/fnoenddate>
Data type: PtypBoolean, 0x000B
Area: Calendar
Alternate names: <http://schemas.microsoft.com/mapi/fnoenddate>

Indicates whether the **recurrence pattern** has an end date. **TRUE** indicates there is no end date, **FALSE** indicates there is an end date.

2.2.7.37 **PidLidNonSendableBcc**

Canonical name: PidLidNonSendableBcc
Property name: <http://schemas.microsoft.com/mapi/nonsendablebcc>
Data type: PtypTime, 0x0040
Area: Common
Alternate names: <http://schemas.microsoft.com/mapi/nonsendablebcc>

The **PidLidNonSendableBcc** property is further specified in [MS-OXOCAL] section 6.

2.2.7.38 **PidLidNonSendableCc**

Canonical name: PidLidNonSendableCc
Property name: <http://schemas.microsoft.com/mapi/nonsendablecc>
Data type: PtypTime, 0x0040
Area: Common
Alternate names: <http://schemas.microsoft.com/mapi/nonsendablecc>

The **PidLidNonSendableCc** property is further specified in [MS-OXOCAL] section 6.

2.2.7.39 **PidLidNonSendableTo**

Canonical name: PidLidNonSendableTo
Property name: <http://schemas.microsoft.com/mapi/nonsendableto>
Data type: PtypTime, 0x0040
Area: Common
Alternate names: <http://schemas.microsoft.com/mapi/nonsendableto>

The **PidLidNonSendableTo** property is further specified in [MS-OXOCAL] section 6.

2.2.7.40 PidLidNonSendBccTrackStatus

Canonical name: PidLidNonSendBccTrackStatus

Property name: <http://schemas.microsoft.com/mapi/nonsendbcctrackstatus>

Data type: PtypTime, 0x0040

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/nonsendbcctrackstatus>

The **PidLidNonSendBccTrackStatus** property is further specified in [MS-OXOCAL] section 6.

2.2.7.41 PidLidNonSendCcTrackStatus

Canonical name: PidLidNonSendCcTrackStatus

Property set:

Property name: <http://schemas.microsoft.com/mapi/nonsendccctrackstatus>

Data type: PtypTime, 0x0040

Area:

Alternate names: <http://schemas.microsoft.com/mapi/nonsendccctrackstatus>

The **PidLidNonSendCcTrackStatus** property is further specified in [MS-OXOCAL] section 6.

2.2.7.42 PidLidNonSendToTrackStatus

Canonical name: PidLidNonSendToTrackStatus

Property name: <http://schemas.microsoft.com/mapi/nonsendtotrackstatus>

Data type: PtypTime, 0x0040

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/nonsendtotrackstatus>

The **PidLidNonSendToTrackStatus** property is further specified in [MS-OXOCAL] section 6.

2.2.7.43 PidLidOccurrences

Canonical name: PidLidOccurrences

Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}

Property name: <http://schemas.microsoft.com/mapi/occurrences>

Data type: PtypInteger32, 0x0003

Area: Calendar

Alternate names: <http://schemas.microsoft.com/mapi/occurrences>

Indicates the number of occurrences in the recurring appointment or meeting.

2.2.7.44 PidLidOldRecurrenceType

Canonical name: PidLidOldRecurrenceType

Property set: PSETID_Meeting {6ED8DA90-450B-101B-98DA-00AA003F1305}

Property name: http://schemas.microsoft.com/mapi/recur_type

Data type: PtypInteger16, 0x0002

Area: Calendar

Alternate names: http://schemas.microsoft.com/mapi/recur_type

Indicates the **recurrence pattern** for the appointment or meeting.

The following table lists the valid values:

Description	Value
The appointment occurs only once.	-1
The appointment recurs daily.	0
The appointment recurs weekly.	1
The appointment recurs monthly.	2
The appointment recurs every nth month.	3
The appointment recurs yearly.	5
The appointment recurs every nth year.	6

2.2.7.45 PidLidOptionalAttendees

Canonical name: PidLidOptionalAttendees

Property name: http://schemas.microsoft.com/mapi/optional_attendees

Data type: PtypString, 0x001F

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/optional_attendees

The **PidLidOptionalAttendees** property is further specified in [MS-OXOCAL] section 6.<2>

2.2.7.46 PidLidOwnerCriticalChange

Canonical name: PidLidOwnerCriticalChange

Property name: http://schemas.microsoft.com/mapi/owner_critical_change

Data type: PtypTime, 0x0040

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/owner_critical_change

The **PidLidOwnerCriticalChange** property is further specified in [MS-OXOCAL] section 2.2.1.34.

2.2.7.47 PidLidOwnerName

Canonical name: PidLidOwnerName

Property set: PSETID_Appointment {00062002-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/mapi/ownername

Data type: PtypString, 0x001F
Area: Calendar
Alternate names: <http://schemas.microsoft.com/mapi/ownername>

Indicates the name of the owner of the mailbox.

2.2.7.48 **PidLidRecurrenceDuration**

Canonical name: PidLidRecurrenceDuration
Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}
Property name: <http://schemas.microsoft.com/mapi/recurduration>
Data type: PtypInteger32, 0x0003
Area: Calendar
Alternate names: <http://schemas.microsoft.com/mapi/recurduration>

Identifies the length, in minutes, of the **appointment** or **meeting**.

2.2.7.49 **PidLidRecurrencePattern**

Canonical name: PidLidRecurrencePattern
Property name: <http://schemas.microsoft.com/mapi/recurpattern>
Data type: PtypString, 0x001F
Area: Common
Alternate names: <http://schemas.microsoft.com/mapi/recurpattern>

The **PidLidRecurrencePattern** property is further specified in [MS-OXOCAL] section 2.2.1.46.

2.2.7.50 **PidLidRecurrenceType**

Canonical name: PidLidRecurrenceType
Property name: <http://schemas.microsoft.com/mapi/recurtype>
Data type: PtypInteger32, 0x0003
Area: Common
Alternate names: <http://schemas.microsoft.com/mapi/recurtype>

The **PidLidRecurrenceType** property is further specified in [MS-OXOCAL] section 2.2.1.45.

2.2.7.51 **PidLidRecurring**

Canonical name: PidLidRecurring
Property name: <http://schemas.microsoft.com/mapi/recurring>
Data type: PtypBoolean, 0x000B
Area: Common
Alternate names: <http://schemas.microsoft.com/mapi/recurring>

The **PidLidRecurring** property is further specified in [MS-OXOCAL] section 2.2.1.12.

2.2.7.52 PidLidReminderDelta

Canonical name: PidLidReminderDelta

Property name: <http://schemas.microsoft.com/mapi/reminderdelta>

Data type: PtypTime, 0x0040

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/reminderdelta>

The **PidLidReminderDelta** property is further specified in [MS-OXORMDR] section 2.2.1.3.

2.2.7.53 PidLidReminderFileParameter

Canonical name: PidLidReminderFileParameter

Property name: <http://schemas.microsoft.com/mapi/reminderfileparam>

Data type: PtypTime, 0x0040

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/reminderfileparam>

The **PidLidReminderFileParameter** property is further specified in [MS-OXORMDR] section 2.2.1.7.

2.2.7.54 PidLidReminderOverride

Canonical name: PidLidReminderOverride

Property name: <http://schemas.microsoft.com/mapi/reminderoverride>

Data type: PtypTime, 0x0040

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/reminderoverride>

The **PidLidReminderOverride** property is further specified in [MS-OXORMDR] section 2.2.1.5.

