

# Computer and Information Services Newsletter

This newsletter is an information resource for the University of Minnesota.

Volume 5, Number 3

## September 1995

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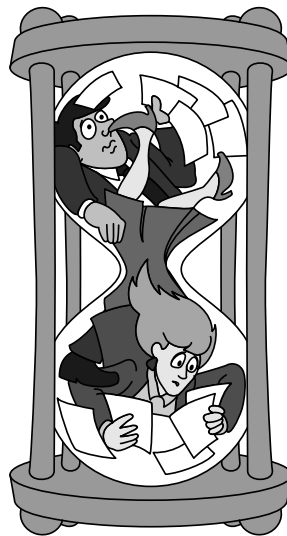
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## Time for an Update

*Donald R. Riley, Associate Vice President for Academic Affairs and Information Technologies*



This past year has been another period of rapidly increasing use of information resources and tools in all areas. We have been working hard to keep up with the demand, to provide reliable, economical systems to support the needs of the faculty, staff and students in accomplishing the University's core missions of teaching and learning, research and discovery, and outreach and service.

### 1 Million+ Messages per Week

Electronic mail has grown from a peak of slightly under 500,000 messages per week in the spring of 1994 to a little over 1.1 million messages per week this last spring. Last fall, we replaced the central Mail Servers with new equipment. Although that move created some problems for a brief period of time, the replacement was necessary and enabled us to support the rapid growth in E-mail use by faculty, staff and students. The next article, *New & Improved E-mail Systems*, outlines strategies and actions we are taking to improve service — in terms of services delivered, quality, and capacity.



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### 100 Billion Bytes per Day

The campus network has now grown to connect slightly under 21,000 computers and printers, carrying just under 100 billion bytes per day of information across the campus backbone network.

This spring, we also increased the capacity of our external links into the network, accommodating an increase in our traffic into and out of the Internet from under 14 billion bytes per day last July to slightly over 30 billion bytes per day.

### Off-Campus Access

Off-campus access to the University through the dial-up modem pool is another very important service — and it is also very difficult to keep up with.

We started last year with around 400 SLIP modems, which soon proved to not be enough to meet the demand. We will start this fall with nearly 600

modems in the “free” pool. (That number includes the newer, twice-as-fast 28.8kbps modems; we expect to have nearly 192 of them ready.)

### A Departmental Modem Pool

We have also worked with Telecommunication Services to introduce a new, “departmental” modem pool this fall to provide a higher level of “for-fee” service for departments or individuals who require more dedicated or higher level of services.



Our staff are dedicated, hard-working and constantly trying to provide high quality, cost-effective solutions to the information technology and services needs of the University community!

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## An Improved E-mail System

### Changes for Fall 1995



To provide better service, we've made some important changes to the central E-mail system. The changes take place this Fall Quarter.

In this article, we will look at the measures we are taking to improve the robustness and capacity of the E-mail system and how these changes will affect you. To understand these changes, we must look at how the E-mail system architecture is evolving and how different access methods impact the mail system.

### E-mail System Evolution

During the 1994-95 academic year, the E-mail system centered on two machines: maroon.tc.umn.edu and gold.tc.umn.edu. These machines performed several functions. They provided interactive terminal access to E-mail. (Interactive

access is where someone logs in to maroon or gold to read and compose mail.) These machines also were used as servers for those who used client/server software, such as POPmail or Minuet.

### E-mail Use Doubled in 94-95

E-mail use doubled in 1994-95 and is projected to at least double again this year. Presented with this sort of explosive growth, it is crucial to build flexibility into the system so that we can add capacity without inconveniencing the users of these systems.

### The Dictates of Demand and Funding

We need an architecture where additional mail systems can be added as demand (and funding) dictates, without requiring everyone to change their E-mail address. We need to move away from the maroon and gold setup. Since we need the ability to spread users over more than two machines, we have

changed the naming convention for new E-mail accounts.

### **New Account Naming Conventions**

New accounts are on virtual hosts or E-mail servers named after the username assigned to you.

### **The Advantage of Virtual Hosts**

By creating a different virtual host name for each user, we have the flexibility of moving user accounts to new machines as we add server capacity without asking you to reconfigure your software. Obviously, since there is one virtual host per user, we are also removing the implicit assumption that there are only two mail machines to server the entire University.

### **Name Changes Applied to New Accounts**

Note that the new naming conventions apply *only* to newly created accounts. People who are already using their accounts can also take advantage of the new naming system but are not required to do so. By phasing in the new naming system, we're making this migration as smooth as possible.

### **How Does it Work?**

In practice how the names work is simple. For instance, if the username assigned to you is

```
john6789
```

the virtual host or mail server would be

```
john6789.email.umn.edu
```

You would use your username and mail server address to configure client/server software, such as POPmail and Minuet. If you use interactive terminal sessions to read mail, you would log in to the mail server address; so instead of logging into gold.tc.umn.edu, user john6789 would log into john6789.email.umn.edu.

Although using a virtual host name for the mail server insulates you from changes to the E-mail server

configuration, it does not solve the problem of insulating people who send you mail. Since we also want to insulate people who send mail to you from any changes in the system configuration, there is also an E-mail address of the form

```
john6789@tc.umn.edu
```

for all users. This is the address that you should tell people to use when they want to send you mail.

Why is the E-mail address different from the virtual host that you use to read mail? So that incoming mail delivery can be handled on machines that are different from the mail server that you use to read your mail. This gives us more flexibility in how mail servers are configured.

To further insulate E-mail users from future changes in the system, outgoing mail sent from all new accounts is automatically rewritten so that it appears to have been sent from the

```
tc.umn.edu
```

address. When mail is sent to your tc.umn.edu address, the mail delivery system looks up your entry and delivers the mail to your preferred mailbox. (It looks up addresses in the X.500 directory.)

By using mail addresses and mail server names that are aliases for the machines that do the real work, we can upgrade and reconfigure the mail system without affecting how you use read and write mail. Again, the reason for this change is to give us the flexibility we need to reconfigure the mail system as use continues to grow.

### **Resource Allocation**

Beyond making the system easier to expand, it is vital that we allocate system resources as efficiently as possible.

## A change for new users: no Interactive Mail Shell.

```

*****
*           Central Computing Services Interactive Mail Shell           *
*           Please send comments to <help@tc.umn.edu>                  *
*****

Account Owner: Ted D Bear (bear0099)

1. Electronic Mail (No mail) [Mailer: pine]
2. U of MN Phone Book (X.500 Directory)
3. Gopher
4. World-Wide Web [Browser: lynx]
5. USENET News [Newsreader: tin]
6. Public Access (LUMINA)
7. Validation Utilities and Services (passwords, mail forwarding, etc.)
8. Special Utilities

Press '?' for help, 'q' to Quit:

```

### Interactive Access versus Client/Server

Interactive access is a relatively expensive service to provide when compared to client/server access. This is because interactive users must remain logged in to maroon or gold to read or compose mail; they are using the Pine software that is running on the central system. While they are logged in, people who use the Interactive Mail Shell consume space in memory and compute cycles (like any other program). The duration of interactive sessions is at least 20–30 times that of client/server sessions. This means that a given server can support many more client/server users than interactive sessions.

When reading E-mail with client/server software, such as POPmail or Minuet, the user is only connected to the mail server in two cases: while fetching copies of the mail or when submitting mail to the delivery system. Since the client/server software is only connected to the central system for a very short time, client/server systems can handle at least an order of magnitude more users than interactive systems.

The key to this setup is that client/server software uses the compute power in your desktop computer while you are reading and editing mail rather than the shared central system's resources.

For many, a delightful side effect of using client/server software is that editing and reading mail feels much more natural to Mac, Windows, and DOS users; you can even edit, compose, and read mail when you are not connected to the network. Moreover, the best way to use Internet applications, such as the Web and Gopher, is with client/server software; so we suspect that you will want client/server applications even if you are currently using the Interactive Mail Shell to access E-mail.

### The Transition

To ease the transition to client/server software for current interactive users, we are expanding the interactive capacity of maroon and gold by placing all new client/server users onto separate machines. However, since we must move to more efficient

access methods, we do not plan to expand the capacity of maroon and gold further; and we encourage everyone to consider moving to client server technology as soon as possible.

### **Limited Simultaneous Interactive Sessions**

To help keep maroon and gold from being swamped with interactive users, we are also instituting limits on the *number* of simultaneous interactive sessions. Before you can log in for an interactive session, maroon and gold will check to make sure that they are not overloaded. If they are at their limit, you will be asked to log in again later or use client/server software.

So, while there may be times when you are not able to log into maroon or gold for an interactive session, when you do log in your sessions will not be run on an overloaded system. This should result in better performance for interactive users.

### **Optional For-Fee Service**

Some people may want assured access to interactive (terminal) sessions. To accommodate them we will provide an optional for-fee service that will guarantee interactive access.

### **Change or Stagnate**

Given the budget realities we face and the growth in E-mail usage, moving as many people to client/server access as possible is the best way we have of continuing to provide E-mail access and efficiently allocating our resources.

### **Account Types**

From the preceding discussion, you can see that we now distinguish between these two groups of people: those who use client/server software and those who use interactive terminal sessions. All new accounts are created with the assumption that the new users want client/server accounts and will not be running interactive sessions.

When you activate a new account, it is possible to change the account type. It is also possible to make

an account that is already in use a client/server account. Current users might want to switch to a client/server account because the servers for client/server access should be significantly more stable than the interactive machines. Why should they be more stable? Since there is no interactive access you will not be inconvenienced by other users running large compute-intensive programs from terminal sessions.

