



Y2K preparations at UMD a success

by Linda Deneen

New Year's Eve 1999 was a quiet night at UMD. Campus Police, Facilities Management, and ITSS all had extra staff on duty that night in case of any emergencies due to the Y2K rollover. The great news is that there were no problems at all.

The hard work of staff and faculty across the campus paid off when everything went very smoothly. It was like every other weekend night except for the exciting things happening around the world. Many of us enjoyed watching these events on television while waiting for midnight to come around. By 12:30 a.m., we closed down our center and headed home.

Best wishes for an outstanding new millenium.

ITSS begins cable modem pilot project

By Linda Deneen

ITSS has embarked on a pilot project with Bresnan Communications, our local cable TV provider, to provide special cable modem services to the UMD community. The pilot project is scheduled to run from February 1 to March 31, 2000. If the pilot is successful, we will be providing this service out to the entire campus community.

This pilot will be different than simply going to Bresnan and signing up for cable modem service. You can do that now, and a number of people have already done this. Using the regular Bresnan cable modem service will give you increased bandwidth from the Internet, and you can still get to many of the resources here at UMD via Bresnan's connection to the Internet.

We are proposing to implement something beyond regular cable modem service. This is called virtual private network, or VPN. VPN provides some special connectivity and authentication between Bresnan and UMD so that it appears that you are directly on the UMD network. This will allow you to access some additional network services that you cannot now use via the modem pool. In particular, if you have a Novell office server account, you should be able to connect to the server from home just as you would at the office. You should be able to get at your files on the server as well as run the application software.

VPN will also provide secure transmission of data through encryption. Regular access to the Bresnan network with a cable modem generates transmissions in plain text that can be susceptible to eavesdropping. A VPN connection encrypts all transmissions, protecting them from eavesdropping.

In order to implement VPN, UMD ITSS staff and Bresnan staff have worked together to put in place infrastructure that connects our two networks. We have also obtained some special network electronics required to make this all work. Finally, we will be providing some special client software. We have client software for Windows 95/98 machines and are trying to obtain clients for Macs and Linux machines.

If you are not involved in the pilot but are interested in this service, please stay tuned. We expect to offer this to other customers if the pilot is successful. Please note, however, that the cost of cable modem service from Bresnan is \$39.95 per month and individual users will pay this cost.

Spring 00

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Student computing resources expanded

By Jason Davis

During the winter break, ITSS made several changes to the student computing labs.

MWAH 177 changed to full access

In response to increased demand, MWAH 177 has been converted from a web lab to a full access teaching lab. MWAH 177 has been outfitted with 450 MHZ Pentium III machines with 17 inch monitors. The lab also has video-capture capability. Like all full access teaching labs, it is equipped with an HP printer and a LitePro projector.



Library basic access expanded

We also expanded basic access on the Library 3rd floor from 21 computers to 83 computers. We moved the 166 MHZ Pentiums from MWAH 177 into this area, and also put several similar machines from SBE 45 and H 470 into the third floor of the Library. We will also soon be adding a printer and print station.

Lab hardware upgraded

New hardware was added in the H 470, and SBE 45 teaching labs. The PCs in H 470 and SBE 45 have been replaced with 500 MHZ Pentium III machines with 17 inch monitors. Since Engr 204 was upgraded over the summer, we now have Pentium IIIs available in all of the teaching labs.

Classroom technology updates continue

By Judy Kurschner

During fall semester and winter break, a number of changes were made to improve and enhance classroom technology needs.

High-tech classrooms added

After consultation with Bob Krumwiede, the following classrooms were selected to be developed into high-tech rooms spring semester: ABAH 225, SPHC 207, 208 and 210 (completed) and Cina 102 (next). User documentation will be up soon. Each room has a ceiling mounted projector, VCR with closed-captioning, and a teaching podium with Ethernet connection and power inside. Our new podium design has a book rest which collapses to accommodate using a laptop computer.

