

ZOMBIES 2014 CALENDAR

4

CALENDARS HATE
THE LIVING

DYNAMITE

ASHLEY
WILLIS



A Tale of 3 Specifications

- vCalendar – version 1.0. "versit Consortium Specification". September 1996. 53 pages.
- iCalendar – version 2.0. RFC 2445. November 1998. 148 pages.
- iCalendar update – RFC 5545. September 2009. 168 pages.

vCalendar objects are identified by:

```
BEGIN:VCALENDAR  
VERSION:1.0  
...  
END:VCALENDAR
```

iCalendar uses the same format, but the version is different:

```
BEGIN:VCALENDAR  
VERSION:2.0  
...  
END:VCALENDAR
```

Now you know why, if you ever looked at a raw iCalendar entry, it had VCALENDAR in it.

Let's Talk About vCalendar

- "But why should I care about version 1?"
- "brainstorm notes by people who never coded."
- Data::iCal to the rescue...



Er, not so fast...

Data::iCal (started in July 2005) allegedly could handle vCalendar since 2006:

vcal10 in and out support believed to be complete. [Browse code](#)

 master  0.21 ... 0.16

 David Glasser 1 parent [434b411](#) commit [5c8e28ec85e65d5e5ffa8303dd4ef10153e1f25e](#)
authored on Feb 3, 2006

And that was the last commit having to do with vCalendar.

But I ran into a few problems:

- assumes that vCalendar has the same properties
- recursive call for vcal10 flag

```
commit ace3613aeb5627fbb5d2f9dfca6fd39878dbf345  
Author: Ashley Willis <ashleyw@cpan.org>  
Date: Sat Dec 15 23:33:25 2012 -0500
```

```
Fix properties when the vcalendar is version 1.0,  
and add specific known properties for version 1.0.
```

v1 Properties

- AALARM – audio
- DALARM – display
- MALARM – mail
- PALARM – procedure. As in, "RUN ME"
- COMPLETED – in an event.
- RNUM – number of recurrences
- TRANS – in a todo.

- basic support only

vCalendar Spec

- <http://www.imc.org/pdi/vcal-10.txt>
- atrocious formatting
- HUGE CHUNK OF SPEC IS MISSING
- Last-Modified: Mon, 10 Feb 1997 01:42:01 GMT

Guessing Game

- infer things
- missing part covers vEvent and vTodo Properties
 - 2.3.13 Exception Date/Times (tail)
 - 2.3.13 Exception Rule
 - 2.3.14 Last Modified
 - 2.3.15 Location
 - 2.3.16 Mail Reminder
 - 2.3.17 Number Recurrences
 - 2.3.18 Priority
 - 2.3.19 Procedure Reminder (head)
- tail of 2.3.2 Attendee through head of 2.3.6 Date/Time Created

Exception DATE/TIME
This property is identified by the property name EXDATE. This property defines the list of date/time exceptions for a recurring vCalendar entity. The date and time values is expressed in the complete representation, basic format as specified in ISO 8601. The times can either be in local or UTC based time. The number of date/time exceptions is specified by the Number Exceptions property. The following is an example: CONFIRMED;VALUE=URL;TYPE=VCARD:
http://www.xyz.com/myvcard.vcf

Support for this property is optional for implementations conforming to this specification.
Audio Reminder
This property is identified by the property name AALARM. The property defines an audio reminder for the vCalendar entity. An audio reminder is an alarm that is sounded for the event. The value for the audio reminder consists of the Run Time, or the date and time that the reminder is to be executed; Snooze Time, or the duration of time after the Run Time that the reminder is to be dormant prior to being repeated; Repeat Count, or the number of times that the reminder is to be repeated; and the Audio Content, or the digital sound to be played when the reminder is executed.
The following are some examples of this property:
AALARM;TYPE=WAVE;VALUE=URL:19960415T235959; ; ; file:///media/taps.wav
AALARM;TYPE=WAVE;VALUE=CONTENT-ID:19960903T060000;PT15M;4;<jsmith.part2. = 960901T083000.xyzMail@host1.com>
The property has the following additional property parameters:

Description
Property Parameter Values
TYPE
Indicates the MIME basic audio content type.
PCM
Indicates the WAV format for audio content.
WAVE
Indicates the AIF format for audio content.
AIF

The Reminder properties are primarily provided as a means for allowing the capture of alarm information when accessing a calendar system. It may not be an appropriate property to send in an event or todo request. Support for this property is optional for implementations conforming to this specification.