In addition, now that we have packaged software suites that include tools for client/server access to all popular Internet applications, client/server users have full access to everything the net has to offer. For details on these packages, see *New Internet Services Kits* on page 6.

A detailed description of how to change account type for new and existing accounts will follow in next month's newsletter.

### **Computer Labs & Client/Server Software**

In the past, client/server software was not well suited to the needs of roaming users: people who went to and from a variety of locations, such as several different computer labs.

With the release of new computer lab optimized versions of POPmail (for Windows and the Macintosh), this situation has changed. This software is installed in the Computer Facilities that Distributed Computing Services manages. Due to the changes we've outlined, it is now the preferred way to read your mail from a computer lab.

### **No "Floppy" Mail Necessary**

When you use this software you do not have to carry your mail around on a floppy disk. The computer lab versions of POPmail are designed to leave mail that you do not delete on the server. The lab POPmail now asks for your name, E-mail account, and password. Once you answer the questions, it fetches a copy of the messages being held by the mail server. Mail that you *delete* is removed from the server.

In addition to the lab version of POPmail, we've created a special package of Internet Services software; this package is a one stop launcher for Internet

applications. Since this Internet Services launcher is also installed on the lab machines that we manage, all the tools you need for client/server access for E-mail, Gopher, Web, FTP, NetNews, Telnet, and IRC are already in place.

## Summary

Since client/server software is a much more efficient way to access the Internet and process E-mail, we encourage everyone to use this access method *if at all possible*.

By moving all new client/server accounts off maroon and gold onto client/server machines dedicated to providing client/server functions, we can provide much more robust access to E-mail. Since all new client/server users are on dedicated machines (rather than on maroon and gold), the interactive users that

remain will start out with more capacity than last year. We are also instituting capacity limits on maroon and gold to keep the system from getting swamped.

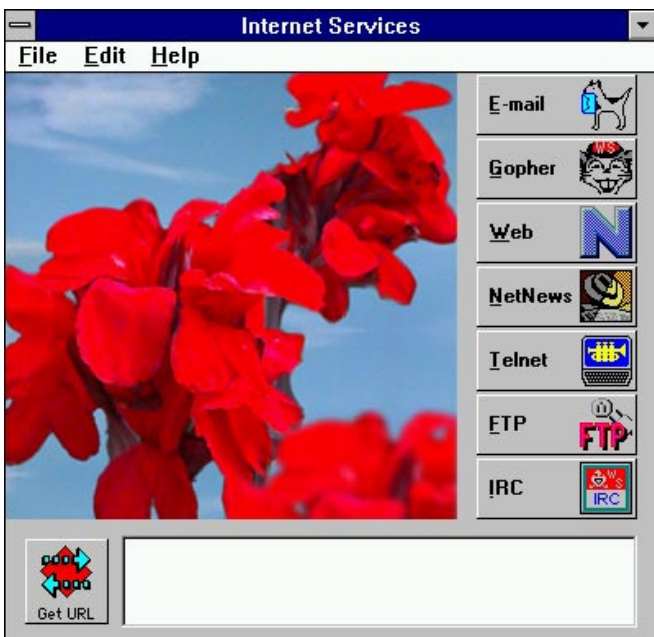
To make these changes work to everyone's advantage, we strongly encourage you to use client/server E-mail software such as POPmail on the Macintosh or Windows or Minuet for IBM/MS-DOS.

We've made it easier than ever to use client/server software by providing two things: lab-optimized versions of POPmail for Windows and Macintosh and complete Internet Services tool kits, a topics covered in more detail in a separate article.

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## New Internet Service Kits

*Improved Client/Server Access to E-mail and Other Internet Services*



each other, regardless of where-in-the-world the computers reside. The Internet is useful and seductive because of the services and information available on these computers. One of those services, E-mail, has been used extensively on campus ever since the University began to provide Internet E-mail accounts to all faculty, staff, and students.

Since then, other Internet services (such as Gopher, the Web, NetNews, and FTP) have gained popularity world-wide. (For more information on individual Internet services, see *Internet Services* on pages 9-10.)

### Our New Internet Tool Kits

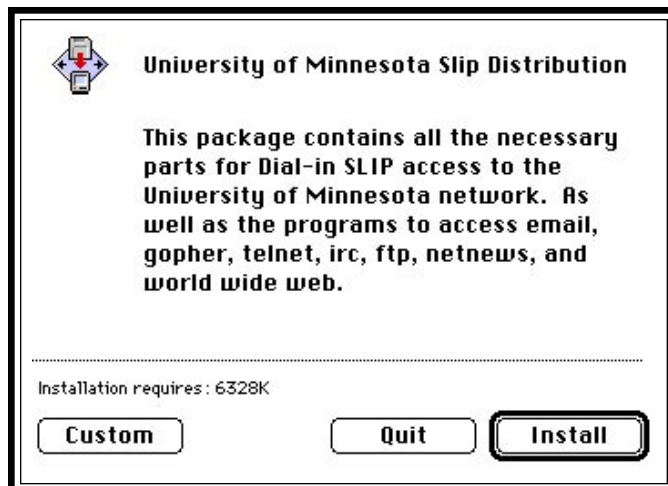
Previously, you had to find, install, and configure separate applications to use each Internet service. This was a hassle for some people. Starting this fall, we are making it simpler for you to use the Internet; we're providing complete Internet tool kits.

As many people know by now, the Internet consists of several million computers that are connected to

Each kit is an integrated package that gives you easy access to all of the most popular Internet services. The new Windows and Macintosh tool kits are called *Internet Services*. As you might know, we have had an integrated Internet tool kit for IBM/MS-DOS for some time; it is called Minuet.

Now, whichever platform your hardware supports and you prefer – Windows, Macintosh, or DOS – we offer a complete integrated tool kit for E-mail and other Internet services. Here are some examples of new features that fix old problems.

- ▶ *E-mail especially for Windows*  
The Internet Services for Windows software kit now includes a Windows E-mail application (WS\_POPmail).
- ▶ *Get URL (Uniform Resource Locator)*  
“Get URL” is now a feature in the Windows and Macintosh versions of the Internet Services tool kits. This feature allows you to enter a URL, press a button, and have the Internet Services application call the most appropriate program to fetch and display the resource. “Get URL” allows you to resolve URLs without depending on the limited support in today’s World Wide Web clients for non-WWW URLs. (On small screen Macs, the “Get URL” service is omitted.)
- ▶ *An easier way to store messages*  
In the past, people using E-mail at multiple locations sometimes resorted to using the Interactive Mail Shell’s Pine E-mail application to solve a problem: they wanted to leave their E-mail stored on the mail server so they could access old messages regardless of which computer they used. Now you can have the best of both worlds. The E-mail applications in the Windows and Macintosh versions of the Internet Services software allow you to preview E-mail messages but leave them on the mail server until you delete them.
- ▶ *An even easier Macintosh installer*  
The new Internet Services for Macintosh software has an improved Installer application. Previously, the installation application copied software to



your hard disk as self-extracting archives and required you to “reconstitute” the archives yourself. The new Installer does it all for you.

- ▶ *Minuet comes with a built-in Web browser*  
Before, if you used Minuet and wanted to access the Web, you probably used a Windows Web browser. Those of you connecting via modem had to specially configure your SLIP software to work with both Minuet and the Windows Web browser. Not any more! People who prefer to use DOS can now stay in DOS. And people who cannot use Windows can use Minuet’s built-in graphical Web browser.

Below we tell you how to get the tool kits and their recommended minimum system requirements.

## IBM/MS-DOS

Minuet (Minnesota INternet User’s Essential Tools) allows you to use the following Internet services: E-mail, Gopher, World-Wide Web, NetNews, Telnet, and FTP.

## Obtaining Minuet

Stop in any Microcomputer HelpLine with one high- or double-density 3.5-inch diskette, 1 high-density 5.25-inch diskette, or 2 double-density 5.2-inch diskettes.

Or use anonymous FTP to connect to this server and directory

```
minuet.micro.umn.edu
pub/minuet/latest
```

get this file: `minuarc.exe`

If you plan to use Minuet with a modem connection, use anonymous FTP to get these additional files. Connect to this server and directory

```
boombox.micro.umn.edu
/pub/pc/slip/latest
```

look for this file: `sliparc.exe`

### Hardware Requirements

Minuet works on a wide range of computers. The recommended minimum system requirements for MINUET are:

- 512K RAM
- DOS 2.1
- 8086 IBM compatible computer
- 2 MB disk space

### Windows

Our *Internet Services* kit for Windows software allows you to use the following Internet services: E-mail, Gopher, World-Wide Web, NetNews, Telnet, FTP, and IRC.

### Obtaining the Windows Kit

You can get Internet Services for Windows in the following ways:

- bring five high-density 3.5-inch disks to any Microcomputer HelpLine

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## INTERNET SERVICES

### ▼ E-mail

E-mail is the Internet's electronic mail system. It is an electronic analogue to traditional paper mail, where mail is delivered to a post office box or mailbox and held there until the recipient reads it. With E-mail, you can send messages to other individuals or to groups of individuals who have access to Internet E-mail services. Messages you send are held on the recipient's mail server until the recipient fetches them.

### ▼ Internet Gopher

Internet Gopher provides an easy way for people to publish, organize, search for, and access data distributed over thousands of

computers on the Internet. Gopher servers store information that is accessible to anyone with Gopher client software. Since Gopher servers can seamlessly refer to items on other servers, you can easily move from one piece of information to another by simply pointing and clicking, without worrying about exactly where-in-the-world the information is stored.

