University of Oregon

COMPUTING NEWS

FALL 1999

Steve Carroll of 3Com Corporation presents check to Joanne Hugi, Director of the UO Computing Center. The gift is being used to radically boost UOnet and Oregon Gigapop speeds (see story on page 2).

IN THIS ISSUE…

UOnet and Oregon Gigapop Get Significant Boost from 3Com

This June, the University of Oregon's computer network and high-speed networking infrastructure received a big boost from 3Com, the leading provider of campus networking solutions.

3Com, an Internet2 corporate partner, donated $100,000 to finance a tenfold boost in the core speed of the campus network (UOnet), and to provide gigabit hardware for the Oregon Gigapop, which provides high-speed connectivity to Oregon's research institutions.

The UO is one of approximately 150 universities participating in Internet2 and the Abilene Network, a nationwide fiber-optic network that researchers are using to push the bounds of high-performance computing on the Internet and develop the next generation of Internet applications. 3Com's gift is being used to upgrade UOnet from fast ethernet speeds (100 megabits per second) to gigabit ethernet speeds (1,000 megabits per second)—roughly 18,000 times faster than a home desktop (56K) modem that connects personal computers to the Internet.

The UO's participation in the Abilene Network is partially funded by grants from the National Science Foundation. Additional funding is provided by the Oregon Joint Graduate Schools of Engineering and Cisco Systems, Inc.

For more information about Internet2 and Abilene, see

http://www.internet2.org/

and

http://www.ucaid.edu/abilene/

To learn more about Oregon Gigapop, the Oregon connection point for the Internet2 Abilene network, see

http://www.ogig.net/

Major UNIX Upgrades!

■ **New systems provide dramatic improvements in storage capacity and network performance**

By Jon Neher
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In early August, Computing Center staff installed the most significant hardware upgrades to GLADSTONE and DARKWING in several years. These new systems provide dramatic improvements in performance and storage capacity over the older hardware they are replacing.

Each new system is a Sun E5500 with 160 GB of storage for users' directories. The new DARKWING has 8 400mhz CPUs and 4 GB of RAM. The new GLADSTONE has four 400mhz CPUs and 2 GB of RAM. This represents approximately a fourfold increase in raw computing power as well as disk capacity for each system. There is plenty of room for future CPU and disk expansion on these new systems, too.

Disk I/O will be much faster because the system now uses hardware RAID disk trays. These disk interfaces support up to 40 Mb/sec transfer rates, an eightfold increase in I/O speeds for disk access. Both systems make use of gigabit ethernet network interfaces, which operate at 10 times the speed of the older 100 megabit ethernet cards.

The new systems run the Solaris 2.7 operating system that supports a true 64-bit instruction set (as opposed to 32-bit instructions on the old systems). To take advantage of this, use the new Sun Workshop 5.0 Compilers that are also now installed on the systems.

Because of the additional storage available, the standard user disk quota has been increased from 10 MB to 20 MB on both systems. Mail delivery has been standardized to deliver to users' home directories on DARKWING as it already is configured on GLADSTONE. This should improve performance as well as eliminate the need to track a separate "mail" quota on DARKWING.

Many compute-intensive, third-party applications are supported on both DARKWING and GLADSTONE, including *matlab, SAS, SPlus, Mathematica*, and *SPSS*. Over time, many of the applications supported on the ALPHAcluster will be moved to these Sun systems (see page 16).

New 1999 Duckware CD Gives You a Head Start

The new CD has just about everything you'll need for computing at the UO

By Hervey Allen
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Once again, the Microcomputer Services group (with help from others) has released a new version of the Duckware CD-ROM.

This disc is available to all current UO students, faculty, and staff at no cost. This year, the disc has some notable changes, including:

• **separate versions** for Mac and Windows

• **new design** - the CD's look and interface were redesigned to be cleaner and more functional

• **no Windows 3.1/DOS support** (i.e., Duckware isn't available for Windows 3.1)

What Can Duckware Do for You?

The Duckware CD-ROM contains software that can help you connect to the Internet from home or on campus. This includes network application installers for the MacOS, Windows 95, Windows 98, and Windows NT. Detailed instructions and troubleshooting tips for getting set up are also included in the Duckware interface.

Other notable applications that make the new CD a very useful tool are

• *Norton AntiVirus* **for both Mac and Windows.** The UO has a site license for this invaluable software, so you can install it for free.

• *Star Office.* This productivity suite mimics much of Microsoft's *Office* product, including the ability to read and write *Excel*, *Word*, *PowerPoint*, and *Access Database* files.

• **IP/TV** for viewing multicast video on campus

• secure versions of network applications

• numerous web tools, shareware, utilities, drivers, and more.

The Duckware interface includes links to many UO web-based resources, answers to common computing questions, and a detailed reference of computing-related help options at the UO.

System Requirements:

• a PC running Windows 95, Windows 98, or Windows NT 4.0, or

• a Macintosh running System 7.0 or better

If You Don't Have a CD-ROM Drive… Copies of the Network Applications Installer and the Norton Antiviral software from previous years are available in the Computing Center Documents Room (205). You may use the CD-ROM on UO computer lab machines as well. Most of the content can also be found on our UOnet public servers or on the web.

Where Can I Get It?

Students, faculty, and staff may pick up their copy of the 1999 Duckware CD-ROM at one of the following locations:

• Microcomputer Support Center (Computing Center Room 202)
• CC-EMU Microcomputing Lab
• CC-Klamath Lab
• CC-Millrace Lab
• Knight Library Information Technology Center (ITC)
• Science Library Information Technology Center

Students living in campus housing can get Duckware at Residence Hall and Family Housing area desks in the University Inn, Hamilton, Carson, Spencer View, and Westmoreland.

Reuse and Recycling

If you decide you no longer want the CD-ROM, please don't throw it away!

We'll gladly take it back and give it to someone else. Just drop it off at the Microcomputer Support Center, or mail it via Campus Mail to "Microcomputer Services - UO Computing Center."

Thanks to the UO Campus Recycling Program, you may also recycle the Duckware CD-ROM in designated bins at any of these locations: the CC-EMU, CC-Klamath, and CC-Millrace labs; and the Knight and Science Library ITCs. You can drop the white paper sleeve in any paper recycling bin on campus.

Questions? For additional Duckware help or information, contact the Microcomputer Support Center's consulting office in Room 202 Computing Center (*microhelp@oregon.uoregon.edu*, **346-4412**). Or, check out their web site at **http://micro.uoregon.edu**

NEW STUDENTS: Wondering How to Get Online?

If you're a new student, you may be wondering how to get started using your email account. There are three ways to get your email information:

• via DuckWeb
  (**http://duckweb.uoregon.edu**)

• via the Microcomputer Support Center
  (Room 202 Computing Center)

• via the AUTHORIZE system (to access AUTHORIZE, enter **telnet://authorize.uoregon.edu** in your web browser's location or address field)

Complete instructions for each of these methods are outlined in the handout, "NEW STUDENTS: GET ONLINE!" This handout is available in the Computing Center Documents Room, upstairs in Room 205.

All the software you'll need for these operations is available on the new 1999 Duckware CD-ROM.

New to Campus? Get Acquainted with

Microcomputer Services

If you have Windows or Macintosh dilemmas of almost any description, Microcomputer Services can help.

Located on the second floor of the Computing Center in Room 202, this facility is staffed with consultants who can answer questions about a variety of hardware and software conundrums, including

• how to get connected to the Internet from home or on campus

• new student computing accounts information

• password problems

• virus problems and protection

• system software configuration, troubleshooting, and installation

• damaged files and disks

• public domain software distribution

Student Accounts. Microcomputer Services staff can help with student accounts and password changes. But with a student I.D. number and PAC code, new students can also obtain their account information via DuckWeb (**http://duckweb.uoregon.edu**) For complete information about student accounts, see **http://micro.uoregon.edu/getconnected/** or pick up a copy of the handout "New Students: Get Online!" in Room 205, the Computing Center Documents Room)

Multimedia Facilities. Room 202 also has public stations for scanning, CD copying and burning, and digital video acquisitions. See details in the next column.

Machine Check-In

For customers who encounter complex or hard-to-diagnose problems, Microcomputer Services offers a machine check-in service. This service costs $60.00/hour with a minimum charge of $30.00 and is tailored for machines with complex software problems that cannot be resolved by the end user. Typical problems include those that require re-installation of operating system software,

diagnosis of corrupt data, virus removal, and resolution of particularly difficult hardware conflicts that manifest themselves in software.

Contact Information

For more information about Microcomputer Services, send email to *microhelp@oregon.uoregon.edu* or call **346-4412**. Support hours are 9 am - 5 pm Monday through Friday.

You'll also want to visit their web site at **http://micro.uoregon.edu/** for a variety of useful information specific to computing at the UO.

Multimedia Facilities

Microcomputer Services' multimedia facilities in Room 202 of the Computing Center are available to all UO students, faculty, and staff. Over the past several months, new services have been added and more are on the way. Current services include:

PC Station (Windows 98, 45 GB disk, 256 MB RAM, Firewire support, Plextor 8x20 SCSI CD-R, Viewsonic G790 19" monitor):
• scanning (regular and slide)
•CD-ROM creation and duplication
• video in and out
• direct VHS/S-VHS into MPEG-1 in real time
• (*Coming Soon!*) direct VHS/S-VHS into MPEG-2 in real time
• Some editing features using Adobe *Premiere*, *Photoshop*, etc.
• Zip (100 MB) and Jazz (2 GB) drives

Mac Station (currently geared toward basic scanning and CD-R creation/duplication; future hardware upgrades are planned):
• scanning
• CD-ROM creation and duplication
• some editing features using Adobe *Photoshop*
• Zip (100 MB) and Jazz (2 GB) drives

To make this experience more enjoyable, both the Mac and PC have 8X CD-R

drives. This means you can write or duplicate your CDs at timesaving 8X speeds. The PC is also outfitted with two 18.1 GB, high-speed SCSI hard drives to facilitate the capture of large video files. To speed the transfer of data over UOnet, both machines have 100Mb/sec Ethernet connections.

You may purchase up to 5 CD-R disks at $2 each in Room 202 if you wish. If you need more, we recommend purchasing them before coming in. ZIP or JAZZ cartridges are not available.

