University of Oregon

COMPUTING NEWS

WINTER 2001

The University's Research Park will soon be the home of the Eugene branch office of Cisco Systems, Inc., which provides advanced network solutions for today's global Internet. Cisco's new office space, located at 1600 Millrace Drive, is currently being remodeled and should be ready for occupancy sometime this spring.

IN THIS ISSUE...

UO Hosts Internet2 Days

Joyce Winslow
jwins@oregon.uoregon.edu

Last November, researchers, private industry representatives, and computer networking experts convened at the UO to discuss the future of high-speed networking in Oregon. The conference, "Internet2 Days," was coordinated by Lucy Lynch, an academic user support specialist at the UO Computing Center.

Conference participants shared insights on the positive potential of Internet2, the high-speed academic and research network that connects more than 180 American universities and interconnects with a growing number of counterpart international networks. Internet2 partners include government and industry representatives who are working together to ensure that advanced networking becomes a standard tool for research and education.

Computing Center Director Joanne Hugi (center), I2 Topology Working Group Chair Paul Love, and I2 Government and International Relations Director Heather Boyles take a break during the conference.

To meet this challenge, Internet2 members are exploring advanced network technologies for high-quality video and videoconferencing, developing virtual laboratories and digital libraries, and providing access to large-scale scientific resources ranging from supercomputers to telescopes—to name just a few applications.

Conference topics ranged from what Internet2 means for Oregon and how to make the most of regional opportunities for funding, to international collaboration and research. Presenters included distinguished academic and network professionals from the UO, OSU, the Oregon Graduate Institute of Science and Technology, and key Internet2 staff members.

Summaries of Internet2 Days presentations are available at **http://i2days.uoregon.edu/agenda.html**, and you may view conference videos at **http://i2days.uoregon.edu/video/**

For current information about Internet2 activities and projects, see **http://www.internet2.edu/**

ICANN Chooses New Top-Level Domains

After long deliberations, ICANN (the Internet Corporation for Assigned Names and Numbers) approved seven new top-level Internet domains last November. This is the first time new domains have been introduced since the mid-1990s, when **.com**, **.net**, and **.org** were added. Here are the new domains and their winning sponsors:

- **.biz**, by JVTeam, LLC
- **.info**, by Afilias, LLC
- **.name**, by Global Name Registry Ltd.
- **.pro**, by RegistryPro, Ltd.
- **.museum**, by the Museum Domain Management Association
- **.aero**, by Societi Internationale de Tilicommunications Aironautiques
- **.coop**, by the National Cooperative Business Association

To learn more about ICANN's top-level domain program, see **http://www.icann.org/tlds/**

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COMPUTING CENTER

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Contact:
Joyce Winslow
jwins@oregon.uoregon.edu

Web site:
http://cc.uoregon.edu/cnews/

Telephone: (541) 346-1724

Photography:
Dave Ragsdale

Departmental Apprentices Offer Hands-On Computer Support

If you have a computing problem that requires a house call, departmental apprentices may be able to help

Spencer Smith
Microcomputer Support Specialist
spencera@oregon.uoregon.edu

Computer support is a growing need at the University of Oregon. To help meet this need, the Computing Center's Microcomputer Services group provides phone support at **346-4412** and walk-in support at the Help Desk in Grayson 151.

But often this is not enough. Faculty, staff, and students frequently have problems that a phone call can't solve, so three years ago we created a departmental apprentice program that trains students to provide personal, hands-on support to individual departments.

The apprentice program focuses on desktop operating systems (e.g., Windows and MacOS), networking, and day-to-day operations. Student apprentices can help solve problems with email, network connectivity, operating systems, and other ongoing dilemmas that may require a more personal touch. The students also make recommendations on hardware and software for departments.

However, departmental apprentices are not meant to be system administrators or programmers, and they support only the faculty, staff, and students in their assigned area. Within those restrictions, they handle most all problems that come their way. It's this direct support and personal hands-on attention that makes the departmental apprentice program so useful.

In the three years of its existence, the program has already enjoyed a great deal of success. In addition to providing a much-needed service, the program prepares apprentices for real-world support positions.