### ▼ The Web

The World-Wide Web provides another way for people to publish, organize, search for, and access data on computers across the Internet. The Web user interface consists of hypertext documents.

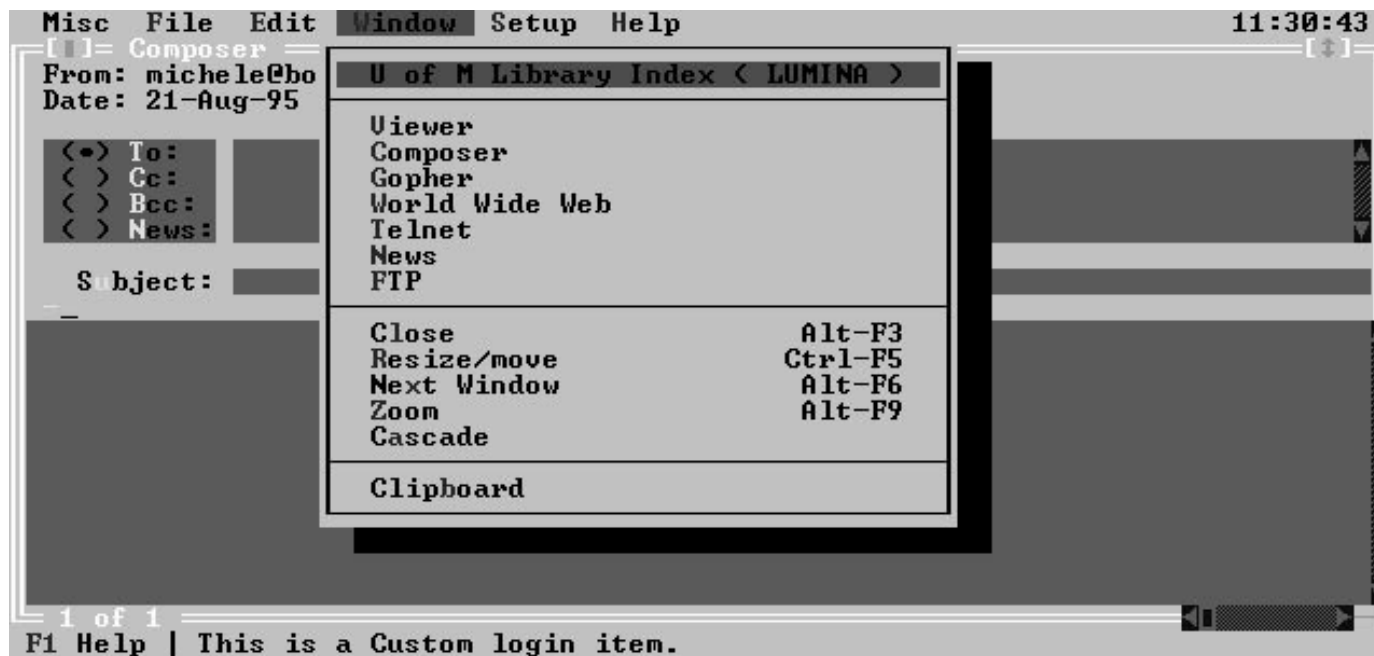
A hypertext document is one that has links to other documents. The links are represented by words or pictures. When you click on a linked word or picture, the document to which it is linked appears on your computer display.

### ▼ NetNews

NetNews, sometimes called Usenet News, is an electronic bulletin board system that allows people from all over the world to discuss various topics. Within NetNews, there are "news groups" which are like bulletin boards for specific topics. The University NetNews server carries over 10,000 news groups.



## Minuet's Window Menu and Composer Window



## INTERNET SERVICES

### ▼ Telnet

Telnet is used to run terminal sessions over the Internet to systems that require an interactive session, such as LUMINA and other libraries. For instance, you can use Telnet to access LUMINA (the electronic reference service for the University libraries), look up your grades at the end of the quarter, and register for classes. (Note: terminal emulation for access to network services is being replaced with more efficient client/server systems such as Gopher and the Web.)

### ▼ FTP

File Transfer Protocol makes it possible for you to copy files from

one computer to another. There are many computers on the Internet that contain collections of software and information that anyone may copy. Some computers allow guest access. These computers are known as *anonymous ftp* sites because, when you connect to them and are prompted for your username, you enter the word "anonymous."

### ▼ IRC

Internet Relay Chat is analogous to a CB radio in that you can converse with other people in real time. Once connected, you type messages that are sent to the computer displays of the others who are listening to the channel

you've selected. (IRC users frequently find that it eats up a lot of their allotted time; use it wisely.)

### ▼ URL

Unlike the above items, a Uniform Resource Locator is not an Internet service; but it is an important term for you to know. U-R-Ls are a way to refer to items on the Internet in a standard and compact format. URLs were originally used only by the World-Wide Web. Now that the IEFT (Internet Engineering Task Force) produced a document (rfc 1738) defining a standard form for URL, they are commonly used for most Internet services.

- use anonymous FTP to connect to this server and directory

```
bingo2.micro.umn.edu
/info/internet/setupwin
```

and get the files disk1.exe, disk2.exe, disk3.exe, disk4.exe, and disk5.exe.

### Hardware Requirements

Here are the recommended minimum system requirements for the Windows kit:

- Windows 3.1 running in enhanced mode, which means you have at least 4MB RAM, an 80386 IBM compatible computer or better, and VGA graphics or better
- 10 MB disk space

### Macintosh

The Internet Services kit for Macintosh allows you to use the following Internet Services: E-mail, Gopher, World-Wide Web, NetNews, Telnet, FTP, and IRC.

### Obtaining the Software

To get the Macintosh kit, bring four high-density 3.5-inch diskettes to any Microcomputer HelpLine. Because of our agreement with Hyde Park Software, the distributors of MacSlip, you must sign a license agreement before we can give you the software.

### Hardware Requirements

The recommended minimum system requirements for the new Internet Services kits for Macintosh are:

- System and 4 MB RAM
- 68000 Mac (need 68020 for Adobe Acrobat)
- 10 MB disk space

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## E-mail: Getting Started

### The Basics



If you are not already using your E-mail and Internet account, here is what you need to get started:

- your account information (username and password)
- a computer connected to the campus network
- network software for your computer

### 1. Your Account Information

#### Students

After you register, a username is created for you. However, the

username is not activated and does not have a password assigned to it. Students activate it and assign a password to it at any Public Computer Facility or at any Microcomputer HelpLine.

Students who have forgotten their passwords can request a new password at any Public Microcomputer Facility.

#### Public Microcomputer Facilities

Public Microcomputer Facilities are available on all Twin Cities campuses. The specific buildings and rooms are • Blegen Hall 455 • Classroom Office Building 17 • Classroom Office Building 135 • Eddy Hall Annex 54 • Elliott

Hall 121 • Folwell Hall 14 • HHH Center 50 • Lind Hall 26 • McNeal Hall 305 • St. Paul Central Library B50 • Walter Library 9.

#### Employees

The process starts with turning in a standard University form called Staff Demographic Information. Then a username is created for you and a letter containing your username and password is sent to you. If you have been an employee for a while and do not know your username and password, you can call 626-8366 to find out your username and assign a new password to it.

- We also have 2-disk sets of software for people running System 6. Many Internet Services, such as NetNews, do not run under System 6.

## More Information and Training

For more information, please call or visit any Microcomputer HelpLine.

Throughout the year we offer free E-mail orientations; times and places are advertised in the *Minnesota Daily* and elsewhere. You do not need to register for these free E-mail sessions.

We also have short courses, most of which are hands-on. These are not free and you must register for them. The course schedule for each quarter is available electronically from several sources

- On Internet Gopher — to find the Gopher listing follow this path from the University's Home Gopher

Computer Information  
Computer and Information Services Short Courses

- On the Word Wide Web — to find the information use this URL for the Distributed Computing Services home page, that is

<http://www.micro.umn.edu/>

- In Acrobat (PDF) form — you can get a formatted versions of the short course bulletin from Gopher. Look inside the Acrobat section of the *Computer and Information Services Short Courses* section.

Short course information is also available from the following sources • call 625-1300, our 190 Shepherd Labs office • visit our 190 Shepherd Labs office Monday-Friday, 8 am to 4:30 pm.

## 2. A Campus Network Connection

Students who do not own computers can use the computers in the Public Computing Facilities; access is free for students.

Departments, students, and employees who own computers must connect them to the campus network. There are basically two ways to connect your computer to the campus network: through a phone line and a modem or through a direct connection, such as Ethernet or LocalTalk.

For computers located on campus, but not in dormitories, the first choice would be Ethernet.

For more information regarding either of these options, you can call or visit any Microcomputer HelpLine.

## 3. Network Software For Your Computer

- |             |   |
|-------------|---|
| DOS →       | Use Minuet.                                     |
| Windows →   | Use the Windows version of Internet Services.   |
| Macintosh → | Use the Macintosh version of Internet Services. |

For more information regarding the above applications and to find out how to get them, read the article entitled *New Internet Service Kits*.

# Windows 95, a First Look

*to upgrade or not to upgrade*



Now that Microsoft has released the new version of Windows, its popular graphical environment, many people have begun to wonder whether they should upgrade to this new version or not.

Microsoft and Windows 95 have become the company and product many people love to hate. Windows 95 has become the focus of computer jokes usually reserved for major mishaps like the Intel Pentium FDIV (floating point divide) bug. In this article, we will give you a brief glimpse on what's new in Windows 95 and what to expect now that it's been released.