The idea behind these stations is to provide a place on campus where anyone can stop in and use some decent multimedia services at their leisure. Microcomputer Services staff is available to assist you with basic use and start-up questions. If you need in-depth training on how to create CD-ROMs, capture video, edit images, etc., you will probably want to take some classes first. (Of course, as in all electronic copying activities, copyright restrictions must be observed.)

Each station has a one hour time limit, and you may reserve time in advance by contacting Microcomputer Services (*microhelp@oregon.uoregon.edu, **346-4412***). Or, stop by Room 202 in person. We're open from 9 am to 5 pm, Monday through Friday. Please let us know if you prefer a Mac or PC station, the time and date you'd like to reserve, and how we can contact you in case of scheduling conflicts.

Computing Labs

The Computing Center administers three computer labs that are available to all UO students. These labs are located in the EMU, Millrace I, and in the basement of Klamath Hall:

CC-EMU Lab. The CC-EMU Microcomputing Lab is a Macintosh and DOS/Windows computing facility designed with word-processing, desktop publishing, spreadsheets, and electronic communica-

Some of Our Microcomputer Resources

tions in mind. The lab is located in Room 22 in the basement of the EMU near the Recreation Center and Arcade. For recorded information about the lab, including its hours of operation and special announcements, call **346-1769**.

Millrace I Lab. The Millrace Lab comprises an instructional lab and a small open lab. Both labs are equipped with MacG3s and offer color scanning and laser printing, as well as a wide range of graphics software. Call **346-0316** for information.

CC-Klamath Lab. The CC-Klamath Lab is located in room B13 and B26 of Klamath Hall, and comprises three instructional classrooms and a large open lab. The labs are equipped with Mac G3s and Windows machines, color scanners, and laser printers.

Other Campus Computing Labs:
Knight Library ITC - **346-1935**
Science Library ITC - **346-2663**
Social Science Instructional Lab - **346-2547**

Need More Information? For complete details about the software and services in all of these labs, as well as other open computing labs on campus, see **http://cc.uoregon.edu/campuslabs.html**

"Survival Skills" Workshops. If you're relatively new to the world of computing and want to bring yourself up to speed, the CC-EMU Microcomputing Lab's "Survival Skills" classes may be just the ticket. As it does each fall, the CC-EMU lab (22 EMU) is again offering introductory computing workshops on using Windows 95 and Macintosh. These workshops will be held during the week before classes, and will be repeated the second week of fall term.

Among other survival basics, these courses provide instruction on using your account, reading email, formatting disks, creating documents, and printing. *Note that you'll need to bring your own blank diskette to class.*

The first series of workshops will have already been concluded by the time we go to press, but schedules for the second week of fall term are posted in the lab. You may also call **346-1769** for schedule information.

E-shop Repair, Upgrade Services

Whether your computer's on the blink, you need more RAM, or you're dreaming of building a custom system, the Computing Center's Electronics Shop has the solution.

Conveniently located on campus in the rear of the Computing Center, the Electronics Shop offers extensive personal computer hardware support and repair services to UO students, faculty, and staff. Its technicians are experienced with many brands of microcomputers and peripherals, including Apple and Windows/Intel machines, and can offer advice regarding upgrades as well as repairs.

E-Shop Services

The shop's services include:

Apple Computer Repair. The shop is a Level 1 Apple-authorized service center and can perform warranty, AppleCare, and out-of-warranty repairs on nearly all Macintosh models and peripherals.

Windows/Intel Computer Repair. A Dell certified Tier 1 Service Provider, the shop can perform non-warranty repairs on all desktop and laptop models. On-campus warranty and out-of-warranty service is also provided on all Tangent computers, and non-warranty repairs are offered for most Windows/Intel machines.

Upgrades. Whether you need more memory, a larger hard disk, or would like to add another new peripheral, the technicians can help you determine the best and most cost-effective way to upgrade your machine. The shop keeps memory in stock for virtually all Macintosh and Windows/Intel-based desktop computers, and other items can be ordered upon request.

Custom Systems. If you need a custom system configuration, like a server with multiple SCSI controllers and mirrored disk drives, talk to the technicians. The shop may be able to build you a machine at considerable savings.

Upgrades and out-of-warranty repairs are charged on a time-and-materials basis. The current labor rate is $60/hour, with a half-hour minimum.

Hours and Policies. The shop is open from 8 am to 5 pm Monday through Friday, except holidays.

All shop services are available on a first-come, first-served, carry-in basis. On weekdays, bring your computer equipment to the Computing Center and check it in with the receptionist in Room 108. UO Bookstore customers can also drop off equipment from 10 am until 6 pm Saturday and from noon until 6 pm Sunday at the Computer Site on the ground floor of the Bookstore. The shop will call you when the work has been completed, and you may pick up your machine at the Computing Center.

Who to Contact. If you have any questions concerning repairs or upgrades, call Jeff Hite or Rob Jaques at **346-4403** or email *hardwarehelp@oregon.uoregon.edu*

Documents Room Library

Looking for a book on *Java*, a copy of *Linux*, or a video on *Photoshop*? The Computing Center's Documents Room (Room 205) offers a collection of books, magazines, CDs, and instructional videos on a wide range of popular computing subjects. It also maintains a CD-ROM database to help locate magazine articles and product reviews.

Hours are Monday through Friday, 9:30 am to 5 pm. Books can be borrowed for two weeks, videos for one week, and magazines for two days. Call **346-4406** for information or visit the Documents Room web site at **http://cc.uoregon.edu/~docsrm/**

Your Computing Account: What Large

Your UO computing account gives you access to one or more large timesharing systems. To help you choose the system that best suits your needs, we've described each of them in some detail below.

Faculty/Staff

Faculty and staff are eligible for accounts on either DARKWING or OREGON or both.

DARKWING. DARKWING is a large shared Sun Enterprise 5500 system running Solaris 2.7 (Sun's version of UNIX). For information on its configuration, see the article in this issue on page 2.

OREGON. OREGON is a large Compaq (formerly Digital Equipment Corporation) 7630 system running OpenVMS/AXP. OpenVMS/AXP is a unique operating system that is *not* based on UNIX; its commands are actually most reminiscent of MS DOS. It is the same operating system used on the university's administrative computer systems.

For most faculty and staff, either DARKWING or OREGON will work fine for routine email purposes and for serving typical web pages. Beyond that, system choice is primarily a matter of personal preference, as long as the software you want to use is installed on the system you pick (see the software chart on the following page).

If you do establish accounts for yourself on both DARKWING and OREGON, please be sure to routinely check your email on *both* systems, or forward your email from your less preferred account to your favorite account. Passwords and files are not shared between DARKWING and OREGON.

Undergraduate Students

Undergraduate student accounts are automatically created on GLADSTONE. GLADSTONE is a Sun Enterprise 5500 machine and, like DARKWING, it runs Solaris 2.7, Sun's version of UNIX.

GLADSTONE accounts can be used for electronic mail, serving personal web pages. Beginning this year, we're also offering an expanded range of academic software on GLADSTONE, such as *SAS* and *Mathematica.*

Undergraduate students can also self-authorize themselves for an OREGON account if they prefer OpenVMS over UNIX, or if they simply want a second account to use as a backup.

Graduate Students

Graduate students automatically have accounts created for them on DARKWING; however, if they wish, they can also self-authorize accounts on GLADSTONE and OREGON.

Other Systems

You may also see these other systems mentioned from time to time:

DONALD and DAISY. DONALD and DAISY are large Compaq administrative systems running OpenVMS/AXP. The primary application running on these systems is BANNER, an administrative application environment based on Oracle, a popular large system database.

DONALD and DAISY share disk, printers and some other resources with OREGON, but access to DONALD and DAISY is restricted to staff members who are performing administrative tasks like grade processing and payroll.

ALPHA. ALPHA is the name for a cluster of five Compaq 500 workstations that (prior to DARKWING's upgrade) has been used exclusively for computationally intensive academic computing jobs. Machines in the ALPHAcluster run Compaq Tru64 UNIX (formerly DEC UNIX). Individual members of the ALPHAcluster have water-related names, such as *hotspring, thunderstorm, river, downpour,* and *geyser.*

ALPHA use will be gradually phased out through the end of 1999, at which time most commercial third party software will be moved from ALPHA onto DARKWING.

User directories on DARKWING are exported to the ALPHA systems, so you'll see all your files from DARKWING on the ALPHA workstations automatically, and any changes you make on either DARKWING or ALPHA will automatically be reflected on the other system.

However, because DARKWING runs a different version of UNIX than ALPHA, (Solaris vs. Tru64 UNIX), you cannot compile your program on one system and then run it on the other (i.e., if you want to run your FORTRAN program on DARKWING, compile it on DARKWING and run it on DARKWING).

No mail or web service is provided on the ALPHAcluster.

To log on to machines in the ALPHAcluster, use your normal DARKWING username and password (no special authentication is required for DARKWING users to be able to log in on those systems). Note that if you log in via *ssh* to the ALPHAcluster, you must designate a specific system (e.g., *hotspring, thunderstorm, river, downpour* or *geyser*) rather than logging in directly on **alpha.uoregon.edu** (the cluster's generic name).

DOLLY: DOLLY is an experimental Beowulf cluster, one of two in the Oregon University System. It consists of 14 Pentium Pro nodes connected via a private fast ethernet network to a node controller, and runs the PVM and MPI message passing libraries on top of Redhat Linux.

If you are a faculty member or graduate student interested in gaining access to DOLLY to run PVM or MPI codes, please contact Hans Kuhn (*hak@darkwing.uoregon.edu*) for more information.

What About NT?

The Computing Center does not currently provide accounts on any NT-based system.

Timesharing Systems Are Available?

What About Dialin Access?

In addition to your account on OREGON, DARKWING or GLADSTONE, you may also get a modem account and password so that you can dial in from off campus to the University's modem pool.

Note that our modem pool is relatively small and is intended for use no more than a couple of hours a day per user (or 14 hours a week). If you need dedicated or near dedicated access, you will want to contact a commercial Internet Service Provider (ISP). One list of ISPs is available at **http://www.thelist.com/**

What About Class/ Departmental Accounts?

