

Off and Running With CARS—Part 2



We hope you enjoyed Part 1 of our article on the CARS implementation in the last issue of *Occasional Downtime*. We continue with Part 2 and more on the implementation process in the Registrar's Office.

During the week of December 2–6th, the CARS system was used to preregister students for the Spring 2003 semester. CARS was also used in Spring 2002 for Fall 2002 preregistration. Before the Registrars were able to do preregistration last spring, a great deal of work had to be done to prepare. The full course catalog had to be converted and imported into CARS and the Fall Course Schedule had to be created. The Web version of the course schedule also had to be created. In addition all data on students and faculty had to be converted and imported into CARS. Less preparation had to be done for the Spring 2003 Preregistration, although we are still working on a better system for the academic department chairs to work with the Registrar to construct the course schedule.

Another big milestone in the CARS project is the implementation of the CARS/Jenzabar Web portal modules. A representative from Jenzabar was at the Claremont Colleges for two weeks in January. He spent two days on each campus installing and configuring the portal software and doing training. Each campus has its own portal server as well as a separate server to host the portal database. Currently, we are in the midst of converting and importing the data necessary to implement the faculty portal module. The Registrar expects to run an initial pilot program of the faculty module this spring with a more extensive pilot in the fall.

The initial pilot program will run with a test group of 5–7 faculty members from various departments. The group will test the Web portal to access their own personal CARS data as well as student data from the CARS database. The Web portal module supports a wide variety of features, including online registration, online degree audit, online viewing and ordering of transcripts, a calendar, and online submission of grades. An online reporting tool called Access is also available to write and view reports on the Web. Another nice advantage of the Web module is that it will allow the Web version of the Course Schedule to be updated dynamically as changes are made. At the moment it is automatically updated once a day only. The pilot programs this spring and next fall will help determine which features we decide to implement and how much data we want to make available through the faculty portal. Subsequent pilot programs will focus on the student Web portal. 🐾



Don't Break Your Memory Bank!



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"In our daily lives, we must budget resources in order that we may accomplish goals with utmost efficiency and thus save the most important —TIME." Anonymous

When I think of resources, the most immediate items that come to my mind are water, gas, electricity, etc... Something that each of these resources have in common is that they are finite or limited by the constant need to be replenished. Computers also have resources that can be overtaxed. The most common resource to be concerned about is system memory.

TYPES OF MEMORY

The first thing to clarify is the difference between disk storage and memory used by the system for processing and performance. Users sometimes use the term "memory" when they actually mean hard drive or disk storage. The hard drive is used by the computer to save and store applications, documents, and other types of files. Data saved to the hard drive stays there until the user deletes it. Nine years ago an Apple Macintosh Quadra might come with an 80 MB hard drive. New computers now come with at least 60–80 GB drives, or 1000 times as much disk space.

There are three major types of memory used by the system for processing. They are physical, cache, and virtual memory. Physical memory is what most people are thinking about when they talk about memory and is the type of memory most frequently upgraded in order to increase system performance. It can also be called main memory. Main memory is analogous to a table top in that it provides a readily accessible space to quickly sort and

retrieve tools or data for processing. The system dynamically swaps portions of data or applications into main memory in order to speed performance.

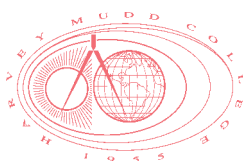
There are actually two subclasses of physical memory to be aware of. They are system RAM and video RAM. Video RAM is typically part of the video card. High-end video cards typically come with more video RAM to support more advanced graphics applications such as digital video processing or video games. Video RAM can sometimes be upgraded, but it depends on the video card.

Cache or buffer memory is an intermediary between the physical memory and the processor. As such, the cache can be thought of as the work queue. It provides extremely fast access to the processor. One type of cache memory is actually located on the processor chip itself.

The third kind of memory is virtual memory. This memory is the slowest and works by taking unused data and transferring it to a section of the hard drive.

HOW DO MEMORY PROBLEMS OCCUR AND WHAT CAN I DO TO PREVENT THEM?

Overuse of memory resources is, unfortunately, fairly common. Frequently noticed effects are slowing of the system when booting up, taking longer to open a program or access files, and redrawing objects on the screen as it changes. System lockups are also often caused by memory problems. If these types of problems become common on your office computer you should contact the Help Desk at 7-7777 for help. Often the easiest solution



is to upgrade the amount of memory your machine has. But, for those of you who are interested we've included some more technical information about what causes memory problems and some memory management tips.

SYSTEM SLOWDOWN

These effects show themselves most readily when physical memory is filled and the hard drive is then forced to serve as virtual memory. In this role, the hard drive is told to temporarily hold data that is not needed currently but may be needed later in the session. The system is slowed down in the process when it needs to return the swapped data on the hard drive to physical memory.