Departments who host these students provide a desk and a phone so they can field calls and make appointments with the staff in need. Apprentices are currently serving Friendly Hall, PLC, Esslinger Hall and the surrounding area, the Moss Street buildings, and Geology and adjacent departments. They are paid through an Ed Tech allotment, so participating departments are not charged for their time.

Departments wishing to be considered for the student apprentice program may contact Spencer Smith (*spencera@oregon.uoregon.edu;* **346-1752**).

Students interested in becoming apprentices are encouraged to come to 151 Grayson Hall and fill out an application. A reasonably high level of knowledge in networking, Windows, MacOS, or related areas is required.

Latest Norton AntiVirus Packages Available for Windows and Macintosh

Symantec recently released "NAV 2001," the major update to its Norton AntiVirus packages for both Windows and Macintosh. The new version also extends the expiration date of your Live Update application for another year. (Note that NAV 2001 packages are not included on the Duckware 2000 CD, but if you don't choose to upgrade, you can still use the NAV 2000 versions on Duckware.)

UO faculty, students, and staff may download the updates directly from the Microcomputer Services AntiVirus web page at **http://micro.uoregon.edu/av/** and from our public domain servers (see "Reminder: Public Domain Access Changes Soon" on page 5). Or, they can check out original Symantec NAV 2001 CDs from the Computing Center Documents Room in 175 Grayson.

If you need help connecting to a public domain server, see the step-by-step instructions at **http://micro.uoregon.edu/pd/**

Get UO Computer Account and Password Info Fast

Visit these web pages for quick answers to your account and password questions

Microcomputer Services has created two web sites to help you find answers to common questions about UO computing accounts and passwords:

Accounts and passwords. For information about both account and password issues, including account quotas, expired passwords, and FAQs, visit **http://micro.uoregon.edu/account/**

Password changes only. If you just need to find out how to change your password and want a quick reference, go to **http://micro.uoregon.edu/change/**

Red Hat Linux a Popular Target for Crackers

Campus administrators are strongly advised to secure their machines as soon as possible

John Kemp
Senior Security Engineer
kemp@ns.uoregon.edu

Buffer overflows continue to be a popular method of gaining unauthorized access to machines on campus. Departments running machines that utilize the Linux operating system should pay particular attention to this problem.

Red Hat 6.2 Incidents. In the past, the most popular Linux targets have been Red Hat 6.2 machines running the BIND (name server) and WU-FTPD (ftp server) network daemons. There have been a number of cases where a machine on campus has been taken over by an attacker, and that machine has then been used for a DoS (Denial of Service) attack against other remote machines.

Red Hat 7 Incidents. More recently, Red Hat 7.0 machines have started to appear on campus. Two machines have already been compromised in a manner similar to the one described above; however, in these cases, the vulnerability exploited was the lpd (line printer daemon) in the LPRng package. The attackers then used the machines as stepping stones for breaking into other machines.

Improving Security

Campus administrators are strongly advised to secure their machines as soon as possible. In many cases the easiest way to do this is to turn unneeded services off. For many local users, BIND, WU-FTPd, and LPD are not critical resources, and it is better to turn them off if they are not needed.

If network server daemons are required, limiting the exposure of the services to just the uoregon.edu address range is a good idea. That can easily be accomplished by adding "ALL : ALL" to **/etc/hosts.deny** and "ALL : 128.223., .uoregon.edu" to **/etc/hosts.allow**. Although this doesn't protect all services, it is a good safety net for the services it does protect.

Another way to improve the security of a machine is by adding buffer overflow prevention. The simplest of these packages to install is the LibSafe package from Bell Labs. The package provides protection against a number of the most well-known vulnerabilities.

As always, security requires vigilance. Administrators are advised to make sure they have a good set of backups, and to keep up to date with the latest patches for their operating system.

Security Resources

Links to the Red Hat Security pages and the Libsafe page are listed below:

http://www.redhat.com/support/errata/rh62-errata-security.html

http://www.redhat.com/support/errata/rh7-errata-security.html

http://www.bell-labs.com/org/11356/libsafe.html

Don't Port Scan!

