

Schedulable Objectclass for vCard

Working Draft Standard

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Abstract

This specification describes a new property objectclass value for the vcard objectclass property defined in [REF] allowing schedulable entities to be marked as such.

Introduction

The schedulable object class defines a number of properties which are required or useful for schedulable entities.

A schedulable entity may be scheduled for meetings (usually a person) or for use (usually a resource). The properties specified here allow a client to discover such an entity and initiate a scheduling request.

Some of the properties and values may be used by calendar servers to determine the appropriate action when a scheduling request is received. For example, do we auto-accept the request if the entity is available?

Schedulable Objectclass for vCard

1. Scope

2. Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8601:2004, International Organization for Standardization (committee). *Data elements and interchange formats — Information interchange — Representation of dates and times*. Third edition. 2004. Geneva: International Organization for Standardization. <https://www.iso.org/standard/40874.html>.

IETF RFC 2119, BRADNER, S. *Key words for use in RFCs to Indicate Requirement Levels*. 1997. RFC Publisher. <https://www.rfc-editor.org/info/rfc2119>.

IETF RFC 2739, SMALL, T., D. HENNESSY, F. DAWSON and Internet Engineering Task Force. *Calendar Attributes for vCard and LDAP*. 2000. RFC Publisher. <https://www.rfc-editor.org/info/rfc2739>.

IETF RFC 3339, KLYNE, G., C. NEWMAN and Internet Engineering Task Force. *Date and Time on the Internet: Timestamps*. 2002. RFC Publisher. <https://www.rfc-editor.org/info/rfc3339>.

IETF RFC 4589, SCHULZRINNE, H., H. TSCHOFENIG and Internet Engineering Task Force. *Location Types Registry*. 2006. RFC Publisher. <https://www.rfc-editor.org/info/rfc4589>.

IETF RFC 6350, PERREAULT, S. and Internet Engineering Task Force. *vCard Format Specification*. 2011. RFC Publisher. <https://www.rfc-editor.org/info/rfc6350>.

3. Terms and definitions

No terms and definitions are listed in this document.

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [IETF RFC 2119](#).

4. Schedulable Objectclass Value

This specification defines a new value for the OBJECTCLASS property defined in [TODO]. The value is registered according to the procedure in [IETF RFC 6350, Section 10.2.6](#).

Value	schedulable
Purpose	To specify the entity with this objectclass is schedulable.
Conformance	This value MAY be used with the OBJECTCLASS property. If used the properties, parameters and values of the vcard MUST conform to the requirements of this specification.
Example	OBJECTCLASS:schedulable

5. Current vCard Properties for use with OBJECTCLASS:schedulable.

The following properties MUST be specified in a vCard representing a calendaring or schedulable resource:

- FN
- UID

The following properties SHOULD be specified in a vCard representing a calendaring or schedulable resource:

- KIND
- CALADRURI or EMAIL

5.1. CALADRURI

The CALADRURI value is the address that would be used by a Scheduling and Calendaring application to schedule the resource.

Its value MUST be a uri string, in most cases a mailto: uri. The EMAIL property value of the resource should be used for scheduling, in the absence of this property.

6. New vCard Properties for use with OBJECTCLASS:schedulable.

The following new properties MAY be used with OBJECTCLASS:schedulable.

Format and cardinality of new vCard properties are defined as described in [IETF RFC 6350, Section 3.3](#).