If you are teaching an undergraduate class and your students need access to software available only on DARKWING, temporary accounts (so-called "ST" student accounts) can be created for their use. The course instructor should contact Connie French, the Computing Center accounts clerk, for more information about doing this.

If you are a department or university-recognized institute, lab, or organization, you can arrange for a depart-

mental account. Such accounts are offered solely to provide an authoritative and unchanging home for departmental web pages and official departmental email, and must be officially requested by the person responsible for the account. Modem accounts will not be created for departmental userids.

Finally, please note that ALL use of university computing resources is subject to the university's Acceptable Use Policy, which is available in printed format from the Computing Center Documents Room (Room 205), or online at **http://cc.uoregon.edu/acceptableuse.html**

SOFTWARE ON ALPHA, DARKWING, OREGON

Type of Software	ALPHA	DARKWING	OREGON
Statistics Packages	sas spss minitab Splus rats/estima lindo slam	sas bmdp Splus eqs rats/estima	SAS SPSS SCA PRELIS/LISREL SHAZAM LINDO SLAM
Text Editors	pico vi emacs and xemacs	pico vi emacs and xemacs TeX and LaTeX eve	EVE VI MicroEMACS TeX and LaTeX
Network Software	ftp (remote file transfer) telnet (remote login) lynx (web browser) ssh (secure login) pgp (encryption)	ftp (remote file transfer) telnet (remote login) lynx (web browser) pine (email) trn,tin,nn (USENET News) ssh (secure login) pgp (encryption)	FTP (remote file transfer) TELNET (remote login) PINE (email) LYNX (web browser) TIN (USENET News) PGP (encryption)
X-Window Only	netscape (web browser) xv (Image manipulation) acroread (Acrobat Reader)	netscape (web browser) xv (Image manipulation) staroffice (Office Suite) acroread (Acrobat Reader)	NETSCAPE (web browser)
Programming	cc and gcc c++ and g++ f77 and f90 (FORTRAN) pc (Pascal) IMSL Math/Stat Libraries NCAR fortran graphic libs Java developer's kit tcl/tk	cc and gcc c++ and g++ f77 (FORTRAN) pc (Pascal) IMSL Math/Stat Libraries NCAR fortran graphic libs Java developer's kit tcl/tk	C FORTRAN (77 & 99) PASCAL IMSL Math/Stat Libraries
Mathematics	mathematica maple matlab	mathematica matlab	MATHEMATICA
Miscellaneous	rasmol (3D molecules) radiance (3D rendering) clustalw (gene sequencing)	RealAudio server (also available on gladstone) distiller (Adobe Acrobat)	

DSL Modem Technology Promises

By John Kemp
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■ **The promise of DSL is to extend high-speed Internet access all the way to the home or small business for a relatively modest price**

Since DSL is a relatively new technology, many people still have general questions about what it is and what it can do. This article attempts to answer some of those questions and describes some of the DSL options now available locally.

So…what *is* DSL?

DSL stands for "Digital Subscriber Line." In a nutshell, it's a new modem technology for allowing high-speed Internet access to homes and small businesses over existing telephone wires.

The name DSL comes from two terms that together describe the technology: "digital" and "subscriber lines." The first term refers to the fact that DSL data transmission is based on digital encoding (i.e., data is represented as ones and zeroes); while "subscriber lines" is the phone companies' historic term for their customer wiring. The key difference between a DSL modem and a traditional modem is that the DSL modem operates at very high speed and utilizes digital signaling.

Why should you care?

DSL could be of interest to certain individuals or small businesses who have a pressing need for a high-speed connection to the Internet, and who are eligible for the service. DSL's performance can be ten times faster than that of existing V90 or 56K modems— and, depending on the type of service

that is purchased, even faster than that. The cost of DSL is typically a fraction of other traditional high-speed wide-area technologies, such as ISDN, T1, or Frame Relay, and DSL service is rapidly becoming available in a number of cities throughout the U.S.

The promise of DSL is to extend high-speed Internet access all the way to the home or small business for a relatively modest price. This can enable activities like telecommuting, videoconferencing, file sharing, web serving, or any other network activity that depends on an "always-on" connection, and a connection that has a bandwidth greater than what has previously been available using traditional dialup technology.

> *The key difference between a DSL modem and a traditional modem is that the DSL modem operates at very high speed and utilizes digital signaling*

How fast is DSL?

The speeds achieved using DSL depend on a number of factors. Currently, a typical USWest DSL connection has a download rate limit of 640Kbps (kilobits-per-second) and an upload limit of 272Kbps. Actual performance will vary depending on the current utilization of the intervening network and the performance of the sending and receiving machines involved in the file transfer. File downloads at rates of 40 to 50 KB/s (kilo-bytes-per-second) are not uncommon. Faster rates can be obtained by purchasing higher levels of service at additional cost.

Who is eligible?

In general, only customers who are within 2-3 miles of a phone company's central office are able to receive the service. DSL is distance-limited, so people in remote areas should not expect to be able to subscribe. The best way to find out if you are within range is to check with the phone company providing the service. Locally, USWest is the only current provider; however, other competitive local exchange carriers may also begin to provide service in the near future. USWest maintains a web site at **http://megawot.uswest.com/availability/** that has links for checking service availability and applying for service.

There are other institutions that can deploy DSL technology. In special cases, the University of Oregon's Network Services has utilized DSL to establish connections from nearby off-campus buildings to the campus network. These arrangements are typically only considered when the customer has a direct affiliation with the university and has adequate funding to support the service. And again, because of the use of phone wiring, similar distance limitations still apply. Organizations interested in this kind of application may contact Network Services at **346-4395** or send email to *nethelp@ns.uoregon.edu*

What is an ISP in terms of DSL service?

There are usually two entities involved in a complete DSL service package: one that provides the DSL circuit, and another that provides Internet services. These entities can be the same company or two different companies. You can purchase your DSL modem and order your DSL line from USWest, and they will direct your traffic either to their own Internet Service Provider, USWest.Net, or to a qualified Internet Service Provider (ISP) of your choosing.

High-Speed Internet Access for Some

In general, an ISP provides services such as an IP address for your computer and the routing of your traffic to the Internet. ISPs can also provide email accounts and other services, such as web page hosting and news server access. In the simplest case, USWest can act as both your DSL line provider and your ISP. In this case, your phone bill, DSL line charges, and ISP charges would all come from the same company. There are also a number of competing ISPs, such as The Pond and Willamette.Net. A complete list of participating ISPs is provided by USWest at **http://www.uswest.com/products/data/dsl/isplist.html**

Why would I choose one ISP over another?

While you will generally have only one choice in terms of who is providing your DSL line (USWest), you might have a number of choices when it comes to selecting an ISP. The services offered by each ISP vary widely, so care should be taken when making this choice. You'll need to consider a number of factors, including available bandwidth to the Internet, routing topology, the provisioning of static or dynamic IP addresses, email accounts, disk space for web pages, and domain name registration for business use.

The easiest way to determine which services are offered is to call the ISP and talk to a customer service representative. In any case, it is usually not too difficult to switch to a different ISP or to upgrade to a higher level of service at some later date if you decide that additional services are required. See page 10 for a discussion of alternative services.

What happens to my phone line?

DSL has adequate capacity to carry telephone voice traffic along with data traffic. The two types of traffic are integrated at the DSL modem, and then later split apart at the phone company's central office. The two channels coexist amicably, and it is never the case that you won't be able to use your phone because someone is using the computer, or vice versa.

In order to protect telephone devices (which operate on lower frequencies) from the higher frequencies of the DSL data channel, small filters must be put inline between the telephone and the DSL modem. Once the filters are in place, the phone operates as usual.

How much does it cost?

Initial setup of a DSL connection will require a DSL modem and the installation of the modem and inline phone filters. Installation is relatively simple, and this charge is usually waived if performed by the customer. The cost of the modem will vary, depending on the availability of promotional discounts. Likewise, initial setup costs can vary from $0 to $450, depending on the type of hardware, method of installation, and availability of promotional discounts.

For example, the Cisco 605 internal modem is sometimes provided at no cost. If you perform your own installation, this can end up being a "no cost" setup. Other typical scenarios might involve purchasing the external modem for either $50, $100, or $300. If the customer chooses on-site installation by a USWest technician, this can add a cost of $150.

The monthly charge for DSL line service also may vary. Depending on the bandwidth and the type of service you choose, the cost can be $20, $30, $65, and up per month. For an always-on connection with a download speed of 640Kbps (kilo-bits-per-second) and upload speed of 272Kbps, the $30/month charge is typical.

The monthly charge for ISP service is typically $20 a month for basic service. For higher level services that include static IP addresses or web hosting, expect to pay $35 a month or more. In addition, you will continue to pay standard charges for phone service if your phone line is incorporated into your DSL service.

So the overall monthly cost for DSL service, including ISP, will be on the order of $50 a month for a typical installation. For users who need a faster connection to the Internet and the expanded service capabilities that DSL can provide, these types of charges are not unreasonable.

Megabit-Qualified ISPs

For a current list of megabit-qualified Internet Service Providers in Oregon, see the listing provided by USWest at **http://www.uswest.com/products/data/dsl/isplist.html#oregon**

Intel Donates Additional NetPCs to UO

For the second year in a row, Intel has generously donated NetPCs to the University of Oregon.

Designed to facilitate system management and support while at the same time minimizing total cost of ownership, NetPCs are a revolutionary approach to PC systems.

The new NetPCs will be deployed around campus in microcomputing and instructional technology labs and other public areas, such as student residence halls.

To learn more about the NetPC, see **http://developer.intel.com/solutions/tech/xtra/netpcqr3.pdf**

You may also want to explore Intel's archives at **http://www.intel.com/pressroom/** for additional product details.

More DSL: Understanding ISP Service Alternatives

For those wishing to delve deeper into the possible range of DSL services, here's an explanation of some of the possibilities…

What is "bridged-mode" versus "PPP-mode"?

Another differentiating factor between ISPs is whether they accept DSL traffic that is in "bridged" mode or in "PPP" mode. The primary differences between these two modes of operation are explained below.

Bridged Mode. In bridged mode, the computer is assigned an IP address, but the packets from the customer's modem are dumped directly on the ISP's Local Area Network (LAN). The advantage of this technique is that it makes the customer appear to be local; that is, services that require broadcasting or non-IP protocols can operate as they normally would, assuming the ISP accepts or routes any of these protocols. The disadvantage is that the ISP then has to process all of this extra traffic, so this can place a greater load on the ISP's LAN.

