Network Working Group	C. Joy
Internet-Draft	Oracle
Intended status: Standards Track	C. Daboo
Expires: July 5, 2013	Apple Inc.
	M. Douglass
	Spherical Cow Group
	January 2013

vCard representation of resources

draft-cal-resource-vcard-02

Abstract

This specification describes the vCard representation of resources.

Status of This Memo

Copyright Notice

Table of Contents

1. Introduction

This specification defines the vCard representation of resources to ease their discovery by clients.

2. Conventions Used 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 [RFC2119] .

3. General Considerations

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

4. 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 Section 5 . 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 vCard Format Specification [RFC6350] can be used to include additional contact information for the resource.

5. Resource Properties

5.1. Mandatory Properties

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

- FN
- UID
- KIND

5.2. Special Notes:

5.2.1. 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.

5.3. Base vCard Properties

The following properties defined in [RFC6350] or [RFC2739] 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

5.4. New vCard Properties for resources

Format and cardinality of new vCard properties are defined as described in Section 3.3 of [RFC6350].

5.4.1. ACCESSIBLE

```
ACCESSIBLE-param = "VALUE=boolean" / any-param
```

```
ACCESSIBLE-value = boolean
```

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

ValueType:
Boolean value.

Cardinality:
*1

ABNF:

Default value:
FALSE.

Example value:
TRUE

5.4.2. ACCESSIBILITYINFO

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

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:

Default value:
None

Example value:
http://www.example.com/room1_specialaccess.html

5.4.3. CAPACITY

```
CAPACITY-param = "VALUE=integer" / any-param
CAPACITY-value = integer
```

Purpose:
Provide information on the capacity of the resource.

ValueType:
Integer.

Cardinality:
*1

ABNF:

Default value:

None

Example value:

10

5.4.4. INVENTORY

```
INVENTORY-param = "VALUE=" ("text" / "uri") / any-param
INVENTORY-value = uri / text
```

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:

Default value:

None

Example values:

Printer, Projector http://www.example.com/Room1Inventory.vcf

5.4.5. LOCATIONTYPE

```
LOCATIONTYPE-param = "VALUE=text" / any-param
LOCATIONTYPE-value = text
```

Purpose:

Provide more information on the type of a LOCATION resource.

ValueType:

Text.

The value SHOULD be one of the values defined in [RFC4589]

Cardinality:

*

ABNF:

Default value:

None

Example value:

office

5.4.6. RESTRICTED

```
RESTRICTED-param = "VALUE=boolean" / any-param
RESTRICTED-value = boolean
```

Purpose:

Specify if there are restrictions to physically accessing the resource. For example locked doors, or other barriers.

ValueType:
Boolean value.

Cardinality:
*1

ABNF:

Default value:
FALSE.
Absence of this property indicates no restriction to physically accessing the resource.

Example value:
TRUE

5.4.7. RESTRICTEDACCESSINFO

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

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:

Default value:
None

Example value:
http://www.example.com/room1_entryinfo.html

5.4.8. NOCOST

```
NOCOST-param = "VALUE=boolean" / any-param
NOCOST-value = boolean
```

Purpose:
Specify if there is a cost associated with using the resource.

ValueType:
Boolean value.

Cardinality:
*1

ABNF:

Special Notes:
If this property is absent, it indicates that the resource may be booked free of cost.

Default value:

TRUE

Example value:

TRUE

5.4.9. COSTINFO

```
COSTINFO-param = "VALUE=" ("text" / "uri") / any-param
COSTINFO-value = uri / text
```

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:

Default value:

None

Example value:

http://www.example.com/cost.html

5.5. New Parameter Values

5.5.1. 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 Section 6.6.6 of [RFC6350].

- 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.

6. Examples

6.1. 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
```

6.2. 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
```

7. 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.

8. IANA Considerations

8.1. VCard Property and Value Registration

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

New VCard Properties Table:

VCard Property Name	VCard Property Definition
ACCESSIBLE	Section 5.4.1
ACCESSIBILITYINFO	Section 5.4.2
CAPACITY	Section 5.4.3
COSTINFO	Section 5.4.9
INVENTORY	Section 5.4.4
LOCATIONTYPE	Section 5.4.5
NOCOST	Section 5.4.8
RESTRICTED	Section 5.4.6
RESTRICTEDACCESSINFO	Section 5.4.7

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

New VCard Properties Table:

VCard Property Name	VCard Parameter Name	VCard Parameter Value
RELATED	TYPE	container Section 5.5.1
RELATED	TYPE	manager Section 5.5.1
RELATED	TYPE	owner Section 5.5.1

9. 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.

10. 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?

11. Normative References

[ISO.8601.2004]	International Organization for Standardization, "Data elements and interchange formats -- Information interchange -- Representation of dates and times", 2004.
[RFC2119]	Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997.
[RFC2739]	Small, T., Hennessy, D. and F. Dawson, "Calendar Attributes for vCard and LDAP", RFC 2739, DOI 10.17487/RFC2739, January 2000.
[RFC3339]	Klyne, G. and C. Newman, "Date and Time on the Internet: Timestamps", RFC 3339, DOI 10.17487/RFC3339, July 2002.
[RFC4589]	Schulzrinne, H. and H. Tschofenig, "Location Types Registry", RFC 4589, DOI 10.17487/RFC4589, July 2006.
[RFC6350]	Perreault, S., "vCard Format Specification", RFC 6350, DOI 10.17487/RFC6350, August 2011.

Authors' Addresses

Ciny Joy
Oracle Corporation
4210 Network Circle
Santa Clara , CA 95054
USA
EMail: ciny.joy@oracle.com
URI: http://www.oracle.com/

Cyrus Daboo
Apple Inc.
1 Infinite Loop
Cupertino , CA 95014
USA
EMail: cyrus@daboo.name
URI: http://www.apple.com/

Michael Douglass
Spherical Cow Group
226 3rd Street
Troy, NY 12180
USA
EMail: mdouglass@sphericalcowgroup.com
URI: http://sphericalcowgroup.com