Classroom Technology

www.d.umn.edu/itss/classroom/

Classroom Resources

www.d.umn.edu/itss/classroom/Resource.htm



Projectors replaced

Projectors in LSci 175 & 185 have been replaced with newer models, and teaching podiums were added to replace the current equipment closets. The network connection and power supply are now inside the podium.

Older style podiums that have the VCR on top of the cabinet will be revamped to better accommodate laptop computers. VCRs will be moved to the lower portion of the podiums, and the work space on top will be enlarged.

New battery service

A new service as of fall semester, ITSS is now supplying batteries for all rooms containing wireless remote controls or microphones. There is a box for new batteries and one for used batteries in each equipment cabinet or podium. Please be sure used batteries are placed in the appropriate box; we will replace only the number we find in the "used" box.

Online requests added

On-line requests for AV equipment are now available from our web page. Requests will be monitored by the AV consultants who will let you know whether or not the equipment is available at the time you need it. Please note that a request is NOT a confirmed reservation.

Hours extended

Extended hours in the AV area begin spring semester. The AV checkout area will be open until 10:00 p.m. M-Th (Friday until 4:30) for pickup and return of equipment. Equipment should now be returned to the AV area instead of the Library Lab. Student consultants will be available for assisting with equipment problems in the classroom during these evening hours as well.

On-Line documentation added

We are well on the way to having all of the hightech rooms documented on our web page. Check our web site to become familiar with the equipment in your room(s) before actually having to use it in front of students.

Data warehousing options available at UMD

By Adrienne Dinneen

Looking for data from legacy or Peoplesoft systems? Then the data warehouse may be an option for you.

Data available from the data warehouse includes historical and current student information, CUFS data, human resource data and payroll information. Access to data can be obtained by completing form AR001 (including appropriate signatures) and sending it to the Twin Cities security group.

Once your access has been granted you have two options for extracting data: write your own queries using SQL, or use the online reporting options available for selected data.

ITSS offers two types of training for the data warehouse. The first is an introduction to the data warehouse and includes completing the access form. The second is an introduction to SQL, which includes writing your own queries for extracting data. When using SQL to extract data, you must have the appropriate desktop tools to manipulate the data for formatting. You can register for these workshops at the ITSS training web site.

The UMD campus also has a data warehouse users group that meets on a monthly basis. The group does query sharing as well as provide feedback to the Twin Cities for data warehouse development and enhancements.

The Institutional Data Easy Access (IDEA) web site has additional information about the data warehouse. You may also contact Adrienne Dinneen (x8857, *adinneen*) with questions.

IDEA home page

notes.ais.umn.edu/maininfo.htm

IDEA FAQ

notes.ais.umn.edu/FAQ_WEB/faq.htm

ITSS Training

www.d.umn.edu/itss/support/Training/

Form AR001 - Access to data

www1.umn.edu/ccs/security/sec00032.htm



Progress made on PeopleSoft performance issues

Efforts to enhance performance of the PeopleSoft and Web Registration systems have gathered steam and concrete progress is being made.

Staff are addressing performance issues in several ways:

- Fine tuning/fixing the systems
- Developing/installing assessment tools to accurately measure performance
- Working with PeopleSoft and PeopleSoft partners
- Working with the Big 10 schools who are PeopleSoft customers.

For the complete report, please see the web site listed below.

Enterprise Systems

www1.umn.edu/enterprise/

Progress on Peoplesoft

www1.umn.edu/enterprise/docs/emails/010400-peoplesoft_progress.html



Controversial student computing proposal eliminates tiers

By Linda Deneen

With the help of the EPC Subcommittee on Information Technology and the Library, ITSS has proposed another change to the campus student computing fee. The proposal would eliminate the two tiers of service that presently exist and make one primary set of services available to all students.

