

Calendaring and Group Scheduling with MDaemon 6+

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Abstract

When it comes to calendaring and group scheduling, many small and mid-sized enterprises operate very close to the desk and wall calendar era. This results from the scarcity of practical, serviceable group software available at modest prices. With its integrated calendaring and scheduling capacities, the MDAemon email server supplies useful functions today plus a flexible foundation for enhancements. While some critics complain about the problems of integrating email and schedule management software, MDAemon succeeds at this by developing to industry standards for interoperability. The MDAemon calendar is suitable for individual enterprises as well as multi-domain service providers.

Complicated Schedules Induce Forgetfulness

Few people or enterprises operate using ongoing fixed schedules or anything even close. Schedules are fluid, with changes often flowing quickly. Because most of the world lacks the predictability of an assembly line, success for businesses, charities, hospitals, schools and individuals usually requires clear and current communications about what's happening today, tomorrow and next year. To state it mildly, people need help to remember meetings, appointments and deadlines. Electronic calendaring and group scheduling software can fill this need.



What are Group Calendaring and Scheduling?

Although the words are often used interchangeably, *calendaring* and *scheduling* are different, but related, processes. When calendaring, the people in a group



manage their individual appointments, meetings and memos on a personal calendar. Calendaring is mostly a personal process with personal rewards. Scheduling is the process of setting up joint activities for two or more people in a group by finding common free times on the calendars of all participants.

Calendaring can stand alone, without scheduling. Scheduling relies on current and accurate calendars to operate successfully.

So what about the *group*? For software using a proprietary format, a group must exist within the one enterprise using the calendar. When industry standards underpin an application, the group can include anyone else using a standards-based scheduling product.

Scheduling and Calendaring, Past and Present

Solutions from the Ancients

Scheduling problems and the woes they cause are nothing new to providers of time management products and services.

Before the invention of complex mechanical contraptions, humanity kept schedules by the seasons, the stars, the sun and the moon. Finer granularity came from the shadows on steps, sundials, hourglasses and clock candles.

These worked fine for planning marriage alliances, coronations and eight-month sieges, but, perhaps sadly, they are too general for life today.



Personal Information Managers

Jumping to the 1970's -- a rather long leap -- management consultants popularized personal information managers (PIM), sometimes called pocket planners. Each page covered a month, a week or a day, depending on the busyness of the user's schedule and the space required to record it.



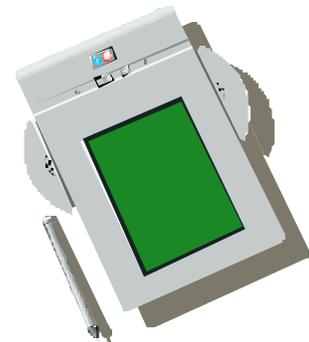
Some of these came with wall calendars for sharing events with others in the office. This type of system worked well in 1978 for the self-disciplined project manager and business owner.

But it worked poorly for the average worker, especially the parts about updating the wall calendar and keeping track of all the small monthly record books.

Personal Digital Assistants

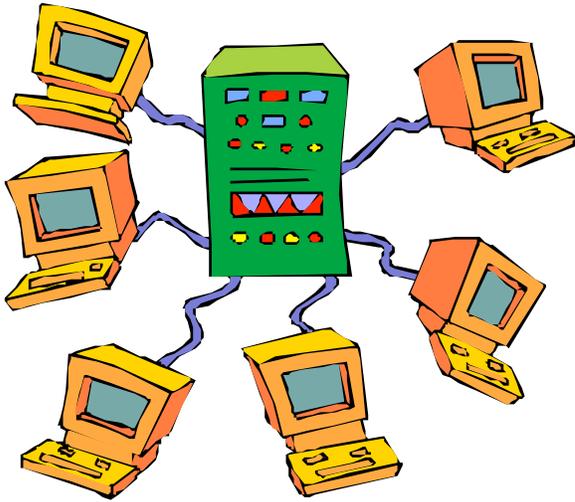
In the 1990's -- a shorter leap in time, but a massive one in technology -- personal digital assistants (PDA) began to replace PIM's.

To understate its personal benefits, the PDA is very effective for personal calendaring and contact management. But it's a pricey gadget, mostly personal and poorly suited for economical, effective and integrated group scheduling.



Proprietary Client-Server Systems

So enter the database-driven client-server calendar, another rollout of the 1990's.



You can buy this type of product today from several large U.S. software companies. But you'll have to give up your lunch money for eternity to pay for it and it only works well with calendars of the exact same brand — sometimes the exact same version of the exact same brand.

There are few, if any, industry standards followed with these tools from the software giants. This makes interoperability difficult when dealing with the growing number of small and medium-sized organizations opting for

lower-cost, industry-standard solutions.

The calendar is integrated with email on some of these systems. In some cases, these programs can be costly to purchase, operate and maintain.

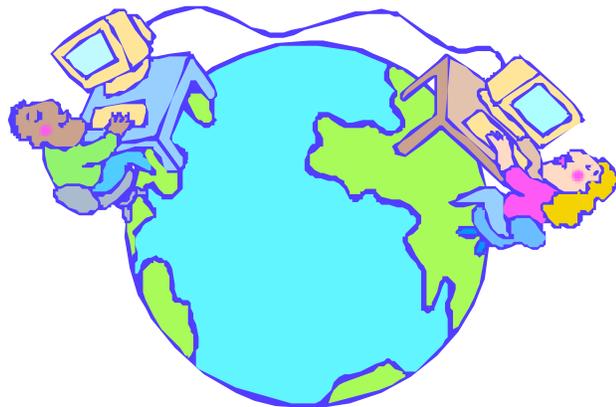
Web Calendars

Of course, the Web itself has birthed dozens of HTML calendars in these four fiscal categories: free, ad-ware, clearly commercial and slowly unbundled price increases.