Jon Miyake
Acceptable Use Policy Officer
miyake@oregon.uoregon.edu

Unless you're authorized by the university, you should not port scan any machine you don't own. Port scanning is defined as connecting, or attempting to connect, to a series of ports on a computer (or set of computers) without prior authorization. Most system administrators consider it to be the prelude to an attack, and respond accordingly. This wastes time for system administrators and network security personnel, who must investigate and report the scan's origins and intent.

Furthermore, some computers / operating systems are not robust enough to withstand a standard port scan, and as a result, the system or services they provide will often lock up or crash when scanned. Such disruption of services may result in ongoing research being tainted or disrupted.

Unauthorized port scanning is also a serious offense under the 1999 Oregon Revised Statutes (see Computer Crime, Section 164.337):

> (4) Any person who knowingly and without authorization uses, accesses, or attempts to access any computer, computer system, computer network, or any computer software, program, documentation or data contained in such computer, computer system or computer network, commits computer crime.
>
> (5) (a) A violation of the provisions of subsection (2) or (3) of this section shall be a Class C felony. Except as provided in paragraph (b) of this subsection, a violation of the provisions of subsection (4) of this section shall be a Class A misdemeanor."

If you have any questions or concerns about port scanning, feel free to contact Jon Miyake, the Computing Center's Acceptable Use Policy Officer, at *miyake@oregon.uoregon.edu*

Reminder: Public Domain Access Changes Soon

Dan Albrich
dalbrich@oregon.uoregon.edu

Very soon, our public domain servers are moving to an "IP-only" environment. (IP, or Internet Protocol, is the standard method of computer communication used around the world. Examples of IP applications, among others, include Web, Email, Telnet/SSH, FTP, and News.)

In many cases, this change affects the method you use to connect to the Computing Center's public domain servers. Pertinent details for both Mac and Windows users are outlined below:

Macintosh Users

Mac users can connect to CC Public Domain by opening the Chooser, selecting the "AppleShare" icon and then the button "Server IP Address," and entering **ccpd** or the full TCP/IP name **ccpd.uoregon.edu**.

Mac OS 9 or higher: If you're running Mac OS 9 or higher, you can use the Network Browser found under the Apple menu to browse for CC Public Domain under the "uoregon.edu" group. When prompted for username and password, select the "Guest" radio button and then either "CC Public Domain" or "System Software" volume. Once the volume you select is mounted on your desktop, you may wish to use the "File" and "Make Alias" menus to create a shortcut for faster future access.

The URL for file and folder view is **afp://ccpd.uoregon.edu** For FTP access, it's **ftp://ccpd.uoregon.edu**. URLs can be entered into your web browsers "Address" or "Location" field.

Older Mac OS versions: If you are running an older version of Mac OS, you may not see the "Server IP Address" button described above. The preferred connection method is possible with Mac OS 7.6.1 and higher, but you'll want to see our web pages with steps and pictures to complete the software updates necessary. Please also feel free to contact us for further assistance (*microhelp@oregon*, **346-4412**).

Important Note Regarding MacTCP: Due to compatibility problems with MacTCP, Macs using MacTCP will cease to function on the UO network in the very near future (see related article on this page). This means you will need Mac OS 7.6.1 or higher. We recommend updating to any PowerMacintosh (including G3, G4, and iMac with system 8.1 or higher).

Windows Users

For many users, the connection method will remain identical to what it has been. The easiest method is to select the "Start" button followed by the "Run..." menu. Then type **\\public\software** and select the "OK" button.

If you use the Network Neighborhood, look for **Public** in the "Uoregon" group.

The URL for accessing public will remain **ftp://public.uoregon.edu** You can enter this URL into your web browser's "Address" or "Location" field.

Questions?

If you need more help connecting to a public domain server, see the step-by-step instructions and pictures at **http://micro.uoregon.edu/pd/**

If you have further questions, feel free to contact Dan Albrich at *dalbrich@oregon.uoregon.edu* or call the Help Desk at **346-4412**.

Still Running MacTCP? It's Time to Upgrade

Last year a large number of users with older Macintosh computers suddenly called Microcomputer Services to complain that their Internet connectivity had stopped working.