PPP Mode. Things are not quite so straightforward in PPP mode. In this mode, the DSL modem is assigned an IP address and a route to an IP address at the ISP. Typically, the customer's computer also requires an IP address. In this case, the data that's sent to the ISP must first be routed by the DSL modem. Most ISPs will only accept IP traffic in this configuration; neither broadcasts nor other non-IP protocols will be allowed. The advantage is that the ISP is not burdened with broadcast traffic or the handling of non-IP protocol traffic, so their overall LAN performance may improve. The disadvantage, generally, is the extra complexity involved in the IP address configuration of the customer's computer and DSL modem.

What is "NAT"?

In the general case, the choice between "bridged-mode" and "PPP-mode" would be of little concern to the average DSL user. But if you choose USWest as your ISP, in the service offerings that are of lower cost you will not only be required to use PPP, you'll also be required to use something called "NAT." NAT stands for Network Address Translation. It's a method of conserving IP addresses by using nonroutable "private" IP addresses on internal computers. NAT can also be used as a method for "hiding" internal computers from remote connections to make them more secure.

Drawbacks. As you might expect, the NAT method sacrifices some usability.

The DSL modem can easily translate requests originating from the customer site going to outside services. When a connection is initiated from the customer site, the DSL modem automatically translates from the private address of the customer computer to the DSL modem address—the public address that the rest of the world sees.

But for connections initiated from a remote site, the private address assigned to the customer computer is nonroutable by anything other than the customer's own DSL modem. So it becomes difficult to offer services from the customer site to remote users. Since the customer's computer address is nonroutable, the remote site has no way to make the initial connection to the customer address (for example, hosting a web server or setting up an FTP site becomes a real challenge).

NAT can also impact many of the more complex IP network protocols that carry IP addresses in them as part of their data. NetMeeting conferencing protocol is one such example. PPTP, a security protocol, is another example of a protocol that has trouble working with NAT. NAT also performs poorly on services that are UDP based (i.e., not connection oriented), such as IRC servers and game servers.

So while NAT can be good for overall network performance and good for those who want the added security of a nonroutable IP address, it can impose a burden on those who want to offer services from their computer. Users who want to offer web pages or an FTP server would be challenged. And the loss of the ability to use services like NetMeeting, IRC, or game servers can be significant to some users.

Are there NAT alternatives?

A number of workarounds or alternatives to NAT do exist. The most obvious of these is to choose one of the higher-cost ISP service packages from USWest that provides static routable IP addresses. USWest classifies these service offerings, which do not involve the use of NAT at the customer site, as "Office" or "Business" packages.

Another alternative is to choose an ISP that offers bridged-mode service. Some ISPs offer both bridged-mode service and a static routable IP address for the customer computer as part of their base offering. This can be an attractive option, assuming the ISP also provides adequate service in other areas, such as routing topology and overall bandwidth.
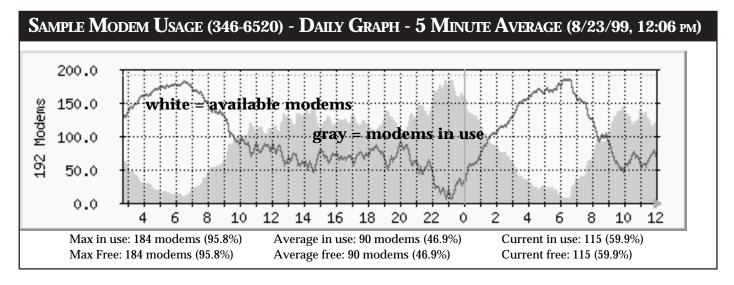
The more savvy user can make modifications to the settings of the DSL modem to allow NAT to successfully pass specific protocols. People refer to this technique as "setting NAT rules." Because this process can sometimes be complex, and because even the IP address of the modem may change over time, this is not the easiest approach and may not always achieve the desired goals.

Another way to get around NAT is to purchase the Cisco 605 internal DSL modem card instead of the Cisco 675 external modem. The use of the internal modem card eliminates the need for NAT, since the card itself handles all of the network traffic. While the IP address used by the card may still change from time to time, NAT will never be involved. The use of an internal card does involve some trade-offs, however. You may not want to attempt this method at a site where more than one computer will be connected.

Fall Term Modem Pool Upgrades Planned

Upgrade of V32bis/V.34+ modems (346-5975) and V.90/X2 modems (346-6520) means universal support for V.90 and up

white = available modems

gray = modems in use

Max in use: 184 modems (95.8%)	Average in use: 90 modems (46.9%)	Current in use: 115 (59.9%)
Max Free: 184 modems (95.8%)	Average free: 90 modems (46.9%)	Current free: 115 (59.9%)

During the first months of fall term we will be upgrading our modem pool. This time the changes involve an upgrade to our V32bis/V.34+ modems served by **346-5975** and our V.90/X2 modems served by **346-6520**.

The **346-6520** modem pool will be upgraded to newer equipment, which will allow better management. The modems served by **346-5975** will be upgraded to similar equipment supporting V.90 and speeds of up to 56.7 Kbps.

How Will this Impact You?

The upgrades will impact UO modem users in several important ways:

- All our modems will now support V.90 at up to 56.7 Kbps.

- **346-6520 will be our lead number, and it will serve ALL of the modems in our modem pool.** *This means you do not have to dial any other number to try to connect to UO.*

- **The other numbers, 346-3565 and 346-5975, will be removed from service by fall 2000.** Until then, these numbers will be forwarded to our access number, 346-6520.

- **Supported protocols:** Our feature set includes **V.32** (9.6Kbps), **V.32bis** (14.4Kbps), **V.34** (28.8Kbps), **V.34+** (33.1Kbps) and **V.90**

(56.7 Kbps)—all approved standards. Notice that we don't support X2, K56Flex or any other nonstandard protocol.

While the total size of the modem pool is still in flux, we should have at least 384 modems serving UO faculty, students, and staff. We're also looking for ways to reduce the university's monthly costs for our dialup service. Reduced costs would enable us to increase the number of modems in our modem pool, while remaining within budget.

If you have any questions about the upgrades, contact José Domínguez (*jad@ns.uoregon.edu*, **346-1685**).

Sharing Files on the Internet

■ Free Internet services enable you to share digital photos, *QuickTime* movies, and other large files

By Hans Kuhn
hak@darkwing.uoregon.edu

Campus users often ask us how to share large documents such as photos or Microsoft *Word* files with their friends or colleagues. If you've ever wanted to explore this type of Internet capability, you might be interested in learning about *click2send.com*.

click2send.com offers a free service that enables you to share files with anyone who has Internet access. This service is a great way to share digital photos, *QuickTime* movies, and large spreadsheets or word processing documents.

To use the service, point your web browser at
http://www.click2send.com

After you register, you can upload a total of 120 megabytes of data. Your friends don't have to register to receive your file; they only have to register if they want to upload files to send.

Need More Information?

More information about specific features of this service is available in the "Help" and "FAQ" sections of the *click2send.com* web site at
http://www.click2send.com

Some other companies that offer free Internet file sharing are *juston.com* and *freedrive.com*.

What's in Your Mailbox? New

If you're new to campus or have been away over the summer, you may not be aware of some of the changes in email facilities on campus. *WebMail*, previously available only on DARKWING and OREGON, can now be accessed from GLADSTONE. The OREGON mail server software has been upgraded, and *ccMail* is a thing of the past. Read on for details on developments that may affect your email experience, including tips on monitoring your disk quota on GLADSTONE and DARKWING.

WebMail Now Available on GLADSTONE, DARKWING, OREGON

By Rick Millhollin
rickm@oregon.uoregon.edu

Would you like to access your mail from almost any machine, anywhere, with no special setup beyond a web browser?

WebMail is one of several new electronic mail products that makes this possible, and it's offered to University of Oregon users who have accounts on GLADSTONE, DARKWING, and OREGON.

Although *WebMail* runs on a Windows NT system, it allows pass-through web access to IMAP (Internet Mail Access Protocol) mail servers on virtually any other type of machine. Because *WebMail* uses only HTML to communicate with the browser, it works with the widest possible variety of browsers (including the latest versions of *Internet Explorer* and *Netscape*) and is not susceptible to *Java* bugs and incompatibilities.

Using *WebMail*

To begin using *WebMail*, open your web browser and go to **http://webmail.uoregon.edu** (regular mode) or **https://webmail.uoregon.edu** (secure mode; recommended).

Type in your username and password and choose the host your account is on. You should then see a screen displaying your *Inbox*. VMS (OREGON) users may proceed at this point, setting the "Options" as they please, but to avoid problems with their host folders, UNIX (GLADSTONE, DARKWING) users must follow these special instructions:

Special instructions for UNIX users. If you use GLADSTONE or DARKWING, you must choose *Options* and set the IMAP4 Folder Prefix to **mail/** in order to see your host folders properly. You may want to fiddle with the other options as well. Then log out, and log back in again to activate the folder prefix.

Another minor annoyance for GLADSTONE and DARKWING users is that on UNIX hosts, *Outbox* is immediately created at first login and is then recreated under **mail/** after you set the folder prefix, resulting in two "Outboxes" being listed in the mailbox list file. However, this glitch doesn't prevent the program from functioning properly.

Questions?

For more information, check out its online help resource or see

http://www-vms.uoregon.edu/www/webmail.html

Watch system notices for additional information that may become available on *WebMail* as time goes on.

We Need Your Feedback

We're interested in hearing about your *WebMail* experience, either positive or negative. Direct your questions, problems, and comments to *consult@oregon.uoregon.edu*, or call **346-1758**.

How to Monitor Your Disk Quota

■ **Once you reach your DARKWING/GLADSTONE quota, you won't be able to create any new files—including email. Monitoring your disk space can prevent unexpected surprises**

By Lucy Lynch
llynch@darkwing.uoregon.edu

When your DARKWING or GLADSTONE account is created, you're allotted a set amount of disk storage space, or quota. This space is used for mail and other files (e.g., HTML and data files, images, etc.).