The personal user might find some of these time schedulers helpful, especially the ones emailing reminders of staff meetings, anniversaries and other potentially dangerous-to-forget events.

However, when you use one of these tools for your workgroup you are storing your company's private timetables on someone else's public Internet server. There are safer ways to do calendaring on the web.

Besides, most group calendars in these categories are awkward to use or slow to operate, or both awkward and slow. A software calendar should run at least as crisply as your schedule, so it slows down nothing.

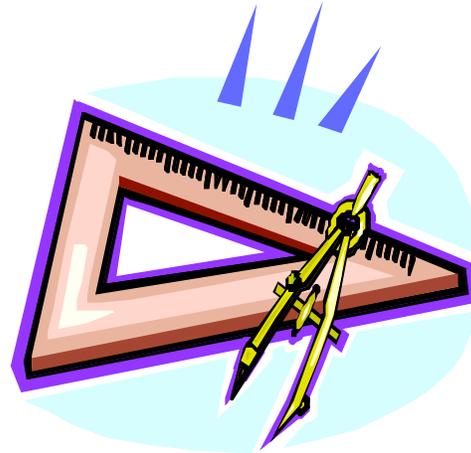


Standards Based Calendaring and Scheduling

Using software built to Internet standards is an emerging way to manage calendaring and scheduling. The old standard is vCalendar. iCalendar is the new standard.

Standards develop from working groups deciding how to enable interoperability among products from competing vendors. When developers produce software to the standards, customers can choose their vendors based on function, service and price, rather than compatibility with the largest developers' proprietary systems.

Working groups from industry determine what is essential to share, what is important and what does not need sharing at all. Standards also typically provide for extensions. The goals are to minimize duplicate development efforts and allow for the free exchange of information. The working groups also develop data dictionaries and word glossaries to help assure common usage.



The Internet Mail Consortium (IMC) <http://www.imc.org/> develops the standards for sharing calendaring and scheduling information.

MDaemon Calendar from Alt-N Technologies uses the latest IMC iCalendar standards of calendaring and scheduling.

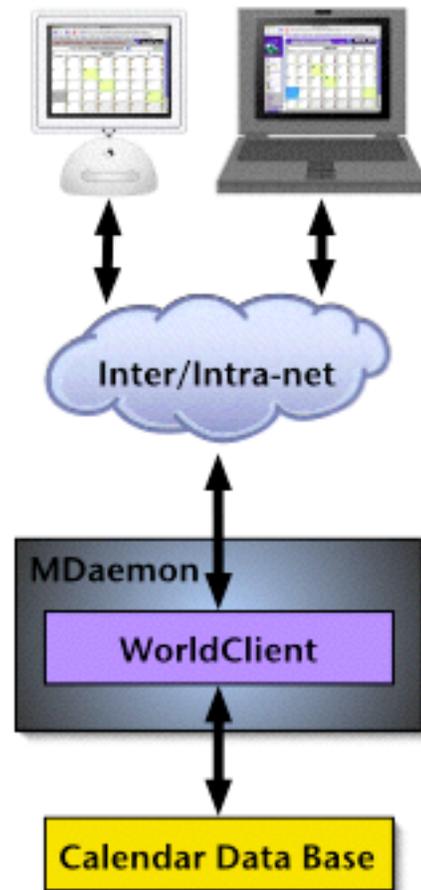
MDaemon Calendar

A Web Application...

The calendar built into MDAemon runs intertwined with the email server and the WorldClient web application.

Because it was designed from the ground up for web access, the calendar works with all more or less current web browsers. Having javascript capability is important. The calendar has been tested with recent versions of Internet Explorer, Netscape Navigator, Mozilla, Fizzilla, Opera, Chimera, and OmniWeb running on Windows and Macintosh machines. Browsers with fully implemented javascript work best, but all get the job done.

As a web browser application, MDAemon Calendar overcomes the accessibility and interoperability problems associated with proprietary brand-name calendars. With MDAemon Calendaring you can quickly access and change your calendar using any computer with Internet capability. You can also share your calendar with other MDAemon users, with people using other calendars built to industry standards and with those using Microsoft Outlook.



...With Fast Performance...



The MDAemon calendar is fast for a web-based application. Fast performance is always a priority, even if this means delaying the introduction of new features. The calendar aims to simplify scheduling not cause additional problems through slow response times.

When you access a calendar via the WorldClient web interface, it literally pops up quickly with your scheduling information.

...And a Simple Interface...

The MDAemon Calendar is easy to use. Even without consulting the online help almost anyone with Windows, Macintosh or X-Windows experience can quickly learn how to manage the calendar just by trying this and that.

It operates pretty much the way you would expect a calendar to work, with tools for managing and viewing meetings, appointments and memos for yourself and, optionally, others.