Categories
This property is identified by the property name CATEGORIES. This property defines the categories for the vCalendar entity. More than one category may be specified as a list of categories separated by the Semi-Colon character (ASCII decimal 59). The following are some examples of this property:
CATEGORIES:APPOINTMENT,EDUCATION
CATEGORIES:MEETING
Some of the possible values for this property might include the following:

- Some Possible Property Values
- APPOINTMENT
- BUSINESS
- EDUCATION
- HOLIDAY
- MEETING
- MISCELLANEOUS
- PERSONAL
- PHONE CALL
- SICK DAY
- SPECIAL OCCASION
- TRAVEL
- VACATION

Support for this property is mandatory for implementations conforming to this specification.

Classification
This property is identified by the property name CLASS. This property defines the access classification for the vCalendar entity. A calendar entity access classification is only one component of the general security system within a calendar application. It provides a method of capturing the scope of the access the calendar owner intends for information within an individual calendar entry. The access classification of an individual vCalendar entity is useful when measured along with the other security components of a calendar system (e.g., user authorization, access rights, access role, etc.). Hence, the semantics of the individual access classifications can not be completely defined by this specification. Additionally, due to the "blind" nature of most exchange processes using this specification, these entity classifications can not serve as an enforcement statement for a system receiving a vCalendar data stream. Rather, they provide a method for capturing the intention of the calendar owner for the access to the calendar entry.
The following is an example of this property:
CLASS:PUBLIC
The property can have the following values:

Description
Property Value
Indicates general, public access.
PUBLIC
Indicates restricted, private access.
PRIVATE
Indicates very restricted, confidential access.
CONFIDENTIAL

The default value for this property is PUBLIC.
Support for this property is optional for implementations conforming to this specification.
Date/Time Created
This property is identified by the property name DCREATED. This property specifies the date and time that the vCalendar entity was created within the originating calendar system. This is not generally the same date and time that the vCalendar object was created. The property defines a procedure reminder for the vCalendar entity. A procedure reminder is a procedure, or application executable that will be run as an alarm for the event.
While this property has many useful purposes, implementers should be aware of the security implications of sending a vCalendar data stream containing this property. The security implications are similar to those associated with active messages within electronic mail.

Fun Fact

- Later discovered spec in Word 6, Rich Text, and PostScript formats
- <http://www.imc.org/pdi/vcal-10.ps>

Same Difference

- <placeholder>
- RRULE

iCalendar

iCalendar

iCalendar - это формат компьютерного файла, который позволяет интернет-пользователям отправлять приглашения на события и задачи другим интернет-пользователям электронным письмом или обмениваться файлами с расширением `.ics`. Получатели файлов формата iCalendar (with [supporting software](#), such as an email client or calendar application) могут ответить отправителю согласием или предложением назначить другую дату и время встречи.^[1]

<http://en.wikipedia.org/w/index.php?title=iCalendar&oldid=611761288>
(6 June 2014)

Recurrence Rules

A Recurring Nightmare

- turing complete?
- 14.5% of RFC 2445
- 24 pages
- 4 different properties, plus DTSTART = recurrence set
- RECURRENCE-ID

RRULE

The recurrence rule, if specified, is used in computing the recurrence set. The recurrence set is the complete set of recurrence instances for a calendar component. The recurrence set is generated by considering the initial "DTSTART" property along with the "RRULE", "RDATE", "EXDATE" and "EXRULE" properties contained within the iCalendar object. The "DTSTART" property defines the first instance in the recurrence set. Multiple instances of the "RRULE" and "EXRULE" properties can also be specified to define more sophisticated recurrence sets.