When your quota is filled, you won't be able to create any new files or receive new email. If you're an active UNIX system user, you'll want to keep an eye on your available space using the **quota -v** command. However, if you never log in on DARKWING or GLADSTONE directly, you may not know you've exceeded your quota until email stops arriving in your INBOX.

One useful account management trick is to automatically check your account quota once a week and email yourself a report. In order to set this up, you must log in on your UNIX account and perform some basic commands using a UNIX editor like *emacs*, *pico*, or *vi* to edit a *crontab* file. This procedure is not for the faint of heart, but if you're willing to try it, you'll find complete instructions at **http://pythia.uoregon.edu/~llynch/quota-check.html**

Email Developments on Campus
Use OREGON/DAISY/DONALD for Email? Watch for Changes!

By Rick Millhollin
rickm@oregon.uoregon.edu

Over the summer, the VMScluster's mail transport software was upgraded to PMDF v. 5.2, affecting both password and mail folder conventions. These changes are described below, with tips on how to avoid problems.

VMS Password Expiration Enforced

Since the upgrade, both IMAP (Internet Mail Access Protocol) and POP (Post Office Protocol) mail servers now enforce VMS password expiration. This means that whether you're using IMAP programs (e.g., *Mulberry, Eudora Pro, Netscape Communicator, Outlook Express*) or POP programs (e.g., *Eudora*), you won't be able to access your mail if your password has expired.

To set a new password under VMS, you have two choices:

1. Log into VMS via Telnet and follow the steps in the password change dialogue. (The password change will take effect immediately.)

2. Log into the AUTHORIZE system via Telnet and submit a password change request. (To use AUTHORIZE, you must know your BANNER ID/SSN and your six-digit PAC numbers, and there may be as much as a 15-minute delay before the password change takes effect.)

Once you have changed your password, set your mail program to recognize it. This procedure varies according to which mail program you use. The main thing to keep in mind is that if you instruct your mail program to save your password (so you won't have to type it in each time you try to access your mail), you must remember to reset it every 180 days, when it expires on VMS.

Password Problems? If you're still having password trouble, call **346-4403** for assistance.

Intrusion Detection

Another new feature of the upgrade is that both IMAP and POP servers now enforce intrusion detection. This means that a VMS account is locked for a period of time following five failed login attempts. While this feature is designed to protect you, you could inadvertently lock yourself out of your mailbox if you type the wrong password five times in a row.

Mail Folder Setup

VMS mail folder conventions can be a bit tricky. While the new PMDF IMAP server supports hierarchical folders, we don't recommend using them because they can cause problems. It's also important to avoid using root folder paths (e.g., folder names with a "/" or "~" character in them).

If you're using an IMAP program such as *Mulberry* or *Outlook Express* and are experiencing problems accessing some of your mail folders, contact Microcomputer Services (**346-4412**, *micro@oregon.uoregon.edu*) for help.

Security

The VMS upgrade has the added feature of protecting plain text passwords from detection as they are transmitted across the network by IMAP and POP clients, if the client supports it. *Transport Layer Security* (TLS) also secures the contents of email communications.

Outlook Express 5 and *2000* fully support TLS for IMAP, POP, and SMTP clients. *Netscape Communicator 4.621* supports it for IMAP and SMTP but not for POP; and *Eudora Lite* and *Eudora Pro* do not support it at all.

To configure your mail program for TLS's secure connections, set the mail client preferences to use SSL and the appropriate ports, e.g.,

```
IMAP:  993
POP:   995
SMTP:  465
```

Questions? Address questions about mail client setup to Microcomputer Services, *micro@oregon.uoregon.edu*

Mailbox Filters

The new version of PMDF supports mailbox filters that can prevent delivery of unwanted mail messages. You can now construct and manage your own screening rules via your web browser.

For more information on setting up a mailbox filter, see the *PMDF User's Guide* chapter online at **http://oregon.uoregon.edu:7633/doc/user_vms/book_8.html#chapter_filter**

Reminder: January 2000 Marks End of *ccMail*

As of July 1, 1999, the *ccMail* routers were permanently shut down. While mail is no longer delivered to individual post offices, the main post office running on Zeus and the *ccMail* gateway will continue to run until these die a slow death on January 1, 2000. This means that through December 31, 1999, the *ccMail* system will not be operational, but it will continue to forward mail for those users who have had an alias created on the hub post office.

After December 31, 1999, mail sent to *users@ccmail.uoregon.edu* **will bounce.** All former *ccMail* users should be actively distributing their non-*ccMail* address to friends, colleagues, and family so they can still be reached as of January 1, 2000.

Questions? If you have questions regarding the final days of *ccMail*, contact network engineer Don Gathers *(dgathers@ns.uoregon.edu,* **346-4316**).

Choosing the Right Software for the Job:

By Robin High
Statistical Consultant
Academic User Services
robinh@oregon.uoregon.edu

If your UO curriculum requires data analysis and you're new to the field of statistics, you may not know where to start.

A number of good statistical software packages are available at the UO, but which one should you choose? The number and type of statistical procedures has grown so large that it's easy to overlook—or be totally unaware of—all available methods. This article is designed to help you make the selection that best suits your needs.

Before choosing a software package, ask yourself the following questions:

• What are the hardware requirements?

• What is the cost?

• Are the most up-to-date data analysis and graphical techniques available?

• Where can I find technical support?

• Do I need portability, or will a stationary workstation suffice?

Statistics packages at the UO easily meet most of these requirements. Consider three major state-of-the-art statistics programs—*SAS*, *SPSS*, and *Splus*:

Availability - All are available on OREGON, DARKWING, or the ALPHAcluster

Cost - *SAS*, *SPSS*, and *Splus* on the UO's large systems are free to all UO students, faculty, and staff

Up-to-date techniques - *SAS*, *SPSS*, and *Splus* use numerically correct, sophisticated computational routines, and they'll meet just about every statistical computing need.

Technical support - Written documentation is available in both book and web formats, and all three software packages are supported by Computing Center consultants.

Portability. For some, portability is also desirable, especially if you want to work where a modem or network connection is not available. In this situation, you'll need to purchase a suitable statistics program and load it on a personal computer or laptop so you can work at home or while traveling.

PC versions of *SAS*, *SPSS*, and *Splus* are all available, although the cost of acquiring an individual license may be prohibitive and memory requirements may exceed your computer's resources. Less expensive student versions or multiple copy discounts may be an option, but be aware that some procedures may have limited capabilities or even be missing in those versions.

Whatever software you select, always learn to document your work! Preserving your steps in a syntax file can save you a great deal of time in the long run.

Other Statistics Programs Available at the UO

In addition to *SAS*, *SPSS*, and *Splus*, there are four other statistics programs worth exploring: MINITAB, BMDP, LIMDEP (for structural equations), and RATS (for time series). MINITAB is used for instructional purposes in several of the UO's introductory statistics classes, and LISREL and RATS are advanced programs used for special applications.

Spreadsheets

Spreadsheet programs like Microsoft Office's *EXCEL* are also available for personal computers. While I strongly endorse knowing how to use spreadsheets, they are rarely to be recommended for statistical analyses. The choice of statistical methods is limited, and they're very awkward to use, especially with large data sets.

On the positive side, spreadsheets are great for data entry and storage, intermediate calculations, and graphical displays. Once data are entered into a spreadsheet, it's a very simple process to access data for use with any of the statistics programs mentioned above.

Statistics Packages on OREGON, DARKWING, ALPHA

Statistics packages on OREGON include *SAS*, *SPSS*, *PRELIS/LISREL*, and *LINDO*; programs on DARKWING include *sas*, *bmdp*, *Splus5*, *eqs*, and *rats*. DARKWING is case sensitive, so to invoke these programs, you must enter their names *exactly* as shown above.

Even though *SPSS* is not available on DARKWING, you can use it on the ALPHAcluster. (All files on DARKWING are also accessible on the ALPHAcluster.)

Each of these programs has its own command structure—well worth the time needed to learn.

Running Programs in Batch Mode on OREGON, DARKWING

A direct way of running statistics programs on OREGON and DARKWING is in batch mode, which requires you to write a file to perform the desired tasks. Everything you want the program to do with the data—from input and necessary transformations all the way to the final analysis—is clearly written into the program. This approach is known as the "syntax" method.

Example of Batch Mode on OREGON**:** Once written with a text editor such as *pico*, programs can be submitted in batch mode. For example, to run a *SAS* program on OREGON, enter the program commands into a file called **myfile.sas** and type

```
$ sas myfile
```

The **.sas** extension is not necessary when submitting the command. You

An Overview of Statistical Computing at the UO

will always be given an output file called **myfile.log** where you can check the execution for error messages and summary information, and if it produced output you'll find the output in a file called **myfile.lis**. You can also run *SAS* and *SPSS* in a more interactive mode through an X-Windows interface.

Example of Batch Mode on DARKWING**:** To run a *SAS* program on DARKWING, edit the command file (called **myfile.sas**) with a text editor, then submit the job by typing

```
% sas myfile
```

A file called **myfile.log** will always be produced, and printed output will appear in the file **myfile.lst**.

Running Computationally Intense Programs

Both DARKWING and ALPHAcluster are UNIX-based systems that can be used for computationally intensive programs written in *sas, Splus5, minitab,* and *rats. spss* is currently available on ALPHA only, but it soon will be available on DARKWING (see page 16). You can log in on the ALPHAcluster with your DARKWING userid and password. All your files and UNIX commands work the same as on DARKWING. To run an *spss* program on ALPHA, enter:

```
% spss -m myfile.sps > myfile.lis
```

Getting Started: Plan Ahead and Document Your Work!

Plan ahead for analyzing your collection of data most effectively. Always begin with your list of written research

questions. This list will help you decide not only what procedures to use; in some cases it may determine which software is best suited for the job.

I cannot emphasize this next point enough: whatever software you select, *always, always, always* DOCUMENT YOUR WORK! It's extremely important to keep a current record of what you did, and why. Preserving your steps in a syntax file can save you a great deal of time and confusion in the long run.

Beware of 'Quick and Easy' Solutions

While easy "point-and-click" methods are available with some PC versions of statistics programs, these methods fail to automatically document your steps into a syntax file. This approach is appealing but treacherous, because you can easily lose track of your sequence of steps or the formulas you applied. It also takes more time to repeat a similar analysis later on or to transfer the data to another user without confusion. This is particularly true of recent versions of *SPSS* for Windows, where (unlike *EXCEL*) formulas are not saved in the *SPSS* spreadsheet.

