                   Event Publishing Extensions to Icalendar
                    draft-douglass-calendar-extension-02

Abstract

   This specification introduces a number of new iCalendar properties
   which are of particular use for event publishers and in social
   networking.

Status of this Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

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   time. It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on May 20, 2013.

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1. Introduction

   The currently existing iCalendar standard [RFC5545] lacks useful
   methods for referencing additional, external information relating to
   calendar components.

   This document defines a number of properties referencing external
   information that can provide additional information about an
   iCalendar component. The intent is that such information can be
   automatically discovered and used by clients. Formats such as VCARD
   are likely to be most useful.

   In addition a new property is defined to support HTML descriptions.

1.1. Conventions Used in This Document

   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
   [RFC2119].

2. Typed References

   The properties defined here can all reference external meta-data
   which may be used by applications to provide enhanced value to users.
   By providing type information as parameters, clients and servers are
   able to discover interesting references and make use of them, perhaps
   for indexing or the presentation of additional related information
   for the user.

   These properties are designed to handle common use cases in event
   publication. It is generally important to provide information about
   the organizers of such events. Sponsors wish to be referenced in a
   prominent manner. In social calendaring it is often important to
   identify the active participants in the event, for example a school
   sports team, and the inactive participants, for example the parents.

   The [RFC5545] LOCATION property provides only an unstructured single
   text value for specifying the location where an event (or "TODO"
   item) will occur. This is inadequate for use cases where structured
   location information (e.g. address, region, country, postal code) is
   required or preferred, and limits widespread adoption of iCalendar in
   those settings.

   Using STRUCTURED-LOCATION, information about a number of interesting
   locations can be communicated, for example, parking, restaurants and
   the venue. Servers and clients can retrieve the objects when storing

the event and use them to index by geographic location.

When a calendar client receives a calendar component it can search the set of supplied properties looking for those of particular interest. The TYPE and FMTTYPE parameters, if supplied, can be used to help the selection.

Having located such a property, e.g. STRUCTURED-LOCATION with TYPE=PARKING, the client can use http GET on the supplied URL perhaps with an ACCEPT header set to specify the desired format. The targeted server SHOULD respond with a 406 if the resource is not available in the desired format(s).

2.1. Use Cases

The main motivation for these properties has been event publication but there are opportunities for use elsewhere. The following use cases will describe some possible scenarios.

2.1.1. Piano Concert Performance

In putting together a concert there are many participants: piano tuner, performer, stage hands etc. In addition there are sponsors and various contacts to be provided. There will also be a number of related locations. A number of events can be created, all of which relate to the performance in different ways.

There may be an iTip meeting request for the piano tuner who will arrive before the performance. Other members of staff may also receive meeting requests.

An event can also be created for publication which will have a PARTICIPANT reference to the pianist providing vcard information about the performer. This event would also hold information about parking, local subway stations and the venue itself. In addition, there will be sponsorship information for sponsors of the event and perhaps paid sponsorship properties essentially advertising local establishments.

2.1.2. Itineraries

These properties also provide opportunities for the travel industry. When booking a flight the SPONSOR property can be used to provide references to businesses at the airports and to car hire businesses at the destination.

The embedded location information can guide the traveller at the airport or to their final destination. The contact information can

provide detailed information about the booking agent, the airlines
and car hire companies and the hotel.

3. Relating Component Properties

Within a single component we sometimes need to specify which
properties are related to each other and their state. For example,
by relating a STYLED-DESCRIPTION property to the DESCRIPTION property
and saving an indication of state, clients can know if one of them
has changed and notify the user.

This specification defines two new property parameters to enable this
relating of properties, the ID and the HASH.

The ID parameter provides a small integer identifier, unique for each
property on which it is specified.

The HASH parameter has a structured value with parts:

id-value: The id of the property to which the current property is
   related

hash-value: The base-64 encoded hashed value of the property to
   which the current property is related

hash-method: Method used to create that hash.

In the example below a STYLED-DESCRIPTION property is related to the
DESCRIPTION property which has an ID value of 2. If the DESCRIPTION
property value is changed then the hash-value stored with the STYLED-
DESCRIPTION will no longer match.

```
      DESCRIPTION;ID=2:Some Text
      STYLED-DESCRIPTION;HASH="2,zlWCFIxvDBKCM1uH317Uvkt
       4E5k=,SHA-1":<p>Some Text</p>
```


4. New Property Parameters

4.1. Hash

Parameter name: HASH

Purpose: To specify the identifier value and hash value and method
   of another property.