2.2.7.55 PidLidReminderPlaySound

Canonical name: PidLidReminderPlaySound

Property name: <http://schemas.microsoft.com/mapi/reminderplaysound>

Data type: PtypTime, 0x0040

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/reminderplaysound>

The **PidLidReminderPlaySound** property is further specified in [MS-OXORMDR] section 2.2.1.6.

2.2.7.56 PidLidReminderSet

Canonical name: PidLidReminderSet

Property name: <http://schemas.microsoft.com/mapi/reminderset>

Data type: PtypTime, 0x0040
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/reminderset

The **PidLidReminderSet** property is further specified in [MS-OXORMDR] section 2.2.1.1.

2.2.7.57 **PidLidReminderSignalTime**

Canonical name: PidLidReminderSignalTime
Property name: http://schemas.microsoft.com/mapi/remindernexttime
Data type: PtypTime, 0x0040
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/remindernexttime

The **PidLidReminderSignalTime** property is further specified in [MS-OXORMDR] section 2.2.1.2.

2.2.7.58 **PidLidReminderTime**

Canonical name: PidLidReminderTime
Property name: http://schemas.microsoft.com/mapi/remindertime
Data type: PtypTime, 0x0040
Area: Common
Alternate names: http://schemas.microsoft.com/mapi/remindertime

The **PidLidReminderTime** property is further specified in [MS-OXOCAL] section 2.2.1.4.

2.2.7.59 **PidLidReminderTimeDate**

Canonical name: PidLidReminderTimeDate
Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}
Property name: http://schemas.microsoft.com/mapi/remindertimedate
Data type: PtypTime, 0x0040
Area: Calendar
Alternate names: http://schemas.microsoft.com/mapi/remindertimedate

Indicates the time and date of the reminder for the appointment or meeting.

2.2.7.60 **PidLidReminderTimeTime**

Canonical name: PidLidReminderTimeTime
Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}
Property name: http://schemas.microsoft.com/mapi/remindertimetime
Data type: PtypTime, 0x0040
Area: Calendar
Alternate names: http://schemas.microsoft.com/mapi/remindertimetime

Indicates the time of the reminder for the appointment or meeting.

2.2.7.61 PidLidReminderType

Canonical name: PidLidReminderType

Property name: http://schemas.microsoft.com/mapi/remindertype

Data type: PtypTime, 0x0040

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/remindertype

The **PidLidReminderType** property is further specified in [MS-OXORMDR] section 2.2.1.9.

2.2.7.62 PidLidRemoteStatus

Canonical name: PidLidRemoteStatus

Property set: PSETID_Common {00062008-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/mapi/remotestatus

Data type: PtypInteger32, 0x0003

Area: Calendar

Alternate names: http://schemas.microsoft.com/mapi/remotestatus

Indicates the remote status of the calendar item.

The following table lists the valid values for this property:

Description	Value
No status	0
Unmarked	1
Marked for download	2
Marked for copy	3
Marked for delete	4

2.2.7.63 PidLidRequiredAttendees

Canonical name: PidLidRequiredAttendees

Property name: http://schemas.microsoft.com/mapi/required_attendees

Data type: PtypString, 0x001F

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/required_attendees

Identifies required attendees for the appointment or meeting.<2>

2.2.7.64 PidLidResourceAttendees

Canonical name: PidLidResourceAttendees

Property name: http://schemas.microsoft.com/mapi/resource_attendees

Data type: PtypString, 0x001F

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/resource_attendees

Identifies resource attendees for the appointment or meeting.<2>

2.2.7.65 PidLidResponseStatus

Canonical name: PidLidResponseStatus

Property name: <http://schemas.microsoft.com/mapi/responsestatus>

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/responsestatus>

The **PidLidResponseStatus** property is further specified in [MS-OXOCAL] section 2.2.1.11.

2.2.7.66 PidLidStartRecurrenceDate

Canonical name: PidLidStartRecurrenceDate

Property set: PSETID_Meeting {6ED8DA90-450B-101B-98DA-00AA003F1305}

Property name: http://schemas.microsoft.com/mapi/start_recur_date

Data type: PtypInteger32, 0x0003

Area: Calendar

Alternate names: http://schemas.microsoft.com/mapi/start_recur_date

Identifies the start date of the recurrence pattern.<2>

2.2.7.67 PidLidStartRecurrenceTime

Canonical name: PidLidStartRecurrenceTime

Property set: PSETID_Meeting {6ED8DA90-450B-101B-98DA-00AA003F1305}

Property name: http://schemas.microsoft.com/mapi/start_recur_time

Data type: PtypInteger32, 0x0003

Area: Calendar

Alternate names: http://schemas.microsoft.com/mapi/start_recur_time

Identifies the start time of the recurrence pattern.<2>

2.2.7.68 PidLidTimeZone

Canonical name: PidLidTimeZone

Property name: http://schemas.microsoft.com/mapi/time_zone

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/time_zone

The **PidLidTimeZone** property is further specified in [MS-OXOCAL] section 2.2.4.4.

2.2.7.69 PidLidTimeZoneDescription

Canonical name: PidLidTimeZoneDescription

Property name: <http://schemas.microsoft.com/mapi/timezonedesc>

Data type: PtypString, 0x001F

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/timezonedesc>

The **PidLidTimeZoneDescription** property is further specified in [MS-OXOCAL] section 2.2.1.40.

2.2.7.70 **PidLidTimeZoneStruct**

Canonical name: PidLidTimeZoneStruct

Property name: <http://schemas.microsoft.com/mapi/timezonestruct>

Data type: PtypBinary, 0x0102

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/timezonestruct>

The **PidLidTimeZoneStruct** property is further specified in [MS-OXOCAL] section 2.2.1.39.

2.2.7.71 **PidLidWeekInterval**

Canonical name: PidLidWeekInterval

Property name: http://schemas.microsoft.com/mapi/week_interval

Data type: PtypInteger16, 0x0002

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/week_interval

Identifies the number of weeks that occur between each meeting. <2>

2.2.7.72 **PidLidWhere**

Canonical name: PidLidWhere

Property name: <http://schemas.microsoft.com/mapi/where>

Data type: PtypString, 0x001F

Area: Common

Alternate names: <http://schemas.microsoft.com/mapi/where>

The **PidLidWhere** interval is further specified in [MS-OXOCAL] section 2.2.4.3.

2.2.7.73 **PidLidYearInterval**

Canonical name: PidLidYearInterval

Property name: http://schemas.microsoft.com/mapi/year_interval

Data type: PtypInteger16, 0x0002

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/year_interval

Indicates the yearly interval of the **appointment** or **meeting**. <2>

2.2.7.74 PidTagEndDate

Canonical name: PidTagEndDate

Property name: http://schemas.microsoft.com/mapi/end_date

Data type: PtypTime, 0x0040

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/end_date

The **PidTagEndDate** property is further specified in [MS-OXOCAL] section 2.2.1.31.

2.2.7.75 PidTagOwnerAppointmentId

Canonical name: PidTagOwnerAppointmentId

Property name: http://schemas.microsoft.com/mapi/owner_appt_id

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/owner_appt_id

The **PidTagOwnerAppointmentId** property is further specified in [MS-OXOCAL] section 2.2.1.29.

2.2.7.76 PidTagResponseRequested

Canonical name: PidTagResponseRequested

Property name: http://schemas.microsoft.com/mapi/response_requested

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/response_requested

The **PidTagResponseRequested** property is further specified in [MS-OXOCAL] section 2.2.1.36.