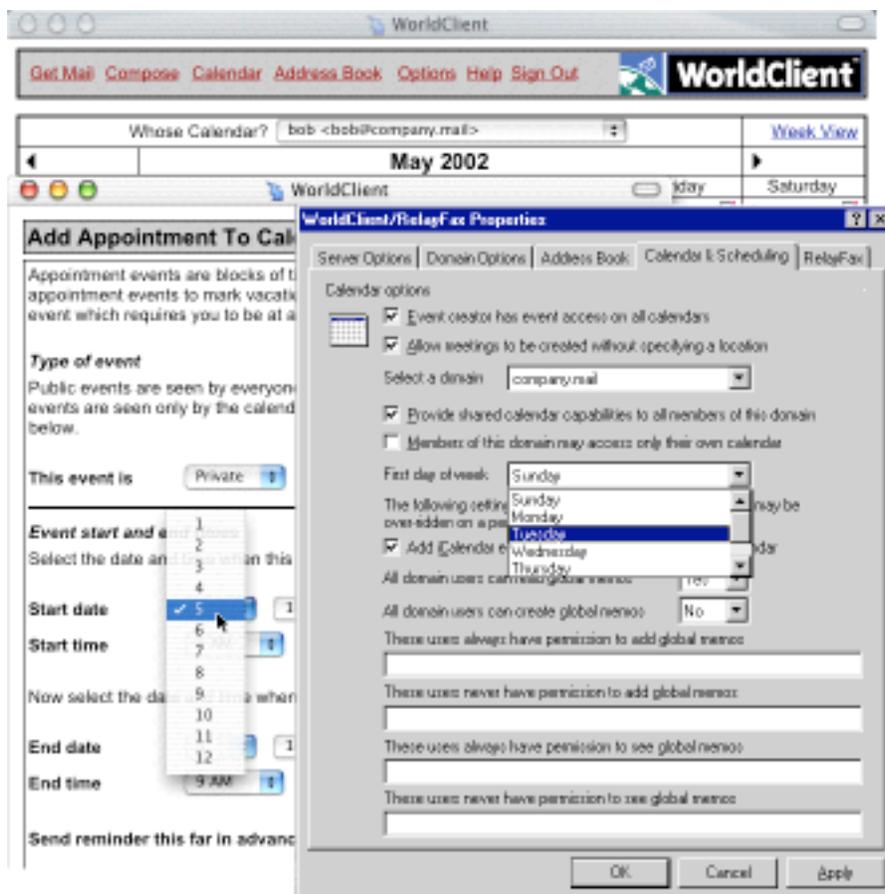
The illustration shows a dialog for setting up an appointment, plus a system administration dialog for setting the first day of the week.

...Plus Easy System Management

The MDAemon calendar is also very easy to use for the system administrator. From an operations

viewpoint the calendar runs as part of the WorldClient web application. Its configuration is mostly on one tab of the command used to set up WorldClient.

Because of the flexibility of MDAemon, the calendar can serve one or multiple email domains. The system administrator can specify unique options for each domain, making the calendar a viable and billable offering for service providers.



MDaemon Calendar Details

MDaemon Summary

MDaemon Calendar combines the functions of a personal calendar and a wall calendar in one package, only it's better than both. Because this software calendar is convenient and easy to use, it is more likely to see real-life action within a workgroup than either of its paper predecessors. In addition, its adherence to standards enables interoperability with other systems.

The calendar is fully integrated with the MDAemon email server. This enables convenient publication of meetings and appointments for use by other people working both in and outside of the originating domain.

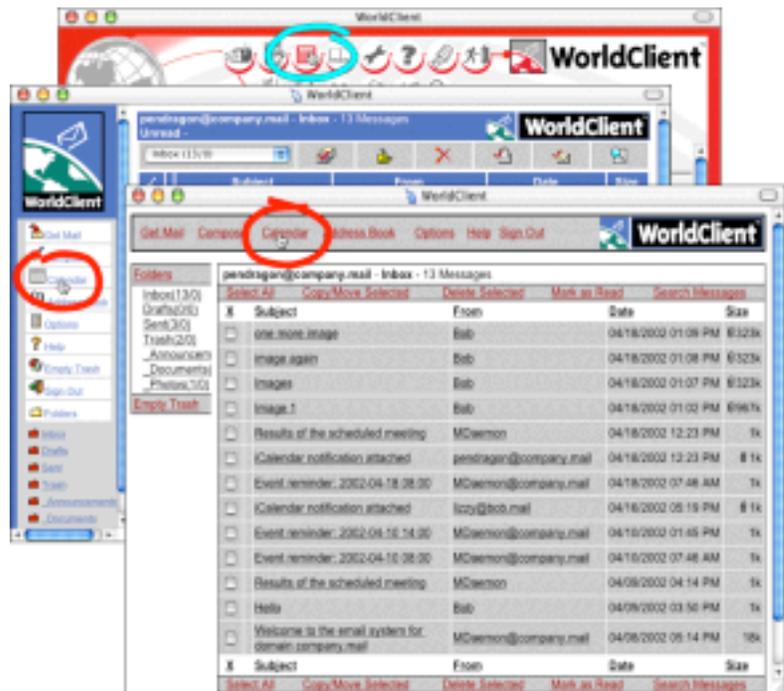
Linking to the Calendar

Access to the calendar is from links in WorldClient. The illustration shows the Calendar link for three different WorldClient themes.

When activated, the calendar tends to load and display quickly. Actual response times depend on the:

- bandwidth of the network connection
- amount of traffic on the network
- processing load on the hardware hosting the server
- processing load of the server
- HTML rendering speed of the web browser.

When MDAemon is running on hardware that meets or exceeds the recommendations, the response of the server itself is very quick.