Format Definition:

   This parameter is defined by the following notation:

      hashparam = "HASH" "="   /
                     DQUOTE idval "," hashval "," hashname DQUOTE
      ; A structured value with the following components:
      idval = integer
      ; Value of an ID parameter
      hashval = *QSAFE-CHAR
      ; Base64 encoded hash of the value of the property referenced by
      ; the idval segment
      hashname = *QSAFE-CHAR
      ; Name of the hash function used to calculate the hash value

Description: This parameter can be specified on properties that are
   variants of another property and is used to detect changes in that
   property to enable the values of all variants to be kept
   synchronized.

   The text value should be an identifier value which SHOULD be a
   value specified on another propety within the component, a hash
   value (encoded as a base-64 string), followed by a token
   describing the algorithm used to calculate the hash value.
   Algorithm names from the IANA Hash Function Textual Names registry
   [] MUST be used.

   Each element of the value is separated by a single ",",

4.2. Id

Parameter name: ID

Purpose: To uniquely identify a property.

Format Definition:

   This parameter is defined by the following notation:

   idparam   = "ID" "=" integer

Description: This parameter can be specified on any property. It is
    used to uniquely identify the property so it can be related to
    other properties within the same component that specify a "HASH"
    parameter id-value element matches the "ID" value.

    Properties within the same component MUST NOT have an "ID"
    parameter with the same value.

4.3. Loctype

Parameter name: LOCTYPE

Purpose: To specify the type of location.

Format Definition:

    This parameter is defined by the following notation:

  loctypeparam   = "LOCTYPE" "=" param-value

Description: This parameter MAY be specified on STRUCTURED-LOCATION
    and provides a way to differentiate multiple properties. For
    example, it allows event producers to provide location information
    for the venue and the parking.

    Values for this parameter are taken from the values defined in
    [RFC5545]. New location types SHOULD be registered in the manner
    laid down in that specification

4.4. Parttype

Parameter name: PARTTYPE

Purpose: To specify the type of participant.

Format Definition:

    This parameter is defined by the following notation:

  parttypeparam   = "PARTTYPE" "=" text

Description: This parameter MAY be specified on the PARTICIPANT
    property, and defines the type of participation. Allowable values
    are defined in Section 6.

4.5. Restype

   Parameter name: RESTYPE

   Purpose: To specify the type of resource.

   Format Definition:

      This parameter is defined by the following notation:

    restypeparam   = "RESTYPE" "=" param-value

   Description: This parameter MAY be specified on STRUCTURED-RESOURCE
      and provides a way to differentiate multiple properties.

      Values for this parameter are taken from the values defined in
      [todo]. New resource types SHOULD be registered in the manner
      laid down in that specification

4.6. Order

   Parameter name: ORDER

   Purpose: To define ordering for the associated property.

   Format Definition:

      This parameter is defined by the following notation:

    orderparam   = "ORDER" "=" (1*3DIGIT / "100")
                                  ; An integer between 1 and 100.

   Description: The ORDER parameter is OPTIONAL and is used to indicate
      the relative ordering of the corresponding instance of a property.
      Its value MUST be an integer between 1 and 100 that quantifies the
      order. Lower values correspond to a higher level of ordering,
      with 1 being the highest.

      When the parameter is absent, the default MUST be to interpret the
      property instance as being at the lowest level of ordering.

      Note that the value of this parameter is to be interpreted only in
      relation to values assigned to other correcsponding instances of
      the same property in the same entity. A given value, or the
      absence of a value, MUST NOT be interpreted on its own.

This parameter MAY be applied to any property that allows multiple
instances.

4.7. Title

   Parameter name: TITLE

   Purpose: To provide a human readable title.

   Format Definition:

      This parameter is defined by the following notation:

      titleparam   = "TITLE" "=" DQUOTE text DQUOTE

   Description: This parameter MAY be specified on all properties
      defined in this specification, and provides a human readable
      label, perhaps for icons or links..

5. New Properties

5.1. Participant

   Property name: PARTICIPANT

   Purpose: This property provides a typed reference to external
      information about participants in an event or optionally a plain
      text typed value.

   Value type: The default value type for this property is URI. The
      value type can also be set to TEXT to indicate plain text content.