2.2.7.77 PidTagStartDate

Canonical name: PidTagStartDate

Property name: http://schemas.microsoft.com/mapi/start_date

Data type: PtypTime, 0x0040

Area: Common

Alternate names: http://schemas.microsoft.com/mapi/start_date

The **PidTagStartDate** property is further specified in [MS-OXOCAL] section 2.2.1.30.

2.2.8 http://schemas.microsoft.com/exchange Namespace Properties

The <http://schemas.microsoft.com/exchange/> namespace defines some properties specifically for **Calendar object** support. Some of the Calendar object properties in this namespace provide access to calendar properties specified in [MS-OXOCAL].

2.2.8.1 PidNameExchangeIntendedBusyStatus

Canonical name: PidNameExchangeIntendedBusyStatus

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/exchange/intendedbusystatus

Data type: PtypString, 0x001F

Area: Common

Alternate names: http://schemas.microsoft.com/exchange/intendedbusystatus

Specifies the busy status of the user during an **appointment** or **meeting**.

The **PidLidIntendedBusyStatus** property is further specified in [MS-OXOCAL] section 2.2.5.4.

2.2.8.2 PidNameExchangeModifyExceptionStructure

Canonical name: PidNameExchangeModifyExceptionStructure

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/exchange/modifyexceptionstruct

Data type: PtypBinary, 0x0102

Area: Common

Alternate names: http://schemas.microsoft.com/exchange/modifyexceptionstruct

Specifies a structure that modifies an **exception** to the recurrence.

2.2.8.3 PidNameExchangeNoModifyExceptions

Canonical name: PidNameExchangeNoModifyExceptions

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/exchange/nomodifyexceptions

Data type: PtypBoolean, 0x000B

Area: Common

Alternate names: http://schemas.microsoft.com/exchange/nomodifyexceptions

Indicates whether **exceptions** to a recurring **appointment** can be modified. **TRUE** indicates that no exceptions are allowed, **FALSE** indicates that exceptions are allowed.

2.2.8.4 PidNameExchangePatternEnd

Canonical name: PidNameExchangePatternEnd

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: http://schemas.microsoft.com/exchange/patternend

Data type: PtypTime, 0x0040

Area: Common

Alternate names: http://schemas.microsoft.com/exchange/patternend

Identifies the maximum time when an instance of a recurring **appointment** ends. If there are no **exceptions**, this is the end time of the last instance.

2.2.8.5 PidNameExchangePatternStart

Canonical name: PidNameExchangePatternStart

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: <http://schemas.microsoft.com/exchange/patternstart>

Data type: PtypTime, 0x0040

Area: Common

Alternate names: <http://schemas.microsoft.com/exchange/patternstart>

Identifies the absolute minimum time when an instance of a recurring **appointment** starts. If there are no **exceptions**, this is the start time of the first instance.

2.2.8.6 PidNameExchangeReminderInterval

Canonical name: PidNameExchangeReminderInterval

Property set: PS_PUBLIC_STRINGS {00020329-0000-0000-C000-000000000046}

Property name: <http://schemas.microsoft.com/exchange/reminderinterval>

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: <http://schemas.microsoft.com/exchange/reminderinterval>

Identifies the time, in seconds, between reminders.

2.2.8.7 PidTagContainerClass

Canonical name: PidTagContainerClass

Property name: <http://schemas.microsoft.com/exchange/outlookfolderclass>

Data type: PtypString, 0x001F

Area: Common

Alternate names: <http://schemas.microsoft.com/exchange/outlookfolderclass>

Identifies the container class for the calendar folder.

The **PidTagContainerClass** property is further specified in [MS-OXOCAL] section 2.2.9.1.

2.2.8.8 PidTagExchangeNTSecurityDescriptor

Canonical name: PidTagExchangeNTSecurityDescriptor

Property name: <http://schemas.microsoft.com/exchange/ntsecuritydescriptor>

Data type: PtypBinary, 0x0102

Area: Calendar, Document

Alternate names: <http://schemas.microsoft.com/exchange/ntsecuritydescriptor>

Indicates the security descriptor for the item. The security descriptor SHOULD contain the item's primary owner and group, and a discretionary **ACL** granting and denying various rights to particular users and groups. Applications **MUST NOT** manipulate the security descriptor directly.

2.2.8.9 PidTagFlatUrlName

Canonical name: PidTagFlatUrlName

Property name: http://schemas.microsoft.com/exchange/permanenturl

Data type: PtypString, 0x001F

Area: Calendar, Document

Alternate names: http://schemas.microsoft.com/exchange/permanenturl

Specifies the unique identifier for an item across the **store**. This value SHOULD NOT change as long as the item remains in the same **folder**. The **PidTagFlatUrlName** property contains the ID of the parent folder of the item, which changes when the item is moved to a different folder or deleted. Changing a property on an item SHOULD NOT change the **PidTagFlatUrlName** property and neither will adding more items to the folder with the same display name or message subject.

This property corresponds to the **MS-Exchange-Permanent-URL** header value.

2.2.8.10 PidTagMessageClass

Canonical name: PidTagMessageClass

Property name: http://schemas.microsoft.com/exchange/outlookmessageclass

Data type: PtypString, 0x001F

Area: Common

Alternate names: http://schemas.microsoft.com/exchange/outlookmessageclass

Identifies the type of **Calendar object**.

The **PidTagMessageClass** property is further specified in [MS-OXOCAL] section 2.2.2.1.

2.2.8.11 PidTagMid

Canonical name: PidTagMid

Property name: http://schemas.microsoft.com/exchange/mid

Data type: PtypInteger64, 0x0014

Area: Common

Alternate names: http://schemas.microsoft.com/exchange/mid

Specifies the **message id (MID)**.

The **PidTagMid** property is further specified in [MS-OXCFXICS] section 2.2.1.2.1.

2.2.8.12 PidTagSensitivity

Canonical name: PidTagSensitivity

Property name: http://schemas.microsoft.com/exchange/sensitivity

Data type: PtypInteger32, 0x0003

Area: Common

Alternate names: http://schemas.microsoft.com/exchange/sensitivity

Identifies message and **appointment** sensitivity. The following table lists valid values:

Description	Value
None	0
Personal	1
Private	2
Confidential	3

The **PidTagSensitivity** property is further specified in [MS-OXCMSG] section 2.2.1.13.

3 Protocol Details

3.1 Client and Server Details

3.1.1 Abstract Data Model

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

3.1.1.1 Calendar

Calendar: A WebDAV **collection** containing WebDAV **resources** that represent individual calendar events. A calendar **collection** can be conceptualized as a folder containing multiple calendar events. Both the collection and the resource have properties on them. A user can have multiple calendar folders.

3.1.1.2 Free/Busy Data

Free/Busy Data: The client SHOULD publish their free/busy data to a specified location on the server by using the **vfreebusy** component specified in section 2.2.2.44. The server can also modify the free/busy data. Every user in the directory SHOULD have an attribute that clients can use to find out where to query a user's free/busy data.<3>

3.1.1.3 Recurrence

Recurrence: A recurring event is normally modeled as a single resource with properties that define the **recurrence pattern**. **Exceptions** to the recurrence pattern are also modeled as resources.

To determine whether an item is an **appointment**, check the **DAV:content-class** property. To determine whether an appointment is a recurring master or a recurrence **exception**, check the **urn:schemas:calendar:instancetype** property. To determine what recurring master an exception is related to, check the **urn:schemas:calendar:recurrenceid** property which points to the recurring master.

The recurrence pattern engine is modeled on the iCalendar protocol [RFC2447], and uses the **PidNameICalendarRecurrenceDate**, **PidTagICalendarStartTime**, **PidNameICalendarRecurrenceRule**, **PidNameCalendarExceptionDate**, and **PidNameCalendarExceptionRule** properties from the urn:schemas:calendar: namespace to define a recurrence pattern.

