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The CALENDARING & SCHEDULING CONSORTIUM

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This document was created by the Use Case Technical Committee of the Calendaring and Scheduling Consortium and defines the use cases for minimum interoperability for tasks support (VTODO) for calendaring and scheduling. Minimum interoperability is the basic level of functionality our collective experience tells us is necessary to have a useful system. We realize that in some cases it may be more than is currently offered by “basic” calendaring and scheduling applications.

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Min-IOP Use Cases for Tasks (VTODO)

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Introduction

This document was created by the USECASE Technical Committee of the Calendaring and Scheduling Consortium. The document defines the use cases for minimum interoperability of tasks within the calendaring and scheduling application domain. Minimum interoperability is the basic level of functionality our collective experience tells us is necessary to have a useful system. We realize that in some cases it may be more than is currently offered by “basic” calendaring and scheduling applications.

A word about the use of 'task' versus 'todo'. In discussion it was determined that while RFC 2445 uses only 'todo' and RFC 3283 uses task (once), and in fact RFC 2445 defines the VTOD component of an iCalendar object, common usage by vendors and users turns more to the term 'task' than 'todo' (cp. for example the entry in Wikipedia, in which the entry for todo refers to the entry for Time Management, which uses the term 'task'). This document defers to that common usage in the interest of clarity and, hopefully, usability.

Methodology

The set of properties determined to be the minimum set for interoperability was chosen via discussion at CalConnect's Roundtables VI and VII and in conference calls of the USECASE Technical Committee. Additional contributions were provided in an informal survey of properties that are built into existing software products that have Task management features, which formed a starting point for further winnowing of properties. The software products were not selected by any formal process, but were those available to which committee participants had access. However, we believe these to be a fair representation of the types of calendaring products currently in use. Eventually the USECASE Technical Committee decided that it was advisable to proceed by accepting those properties which were implemented by more than fifty percent (>50%) of the software surveyed as representing a minimum set for interoperability. The software applications are:

Palm OS
Oracle Calendar
Yahoo
Evolution
KDE Kontact
Mozilla Sunbird
Apple iCal
Microsoft Entourage
Microsoft Outlook
Lotus Notes

Definitions

The definitions below are taken from the "Calendaring and Scheduling Glossary of Terms," version 1.0, October, 2006, from CalConnect. In accordance with previous comments, the term 'task' has replaced 'todo' wherever 'todo' was found.

Alarm – A reminder for an event or a task. Alarms may be used to define a reminder for a pending event or an overdue task.

Calendar - A collection of events, tasks, journal entries, etc. A calendar could be the content of a person or resource's agenda; it could also be a collection of data serving a more specialized need. Calendars are the basic storage containers for calendaring information. [Reference: RFC 3283]

Calendar User (CU) - An entity (often a human) that accesses calendar information. [Reference: RFC 3283]

Calendaring – An application domain that covers systems that allow the interchange, access and management of calendar data.

CalConnect – The Calendaring and Scheduling Consortium consisting of vendors and user groups interested in promoting and improving calendaring and scheduling standards and interoperability.

Component - A piece of calendar data such as an event, a task, or an alarm. Information about components is stored as properties of those components. [Reference: RFC 3283]

Coordinated Universal Time (UTC) – An atomic realization of Universal Time (UT) or Greenwich Mean Time, the astronomical basis for civil time. Time zones around the world are expressed as positive and negative offsets from UT. UTC differs by an integral number of seconds from International Atomic Time (TAI), as measured by atomic clocks and a fractional number of seconds from UT. [Reference: Wikipedia]

Counter – A counter-proposal request a participant may send to an event or task organizer to suggest a change to the event or task such as the scheduled date/time, list of participants, etc.

Daylight Saving Time (DST) – The period of the year in which the local time of a particular time zone is adjusted forward, most commonly by one hour, to account for the additional hours of daylight during summer months.

Event – A calendar object that usually takes up time on an individual calendar. Events are commonly used to represent meetings, appointments, anniversaries, and day events.

