

[MS-STANXICAL]: Exchange iCalendar Standards Compliance - RFC 2445, 2446, 2447

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Revision Summary			
Author	Date	Version	Comments
Microsoft Corporation	October 1, 2008	1.0	Initial Release.

Product: Exchange Server 2007
Version: SP1 (Latest Rollup)
Component: iCalendar
Standards: [RFC2445], [RFC2446], [RFC2447]

1 Overview

This document specifies the level of support provided by the Exchange iCalendar component for the Internet iCalendar Protocol (iCalendar), the iCalendar Transport-Independent Interoperability Protocol (iTIP), and the iCalendar Message-Based Interoperability Protocol (iMIP). The Exchange iCalendar component is used by clients that implement the iCalendar, iTIP, and iMIP protocols to store and retrieve calendar data on the server.

2 Support Details

The use of the words “Required,” “Recommended,” and “Optional” in the titles of the sections below are to be interpreted as described in RFC 2119.

2.1 *Required Portions*

2.1.1 [RFC2445] Required Portions

The Exchange iCalendar component implements all required portions of [RFC2445].

2.1.2 [RFC2446] Required Portions

The Exchange iCalendar component implements all required portions of [RFC2446].

2.1.3 [RFC2447] Required Portions

The Exchange iCalendar component implements all required portions of [RFC2447].

2.2 *Recommended Portions*

2.2.1 [RFC2445] Recommended Portions

The Exchange iCalendar component implements all recommended portions of [RFC2445].

2.2.2 [RFC2446] Recommended Portions

The Exchange iCalendar component implements all recommended portions of [RFC2446].

2.2.3 [RFC2447] Recommended Portions

The Exchange iCalendar component implements all recommended portions of [RFC2447].

2.3 *Optional Portions*

2.3.1 [RFC2445] Optional Portions

The Exchange iCalendar component implements all optional portions of [RFC2445], except for deviations shown in the following subsections.

2.3.1.1 RFC Section: 4.2.1. Alternate Text Representation

The ALTREP parameter is supported only for LOCATION and CONTACT properties. ALTREP is ignored in all other properties.

2.3.1.2 RFC Section: 4.2.3. Calendar User Type

Exchange deviates from CUTYPE by supporting a different set of attendee types: "required," "optional," and "resource." On inbound, Exchange maps CUTYPES "RESOURCE" or "ROOM" to the Exchange "resource" type. Exchange does not do the reverse mapping on outbound conversion.

2.3.1.3 RFC Section: 4.2.4. Delegators

The *DELEGATED-FROM* parameter is not supported.

2.3.1.4 RFC Section: 4.2.5. Delegates

The *DELEGATED-TO* parameter is not supported.

2.3.1.5 RFC Section: 4.2.6. Directory Entry Reference

The *DIR* parameter is not supported.

2.3.1.6 RFC Section: 4.2.7. Inline Encoding

The *ENCODING* parameter is not supported.

2.3.1.7 RFC Section: 4.2.8. Format Type

The *FMTYPE* parameter is not supported.

2.3.1.8 RFC Section: 4.2.9. Free/Busy Time Type

The *FBTYPE* parameter is not supported.

2.3.1.9 RFC Section: 4.2.10. Language

The *LANGUAGE* parameter is not supported.

2.3.1.10 RFC Section: 4.2.11. Group or List Membership

The *MEMBER* parameter is not supported.

2.3.1.11 RFC Section: 4.2.12. Participation Status

In the *PARTSTAT* parameter, Exchange supports NEEDS-ACTION, ACCEPTED, TENTATIVE, and DECLINED. Exchange does not support DELEGATED, COMPLETED or IN-PROCESS. Non supported values are lost.

2.3.1.12 RFC Section: 4.2.13. Recurrence Identifier Range

The *RANGE* parameter is not supported.

2.3.1.13 RFC Section: 4.2.14. Alarm Trigger Relationship

The *RELATED* parameter is not supported.

2.3.1.14 RFC Section: 4.2.15. Relationship Type

The *RELTYPE* parameter is not supported.