The server agent SHOULD expand all recurring appointments. This means that every instance of a recurring item is a separate object in a calendar folder; thus WebDAV can access each item individually. Properties on the item indicate whether it is a master event, instance event or a stand-alone event.

Note that this does not mean that the client SHOULD access each item individually in all cases. For example, to change the location of a recurring **meeting** for all recurrences, only the recurring master appointment needs to be changed. Clients can also add recurrences or exceptions which modify the recurrence master.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Discovery

The client uses the **urn:schemas:httpmail:calendar** property to retrieve the URL of the user's main calendar folder from the server.

3.1.4.2 Creating Calendar Objects

To create a **Calendar object**, the client uses the **POST** or **PUT** method to add a Calendar object to their calendar folder.

When inviting other **attendees**, the client can check the other user's free/busy status to determine a **meeting** start and end time. The user then uses the **POST** or **PUT** method to add the Calendar object to the user's folder.

3.1.4.3 Changing Calendar Objects

To change a **Calendar object**, the client uses **GET**, **SEARCH**, or **PROPFIND** to retrieve the contents or particular properties for a calendar. The results are returned as a set of properties that provide the start and end times of **appointments**, subjects, locations, or any of the properties specified in section 2.2.

The user changes the properties of the appointment using **PUT** or **PROPPATCH**.

3.1.4.4 Sending Meeting Requests

Clients use the **POST** or **PUT** method to create new meeting requests. Meeting requests can be sent to other recipients by using the mail sending mechanism specified in [MS-XWDMAIL].

3.1.4.5 Calendar Delegation

ACLs, as specified in [RFC3744] are used to set calendar access permissions so that a user can allow another individual to read or write **Calendar objects** to their calendar.

3.1.4.6 Recurring Appointments

The server **SHOULD** perform recurrence expansion automatically when any request has both a start and end bracket in the **SEARCH** method query.

If clients do not want the server to expand recurrences, the client can use the **urn:schemas:calendar:instancetype** property to restrict queries. To retrieve only recurring master **appointments**, the client queries the calendar folder for `instancetype = "1"`.

To retrieve recurrence **exception** information, the client has to download the entire stream of the appointment master to see the details of the exception.

3.1.5 Message Processing Events and Sequencing Rules

The following section specifies extensions to the existing **WebDAV** methods specified in [RFC4918]. These methods **SHOULD** be processed as specified in [RFC4918], except for any exceptions specified in this section.

3.1.5.1 GET Method

Use the **GET** method, as specified in [RFC4918] section 9.4, to retrieve events from a calendar folder.

3.1.5.1.1 Accept Header

The default format supported by the store **SHOULD** be the iCalendar standard [RFC2445].

3.1.5.1.2 GET Free/Busy Information

Free/busy data can be retrieved by using the **vfreebusy** component, as specified in section 2.2.2.44.

The client has two ways to determine which **URL** to query to retrieve the free/busy information:

- The location of the free/busy information for a user's calendar SHOULD be published in a directory attribute. <1> This directory attribute SHOULD be queried through LDAP.
- The location of the free/busy information that corresponds to a calendar folder SHOULD be published in the **PidLidFreeBusyLocation** property (urn:schemas:calendar:fburl) on the calendar folder itself, as specified in section 2.2.3.2. If the value of the property is blank, then there is no public free/busy information for that calendar. The default calendar for a user SHOULD have the same free/busy location defined in the directory attribute. <4>

3.1.5.2 POST Method

Use the **POST** method, as specified in [RFC2616] section 9.5, to add new **Calendar objects** or update existing Calendar objects in the calendar folder.

3.1.5.3 PROPFIND Method

Use the **PROPFIND** method, as specified in [RFC4718] section 9.1, to retrieve one or more properties from the calendar collection or a resource item.

3.1.5.4 PROPPATCH Method

Use the **PROPPATCH** method, as specified in [RFC4718] section 9.2, to set one or more properties on the calendar collection or a resource item.

3.1.5.5 PUT Method

Use the **PUT** method, as specified in [RFC4918] section 9.7, to create new **Calendar objects** or update existing Calendar objects in the calendar folder. To add new Calendar objects another user or resource, the **PUT** request is sent to the address for that user or resource's calendar. The **PidTagExchangeNTSecurityDescriptor** property is used to restrict access to calendar folders for resources.

As specified in [RFC4918] section 9.7.2, the **PUT** method cannot be used to create new collections, only resources.

3.1.5.6 SEARCH Method

Use the **SEARCH** method, as specified in [MS-WDVSE] section 2.2.4, to list the contents of a calendar folder. The content of the folder is returned as **URLs**.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

4 Protocol Examples

4.1 Discover the calendar folder

4.1.1 Request

In the following example, the client connects to a calendar server using **WebDAV** and uses the **PROPFIND** method to retrieve the **URL** of the sendmsg and calendar folder.

```
PROPFIND /exchange/local HTTP/1.1
Content-Type: text/xml
Depth: 0

<?xml version="1.0" encoding="utf-8"?>
<a:propfind xmlns:a="DAV:">
  <a:prop xmlns:m="urn:schemas:httpmail:">
    <m:sendmsg />
    <m:calendar />
  </a:prop>
</a:propfind>
```

4.1.2 Response

In the response message, the value of the `<d:calendar>` property contains the **URL** for the calendar folder.

- HTTP/1.1 207 Multi-Status
- Cache-Control: no-cache
- Transfer-Encoding: chunked
- Content-Type: text/xml
- Accept-Ranges: rows
- Server: Microsoft-IIS/7.0
- MS-WebStorage: 08.01.10240
- X-Powered-By: ASP.NET
- Date: Fri, 19 Sep 2008 21:42:37 GMT

```
<?xml version="1.0"?>
<a:multistatus xmlns:b="urn:uuid:c2f41010-65b3-11d1-a29f-
00aa00c14882/" xmlns:d="urn:schemas:httpmail:" xmlns:c="xml:"
xmlns:a="DAV:">
  <a:response>
    <a:href>https://SERVER01/exchange/local/</a:href>
    <a:propstat>
      <a:status>HTTP/1.1 200 OK</a:status>
      <a:prop>
        <d:sendmsg>https://SERVER01/exchange/local/%23%23DavMailSubmission
URI%23%23/</d:sendmsg>
```

```

<d:calendar>https://SERVER01/exchange/local/Calendar</d:calendar>
  </a:prop>
  </a:propstat>
</a:response>
</a:multistatus>

```

4.2 Retrieve the contents of the calendar folder

4.2.1 Request

In the following example, the client uses the **SEARCH** method ([MS-WDVSE] section 2.2.4) to retrieve the contents of the calendar folder in the default iCalendar format [RFC2445].

```

SEARCH /exchange/local/Calendar HTTP/1.1
Content-Type: text/xml

<?xml version="1.0"?>
<g:searchrequest xmlns:g="DAV:">
  <g:sql>Select * FROM Scope('SHALLOW TRAVERSAL OF
"/exchange/local/Calendar')</g:sql>
</g:searchrequest>

```

4.2.2 Response

The response is returned as a set of properties providing the start and end times of three appointments:

- A recurring appointment on Mondays.
- An appointment on Saturday.
- An appointment on Friday.

```

HTTP/1.1 207 Multi-Status
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: text/xml
Accept-Ranges: rows
Server: Microsoft-IIS/7.0
MS-WebStorage: 08.01.10240
X-Powered-By: ASP.NET
Date: Fri, 19 Sep 2008 21:47:30 GMT