Free time search – (bounded) common free time. This is typically a search generated by an application to show time on a calendar that is available or open.

Freebusy – a database and/or listing of times when a potential attendee or resource is free or busy. Used when scheduling calendar events.

iCalendar – The Internet Calendaring and Scheduling Core Object Specification. An IETF standard (RFC 2445) for a text representation of calendar data (VEVENT, VTODO, VALARM, etc.).

Instance – when used with recurrences, an instance refers to an item in the set of recurring items.

Invite – To request the attendance of someone to a calendar event.

Negotiation - resource conflict resolution. Negotiation is the process of resolving conflicts either programmatically or via direct communication with the participants and invitees of meetings and events.

Notification - 1) The action of making known, an intimation, a notice. 2) reminder or alarm sent when any resource or parties interested in the resource need an indicator that some attention is required. Possible notification methods include email, paging, audible signal at the computer, visual indicator at the computer, voice mail, telephone.

Organizer – the originator of a calendar event typically involving more than one attendee.

Property - A description of some element of an component, such as a start time, title, or location. Properties can have parameters associated with them to modify or add to their meaning.

Publish – make known publicly calendar information such as freebusy times.

Recurring – happening more than once over a specified interval, such as weekly, monthly, daily, etc. See Repeating.

Repeating – an event that happens more than once. You might want an event to occur on a regular basis. To do this you schedule a repeating event. Any changes you make to the event can automatically be made to all occurrences of the event. If necessary, changes can be made to individual events without affecting the others. For example, if you need to attend a weekly meeting, you can schedule a repeating event on your calendar. Using another example, if you want to schedule a five day vacation, schedule an all-day event that repeats daily for a total of five times. If you have to cancel one of the days, delete the one day without deleting the whole event.

Reminders - see Notification.

Task – A calendar object that is commonly used to represent work items.

Text/calendar – The MIME content type for encoding iCalendar objects. Example usage includes: email, web pages.

Time zone - Areas of the Earth that have adopted the same local time. Time zones are generally centered on meridians of a longitude, that is a multiple of 15°, thus making neighboring time zones one hour apart. However, the one hour separation is not universal and the shapes of time zones can be quite irregular because they usually follow the boundaries of states, countries or other administrative areas. Time zones are calendar components that define the time of an event relative to UTC (see below).

To-do – See Task.

Properties Used

We're using the following properties of a Task in this draft (iCalendar VTODO specification property name is in square brackets []):

1. Title [SUMMARY]
2. Priority [PRIORITY: iCalendar supports values 1-9]
3. Due/End Date [DTEND]
4. Access/Privacy [CLASS]
5. Notes/Details/Desc [DESCRIPTION]
6. Category [CATEGORIES]
7. Start Date [DTSTART]
8. Percent Completed [COMPLETED: iCalendar support values 0-100%]
9. Alarm/Reminder [VALARM]

In the examples below, the Task property (as listed above) are indicated in square brackets []:

1) Explanatory text [property numbers]:

Example:

1) A calendar user wants to create a task that must be done by a particular date (but could be done sooner) [1,3]:

Use Cases

1. General Tasks

1.1 Task can be done any time [1]:

Example 1: File reports.

Example 2: Clean desk off.

1.2 Task requires more description [1,5].

Example 1: Pick up roast from Jacobsens [DESC - Brennans not the Jacobsens on Raymond Road].

Example 2: Pick up mail from post office box [DESC - combination is AB - F - IJ].

1.3 Task indicates that it was completed, (percentage 0-100%, NOTE: this is not a date string) [1,8].

Example 1: Buy sister flowers for birthday [100%].

2. Tasks have Due/End or Start Dates.

2.1 Task must be done by a particular date (but perhaps could be done sooner) [1,3]:

Example 1: File income taxes by April 15.

Example 2: Deliver project scope to customer by March 1.

Example 3: Give dog heartworm medicine on the 9th of the month.

