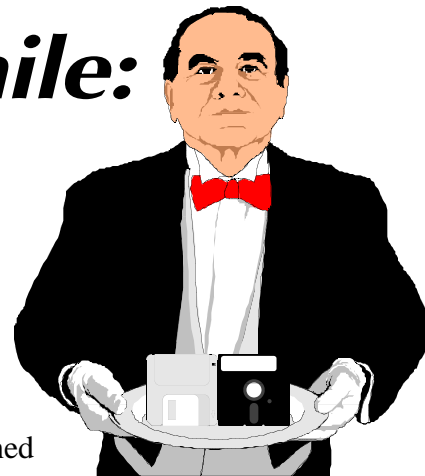


Service with a Smile: Getting the Most Out of Kato



Kato is probably one of the most widely used but least understood of the computer resources provided by Academic Computing.

WHAT IS KATO?

Kato is the name of one of the Novell file servers maintained by Academic Computing at HMC. *Kato* runs Novell Netware software which allows it to serve both Macintosh and PC files over the network. Netware also allows users to print to a variety of printers over the network and to run Macintosh and PC applications over the network. *Kato* is currently a Pentium 83Mhz computer with 128MB of RAM and 16GB of hard drive space. By next semester we plan to upgrade *Kato* to a 200MHz Pentium Pro with 26GB of hard drive space.

HOW DO I USE KATO?

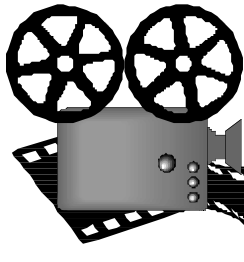
In order to use *Kato* you need to have a *Kato* account. All HMC students, faculty and most staff have accounts on *Kato*. (If you're not sure if you have an account or have forgotten your password you can contact Academic Computing).

Once you have an account you need to login to *Kato*. Logging in is different depending on which operating system you are using. All of the files stored on *Kato* (including document files and PC and Macintosh application files) are organized into different volumes. How these volumes appear depend on which operating system you are using.

If you are using a Macintosh you can login by selecting the Chooser under the Apple menu, selecting the AppleShare icon, selecting the AppleTalk zone HMC_MACS and then double-clicking on *Kato* in the scrolling list of file servers. You'll then be prompted for your login name and password. Once you've logged in you'll be presented with a list of volumes to select from. You can choose to login to only one or a combination of volumes at a time. For example the volume *Kato.Mac* contains all of the Macintosh applications available on *Kato*. Your home directory will be located in the volume named for your class year if you are an HMC student (i.e. *Kato.HMC_2000*) or in *Kato.Home* if you are a faculty or staff member or a guest at HMC. The Macintoshes in our labs and many office Macintoshes are setup with aliases to applications or volumes on *Kato* which allow users to circumvent logging in through the Chooser. Selecting one of these aliases automatically brings up the login dialog box. It's a good idea to know how to login through the Chooser, though, since the aliases may not be available on all machines and also do not always work correctly.

On a PC running Windows 3.1 most users login through DOS first. You'll be presented with a login prompt where you can type in your login name and password. Once you've logged in you'll see a scrolling list of PC drive letters as they are mapped to the different volumes on *Kato*. If you're using Windows '95 you should see a login box where you can type in your login name and password. In our labs we run both Windows 3.1 and Windows '95 and users login through DOS.

(continued on page 5)



CD-ROM Publishing

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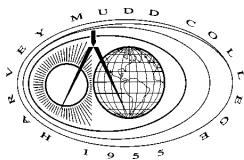
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CD-ROMs are an immensely popular way of storing data today. The main reason they are so popular is that they can store a huge amount of data compared to other storage media. A CD-ROM can store 650MB of data. That's the equivalent of over 460 floppy disks or 6 100MB ZIP cartridges. CD-ROMs are also very durable; they're hard to damage and last longer than many other storage media. CD-ROMs are accessible to more users since many desktop computers now have CD-ROM drives. All of these attributes have made CD-ROMs one of the best media for storing large amounts of data, especially archival data.