```

```

<?xml version="1.0"?>
<a:multistatus xmlns:b="urn:uuid:c2f41010-65b3-11d1-a29f-
00aa00c14882/" xmlns:e="urn:schemas:httpmail:"
xmlns:j="urn:schemas:mailheader:" xmlns:c="xml:"
xmlns:f="http://schemas.microsoft.com/exchange/"
xmlns:i="urn:schemas-microsoft-com:office:office"
xmlns:k="http://schemas.microsoft.com/repl/"
xmlns:d="urn:schemas:calendar:" xmlns:g="urn:schemas:contacts:"
xmlns:h="urn:schemas-microsoft-com:exch-data:" xmlns:a="DAV:">
<!--Calendar configuration information has been removed from -->
<!--this example.-->

```

```

<!--The following is the information for the recurring -->
<!--Monday appointment-->
  <a:response>

<a:href>https://SERVER01/exchange/local/Calendar/Recurring%20Monday%
20Apt.EML</a:href>
  <a:propstat>
    <a:status>HTTP/1.1 200 OK</a:status>
    <a:prop>
      <d:alldayevent b:dt="boolean">0</d:alldayevent>
      <e:textdescription>
      </e:textdescription>
      <a:contentclass>urn:content-
classes:appointment</a:contentclass>
      <d:responserequested
b:dt="boolean">1</d:responserequested>
      <a:supportedlock>
        <lockentry xmlns="DAV:">
          <locktype>
            <transaction>
              <groupoperation />
            </transaction>
          </locktype>
          <lockscope>
            <local />
          </lockscope>
        </lockentry>
      </a:supportedlock>
      <d:bustatus>BUSY</d:bustatus>
      <f:permanenturl>https://SERVER01/exchange/local/-
FlatUrlSpace-/1c5a707ee8157a47bfce2b746a3dba25-
12c2720/878040245f8fd545a99a34a3d65eae4b-12c0403</f:permanenturl>
      <a:getcontenttype>message/rfc822</a:getcontenttype>
      <a:id>AQEAAAABLCCgBAAAAAEsBAMAAAA</a:id>
      <f:mid b:dt="i8">217347064827215876</f:mid>

<d:uid>040000008200E00074C5B7101A82E008000000090556E824E1AC9010000
0000000000100000001267AC06562E3A4EBA4627A617D09DE3</d:uid>
      <a:isfolder b:dt="boolean">0</a:isfolder>
      <a:resourcetype />
      <d:method>REQUEST</d:method>

<a:getetag>"1c5a707ee8157a47bfce2b746a3dba25000012c30ab"</a:getetag
>
      <d:timezone>BEGIN:VTIMEZONE TZID:GMT -0800
(Standard) / GMT -0700 (Daylight) BEGIN:STANDARD
DTSTART:19671105T020000 RRULE:FREQ=YEARLY;BYDAY=1SU;BYMONTH=11
TZOFFSETFROM:-0700 TZOFFSETTO:-0800 END:STANDARD BEGIN:DAYLIGHT
DTSTART:19670312T020000 RRULE:FREQ=YEARLY;BYDAY=2SU;BYMONTH=3
TZOFFSETFROM:-0800 TZOFFSETTO:-0700 END:DAYLIGHT
END:VTIMEZONE</d:timezone>
      <lockdiscovery xmlns="DAV:">
      </lockdiscovery>

```

```

<f:outlookmessageclass>IPM.Appointment</f:outlookmessageclass>
  <a:creationdate b:dt="dateTime.tz">2008-09-
19T18:54:34.903Z</a:creationdate>
  <d:rrule b:dt="mv.string">

<c:v>FREQ=WEEKLY;INTERVAL=1;BYDAY=MO;WKST=SU</c:v>
  </d:rrule>
  <f:ntsecuritydescriptor
b:dt="bin.base64">CAAEAAAAAAAAABAC+MMAAAAEwAAAAAAAAAFAAAAIAHAABAAAAAR
AUAL8PHwABAQAAAAAABQcAAAABBQAAAAAABRUAAAD010oajmNmy/EPr4pXBAAAAQUAAA
AAAAUVAAAA9JdKGo5jZsvxD6+KAQIAAA==</f:ntsecuritydescriptor>
  <d:lastmodified b:dt="dateTime.tz">2008-09-
19T18:54:34.903Z</d:lastmodified>
  <d:dtstart b:dt="dateTime.tz">2008-09-
22T17:00:00.000Z</d:dtstart>
  <d:location>
</d:location>
  <j:subject>Recurring Monday Appt</j:subject>
  <d:duration b:dt="int">3600</d:duration>
  <e:htmldescription>&lt;!DOCTYPE HTML PUBLIC "-
//W3C//DTD HTML 3.2//EN"&gt; &lt;HTML&gt; &lt;HEAD&gt; &lt;META
NAME="Generator" CONTENT="MS Exchange Server version
08.01.0240.003"&gt; &lt;TITLE&gt;Recurring Monday Appt&lt;/TITLE&gt;
&lt;/HEAD&gt; &lt;BODY&gt; &lt;!-- Converted from text/rtf format --
&gt; &lt;P DIR=LTR&gt;&lt;SPAN LANG="en-
us"&gt;&lt;/SPAN&gt;&lt;/P&gt; &lt;/BODY&gt;
&lt;/HTML&gt;</e:htmldescription>
  <a:ishidden b:dt="boolean">0</a:ishidden>

<a:parentname>https://SERVER01/exchange/local/Calendar/</a:parentnam
e>
  <d:meetingstatus>TENTATIVE</d:meetingstatus>
  <e:subject>Recurring Monday Appt</e:subject>
  <a:getcontentlength
b:dt="int">6735</a:getcontentlength>
  <e:normalizedsubject>Recurring Monday
Appt</e:normalizedsubject>
  <a:isstructureddocument
b:dt="boolean">0</a:isstructureddocument>
  <k:repl-
uid>rid:878040245f8fd545a99a34a3d65eae4b0000012c0403</k:repl-uid>
  <d:reminderoffset b:dt="int">900</d:reminderoffset>
  <a:displayname>Recurring Monday
Appt.EML</a:displayname>

<a:href>https://SERVER01/exchange/local/Calendar/Recurring%20Monday%
20Appt.EML</a:href>
  <a:isreadonly b:dt="boolean">0</a:isreadonly>
  <d:instancetype b:dt="int">1</d:instancetype>
  <a:uid>AQQAAAABLAQDAAAAAAAAAAAAAAAA</a:uid>
  <a:getlastmodified b:dt="dateTime.tz">2008-09-
19T18:54:34.903Z</a:getlastmodified>
  <d:created b:dt="dateTime.tz">2008-09-
19T18:54:34.903Z</d:created>