We hope that this preview of Windows 95 will answer some of your questions. In a separate Windows 95 article we will cover additional issues, such as the new Wizards feature.

## Things to Consider

If you are thinking of upgrading to Windows 95, here are a few things you should keep in mind:

### Software Considerations

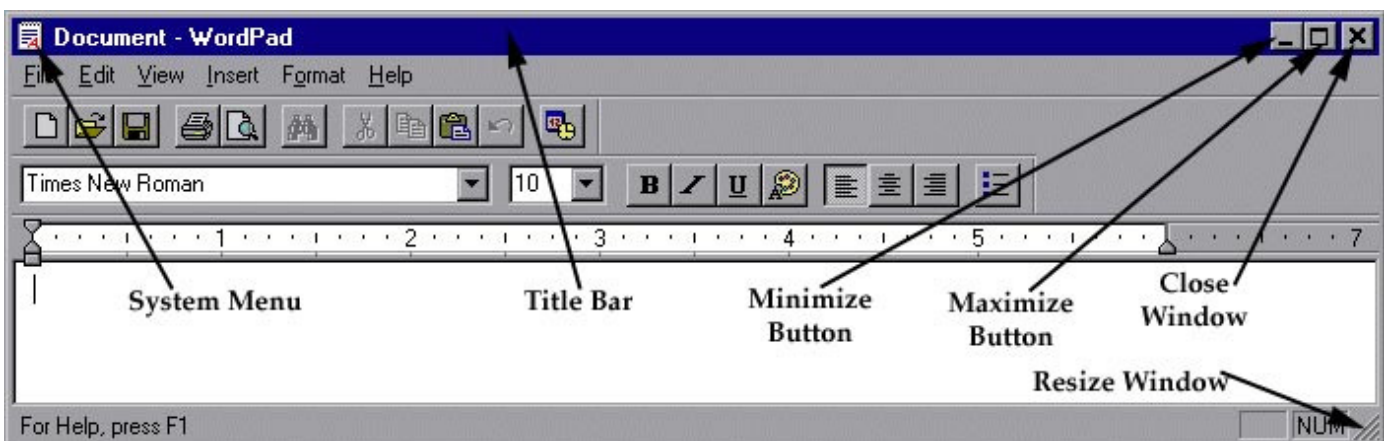
- When upgrading, you will need a previous version of Windows already installed on your computer. We recommend you install over the older version, but ask the Windows 95 setup facility to save

your old system files in case you want to de-install it.

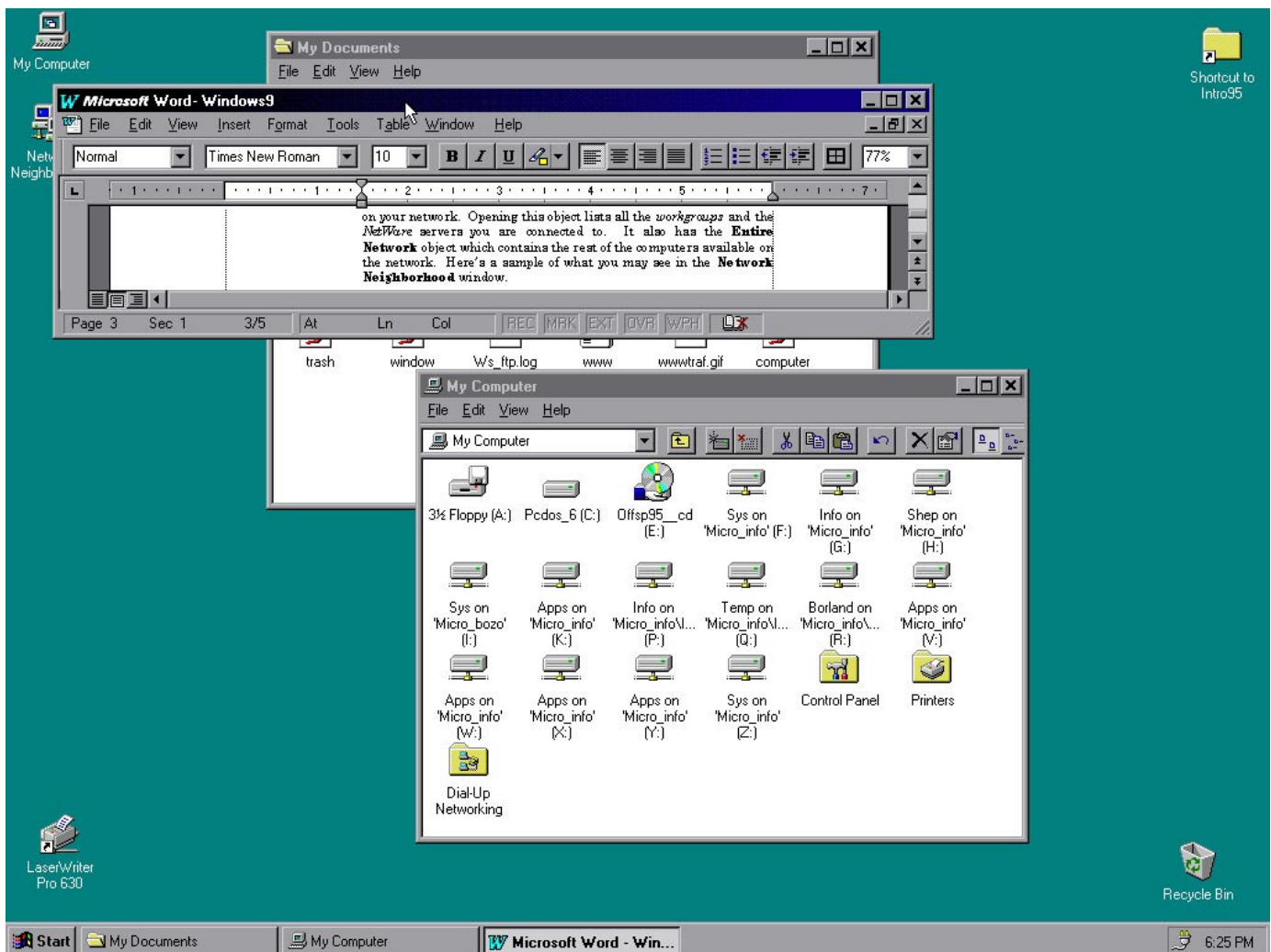
- Windows 95 supports long filenames; but since it is still built on-top of DOS, be careful when creating documents with long filenames.
- If you want to use long filenames, we recommend that you purchase the Win95 versions of your favorite software *which will support long filenames*. (The *Computer Stores News* section of this newsletter has information on these products.)
- All the Winsock applications will work. We recommend installing Trumpet Winsock and the 16-bit network applications if you will be dialing in over a modem. Installing 32-bit network applications will not work with Trumpet Winsock. If you are on campus, we recommend installing the built-in 32-bit NDIS drivers.
- Minuet will *not* run if you have any of the Windows Networking support installed; but our new Windows Internet Services tool kit will run.

### Hardware Considerations

- You will need a 80386 or higher to run Windows 95. We highly recommend a 486.
- We recommend 12 MB of RAM or more. Windows 95 will run in 4 MB of RAM, but it will run too slow.
- Windows 95 consumes 45 MB on your hard-drive. We recommend that you have 200 MB of space.



## Typical Windows 95 Desktop



- Windows 95 needs VGA graphics or higher. We recommend SuperVGA for accelerated graphics.
- Multitasking in Windows 95 is better than in Windows 3.1. If you plan to take advantage of this feature, we recommend that you have more than 16 MB of RAM.
- We recommend that you have a system with a CD-ROM drive.

### Anatomy of a Window

Let's take a look at the new window design. Windows 95 has a new look and feel. The new graphical interface is a departure from the Windows v3.1 interface. The new interface still retains all the functionality of the old one, but it also improves on it by adding a number of new features. All windows still

have the *System Menu*, a *Title Bar*, a *Minimize* and *Maximize* button, and a *Resize* region. One new button you will notice is the *Close Window* button. Use it to close a window or quit an application. Don't worry, double-clicking on the System Menu still performs the same task of closing a window.

### The Screen

The basic Windows 95 screen is composed of four main pieces. Depending on how your computer is set up, more items may appear on your desktop. Nonetheless, the minimal Windows 95 desktop should look similar to the figure above.

Here are the four important components of your Windows 95 desktop.

### My Computer



The *My Computer* object contains the icons for all the devices available on your computer. This object also allows you to manage your files by accessing the contents of your hard drive. The following table describes what you may see if you were to open (*double-click on*) the *My Computer* object.



The contents of a floppy disk in your computer's 3.5-inch drive, if there is one.



The contents of your computer's hard disk.



The contents of a network drive, if your computer is connected to one.



The contents of a compact disc in your computer's CD-ROM drive, if there is one.



Change the settings for your computer.



Set up printers and view information about your printers and the documents you print.

### Network Neighborhood



The *Network Neighborhood* object contains the available resources on your network. Opening this object lists all the *workgroups*

and the *NetWare* servers you are connected to. It also has the *Entire Network* object which contains the rest of the computers available on the network.

### Recycle Bin



The *Recycle Bin* is a temporary storage area for deleted files that are to be purged. If you click on this object with your *right* mouse button, you will activate this object's action-menu. That menu includes an *Empty Recycle Bin* option that will permanently remove your deleted files.