Students have expressed concern about the economic impact of this plan. Many oppose the loss of choice that they have in the current plan. The new plan calls for a fee of \$6.60 per credit with a floor of \$39.60 for those with 6 or fewer credits and a ceiling of \$118.80 for those with 18 or more credits. This represents a fee increase over the current basic-access fee of \$3.85 per credit with a similar floor and ceiling. It also represents a fee decrease for those students currently paying for full lab access; those students pay \$55.50 on top of the basic-access fee.

Those who support the change focus on the improved services to students over the current set of services associated with the basic-access plan. New services include access to all ITSS student labs and web labs; access to office productivity software (word processing, spreadsheet, presentation) and specialized software for disciplines; access to specialized equipment; and help provided by lab consultants. Additional services for student-owned computers would also be provided, including access to software and file storage from campus servers. Finally, primary access for all students will encourage educational use of computing technology by ensuring that all students have access to all services.

This issue will be decided at the next Campus Assembly meeting on February 8, 2 PM, in the Bull Pub.

New staff member to assist faculty with technology

Barbara Zebe Johnson will be joining the ITSS staff on February 22 as an Information Technology Professional. Barbara will serve as a learning technology developer, working with faculty developing technology-based instructional materials. Barbara will work on some faculty projects requiring technical expertise that we do not expect faculty in general to obtain.

Barbara has a BS degree in computer science from UMD. She worked most recently for the First Unitarian Church in Duluth, and prior to that she was employed by Bankers Systems in St. Cloud as a Business Analyst and Customer Training Specialist.

Be patient with 911

by Chuck Bosell

In response to requests from campus police and the St. Louis County 911 Dispatch Center, ITSS recently made a change to the campus dialing plan that affects 911 calls.

Everyday, numerous UMD faculty, staff, and students were misdialing long distance calls that ended up as hang up calls to the 911 center. To solve this problem, we have added a short delay to the call set up time. It now takes 14 seconds from the moment you dial 911 until it begins to ring at the 911 center.

So please, when dialing 911 from campus, be patient and stay on the line - your call will go through.



Jim Bredeck works on the Beowulf cluster in UMD's Digital Imaging Lab

Digital Imaging Lab hosts Beowulf cluster

by Cosmin Deciu & Jim Bredeck

When people think of the Imaging Lab and its resources they assume that all of our equipment is expensive and powerful. In the case of our Beowulf cluster only one of these assumptions is valid - it is powerful!

What is a Beowulf cluster?

A Beowulf cluster is a group of computers that run the GNU/Linux operating system (OS), connected and behaving as a single multiprocessor machine. The cluster is controlled and administered by a computer that acts as a master control unit which assigns jobs and receives the output from the cluster's individual units.

The free operating system GNU/Linux is getting a lot of attention lately. Though often referred to simply as 'Linux' by the media, Linux is only the name of the kernel or core of the entire operating system (OS). Many other pieces of software work with this kernel to create what we refer to as the OS. This collection of software beyond the kernel is known as GNU.

While commercial usage of this OS has only started recently, the academic world has embraced it since the mid-90s. GNU/Linux has often been found on lower-end hardware (and old 486's too weak for Windows 95) but it is also the OS of choice for high-performance computing clusters known as Beowulf systems. Linux is being used on Beowulf cluster because it has high-quality network drivers, it is easily scalable, and users have access to the source code.

Digital Imaging Lab
www.d.umn.edu/diil/



Cluster usage notes
www.d.umn.edu/~cdeciu/beowulf.html

bwulf.d.umn.edu

Here at the Digital Imaging Lab we are very proud of our own Beowulf-class supercomputer, *bwulf.d.umn.edu*, or *bwulf* for short. While it may not be as easy to use this machine as it is to reboot a Windows box, its computing power makes it one of the most interesting pieces of equipment in the Lab.

It features 16 processors distributed over 8 nodes, each node has two 450 MHz Pentium III processors, 512 Mb of RAM and 10 Gb of storage. The cluster has a dedicated Fast Ethernet switch which connects the nodes and it is controlled by a master control ("Queen bee", as ITSS Network Administrator Bill Marko calls it) - another PC with a similar profile. The nodes are hosted by a "recycled" DEC rack.