Advantages of Writing Code… the "Syntax" Method:

Assuming you can use a text editor, one of the real strengths of writing code in *SAS, SPSS, Splus,* and other statistics programs is that this approach documents the entire process. All the steps you take, from initial data input to final analysis, are clearly written into the program. This "syntax" method is also a highly efficient way to proceed if you have a lot of repetitive tasks or many variables to process.

The *SAS* Advantage. One of the great strengths of *SAS* is that writing a syntax file gives you an automatic documented program. Many users balk at writing programs, assuming it's too difficult. While the *SAS* language may at first seem complex, the basics are actually quite easy and the selection of statistical procedures is not nearly as complicated as you might imagine. Also, if you have any type of data collected over time (e.g., repeated measures), or if you need to do programming or merge separate files together, *SAS* is the best choice.

Writing Code in *Splus*. If you're mathematically inclined, think in matrix terms, and like to write your own programs, *Splus* offers many nice features and would be a good choice—especially for computer-intensive methods such as the bootstrap.

Need More Information?

Workshops: Many of the concepts introduced in this article will be discussed in much greater detail in two fall workshops in the Knight Library's Electronics Classroom. Consult the list of workshops on page 20 for times and dates.

Web Resources: For detailed product information on *SAS*, *SPSS*, and *Splus*, see the following web sites:
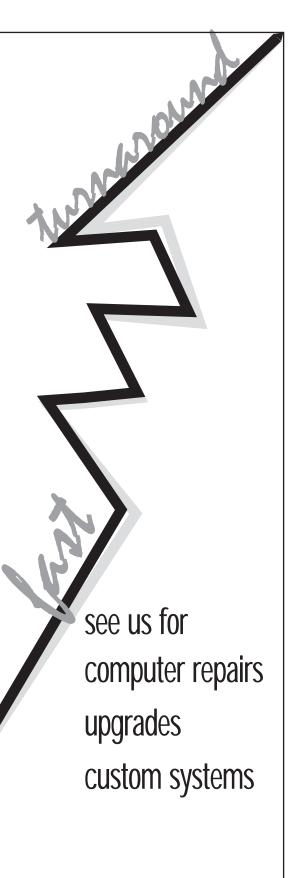
SAS: **http://www.sas.com**
SPSS: **http://www.spss.com**
Splus: **http://www.mathsoft.com**

Other useful information concerning *SAS, SPSS, Splus* and direct connections to statistical sites is available at **http://darkwing.uoregon.edu/~robinh/ statistics.html**

STATISTICS PROGRAMS ON OREGON, DARKWING, ALPHA				
OREGON	*SAS*	*SPSS*	*PRELIS/LISREL*	*LINDO*
DARKWING	*sas*	*bmdp*	*Splus 5*	*eqs*	*rats*
ALPHA *	*sas*	*spss*	*Splus5*	*minitab*	*rats*

* Some of these software packages will migrate to DARKWING in February 2000. See page 16 for details.

Plan Ahead for ALPHA Software Migration!

By Hans Kuhn
hak@darkwing.uoregon.edu

■ **Early next year, 10 statistics and math programs will migrate to DARKWING**

As of February 1, 2000, the following applications will no longer be available on ALPHA because they are being moved to DARKWING:

• *spss*	• *minitab*	• *maple*	• *mathematica*	• *lindo*
• *sas*	• *matlab*	• *slam*	• *Splus*	• *rats*

Those using applications with binary data files such as *minitab*, *sas*, and *spss* will need to export their data sets on ALPHA to a portable format so the files can be used on DARKWING. (If you're unsure if you need to export your data sets, send email to *consult@darkwing.uoregon.edu*.)

A grace period of several months will precede the migration. During this period, applications will be available on both systems to allow users to migrate their binary files and verify that the transfer was successful.

For help exporting files, contact Robin High (*robinh@oregon.uoregon.edu*), our statistical consultant.

MEDIA SERVICES OPEN HOUSE

**Thursday, November 4 1 - 6 PM
Ground Floor, Knight Library**

Meet the staff and tour the facilities.
Learn more about services including

- Campus Classroom Support
- Faculty Instructional Technology Training Center
- Graphic Arts
- Television Production

Watch for more details in future campus mailings

Windows 3.1 Users: Time to Upgrade!

By Hervey Allen
Microcomputer Support Specialist
hervey@oregon.uoregon.edu

Over the past year we've discussed some of the issues surrounding the continued use of Windows 3.1. Continuing to use this operating system has numerous drawbacks:

- Microcomputer Services student staff are no longer trained to support Windows 3.1

- Many support professionals have not seen or used this product in years

- No major software is being released for Windows 3.1

- Windows 3.1 and the Year 2000 are a volatile mix

What Upgrading Entails

Despite these significant problems, many Windows 3.1 users are reluctant to tackle the challenges involved in changing to a new operating system.

Hardware purchases. For starters, upgrading from Windows 3.1 to a newer version of Windows will, in most cases, require purchasing a new machine. Fortunately, computers have become considerably less expensive. A perfectly usable machine can now be purchased for between $1,000 and $1,500. We recommend purchasing name-brand equipment with solid warranties and good customer support. They may cost a bit more, but the time you save in repair and waiting costs is well worth the investment.

For newer hardware, we recommend running Windows 98, as Windows 95 does not have reliable support for a number of newer devices, including USB buses that are included on most recent machines.

Time. Learning a new operating system and transferring your data will take time. While this can be a serious deterrent to making the switch, it's very necessary, because sharing data with others will become more difficult as Windows 3.1-compatible software becomes further outdated. A case in point is the new Microsoft *Office 2000* product. By default, Microsoft Word in *Office 2000* cannot open or save any DOS versions of MS *Word* files (including *Word* for DOS version 6 files). You can install additional file conversions in *Office 2000* to get around this problem, but these additional file convert-ers do not even ship with the *Office 2000* CD installers.

Y2K problems

Many accounting and database software packages made for DOS or Windows 3.1 will not correctly recognize dates starting January 1, 2000, or they'll require you to enter dates using four digits instead of two. If you've already entered your data using two digits, this may be a difficult problem to resolve.

A number of older machines running Windows 3.1 will simply fail to work on January 1, 2000. Most older machines will still work but will require that you turn the machine off before midnight on December 31, 1999, as their clocks will not correctly roll over to January 1, 2000. For more information, you may wish to browse the University's Year 2000 web site at **http://y2k.uoregon.edu**

Questions?

If you have questions about hardware purchases and upgrades, you can contact Microcomputer Services between 9 am and 5 pm Monday through Friday by sending email to *microhelp@oregon.uoregon.edu*, calling **346-4412**, or visiting Room 202 of the Computing Center.

VMScluster Software Upgraded

■ **Summer upgrades completed for ORACLE, PMDF, FORTRAN, and more…**

OREGON, DONALD, and DAISY users who have been gone for the summer may notice a few changes upon their return.

Over the past few months, the Computing Center completed upgrades of ORACLE (the database that powers the BANNER student information system) and PMDF software, installed a new version of FORTRAN (7.2) on the VMScluster, and updated C v6.0, COBOL v2.5, PASCAL V5.7, and MULTINET TCP/IP networking software.

Most of these upgrades are routine and should minimally impact users. However, the PMDF and FORTRAN upgrades have some new features that users need to be aware of:

PMDF. PMDF is the mail transfer software that includes SMTP, POP3, and IMAP servers. An important change resulting from the upgrade is that POP3 and IMAP now check for expired passwords and will not allow access to users whose VMS password has expired (see "Use OREGON for Email? Watch for Changes!" on page 13 for details).

FORTRAN 7.2. To invoke FORTRAN 95 by default, type

$ **fortran filename**

To get FORTRAN 77, type the same command but add the qualifier OLD_F77, as shown:

$ **fortran/old_F77 filename**

Release notes for this new version of FORTRAN are in the file SYS$HELP:FORTRAN.RELEASE_NOTES

To access this file, type

$ **edit/read sys$help:fortran.release.notes**

Why *ssh* is a Good Idea

By Joel Jaeggli
joelja@darkwing.uoregon.edu

Imagine you telnet to DARKWING and log in with your username and password. Then you fire up *pine*, send a couple of email messages, make some changes to your web page, and telnet from there to another machine where you also have an account to check your messages.

While you may have felt completely secure as you did this, every character you typed flew across the network as clear text, including your username and password. Likewise, anything you read—whether potentially sensitive email, login screens, the notice messages on the system—were all passed back across the network to your terminal program as clear text. All your keystrokes were visible to anyone who installed a packet-sniffing application on a computer situated between your current location and the computer to which you're connecting.

With all the focus on security for web-based transactions and host security, rela-tively little attention has been paid to security for everyday tasks like reading email, editing web pages, or logging in to other machines. Yet your username and password are very valuable information to an attacker. Once these are known, intruders may be able to compromise the computer to which you log in, damage or erase the contents of your account, or impersonate you on the Internet.

There is a way to prevent this, however. *Secure Shell* (*ssh*) provides users with secure authentication, using public key methods and a secure connection to any remote host running an *ssh* server, such as DARKWING or GLADSTONE. Free implementations of *ssh* are available for Windows and UNIX; and a commercial one is available for the Mac. You'll find the TerraTerm *ssh* client on both the fall 1998 Duckware CD and the recently released fall 1999 Duckware CD.

For more information about *ssh*, send email to *consult@gladstone.uoregon.edu*, *consult@darkwing.uoregon.edu*, or *consult@oregon.uoregon.edu*

DuckWeb Adds Two Major New Features

By Jim Bohle
jbohle@oregon.uoregon.edu

Web for Students and Web for Faculty enable online course registration and secure access to academic records

Web for Students: Students now have the option of using *DuckWeb* for course registration. *Web for Students* provides online, web-based course registration with essentially the same capabilities and support that students have had with *DuckCall* since 1991. *DuckCall* access by phone (for such functions as registration, schedule and grade information) remains unchanged, and students can continue to use it as well.