   Property Parameters: Non-standard, title, parttype, order or format
      type parameters can be specified on this property.

   Conformance: This property MAY be specified in any iCalendar
      component.

   Description: When used in a component the value of this property
      points to information about an event participant. This is NOT an
      attendee in a scheduling sense and the ATTENDEE property may in
      fact be specified in addition. Participants in events can be
      individuals or organizations, for example a soccer team, the
      spectators, or the musicians.

Format Definition:

This property is defined by the following notation:

```
participant     = "PARTICIPANT" partparam
                  (
                    ";" "VALUE" "=" "URI"
                    ":" uri)  /
                  (
                    ";" "VALUE" "=" "TEXT"
                    ":" text
                  )
                  CRLF


partparam       = *(

                    ; the following are OPTIONAL
                    ; but MUST NOT occur more than once

                    (";" fmttypeparam) /
                    (";" titleparam) /
                    (";" orderparam) /
                    (";" parttypeparam) /

                    ; the following is OPTIONAL
                    ; and MAY occur more than once

                    (";" other-param)

                  )
```

Note: When the ORDER parameter is supplied it defines the ordering
   of PARTICIPANT properties with the same value for the TYPE
   parameter.

Example:

   The following is an example of this property. It points to a
   VCARD providing information on an event participant.

```
             PARTICIPANT;PARTTYPE=PRINCIPAL_PERFORMER:
               http://dir.example.com/vcard/aviolinist.vcf
```

Example:

The following is an example referring to a VCARD providing
information on the primary contact.

```
            PARTICIPANT;FMTTYPE=text/vcard;
              PARTTYPE=PRIMARY-CONTACT;TITLE=A contact:
              http://dir.example.com/vcard/contacts/contact1.vcf
```

Example:

The following is an example of the property used to link to VCARD
information on the event planner.

```
            PARTICIPANT;FMTTYPE=text/vcard;
              PARTTYPE=PLANNER-CONTACT;TITLE=ClownsIsUs:
              http://dir.example.com/vcard/clowns-is-us.vcf
```

5.2. Styled-Description

Property name: STYLED-DESCRIPTION

Purpose: This property provides a more complete description of the
   calendar component than that provided by the "SUMMARY" property.

Value type: There is no default value type for this property. The
   value type can be set to URI or TEXT. Other text-based value
   types can be used when defined in the future. Clients MUST ignore
   any properties with value types they do not understand.

Property Parameters: IANA, non-standard, hash, id, alternate text
   representation, and language property parameters can be specified
   on this property.

Conformance: The property can be specified multiple times in the
   "VEVENT", "VTODO", "VJOURNAL", or "VALARM" calendar components.

Description: This property is used in the "VEVENT" and "VTODO" to
   capture lengthy textual descriptions associated with the activity.
   This property is used in the "VJOURNAL" calendar component to
   capture one or more textual journal entries. This property is
   used in the "VALARM" calendar component to capture the display
   text for a DISPLAY category of alarm, and to capture the body text
   for an EMAIL category of alarm.

VALUE=TEXT is used to provide html variants of the plain-text DESCRIPTION property.

VALUE=URI is used to provide a link to html content which is expected to be displayed inline as part of the event.

The "HASH" parameter value is calculated from the value of any "DESCRIPTION" property present in the same component. If no "DESCRIPTION" is present, then the "HASH" parameter MUST NOT be present.

The intent of this property is limited to providing a styled version of the DESCRIPTION property. The URL property should be used to link to websites or other related information.

Format Definition:

This property is defined by the following notation:

```
styleddescription = "STYLED-DESCRIPTION" styleddescparam ":"
                                   text CRLF

styleddescparam   = *(
               ;
               ; The following are OPTIONAL,
               ; but MUST NOT occur more than once.
               ;
               (";" altrepparam) / (";" languageparam) /
               (";" hashparam) / (";" idparam) /
               ;
               ; The following is OPTIONAL,
               ; and MAY occur more than once.
               ;
               (";" valueparam)
               ; The value of this parameter MUST match the type of
               ; data supplied in the value of the property
```

Example:

The following is an example of this property. It points to a venue.

```
            STRUCTURED-LOCATION;TITLE="The venue":
              http://dir.example.com/venues/big-hall.vcf
```

5.3. Structured-Location

   Property name: STRUCTURED-LOCATION

   Purpose: This property provides a typed reference to external
      information about the location of an event or optionally a plain
      text typed value.