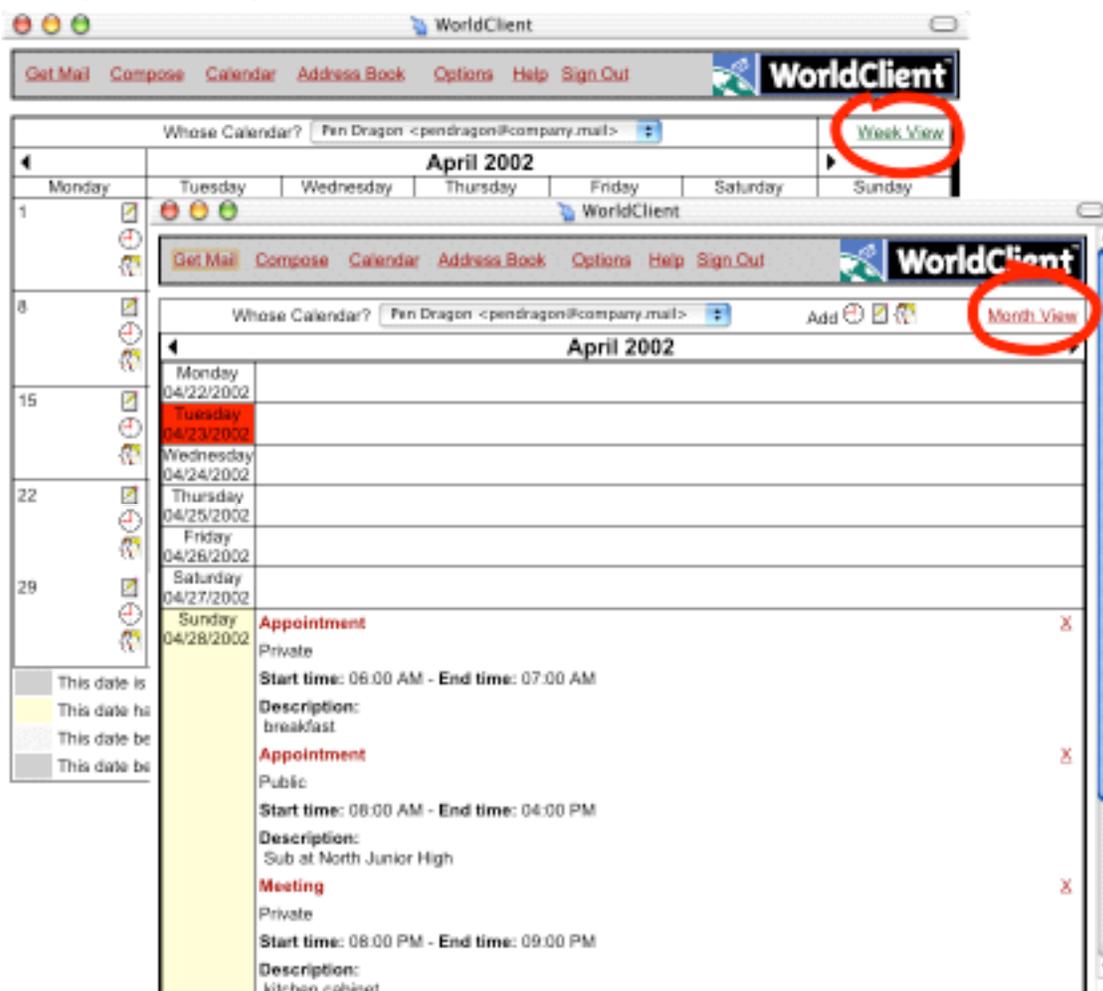


Calendar Views

When accessed from a WorldClient link, the calendar displays the user's choice of a default view — weekly or monthly.

The beginning day of the week in the weekly or monthly calendars can be any of the original seven days — Sunday through Saturday. The system administrator, not the user, sets the first day of the week for each email domain. This flexibility is useful, for example, for a service provider having enterprise customers with differing work weeks.

A link on each calendar page provides for easy and quick switching between the monthly and weekly views.



Configuration Options

Calendar configuration options are split between the system administrator and the user.

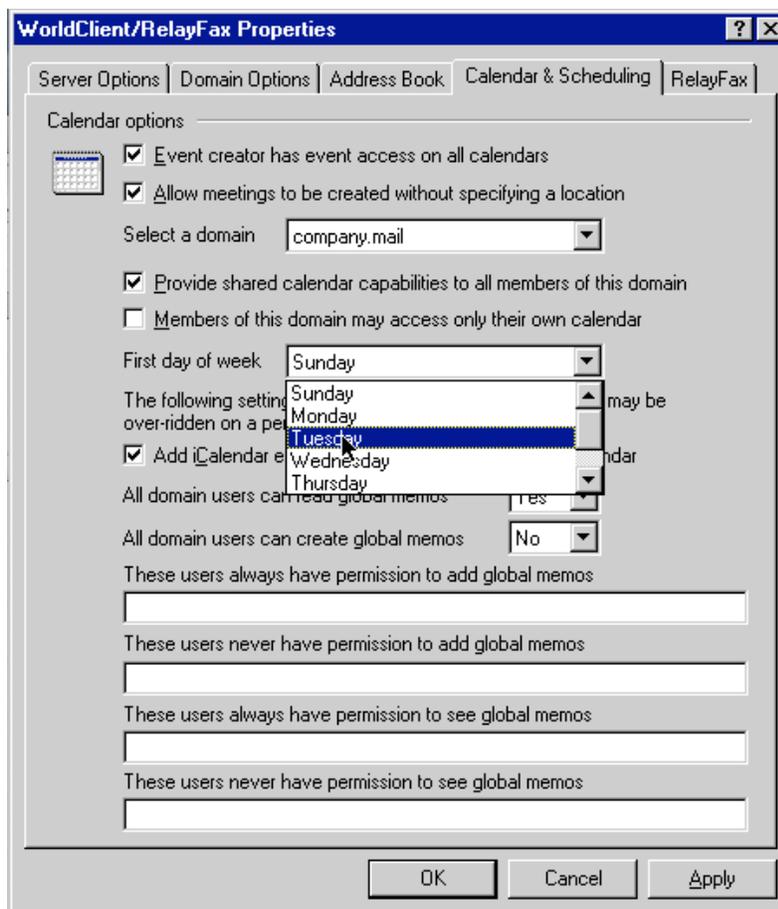
System Administration

System level options apply to all users in an email domain. Each MDAemon domain can have unique options, although many of the options can be set up using global defaults for all domains.

The system administrator configures the calendar using one tab in the **WorldClient/Relay Fax Properties** dialog.

The **Calendar & Group Scheduling** tab contains all of the calendar options available to the system administrator. Settings on this tab:

- Determine if the event creator — that is the person who sets up a meeting — can view the free and busy times of all calendars.
- Set whether a meeting notification must include a location selected from a list. (Users can add to the list of available locations just by entering a location into a meeting notification. At some time the list of users with this capability may be limited.)
- Enable or disable calendar sharing for all users in a domain. This option can allow an ISP to offer calendaring, but not group scheduling, to individual email accounts using the same domain.
- Set the first day of the week as displayed on the monthly or weekly views.
- Determine if calendars will process iCalendar attachments sent with emails. If enabled at the system level, the user can override iCalendar processing.