Upon further investigation, we found that older Macs running system software prior to 7.6, and using Apple's classic networking called "MacTCP," failed to connect to most Internet sites outside the UO. We later discovered that one of our upstream Internet providers had enabled a feature called "Type of Service," which causes problems for older Macs. Unfortunately, this feature is required for services like voice over IP (using the Internet to make phone calls) and for wide-area traffic shaping.

As time passes, few Internet providers will be able to accommodate older Macs, and Apple does not intend to update the older Macintosh system and networking software. The bottom line is that Mac users *must* upgrade to System 7.6 or higher to continue interruption-free access to the Internet through the UO—and in the long term, from *any* provider.

We recommend users with 24Mb or more memory upgrade to MacOS 8.1 or higher, and those with less than 24Mb upgrade to 7.6.1 or higher. You may check out the required update on CD-ROM from the Computing Center Documents Room (175 Grayson). This update is also available on the CC Public Domain server. (Note that the update is not available on floppy disks.)

To see earlier Computing Center notices about this problem, go to:

http://cc.uoregon.edu/cnews/spring2000/mactcp_unreliable.html
http://darkwing.uoregon.edu/~consult/deptcomp/2000/msg01513.html
http://darkwing.uoregon.edu/~consult/deptcomp/2000/msg00028.html

Virtual Private Network Services Being Developed for UO Dialup/Wireless Users

José Domínguez
Senior Network Engineer
jad@ns.uoregon.edu

As part of ongoing efforts to provide UO users with new, easy, and secure ways to connect to the university to use resources that are restricted to internal users, Network Services is working to deploy Virtual Private Network (VPN) services.

These services will be primarily used by students, faculty, and staff who connect to the Internet off campus and need to access the library's online catalogues, Britannica Online, and other resources limited to internal users.

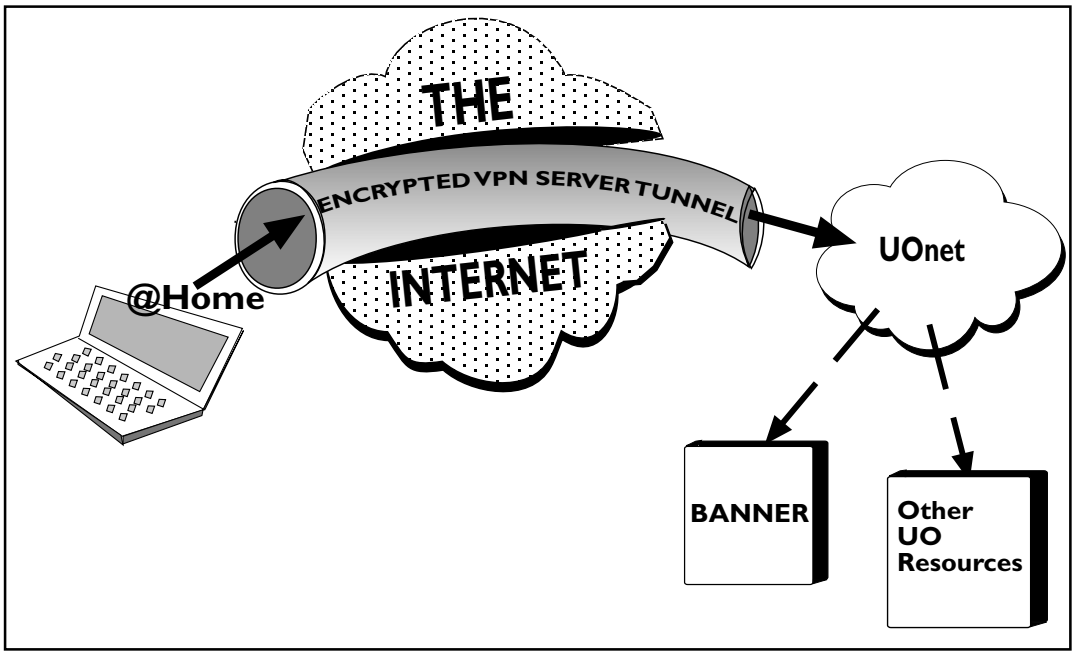


Illustration showing how your network traffic is routed from your off-campus site through a secure VPN tunnel to UO resources.

