CalConnect TC VCARD

vCard representation of resources

Working Draft Standard

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Contents

Abstract

This specification describes the vCard representation of resources.

vCard representation of resources

1. Scope

This document specifies the vCard representation of resources to ease their discovery by clients.

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.

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.

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.

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. General Considerations

Data values MUST have valid representation for the specified value type with respect to escape characters, line folding, and so on.

5. Resource Object

A resource object definition SHOULD contain all information required to find the right resource. For this, it SHOULD contain all, or a set of properties described in Clause 6. Additional proprietary properties may be defined as well, but MUST begin with “X-”. Clients encountering properties they don’t know about MUST ignore them.

Properties required to contact the resource are not included in this specification. vCard properties defined in IETF RFC 6350 can be used to include additional contact information for the resource.

6. Resource Properties

6.1. Mandatory Properties

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

— FN
— UID
— KIND

6.2. Special Notes:

6.2.1. KIND

Some of the possible values for the KIND property are “Location”, “Individual”, “Device”, or “Group”.

Location is used for any physical location resource such as room, building, etc.

Individual is used for a human resource such as driver, technician, etc.

Device is used for a computing device such as an appliance, a computer, or a network element.

Group is used to specify a group of resources with a specific skill set. For example: drivers, electricians, etc.

6.3. Base vCard Properties

The following properties defined in IETF RFC 6350 or IETF RFC 2739 make sense for vCards representing resources (this list is not exhaustive, and other properties might be applicable as well):

— ADR
— CATEGORIES
— EMAIL
— FBURL
— FN
— KIND
— MEMBER
— NOTE
— NICKNAME
— ORG
— PHOTO
— RELATED
— TZ
— UID

6.4. New vCard Properties for resources

Format and cardinality of new vCard properties are defined as described in IETF RFC 6350, Section 3.3.

6.4.1. ACCESSIBLE

Purpose	Specify if the resource is accessible to physically disabled people.

ValueType	Boolean value.
Cardinality	*1
ABNF	`ACCESSIBLE-param = "VALUE=boolean" / any-param` `ACCESSIBLE-value = boolean`
Default value	FALSE.
Example value	TRUE

6.4.2. ACCESSIBILITYINFO

Purpose	Specify special resource accessibility info for the physically disabled people.
ValueType	URI value. It MAY also be a free-form text value.
Cardinality	*

ABNF	`ACCESSIBILITYINFO-param = "VALUE=" ("text" / "uri") /`
	`any-param`
	`ACCESSIBILITYINFO-value = URI / text`

Default value	None
Example value	http://www.example.com/room1_specialaccess.html

6.4.3. CAPACITY

Purpose	Provide information on the capacity of the resource.
ValueType	Integer.
Cardinality	*1
ABNF	`CAPACITY-param = "VALUE=integer" / any-param` `CAPACITY-value = integer`
Default value	None
Example value	10

6.4.4. INVENTORY

Purpose	List other resources available as part of this resource.
ValueType	Value MAY be a URI that could be a vCard. The vCard could be of the KIND group whose members point to the various inventory items. Value MAY also be a free form text listing one or more inventory items.
Cardinality	*
ABNF	`INVENTORY-param = "VALUE=" ("text" / "uri") / any-param`


```
INVENTORY-value = uri / text
```

Default value	None
Example values	Printer, Projector or http://www.example.com/Room1Inventory.vcf

6.4.5. LOCATIONTYPE

Purpose	Provide more information on the type of a LOCATION resource.
ValueType	Text. The value SHOULD be one of the values defined in RFC 4589.
Cardinality	*
ABNF	`LOCATIONTYPE-param = "VALUE=text" / any-param` `LOCATIONTYPE-value = text`
Default value	None
Example value	office

6.4.6. RESTRICTED

Purpose	Specify if there are restrictions to physically accessing the resource. For example locked doors, or other barriers.
ValueType	Boolean value.
Cardinality	*1
ABNF	`RESTRICTED-param = "VALUE=boolean" / any-param` `RESTRICTED-value = boolean`
Default value	FALSE. Absence of this property indicates no restriction to physically accessing the resource.
Example value	TRUE

6.4.7. RESTRICTEDACCESSINFO

Purpose	Specify extra information on physically accessing resources that have restrictions. For example where to pick up keys to a locked resource.
ValueType	URI value. It MAY also be a free-form text value.
Cardinality	*

ABNF	`RESTRICTEDACCESSINFO-param = "VALUE=" ("text" / "uri") /`
	`any-param`
	`RESTRICTEDACCESSINFO-value = URI / text`

Default value	None
Example value	http://www.example.com/room1_entryinfo.html

6.4.8. NOCOST

Purpose	Specify if there is a cost associated with using the resource.
ValueType	Boolean value.
Cardinality	*1
ABNF	`NOCOST-param = "VALUE=boolean" / any-param` `NOCOST-value = boolean`
Special Notes	If this property is absent, it indicates that the resource may be booked free of cost.
Default value	TRUE
Example value	TRUE

6.4.9. COSTINFO

Purpose	Provide the URL pointing to complete pricing information for usage of the resource.
ValueType	URI value. It MAY also be a free-form text value.
Cardinality	*
ABNF	`COSTINFO-param = "VALUE=" ("text" / "uri") / any-param` `COSTINFO-value = uri / text`
Default value	None
Example value	http://www.example.com/cost.html

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.