```

```

        <f:sensitivity b:dt="int">0</f:sensitivity>
        <d:dtend b:dt="dateTime.tz">2008-09-
22T18:00:00.000Z</d:dtend>
        <e:hasattachment b:dt="boolean">0</e:hasattachment>
        <a:iscollection b:dt="boolean">0</a:iscollection>
        <e:read b:dt="boolean">1</e:read>

<k:resourcetag>rt:878040245f8fd545a99a34a3d65eae4b0000012c04031c5a70
7ee8157a47bfce2b746a3dba250000012c30ab</k:resourcetag>
        <e:priority b:dt="int">0</e:priority>
        <d:sequence b:dt="int">0</d:sequence>
    </a:prop>
</a:propstat>    </a:response>
<!--The following is the information for the Saturday -->
<!--appointment-->
    <a:response>

<a:href>https://SERVER01/exchange/local/Calendar/Sat%20Appt.EML</a:h
ref>
    <a:propstat>
        <a:status>HTTP/1.1 200 OK</a:status>
        <a:prop>
            <d:alldayevent b:dt="boolean">0</d:alldayevent>
            <e:textdescription>
            </e:textdescription>
            <a:contentclass>urn:content-
classes:appointment</a:contentclass>
            <d:responserequested
b:dt="boolean">1</d:responserequested>
            <a:supportedlock>
                <lockentry xmlns="DAV:">
                    <locktype>
                        <transaction>
                            <groupoperation />
                        </transaction>
                    </locktype>
                    <lockscope>
                        <local />
                    </lockscope>
                </lockentry>
            </a:supportedlock>
            <d:bustatus>BUSY</d:bustatus>
            <f:permanenturl>https://SERVER01/exchange/local/-
FlatUrlSpace-/1c5a707ee8157a47bfce2b746a3dba25-
12c2720/878040245f8fd545a99a34a3d65eae4b-12c0402</f:permanenturl>
            <a:getcontenttype>message/rfc822</a:getcontenttype>
            <a:id>AQEAAAABLCCgBAAAAEsBAIAAAAA</a:id>
            <f:mid b:dt="i8">145289470789287940</f:mid>

<d:uid>040000008200E00074C5B7101A82E00800000000F0F4EF794E1AC90100000
0000000000010000000AF06C474E22DE94DAC2E6AF0E8AC2EA0</d:uid>
            <a:isfolder b:dt="boolean">0</a:isfolder>
            <a:resourcetype />
            <d:method>REQUEST</d:method>

```



```

<a:getetag>"1c5a707ee8157a47bfce2b746a3dba250000012c30a9"</a:getetag
>
    <lockdiscovery xmlns="DAV:">
    </lockdiscovery>

<f:outlookmessageclass>IPM.Appointment</f:outlookmessageclass>
    <a:creationdate b:dt="dateTime.tz">2008-09-
19T18:54:29.169Z</a:creationdate>
    <f:ntsecuritydescriptor
b:dt="bin.base64">CAAEAAAAAAAAABAC+MMAAAAEwAAAAAAAAAFAAAAIAHAAABAAAAAR
AUAL8PHwABAQAAAAABQcAAAABBQAAAAABRUAAAD0l0oajmNmy/EPr4pXBAAAAQUAAA
AAAAUVAAAA9JdKGo5jZsvxD6+KAQIAAA==</f:ntsecuritydescriptor>
    <d:lastmodified b:dt="dateTime.tz">2008-09-
19T18:54:29.169Z</d:lastmodified>
    <d:dtstart b:dt="dateTime.tz">2008-09-
20T17:00:00.000Z</d:dtstart>
    <d:location>
    </d:location>
    <j:subject>Sat Appt</j:subject>
    <d:duration b:dt="int">3600</d:duration>
    <e:htmldescription>&lt;!DOCTYPE HTML PUBLIC "-
//W3C//DTD HTML 3.2//EN">&lt; &lt;HTML&lt; &lt;HEAD&lt; &lt;META
NAME="Generator" CONTENT="MS Exchange Server version
08.01.0240.003">&lt; &lt;TITLE&lt;Sat Appt&lt;/TITLE&lt;
&lt;/HEAD&lt; &lt;BODY&lt; &lt;!-- Converted from text/rtf format --
&lt; &lt;P DIR=LTR&lt;&lt;SPAN LANG="en-
us"&lt;&lt;/SPAN&lt;&lt;/P&lt; &lt;/BODY&lt;
&lt;/HTML&lt;</e:htmldescription>
    <a:ishidden b:dt="boolean">0</a:ishidden>

<a:parentname>https://SERVER01/exchange/local/Calendar/</a:parentnam
e>
    <d:meetingstatus>TENTATIVE</d:meetingstatus>
    <e:subject>Sat Appt</e:subject>
    <a:getcontentlength
b:dt="int">6348</a:getcontentlength>
    <e:normalizedsubject>Sat Appt</e:normalizedsubject>
    <a:isstructureddocument
b:dt="boolean">0</a:isstructureddocument>
    <k:repl-
uid>rid:878040245f8fd545a99a34a3d65eae4b0000012c0402</k:repl-uid>
    <d:reminderoffset b:dt="int">900</d:reminderoffset>
    <a:displayname>Sat Appt.EML</a:displayname>

<a:href>https://SERVER01/exchange/local/Calendar/Sat%20Appt.EML</a:h
ref>
    <a:isreadonly b:dt="boolean">0</a:isreadonly>
    <d:instancetype b:dt="int">0</d:instancetype>
    <a:uid>AQQAAAABLAQCAAAAAAAAAAAAAAAA</a:uid>
    <a:getlastmodified b:dt="dateTime.tz">2008-09-
19T18:54:29.169Z</a:getlastmodified>
    <d:created b:dt="dateTime.tz">2008-09-
19T18:54:29.169Z</d:created>

```

```

        <f:sensitivity b:dt="int">0</f:sensitivity>
        <d:dtend b:dt="dateTime.tz">2008-09-
20T18:00:00.000Z</d:dtend>
        <e:hasattachment b:dt="boolean">0</e:hasattachment>
        <a:iscollection b:dt="boolean">0</a:iscollection>
        <e:read b:dt="boolean">1</e:read>

<k:resourcetag>rt:878040245f8fd545a99a34a3d65eae4b0000012c04021c5a70
7ee8157a47bfce2b746a3dba250000012c30a9</k:resourcetag>
        <e:priority b:dt="int">0</e:priority>
        <d:sequence b:dt="int">0</d:sequence>
    </a:prop>
</a:propstat>
</a:response>
<!--The following is the information for the Friday -->
<!--appointment-->
    <a:response>

<a:href>https://SERVER01/exchange/local/Calendar/Friday%20Appt.EML</
a:href>
    <a:propstat>
        <a:status>HTTP/1.1 200 OK</a:status>
        <a:prop>
            <d:alldayevent b:dt="boolean">0</d:alldayevent>
            <e:textdescription>
            </e:textdescription>
            <a:contentclass>urn:content-
classes:appointment</a:contentclass>
            <d:responserequested
b:dt="boolean">1</d:responserequested>
            <a:supportedlock>
                <lockentry xmlns="DAV:">
                    <locktype>
                        <transaction>
                            <groupoperation />
                        </transaction>
                    </locktype>
                    <lockscope>
                        <local />
                    </lockscope>
                </lockentry>
            </a:supportedlock>
            <d:bustatus>BUSY</d:bustatus>
            <f:permanenturl>https://SERVER01/exchange/local/-
FlatUrlSpace-/1c5a707ee8157a47bfce2b746a3dba25-
12c2720/878040245f8fd545a99a34a3d65eae4b-12c0401</f:permanenturl>
            <a:getcontenttype>message/rfc822</a:getcontenttype>
            <a:id>AQEAAAABLCCgBAAAAAEsBAEAAAAA</a:id>
            <f:mid b:dt="i8">73231876751360004</f:mid>

<d:uid>040000008200E00074C5B7101A82E00800000000C0533E754E1AC9010000
000000000010000000B7AB7A2E2A04F94F8B71655A3762DEEC</d:uid>
            <a:isfolder b:dt="boolean">0</a:isfolder>
            <a:resourcetype />

