

April 1997

Vol. 2 No. 1

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## One Year Old

This issue marks the second year of production for the *Information Technology Newsletter* and it sprouts a new look.

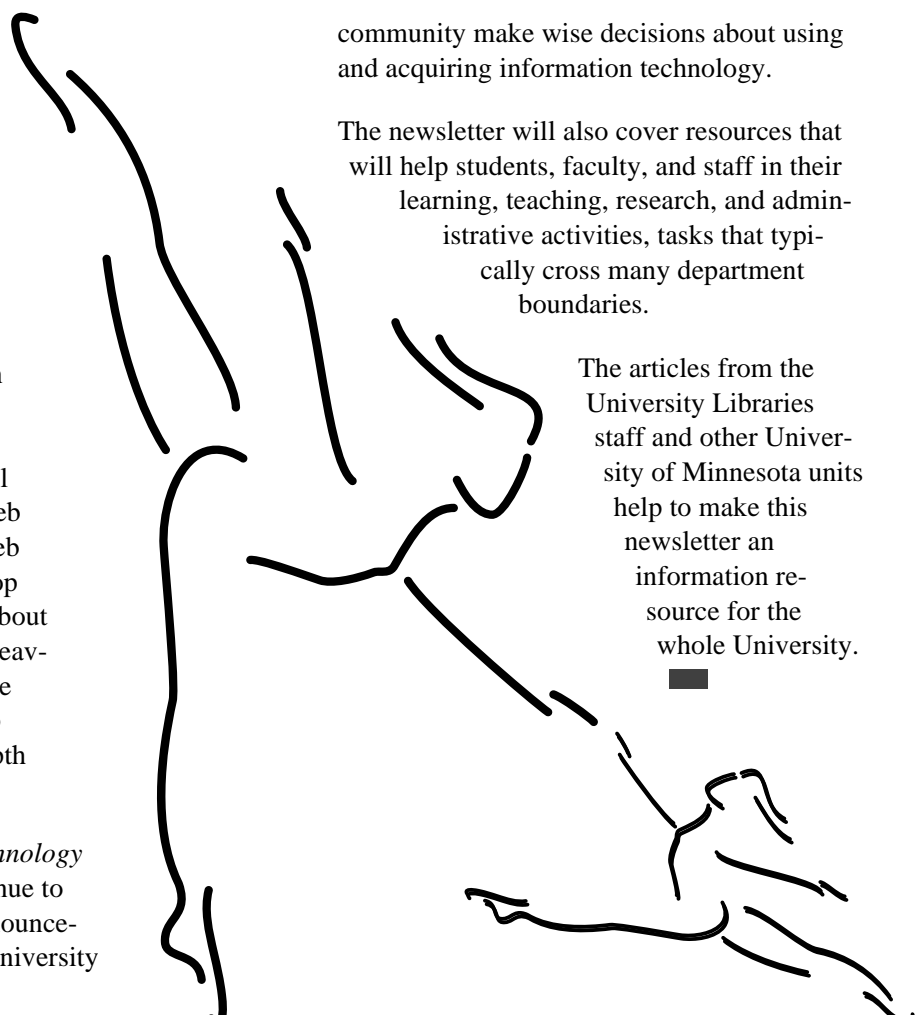
You'll be seeing this new treatment of the Office of Information Technology (OIT) name on other OIT publications. OIT will also roll out a new web page. The updated web page will be a one stop site for information about OIT services and endeavors, and it will include links to OIT unit web pages for more in depth information.

The *Information Technology Newsletter* will continue to carry articles and announcements that help the University

community make wise decisions about using and acquiring information technology.

The newsletter will also cover resources that will help students, faculty, and staff in their learning, teaching, research, and administrative activities, tasks that typically cross many department boundaries.

The articles from the University Libraries staff and other University of Minnesota units help to make this newsletter an information resource for the whole University.



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# *Information Technology*

## *Newsletter*

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# Read Your E-mail, Here, There, Anywhere



Do you want to control which mail you read at home and which you read at work? Or to leave selected messages in a central mail box so you can access them from a different office? Since students can use many different computer facilities, they frequently want to leave selected messages in a central mail box.

Some e-mail client/server programs let you manage where incoming mail will be held, including POPmail II for Macs and WS\_POPmail for Windows. Labpop (specialized versions of POPmail for Macs and Windows) makes it very easy to keep messages in a central mail box. Some programs let you keep mail in a central mail box but make it difficult to selectively delete that mail when you no longer need to store it there.

In this article we'll briefly discuss using features of the POPmail software that are especially useful to mobile users. People who read their e-mail via the Interactive Mail Shell (an Extended Service that will soon cost all users \$10-40) might want to consider converting to POPmail once they realize they can access their mail from many different locations. POPmail is included in the University Internet Kits that Academic and Distributed Computing Services distributes.