   Value type: There is no default value type for this property.   The
      value type can be set to URI or TEXT.   Other text-based value
      types

   Property Parameters: IANA, non-standard, title, loctype or format
      type parameters can be specified on this property.

   Conformance: This property MAY be specified zero or more times in
      any iCalendar component.

   Description: When used in a component the value of this property
      provides information about the event venue or of related services
      such as parking, dining, stations etc..

   Format Definition:

This property is defined by the following notation:

```
strucloc          = "STRUCTURED-LOCATION" struclocparam
                    (
                      ";" "VALUE" "=" "URI"
                      ":" uri)  /
                    (
                    (
                      ";" "VALUE" "=" "TEXT"
                      ":" text
                    )
                    CRLF

struclocparam     = *(

                    ; the following are OPTIONAL
                    ; but MUST NOT occur more than once

                    (";" fmttypeparam) /
                    (";" titleparam) /
                    (";" loctypeparam) /

                    ; the following is OPTIONAL
                    ; and MAY occur more than once

                    (";" other-param)

                    )
```

Example:

The following is an example of this property. It points to a venue.

```
                  STRUCTURED-LOCATION;TITLE="The venue":
                    http://dir.example.com/venues/big-hall.vcf
```

5.4. Structured-Resource

Property name: STRUCTURED-RESOURCE

Purpose: This property provides a typed reference to external
   information about a resource or optionally a plain text typed
   value.

Value type: The default value type for this property is URI. The
   value type can also be set to TEXT to indicate plain text content.

Property Parameters: IANA, non-standard, title, restype or format
   type parameters can be specified on this property.

Conformance: This property MAY be specified zero or more times in
   any iCalendar component.

Description: When used in a component the value of this property
   provides information about resources used for the event.

Format Definition:

   This property is defined by the following notation:

   strucres   = "STRUCTURED-LOCATION" strucresparam (":" uri) /
                     (
                       ";" "VALUE" "=" "TEXT"
                       ":" text
)
                     CRLF

   strucresparam = *(

                     ; the following are OPTIONAL
                     ; but MUST NOT occur more than once

                     (";" fmttypeparam) /
                     (";" titleparam) /
                     (";" restypeparam) /

                     ; the following is OPTIONAL
                     ; and MAY occur more than once

                     (";" other-param)

)

   Example:

   The following is an example of this property. It refers to a
   projector.

                  STRUCTURED-RESOURCE;restype="projector":
                    http://dir.example.com/projectors/3d.vcf

6. Participant Types

   This section describes types of participation and provide registered
   values for the PARTICPANT property TYPE parameter.

   ACTIVE: A participant taking an active role - for example a team
      member.

   INACTIVE: A particpant taking an inactive part - for example an
      audience member.

   SPONSOR: A sponsor of the event. The ORDER parameter may be used
      with this participant type to define the relative order of
      multiple sponsors.

   CONTACT: Contact information for the event. The ORDER parameter may
      be used with this participant type to define the relative order of
      multiple contacts.

   BOOKING-CONTACT: Contact information for reservations or payment

   EMERGENCY-CONTACT: Contact in case of emergency

   PUBLICITY-CONTACT: Contact for publicity

   PLANNER-CONTACT: Contact for the event planner or organizer

   PERFORMER: A performer - for example the soloist or the
      accompianist. The ORDER parameter may be used with this
      participant type to define the relative order of multiple
      sponsors. For example,ORDER=1 could define the principal
      performer or soloist.

   SPEAKER: Speaker at an event

7. Extended examples

   The following are some examples of the use of the properties defined
   in this specification. They include additional properties defined in
   [I-D.daboo-icalendar-extensions] which includes IMAGE and LIVEFEED.

7.1. Example 1

   The following is an example of a VEVENT describing a concert. It
   includes location information for the venue itself as well as
   references to parking and restaurants.