```

```

<d:method>REQUEST</d:method>

<a:getetag>"1c5a707ee8157a47bfce2b746a3dba25000012c30a5"</a:getetag
>
    <lockdiscovery xmlns="DAV:">
    </lockdiscovery>

<f:outlookmessageclass>IPM.Appointment</f:outlookmessageclass>
    <a:creationdate b:dt="dateTime.tz">2008-09-
19T18:54:15.997Z</a:creationdate>
    <f:ntsecuritydescriptor
b:dt="bin.base64">CAAEAAAAAAAAABAC+MMAAAAEwAAAAAAAAAFAAAAIAHAABAAAAAR
AUAL8PHwABAQAAAAABQcAAAAABQAAAAABRUAAAD010oajmNmy/EPr4pXBAAAAQUAAA
AAAAUVAAAA9JdKGo5jZsvxD6+KAQIAAA==</f:ntsecuritydescriptor>
    <d:lastmodified b:dt="dateTime.tz">2008-09-
19T18:54:15.997Z</d:lastmodified>
    <d:dtstart b:dt="dateTime.tz">2008-09-
19T22:00:00.000Z</d:dtstart>
    <d:location>
    </d:location>
    <j:subject>Friday Appt</j:subject>
    <d:duration b:dt="int">3600</d:duration>
    <e:htmldescription>&lt;!DOCTYPE HTML PUBLIC "-
//W3C//DTD HTML 3.2//EN">&lt; &lt;HTML&lt; &lt;HEAD&lt; &lt;META
NAME="Generator" CONTENT="MS Exchange Server version
08.01.0240.003">&lt; &lt;TITLE&lt;Friday Appt&lt;/TITLE&lt;
&lt;/HEAD&lt; &lt;BODY&lt; &lt;!- Converted from text/rtf format --
&lt; &lt;P DIR=LTR&lt;&lt;SPAN LANG="en-
us"&lt;&lt;/SPAN&lt;&lt;/P&lt; &lt;/BODY&lt;
&lt;/HTML&lt;</e:htmldescription>
    <a:ishidden b:dt="boolean">0</a:ishidden>

<a:parentname>https://SERVER01/exchange/local/Calendar/</a:parentnam
e>
    <d:meetingstatus>TENTATIVE</d:meetingstatus>
    <e:subject>Friday Appt</e:subject>
    <a:getcontentlength
b:dt="int">6351</a:getcontentlength>
    <e:normalizedsubject>Friday
Appt</e:normalizedsubject>
    <a:isstructureddocument
b:dt="boolean">0</a:isstructureddocument>
    <k:repl-
uid>rid:878040245f8fd545a99a34a3d65eae4b0000012c0401</k:repl-uid>
    <d:reminderoffset b:dt="int">900</d:reminderoffset>
    <a:displayname>Friday Appt.EML</a:displayname>

<a:href>https://SERVER01/exchange/local/Calendar/Friday%20Appt.EML</
a:href>
    <a:isreadonly b:dt="boolean">0</a:isreadonly>
    <d:instancetype b:dt="int">0</d:instancetype>
    <a:uid>AQQAAAABLAQBAAAAAAAAAAAAAAAAA</a:uid>
    <a:getlastmodified b:dt="dateTime.tz">2008-09-
19T18:54:15.997Z</a:getlastmodified>

```

```

        <d:created b:dt="dateTime.tz">2008-09-
19T18:54:15.997Z</d:created>
        <f:sensitivity b:dt="int">0</f:sensitivity>
        <d:dtend b:dt="dateTime.tz">2008-09-
19T23:00:00.000Z</d:dtend>
        <e:hasattachment b:dt="boolean">0</e:hasattachment>
        <a:iscollection b:dt="boolean">0</a:iscollection>
        <e:read b:dt="boolean">1</e:read>

<k:resourcetag>rt:878040245f8fd545a99a34a3d65eae4b0000012c04011c5a70
7ee8157a47bfce2b746a3dba250000012c30a5</k:resourcetag>
        <e:priority b:dt="int">0</e:priority>
        <d:sequence b:dt="int">0</d:sequence>
        </a:prop>
    </a:propstat>
</a:response>
</a:multistatus>

```

4.3 Retrieve the contents of an appointment

4.3.1 Request

In the following example, the client uses the **GET** method to retrieve the contents of a single **appointment** returned in the **SEARCH** response, `/exchange/local/Calendar/Recurring%20Monday%20Appt.EML`.

```

GET /exchange/local/Calendar/Recurring%20Monday%20Appt.EML HTTP/1.1
Translate: f

```

4.3.2 Response

The response is returned as a set of properties providing the properties set on the **Calendar object**.

```

HTTP/1.1 200 OK
Content-Length: 2930
Content-Type: message/rfc822
Last-Modified: Fri, 19 Sep 2008 18:54:34 GMT
Accept-Ranges: bytes
ETag: "1c5a707ee8157a47bfce2b746a3dba250000012c30ab"
Server: Microsoft-IIS/7.0
ResourceTag:
<rt:878040245f8fd545a99a34a3d65eae4b0000012c04031c5a707ee8157a47bfce
2b746a3dba250000012c30ab>
MS-WebStorage: 08.01.10240
X-Powered-By: ASP.NET
Date: Fri, 19 Sep 2008 22:08:49 GMT

Received: by SERVER01.contoso.com
        id <01C91A89.2ECD2D90@SERVER01.contoso.com>; Fri, 19 Sep 2008
11:54:45 -0700
Content-class: urn:content-classes:appointment
Subject: Recurring Monday Appt

```

Date: Fri, 19 Sep 2008 11:54:45 -0700
Message-ID:
<878040245F8FD545A99A34A3D65EAE4B012C0403@SERVER01.contoso.com>
MIME-Version: 1.0
Content-Type: multipart/alternative;
 boundary="----_=_NextPart_001_01C91A89.2ECD2D90"
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: Recurring Monday Appt
Thread-Index: AckaiS7NHD0URXe6QTuC5WF9VAcG+g==
X-MimeOLE: Produced By Microsoft Exchange V8.1
From: "Brian Perry" <brian@contoso.com>

This is a multi-part message in MIME format.

-----_=_NextPart_001_01C91A89.2ECD2D90
Content-Type: text/html;
 charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2//EN">
<HTML>
<HEAD>
<META HTTP-EQUIV=3D"Content-Type" CONTENT=3D"text/html; =
charset=3Diso-8859-1">
<META NAME=3D"Generator" CONTENT=3D"MS Exchange Server version =
08.01.0240.003">
<TITLE>Recurring Monday Appt</TITLE>
</HEAD>
<BODY>
<!-- Converted from text/rtf format -->

<P DIR=3DLTR></P>

</BODY>
</HTML>
-----_=_NextPart_001_01C91A89.2ECD2D90
Content-class: urn:content-classes:appointment
Content-Type: text/calendar;
 method=REQUEST;
 charset="utf-8"
Content-Transfer-Encoding: 8bit