Example 4: Certificate for web server expires on the October 20, get new one to install by that date.

2.2 Task cannot begin before a prior task concludes [1,2,3,7]:

Example 1:

Task 1 - Rewrite course schedule import code due to DST changes by January 22nd when classes start - priority 1.

Task 2 - Begin work on event data update on January 23rd after course schedule rewrite is done.

Example 2:

Task 1 - Install Solaris patch updates on test machines by September 15th.

Task 2 - After Solaris patched, patch Oracle OCAS system (which requires the Solaris patches), begin September 16th.

3. Tasks have limited/private or public/group access.

3.1 Task that can only be viewed by creator [1,3,4]:

Example 1: Take son to physical therapist for bum knee (private/personal).

Example 2: Buy train ticket for trip to Portland (personal/private).

Example 3: Vacation – Out of Town (Public)

3.2 Task that can be viewed by a selected group of others [1,4]:

Example 1: Get figures together on revenue for 1st quarter for audit (Group).

Example 2: Practice 1st 32 bars of dance program (Group).

4. Prioritized Tasks.

4.1 Task is more important than other tasks [1,2,3]:

Example 1: Prepare performance review documents for manager before March 1st - priority 1.

Example 2: Research resource usage for CalConnect presentation before January 31st - priority 2.

5. Task categorization.

5.1 Task categories indicate that multiple tasks are grouped, narrowly defined.

Example 1: All tasks have category of 'Set up web application' [1,6]:

Task 1 - Install apache 2 on test host ithilien.

Task 2 - Install php5 on test host ithilien.

Task 3 - Install perl5 on test host ithilien.

Task 4 - Install tomcat on test host ithilien.

Task 5 - Install ant on test host ithilien.

Task 6 - Install latest Java5 SDK on test host ithilien.

Task 7 - Install Oracle Java/SDK on test host ithilien.

Task 8 - Configure cvs.

Task 9 - Checkout web app code from cvs.

Task 10 - Use ant and deploy code.

Task 11 - Confirm application is functioning correctly.

Example 2: All tasks have category of 'Party Preparation':

Task 1 - Hire house cleaner for day before party.

Task 2 - Order flowers one week before party.

Task 3 - Order appetizers from deli one week before party.

Task 4 - Contact caterers about dinner options and make decision.

Task 5 - Send out invitations.

Task 6 - Contact rental store about chairs and tables.

Task 7 - Arrange babysitting for pets and kids (grandparents).

5.2 Task categories of a more general nature (broadly defined).

Example 1: Personal/Family tasks are differentiated by category from work-related tasks.

Task 1 - Personal: Make appt. with counselor

Task 2 - Work: Make sales calls.

Example 2: Tasks belong to long-term or permanent categories related to job areas (e.g., Calendaring, system administration, consulting)

Task 1 - Calendaring: Attend calendaring conference

Task 2 - System administration: patch OS

Task 3 - Consulting: respond to client's question

6. Tasks use alarms.

[NOTE: Alarms are tied to the Due/End Date/Start Date attributes as one would expect.]

Example 1: Take the garbage to the curb on Mondays, start time of 8am, with alarm (VALARM: Audio prompt, with a trigger of one hour before the start time) [1,3,7,9].

Example 2: Give dog heartworm medicine on the 9th of the month, with alarm (VALARM: Email prompt, with a trigger of one day before due date) [1,3,7,9].

References

<http://www.ietf.org/rfc/rfc2445.txt?number=2445>

Internet Calendaring and Scheduling Core Object Specification (iCalendar)
iCalendar is the core data schema for calendaring information

<http://www.ietf.org/rfc/rfc3283.txt>

Guide to Internet Calendaring

This document describes the various Internet calendaring and scheduling standards and works in progress, and the relationships between them, as of its publication date (2004).

<http://www.calconnect.org/publications/calendaringglossaryv1.0.pdf>

Calendaring and Scheduling Glossary of Terms, V1.0

A Glossary of Calendaring and Scheduling Terms developed by CalConnect.