   BEGIN:VEVENT
   CREATED:20101116T145739Z
   DESCRIPTION: Piano Sonata No 3\n
    Piano Sonata No 30
   DTSTAMP:20101116T145739Z
   DTSTART;TZID=America/New_York:20110315T150000Z
   DTEND;TZID=America/New_York:20110315T163000Z
   LAST-MODIFIED:20101116T145739Z
   SUMMARY:Beethoven Piano Sonatas
   UID:123456
   STRUCTURED-LOCATION;TITLE="The venue":
    http://dir.example.com/venues/big-hall.vcf
   STRUCTURED-LOCATION;TITLE="The venue":
    http://dir.example.com/venues/parking.vcf
   PARTICIPANT;PARTTYPE=SPONSOR:http://example.com/sponsor.vcf
   PARTICIPANT;PARTTYPE=PERFORMER:
    http://www.example.com/people/johndoe.vcf
   END:VEVENT

8. Security Considerations

   Applications using these property need to be aware of the risks
   entailed in using the URIs provided as values. See [RFC3986] for a
   discussion of the security considerations relating to URIs.

9. IANA Considerations

9.1. Property Registrations

   This document defines the following new iCalendar properties to be
   added to the registry defined in Section 8.2.3 of [RFC5545]:

   +---------------------+---------+----------------------+
   | Property | Status | Reference |
   +---------------------+---------+----------------------+
PARTICIPANT	Current	RFCXXXX, Section 5.1
STYLED-DESCRIPTION	Current	RFCXXXX, Section 5.2
STRUCTURED-LOCATION	Current	RFCXXXX, Section 5.3

```
              | STRUCTURED-RESOURCE | Current | RFCXXXX, Section 5.4 |
              +---------------------+---------+----------------------+
```

9.2. Parameter Registrations

This document defines the following new iCalendar property parameters
to be added to the registry defined in Section 8.2.4 of [RFC5545]:

```
          +--------------------+---------+----------------------+
          | Property Parameter | Status  | Reference            |
          +--------------------+---------+----------------------+
          | HASH               | Current | RFCXXXX, Section 4.1 |
          | ID                 | Current | RFCXXXX, Section 4.2 |
          | LOCTYPE            | Current | RFCXXXX, Section 4.3 |
          | PARTTYPE           | Current | RFCXXXX, Section 4.4 |
          | RESTYPE            | Current | RFCXXXX, Section 4.5 |
          | ORDER              | Current | RFCXXXX, Section 4.6 |
          | TITLE              | Current | RFCXXXX, Section 4.7 |
          +--------------------+---------+----------------------+
```

9.3. Participant Type Registrations

The following table has been used to initialize the participant types
registry.

```
          +-------------------+---------+--------------------+
          | Participant Type  | Status  | Reference          |
          +-------------------+---------+--------------------+
          | ACTIVE            | Current | RFCXXXX, Section 6 |
          | INACTIVE          | Current | RFCXXXX, Section 6 |
          | SPONSOR           | Current | RFCXXXX, Section 6 |
          | CONTACT           | Current | RFCXXXX, Section 6 |
          | BOOKING-CONTACT   | Current | RFCXXXX, Section 6 |
          | EMERGENCY-CONTACT | Current | RFCXXXX, Section 6 |
          | PUBLICITY-CONTACT | Current | RFCXXXX, Section 6 |
          | PLANNER-CONTACT   | Current | RFCXXXX, Section 6 |
          | PERFORMER         | Current | RFCXXXX, Section 6 |
          | SPEAKER           | Current | RFCXXXX, Section 6 |
          +-------------------+---------+--------------------+
```

10. Acknowledgements

The author would like to thank Chuck Norris of eventful.com for his
work which led to the development of this RFC.

The author would also like to thank the members of the Calendaring
and Scheduling Consortium Event Publication technical committee and

the following individuals for contributing their ideas and support:

Cyrus Daboo, John Haug, Dan Mendell, Scott Otis,

The authors would also like to thank the Calendaring and Scheduling Consortium for advice with this specification.

11. Normative References

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Appendix A. Open issues

restype values: Need to determine what if nay registry of resource
    tyes already exists and use that.

Appendix B. Change log

   v01 2012-11-02 MD

   o Collapse sections with description of properties and the use cases
      into a section with sub-sections.

   o New section to describe relating properties.

   o Remove idref and upgrade hash to have the reference

   o No default value types on properties..

   v01 2012-10-18 MD Many changes.

   o SPONSOR and STRUCTURED-CONTACT are now in PARTICIPANT

   o Add a STRUCTURED-RESOURCE property

   o STYLED-DESCRIPTION to handle rich text

   o Much more...

   2011-01-07

   o Remove MEDIA - it's going in the Cyrus RFC

   o Rename EXTENDED-... to STRUCTURED-...

   o Add TYPE parameter to SPONSOR

   v00 2007-10-19 MD Initial version

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