BEGIN:VCALENDAR
METHOD:REQUEST
PRODID:Microsoft CDO for Microsoft Exchange
VERSION:2.0
BEGIN:VTIMEZONE
TZID:GMT -0800 (Standard) / GMT -0700 (Daylight)
BEGIN:STANDARD
DTSTART:16010101T020000
TZOFFSETFROM:-0700
TZOFFSETTO:-0800
RRULE:FREQ=YEARLY;WKST=MO;INTERVAL=1;BYMONTH=11;BYDAY=1SU

```

END:STANDARD
BEGIN:DAYLIGHT
DTSTART:16010101T020000
TZOFFSETFROM:-0800
TZOFFSETTO:-0700
RRULE:FREQ=YEARLY;WKST=MO;INTERVAL=1;BYMONTH=3;BYDAY=2SU
END:DAYLIGHT
END:VTIMEZONE
BEGIN:VEVENT
DTSTAMP:20080919T220849Z
DTSTART;TZID="GMT -0800 (Standard) / GMT -0700
(Daylight)":20080922T100000
SUMMARY:Recurring Monday Appt
UID:040000008200E00074C5B7101A82E0080000000090556E824E1AC90100000000
0000000
0100000001267AC06562E3A4EBA4627A617D09DE3
ORGANIZER;CN="Brian Perry":MAILTO:brian@contoso.com
LOCATION:
DTEND;TZID="GMT -0800 (Standard) / GMT -0700
(Daylight)":20080922T110000
RRULE:FREQ=WEEKLY;INTERVAL=1;BYDAY=MO;WKST=SU
DESCRIPTION:\N
SEQUENCE:0
PRIORITY:5
CLASS:
CREATED:20080919T185434Z
LAST-MODIFIED:20080919T185434Z
STATUS:TENTATIVE
TRANSP:OPAQUE
X-MICROSOFT-CDO-BUSYSTATUS:BUSY
X-MICROSOFT-CDO-INSTTYPE:1
X-MICROSOFT-CDO-INTENDEDSTATUS:BUSY
X-MICROSOFT-CDO-ALLDAYEVENT:FALSE
X-MICROSOFT-CDO-IMPORTANCE:1
X-MICROSOFT-CDO-OWNERAPPTID:-1
X-MICROSOFT-CDO-APPT-SEQUENCE:0
X-MICROSOFT-CDO-ATTENDEE-CRITICAL-CHANGE:20080919T185434Z
BEGIN:VALARM
ACTION:DISPLAY
DESCRIPTION:REMINDER
TRIGGER;RELATED=START:-PT00H15M00S
END:VALARM
END:VEVENT
END:VCALENDAR

-----_=_NextPart_001_01C91A89.2ECD2D90--

```

4.4 *Changing an appointment property value*

4.4.1 Request

In the following example, the client uses the **PROPPATCH** method to change the properties on a **Calendar object** returned by the **GET** method in section 4.4.2.

```
PROPPATCH /exchange/local/Calendar/Recurring%20Monday%20Appt.EML
HTTP/1.1
Content-type: text/xml
```

```
<?xml version="1.0"?>
<a:propertyupdate xmlns:a="DAV:" xmlns:c="urn:schemas:calendar:"
xmlns:ct="urn:schemas:contacts:"
xmlns:r="http://schemas.microsoft.com/repl/"
xmlns:ex="http://schemas.microsoft.com/exchange/"
xmlns:o="urn:schemas-microsoft-com:office:office"
xmlns:m="urn:schemas:httpmail:" xmlns:h="urn:schemas:mailheader:"
xmlns:dt="urn:uuid:c2f41010-65b3-11d1-a29f-00aa00c14882/">
  <a:set>
    <a:prop>
      <c:bustatus>FREE</c:bustatus>
    </a:prop>
  </a:set>
</a:propertyupdate>
```

4.4.2 Response

The response contains the status of the update, and confirmation of the property updated.

```
HTTP/1.1 207 Multi-Status
Cache-Control: no-cache
Content-Length: 300
Content-Type: text/xml
Server: Microsoft-IIS/7.0
MS-Exchange-Permanent-URL: https://SERVER01/exchange/local/-
FlatUrlSpace-/1c5a707ee8157a47bfce2b746a3dba25-
12c2720/878040245f8fd545a99a34a3d65eae4b-12c0403
Repl-UID: <rid:878040245f8fd545a99a34a3d65eae4b0000012c0403>
ResourceTag:
<rt:878040245f8fd545a99a34a3d65eae4b0000012c04031c5a707ee8157a47bfce
2b746a3dba250000012c39c4>
MS-WebStorage: 08.01.10240
X-Powered-By: ASP.NET
Date: Fri, 19 Sep 2008 22:11:12 GMT
```

```
<?xml version="1.0"?>
<a:multistatus xmlns:b="urn:schemas:calendar:" xmlns:a="DAV:">
  <a:response>

<a:href>https://SERVER01/exchange/local/Calendar/Recurring%20Monday%
20Appt.EML</a:href>
  <a:propstat>
    <a:status>HTTP/1.1 200 OK</a:status>
    <a:prop>
      <b:bustatus />
    </a:prop>
  </a:propstat>
</a:response>
</a:multistatus>
```

4.5 Free/Busy Query

4.5.1 Request

The following code shows an example **GET** method request using a URL that includes the range for the request.

```
GET /public/MAPITLH/non_ipm_subtree/SCHEDULE+ FREEBUSY/EX:/o=  
<example>/ou=<houston>/USER-/<lisal>?start1999-01-05&end=1999-01-08  
Host: mysvr  
Connection: close
```

The request can include a start and end time for the period over which it wants to see free/busy information. This is appended to the end of the **URL** in the format: “?start=” *start_date* “&end=” *end_date*, where *start_date* and *end_date* are expressed in [ISO-8601] format. The end-date is inclusive, so if the start-date and the end-date are the same, the response will include one day. If the end-date is before the start-date, return an error (400 Bad Request).

4.5.2 Response

The following XML code shows the response to the **GET** method with the calendar namespace as the default. The time properties are specified in [ISO-8601], in GMT.

```
<vfreebusy xmlns="urn:schemas:calendar:">  
  <freebusyresp href="http://example.com/busy/jp_01.vcs">  
    <attendee>MAILTO:john@example.com</attendee>  
    <dtstamp>1997:09:01T10:00</dtstamp>  
    <uid>19970901T0830000-uid1@example.com</uid>  
    <freebusy>  
      <fbitem>  
        <dtstart>1997-10-15T05:00:00</dtstart>  
        <dtend>1997-10-15T06:00:00</dtend>  
        <bustatus>TENTATIVE</bustatus>  
      </fbitem>  
      <fbitem>  
        <dtstart>1997-10-15T16:00:00</dtstart>  
        <duration>1997-10-15T17:00:00</duration>  
      </fbitem>  
      <fbitem>  
        <dtstart>1997-10-15T22:00:00</dtstart>  
        <duration>PT6H30M</duration>  
      </fbitem>  
    </freebusy>  
  </freebusyresp>  
  <comment>DCD:dt="string">This iCalendar file contains busy  
time information for the next three months.</comment>  
</vfreebusy>
```

The **dtstamp** property specifies the datetime that an iCalendar object was created. In this example, it contains the last-modified information for the free-busy data.

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

6 Appendix A: Office/Exchange Behavior

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

- Microsoft Office Outlook 2003
- Microsoft Exchange Server 2003
- Microsoft Office Outlook 2007
- Microsoft Exchange Server 2007

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

<1>Section 2.2.2.3: Microsoft Exchange Server 2007 and Microsoft Exchange Server 2003 publish the free/busy information for a user's calendar in the directory attribute **ms-Exch-FB-URL**.

<2> Multiple Sections: This property can be set on **Calendar** objects for backward compatibility with earlier clients. However, this property is not used by Microsoft Office Outlook 2003, Microsoft Office Outlook 2007, Microsoft Exchange Server 2003, or Microsoft Exchange Server 2007.

<3> Section 3.1.1.2: For Microsoft Exchange Server 2007 and Microsoft Exchange Server 2003, this attribute is **ms-Exch-FB-URL**.

<4> Section 3.1.5.1.2: The Microsoft Office Outlook 2007 display of free/busy information contains a start time, an end-time, and a granularity of view. Granularity is not supported by **WebDAV** and a default interval of 5 minutes is used.

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