## Labpop: Multi-user POPmail for Macs and Windows

Labpop provides the security many people need. It does not save passwords. It also does not delete files from your central e-mail "box" until you use the *Trash* (Macintosh) or *Shred* (Windows) command. Both programs are small enough to fit on a floppy disk.

Anyone who needs to read their mail from more than one computer may find Labpop is a good choice. Labpop is also an excellent choice if many people use one machine, such as in a student lab, because protecting passwords is harder in a multi-user environment.

When you start up Labpop it lists the messages that are waiting for you, using the same From, Subject, Date identifiers as the full featured POPmails. Labpop for the Macintosh includes a • symbol by unread messages. Neither program deletes messages from the central e-mail server until you give a specific command to do so. Both programs let you save messages to a disk, allowing you to open the messages with many word processing programs or reopen them with Labpop.

The Windows and Macintosh versions have different features. For example, the Windows version lets you open plain text files (ASCII); the Macintosh version only opens Mac Labpop documents. The Macintosh version will append a text file or an enclosure to messages that you post; the Windows version will not. If you want to keep a copy of messages you send, you can always use the cc (copy) section to type in your own e-mail address and send a copy to yourself.

## Signature Files and Address Books

Although neither program includes options that let you save a signature file or create an address book of frequently used e-mail addresses, you can use their *Save* commands to create such files.

To create these files use the *New* command to open a Message/Letter window. In the message section type the identifying information you want to use for a signature or addresses you want to keep handy. Use the *Save* command and name the document. (You don't have to use the *Post* or *Send* commands.) Use the *File/Open* command when you need to view the information you've saved. Use the *Edit/Copy* and *Edit/Paste* commands to copy information from one document to another.

## Why Use Signatures?

E-mail signatures are like the identifying information that is included in a letter's closing; it's considered polite to include your name and e-mail address at the bottom of messages you send. Even though this information is included in the "header" that is sent with all e-mail, this information is displayed in different ways by different programs, so including it at the bottom of electronic messages makes it easier for the recipient to identify the sender.



**Your central e-mail “box” holds incoming mail for you to pick up; it is the one called `username.email.umn.edu`.**

## WS\_POPmail for Windows

WS\_POPmail’s *Preview* feature lets you manage your e-mail without deleting the messages from your central e-mail box. There’s no button for this feature, but you’ll find the command in the *Mail* menu. The *Preview* command lets you look at all the new (and old) messages that are stored in your central e-mail box.

When you select *Preview*, copies of all the messages in your central e-mail box are downloaded to WS\_POPmail’s *Preview Mailbox*. (You can see all WS\_POPmail mailboxes when you’ve selected the *Window/Inbox* option.) All WS\_POPmail mailboxes, except the *Trash* and *Outbox*, are represented by a folder icon on the left side of your screen. (The *Trash* and *Outbox* have their own icons.)

Once messages are in the *Preview* folder, you can select a message in that folder and do all of these things without deleting the message from your central e-mail box:

- Use the *Reply*, *Forward*, *Move*, or *Discard* buttons.
- Use the *File/Save* and *File/Print* commands.
- Leave the message in the *Preview* folder.
- Quit the program.

If you don’t move or discard the messages in your *Preview* folder, they will still be there when you start up WS\_POPmail again. Since the “original” messages are also still in your central e-mail box:

- You can fetch or preview them from another computer.
- But if you’re using the same computer and you select the *Preview* command again, you may end up with duplicate copies in your *Preview* folder.

## The Fetch Command

You cannot selectively *Fetch* just one message, although you don’t need to because you can apply all WS\_POPmail commands to messages in the *Preview* folder. Once you use the *Fetch* command:

- All the messages waiting for you in your central e-mail “box” are copied to WS\_POPmail’s *Inbox* folder.
- And the messages are deleted from your central e-mail box; so you cannot preview them from another computer (unless you’re one of the few people who have direct access to their personal computer).

To learn more about WS\_POPmail’s features, consult its built-in help.

## POPmail II for Macs

POPmail’s *Preview* feature lets you manage your e-mail without deleting the messages from your central e-mail box. Although there’s no button for this feature, you’ll find the command in the *Mail* menu. The *Preview* command lets you look at all the new (and old) messages that are stored in your central e-mail box.

When you select *Preview*, POPmail opens a window called *Mail Server Browser*. This browser uses the same *From*, *Subject*, and *Date* identifiers as the primary *Mail Browser* window. You can *shred*, *view*, or get a single message or use the **[Shift]** key to select a group of messages and perform these actions:

- *Shred* messages you no longer want.
- *View* the entire message; in which case the message is downloaded into your *Mail Browser* window (but is not removed from your central e-mail box). You can read small messages in the *Mail Server Browser* window, and use the *View* command to read larger messages.
- *Get* the message; in which case the message is downloaded into your primary *Mail Browser* window and is removed from your central e-mail box.

If you use the *View* command to read messages, the messages stay in the *Mail Browser* window until you *recycle* or *move* them. (Note: since using the *View* command leaves the “original” message in your central e-mail box, you have two copies of the message.)