- Set who can create and read global memos. A global memo serves as an announcement to everyone in an email domain. Enabling global memos is done at the domain level, with optional overrides for specific individuals. For example, the administrator can disable the creation of global memos for everyone, then grant that permission to several individuals by entering their email addresses into a text box. The same type of permission granting applies to global memo viewing.

User Options

User options apply only to the calendar of individual users.

Users configure their options by clicking on the **Options** link while using WorldClient. This displays a page of option categories where the user selects **Calendar**.

The Calendar options:

- Set the type of time display — 12-hour or 24-hour.
- Specify the default view for the calendar — weekly or monthly. Both calendar views contain a link for switching to the other view.
- Enable the processing of iCalendar events attached to emails. The user can do this only if the administrator has enabled iCalendar processing.
- Set permissions for allowing or disallowing others to add and view events on the user's calendar. The user sets global permission to enable or disable access, then adds overrides either way by entering individual email addresses within the user's domain.

WorldClient

Get Mail Compose Calendar Address Book Options Help Sign Out

WorldClient

Finished Save Cancel

Display my hours in an AM/PM format (Otherwise time will be displayed in a 24 hour format.)
Yes

Default calendar display mode (Week-view or Month-view)
Month

Always add iCalendar events found within email messages to my calendar
Yes

Allow others to add new events to my calendar
No

Allow others to see public events when viewing my calendar
Yes

These users always have permission to add new events to my calendar

These users never have permission to add new events to my calendar

These users always have permission to see public events when viewing my calendar

These users never have permission to see public events when viewing my calendar

Import calendar data from comma delimited file
Import

Export calendar data to comma delimited file
Export

- Allow importing and exporting of calendar information by using a comma delimited file. The current import and export function maps the data for Outlook and Outlook Express. To work with other applications, users must map the import and export data using the other application, or a third application such a word processor or spreadsheet. Future releases will allow mapping of the data to specific fields.

Meetings, Appointments, Memos

Setting Up Events and Memos

Meetings and appointments are the events for the MDaemon calendar. Meetings and appointments go on individual calendars and enable users to schedule group events by reconciling common free times for all participants. Events can be public or private. A public event can be viewed by anyone who can view a calendar. Private events are viewable by their creators, all participants, plus others who are granted viewing access by the creators.

Memos are reminders to do things. They are typically private. However, global memos serve as domain-wide announcements and appear on everyone's calendar.

Meetings, appointments and memos are the only reasons for the calendar to exist.

Users add events and memos by viewing a calendar and clicking on one of three icons for three categories of information:



Meeting icon



Appointment icon



Memo icon

Clicking on an icon displays a page for setting up the event or entering the memo.

Meetings

Meetings are group events. All participants must have free time on their calendar to be scheduled for a meeting. The person creating a meeting can specify an exact date and time for the meeting or allow the scheduling system to find the first available date. Meetings can be public or private.

Clicking on the meeting icon displays a page where the user:

- Sets whether the meeting is public or private.
- Suggests a date and time for the meeting and sets up timing for an email reminder.
- Optionally requests the computer to find the first free time for all of the participants.
- Selects a location from a drop down list or enters a new location by typing it in a text box.
- Keys in a description of the meeting.
- Chooses attendees from a list of users in the domain. The system admin for MDAemon can select from a list of all users in all domains.
- Enters email addresses for sending iCalendar notifications of the meeting.

After the creator sends the meeting request, the scheduling software updates the calendars of all participants with free time on their calendars. It sends email meeting notifications to all participants. Participants with timing conflicts receive notification documenting the scheduling problem. The meeting creator receives an email showing the meeting scheduling results.

The screenshot shows a web browser window titled "WorldClient" with a "Schedule Meeting" form. The form includes a header with the title "Schedule Meeting" and a brief instruction: "Meeting events are blocks of time devoted to meeting with others. Use meeting events when you need to schedule a block of time with one or more co-workers." Below this, there are sections for "Type of event" (set to "Private"), "Event start and end times" (Start date: 4/25/2002, Start time: 8 AM, End time: 9 PM), "Send reminder this far in advance of the event" (15 minutes), a checkbox for "It's okay to schedule this meeting at the first free opportunity.", "Meeting location" (Kitchen), "Enter some text to describe this event" (Kitchen Cabinet - Bring your notebooks please.), "Attendees" (list of users: Glenn, Nancy, Pen Dragon, Russell, Scott), "Send iCalendar emails to the following addresses" (darcey@bob.mail, lizzy@bob.mail), and "Send iCalendar email to all meeting attendees" (checked). At the bottom, there are "Finish" and "Cancel" buttons.

Appointments

Appointments are personal engagements for business or otherwise. Appointments can be public or private.

Clicking on the appointments icon displays a page where the user:

- Sets the appointment as public or private.
- Enters a date and time for the appointment and sets up timing for an email reminder.
- Types a description of the appointment.
- Sets permissions for viewing the appointment info by selecting email addresses from a list. For a public appointment, selecting a person denies viewing access. Selecting a person for a private appointment grants viewing access.
- Enters email addresses for receiving iCalendar notification of the appointment.

After the creator finishes the appointment it appears in the calendar.