### Start Button and Taskbar



The *Start* button and *Taskbar* are located at the bottom of your screen when you start Windows; the figure on the bottom of this pages shows a *Taskbar*.

When you click on the *Start* button a menu pops up that contains everything you need to begin using Windows.

To start a program, simply point your mouse pointer to *Programs*. If you need

help on doing something, just point to the *Help* option. An overview of each command is shown in Table 1.

### The Start Button and Taskbar



Whenever a window is opened or a program is started, a small button corresponding to the window appears on the Taskbar. The Taskbar allows you to switch between different windows and different active tasks just by clicking the button corresponding to that task.

The Taskbar also has an area for indicators that appear in the *Notification* area. These indicators can range from *AC/battery* levels to spooling a *print job*. The Notification area also displays the current time.

Settings	Displays a list of system components for which you can change settings.
Shut Down	Powers down or restarts your computer, or logs you off.

**Table 1: Overview of Start Button Options**

Option	Description
Programs	Displays a list of programs you can start. You'll find Windows v3.1 here.
Documents	Displays a list of documents that you've opened previously.
Find	Enables you to find a folder, file, shared computer, or mail message.
Help	Starts Help. You can then use the Help Contents, Index, or other "tabs" to find out how to do a task in Windows 95.
Run	Starts a program or opens a folder when you type an MS-DOS command.

**Conclusion**

The novice will really appreciate Windows 95's new look and its ease of use. Most people who upgrade can expect a short learning curve while they learn to work with Windows 95.

We expect many people to be very excited about Windows 95. Many will see it as the answer that system and network managers have been looking for on the Intel platform. However, we do not recommend that you upgrade if you have only the minimum hardware configurations. Upgrade the hardware first; then upgrade to Windows 95 software.

If you want to look at Windows 95 yourself, stop in the Microcomputer HelpLine in Shepherd Labs; several machines have Windows 95 installed on them. If you would like a more directed approach, this Fall we will offer some Windows 95 overview sessions. Check our *Short Course Bulletin* for times and locations.



**Other Sources of Information**

This Microsoft Windows Web page

<http://www.microsoft.com/Windows>

contains some additional information about Windows 95. Current Windows 3.1 users may want to download two guides from this site: a hardware compatibility guide (a self-extracting ZIP file) and a software compatibility guide (a Windows Help file).

This TechFile Win95 Web page also has some interesting "first look" information about Windows 95

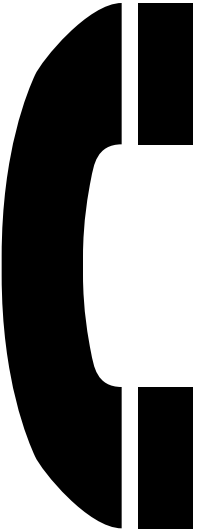
<http://techweb.wais.com/techweb/techweb/win95/win.html>





## 28.8 SLIP Modem Pool

*V.34 SLIP (Serial Line Internet Protocol) Service for 14.4 and 28.8 Modems*



The University has set up nearly 200 V.34 modems in a SLIP modem pool. The off campus number for this V.34 service is:

627-4250

The new V.34 pool will accept connections between 14.4 and 28.8K baud. We expect most existing 14.4 modems to connect properly to the new V.34 SLIP modem pool. Those with 28.8 modems should also be able to connect at the 14.4 speed. Connecting at a higher speed requires

full V.34 compliance – a standard that not all 28.8 modems meet. Even with that compliance, some modems may not work without special initialization.

We recommend that you buy an external modem from the Computer Store. To assure compatibility with the University's SLIP modem pools, Distributed Computing Services tests modems, such as those the Computer Store carries, with MacSLIP, PC SLIP (Minuet) and Winsock Internet applications.

### Changing Standards

Some people are lulled into a false sense of security when they are told the modem they've purchased or that is installed in their computer is Hayes compatible. That phrase is meaningless because the Hayes command set is not standardized or broad enough to support services that require hardware handshaking, such as SLIP service. Hayes compatibility only refers to working with the Hayes commands, such as AT, the "Attention" command.

### V.34, V.Fast, V.32turbo, V.FC

Because people wanted transmission speeds greater than 14.4K, 28.8K modems were on the market

before the current V.34 standard was finalized. The interim solutions for wringing faster speeds from telephone lines included V.32turbo, V.Fast, and V.FC. The only modems we expect to work fast and work reliably with the new 28.8 modem pool are fully V.34 compatible modems.

### SLIP Software

The SLIP scripts that the Microcomputer HelpLine has distributed should continue to work when you dial the V.34 modem pool. However, to allow the V.34 modems to perform at their maximum speed, new "commands" (initialization strings) may be needed.

The "Internet Starter" kits the Microcomputer HelpLine currently distributes include generic V.34 initialization and initializations for some V.34 modems we've tested.

### Buyer Beware

When deciding to purchase a 28.8 modem, keep in mind that the market is still immature and that factors besides the modem itself can limit its speed. Below are excerpts from documents on the University Networking Service's Web page, which is accessible from this URL:

<http://www.unet.umn.edu/>

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**The only modems we expect to work fast and work reliably with the new 28.8 modem pool are fully V.34 compatible modems.**

---



Modems change analog-phone signals to/from digital-computer connections. Using compression algorithms, V.34 modems connect to the analog phone circuit at up to 28.8K.

The industry is still evolving for V.34 modems...Due to this immature technology, vendors are continuing to release upgrades for these modems that increase their performance and interoperability with other modems...If you encounter problems connecting to the V.34 modem pool, you may want to call vendors for current shipping version compared to your modem's version and to check their upgrade policies.

#### Some Problem Areas

In testing V.34 modems, we found many do not consistently connect at the full

28.8K...There are many reasons for this: poor home wiring, passage through multiple central offices or specific modem limitations.

If the modem has been used for FAX services or some resident FAX software has automatically changed modem settings, the modem may not allow successful SLIP dial-ins. Check your manual for specific init-strings which will return your modem to the original factory setting and allow normal SLIP scripts to connect.

#### Computer Store

If you're in the market for a 28.8 modem, we recommend that you purchase an external one from the Computer Store. They carry external 28.8 modems for Macs and PCs for under \$250 and recently added the Teleport Platinum for Macs for \$199.

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## Workstation Support Group OPEN HOUSE

*We've scheduled an Open House for October 12 at 1:30 p.m.  
Join us HP, IBM, SGI, and SUN in 98/99 Coffey Hall.*

The Distributed Computing Services' Workstation Support Group Open House is tentatively scheduled for Thursday, October 12, 1995 at 1:30 p.m.

The open house follows a "net-people" meeting. We hope some of the attendees from the other campuses can attend this function. The open house will be in rooms 98/99 Coffey Hall. We have invited HP, IBM, SGI, and SUN to have a formal presentation and show off some of their latest offerings.

We will have some form of refreshments and hope to see everyone there!

To keep up-to-date on the working of the Workstation Support Group, visit our new Web page at this URL:

<http://bay.micro.umn.edu/>

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# Your Virtual Library

*Information Services for the 21st Century*

*Nancy K. Herther, Manager, Integrated Information Center of the University Libraries*



Banking by computer, degree programs via the Internet, sending in homework via E-mail — in the past few years we have seen massive changes in the way we work, study and do our research here on campus.

And the Libraries haven't been lagging! Today the Libraries' collections are listed on LUMINA for access over the Internet by anyone, anywhere, with access to the 'net.' In the past year the Libraries have also developed their own Gopher as a way to help you pull together information on our collections and services as well as giving you information and quick access to services, databases and resources from Internet sources across the globe.

## Welcome to the Libraries!

Our Libraries are one of the University's and the State's greatest intellectual and capital assets. Housed in five major facilities and in 12 branch sites on campus, the collections include over five million print volumes, 36,000 serial subscriptions, 3 million microforms, 3.6 million government documents and over 350,000 maps. We are the 17th largest research library in North America. Our staff includes about 100 professional librarians and each year we circulate over one million items to our University community.

## The Virtual Library

The Libraries' efforts to provide comprehensive coverage in practically every field of knowledge has lead us to invest heavily in electronic resources. LUMINA, the Libraries' on-line catalog, provides complete indexing of book and journal holdings and serves as a gateway to over 30 networked reference databases — MEDLINE, Psychological Abstracts, Current Contents, and Dissertation Abstracts to name a few.

We have well over 200 CD-ROM databases available for your use in our various Libraries. A new listing of these will be available through LUMINA and the Libraries' Gopher (as well as in print) by Fall quarter.

We not only have indexes and bibliographical information on CD-ROM, but we are beginning to collect materials which can be circulated for use at home or in your office.

You can renew books using your Internet connection, check out the collections of all local public libraries, download the full-text of articles in some subject areas, give us some suggestions for new materials or just give us some general suggestions on things you'd like to see us do. All from your offices or homes! Not that we don't want to see you in our libraries; but we realize that we need multiple access points to information, and we are committed to providing these for our users.

## Where Can I Start?

We hope this column will continue to be one source of information for you. However, don't stop there — we offer tours and free classes (check out LUMINA for training schedules or stop in one of our library locations for more information), as well as lots of telephone, in-person and other help.

Where could you start? If you aren't on campus to explore the Libraries in person, try our Internet connection. Either select "Libraries" and "University of Minnesota Libraries" from the University Gopher menu or check the back page of this newsletter for additional connection information.

In future issues of this newsletter we will continue to give you information and search tips on all of the databases and resources that we have available for you. If you have any suggestions, ideas or comments, please feel free to contact me anytime. If you'd like a general packet of information on the Libraries hours, services and collections, please send me a note or contact me at the address below.