To use the *Preview* feature you may need to set POPmail’s RAM (memory) partition higher than normal. (You cannot do this when POPmail is running. Do it from the *Finder*; choose *File/Get Info*.) The *Preview* and other POPmail features are covered in the POPmail manual that we distribute with the software.

## Stay on Server. Pile up There!

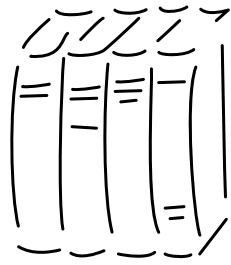
Like the POPmail programs we’ve just discussed, many e-mail programs let you choose to leave messages on the central mail server even after they’ve been downloaded to your hard disk. However, many of these programs do not let you selectively delete messages from the server. Some people have unwittingly left thousands of messages they no longer want on the central server. Good network citizens clean out their central e-mail boxes and don’t hog network resources.

■ Tips from the Microcomputer and Internet Helpline, Mary Kelleher.



# Faster, Better MNCAT Searching: Use the Keyword Functions

Nancy K. Herther, University Libraries



Using MNCAT in LUMINA to search for publications available through the University Libraries can be done in many ways. Often you need specific information and need to verify something quickly or get specific types of information on your subject. Coming up with a retrieval set of hundreds or even thousands of entries doesn't always help! Here are some quick tips that might help you better use our on-line catalog.

## The Keyword Function

Keyword searching can take longer to process the requests; however, you often should come up with a better set of responses because this is able to look through the entire set of searchable fields. This strategy allows you to search by language, publication type and other ways not possible with title, author or subject searching. Let's look at some examples.

## Another Way to Search for Authors and Titles

Instead of using the `a=` or `t=` commands to search for authors or specific titles, try using the keyword alternative way to search. For example: `k=shakespeare.au.` or perhaps you would want to combine searches using keyword: `k=shakespeare.au. and hamlet.ti.`

*Note: you must include the periods in the search statement just as they are listed here.*

## Search for Specific Types of Materials

Looking for maps? Records? CDs? MNCAT allows for type of searching using the `.gmd.` command in keyword searches. (See the list of potential formats in Figure 1.)

Here is an example of searching for maps of Bosnia: `k=bosnia.ti. and a.gmd.` In this case I used Bosnia in the title, since a map of the country should have its name somewhere in the title of the document. Using MNCAT I retrieved four records, all maps published from 1992 through 1995. All were in either the Map collection or Government Publications collections of Wilson Library or

a part of the reference collection on the St. Paul campus. If you were on the St. Paul campus this would be a quick way to find a copy of a Bosnian map without having to travel to the Minneapolis campus.

For another search let's check for CDs or LPs of Shakespeare's plays and sonnets. By typing in the following search: `k=shakespeare.au. and s.gmd.` — *again, remember all the periods!* With this search we retrieve 188 citations. Had we chosen, instead, to try to search with `a=shakespeare.` we would have had to go through 4,242 entries! This saved a lot of time and energy.

If you need some microbiology slides for a class presentation, you could try: `k=microbiology.ti. and g.gmd.` and would retrieve two citations, including an atlas of microbiology on slides in the Bio-Medical Library.

## Look for Government Reports

It is fascinating to use MNCAT to see what kinds of materials are published by the different types of governmental organizations. Using MNCAT you can look for any government publication, or those by state, international or U.S. federal agencies. The complete list of what's possible is in Figure 1. Let's say you wanted some information on sentencing guidelines in Minnesota. One strategy would be to search for: `k=sentencing guidelines and s.gp.` Using that strategy 41 records were found, mostly published by the state of Minnesota and its agencies.

## Polish Your Language Skills

MNCAT also allows you to search for materials based on the language in which it is published. You use the command structure of the first three letters of the language (e.g, ENG for English, FRE for French, CHI for Chinese) followed – without any spaces – by `.la.`

For example, let's say you would like to do some recreational listening of something by Goethe in the original German. You could try: `k=goethe.au. and ger.la.` Using this strategy we still get 496 entries! Now let's try to limit this further by using one of the format codes and only look for CDs or LP; so we modify the search to `k=goethe.au. and ger.la. and s.gmd.` Now we only have 12 entries to





look at, including a two LP set of a recording of Faust from 1950.

### Use our Archives

Want background information on the development of the computer industry in Minnesota or relating to the architecture in our area? You may find important materials in our archives. To find this information, use the **u.fmt.** command; it limits the retrieval to archival materials. For example, try **k=cray.su. and u.fmt.** to see what materials we might have about Seymour Cray in our archives. Three oral histories from the Babbage Collection come up, with information on the founding of Control Data and other issues in the early history of Minnesota's computer industry.

### Limit Retrieval by Date

Let's say you are looking for a specific flight of the space shuttle or a particular event in a series or perhaps recent coverage of some event rather than all materials in our collection. You can use the **.dt1.** command to limit the retrieval to a specific year.