The screenshot shows a window titled "WorldClient" with a dialog box titled "Add Appointment To Calendar". The dialog box contains the following sections:

- Appointment description:** "Appointment events are blocks of time when you have to be somewhere. Use appointment events to mark vacation days, visits to the doctor, or any type of event which requires you to be at a certain place for a certain period of time."
- Type of event:** "Public events are seen by everyone with access to this calendar. Private events are seen only by the calendar owner and those who are specified below." A dropdown menu is set to "Private".
- Event start and end times:** "Select the date and time when this event begins and ends." Fields for Start date (4/23/2002), Start time (8 AM 00), End date (4/23/2002), and End time (9 AM 00) are present.
- Send reminder this far in advance of the event:** A dropdown menu is set to "15 minutes".
- Enter some text to describe this event:** A text input field containing "Janet Kline".
- Permissions:** "If this is a public event then the addresses selected here will be denied access. If this is a private event then the addresses specified here will be granted access." A list of email addresses is shown: Bob <bob@company.mail>, Brad <brad@company.mail>, Glenn <glenn@company.mail>, Nancy <nancy@company.mail>, and Pen Dragon <pendragon@company.mail>.
- Send iCalendar emails to the following addresses:** "Separate multiple email addresses with a comma." An empty text input field is provided.
- Click the finished button to add this event to the calendar.** Two buttons, "Finished" and "Cancel", are at the bottom.

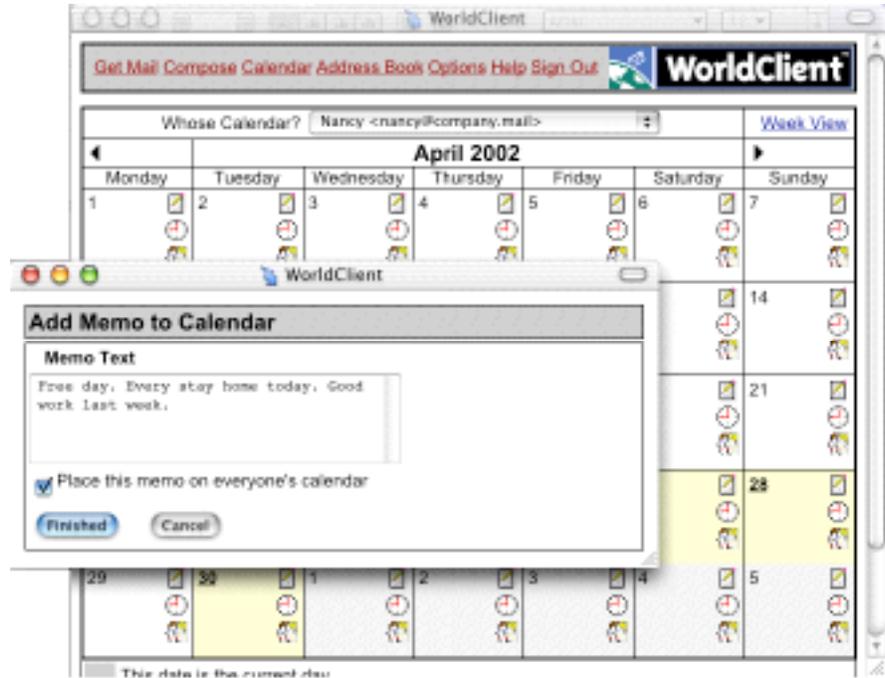
Memos

Memos are reminders to do things: Feed the Dog. Finish the Budget. Update the Billing Script. That sort of thing. Unlike meetings and appointments, memos are private only. But, they can be global for everyone in the email domain, except for those excluded by the system administrator. The system administrator assigns permission to create and view global memos.

Clicking on the memo icon displays a page where the user:

- Enters the content of the memo.
- Optionally makes the memo global.

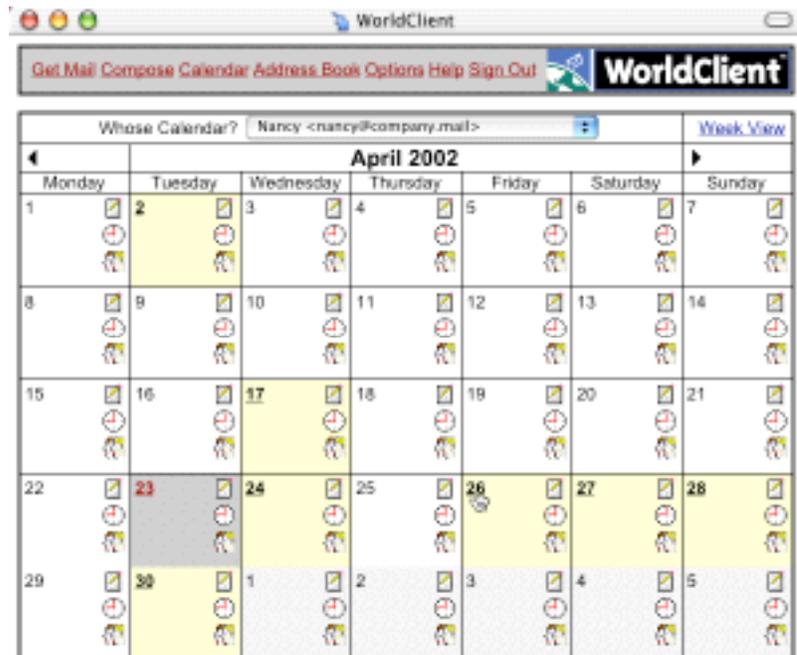
After the creator finishes the memo, it appears in the calendar of the creator and everyone who is permitted to see global memos if it is global.



Viewing a Calendar

When viewing a monthly calendar, dates with appointments, meeting and memos are underlined and colored.

The color key is at the bottom of the calendar. The underline is a link to the information for the day. Users can click the underlined date to view the information.



The weekly calendar contains all of the information for appointments, meetings and memos without the need for additional links.