At the moment, *bwulf* serves as a number-cruncher for users writing their own software and as a rendering machine to visualize complicated models. Developers can use High Performance Fortran/Fortran 90/C using the MPI and PVM libraries to create software. High quality profilers and debuggers are also available. POVray is available to render models and can distribute the rendering load across the entire cluster.

A typical usage scenario of the cluster involves a user logging into the Master control (the only part of the cluster connected to the UMD network) and developing/starting computing jobs on the eight nodes.

For additional information on the lab and using the Beowulf cluster, please see our web site or write to cdeciu@d.umn.edu. Suggestions are always welcome!

Requesting access to bwulf

Access is granted to all users of the Digital Imaging Lab and there are no current restrictions with respect to CPU usage time. A job-scheduling mechanism is already in place should demand become great enough to warrant it.

ITSS offers variety of workshops for spring semester

by Bruce Reeves

Training opportunities are numerous this spring as ITSS offers more than 20 hands-on workshops. Workshops are open to all UMD faculty and staff and cover a wide range of topics.

New this Spring is "Creating a Web Site Series: (PageMill and Graphics)". This is a series of four workshops that you sign up for as one offering. Another six new workshops have been developed to meet the requests we've received.

Many of our workshops are available online and can be accessed from the self-paced area of our ITSS Training web site. In addition to our online workshops, other titles are available for self-paced learning.

You can always get the latest information on our workshops and self-paced offerings at the Training web site, and the Training web site is the only place to sign up for these workshops. Visit our Training web site soon to find out more or to sign up for a workshop.

ITSS Training

www.d.umn.edu/goto/training/



Proposed increase for some service rates for FY 2001

by Steve Patterson

ITSS is classified by the University as an internal service organization. As such, we are required to review and establish our service rates on an annual basis. This project includes reviewing all expense and revenue transactions for each service, identifying the number of units of the service that we sell (this is our product or service volume), and then determining the new fiscal year rate for the service. In some cases our rates may increase. In other instances our service rates may remain the same or actually decrease.

We have recently completed the task of reviewing all financial transactions for each service and we are proposing to increase a few service rates for Fiscal Year 2001. The new rates for some of our most often used services are listed below. The proposed FY 2001 rates for all of our services may be viewed at our web site.

Proposed Rates 2000-2001

www.d.umn.edu/itss/rates/



Service Description	New Rate	Old Rate	% of Increase
Phone port charge	\$ 9.60 per mo	\$ 9.15 per mo	4.92%
Email/Central Services			
Subscription fee	\$ 1.05 per mo	\$ 1.00 per mo	5.00%
Novell full service	\$ 7.85 per mo	\$ 7.50 per mo	4.67%
Novell print service	\$ 4.70 per mo	\$ 4.50 per mo	4.44%
Labor rate for:			
Computer Maintenance	\$ 38.50 per hr	\$ 37.50 per hr	2.67%
Programming	\$ 38.50 per hr	\$ 37.50 per hr	2.67%
Phone/Net Installation	\$ 38.50 per hr	\$ 37.50 per hr	2.67%
Test Scoring/Data Entry	\$ 23.50 per hr	\$ 22.50 per hr	4.44%
UMD Network access	\$ 2.35 per mo	\$ 2.25 per mo	4.44%

In addition to the UMD network access monthly charge, the Twin Cities Networking and Telecommunication Services Department (NTS) has, during the past two years, charged each campus network connection two additional monthly service rates. These rates include a charge for connecting to the Internet and a charge for the intercampus communication links. The new fiscal year rate information regarding the NTS Internet access and intercampus access should be available from NTS in February.