Unfortunately, up until recently the cost of creating a CD-ROM was too high for it to be feasible as a storage device for the average user. CD-ROMs have been used to publish large multi-media applications, game software, and for distributing other large software packages on a commercial, high-volume scale. Now that the technology for producing CD-ROMs has become more affordable, using CD-ROMs for personal archival storage or for producing one's own multimedia application is within reach of the average user. At HMC the Faculty Resource Development Lab now has a CD-ROM recorder and mastering software for use by faculty.

WHY WOULD I WANT TO MAKE A CD-ROM?

As we mentioned in the introduction CD-ROMs can store a large amount of data, up to 650MB. This makes them an ideal device for archival storage. For instance, if you have a library of image files on floppy disks or ZIP or SyQuest cartridges you

could archive all of them on a CD-ROM. You could then access your images from any desktop computer with a CD-ROM drive. Unfortunately, because CD-ROMs can't be erased and reused, they're not a very good general backup device. In other words you probably wouldn't use a CD-ROM recorder to back up your hard drive.

Another use for CD-ROM recorders is to create a test copy of multimedia CD-ROMs that you create. CD-ROMs are perfect for distributing multimedia applications consisting of text, graphics, video and audio. Even if you intend on producing the CD-ROM commercially you'll want to create a test CD-ROM. You can develop the application on your desktop computer, but creating a test CD-ROM will allow you to test the performance of your application on an actual CD-ROM. CD-ROM drives are quite different from hard drives and this can affect the performance of your application significantly.

You might also want to use a CD-ROM to distribute large amounts of information to a small group of people. Floppy disks are not a very efficient way to distribute large amounts of data, while not everyone may have access to a ZIP drive or SyQuest drive. More and more users have access to computers with CD-ROM drives so a CD-ROM can be a good way to distribute large amounts of data to a small group of people. You can even use a CD-ROM recorder to produce audio CDs. Many CD-ROM recorders (including the recorder in the Faculty Resource Development Lab) are capable of recording audio CDs.

HOW DO CD-ROMS WORK?

Before we talk more about producing your own CD-ROMs let's review how CD-ROMs actually work. CD-ROMs are thin discs of polycarbonate resin which are coated with a thin layer of aluminum and a coat of lacquer. Data is recorded on the disc in the form of pits (indentations) and lands (flat areas). Data is read from the disc using a laser. When the laser hits a land it is reflected back directly. When it hits a pit the laser light is scattered. These two surfaces are used to represent the stream of 0's and 1's that make up binary computer data.

Like a magnetic disk (e.g. a hard drive) the data is organized into sectors on the disk. Unlike magnetic disks where the data are arranged in concentric circles (called tracks) which are then divided radially into sectors, on a CD-ROM the data are arranged on one track which spirals from the center of the disc to the outside edge. This one track is then divided into sectors.

Because hard drives always spin at the same rate, which makes the tracks near the periphery of the drive move faster than those near the center, sectors near the periphery of the drive must be physically larger to hold the same amount of data as those near the center. This wastes a lot of space on the drive, but allows data to be accessed very quickly. On a CD-ROM, on the other hand, the drive does not spin at a constant rate. Instead it varies the rate at which the drive is spinning so that it slows down as the detector moves towards the center of the disc. This means that the disc can contain more sectors than a magnetic disk but that access time is slower.

CD FORMATS

CDs come in a variety of formats. Most of you are familiar with audio CDs. Audio CDs use a format called CD-DA. Most CD-ROM drives can also play audio CDs but audio CD players cannot play other CD-ROM formats.

(continued on page 4)

Editor's Notes

One of the main purposes of *Occasional Downtime* is to make our users aware of the computer technology available to them so that they can take full advantage of the resources here at HMC in their work. This month's issue is a good example with an article on a totally new resource at HMC and one on a resource that's been available for a long time, but which is not always fully understood.

CD-ROMs have been around for a quite a long time, but only recently has it become economically and technologically feasible for end users to create their own CD-ROMs. With the creation of the Faculty Resource Development Lab it is now possible for HMC faculty to publish their own CD-ROMs as well. We hope that this article on CD-ROM publishing will inspire some of you to experiment with this new technology. Even if you don't intend to publish your own CD-ROMs in the near future I hope you find the article interesting. I learned quite a few new things about CD-ROMs myself while researching this article!