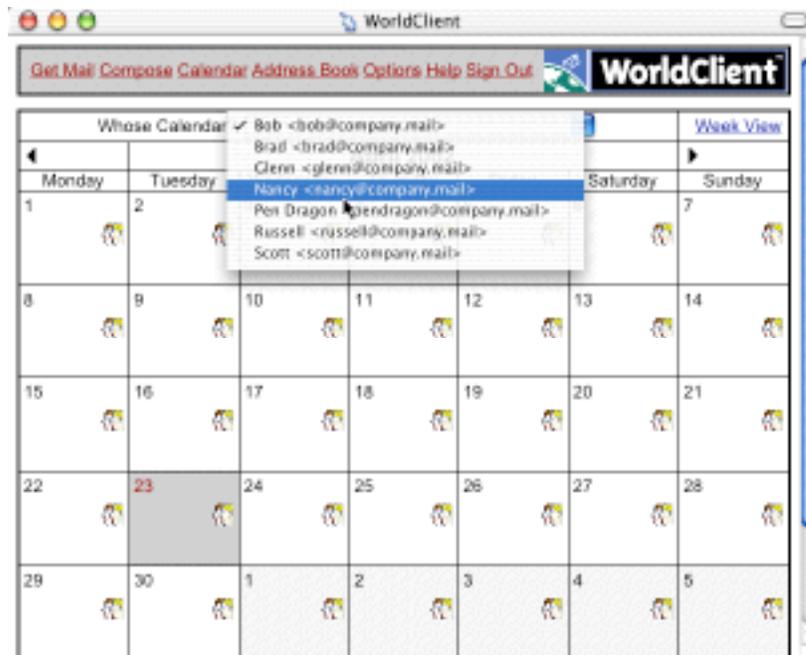
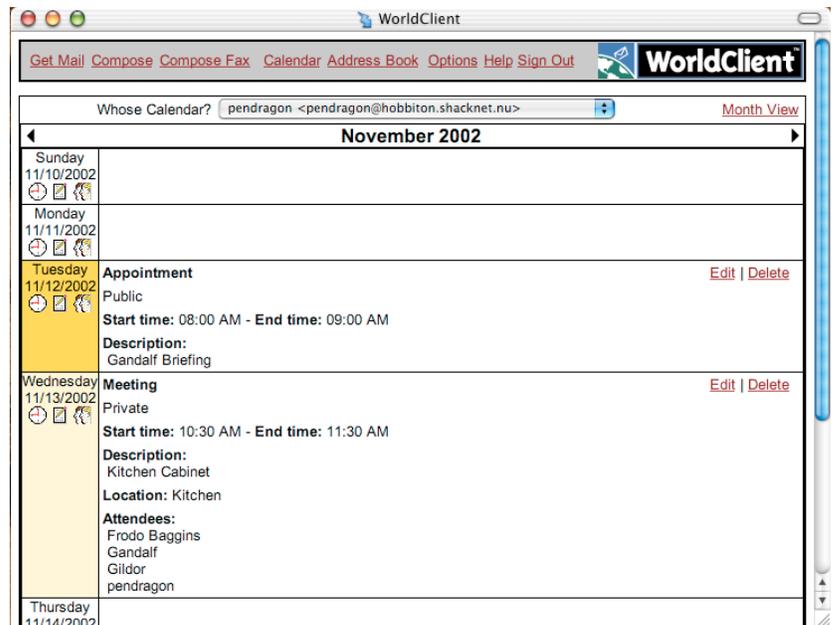
This view shows all details for a week and uses scrolling to see the days later in the week.

The Edit and Delete links are for changing the information.

Cross Viewing and Scheduling

Service providers offering personal calendaring to individual customers can prohibit the cross viewing of other's information in the same domain. This means nancy@yourisp.net cannot see the calendar for bob@yourisp.net.

However cross viewing and updating of other's information is extremely useful in calendaring and group scheduling. As a function, it allows you to update someone's calendar without logging out of your calendar or knowing the other



person's password. This can be very useful in a trustful environment.

A user can view another person's calendar by pulling down the list on the top of either calendar view. If you have permission to update information, you will see the dates underlined and highlighted as you do on your own calendar.

The system administrator and individual users control who can update a calendar. Cross scheduling applies to meetings and appointments, but not to memos, which requires direct logging in to an account.

The administrator enables sharing of information as a system setting through the **WorldClient/Relay Fax Properties** dialog. Users choose to turn it on and off via the WorldClient options.

You can tell if you have viewing and updating permission if you can see links on the dates of another person's calendar. You will also be able to see the Add meeting icon if you have update capability.

Adding a meeting to another's calendar is just like adding a meeting to your own calendar. The difference is the notification email sent to the calendar owner says, "Your calendar has been updated." Other participants receive an iCalendar attachment.

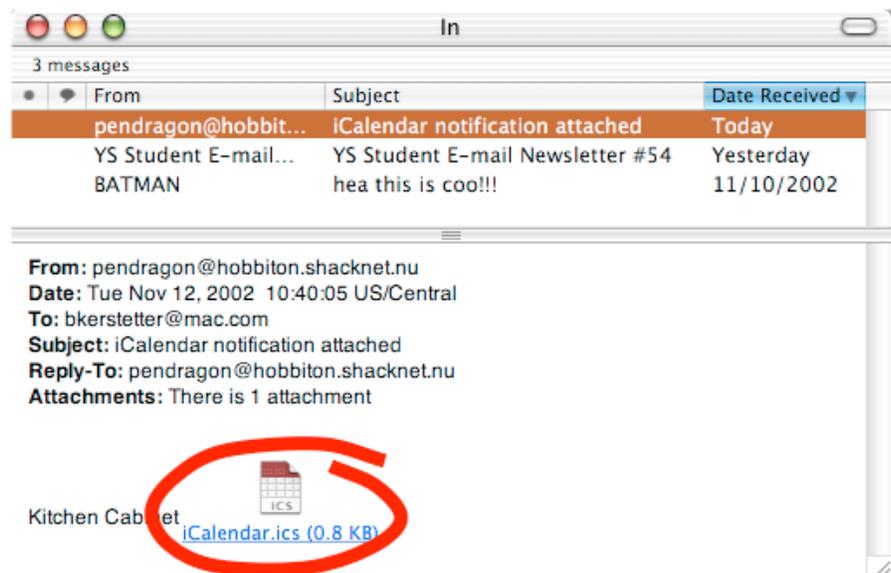
Changing Events

You can edit the content for any event, including the date, time, description and type (public or private). To edit an event, the user:

- Displays the event.
- Clicks on the Edit button.
- Alters the information.
- Clicks on the Finish button.