For example, let's say you want coverage of how election campaigns are funded from 1996. Here is one possible search strategy: **k=campaign adj financ? and 1996.dt1.** – again, remember the spacing and periods! The seven responses included three federal publications on campaign finance reform. As you can see, I truncated **financ?** in order to get as many possible optional terms that might be used by authors for this topic.

### Try it Yourself!

In the next column we will look at other ways to make MNCAT more effective for your research. The HELp option in MNCAT also gives you more hints and ideas for searching the database. Feel free to contact any of the libraries on campus for specific information or assistance on using MNCAT or any of the other services and collections of our Libraries.

Communications to the author should be addressed to: Nancy K. Herther, Education/Psychology Reference Service, 108 Walter Library, East Bank; <n-herth@tc.umn.edu>; 624-2020. ■

**Figure 1: Keyword Commands for Searching in MNCAT**

<p><b>Types of Government Publications</b></p> <p>gp. Government Publications (general) f.gp. Federal U.S. Publications i.gp. International Governmental Publications s.gp. State Government Publications</p> <p><b>Format Options in MNCAT</b></p> <p>Searching using .fmt.</p> <p>s.fmt. Serials p.fmt. Maps f.fmt. Visual Materials u.fmt. Archival Information</p> <p>Searching using .gmd.</p> <p>a.gmd. Maps h.gmd. Microforms g.gmd. Projected Graphics (slides and filmstrips) m.gmd. Motion Pictures s.gmd. Sound Recordings v.gmd. Video Recordings</p> <p><b>Searching by date of publication</b></p> <p>xxxx.dt1.</p>
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# IDEA Query Facility: Kill Processes

There's a new feature on the IDEA web that lets you "kill" all your IDEA (Sybase) processes. So if you're afraid that you submitted a 'runaway' query, now you know you can kill it.

The "Kill" processor form is at <http://notes.ais.umn.edu/process.htm>, as shown in Figure 1.



Figure 1: Kill Sybase Process(es)

Back Forward Home Reload Images Open Print Find Stop

Go To: <http://notes.ais.umn.edu/process.htm>

### IDEA "KILL" PROCESSES FORM

Enter Your IDEA ID:

Enter Your IDEA Password:

**Remember - by hitting this button you will kill any of the processes on the IDEA Server running under your name. There could be only one but there could be more than one if you're using an application like Microsoft Access.**

*This may take 10-20 seconds*

This works no matter which tool you are using to connect to IDEA (the web, Access, Foxpro, Foxquery, etc.). It may not always 'un-freeze' your application but it will kill the Sybase process(es) – so you're doing all IDEA users a favor. (Of course, if your machine is 'frozen' you would have to use someone else's machine to connect to this web page.)

*This works no matter which tool you are using to connect to IDEA (the web, Access, Foxpro, Foxquery, etc.).*

For those using the web to build queries, there's an additional benefit. If you don't want to wait for the 10-minute timeout, you can now open a new browser window, bring up 'process.htm' and kill your processes. Then your Query Results would say something like "operation terminated due to disconnect" (and you wouldn't have to log in again).

■ Bob Malos, Integrated Systems Solutions









# NTS Networking Report

Excerpts from a FY 1996 Report

Lawrence Liddiard, Networking and Telecommunications Services

## It Keeps Doubling

The University Backbone Network is a production of Networking and Telecommunication Services (NTS) and many departmental groups.

For the fifth year we can say: the University's network doubled in size.



If you're interested in reading the entire document, contact Lawrence Liddiard <liddiard@nts.umn.edu>.

More NTS statistics, information, and graphs are available from the NTS web site at <<http://www.nts.umn.edu/>>.

## Modems: Authenticated Pool

NTS installs the modem pools and monitors them daily for hung or bad modems.

### 1996

During the early months of 1996 callers faced busy signals on the modem pools. In the Summer and early Fall of 1996 an additional 624 V.34 modems were installed, bringing the modem pool total to 1,200. Since that time, callers have not experienced busy signals.