Technical tip: If you notice that the system is slowing down, close programs that you have no immediate need for. Each program that is running will use memory and can fill the physical memory quickly. When using programs such as Eudora where multiple windows can be opened inside of the application, try to view the message in the preview pane to avoid opening multiple message windows and limit the number of mailboxes that are opened. Further, consider turning off system sounds, lowering your screen resolution, and/or removing your background picture.

ILLEGAL OPERATION AND SYSTEM LOCKUPS

A second instance that leads to trouble is memory corruption. If you think of portions in memory as a directory at a theme park, there are pointers to the beginning address of a large chunk of data. If that pointer is changed to another address or the data that it points to is changed without the calling program's knowledge, the operating system could do something as minor as bringing up an error message to completely locking up.

Technical tip: The solution in most cases where an error window appears is to close the offending program and wait a moment
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Editor's Notes

This month we have several follow-up articles to the last issue of *Occasional Downtime*: part 2 of our article on CARS, another article on e-mail and spam, and more on using filters in Eudora. We also have an article about managing your memory resources on your PC. Finally, we have a short piece on the status of Mac OS X on campus. Enjoy!

Unfortunately, the new year brings some bad news for *Occasional Downtime*. Due to our staffing shortage, we will not be able to publish five issues of *Occasional Downtime* this year. We will most likely publish only three issues; one issue each semester and our traditional welcome issue in August.

But don't worry! We will be exploring other options for getting news and information to our users, including Web pages and e-mail.

—Elizabeth Hodas

Occasional Downtime is published three times a year by the Computing and Information Services Department at Harvey Mudd College. It is also available in PDF format on the HMC Web Server. Comments and questions can be directed to downtime@hmc.edu.

Did You Know?...

Information About E-mail and Mailing Lists At HMC

In the last issue of *Occasional Downtime*, our article “Slay Spam!” discussed ways in which users can reduce the amount of spam they receive every day. Many users have asked us why CIS can’t just install spam filters on the mail servers. Unfortunately, it’s not that simple. For one thing, scanning every piece of e-mail through a series of filters would put quite a load on the mail servers. But the main reason is that it is difficult to create filters that will eliminate spam without also eliminating e-mail that some people may want to receive. We prefer to leave it up to the individual user to determine what is and isn’t spam.

That’s not to say that CIS is doing nothing when it comes to spam and other inappropriate uses of e-mail. Here are a few of the things CIS does to limit spam and prevent e-mail abus. We are exploring other options as well.

Mailing lists are a prime target for spam because they can reach so many people at once. The list server software that we use allows us to configure lists in a variety of ways. Mailing lists can be protected by limiting the size of messages that can be sent to the list. This effectively limits the size of attachments that can be sent to the list. This particular measure is surprisingly effective in preventing the sending of both spam and e-mail viruses to the mailing lists. When a too-long message is sent to a list, it is bounced back to the sender. The owner of the mailing list also receives a bounce message so that

if the sender is legitimate the owner can let them know that their message did not get sent. Mailing lists at HMC and Claremont with this restriction typically block 3–4 of these messages a week.

We can also restrict who can send to a mailing list. For example, a list can be configured to only accept mail from users with Claremont IP addresses, or only from users actually subscribed to the list. Lists can also be moderated, in which case only e-mail approved by the moderator gets sent to the list. At HMC the `students-1@hmc.edu` mailing list is moderated by a student moderator who is appointed by ASHMC every year.

Sending e-mail to `faculty-1@hmc.edu` and `staff-1@hmc.edu` at HMC is restricted in a somewhat different way. E-mail from HMC addresses is sent directly to the lists. E-mail from the other Claremont Colleges or from outside the Colleges is automatically redirected to two other lists: `faculty-announce-1@hmc.edu` and `staff-announce-1@hmc.edu`. The difference between the regular lists and the announce lists is that users can choose to unsubscribe from the latter and thus elect not to receive any announcements from the other Colleges. (faculty and staff cannot unsubscribe from `faculty-1@hmc.edu` or `staff-1@hmc.edu`.) The announce lists are also easy for users to redirect to another mail folder using filters. (HMC users can also send e-mail directly to the announce lists if they wish to send out “For Sale” messages or other types of announcements.)

The Claremont Colleges have also created several standard e-mail aliases to make it easier for users to send to the appropriate lists. So the following aliases will work for each of the Claremont Colleges:

- ▼ student@institution.edu (and students@institution.edu)
- ▼ faculty@institution.edu
- ▼ staff@institution.edu

These aliases point to lists on each campus that are intended for official college business. However, remember that each campus has its own policies regarding mailing lists. Some of these lists may be moderated or otherwise restricted. Each college also has an alias, announce@institution.edu, for general announcements or messages.

