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iCalendar Format Extensions for JSCalendar
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Abstract

This document defines a set of new elements for iCalendar and extends the use of existing ones. Their main purpose is to extend the semantics of iCalendar with elements defined in JSCalendar, but the new definitions also aim to be useful within just the iCalendar format. This document updates RFC 5545 ("Internet Calendaring and Scheduling Core Object Specification (iCalendar)").

Table of Contents

1. Introduction

The JSCalendar [I-D.stepanek-jscalendarbis] format aims to be an alternative to the iCalendar [RFC5545] format for representation of calendaring data. As such, it introduces new semantics that are not covered in the current definition of iCalendar and its various extensions. Converting calendaring data between the two formats is defined in [I-D.ietf-calext-jscalendar-icalendar] with the goal of not losing any semantics during conversion. To achieve this, this document defines new elements iCalendar and extends existing definitions. Doing so, it follows the recommendations for introducing new iCalendar elements as specified in Section 3 of [RFC7986].

1.1. Notational Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

1.2. ABNF Notations

The ABNF definitions in this document use the notations of [RFC5234]. ABNF rules not defined in this document are defined in either [RFC5234] (such as the ABNF for CRLF, WSP, DQUOTE, VCHAR, ALPHA, and DIGIT) or [RFC5545].

2. Updated Properties

2.1. GEO Property

This specification deprecates the "GEO" property and introduces the "COORDINATES" (Section 4.1) property to replace it. Implementations SHOULD NOT use the "GEO" property to represent spatial coordinates. Instead, they SHOULD specify the "COORDINATES" property in a "VLOCATION" component [RFC9073] (Section 7.2). They MAY additionally specify a "GEO" property in a "VEVENT" or "VTODO" component, in which case its "DERIVED" parameter [RFC9073] (Section 5.3) MUST have value "TRUE".

The remainder of this section documents the rationale for deprecating the "GEO" property:

The "GEO" property definition dates back to 1998, a time at which multiple internet protocols and data formats incorporated spatial coordinates in slightly different formats, making interoperability difficult. This got addressed in 2010 in [RFC5870], which introduced a Uniform Resource Identifier (URI) for geographic locations. The ’geo’ URI scheme not only improves interoperability but also allows for richer information than the "GEO" property value, e.g. it supports specifying the location altitude and the spatial uncertainty of the coordinates.

Alternatively to deprecating, this specification could have updated the "GEO" property to allow its property value type to be URI. This turned out to not interoperate, as implementations tended to reject such iCalendar data as invalid. This was regardless if the "GEO" property was specified in a "VEVENT" component, or if it was specified in iCalendar components that were unsupported by the implementation (e.g. an implementation that was unaware of the "VLOCATION" component still rejected the "GEO" property with value type URI in that component as invalid). Introducing a new property turned out to better interoperate with such systems.

3. Updated Components

3.1. VLOCATION component

This document updates the definition of the "VLOCATION" component. It allows to specify the newly defined "COORDINATES" property (Section 4.1) at most once in a "VLOCATION" component. It appends the following to the "Format Definition" of the "VLOCATION" component, defined in Section 7.2 of [RFC9073]:

```
locprop /= *(
            ;
            ; The following is OPTIONAL
            ; but MUST NOT occur more than once.
            ;
            coord
            ;
            )
```

The "coord" ABNF is defined in Section 4.1.

4. New Properties

4.1. COORDINATES Property

Property Name: COORDINATES

Purpose: To represent a geographic location using the protocol-independent, extensible "geo" URI scheme.

Value Type: URI -- no default

Property Parameters: IANA and non-standard parameters MAY be specified on this property.

Conformance: This property can be specified in a "VLOCATION" calendar component.

Description: This property represents spatial (geographic) coordinates. In contrast to the the "GEO" property, this property allows to represent not only latitude and longitude but also altitude of a location. In addition, it supports to indicate the uncertainty of the coordinates, is interoperable with other internet standards making use of spatial information, and is extensible, such as for use with other coordinate reference systems. The property value MUST a URI in the "geo" URI scheme, as defined in [RFC5870] and updates.