With a VPN, regardless of where and how you connect to the Internet, you can establish a connection to the UO network and make it appear to be a local UO internal connection. This connection can either be insecure (in the clear) or secure (encrypted). Obviously, if you are dealing with sensitive data, you'll want to use a secure VPN providing both authentication and encryption.

All VPN connections will be authenticated and secured using the standard IPSec architecture. Users will enter their current Darkwing, Gladstone, or Oregon account username and password for authentication, and the encryption will be either DES (56-bit) or 3DES (168-bit), depending on the degree of security desired.

Initial VPN services are expected to be available sometime in late February, with full deployment scheduled for spring term. Initial deployment will be available for Windows machines only, but Macintosh users will have access to VPN services at the time of full deployment. We're also investigating the possibility of supporting other operating systems and will keep you informed as more platforms are supported.

If you have questions about VPN services, email either *jad@ns.uoregon.edu* or *nethelp@ns.uoregon.edu*.

We've also created a mailing list to discuss this topic at *uo-vpn@ns.uoregon.edu* To subscribe, send email to *majordomo@ns.uoregon.edu* with **subscribe uo-vpn** in the message body.

Computing Center Phasing Out 9-track Tapes

Bill Wiener
wbw@oregon.uoregon.edu

Over the past few years there have been drastic changes in tape storage technology. The big 9-track tapes that were so common just a few years ago have become obsolete.

Most of these tapes have not been used in years and many are starting to deteriorate. As a result, the Computing Center has decided to phase out support and storage for 9-track tapes.

Anyone with 9-track tapes housed at the Computing Center should contact Operations (*operator@oregon.uoregon.edu*; **346-4382**).

Threat of Regional Power Shortages Increases Need for Local Uninterruptable Power Supplies

California's power crunch may negatively impact the Pacific Northwest

Joe St Sauver
joe@oregon.uoregon.edu

December 2000 has seen record low levels of power availability in the California power grid. The California Independent Systems Operator (**http://www.caiso.com**) issued Stage 1, Stage 2, and even Stage 3 emergency notices during December. (Stage 2 indicates operating reserves are expected to drop below 5%, while Stage 3 predicts they'll fall below 1.5%. Stage 3 Emergency Notices, in particular, should be viewed as extremely serious.)

Oregonians need to recognize that California's shortages are of more than academic interest. Due to the interconnected nature of the western power grid, California's problems may directly or indirectly impact power stability in the Pacific Northwest.

While the UO and Eugene hopefully will not experience protracted power outages as a result of problems elsewhere, it's not inconceivable that we could experience at least brief power disruptions.

Surge Protectors Not Enough

Most UO users routinely protect their systems from power surges (such as lightning strikes) by using power strips equipped with surge protectors. Unfortunately, surge protectors do not provide protection against power outages, and thus far, deployment of uninterruptable power supplies (UPS) around campus has been the exception rather than the rule.

Some central networking equipment and large shared systems such as Darkwing, Gladstone, and the OpenVMS cluster are all already protected by uninterruptable power supplies, but departmental servers and desktop systems may or may not have that sort of UPS coverage.

We urge departmental server administrators and users of particularly expensive (or mission-critical) desktop systems to review their operational requirements and determine whether a UPS is needed.

What If You Already Have a UPS?

If you already have UPS's in place, you may want to take this opportunity to confirm that your systems are performing as intended. Now would also be a good time to do the UPS maintenance you may have deferred, such as replacing older, marginal batteries.

Don't forget systems at home or in the field. You should also be sure to think about systems you may be running at home, or at field sites away from the University of Oregon. The need for UPS protection there will be as great or greater than on campus.

Some UPS Vendors

To learn more about where to buy UPS protection equipment, visit the vendor web sites listed below:

http://www.apc.com/
http://www.liebert.com/
http://www.minutemanups.com/
http://www.oneac.com/
http://www.opti-ups.com/
http://www.powervar.com/
http://www.tripplite.com/

OPEN Nominated for I2 SEGP Status

The Oregon Public Education Network (OPEN) may soon become the first American K-12 statewide network to be granted access to Internet2.

Continuing its effort to work with educational partners to make advanced networking capabilities more widely available, the University of Oregon, in conjunction with the Oregon Gigapop, has applied to Internet2 for "Sponsored Education Group Participant" (SEGP) status for OPEN.