2.3.1.15 RFC Section: 4.2.16. Participation Role

The *ROLE* parameter value of "CHAIR" is not supported. *ROLE* values of REQ-PARTICIPANT, OPT-PARTICIPANT, and NON-PARTICIPANT are supported.

2.3.1.16 RFC Section: 4.2.17. RSVP Expectation

The *RSVP* parameter is supported on a per-message basis, not per-recipient.

2.3.1.17 RFC Section: 4.2.18. Sent By

The *SEND-BY* parameter is supported for the organizer only.

2.3.1.18 RFC Section: 4.2.13. Recurrence Identifier Range

The *RANGE* parameter MUST NOT be present.

2.3.1.19 RFC Section: 4.3.5. Date-Time

The DATE-TIME type is not supported for floating time ("DATE WITH LOCAL TIME"). Exchange binds floating times to the time zone of the event's start time.

2.3.1.20 RFC Section: 4.3.10. Recurrence Rule

The RECUR value type uses keywords. Keywords that deviate from the protocol are presented in the following table.

Keyword	Deviation
BYEARDAY	MUST NOT be present.
BYWEEKNO	MUST NOT be present.
seconds	Must be set to "0".
weekdaynum	When repeated in a BYDAY list, ordwk MUST NOT be present.
yeardaynum	MUST be a positive number or "-1".
SECONDLY	MUST NOT be present.
MINUTELY	MUST NOT be present.
HOURLY	MUST NOT be present.
DAILY	BYMONTH, BYMONTHDAY, and BYSETPOS MUST NOT be present for DAILY recurrences.
WEEKLY	BYMONTH, BYMONTHDAY, and BYSETPOS MUST NOT be present for WEEKLY recurrences. If BYDAY is present, and BYDAY has repeated values, then day values (such as MO, TU, etc.) MUST NOT have ordwk.
MONTHLY	BYMONTH MUST NOT be present for MONTHLY recurrences. If BYDAY is present, then: <ul style="list-style-type: none"> • If BYDAY has repeated values, then day values (MO, TU, etc) MUST NOT have ordwk. • BYMONTHDAY MUST NOT be present. • weekdaynum MUST have an ordwk or BYSETPOS, but not both. • BYSETPOS, if present, MUST be one of {-1, 1, 2, 3, 4}.
YEARLY	If BYDAY is present, then BYMONTHDAY MUST NOT be present, and weekdaynum MUST have ordwk or BYSETPOS, but not both.

2.3.1.21 RFC Section: 4.6.1. Event Component

In the event component, VEVENT, the following optional eventprops deviate from the standard in the following ways:

- attach is partially supported. This property is generated in outbound iCalendar objects, but it is not promoted from inbound received messages.
- exrule MUST NOT be present.
- rdate MUST NOT be present.
- rrule MUST NOT occur more than one time

2.3.1.22 RFC Section: 4.6.2. To-do Component

The to-do component, VTODO, is not supported.

2.3.1.23 RFC Section: 4.6.3. Journal Component

The journal component, VJOURNAL, is not supported.

2.3.1.24 RFC Section: 4.6.4. Free/Busy Component

The free/busy component, VFREEBUSY, is not supported.

2.3.1.25 RFC Section: 4.6.5. Time Zone Component

The time zone component, VTIMEZONE, deviates from the standard in the following ways:

- standardc MUST occur exactly once.
- daylightc MUST occur once or not at all.
- rdate is not supported and is ignored.
- rrule MUST occur once or not at all.

2.3.1.26 RFC Section: 4.6.6. Alarm Component

The alarm component, VALARM, deviates from the standard in the following ways:

- The audioprop values of action, duration, repeat, and attach are ignored.
- The dispprop values of action, description, duration, and repeat are ignored.
- The emailprop values of action, description, summary, attendee, duration, repeat, and attach are ignored.
- The propprop values of action, attach, duration, and repeat are ignored.

2.3.1.27 RFC Section: 4.8.1.1. Attachment

The descriptive component property name, ATTACH, is partially supported; its value is ignored during the inbound content conversion, but it is generated during the outbound content conversion.

2.3.1.28 RFC Section: 4.8.1.6. Geographic Position

The GEO property is not supported.

2.3.1.29 RFC Section: 4.8.1.7. Location

The LOCATION property is supported with the deviation that the value's maximum length is 255 characters.