Library to install new server

By Darlene Morris

UMD faculty, staff and student use of online research tools continues to grow rapidly. In order to support this shift to electronic access the library's current Sun Sparc 20 server will be replaced with a Sun Enterprise 250 system over spring break. The new Enterprise 250 will be equipped with dual 400MHz processors, 512MB of memory, and a disk array (RAID) that contains 54 Gigabytes of storage.

In addition to supporting the increased online usage we foresee occurring with our move to the new library building, the Enterprise 250 server will allow work to continue on several important projects.

Electronic Interlibrary Loan Forms

www.d.umn.edu/lib/ill/

Electronic Resources

www.d.umn.edu/lib/reference/dbt.html

Electronic Reserve Forms and Information

www.d.umn.edu/lib/reserve/



In the next few months records will be added to our online catalog for the roughly 100,000 government documents that are currently in the library depository. Users will benefit from the many hot links to government web sites that are included in these records.

With increased server capacity we also look forward to:

- Expanding our collection of electronic reserve materials
- Improving methods for electronic delivery of interlibrary loan articles directly to faculty and student desktops
- Broadening our participation in the MnLink Gateway which will eventually allow users to request materials directly from other libraries in the state.

Users will notice these changes throughout the spring semester and over the course of the summer. In the meantime, if you haven't tried our electronic resources lately, connect to the links listed here to see what's new!

Information Technology Systems & Services

Main office
176 MWAH
x7587

Help Desk
x8847

Web site
www.d.umn.edu/itss/

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Please direct them to the newsletter editor by phone at (726) 8856 or by electronic mail to sbradt@d.umn.edu.

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Mailbox management (or, Why did my mailbox get moved?)

By Dan Burrows

ITSS monitors the sizes of all electronic mailboxes on a nightly basis. If your mailbox exceeds a certain limit, an automated procedure will move your mail from your incoming mailbox to a mail folder in your personal directory. Your mail will not be deleted, but you must access it differently.

Why do we do this?

- Users can suddenly encounter problems while reading their mail because their inbox has grown too large to work with.
- It is now more common for email to contain more than text. It is easy to include attachments such as pictures, data, video, voice, animations, documents, etc. Attachments increase the size of the message, sometimes considerably.
- Although ITSS restricts the size of any one piece of mail that is delivered, it is still possible for many customers to receive many large pieces of mail. UMD receives hundreds of megabytes of email a day. Much of this is processed each day by the individuals who receive it. When mail is left unread it accumulates and can grow very large rapidly, especially if it contains attachments or the customer is on a list server.
- Users who have large inbox areas put an extra load on the system while they read their mail. The system has to read through the whole inbox, sort it, and on demand, rewrite it. Many customers accessing very large inbox areas can cause the whole mail system to slow down.
- Although we have allocated a large area for mailboxes, if we let mailboxes grow without limits we will run out of space very quickly.

Each night a check is made of all the mailboxes on the system. If your mailbox size exceeds a certain size, it is moved to your folder area. An email message is sent to that explains why your mailbox was moved, what folder name was assigned to the moved mail, and how to access it.

The folder name is always the word `mbox` followed by a `:` and the date (for example: `mbox.20000115`, as shown at right).

To access your moved mail, you will need to use the folder commands in your mail program to do so. The email message sent to you includes information on to how to access your mail folder area using our standard mail programs (Mulberry, PC-Pine, pine & elm).

Email users who leave their system and email client connected all the time should note that the above procedure may cause them some problems. When your mailbox is moved, most mail programs will notice that the mailbox size has decreased and this may require you to reconnect when your mailbox is moved. This sometimes means you will lose changes you made to your mailbox; for example, messages marked for deletion may reappear the next time you access your mail.

You can keep your inbox small by using the folder feature to save your mail, or by marking email for deletion and then deleting it. Note that all mail messages, whether they are in your inbox or a folder area, are charged at the standard rate for disk storage.

If you have any questions about the process of moving your inbox please contact our Help Desk at x8847. If you have any questions about billing please contact Karlyne Holm (*kholm*, x7587).