The second article is on our main Novell file server, *Kato*. *Kato* is such an important resource on campus that it seems time to make sure that all of our users know how to take full advantage of it. So look for more pieces about using *Kato* in subsequent issues of *Occasional Downtime*.

—Elizabeth Hodas

Occasional Downtime is published bimonthly by the Academic Computing Department at Harvey Mudd College. It is also available in a variety of formats on the HMC Web Server. Comments and questions can be directed to downtime@hmc.edu.

Kato continued from page 1

On the PC the different volumes are mapped to different drive letters when you login. You can examine the different volumes by using the File Manager or Windows Explorer. For example, your home directory is mapped to the H drive while the PC applications volume is mapped to the G drive.

WHAT CAN I DO ON KATO?

In the computer labs maintained by Academic Computing all of the software is located on *Kato* and run over the network. None of the lab computers have locally installed software on their hard drives. This is why you need to login to *Kato* before you can run any software in the labs. Storing all of our software on *Kato* makes it easier for us to maintain our labs and keep them running. Software only needs to be installed once and it is easier to upgrade to new versions of the software as well. Running the software from *Kato* allows us to have a standard configuration for the lab machines and makes them less vulnerable to viruses. Users can also restore machines to a working configuration by running a reset program which wipes the hard drive and brings down fresh copies of the configuration files from the server. Users can reset the PCs by typing "reset" at the login prompt. On the Macintosh there is a program called "Assimilator" in the Utilities folder that will perform the same operation.

You can also run software over the network from *Kato* from your office or dorm room computer. Running applications from *Kato* gives you access to a wide variety of software that you probably don't have available on your own machine and can also save you a great deal of hard drive space. The software on *Kato* ranges from word processing programs to sophisticated graphics design software such as Adobe Photoshop and Illustrator.

In addition to having access to a great deal of software, an account on *Kato* also gives you a home directory on *Kato*. Your home

directory can be used for a variety of things. Many people use *Kato* to make backup copies of important documents if they don't have another backup device such as a DAT drive or a ZIP drive. To do this on a Macintosh just open the volume that contains your home directory and find the folder with your name on it. Then just drag the file you want to backup from your hard drive to that folder. On the PC just save or copy the file to the H drive.

Another advantage of *Kato* is that once you store a file on *Kato* you can access it from any networked computer on campus. Files stored in your home directory can be accessed from either a Macintosh or a PC. So if you used Powerpoint to create a slide presentation you could store the file in your home directory on *Kato* and then access it from any lab machine or from a computer in a classroom or clinic room.