6.1. AUTOSCHEDULE

Purpose	Specify if the resource is automatically scheduled with no approval process.
ValueType	Text value from the auto schedule values table.
Cardinality	*1
ABNF	AUTOSCHEDULE-param = "VALUE=text" / any-param AUTOSCHEDULE-value = text
Default value	If the property is absent or unknown, resource bookings are auto accepted, if it does not result in a booking conflict and auto declined if it does.
Default value	AUTO
Example value	AUTO

Table 1 — Auto Schedule Values Table

Auto schedule value	Scheduling action
NONE	no auto scheduling
ACCEPT-IF-FREE	auto accept invitations, if no conflict
DECLINE-IF-BUSY	auto decline invitations that result in a conflict
AUTO	auto accept and auto decline based on booking conflict
ALWAYS-ACCEPT	auto accept all invitations
ALWAYS-DECLINE	auto decline all invitations

6.2. BOOKINGINFO

Purpose	Provide the complete information on scheduling a resource if access rights are set or approval is required.
ValueType	URI value. It MAY also be a free-form text value.
Cardinality	*
ABNF	BOOKINGINFO-param = "VALUE=" ("text" / "uri") / any-param BOOKINGINFO-value = uri / text
Default value	None
Example value	http://www.example.com/room1_booking.html

6.3. BOOKINGRESTRICTED

Purpose	Specify if there are restrictions to booking the resource specified by access rights in the system. More information is provided by the BOOKINGINFO Clause 6.2 property.
ValueType	Boolean value.
Cardinality	*1
ABNF	BOOKINGRESTRICTED-param = "VALUE=boolean" / any-param BOOKINGRESTRICTED-value = boolean
Default value	FALSE. Absence of this property indicates no restriction to booking the resource.
Example value	TRUE

6.4. BOOKINGWINDOWSTART

Purpose	Defines how much time in advance the resource can be booked.
ValueType	Duration value. The format is based on the ISO 8601:2004 duration representation basic format with designators for the duration of time. The format can represent nominal durations (weeks and days) and accurate durations (hours, minutes, and seconds). The syntax is further defined in Appendix A, "Duration" section of IETF RFC 3339 .
Cardinality	*1
ABNF	BOOKINGWINDOWSTART-param = "VALUE=text" / any-param BOOKINGWINDOWSTART-value = text
Special Notes	The value of this property is used to calculate the earliest date and time when a resource can be reserved for an event starting on a specific date and time.

If this property value is defined, the resource may be booked for an event at a certain time, only if the current time is equal to or after the date and time calculated by subtracting this value from the event's proposed start time. If this property is absent, then the resource may be booked at any time before the end of the booking window.

Default value None
 Example value P3M

6.5. BOOKINGWINDOWEND

Purpose Defines how much time in advance the resource booking is closed.

ValueType Duration value.

The format is based on the [ISO 8601:2004](#) duration representation basic format with designators for the duration of time. The format can represent nominal durations (weeks and days) and accurate durations (hours, minutes, and seconds). The syntax is further defined in Appendix A, "Duration" section of [IETF RFC 3339](#).

Cardinality *1

ABNF `BOOKINGWINDOWEND-param = "VALUE=text" / any-param`
`BOOKINGWINDOWEND-value = text`

Special Notes The value of this property is used to calculate the latest date and time when a resource can be reserved for an event starting on a specific date and time.

If the current time is equal to or before the value obtained by subtracting BookingWindowEnd from the start date and time of the event, then the resource may be booked. If this property is absent, then the resource may be booked anytime from booking window start to the start of the event.

BookingWindow Start and End together provide the window of time a resource can be booked, relative to the start time of the event.

If: BookingWindowStart = BwS,
 BookingWindowEnd = BwE,
 Current Time = CT and
 Event Start Time = ST,
 Then a resource can be booked at a certain time only if
 CT is equal to or after (ST - BwS)
 and CT is equal to or before (ST - BwE)

Default value None
 Example value P5D

6.6. MAXINSTANCES

Purpose Maximum number of instances of an event, the resource can be scheduled for from NOW.

ValueType Integer value.