Assuming SEGP status is granted, OPEN would join the University of Oregon, Oregon State University, Eastern Oregon University, the Oregon Institute of Technology, Southern Oregon University, and Western Oregon University in connecting to Internet2 via the Oregon Gigapop, which is located in Eugene and is operated by the University of Oregon.

For more information about Internet2, see the Internet2 web site at
http://www.internet2.edu/

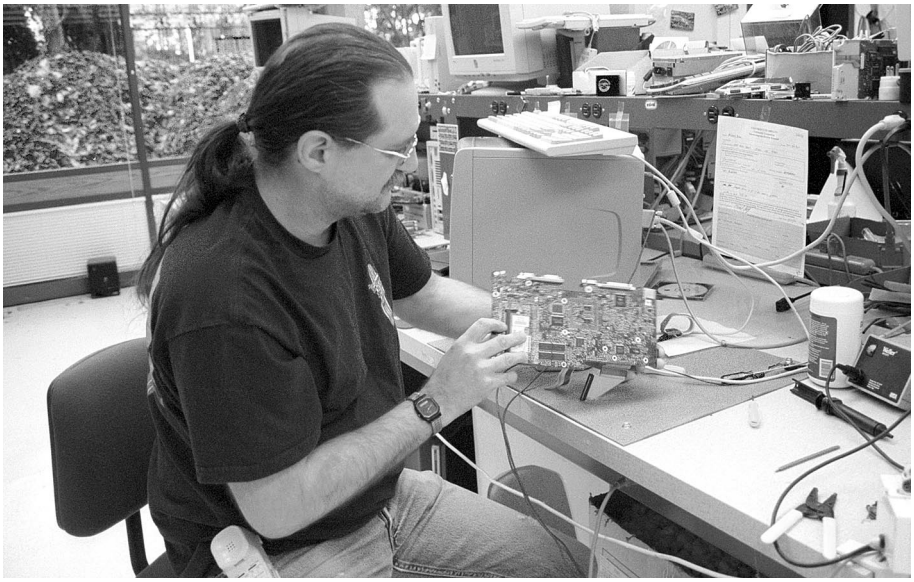
Advanced Video Conferencing Unit Available

The Computing Center recently acquired a Polycom Viewstation FX H.323 videoconferencing unit which will allow members of the UO community to participate in point-to-point video conferences over Internet2 and the commodity Internet.

Faculty and staff interested in reserving the viewstation for class use may send email to *joe@oregon.uoregon.edu*

Computing Center Electronics Shop Open for Business in Grayson Hall

Computer/peripherals on the blink? Need an upgrade? Take your hardware problems to the E-Shop!



Technician Rob Jaques examines a motherboard before replacing a power connector

Whether you're on campus or off, the Computing Center's Electronics Shop ("E-Shop") can help you with all your microcomputer hardware, maintenance, repair, and upgrade needs.

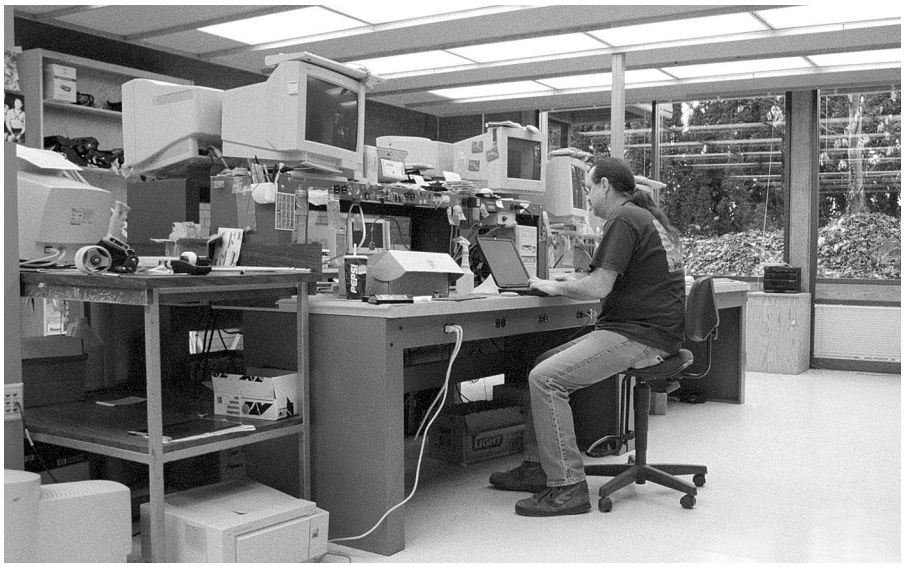
Recently relocated to more spacious quarters on the ground floor of Grayson Hall, the shop is open to serve you every weekday from 8 am to 5 pm. (UO Bookstore customers can also drop off equipment from 10 am until 6 pm Saturday, and from noon until 6 pm Sunday, at the Bookstore's Computer and Imaging Center.)