Nancy K. Herther, 7 Walter Library, East Bank; 624-2020; nherther@iic.lib.umn.edu.

# Hottest Federal Government Internet Sites

*More Tips from Your Virtual Library — Nancy Herther*



Below are one magazine's picks for high-content, information-rich Internet resources. Please feel free to check out the Libraries' own Gopher and send me your ideas for good sources of Internet information!



In the current issue of DATABASE magazine, the following were rated as the best — most useful — Internet resources for information professionals, of the hundreds — some say as many as 750 — current Federal Internet sites.

In today's legislative climate, access to governmental information is a bit shaky. Recently officials announced that after October 1st, free on-line access to EDGAR — and SEC reports from publicly held companies — may cease. So, here's what's available at the time of this writing.

These are all Gophers, although I have also included Telnet information. Each has good information that you may want to check out. I tried them all and found some gems. Happy surfing! — Nancy Herther.

## 1. LC MARVEL

This Library of Congress resource is searchable using Jughead for look ups by subject or key word. This links to other sites and allows you to find out about the collections and services of the Library of Congress as well as copyright information, UN and other agencies' information.

To access via Internet Gopher or Telnet:

`marvel.loc.gov`

Telnet login:

`marvel`

## 2. LOCIS

### (Library of Congress Information System)

Here is the card catalog of the Library of Congress as well as information on all bills introduced in Congress since 1973 — and particularly good information (within 48 hours) of current legislative actions on bills. Telnet access:

`locis.loc.gov`

## 3. FED WORLD

FedWorld provides a gateway to over 100 BBSs operated by federal agencies as well as over 500 tax forms and IRS publications and full-text versions of documents from various federal agencies.

Here is Internet Gopher, Web (HTTP), and FTP access information:

`fedworld.gov`

`http://www.fedworld.gov`

`ftp.fedworld.gov`

#### 4. University of Michigan Gopher

The library system at Michigan has pulled together this very useful resource, initially for its own community; but all researchers will find many of the links to government information, indexes, etc., very useful.

Here is Internet Gopher and Telnet access information:

```
gopher.lib.umich.edu
una.hh.lib.umich.edu
```

#### 5. University of Missouri, St. Louis Gopher

Another library-sponsored Gopher with lots of gems for the researcher as well as access to their own card catalog. Some governmental CD-ROMs are also mounted here for searching.

Here is Internet Gopher and Telnet access information:

```
umslvma.umsl.edu
```

#### 6. COIN: Columbia On-line Information Network

Log in as "guest" and check out some of the impressive governmental information and databases, especially access to the Government Printing Office's GPO Access Program databases. Telnet access is available:

```
128.206.1.3
```



#### 7. U.S. House of Representatives Servers

Full-text of House bills, the Congressional Record and the U.S. Code are just the tip of the iceberg in this rich resource.

To access Internet Gopher or the Web (HTTP):

```
gopher.house.gov
http://www.house.gov
```

#### 8. Cornell Law School Servers

Supreme Court decisions for 1991 to present along with the full-text of the Copyright Act of 1976, Articles 1 & 2 of the UCC are just a few of the resources made available through Cornell Law School. (If using Telnet, login as either www or gopher .)

To access Internet Gopher or the Web (HTTP):

```
gopher.law.cornell.edu
http://www.law.cornell.edu
```

#### 9. Internet Town Hall

The full-text of corporate reports filed with the SEC, patents filed with the Patent and Trademark Office and other reports are available through their resource.

To access Internet Gopher or the Web (HTTP):

```
gopher.town.hall.org
http://town.hall.org
```

#### 10. St. Olaf College Servers

State department travel advisories are available here, as well as a unique mailing list service which will deliver new travel advisories by E-mail as they are issued by the State Department. Check it out!

To access Internet Gopher or the Web (HTTP):

```
gopher.stolaf.edu

http://www.stolaf.edu/network/
traveladvisories.html
```

# Computer Store • 625-3854

## Back-to-School & Special Prices

*The Back-to-School pricing expires on October 13, 1995.  
Some prices and product mixes will change during the promotional period.*

### ▼ Computer Discount Program



The discount program is available not only to departments but also to students and staff, subject to the eligibility rules of the program. The Computer Store is located in the East Bank Book Store in Williamson Hall.

You can use Internet Gopher to search the Computer Store's database to find out part numbers, prices, and product availability. Some product information is also available on the Minnesota Bookstores' Web page. The Gopher path and Web URL are shown below.

Computer Information/U of M Microcomputer  
Prices/BookCenter Electronics Desk

<http://www.bookstore.micro.umn.edu/>

### ▼ Computer Fest

*September 28 and 27*

You may want to visit Computer Fest on September 28 and 27 on Williamson Plaza. You can talk to vendors such as – Apple • AutoCAD • Borland • Claris • Compaq • Fractal Design • Hewlett-Packard • IBM • Lexmark • MacroMedia, • Microsoft • Minitab • ZEOS – and view their products.

During the Computer Fest you will be able to test drive products, check the latest back-to-school specials, and enter to win prizes. IBM will also have on-the-spot loan approvals.

### ▼ Windows 95 Specials

All products are available only on 3.5-inch disks unless otherwise noted.

Product	Price
<i>Microsoft Products</i>	
Windows 95 upgrade * .....	\$89.95
Windows 95 full version .....	\$179.95
Plus Pack for Windows 95 * .....	\$44.95
Office for Windows 95 * .....	\$149.00
OfficePro for Windows 95 * .....	\$179.00
Access for Windows 95 .....	\$120.00
Excel for Windows 95 .....	\$120.00
PowerPoint for Windows 95 .....	\$120.00
Project for Windows 95 .....	\$150.00
Publisher for Windows 95 .....	\$27.00
Works for Windows 95 .....	\$60.00
Works with Bookshelf for Windows 95 .....	\$83.00

### *Third Party Products*

PageMaker for Windows 95 .....	\$199.00
(PageMaker available 10/95)	
AfterDark for Windows 95 * .....	\$17.00
Norton Antivirus for Windows 95 .....	\$45.00

\* available on CD for the same price



## ▼ IBM Specials

Note: other IBM configurations and products are also available at their regular educational discount price, such as the IBM monitors listed below. All these monitors have a tilt swivel stand and an anti-glare and antistatic screen; the 15-inch (P50) monitor is an addition to our price lists.

- 14-inch color \$320
- 15-inch color \$532
- 17-inch color \$700

If you purchase an IBM during IBM's back-to-school promotion, you will receive a goodie bag that contains items such as a resume writing book and an IBM T-shirt.

You can get information about specific IBM personal computer products from this Web site:

<http://www.pc.ibm.com/>

## IBM PC 300 Desktop Series

*Standards:* All three configurations come with 8 megs of RAM, a 540MB hard disk, a 64-bit SVGA video port, an IBM keyboard, an IBM mouse as well as DOS 7.0 and Windows 3.1. The packages also come with a three year warranty and are Energy Star compliant; none come with a monitor or a modem.

Order No. 6571L5F PC 330  
486 DX2/66MHz, 3 slots (VESA and ISA)  
and 3 bays  
► Now \$1225

Order No. 6581W5F PC 350  
486 DX4/100Mhz, 5 slots (VESA and ISA)  
and 5 bays, OS/2 Warp (in addition to DOS and Windows)  
► Now \$1490

Order No. 658635F PC 350 Desktop  
75MHz Pentium, 5 bays, 5 slots (PCI/ISA),  
OS/2 Warp (in addition to DOS and Windows)  
► Now \$1565

## IBM Notebooks with Color Screens

*Standards:* all these back-to-school ThinkPad specials come with 8 megs of RAM and a 10.14-inch color screen. The 701C, 755CD, 755CSE, 755CV have active matrix screens. The 701CS has a dual scan passive screen. All have full size keyboards, integrated numeric co-processors, and a detachable 3.5" 1.44MB disk drive.

Order No. 26302SU, ThinkPad 701CS  
486 DX4/75Mhz; 8MB RAM, 360MB hard drive,  
10.4" dual scan passive color screen, 14.4 fax/  
modem, PCMCIA, 4.5 lbs, battery: 2.5-7.0 hrs  
► Now \$2750

Order No. 26302TU ThinkPad 701C  
486 DX4/75Mhz; 8MB RAM, 360MB hard drive,  
10.4" active matrix color screen, 14.4 fax/modem,  
PCMCIA, 4.5 lbs, battery: 2.5-7.0 hrs  
► Now \$3245

Order No. 95459BD, ThinkPad 755CD  
486DX4/100MHz, 8MB RAM, 540MB hard  
drive, 2X CD-ROM, 10.4" active matrix TFT color  
screen, PCMCIA, 7.3 lbs, battery: 3-8 hours  
► Now \$4999

Order No. 95457BD ThinkPad 755CSE  
486DX4/100MHz, 8MB RAM, 810MB hard  
drive, 10.4" active matrix TFT color screen,  
PCMCIA, 6.4 lbs; battery 3.3-10 hours  
► Now \$4005

Order No. 95459BD, 95458BJ ThinkPad 755CV  
486DX4/100Mhz, 8MB RAM, 540MB hard  
drive, 10.4" active matrix TFT color screen,  
640x480 with 64k colors. Overhead projection  
capability including wireless remote, 6.5 lbs, DOS/  
Windows and OS2  
► Now \$5395

## ▼ Lexmark Printers

### Execjet IIc

You can use the Execjet IIc for color (300 dpi) or black-and-white (600 dpi) printing.