Format Definition:

```
coord       = "COORDINATES" coordparam ":" uri CRLF

coordparam  = *(
                ;
                ; The following is REQUIRED,
                ; but MUST NOT occur more than once.
                ;
                (";" "VALUE" "=" "URI") /
                ;
                ; The following is OPTIONAL,
                ; and MAY occur more than once.
                ;
                (";" other-param)
                ;
                )
```

Example: The following is an example of this property:

```
COORDINATES;VALUE=URI:geo:48.198634,16.371648;crs=wgs84;u=40
```

4.2. SHOW-WITHOUT-TIME Property

Property Name: SHOW-WITHOUT-TIME

Purpose: To indicate that the exact time span is not important when displaying this calendar object.

Value Type: BOOLEAN -- no default

Property Parameters: IANA and non-standard parameters can be specified on this property.

Conformance: This property can be specified in a "VEVENT" or "VTODO" calendar component.

Description: This indicates that the exact time span is not important to display when rendering this calendar object. An example of this is an event that occurs over a full or almost full day, but in contrast to a DATE value is limited to a specific time zone or business hours. While the time component is important for free-busy calculations and checking for scheduling clashes, calendars may choose to display it as an all-day event, or display the object separately to other objects to enhance the user’s view of their schedule.

This property only is for presentation purposes, it does not have any impact on the temporal span or value type of a calendar object.

This property MAY be specified on VEVENT components where the DTSTART property is of type DATE-TIME, or in VTODO components where either the DTSTART or DUE property is specified and has type DATE-TIME. In all other cases it MUST NOT be set. If this property is set, its property value MUST be "TRUE", e.g. it MUST be omitted rather than having value "FALSE".

Implementations that are unaware of the "SHOW-WITHOUT-TIME" property might inadvertently preserve this property when changing a calendar object's temporal type from DATE-TIME to DATE. Implementations SHOULD therefore ignore rather than reject the incorrectly specified SHOW-WITHOUT-TIME property. They MUST NOT preserve the ill-specified property in the calendaring data.

Format Definition:

```
showwt      = "SHOW-WITHOUT-TIME" showwtparam ":" "TRUE" CRLF

showwtparam = *(
                ;
                ; The following is REQUIRED,
                ; but MUST NOT occur more than once.
                ;
                (";" "VALUE" "=" "BOOLEAN") /
                ;
                ; The following is OPTIONAL,
                ; and MAY occur more than once.
                ;
                (";" other-param)
                ;
                )
```

Example:

```
SHOW-WITHOUT-TIME;VALUE=BOOLEAN:TRUE
```

5. New Values

5.1. OWNER Participation Role

Value: OWNER

Purpose: This participation role indicates that the calendar user is an owner of the calendar object. This signifies they can make changes that affect all calendar users participating in this calendar object (for example, rescheduling the calendar object,

adding and removing attendees and roles). The presence of this role only is indicative, its semantics are subject to the calendaring exchange protocol being used. See [jmap-calendars] for an example for making use of this role.

Conformance: This value can be used with the "ROLE" parameter.

Example(s):

```
ATTENDEE;ROLE=OWNER;RSVP=TRUE:mailto:jsmith@example.com
```

6. Security Considerations

This specification extends [RFC5545]. The same security considerations as outlined in Section 7 of [RFC5545] apply.

7. IANA Considerations

TBD

8. References

8.1. Normative References

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[RFC9073] Douglass, M., "Event Publishing Extensions to iCalendar", RFC 9073, DOI 10.17487/RFC9073, August 2021, <https://www.rfc-editor.org/info/rfc9073>.

9. Informative References

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[jmap-calendars]
Jenkins, N.M. and M. Douglass, "JMAP for Calendars", Work in Progress, Internet-Draft, draft-ietf-jmap-calendars, 8 October 2025, <https://datatracker.ietf.org/doc/draft-ietf-jmap-calendars/>.

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