Web for Faculty: After a successful pilot test run during spring term, another new *DuckWeb* module called *Web for Faculty* is now available to academic department staff and faculty. This module provides new services at two different access levels: a full access level, with increased support for faculty and staff who advise students; and a limited access level, with improved access to class list and term schedule information only.

Web for Faculty provides easy, secure access to student academic records, and transcripts can be organized in three different ways to assist with the advising process. Accessing, printing, and downloading class list information is considerably simpler and more efficient than via BQS and other means.

For additional information on either of these new *DuckWeb* offerings—including questions on access to *Web for Faculty*— contact Associate Registrar Brian Scholten, (*scholten@oregon.uoregon.edu,* **346-3195**). Please direct comments, questions or problem reports to either Jim Bouse (Registrar's Office: **346-2929**, *jbouse@oregon.uoregon.edu*) or Jim Bohle (Computing Center: **346-1706**, *jbohle@oregon.uoregon.edu).*

System Administrators: Please Do *NOT* Run *make-ssh-known-hosts!*

ssh is a secure encrypted replacement for *telnet* and *rlogin*, and we encourage all system administrators to offer *ssh* on any multiuser host they administer. *However*, some *ssh* installation instructions we've seen direct the administrator to run *make-ssh-known-hosts* as part of the *ssh* installation process. We ask that you NOT, repeat NOT, run *make-ssh-known-hosts* if/when you install *ssh*.

Why? *make-ssh-known-hosts* attempts to walk all hosts in a given domain, retrieving the public keys from all the hosts that are running *ssh* in that domain.

In a relatively large network such as the University of Oregon's, that can generate a tremendous amount of unnecessary traffic, and it can also trigger intrusion logging software on many hosts as *ssh* connections from unexpected hosts are observed.

Because *ssh* will automatically accumulate public keys from the hosts you use as you connect to them, there is no need to routinely run *make-ssh-known-hosts.*

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computing news   fall 1999

Want to Get on the *FastTrack*?

By Rick Millhollin
rickm@oregon.uoregon.edu

If you browse the web, you may want to take advantage of the new *FastTrack* web server on the VMScluster (see **http://web-vms.uoregon.edu**). *FastTrack* was installed as an alternative to—not a replacement for—the Ohio State University web server (see **http://www-vms.uoregon.edu**).

Advantages of *FastTrack*

FastTrack 3.01 offers several advantages over its VMS counterpart, the Ohio State University web server, e.g.:

1. It supports more standard CGI programs/scripts written in C, DCL, or Perl

2. It supports SSL security more easily

3. Compaq performed, and provides support for, the *FastTrack* VMS port

Advantages of the Ohio State Server

While *FastTrack* offers some appealing options, Ohio State's server retains some advantages:

1. It runs/initiates CGI programs faster

2. It can run CGI programs on any VMScluster node, while *FastTrack* runs them only on the node where *FastTrack* is running.

A Note on Directories...

If you want to use *FastTrack* to access existing web pages stored on the VMScluster, note that *FastTrack*, unlike Ohio State, looks for the "public_html" directory instead of the "www" directory. If you want to use a single directory for both, you can define an alias for the www directory by typing

```
$set file www.dir/enter=public_html.dir
```

While this appears to create two directories, there is really only one copy of each file, and a change to one copy will automatically be mirrored in the other.

Documentation

You'll find *FastTrack* documentation linked to both the Compaq and *Netscape* web sites, e.g.,

Compaq: See Compaq's OpenVMS Documentation page at **http://www.openvms.digital.com:8000/**

*Netscape***:** See the section titled "FastTrack for OpenVMS Documentation" at **http://web-vms.uoregon.edu**

Campus Departments: Use Virtual Hosts to Streamline UO Site Addresses

By Hans Kuhn
hak@darkwing.uoregon.edu

Since January 1999, UO colleges, institutes, centers, and organizations with web pages on DARKWING have been able to request a "virtual hostname" for their sites. This feature makes site addresses easier to remember.

For example, if the URL for your department's web page is currently something like

http://darkwing.uoregon.edu/~german

you can ask Computing Center systems staff to create a virtual host for this page with a less cumbersome address, such as **http://german.uoregon.edu**

Selecting a Virtual Hostname

There are four important points to keep in mind when requesting a virtual hostname for your web site:

1. Virtual hostnames must not be currently assigned to another computer or mailing list. To make sure the name you want is not currently being used by another computer, type **nslookup** followed by the host name you wish to have assigned, e.g.,

```
% nslookup german.uoregon.edu
```

If the name you entered is found, you won't be able to request it.

2. The name you pick must be descriptive. For example, the Computing Center would select **cc.uoregon.edu** or **computing.uoregon.edu** instead of **abacus.uoregon.edu** or another obscure reference.

3. Virtual hostnames are used only for web site URLs, not for email addresses or any other purpose.

4. Personal accounts can't have virtual hostnames. You must have a departmental account to host the web site. If you need a departmental account, please contact Connie French (*account@oregon.uoregon.edu).*

Questions? For more information about virtual hostnames, or to request one for your department's web site, please email *consult@darkwing.uoregon.edu*

Watch URL Syntax for DARKWING Web Pages!

Some day, certain virtual hosts (e.g., **www.uoregon.edu)** may be carved off from DARKWING proper and placed on a second machine. To prepare for this eventuality, it's important that you pay attention to your URL syntax.

If you're creating web pages under a public_html directory on DARKWING, be sure to use **darkwing.uoregon.edu** in your URL instead of a virtual host name such as **www.uoregon.edu** (e.g., use **http://***darkwing***.uoregon.edu/~joelja** instead of **http://***www***.uoregon.edu/~joelja**). This ensures that your address will always be accessible, regardless of what machine changes go on behind the scenes.

We will attempt to contact users whose web pages include URLs pointing at virtual hosts. If you have any questions about constructing your URL, please send email to our large system consultants at *consult@darkwing.uoregon.edu*

FALL WORKSHOPS

The Library and Computing Center are committed to making sure you have opportunities to build your technology skills. Toward that end, we provide a full range of computer and Internet training, from novice to advanced skill levels. These information technology ("ITC") workshops are free and open to currently enrolled students, as well as staff and faculty.

There is no registration; just show up a few minutes before the scheduled start. All seating is available on a first-come, first-served basis. You must meet the workshop prerequisites as stated in the description. If fewer than five people are present ten minutes after the scheduled start, the workshop may be canceled or rescheduled at the discretion of the instructor.

Requests for accommodations related to disability should be made to **346**-**1925** at least one week in advance of the workshop. For more information, contact the Office of Library Instruction, **346**-**1817** (email: *cbell@darkwing.uoregon.edu*).

Workshop	Day/Date	Time	Location	Presenter

This schedule is subject to change. See *http://libweb.uoregon.edu/it/* for course outlines/materials and the most current information.

Basic Computing and Software Skills

Endnote/Procite: **What Are These, and Why Should I Use Them?**
Learn how to use bibliographic software to help you organize and retrieve your citations, as well as format your footnotes and bibliography.

Workshop	Day/Date	Time	Location	Presenter
	Tue Nov 2	3:30 - 4:50pm	RSR	Brownmiller, Lenn
	Wed Nov 3	3:30 - 4:50pm	RSR	Brownmiller, Lenn

Introduction to SAS and Statistical Anaylsis ☆ - ✔ Prerequisites (basic knowledge of UNIX or VMS)

Workshop	Day/Date	Time	Location	Presenter
Part 1:	Thu Oct 14	2 - 3:50pm	EC	High
Part2:	Thu Oct 21	2 - 3:50pm	EC	High

Basic Internet Skills

Workshop	Day/Date	Time	Location	Presenter
Get Ready!	Thu Sep 30	3:30 - 4:50pm	EC	TBA
	Wed Oct 6	3:30 - 4:50pm	EC	TBA
	Mon Oct 11	7 - 8:30pm	EC	TBA
Introduction to the World Wide Web	Tue Oct 5	10 - 11:20am	EC	Galbraith
	Wed Oct 13	10 - 11:20am	EC	Chadwell
	Mon Oct 25	1 - 2:20pm	EC	Felsing

Beyond Just Surfing - ✔ Prerequisites (*Introduction to the World Wide Web* or familiarity with a graphical web browser)

Workshop	Day/Date	Time	Location	Presenter
	Tue Oct 12	1 - 2:20pm	EC	Heinzkill
	Wed Oct 20	10 - 11:20am	EC	Jenkins
	Mon Nov 1	1 - 2:20pm	EC	Ward

Power Web Searching - ✔ Prerequisites (*Beyond Just Surfing* or experience using at least two different search engines)

Workshop	Day/Date	Time	Location	Presenter
	Tue Oct 19	1 - 2:20pm	EC	Paynter
	Wed Oct 27	10 - 11:20am	EC	Sotak
	Mon Nov 8	1 - 2:20pm	EC	Stirling
**Web Searching with *Sherlock* (Macintosh*)*	Thu Oct 21	2 - 3:20pm	ITC	Heerema, Howell, Heinzkill

* WORKSHOP LOCATION CODES *

EC: Electronic Classroom (Windows)   144 Knight Library
ITC: Macintosh Classroom   267B Knight Library
RSR: Reed Seminar Room (Windows)   235 Knight Library
☆ **Requires an active account on** DARKWING **or** GLADSTONE