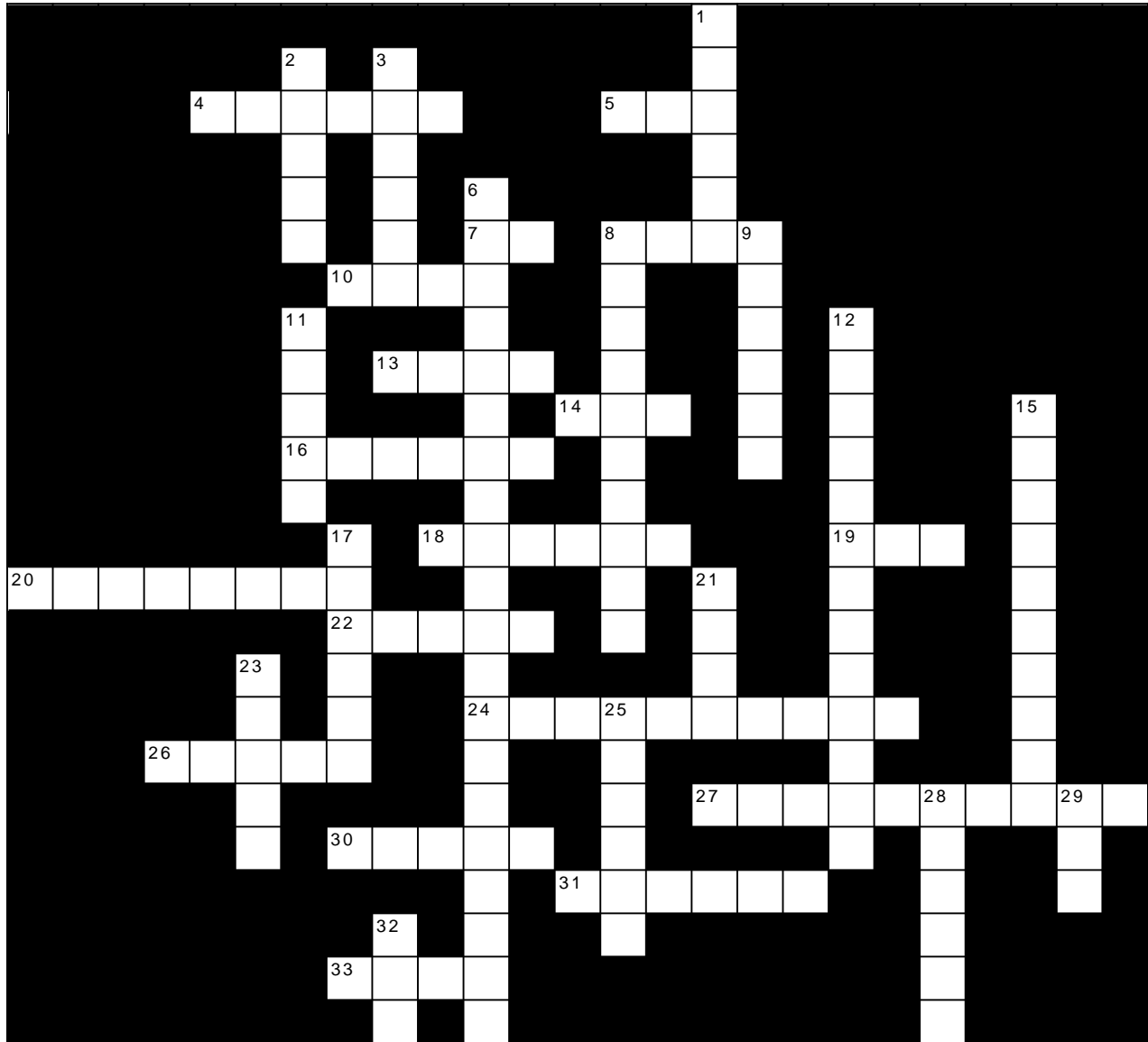
Most home directories are created so that only you have access to it. But you can also ask AC to create a public subdirectory within your home directory that other people can access. You can use this feature to share your files with other users. For example faculty members can create a public subdirectory and put homework assignments or solutions, data files, etc. in it for their students to access. Many departments set up shared subdirectories within their department's home directory in order that faculty and staff in the department can access the same documents. Students can use this feature to work on group projects with other students in their classes. The clinic teams also use this feature to work on their clinic projects. The Clinic volume on *Kato* contains shared directories for each clinic team.

GETTING MORE HELP ON USING KATO

These are only some ideas on how you can make use of *Kato*. If you'd like more information or help with the details of using *Kato* please contact AC's Help Desk at extension 7-7777 or send e-mail to help-desk@hmc.edu. 🐾

AN "OCCASIONAL" FEATURE: THE AC CROSSWORD PUZZLE

Test your knowledge of computing at HMC!



Solution in the next issue of Occasional Downtime

Tricks & Tips

& Tricks

ACROSS

4. Diskette
5. Computer's "brain"
7. Internet Protocol
8. E-mail program available on both *Thuban* and *Osiris*
10. The "language" of the Web
13. Protocol of the World Wide Web
14. World Wide Web address
16. Old alias for *Thuban*
18. Main student UNIX computer
19. File extension for documents
20. Program that gathers data in an organized fashion
22. Microsoft's spreadsheet program
24. Powerpoint's competition
26. Computer ailment
27. Good manners on the Internet
30. Eudora's last name
31. Login interactively to another machine
33. AC's main file server

DOWN

1. "Head" of the AC VMS cluster
2. Hardware needed for dialing-in
3. A small Java program
6. FTP
8. Microsoft's presentation program
9. A popular POP client for e-mail
11. Fast storage buffer
12. The full name of *Thuban*'s astronomical namesake
15. Printer page description language
17. Another AC file server
21. Sun's new object-oriented programming language
23. Disk from which data is retrieved using a laser beam
25. Another name for emoticon
28. Login name
29. File extension for text
32. Random access memory

NEED SOME HINTS?