RRULE

The final recurrence set is generated by gathering all of the start date/times generated by any of the specified "RRULE" and "RDATE" properties, and excluding any start date/times which fall within the union of start date/times generated by any specified "EXRULE" and "EXDATE" properties. This implies that start date/times within exclusion related properties (i.e., "EXDATE" and "EXRULE") take precedence over those specified by inclusion properties (i.e., "RDATE" and "RRULE"). Where duplicate instances are generated by the "RRULE" and "RDATE" properties, only one recurrence is considered. Duplicate instances are ignored.

CFWS of Calendars

- 8 pages of examples
- don't cover RDATE nor EXRULE
- one example with EXDATE (same as DTSTART)

Every Friday the 13th, forever:

DTSTART;TZID=US-Eastern:19970902T090000

EXDATE;TZID=US-Eastern:19970902T090000

RRULE:FREQ=MONTHLY;BYDAY=FR;BYMONTHDAY=13

==> (1998 9:00 AM EST) February 13;

March 13;

November 13

(1999 9:00 AM EDT) August 13

(2000 9:00 AM EDT) October 13

...

- `FREQ = YEARLY, MONTHLY, WEEKLY, DAILY, HOURLY, MINUTELY, or even SECONDLY`
- `COUNT or UNTIL`
- `BYMONTH, BYWEEKNO, BYYEARDAY, BYMONTHDAY, BYDAY, BYHOUR, BYMINUTE, BYSECOND (and any combination)`
- `INTERVAL`
- `WKST`
- `BYSETPOS`

- Last work day of the month:

RRULE:FREQ=MONTHLY;BYDAY=MO,TU,WE,TH,FR;BYSETPOS=-1

- pay rent!
- OSX Calendar and Outlook:mac can create
- iOS Calendar, Google, and Android can't
- Google will understand it (others not tested)

pay rent Inbox x



Ashley Willis

to me

11:38 AM (2 minutes ago)



pay rent

[View on Google Calendar](#)

When This event has a recurrence rule that cannot be edited in Google Calendar (EDT)

Who Ashley Willis*

Yes

Maybe

No

Agenda

Mon Jun 30, 2014

09:00 [Four loko](#)

10:00 pay rent

No later events

When: Occurs every month on the last weekday of the month from 10:00 AM to 10:05 AM effective 6/30/2014. (UTC-05:00) Eastern Time (US & Canada)

~~*~*~*~*~*~*~*~*

EXRULE

- just like RRULE, but the opposite
- "exclude dates/times matching this pattern"

RDATE and EXDATE

- comma-separated list of:
dates, date-times, or periods
- period is date-time / date-time, or date-time-duration
- no period for EXDATE

RECURRENCE-ID

- 'allows the reference to an individual instance within the recurrence set'
- 'is used in conjunction with the "UID" and "SEQUENCE" property to identify a particular instance of a recurring event, to-do or journal. For a given pair of "UID" and "SEQUENCE" property values, the "RECURRENCE-ID" value for a recurrence instance is fixed.'
- no idea what this actually means

RECURRENCE-ID; RANGE=THISANDPRIOR:19980401T133000Z

Version 2.0 2.0

Version 2.0 2.0

- 11 years later, RFC 5545
- some of the same errors as in RFC 2445

Appendix A.

Differences from RFC 2445

1. New Restrictions
 1. DTSTART
 2. RRULE
 3. BYHOUR, BYMINUTE, BYSECOND
 4. DTEND/DUE type must match DTSTART type
2. Restrictions Removed
 1. local time / time zone
 2. **FREQ**
3. Deprecated Features
 1. EXRULE
 2. THISANDPRIOR
 3. PROCEDURE
 4. multile RECUR
 5. x-name RECUR

Whose Version Is It Anyway?

- Great question
- FREQ?
- no timezone reference?
- still stuck with RFC 822 and that's from August 1982



Floating vs Absolute Time

- Local time:
`DTSTART:19970714T133000`
- UTC time:
`DTSTART:19970714T173000Z`
- Local time and time zone reference:
`DTSTART;TZID=US-Eastern:19970714T133000`