FALL WORKSHOPS

Workshop	Day/Date	Time	Location	Presenter
Communication & Research Topics				
Managing a Majordomo List (*http://darkwing.uoregon.edu/~llynch/majordomo/*)				
	Mon Oct 11	4 - 4:50pm	EC	Lynch
Net a Job: Use the Web - ✔ Prerequisites (*To register for this workshop, contact the UO Career Center at 346-3235*)				
	Wed Nov 17	3 - 4:20pm	EC	Songer
Using a *Blackboard CourseInfo* Course Web Site (*New!*) **- ✔ Prerequisites**				
	Thu Oct 7	1 - 1:50pm	EC	Johnson
Using *MHonArc* to Create a Web Archive for a Majordomo List (*http://darkwing.uoregon.edu/~consult/deptcomp/*)				
	Mon Oct 18	4 - 4:50pm	EC	Lynch
Basic Web Publishing Skills ✩ - ✔ Prerequisites				
Web Publishing I	Fri Oct 15	1 - 2:50pm	EC	Frantz, Galbraith
	Tue Nov 2	10 - 11:50pm	ITC	Bell, Benedicto
Web Publishing II	Fri Oct 22	1 - 2:50pm	EC	Johnson
	Tue Nov 9	10 - 11:50am	ITC	Bell, Benedicto
Web Publishing Beyond the Basics ✩ - ✔ Prerequisites				
Cascading Style Sheets (*http://darkwing.uoregon.edu/~jqj/inter-pub/css/*)				
	Wed Nov 17	2 - 3:50pm	RSR	Johnson
Designing Web Access for Users with Disabilities				
	Thu Nov 18	10 - 11:20am	EC	Bailey
Multimedia on Your Web Site (*New!*)	Mon Oct 25	10 - 10:50am	RSR	Holman
Web Design Principles and Practices (*http://libweb.uoregon.edu/it/design/*) **- ✔ Prerequisites**				
	Tue Nov 16	1 - 2:50pm	RSR	Bell
Web Graphics I (*http://darkwing.uoregon.edu/~holman/webgraphics1/*) **- ✔ Prerequisites**				
	Tue Oct 19	2 - 3:50pm	RSR	Holman
Web Graphics II (*http://darkwing.uoregon.edu/~holman/webgraphics2/*) **- ✔ Prerequisites**				
	Tue Oct 26	2 - 3:50pm	RSR	Holman
Web Programming I - ✔ Prerequisites	Fri Nov 12	2 - 3:50pm	RSR	Johnson
Web Programming II - ✔ Prerequisites	Fri Nov 19	2 - 3:50pm	RSR	Johnson

Workshops Available on Video

Looking for an alternative to the workshop format? The Computing Center Documents Room (Room 205) and Media Services on the ground floor of the Knight Library have a growing collection of videos on using computers and computer software. You can use your UO picture ID to check out these videos, or schedule a viewing room in Media Services. For a list of available titles and descriptions, visit ***http://micro.uoregon.edu/workshops/*** Call **346-4406** or **346-3091** for more information.

* WORKSHOP LOCATION CODES *

EC: Electronic Classroom (Windows)   144 Knight Library
ITC: Macintosh Classroom   267B Knight Library
RSR: Reed Seminar Room (Windows)   235 Knight Library
✩ **Requires an active account on** DARKWING **or** GLADSTONE

IP/TV Brings the World to Your Desktop

By Jon Miyake
miyake@darkwing.uoregon.edu

If you've been wanting to see broadcast-quality video programs on your computer screen, take a look at *IP/TV* multicast video technology at the UO. With *IP/TV*, networked users can watch satellite broadcasts, university classes, local and international events, or a variety of other programs from the convenience of their own desktops.

A comprehensive network video solution developed by Cisco Systems, *IP/TV* enables you to receive audio and video over the Internet using "multicasting"—an efficient method of transmitting audio and video to an unlimited audience over the Internet's Multicast Backbone (MBONE).

While available programming on the MBONE is somewhat limited, it continues to grow. Recent offerings include:
- NASA Shuttle broadcasts
- computer conferences/conventions
- national/international lectures, events
- I-Channel

Installing *IP/TV*

The *IP/TV* client is site-licensed to the University of Oregon and is available for use by current students, faculty, and staff. The software is available on the Fall 1999/2000 Duckware CD, and UO users can also download it from the public domain software library (**public.uoregon.edu**). For more information on IP/TV, including complete installation instructions, see **http://cc.uoregon.edu/iptv**

Have Material You'd Like to Broadcast?

Faculty interested in having content broadcast on the Internet , such as an academic event, taped lecture, or other educational material, should contact Academic User Services at **346-1758**.

For more information about UO multicast programming, see

http://darkwing.uoregon.edu/~netcast

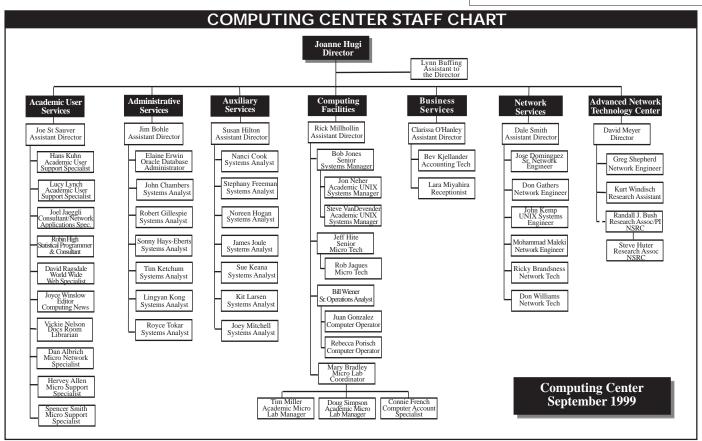# FITT Center Offers *CourseInfo*
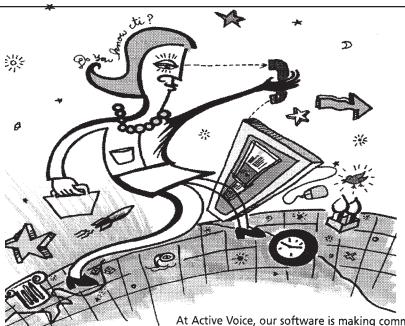
By JQ Johnson
jqj@darkwing.uoregon.edu

Want to create a course web site that includes handouts, online tests, class discussions, a gradebook, and online homework submission—*without* having to learn HTML, CGI, Java, or other complex tools? *Blackboard CourseInfo*, a new experimental service from the UO Library, may be just right for you. It's a web based "course management system" that allows faculty to add an online component to a course—or even host an entire course on the web—quickly and easily.

Visit the FITT Center in Media Services Room 18 on the ground floor of the Knight Library. FITT staff can demonstrate *CourseInfo* and help you create your own *CourseSite*. For a schedule of FITT Center hours, call **346-1942** or see **http://libweb.uoregon.edu/fittc/**

To arrange a training session for faculty/GTFs in your department, contact JQ Johnson (**346-1746**, *jqj@darkwing.uoregon.edu*).

COMPUTING CENTER STAFF CHART

Joanne Hugi — Director

Lynn Buffing — Assistant to the Director

Academic User Services
- Joe St Sauver — Assistant Director
- Hans Kuhn — Academic User Support Specialist
- Lucy Lynch — Academic User Support Specialist
- Joel Jaeggli — Consultant/Network Applications Spec.
- Robin High — Statistical Programmer & Consultant
- David Ragsdale — World Wide Web Specialist
- Joyce Winslow — Editor Computing News
- Vickie Nelson — Docs Room Librarian
- Dan Albrich — Micro Network Specialist
- Hervey Allen — Micro Support Specialist
- Spencer Smith — Micro Support Specialist

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- Elaine Erwin — Oracle Database Administrator
- John Chambers — Systems Analyst
- Robert Gillespie — Systems Analyst
- Sonny Hays-Eberts — Systems Analyst
- Tim Ketchum — Systems Analyst
- Lingyan Kong — Systems Analyst
- Royce Tokar — Systems Analyst

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- Nanci Cook — Systems Analyst
- Stephany Freeman — Systems Analyst
- Noreen Hogan — Systems Analyst
- James Joule — Systems Analyst
- Sue Keana — Systems Analyst
- Kit Larsen — Systems Analyst
- Joey Mitchell — Systems Analyst

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- Bob Jones — Senior Systems Manager
- Jon Neher — Academic UNIX Systems Manager
- Steve VanDevender — Academic UNIX Systems Manager
- Jeff Hite — Senior Micro Tech
- Rob Jaques — Micro Tech
- Bill Wiener — Sr. Operations Analyst
- Juan Gonzalez — Computer Operator
- Rebecca Porisch — Computer Operator
- Mary Bradley — Micro Lab Coordinator
  - Tim Miller — Academic Micro Lab Manager
  - Doug Simpson — Academic Micro Lab Manager
  - Connie French — Computer Account Specialist

Business Services
- Clarissa O'Hanley — Assistant Director
- Bev Kjellander — Accounting Tech
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Network Services
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- Jose Dominguez — Sr. Network Engineer
- Don Gathers — Network Engineer
- John Kemp — UNIX Systems Engineer
- Mohammad Maleki — Network Engineer
- Ricky Brandsness — Network Tech
- Don Williams — Network Tech

Advanced Network Technology Center
- David Meyer — Director
- Greg Shepherd — Network Engineer
- Kurt Windisch — Research Assistant
- Randall J. Bush — Research Assoc/PI NSRC
- Steve Huter — Research Assoc NSRC

Computing Center September 1999

COMPUTING CENTER GUIDE

Computing Center Web Site
http://cc.uoregon.edu/

Microcomputer Services
(Room 202)

- microcomputer technical support
- help with computing accounts, passwords
- scanning, CD-burning, digital video
- help with damaged disks, files
- system software help
- Internet connections, file transfers
- public domain software, virus protection
- software repair (carry-in only, $60/hr, $1^{1/2}$ hr. minimum)

346-4412
microhelp@oregon.uoregon.edu
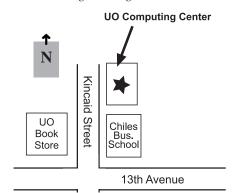*http://micro.uoregon.edu/*

Large systems consulting
(Rooms 233-239)

- VMS, UNIX (GLADSTONE, DARKWING, OREGON)
- statistics packages
- email

346-1758
consult@darkwing.uoregon.edu
consult@gladstone.uoregon.edu
consult@oregon.uoregon.edu

UO Computing Center

N

Kincaid Street

UO Book Store

Chiles Bus. School

13th Avenue

Documents Room Library
(Room 205)

346-4406
http://cc.uoregon.edu/~docsrm

Electronics Shop

For computer hardware repair, installation, and upgrade services, call **346-4403** or write *hardwarehelp@oregon.uoregon.edu*

Network Services

Provides central data communication and networking services to the UO community.

346-4395
nethelp@oregon.uoregon.edu
http://ns.uoregon.edu

Modem Numbers

Dialin modem numbers for UOnet, the campus network:

V.90:	**346-6520**
	346-3565
	346-5975

Computing Center Hours

Sunday	9 am - 8:30 pm
Monday - Friday	7:30 am - 8:30 pm
Saturday	9 am - 4:30 pm