— container: an entity that contains the entity associated with this vCard. For example, the building that contains the room resource specified by the vCard.
— manager: an entity that manages the resource entity associated with this vCard.
— owner: an entity that owns the resource entity associated with this vCard.

8. Examples

8.1. Location Resource

In this example we make use of `OBJECTCLASS:schedulable` to make this a schedulable resource.

```
BEGIN:VCARD
VERSION:4.0
UID:urn:uuid:room1-id
```



```
KIND: location
LOCATIONTYPE: classroom
FN: Room One
ORG: Engineering
NICKNAME: The One
NOTE: Room 1 in Engineering Building X
CATEGORIES: rooms, engineering_resources
OBJECTCLASS:schedulable
BOOKINGRESTRICTED: TRUE
BOOKINGINFO: http://www.example.com/room1_booking.html
CALADRURI: mailto:room1@example.com
MULTIBOOK: 1
MAXINSTANCES: 10
BOOKINGWINDOWSTART:P3M
BOOKINGWINDOWEND: P3D
AUTOSCHEDULE: AUTO
RELATED;TYPE=schedule-admin:
 http://www.example.com/SchedAdmin1.vcf
ACCESSIBLE: TRUE
ACCESSIBILITYINFO: http://www.example.com/room1_disabledaccess.html
CAPACITY: 100
INVENTORY: phone, projector
FBURL: http://www.example.com/freebusy/home/Room1/
TZ: America/Los_Angeles
RELATED;TYPE=owner: http://www.example.com/ResOwner1.vcf
RELATED;TYPE=manager: http://www.example.com/ResManager1.vcf
RELATED;TYPE=container:http://www.example.com/BldX.vcf
RESTRICTED: TRUE
RESTRICTEDACCESSINFO: http://www.example.com/room1_specialaccess.html
NOCOST: FALSE
COSTINFO: http://www.example.com/cost.html
END:VCARD
```

8.2. Role Resources Group

This example also makes use of `OBJECTCLASS:schedulable` to make this a schedulable resource.

```
BEGIN:VCARD
VERSION:4.0
UID:urn:uuid:driverXPool-id
KIND: group
FN: Driver X Pool
ORG: Transportation
NICKNAME: The X Group
NOTE: Drivers in the Transportation department driver pool X
CATEGORIES: drivers
MEMBER:urn:uuid:driver1-id
MEMBER:urn:uuid:driver2-id
MEMBER:urn:uuid:driver3-id
FBURL: http://www.example.com/freebusy/home/DriversX/
OBJECTCLASS:schedulable
CALADRURI: mailto:driversX@example.com
MULTIBOOK: 3
MAXINSTANCES: 10
BOOKINGWINDOWSTART:P3M
BOOKINGWINDOWEND: P3D
AUTOSCHEDULE: NONE
RELATED;TYPE=schedule-admin:
 http://www.example.com/DriversX_SchedAdmin.vcf
TZ: America/Los_Angeles
```



```
BOOKINGINFO: http://www.example.com/driversX_approval.html
RELATED;TYPE=manager:
 http://www.example.com/DriversManager.vcf
NOCOST: FALSE
COSTINFO: http://www.example.com/driversXcost.html
END:VCARD
```

9. Security Considerations

As this document only defines schema for representing resource information 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. VCard Property and Value Registration

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

Table 1 — New VCard Properties Table

VCard Property Name	VCard Property Definition
ACCESSIBLE	Clause 6.4.1
ACCESSIBILITYINFO	Clause 6.4.2
CAPACITY	Clause 6.4.3
COSTINFO	Clause 6.4.9
INVENTORY	Clause 6.4.4
LOCATIONTYPE	Clause 6.4.5
NOCOST	Clause 6.4.8
RESTRICTED	Clause 6.4.6
RESTRICTEDACCESSINFO	Clause 6.4.7

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

Table 2 — New VCard Parameter Values Table

VCard Property Name	VCard Parameter Name	VCard Parameter Value
RELATED	TYPE	container Clause 7.1
RELATED	TYPE	manager Clause 7.1
RELATED	TYPE	owner Clause 7.1

11. Acknowledgments

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, and specifically the following individuals for contributing their ideas and support: Arnaud Quillaud, Adam Lewenberg, Andrew Laurence, Guy Stalnaker, Mimi Mugler, Dave Thewlis, Bernard Desruisseaux, Alain Petit, Andrew Sciberras, Adrian Apthorp, and Jason Miller.

12. Unresolved Issues

Defining finer granularity of resource KIND — A schedulable resource might not exactly correspond to a specific one in the list of pre-defined values for KIND. Question is how to convey the additional information. Possibilities are extending KIND values to include all combinations, defining an objectclass model where an object is built out of many pre-defined KINDs, or defining standard parameter extensions to KIND to include more information.

Defining RESOURCETYPE — For a location resource, a new property LOCATIONTYPE was added to provide more information. Are similar new properties required for non-location resources? Or do we need a generic RESOURCETYPE property with a set of predefined values?