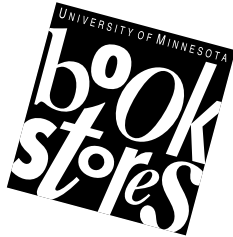
► Back to school \$279

### Lexmark Optra R

The Optra R is a 1200 dpi laser printer that comes with 2MB of RAM and is expandable to 64MB.

It comes with PostScript Level2, PCL 5, and a 200 sheet input tray. You can connect it to your IBM via its parallel or serial port or add an optional AppleTalk or Ethernet port.

► Back to school \$1375



## ▼ Apple Specials

These back-to-school-specials are available while supplies last. All the Macintoshes come with a mouse, a 3.5-inch 1.4MB floppy disk drive, a SCSI port (for connecting external devices such as hard disks and scanners), a serial port for devices such as modems, and a port for AppleTalk networking. Desktop machines also come with a monitor port.

Note: other Macintosh configurations are also available at their regular educational discount price, such as the Performas 6214CD (\$1750) and 5200 (\$1750).

Both Performas have a 75 MHz PowerPC 603 microprocessor with an integrated FPU (floating point unit) and 16K processor cache. They come with 8MB RAM expandable to 64MB (using 72-pin 80ns SIMMs), a 4x speed CD-ROM drive, stereo 16-bit sound, and an AppleDesign keyboard. They also come with preloaded software such as ClarisWorks and MacLink Translators.

The 6214CD comes with a gigabyte hard disk but no monitor or modem. Deliveries of the Performa

5200 are very slow; the 5200 package comes with a built-in 15-inch color monitor, an 800MD hard disk, and a Global Village Teleport Gold 14.4 modem.

You can get information about specific Apple personal computer products from this Web site:

<http://www.info.apple.com/>

### Performa 636

The Performa 636 comes with a Motorola 66/33MHz 68LC040 microprocessor. The package includes a double-speed CD-ROM player, 16-bit CD stereo sound, the Apple design keyboard and several pre-loaded software packages, such as ClarisWorks 2.1 and American Heritage Dictionary. It does not include an FPU (floating point unit, a math co-processor). Note: the monitor is sold separately.

► Was \$1100 ► Now \$955

Order No. M4156LL/A, Performa 636 with 8MB RAM, 500 hard disk and CD-ROM drive

### Power Macintosh 7100/80

The PowerMac 7100/80 series runs on the PowerPC 601 RISC chip with integrated math co-processor and comes with System 7.5. Note: monitor and keyboard sold separately.

► Was \$2640 ► Now \$2045

Order No. M3645LL/A, Power Macintosh 7100/80/AV with 16MB RAM, 700 Hard Disk and CD-ROM Drive.

### Power Macintosh 6100/66 DOS Compatible

This PowerMac runs on the PowerPC 601 RISC chip with integrated math co-processor. It includes built-in Ethernet and comes with a 486DX2 with a 32-bit data bus. Both the PowerPC and 486DX2 processors run at 66 MHz. Note: monitor and keyboard sold separately.

► Was \$2375 ► Now \$2095

Order No. M3973LL/A, Power Macintosh 6100/66 with 16MB RAM, 500MB hard disk, and a CD-ROM.

**Macintosh PowerBook 520**

The PowerBook 520 comes with a 68LC040 micro-processor and a "black and white" 9.5-inch passive-matrix monitor that displays 16 levels of gray. This 6.3 pound laptop comes with 8MB of RAM, a 240MB hard drive and built-in networking.

► Was \$1895 ► Now \$1625.  
Order No. M3981LL/A

*PowerBook 520C*

The 6.4 pound 8/240 color 520C is now available at the special price of ► \$1865.

**Color Monitor**

Apple's Multiple Scan 15-inch monitor is an RGB color display that lets you adjust the resolution to fit your needs. This display has a flat, square screen that minimizes image distortion. Its tilt-swivel base lets you adjust your viewing angle.

► Was \$440 ► Now \$380  
Order No. M3089LL/A

**Color StyleWriter 2400**

The Apple Color StyleWriter prints at 360x360 dpi (dots per inch) in grayscale or color and 720x360 dpi for text and line art. The 2400 comes with the typical 64 scalable TrueType fonts; the multipurpose paper tray holds 100 sheets of paper. The package includes a cable to connect the printer to a Mac. It prints up to 5 pages per minute in black and white; color printing is slower. You can insert a black ink cartridge or color ink cartridge in the 2400. To take advantage of all its features, you need to run at least System 6.0. 7.

► Was \$380 ► Now \$355  
Order No. M2888LL/A

**Personal LaserWriter 300**

The Personal LaserWriter is a non-PostScript printer designed for personal use. It prints at 4 pages per minute, comes with typical TrueType fonts, and its universal paper tray holds 100 sheets of paper. It comes with a cable to connect the printer to a Mac's serial port. To take advantage of all its features, you need to run at least System 6.0. 7.

► Was \$565 ► Now \$510  
Order No. M61675LL/A

**▼ Compaq and ZEOS**

You will also find good prices on Compaq and ZEOS configurations, such as:

**ZEOS**

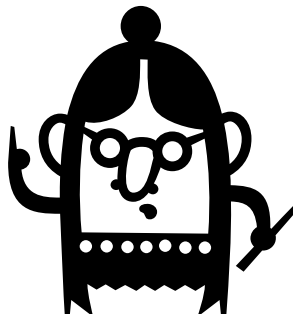
Pantera 120 Pentium with 16 megs of RAM, 1GB hard drive, 4X CD-ROM drive, SVGA graphics card, ZEOS 15-inch flat screen SVGA color monitor, mouse, MS-DOS, Windows for Workgroups, MS Office Pro and Bookshelf CD.

► Back to school \$2850

**Compaq**

The Presario CDS 982 Pentium, 90MHz, 8 megs of RAM, 725MB hard drive, 4X CD-ROM drive, 1MB VRAM, pre-loaded software including DOS and Windows. Note: you must purchase a monitor separately.

► Back to school \$2090



**Satisfaction guaranteed.**



## North Star Brings State Government On-line



*We think you will find this August news release interesting. Now you can use your Internet account to access even more "Minnesota" information. And Mark Kassem from Distributed Computing Services helped to get this program on line; he supplied the Web server and html (Hypertext Markup Language) expertise. Internet Gopher, another part of this program, was developed at the University of Minnesota by staff from Distributed Computing Services.*

Governor Arne H. Carlson today unveiled the state's new computer online program, which will allow Internet users to do everything from pick a Minnesota summer vacation spot to research winter road conditions from their own terminal.

The Governor said that the new program, dubbed North Star, will make Minnesota state government more accessible and responsive and make consumers more productive.

"Our North Star program provides 24-hour access to Minnesota government information for anyone who can use a computer," Governor Carlson said. "The program will not only make state government more convenient; opening it after hours and on weekends. It will eventually help consumers save time and energy filling out state tax returns or conducting a job search. In short, it will not only inform Minnesotans, it will make us more productive."

An estimated 38 million Americans use the Internet and users on the

World Wide Web are doubling every six weeks. North Star is available to Internet users through America On-line, Prodigy, and many community networks. It will carry a wide variety of Minnesota state information, including:

- News releases, speeches, editorials, public schedules, and legislative information from the Governor and Lt. Governor
- Travel, events, and lodging information from the Office of Tourism and the Department of Trade and Economic Development (DTED)
- Tax information and forms from the Department of Revenue
- Job search information from the Department of Economic Security
- Historical sites and events from the Minnesota Historical Society
- Road conditions information from the Department of Transportation
- Education information, from K-12 bulletins to data on the University of Minnesota and the Minnesota State Colleges and Universities

The program will also provide links to other local, state, and federal government information, including Minnesota Congressional offices and name and phone directories for agency heads, staff, and courts. While the system is not fully interactive now, it will eventually allow consumers to apply for business permits and fishing, boat, and auto licenses. Governor Carlson directed state government agencies to develop this

"one-stop shopping" concept in a July 1993 Executive Order.

In addition to home-access, North Star will be available at public library terminals in Greater Minnesota in the following communities: New York Mills, Perham, Detroit Lakes, Virginia, Thief River Falls, Rouseau, Warren, Warroad, Walker, Brainerd and St. Paul. Consumers are urged to call their county Minnesota Extension Service office to determine access in their area. For consumers who cannot immediately access North Star, the Governor urged them to request it from their computer service company.

Development of North Star has been coordinated by the Minnesota Government Information Access Council and the Information Policy Office. The program has received the cooperation of over 60 government units, and will have all major state offices represented on the system within a year.

"We encourage Minnesotans to check out North Star and see what it has to offer," Governor Carlson said. "We think it brings government one step closer to those who pay bills."

The North Star internet addresses are:

World Wide Web

<http://www.state.mn.us>

Gopher

<gopher://gopher.state.mn.us>

## Training Update: 625-1300



Distributed Computing Services owns training packages for many popular software products. These training packages are available to University of Minnesota departments and current employees and students. There is no fee for using these packages, and you may check them out for 48 hours. However, before you can check them out, you must sign a *Usage Agreement*.

### ▼ Reservations Required

To reserve or check out these materials, phone 625-1300 or stop in our Shepherd Labs office in room 190, Monday-Friday, 8 am to 4 pm.

Unless you use our Self-Paced Training Centers, you must supply your own equipment, such as computer and cassette player, and software, such as Microsoft Word or Windows, to use these training materials.