In addition to campus specific lists, the Colleges have also created aliases for each constituency at the Claremont Colleges as a whole. For example:

- ▼ faculty@claremont.edu
- ▼ staff@claremont.edu
- ▼ student@claremont.edu (as well as students@claremont.edu)
- ▼ announce@claremont.edu.

Spam is not the only abuse of e-mail that CIS is concerned about. We've written many times about viruses and their spread through e-mail. Most viruses are now disseminated through e-mail and spread by sending copies of themselves to addresses found in the infected user's e-mail address book. Outbreaks of e-mail viruses have generated massive quantities of e-mail, enough to overload mail servers around the world. In addition to encouraging the use of antivirus software by students, and providing antivirus software to faculty and staff, CIS also recently installed antivirus software on our main mail servers. Don't throw away your desktop antivirus software though! The more times your e-mail is scanned for viruses, the better.



Memory, continued from page 3

or two before starting it up again. In the case of Windows, it is generally a better idea to save your work, close all programs, and restart the system. When a system completely fails to respond for a lengthy period of time (5 minutes is a good rule), the reset button should be employed and is usually found close to the power button on the CPU tower.

EFFECTIVE MANAGEMENT TIPS

1) How many programs are running? What is the amount of memory that each requires? How much memory is in the system?

In Windows NT/2000/XP computers, you will find this information by right clicking over the task bar and selecting the task manager. (Note that the applications tab can also tell you which applications are not behaving.) The documentation for the application can be found on the software box. If the application was provided by CIS, a call to your helpdesk should yield the information as well. How to get to the memory information depends on the operating system. In general, viewing the system's properties should yield the needed information.

2) What other programs are running? Have these programs run at the same time before? Has a program been added or updated recently? Did one program stop working as soon as a different one was started?

Keep in mind that not all running programs appear in the form of a window. Such items may be an icon in the tray next to your system clock as well as the drivers that instruct your system on use of its devices (modem, network card, sound, card, etc...). By using the applications tab of the task manager in Windows as well as the process tab, you can get a pretty good idea of what is new and how active it is.

(Continued on page 6)

3) Has there been any maintenance to the hard drive? How long ago was the last maintenance?

There are two very useful tools within Windows that should be done regularly to keep your system at top performance. They are ScanDisk and Disk Defragmenter. Both are found in the Start menu under Programs>Applications>System tools. ScanDisk should be run first to verify disk errors. Defragmenter should follow to organize data on the drive in order for the system to find and access it more quickly when needed.

Memory is abundant and may seem unlimited, but, much like our finances, should be budgeted carefully for optimal efficiency and productivity. 🐾

by Raymond Allen, CIS

What's Up With Mac OS X at HMC?

Mac OS X 10.2, or Jaguar, was released last fall, just before the semester began. At CIS we decided to deploy Mac OS X 10.2 on a limited basis in the Macintosh lab. We had purchased 11 new Power Macintosh G4 computers to replace all of the older Power Macintosh G3 computers in the lab so that all of the Mac lab computers would be able to support Mac OS X.

Mac OS X offered some interesting new challenges for us. OS X's security measures require that each user have an account and login before gaining access to the system. We certainly didn't want to create local accounts for all our users on each system, but a single "guest" account was also not very appealing. Fortunately, OS X also allows users to authenticate through a remote server. After some discussion we decided to authenticate to an external LDAP server. This server would also be used for authentication to Odin, the main CIS Linux server used by students for e-mail. Another piece that we wanted was to be able to automatically mount the user's home directory when they logged in to Mac OS X. With help from dedicated CIS student staff we were able to get all the pieces working so that users can now login to OS X on the Macs in the Macintosh lab with their Odin password and have their Odin home directory automatically mapped as their home directory.

Currently the Macs in the Mac lab are set up as dual boot machines for Mac OS 9.2 and Mac OS X. Most of our applications are still not OS X compatible and since keyed applications will not run from the server under Classic mode, it is necessary to boot under OS 9 in order to run keyed applications. As we upgrade our software to native OS X versions, booting into OS 9 will become less of an issue. We probably will not be able to upgrade the bulk of our software until the summer, however.

We also are participating in a Claremont-wide 3-year contract with Apple Computer for Mac OS X licenses through their Technology Assurance Program. CIS has purchased licenses for faculty and staff who have Macintosh computers that were purchased by CIS (i.e. PC's for Faculty machines or staff computers purchased by CIS). If you are interested in Mac OS X please contact the Help Desk at 7-7777. 🐾

MORE USES FOR EUDORA FILTERS

In the last issue of *Occasional Downtime* the Tricks&Tips section focused on how to create filters to automatically transfer spam e-mail into the Trash. In this month's Tricks&Tips we will demonstrate how filters can be used for other routine functions in Eudora.