### 1997

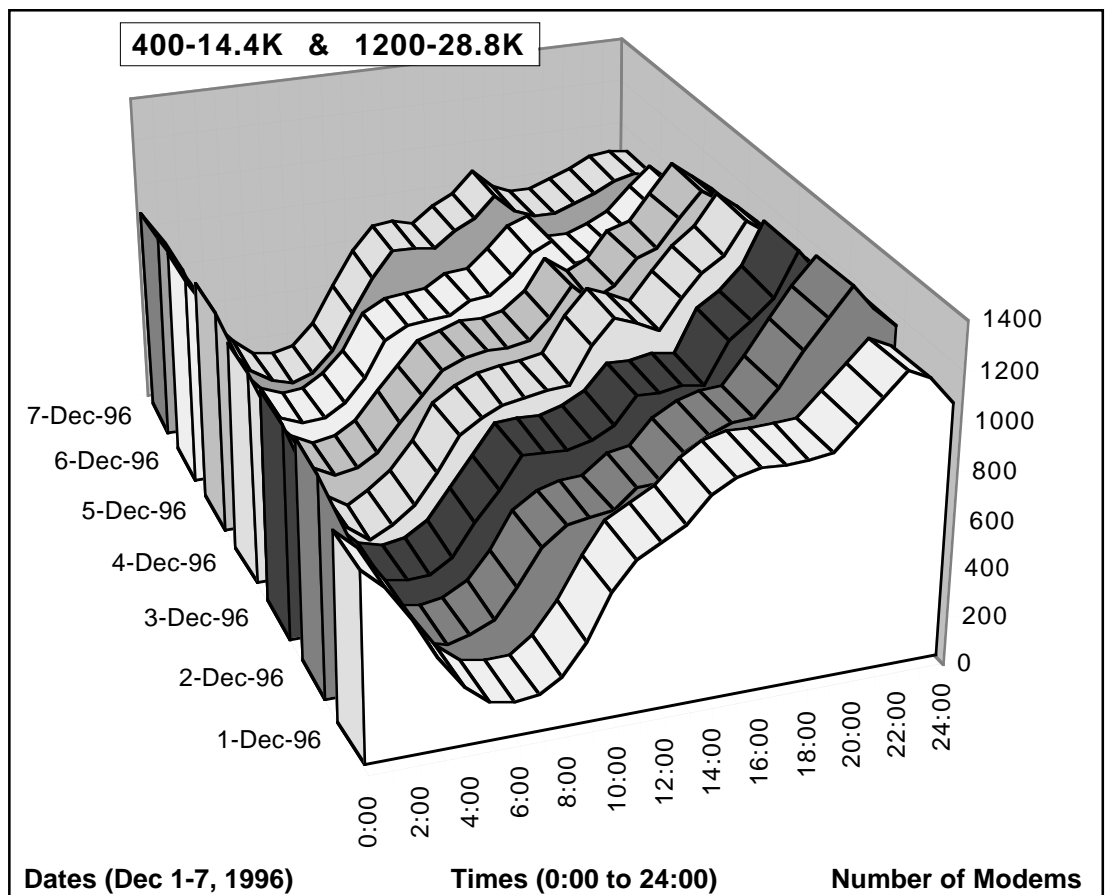
The US West feeds to the University are through the 7th Avenue Central Office (CO) switch. This switch does not allow full 33.8K (let alone 28.8K) bps access for most users.

Due to the pressure of University usage, in late Spring 1997 US West plans to upgrade that switch.

In January 1997 we started a universal modem access charging rate: (a) no charge for the first 30 hours per month and (b) \$4 for each additional 30 hours per month. Revenue from these charges will partially offset the \$111K per month expense of the University's modem access pools.

US Robotics and a couple of other vendors have developed modem upgrades that will allow 56K baud rate back to the user if all telephony connections are digital (this also depends on the 7th CO switch upgrade) between the user and modem service provider. The user input is still analog at 28.8K or 33.6K.

Graph 1: Modem Pool Activity







**Table 1: External Internet Growth**

<b>Daily Volume</b>	1	2	3	4	5	6	7	8
	Apr-92	Apr-93	Apr-94	Apr-95	Apr-96	Nov-96	-	-
Megabytes per Day								
<b>University of Minnesota traffic</b>								
• Into U	1,123	2,699	5,572	13,319	32,917	41,792		
• Out of U	970	3,221	7,797	14,390	20,479	28,655		
Total University	2,093	5,920	13,369	27,709	53,396	70,447		
Megabytes per Day	Apr-92	Apr-93	Apr-94	Apr-95	Apr-96	Nov-96	Apr-97	Apr-98
							<i>Estimate</i>	<i>Estimate</i>
<b>Minnesota state traffic</b> (i.e. University of Minnesota and MRNet)								
• Into MN	1,774	4,868	8,964	17,363	85,223	217,580	224,366	590,688
• Out of MN	1,419	4,890	9,638	11,193	73,661	143,659	197,720	530,720
Total Minnesota	3,193	9,758	18,602	28,556	158,884	361,239	421,988	1,120,781

## Some Hardware Background

### Terminal Servers and Modems

- TACACS: the University has a security system called TACACS (Terminal Access Control and Authority Control System) controlling who can connect to the University's SLIP/Network servers. Access is restricted to those with current University of Minnesota Internet Accounts.
- 75 terminal server cards (Cisco AS51) with 16 modem ports allow TACACS authentication and are used three to a chassis with US Robotics V.34 (28,800 bits/second) modems. On the digital side, before or after compression, they handle up to 115,200 bits/second.
- 25 terminal servers (Cisco 2511) with 16 modem ports service the Microcom V.32bis modems at 14,400 bits/second, also with TACACS authentication. Digitally, before or after compression, they handle up to 38,400 bits/second.
- 2 terminal servers (Cisco ASM/4) with 80 modem ports each handle the remaining, non-authenticated pool of 120 Racal-Vadic V.32 modems.