Doing this sends an updating email to any local recipients of the original event.

Participants with email accounts on other servers can be mailed updated iCalendar attachments.



Notifications

Every scheduled meeting is documented with emails to all participants. Notification can be by direct updating of a calendar and by iCalendar attachments. Some appointments are also documented by sending iCalendar attachments to user-specified individuals. *Appendix: Message Examples* contains samples of messages associated with adding and changing events.

Notification of meetings, appointments and changes go to users:

- in the local domain through email
- in the local domain through calendar updating
- out of the local domain through emailed iCalendar attachments. (iCalendar attachments can be sent to local domain users as well.)

To the Future and Beyond

Alt-N is a responsive, flexible company with both ears aimed at our customers. When customers talk we listen and try to meet their needs.

The calendar itself was the result of listening to the needs of our customers. Every feature of the calendar was requested by someone.

Every release of MDaemon and its associated programs goes through extensive beta testing. The betas are stable enough that some customers run them as production software.

Alt-N plans on continuing development of the calendar part of MDaemon by providing useful tools as customer requirements change.

Appendix: Message Examples

These are samples of messages generated by the scheduling program.

Results of a Scheduled Meeting

The message shows the outcome of scheduling a meeting with a fixed time.

```
The following meeting has been scheduled:

Meeting starts at
-----
04-26-2002 at 08:00 AM

Meeting ends at
-----
04-26-2002 at 08:00 PM

Meeting location
-----
Kitchen

Meeting description
-----
Kitchen Cabinet

Attendees (no scheduling conflicts)
-----
Bob
Brad
Glenn
Pen Dragon
Russell
Scott

Attendees (scheduling conflicts - calendars not updated)
-----
Nancy
```

Your Calendar Has Been Updated

This message goes to the owner of a calendar when someone else adds a meeting directly to their calendar.

Bob has updated your calendar and scheduled the following meeting:

Meeting starts at

04-28-2002 at 06:00 AM

Meeting ends at

04-28-2002 at 07:00 AM

Meeting location

Backyard

Meeting description

Mowing Committee

Attendees (no scheduling conflicts)

Bob
Brad
Glenn
Nancy
Russell
Scott
darcey
lizzy

Attendees (scheduling conflicts - calendars not updated)

None

Your Calendar Has Been Updated - Cancellation

This message goes to all participants of a cancelled meeting.

Bob has updated your calendar and cancelled the following meeting:

Meeting starts at

04-26-2002 at 08:00 AM

Meeting ends at

04-26-2002 at 08:00 PM

Meeting location

Kitchen

Meeting description

Kitchen Cabinet

iCalendar Notification Attached

This message goes to email recipients selected to receive iCalendar notification of an appointment or meeting.

Event Planning

2.0 File: iCalendar.ics Size: 1K Content Type:
text/calendar

This is sample content of an iCalendar attachment.

```
BEGIN:VCALENDAR
PRODID:-//Alt-N Technologies Ltd//MDaemon 6.0.0u//EN
VERSION:2.0
METHOD:REQUEST
BEGIN:VEVENT
ORGANIZER:MAILTO:pendragon@company.mail
ATTENDEE;ROLE=REQ-PARTICIPANT;PARTSTAT=ACCEPTED:MAILTO:pendragon@company.mail
ATTENDEE;ROLE=REQ-PARTICIPANT;PARTSTAT=ACCEPTED:MAILTO:russell@company.mail
ATTENDEE;ROLE=REQ-PARTICIPANT;PARTSTAT=ACCEPTED:MAILTO:scott@company.mail
ATTENDEE;ROLE=REQ-PARTICIPANT;PARTSTAT=ACCEPTED:MAILTO:darcey@bob.mail
ATTENDEE;ROLE=REQ-PARTICIPANT;PARTSTAT=ACCEPTED:MAILTO:lizzy@bob.mail
UID:20020424T150000Z3
DTSTART:20020424T150000Z
DTEND:20020424T160000Z
SUMMARY:Mowing committee
ORGANIZER:MAILTO:pendragon@company.mail
LOCATION:Backyard
TRANSP:OPAQUE
ACTION:DISPLAY
DTSTAMP:20020423T142808Z
CLASS:PRIVATE
BEGIN:VALARM
DESCRIPTION:Mowing committee
ACTION:DISPLAY
TRIGGER:PT15M
END:VALARM
END:VEVENT
END:VCALENDAR
```

Meeting Attendance

This message goes to the creator of a meeting when a participant deletes the meeting and will not attend.

Brad has deleted the following meeting from his/her calendar:

Meeting starts at

04-26-2002 at 08:00 AM

Meeting ends at

04-26-2002 at 08:00 PM

Meeting location

Kitchen

Meeting description

Kitchen Cabinet

Meeting Attendance - Conflicts

This message goes to meeting participants with scheduling conflicts.

The following meeting was scheduled but your schedule contains a conflicting appointment:

Meeting starts at

04-26-2002 at 08:00 AM

Meeting ends at

04-26-2002 at 01:00 PM

Meeting location

Lunch Room

Meeting description

Event Planning

Attendees (no scheduling conflicts)

Brad

Attendees (scheduling conflicts - calendars not updated)

Bob
Glenn
Nancy
Pen Dragon
Russell
Scott