### Training Center Hours

Location	Monday-Friday
1 Nicholson Hall	8 am to 7 pm
99 Coffey Hall	9 am to 4 pm

This summer we added the following training materials to our lending library.

### ▼ Windows 95

(pre-release version basics)

From Personal Training Systems for PCs with Windows 95 installed: (1) Audio training or (2) CD-ROM.

Both tutorials teach you how to understand your hardware; use the start button; create, save, move, copy, open, find, and print files; manage windows; and customize your desktop.

### ▼ Windows Videos

from *Windows Academy*

- CorelDraw 5.0 • Tapes 1 to 6
- Office 4.0 • Integration • one tape
- Powerpoint 4.0 • Volumes 1 to 3

### ▼ Mac Videos

from *MacAcademy*

- System 7.5 • Basic – Tapes 1 to 3
- System 7.5 • Advanced, Tape 4
- HyperCard 2 • Tapes 1 to 3
- Illustrator 5.0/5.5 • Tapes 1 to 5
- PowerPoint 4.0 • Tapes 1 to 2
- Premiere 3.0 • Tapes 1 to 3
- QuickTime • one tape

### ▼ Mac CD-ROMs

by *Personal Training Systems*

- System 7 and 7.1 and 7.5
- Office 4.2
- Excel 5.0
- Word 6

### ▼ Mac & Windows Videos

from *MacAcademy*  
or *Windows Academy*

*Director 4.0 • Tapes 1 to 5*

- Tape 1 covers • multimedia; program; installation; memory; stage; quick time; demo presentation; create presentation; cast window; linking files; sound files; preference; score; tempo; set sound text; tool palette; ink effect; transitions; marker/label.
- Tape 5 covers • lingo; sprite scripts; cast member info; continuous loop; set sound; attach sound to button; play done; rollover; purge priority; set movie info.

*Painter 3.0 • Tapes 1 to 4*

- Tape 1 covers • new documents; tools; color picker; preferences; scratchboard tool; brush controls; zoom; airbrush; chalk, custom, and water tools; water colors; image

hose; light source; record stroke; record session; mask; saving documents.

- Tape 4 covers • make nozzle; colorize multiple floater; reverse out; special floater effects; shadow map; import documents; resolution; anti-aliasing; banding; resize image; animation; add stroke to movie; record a session; use object from another movie; brush parameters; combine movies.

*PhotoShop 3.0 • Tapes 1 to 10*

- Tape 1 covers • installation; tools; PhotoShop CD; Acrobat format; plug-ins info; memory; opening files; pixels, bit depth; monitors; zoom; selecting; marquee tool and options; color background; cropping; show info box; rulers; floating; revert color balance; blur filters; save.
- Tape 10 covers • document size; when not to use PhotoShop; PhotoShop vs Illustrator; PhotoShop and RAM; halftone dots; document resolution; resampling; short-cuts; masking; quick masking; multiple methods; zoom ratio; lighting effects; backgrounds; mezzotint; lens flare.

*Word 6 • Tapes 1 to 6*

- Tape 1 covers • installation; document window; saving; summary info; search; create letter, text; selecting; drag & drop; font style; indents; paragraph; date; spell check; dictionaries; autocorrect; print preview; help; grammar checker; format painter; document layout; page setup; thesaurus; print.
- Tape 6 covers • WordArt; call outs; watermarks; bookmark; wizards; passwords; mail merge; data form; merge letter; if...then...else; insert word field; custom keyboard shortcuts; custom toolbar; macros; sub document; revisions; form fields.

### ▼ C++ Video

From Borland for computers with C++ installed.

This is the sequel to Borland's *World of C++*. Topics covered include: templates, introduction to exception handling, multiple inheritance, special member functions, iostreams, containers and iterators.

# Free Help: Computing & Information Technologies

University of Minnesota Accounts

Phone

Help Line Hours

## Distributed Systems: Microcomputers, Workstations, LANs

Software, hardware, peripherals, local area networks ..... 626-4276 ..... M—F ..... 9 am to 4 pm  
 East Bank ..... 152 Shepherd Labs ..... above ..... above ..... above  
 West Bank ..... 93 Blegen ..... above ..... above ..... 1 pm to 4 pm  
 St. Paul ..... 58 Biological Sciences Center ..... above ..... above ..... 1 pm to 4 pm

## Central Systems

These systems require a user name and password, which you get when you open an account.

Qualified users can apply for grants to cover some computing related costs.

EPX (Unix), NVE (NOS/VE), UZ (Ultrix), VX and VZ (VMS) ..... 626-8366 ..... M—F ..... 9 am to 4 pm  
 VM1 (IBM/CMS) 90 Coffey Hall walk-in consulting ..... 624-6235 ..... M—F ..... 9-11 am, 2-4 pm

## E-mail and Internet

Call for help using your University account ..... 626-7676 ..... M—F ..... 9 am to 4 pm  
 Forgot your password? Staff: call 626-8366. Students: go to any Computer Facility – e.g., 14 Folwell, 26 Lind, 305 McNeal, HHH 50. Troubleshooting: if Maroon or Gold are down, you'll hear a status report at 626-1819.  
 LUMINA: call if you have trouble connecting ..... 626-7676 ..... M—F ..... 9 am to 4 pm

## General Information

### Computer Store

Williamson Hall Book Center ..... 625-3854  
 (inventory and prices also available on Internet Gopher)

### University Computing & Information Services


Administrative Information Svcs. (AIS) Help desk ... 4-0555  
 Biomedical Graphics, various locations ..... 6-3939  
 Central Computing Services, 100 LaudCF ..... 6-1600  
     Accounts: EPX, NVE), UZ, VX, VZ ..... 6-8366  
     Data Entry ..... 6-8351  
     Statistics Services ..... 5-2303  
     System Status ..... 6-1819  
     Tape Librarian ..... 6-1838  
 Computer Facilities (also call individual facilities) .. 5-1300  
     \_FoIH 5-4896 \_Lind 6-0856 \_McN4-5367 \_HHH 4-6526 +more  
 Disability and Computing Services, voice/TTY ..... 6-0365  
 Distributed Computing Services, 190 Shep Labs .... 5-1300  
 Engineering Services, 103 LaudCF ..... 5-1595  
     Equipment Repair and Warranties ..... 5-1595  
 Faculty Resource Center (for appointment) ..... 5-1300  
 Gopher Hotel (server set up for a fee) ..... 5-2303  
 Kodak Printer Service ..... 6-1661  
 St. Paul Computing Services, 50 CofH ..... 4-7788  
     Accounts: VM1 (IBM/CMS) ..... 4-7788  
     Tape Librarian ..... 4-3482  
     Statistics Services ..... 4-6235  
 Software Services (contract programming) ..... 5-2303  
 Supercomputer Center Help, 3030 SCC ..... 6-0808  
 Telecommunications, 30 TelecomB  
     Networking Services Information ..... 6-7800  
     Networking Services Repair ..... 5-0006  
 Training, Course Registration, 190 ShepLab ..... 5-1300  
 U Libraries, Integrated Information Center ..... 4-2020  
 University Networking Services, 130 Lind ..... 5-8888










### Associate Vice President for Academic Affairs and Information Technologies

Donald R. Riley, Professor ..... 626-9816

## Access Information

SLIP: 2400 to 14,400 ..... 626-1920  
 SLIP: 14,400 to 28,800 (V.34) ..... 627-4250  
 SLIP: ADI-100 and ITE (with MKO) ..... 3-0291

 Terminal settings for these systems are 8-1-N (8 data bits, 1 stop bit, no parity) unless otherwise noted. The number you dial may depend on the modem's bps or baud rate.  
 Internet addresses.  
 Dial-in Server: 626-0300, -1200, -2400, -4800, -9600  
 At 9600 Telecomm supports V.32 and MNP level 5 error correction.  
 On campus ADI-100 and ITE setups use 626-2400.

LUMINA: 300/1200/2400 ..... 625-6009   
     V.32 ..... 4-7539   
     Telnet & tn3270 \_\_\_ PUBINFO.AIS.UMN.EDU   
 E-mail and Internet Service and Servers, Twin Cities  
     MAROON.TC.UMN.EDU GOLD.TC.UMN.EDU   
 Gopher, alternate access (log in as gopher)  
     300, 1200, 2400, 9600 ..... see Dial-in Server   
     \_\_\_\_\_CONSULTANT.MICRO.UMN.EDU   
 Consulting via E-mail: low priority Central System ques  
     Format \_\_\_\_\_CONSULT@HOST.UNIT.UMN.EDU  
 AIS SecureID V.32 ..... 626-1061   
     300/1200/2400 ..... 6-7770   
     tn3270 & Telnet \_\_\_\_\_ ADMIN.AIS.UMN.EDU   
 EPX, NVE, UZ, VX, VZ  
     300, 1200, 2400, 9600 ..... see Dial-in Server   
     EPX or UZ or VX or VZ or NVE.CIS.UMN.EDU   
 EPX, NVE: 300/1200/2400 ..... 625-1445   
     up to 19.2 campus data phone ..... 3-2400   
 VM1 (IBM/CMS) at 7-1-even  
     9600 ..... 624-3668   
     1200/2400 & <19.2 campus data phone .. 4-4220   
     \_\_\_\_\_VM1.SPCS.UMN.EDU

Please be legible. Help us keep our costs down by using a campus mailing address whenever possible. Thanks.

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Department  Faculty  Staff  Student  Alumni  Other

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## Computing and Information Services

The University of Minnesota is committed to the policy that all persons should have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

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## Computer and Information Services Newsletter

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