### External Internet

- Table 1 shows Internet traffic growth from April 1992 to November 1996, with estimates for 1997-98.
- Before November 1993, the University and MRNet were connected by a single T1 (1.544 Mbps) link to the Universities of Wisconsin and Iowa as part of CICNet's Western ring. (A single T1 line to Downers Grove is about \$26,000 per year.) Then we went to two T1 links, and an additional T1 connection was added in August 1994. (Three T1 links cost approximately \$78,000.)

- In April 1995 our shared connection to the 'information highway' became a T3 circuit (28 T1 lines). The shared T3 costs \$230,000 per year.
- In Early 1997 a separate T3 path to the Internet (via Sprint) will be activated.

### Novell LANs

- Continued slow migration of the 125 Novell LAN servers at the University to 4.1 NetWare. An April 1995 survey revealed 334 Ethernet connected printers on those 125 Novell servers.
- Most users stayed with Novell 3.12 for FY 1996 but are expect to change to 4.11.

### Twisted Pair Ethernet Repeater Hubs

- NTS installs approximately 300 new Ethernet hubs each year and provides both current and future IP addresses for these production hubs.
- The older hubs are repeaters that allow every connected device to see all packets on their LAN.
- Last Fall Hewlett-Packard started delivering a more secure Advance Stack hub. That hub, while repeating, garbles the packet information to those ports not having the destination address.
- Ethernet switching hubs, instead of repeating all information on each port, have individual ports with separate Ethernet connectability. Such hubs are available for about \$280/port and will be used for those sites needing increased bandwidth for each host.
- NTS is investigating which Switching Ethernet hub to recommend attaching to the University backbone with normal Ethernet channels (later ATM). These will also have a couple of 100 Mbps Ethernet channels for high bandwidth server use within a department.









## Off-Twin City Campus Routers

- Last Year: the network went from 8 to 9 T1 connected sites. Large expansions at Duluth, Morris and Rochester changed the total number of remote Ethernet ports from 11 to 52 and serial lines from 4 to 8.
- This Year: University Press moved near Saint Anthony Falls and Duluth added a second connection, while the Minnesota Daily moved to a fiber connected building. Hormel Institute and Veterans Hospital were the new serial line connections. The total number of remote Ethernet ports at those sites changed from 52 to 76 and serial lines from 8 to 6 in FY 1996.
- Single T1 lines to the four remote campuses had been carrying the half T1, distance-education, digital video signals. A second T1 has been added for two distance-education channels and expansion of the data bandwidth to these sites.

## Buildings, Backbone, and Fiber

Most buildings are connected to Telecommunications by 700 total miles of either 50 or 62.5 micron, multimode fiber, which has bandwidth-ranges of 500 to 725 (Mhz-km). NTS has been adding 8.7 micron, single mode fiber to new runs; single mode has a bandwidth-range of 20,000.

Several buildings (such as Shepherd Labs, WBOB, Electrical Engineering/Computer Science, and University Office Place) are multiply connected to the backbone network (some in a shared load mode) to increase their total bandwidth. Composite fiber will be laid to several University sites that require the bandwidth-distance capacity of singlemode fiber. In addition Telecommunications will continue to replace the slower 960,000 bps LANMark product with Ethernet connections when feasible: LANMark is available through the University's IBX phone system.

Buildings connected via fiber or full Ethernet from June 1995–December 1996:

- Bailey Hall • Basic Sciences Bldg • Cereal Rust • Dwan VCCRC • Haecker Hall • Klaeber Court • Radisson Hotel • Stakman Hall • Tandem Accelerator • U Press Building • West Bank Union • Willey Hall

Buildings still connected via LANMark in December 1996:

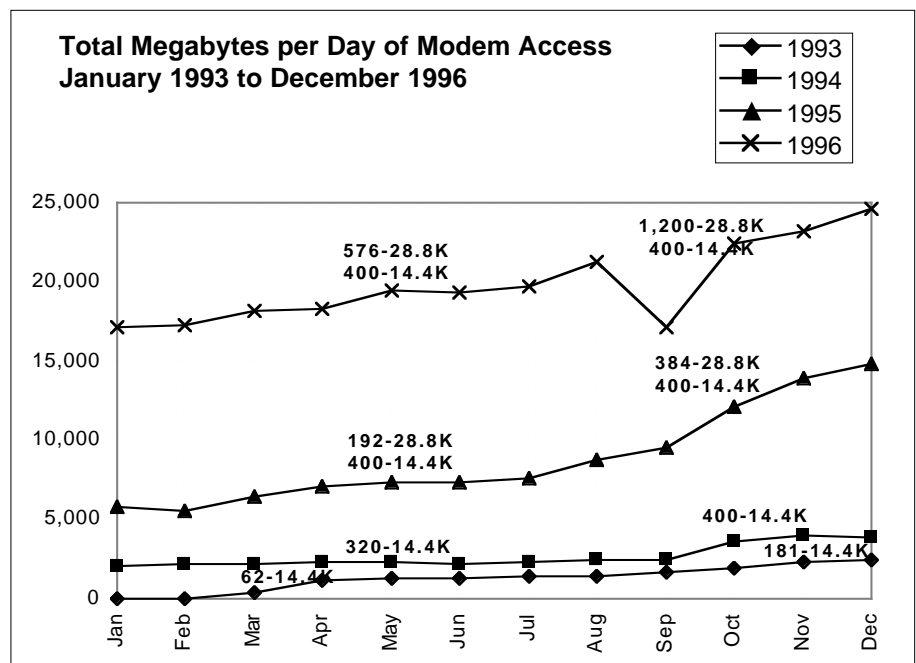
- Agronomy Seed House • Armory Building • Art Building • Crops Research • Farm & Grounds Maint Bldg • Fourth Street Ramp • Gabbert Raptor Center • Gym (St.Paul) • International Center • MN Molecular & Cellular Therapeutics • Norris Hall • Peters Hall • Poucher Building • Research Animal Resources • Weed Research Lab • 1518 Building