All shop services are available on a first-come, first-served, carry-in basis, and the reception desk is conveniently located near the loading dock and parking. Bring your computer equipment to 151 Grayson at the north end of the building and check it in with the receptionist. Customers are called when the work is completed.

Hardware Repair. E-Shop 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. The shop is a Level 1 Apple-authorized service center as well as a Dell-certified tier 1 Service Provider. Warranty services are provided for nearly all models of Macs and Tangent computers, and out-of warranty services are provided for all Windows/Intel machines, subject to part availability.

Shop technicians also have extensive experience repairing laser printers of all makes and models.

Upgrades. Whether you need more memory, a larger hard disk, or would like to add a new peripheral, shop technicians can help you determine the best and most cost-effective way to upgrade your machine.



A view of the new facility, which is conveniently located near the loading dock and parking

The shop prides itself on using only the highest quality parts available, and it keeps memory in stock for virtually all Macintosh and Windows/Intel-based desktop computers. A large selection of cables is also in stock. Other items can be ordered on request.

Rates. 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.

Who to contact. If you have any questions about e-shop services, send email to *hardwarehelp@oregon.uoregon.edu*, or call Jeff Hite or Rob Jaques at **346-3548**. Also see **http://cc.uoregon.edu/e_shop.html**

Need Two Operating Systems on Your Home/Office Desktop?

Dan Albrich
Microcomputer Network Specialist
dalbrich@oregon.uoregon.edu

If you're among those who'd like to be able to use more than one operating system on your desktop, read on. Microcomputer Services has done some research on possible solutions, and the results are described below.

Emulators

Suppose you use a Mac but also require access to a Windows PC. One frequently mentioned solution is to use an "emulator" to run Windows on your Macintosh.

Emulators may save you money and desktop space, but PCs have become so inexpensive that the savings are now almost negligible. You may also find that an emulator lacks a desired or required feature, or that it runs too slowly to be usable for your application.

Dualbooting

Advanced users sometimes "dualboot" multiple operating systems like Unix with Mac OS or Windows. But even advanced users often prefer two computers to a dualboot setup because of dualboot limitations (e.g., not being able to use the services of one while the other is in use, and having to take a relatively long time switching from one system to the other).

Electronic Switches

Another option to consider is an electronic switch that allows you to connect two or more computers to the same monitor, keyboard and mouse. If you plan to run two or more computers, there can be a cost savings both in terms of equipment and power usage. In addition, this type of setup may strike a good compromise in terms of space required and expanded capability.

If you have a really nice monitor on one computer and a smaller, less capable, monitor on the other, an electronic switch would allow both computers to use the nicer monitor. (One caveat: this solution is great for one person but not so great for two people who might need to use both computers at the same time!)

Electronic switches come in many packages and price ranges. A campus department with several servers might want an electronic switch with eight or more ports, but an individual will probably be looking at smaller two- or four-device switches.

USB Switches

USB switches tend to be the best choice when you have operating systems that support them. USB-enabled operating systems include:

- MacOS 8.1 and higher
- Windows 98
- Windows ME
- Windows 2000
- Linux

Note: Linux USB support is only present in the newer kernels and may not work "out of the box." Also, Windows 95, Windows NT, and some PC Unix systems cannot be used with a USB switch.