30. Across: Eudora is named after the author of "Why I Live at the P.O."
12. Down: Explore *Thuban*'s web server at <http://www2.hmc.edu/www/vms-server.html>

USING NETSCAPE FOR "NON-ANONYMOUS" FTP

Here's a neat trick that you can do in Netscape. If you've been using Netscape for a while you probably know that you can use Netscape to download files to your computer. The files can be anything from graphics files to postscript files. Many Web sites, especially software companies like Adobe and Microsoft, have their Web sites set up so that you can download software directly from their Web pages. This is a nice feature of the Web in that you can FTP files without having to launch a separate FTP client like Fetch on the Macintosh or WS_FTP on the PC.

But did you know that you can use Netscape to FTP files from your own computer accounts? It's easy! Just click the Open button and in the dialog box enter the following URL:

```
ftp://your_login_name@host_computer
```

For example, to FTP from my account on *Osiris* I would type:

```
ftp://ehodas@osiris.ac.hmc.edu
```

A dialog box will appear asking for your password. Enter your password for that account and click OK. A listing of your home directory should then appear in Netscape. You can click on a directory name to open the directory or click on a file name to download the file to your desktop computer. That's all there is to it!

Unfortunately, it's not yet possible to use Netscape to upload files from your desktop computer to *Osiris* or *Thuban* using this method. ☹

*Trick & Tip suggested by Joshua Hodas,
Computer Science Dept.*

QUESTIONS *and* ANSWERS

Q: I can login to *Kato* on the Macintoshes in the Macintosh lab, but I can't login to any of the PC's in the Pentium lab. What is wrong?

A: You are probably still logged in on a PC somewhere else. This is especially a problem if you don't logout properly from Windows '95. If you don't logout properly then *Kato* still thinks you are logged in. To logout properly from Windows '95:

- 1.) Select the Start button by clicking and holding down the left mouse button.
- 2.) Choose option 1 (Shut Down) if you want to turn the PC off, or:
- 3.) Choose option 4 (Close all programs and log on as a different user) if you are in our lab, or if you want someone else to use the PC.

Q: I'm a first-year student at HMC. I got my IP address during Orientation but now I want to register my computer with a more personal name. How do I do that?

A: Send e-mail to ip-request@hmc.edu. You don't need to include a message. A form will be sent to you automatically. Fill out the form with the information requested and send it to the address specified. Your computer's name will be registered within 48 hours. You can also use this procedure to request a new IP address.

Q: I'm trying to learn more about how to use one of the programs on *Kato*. Are there any manuals I can borrow?

A: Academic Computing maintains a small library of manuals and third-

party references on software that we support. You can borrow these books for several weeks by contacting Elizabeth Hodas in the Academic Computing Department. A list of the books in the reference library is maintained on our Web server at <http://www.hmc.edu/comp/doc/library/>. We also have manuals on reserve at Sprague Library.

Q: Every time I try to send e-mail in Eudora I get a message that I am sending to a bad e-mail address. I know the address is right. What is going on?

A: Eudora may be not be referring to the message you are trying to send, but to an older message that had a bad e-mail address and never actually got sent. To check for this problem go to the Mailbox menu and select the Out mailbox. Look for a message that has a "Q" in one of the columns next to it. If there is such a message double-click on it to open it and carefully examine the e-mail addresses in the To:, CC: and Bcc: fields.

If any of these fields have an e-mail address that is badly formed Eudora can't send the message and will save the message in your Out mailbox until you either fix the address or delete the message. Every time you send a new message Eudora tries to send the old queued message too which is why you keep getting the error message. Some common e-mail address mistakes are Eudora aliases that don't resolve to actual e-mail addresses or mailing list addresses which are missing the "@hmc.edu" ending. 🐶