## ATM Networking and Frame Relay

Last Year: a six-month trial of ATM (Asynchronous Transfer Mode) switching, involving Networking Services in Lind Hall, Computer Science, Health Sciences, and the Minnesota Supercomputer Institute was completed. This used both single and multimode fiber to transmit to hosts and switches at 100 Mbps (TAXI) and 155 Mbps (OC-3). This Year: NTS began limited production ATM backbone service to our legacy routers using LAN Emulation. (See our May 1996 newsletter for more ATM information.)

Frame relay costs became lower last Fall when US West switched to flat-rate rather than distance sensitive charging within a LATA (Local Access Transport Area). In early 1996, the University of Minnesota began offering frame relay service to its departmental units, starting with the Landscape Arboretum. (See our January 1997 newsletter for more Frame Relay information.) ■

Graph 2







# VMS Services: Upcoming Changes

Jim Colten, Central Computing Operations



Continuing the Office of Information Technology's efforts to use current technology to improve the reliability and quality of our services, we are preparing to move the vx.cis.umn.edu and vz.cis.umn.edu workload to a Digital AlphaServer 2100A running VMS 6.2. We have not finalized the timeline for this project, but we expect to complete it before the start of Fall quarter 1997.

This change will benefit both OIT and our VMS customers:

- The AlphaServer is much more powerful and has more memory than the systems it replaces. Users will see a significant performance improvement.

- We will upgrade VMS software packages to their most recent versions; and in the case of SAS, we will be adding several optional features.

Not all software will survive the move. We will not move obsolete and redundant versions of any software. A few vendors have chosen to not make their software available for the AlphaServer. These will be dropped. Lastly, we will not move software packages which get little or no use on VX and VZ. We will publish a list of this software in the near future.

## We'll Keep You Posted

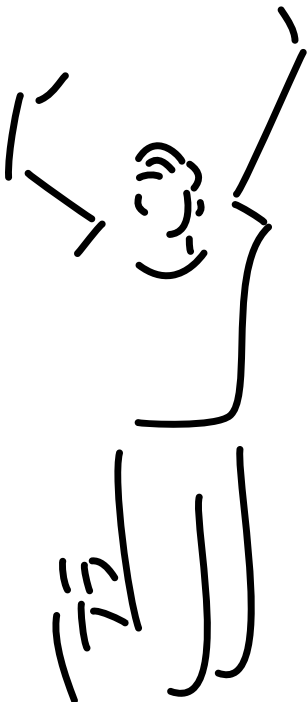
More information will be provided as we finish planning the details of this move. Watch the OIT web site <<http://www.umn.edu/oit/cco/vms-migr.html>> and the VMS NEWS facility for future announcements. You may also contact the Central Computing Operations (CCO) Customer Assistance Center by telephone at 624-0555. ■

## It's So Exciting

### Web Registration for Classes

If you missed it, look now! Twin Cities students were able to use a web browser to register for day classes this Spring.

<<http://www.umn.edu/tc/students/registration>>



If you couldn't look because of address problems, try again. A misplaced dot crept into the registration address that appeared in our March hardcopy issue of the newsletter. In web addresses major sections are usually separated by a /, as in [tc/students/registration](http://www.umn.edu/tc/students/registration). The editor apologizes for any inconvenience this caused our readers.

### Web Registration: Netscape Settings

The registration setup requires Netscape 2.02 or above, which students can access from Public Computer Facilities or their personal computers. Text and graphics versions are available; the graphics version requires faster access than the text version. In Netscape you may have to visit the *Options* menu to be sure the necessary settings have been enabled:

- For the graphics version autoload images must be on.
- Some memory cache must be present, with the verify documents option set to "once per session" [*Network Preferences, Cache* tab].
- Javascript must be enabled. Depending on which version and machine you're using (a) select *Network Preferences, Languages* tab or (b) select *Preferences Security, General* tab.