Cardinality	*1
ABNF	MAXINSTANCES-param = "VALUE=integer" / any-param MAXINSTANCES-value = integer
Special Notes	Value of 0 indicates no limits. Value of 1 indicates that no recurring bookings are allowed. If this property is absent there is no limit to the number of instances it may be booked for at any moment.
Default value	0
Example value	60

6.7. MULTIBOOK

Purpose	Number of simultaneous bookings allowed.
ValueType	Integer value. Value of 0 indicates no limits.
Cardinality	*1
ABNF	MULTIBOOK-param = "VALUE=integer" / any-param MULTIBOOK-value = integer
Special Notes	Value of 0 indicates no limits. If this property is absent the resource may be booked only for one event at a particular moment.
Default value	1
Example value	1

7. New Parameter Values

7.1. RELATED TYPE Values

This document specifies the following additional values that can be used as the value for the TYPE parameter of the RELATED property defined in [IETF RFC 6350, Section 6.6.6](#).

- schedule-admin: an entity that performs scheduling approval, when scheduling the entity associated with this vCard, if approval required.

8. Examples

8.1. Schedulable

A schedulable entity can be scheduled for meetings (as a person) or for use (as a resource). For a scheduling system to be able to usefully manage the schedule it needs specific information.

At the very least there MUST be some form of calendar user address. It's useful to know whether requests can be auto accepted if the slot is available.

```
BEGIN:VCARD
VERSION:4.0
UID:urn:uuid:4fbe8971-0bc3-424c-9c26-36c3e1eff6b1
```

```

FN:J. Doe
N:Doe;J.;;;
EMAIL:jdoe@example.edu
TEL;VALUE=uri:tel:+1-555-555-5555
OBJECTCLASS:schedulable
CALADRURI:jdoe@example.edu
AUTOSCHEDULE:ACCEPT-IF-FREE
END:VCARD
    
```

Figure 1

9. Security Considerations

As this document only defines schema for representing entities for calendaring and scheduling and does not refer to the actual storage mechanism itself, or the calendaring and scheduling protocol, no special security considerations are required as part of this document.

10. IANA Considerations

10.1. New VCard Objectclass Value Registration

A objectclass value is be defined according to the process specified in [IETF RFC 6350, Section 10.2.6](#).

10.2. VCard Property and Value Registration

The following new VCard Properties need to be registered by IANA.

Table 2 — New VCard Properties Table

VCard Property Name	VCard Property Definition
AUTOSCHEDULE	Clause 6.1
BOOKINGINF*	Clause 6.2
BOOKINGRESTRICTED	Clause 6.3
BOOKINGWINDOWSTART	Clause 6.4
BOOKINGWINDOWEND	Clause 6.5
MAXINSTANCES	Clause 6.6
MULTIBOOK	Clause 6.7

The following new VCard Parameter Values need to be registered by IANA.

Table 3 — New VCard Properties Table

VCard Property Name	VCard Parameter Name	VCard Parameter Value
RELATED	TYPE	schedule-admin Clause 7.1

11. Acknowledgements

This specification is a result of discussions that took place within the Calendaring and Scheduling Consortium's Resource Technical Committee. The authors thank the participants of that group.

12. Recommendations for Calendaring Systems

While this document does not mandate how each of the defined property values must be used by calendaring systems, here are some recommendations:

- 1) BOOKINGWINDOWSTART ([Clause 6.4](#)), BOOKINGWINDOWEND ([Clause 6.5](#)) and MULTIBOOK ([Clause 6.7](#)) information should be used in freebusy calculations. A query for a time slot that

falls outside the booking window or one that already has the maximum allowed number of simultaneous bookings, MUST be returned as BUSY_UNAVAILABLE.

- 2) Calendaring systems that support the AUTOSCHEDULE ([Clause 6.1](#)) property, SHOULD automatically mark the attendee PARTSTAT for a resource as ACCEPTED, if its auto schedule value is AUTO and the scheduling is successful. If scheduling administrator approval is required, the PARTSTAT could be automatically marked as TENTATIVE. Rooms SHOULD have this property defined.
- 3) Information from other properties, for example the capacity if a resource can be used by calendaring systems to warn end users if the number of attendees exceed the capacity value. Rooms SHOULD have CAPACITY defined.

Individual calendar servers may regard the values of these properties set in a directory server or a different database as advisory and could further limit what it allows.