2.3.1.30 RFC Section: 4.8.1.8. Percent Complete

The **PERCENT-COMPLETE** property is not supported.

2.3.1.31 RFC Section: 4.8.1.12. Summary

The **SUMMARY** property is supported with the deviation that the value's maximum length is 255 characters.

2.3.1.32 RFC Section: 4.8.2.1. Date/Time Completed

The **COMPLETED** property is not supported.

2.3.1.33 RFC Section: 4.8.2.3. Date/Time Due

The **DUE** property is not supported.

2.3.1.34 RFC Section: 4.8.2.6. Free/Busy Time

The **FREEBUSY** property is not supported.

2.3.1.35 RFC Section: 4.8.3.2. Time Zone Name

The **TZNAME** property is not supported.

2.3.1.36 RFC Section: 4.8.3.5. Time Zone URL

The **TZURL** property is not supported.

2.3.1.37 RFC Section: 4.8.4.3. Organizer

The relationship component property name, **ORGANIZER**, is included in an iCalendar object that defines calendar entities that are not group scheduled entities, but are entities only on a single user's calendar.

2.3.1.38 RFC Section: 4.8.4.5. Related To

The **RELATED-TO** property is not supported.

2.3.1.39 RFC Section: 4.8.4.6. Uniform Resource Locator

The **URL** property is not supported.

2.3.1.40 RFC Section: 4.8.5.2. Exception Rule

The recurrence component property name, **EXRULE**, **MUST NOT** be present.

2.3.1.41 RFC Section: 4.8.5.3. Recurrent Date/Times

The recurrence component property name, **RDATE**, MUST NOT be present.

2.3.1.42 RFC Section: 4.8.6.1. Action

The alarm component property name, **ACTION**, is ignored.

2.3.1.43 RFC Section: 4.8.6.2. Repeat Count

The alarm component property name, **REPEAT**, is ignored.

2.3.1.44 RFC Section: 4.8.6.3. Trigger

The **TRIGGER** property is always relative to the start of a calendar item. **TRIGGER** can be rescheduled but not repeated.

2.3.1.45 RFC Section: 4.8.7.1. Date/Time Created

The **CREATED** property is not supported.

2.3.1.46 RFC Section: 4.8.7.3. Last Modified

The **LAST-MODIFIED** property is not supported.

2.3.1.47 RFC Section: 4.8.8.2. Request Status

The **REQUEST-STATUS** property is not supported.

2.3.2 [RFC2446] Optional Portions

The Exchange iCalendar component implements all optional portions of [RFC2446], except for deviations shown in the following subsections.

2.3.2.1 RFC Section: 3.2.1. PUBLISH

The **PUBLISH** method deviates from the standard in the following ways:

- Client logic doesn't provide a way to publish appointments via email: Inbound is treated as a **REQUEST**; Outbound is used only for attached calendar items.
- There is no support for more than one **VEVENT** in a single iCalendar document. Modified exceptions to a recurring series are supported by sending multiple messages.
- The **CONTACT** property is partially supported; email addresses and URLs are promoted inbound.

2.3.2.2 RFC Section: 3.2.2. REQUEST

Multiple **VEVENT**s are not supported for single instance events.

2.3.2.3 RFC Section: 3.2.2.1. Rescheduling an Event

Multiple VEVENTs are not supported for single instance events.

2.3.2.4 RFC Section: 3.2.2.2. Updating or Reconfirmation of an Event.

Multiple VEVENTs are not supported for single instance events.

2.3.2.5 RFC Section: 3.2.2.3. Delegating an Event to another CU

Delegating the role of attendee to another calendar user (CU) is not supported.

2.3.2.6 RFC Section: 3.2.2.4. Changing the Organizer

Changing the role of Organizer to another CU is not supported.

2.3.2.7 RFC Section: 3.2.2.5 Sending on Behalf of the Organizer

The delegation of organizer is supported, but not by using the *sent-by* parameter; rather, the MIM from/sender headers are used to indicate delegation.

2.3.2.8 RFC Section: 3.2.2.6. Forwarding to An Uninvited CU

The organizer who receives notification of a forwarded request does not have the option to decline to add the uninvited CU.