■ HelpLine Tips from Academic and Distributed Computing Services/MMK



# F-Prot Professional Site Licenses for Departments

Phil Kachelmyer, Academic and Distributed Computing Services, <phk@umn.edu>



We have licenses for F-Prot Professional anti-virus software; it runs on these platforms:

- DOS
- OS/2
- Windows 3.x
- Windows 95
- Windows NT
- NetWare (NLM)
- Windows NT Server

(we'll get this as soon as it is available)

Pricing is \$8 per license (that is, per machine) for the client scanner and \$100 per NetWare file server, regardless of server license size. There will be an annual renewal cost for these licenses. The actual renewal cost is undetermined because it will depend on how many licenses we distribute during the first year. We expect the renewal fee to be substantially lower than the initial buy-in cost.

## Obtaining the License

To purchase licenses, prepare a CUFS IV crediting 802-3050-07-4410-10 (for Academic and Distributed Computing Services).

Send the CUFS IV, in the appropriate amount, to Phil Kachelmyer at this campus mail address:

Phil Kachelmyer  
F-Prot Site License  
Academic and Distributed Computing Services  
152 Shepherd Labs

ADCS will send you the information you need to complete the purchase and installation. ■

## INFORMATION TECHNOLOGY NEWSLETTER

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Published monthly by the Office of Information Technology, editor, Mary Kelleher, <oitnsltr@tc.umn.edu>. Subscriptions are free but are mailed only within the U.S. Electronic versions of each issue will be available as HTML (web) and PDF (Acrobat) documents. Look for them on the Office of Information Technology's web site at <http://www.umn.edu/oit/newsletter>.



▼ Help

Monday–Friday

CCO (BASIS/AIS/CCS), 7 am–4:30 pm ..... 624-0555
central systems: IBM, EPX, NVE, UZ, VX, VZ
web: http://www.umn.edu/ccs
Internet/E-mail, 8 am–5 pm ..... 626-4276
by e-mail for U of M: help@tc.umn.edu
Password: Forgot it? Call the ADCS helpline ..... 626-4276
Students go, in person, to any Microcomputer helpline.
Microcomputers, Distributed Systems
9 am–4 pm, 152 Shepherd Labs ..... 626-4276
1-4 pm, 93 Blegen and 50 Coffey Hall
web: http://www.umn.edu/adcs/
NTS: 24-hour Repair Desk ..... 625-0006
web: http://www.nts.umn.edu
Training Library, ADCS Short Courses ..... 625-1300
web: http://training.micro.umn.edu/

▼ Internet Addresses

Quick Guide

LUMINA (Library) – web: http://www.lib.umn.edu
Telnet/TN3270: admin.ais.umn.edu
News Server: news.tc.umn.edu
Internet/E-mail account management
web: http://www.umn.edu/validate/
Gopher (public can log in as gopher):
consultant.micro.umn.edu
OIT web: http://www.umn.edu/oit
UofM Twin Cities web: http://www.umn.edu/tc
Information Technology Newsletter
web: http://www.umn.edu/oit/newsletter
University of Minnesota Bookstores
web: http://www.bookstore.umn.edu

▼ Dial-in Computer Access

Internet/SLIP: up to 28,800 bps (V.34) ..... 627-4250
Internet/SLIP: ADI and ITE (with MKO) ..... 3-0291
SecurID Access High Speed (V.32) 19200-N81 ..... 6-1061
2400-N81 (no parity/8 data bits/1 stop bit) ..... 6-7770

▼ General

Phone

Computer Store, Williamson Hall ..... 625-3854
CUFS ..... 4-1617
Digital Media Center ..... 5-5055
Disability & Computing Services voice/tty ..... 6-0365
Engineering Services ..... 7-4525
Data Custodians • Data Warehouse Databases
IDEA web: http://notes.ais.umn.edu
Facilities Mgmt, Kris Boike • SPAM ..... 6-7896
Financial Sys Support, CUFS Help • CUFSRDB .. 4-1617
Grad School, Genny Rosing • GSRDB ..... 5-9839
Human Res Info Ser, Gary Ogren • APSO ..... 7-4341
Inventory Ser, Luke Madsen • INVENRDB ..... 6-8217
Ofc of the Bursar, Sandy Pearson • STARS ..... 6-8698
Ofc of Human Res, Nancy Highsmith • SDRDB ... 4-8374
Ofc of Planning & Analysis, John Kellogg ..... 5-3387
• AARDB/MARDB • CLRDB • FARDB • RETDB • RRDB
Ofc Scholarships&FinAid, PhilMorgan • SCHOL .. 4-6586
Payroll, Ann Beattie • HERDB ..... 4-3869
NTS (Networking & Telecom Services) Helpline ..... 6-7800
Statistical Support, SAS ..... 4-3330
SPSS, BMDP, Minitab (VX/EPX) ..... 6-8366

Associate Vice President for Academic Affairs and
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