The first example is using a filter to automatically transfer a message addressed to a mailing list into another mailbox. Most of us are subscribed to at least a couple of mailing lists. Some of these are discussion boards and it's useful to transfer them automatically to another mailbox rather than having to manually transfer them after reading them.



To create this filter we're going to use the "Make Filter" command that we used in the last issue. First select a sample e-mail message from the mailing list. Then select "Make Filter" from the Special menu. Select "Any Recipient" and make sure the name of the list appears in the box. If you already have a mailbox for this mailing list, next click "Transfer to Existing Mailbox" and select the appropriate mailbox from the pop-up list. If you need to create a new mailbox then select "Transfer to New Mailbox" and give the mailbox an appropriate name. Finally, click the "Create Filter" button.

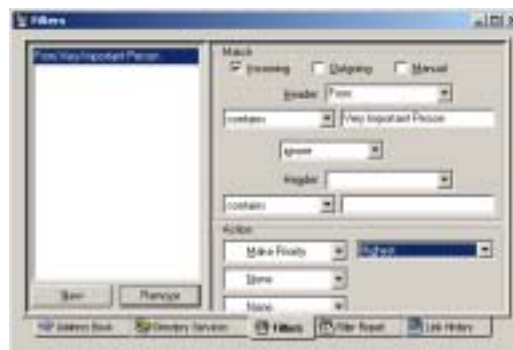
Another helpful use of this kind of filter is to filter announcement messages from the various "announce" mailing lists at the Claremont Colleges (see the article on

Tricks & Tips

& Tricks

page 4 of this issue). First select a message directed to one of the announce mailing lists and then select "Make Filter" from the Special menu. Select "Any Recipient" and make sure the name of the list appears in the box. Then edit the name of the list so that only the word "announce" appears in the box. Then continue with the instructions in the previous paragraph to transfer the messages to the appropriate mailbox.

Transferring messages to the Trash or to another mailbox is not the only thing that filters can do. In this example we'll raise the priority of messages from a Very Important Person. The "Make Filter" command can only be used to transfer or delete mail so we'll use the "Filters" command from the Tools menu (Windows menu on the Macintosh). Click the New button to create a new filter. Make sure



that the Incoming checkbox is selected. Select the From: field from the Header: pop-up list and type the e-mail address of your very important person in the box below. Then select Make Priority from the first Action pop-up list and choose Highest from the pop-up list next to it. Save your new filter and then close the Filters window. You could modify this filter to increase the priority of e-mail on a particular subject by changing the Header field to the Subject: field and putting in a key word or phrase in the box. 🐾

QUESTIONS *and* ANSWERS

Q: What is a corrupt profile?

A: Your profile is stored in a folder called “Windows NT 5.0 Workstation Profile” on your H:\ Drive. It stores information such as setting preferences, desktop files and shortcuts, and other data. Information from this folder is copied over to the local computer when you login. Profile corruption can occur when users login to Novell from multiple computers with different configurations. Not logging out properly or having the computer or server crash may also result in a corrupted profile. Students most often are affected by this problem since they often login to multiple systems on campus. Symptoms include Internet Explorer not working, problems printing, multiple crashes of Windows Explorer, not being able to log in, and other odd, inexplicable behavior. The best way to fix it is to reset your profile.

To reset your profile, you can either logout from Novell completely and stop by the Help Desk in Parsons B148 or do it yourself. To do it yourself you have to delete or rename the “Windows NT 5.0 Workstation Profile” directory. DO NOT delete it until you have removed all files within that folder that you might need (this includes anything on your desktop, or in your “My Documents” folder). Logout from Novell and login locally on any computer. Now connect to Novell by right-clicking on the red N in the system tray (bottom right hand side of the screen). Choose “NetWare Login...” and login with your regular Kato account and password. Open your H:\ drive, and delete or rename the

“Windows NT 5.0 Workstation Profile” directory, after making sure (one more time) that there is nothing you need in it. Log out and log back in normally, and your profile will be automatically recreated.

Protect your profile by logging out using CTL-ALT-Delete, and selecting “Logout...”. This tends to make it easier for the Novell servers to keep your account in good shape.

Q: Help! All of my new e-mail in Eudora is suddenly going into my Trash mailbox instead of to my Inbox.

A: Check your e-mail filters by selecting Filters from the Tools menu (the Windows menu on the Macintosh). Make sure that you don’t have any spam filters that are too generic. For example, if you used the Make Filter command and didn’t complete it correctly you could end up with a filter like this:



This filter will effectively transfer e-mail received from ANY sender into your Trash mailbox. Be careful when creating filters for spam. A good practice is to check your Trash mailbox at least once a day to make sure that it doesn’t contain mail that you actually want. 🐶