2.3.2.9 RFC Section: 3.2.2.7. Updating Attendee Status

A request to update attendee status is not supported.

2.3.2.10 RFC Section: 3.2.3. REPLY

The **REPLY** method deviates from the standard in the following ways:

- Delegation response is not supported.
- Accepting/rejecting uninvited attendees is not supported.

2.3.2.11 RFC Section: 3.2.4. ADD

The **ADD** method is not supported.

2.3.2.12 RFC Section: 3.2.5. CANCEL

The **CANCEL** method deviates from the standard in the following ways:

- Cancellation by RANGE is not supported.
- Multiple VEVENTs are not supported for single instance events.

2.3.2.13 RFC Section: 3.2.6. REFRESH

The **REFRESH** method is not supported.

2.3.2.14 RFC Section: 3.2.7. COUNTER

The **COUNTER** method deviates from the standard in the following ways:

- Only **DTSTART**, **DTEND**, and **DESCRIPTION** or **COMMENT** are promoted to the counterproposal.
- Changes to other properties are ignored.

2.3.2.15 RFC Section: 3.2.8. DECLINECOUNTER

The **DECLINECOUNTER** method is not supported.

2.3.2.16 RFC Section: 3.3. Methods for VFREEBUSY Components

VFREEBUSY components are not supported.

2.3.2.17 RFC Section: 3.4. Methods for VTODO Components

VTODO components are not supported.

2.3.2.18 RFC Section: 3.5. Methods for VJOURNAL Components

VJOURNAL components are not supported.

2.3.2.19 RFC Section: 3.6. Status Replies

Status replies and the **REQUEST-STATUS** property are not supported..

2.3.3 [RFC2447] Optional Portions

The Exchange iCalendar component implements all optional portions of [RFC2447], except for deviations shown in the following subsections.

2.3.3.1 RFC Section: 2.1. MIME MEDIA TYPE

- Calendar data may be transported in an application/MS-tnef body part.
- Formatted text is transported in a text/html body part.

2.3.3.2 RFC Section: 2.2.1. Authorization

- The organizer and organizers delegate can modify or cancel entries on the organizer's calendar.
- The iCal organizer, attendee, or sent-by data in the iCal document are not matched to the sender.

2.3.3.3 RFC Section: 2.2.2. Authentication

The use of signed messages, as specified in RFC 1847, is not supported.

2.3.3.4 RFC Section: 2.2.3 Confidentiality

The use of encrypted messages, as specified in RFC 1847, is not supported.

2.3.3.5 RFC Section: 2.4. CONTENT TYPE

The optional *component* parameter is not written to the text/calendar content-type header.

2.3.3.6 RFC Section: 2.5. CONTENT-TRANSFER-ENCODING

The default character set and content-transfer-encoding used for text/calendar body parts are utf-8 and base64, respectively.

2.3.3.7 RFC Section: 2.6. CONTENT-DISPOSITION

A content-disposition header MAY be added to text/calendar body parts..

2.3.3.8 RFC Section: 3. SECURITY CONSIDERATIONS

The use of RFC 1847 to authenticate senders of calendar messages is not supported.

3 Extensions

iCalendar component extensions to RFC 2445, RFC 2446, and RFC 2447 are as specified in [MS-OXICAL].

4 Related Standards

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

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

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

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

[MS-OXOMSG] Microsoft Corporation, "E-mail Object Protocol Specification", June 2008.

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

[RFC2445] Dawson, F. and Stenerson, D., "Internet Calendaring and Scheduling Core Object Specification (iCalendar)", RFC 2445, November 1998, <http://www.ietf.org/rfc/rfc2445.txt>.

[RFC2446] Dawson, F., Hopson, R., Mansour, S., and Silverberg, S., "iCalendar Transport-Independent Interoperability Protocol (iTIP)", RFC 2446, November 1998, <http://www.ietf.org/rfc/rfc2446.txt>.

[RFC2447] Dawson, F., Mansour, S., and Silverberg, S., "iCalendar Message-Based Interoperability Protocol (iMIP)", RFC 2447, November 1998, <http://www.ietf.org/rfc/rfc2447.txt>.