Advantages. Consider the advantages of using USB switches:

- The initial cost is low (less than $100 for the switch itself)
- Compatibility with Macintosh is high
- You can use a real Macintosh USB keyboard so you have all the keys like "Command"
- Some switches enable you to transparently share USB peripherals like scanners and printers, provided driver support exists on both computers

Our Test Results

Microcomputer Services staff tested the StarTech (**http://www.startech.com**) USB switch between Macs and PCs with good results. That switch costs about $80 and cable sets are about $12 each. We purchased the Apple Pro Keyboard ($60 at the UO Bookstore) and Microsoft Natural Keyboard (about $50 at the UO Bookstore).

Both keyboards work well on Windows and Macintosh, provided USB ports and correct OS version are present. We upgraded our older Pentium PCs and Macs with the Keyspan PCI to USB adapter at $40 each, and purchased logitech three-button USB mice for $30 each.

Total cost to upgrade to a USB switch, including the cost of new keyboard and mouse, was $190 for two systems. Adding additional systems is simply the cost of cables.

Older systems. If you have older operating systems like Windows 95/NT and MacOS older than 8.1, we don't recommend trying to mix those Macs and PCs. However, if you just want to share a keyboard and display across the *same* OS (all Mac, or all PC), you probably can. It may even be possible to mix in older systems, but this can become quite expensive, and in some cases compatibility will be limited.

While these solutions won't be for everyone, they can be really nice in some situations. For example, our use of this system for computer support allows us to quickly switch between PC and Macintosh when assisting users with problems on one type of system or another.

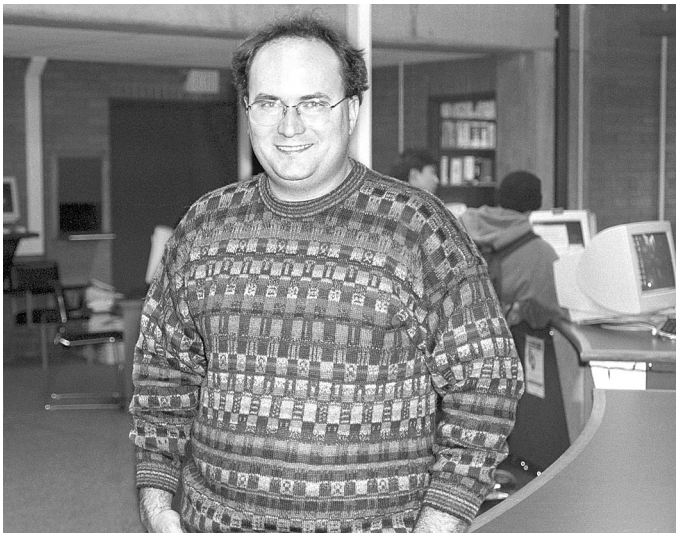
Questions?

If you have further questions about any of the setups discussed in this article, feel free to call Microcomputer Services at **346-4412**.

Who's Who at the

Meet some members of our staff

Joyce Winslow
jwins@oregon.uoregon.edu



Dan Albrich
Microcomputer Network Specialist
Academic User Services

The youngest of eight children growing up in Portland, Oregon, Dan was the only one in his family to enthusiastically pursue computer science. He got his first computer at age 12, began writing computer programs in high school, and has never looked back.

Dan transferred to the UO from Gonzaga University in 1990 and graduated with a B.S. in Computer Science in 1992. While still a student, he joined the Computing Center staff as an employee of Network Services and also as a consultant for the Microcomputer Purchase Program. After graduation, Dan became the main computer support person for the UO School of Architecture and Allied Arts.

When a Microcomputer Network Specialist job opened at the Computing Center in 1996, Dan applied and was hired. Gregarious Dan enjoys working with people, and his present job suits him perfectly. He and two colleagues work as a team to provide computer support for the entire campus—training Help Desk staff, producing and distributing the Duckware CD, and sharing information online via the Microcomputer Services web site (**http://micro.uoregon.edu)** and a departmental computing group mailing list. Dan also helps provide direct support to UO faculty and staff.

Dan's fascination with technology spills over after hours. He spends a lot of time playing with electronics at home and is an avid reader of technical journals. Last summer he and his fiancée Rebecca bought a house close to campus and home ownership now consumes much of his spare time, but when he can get away Dan likes to join his extended family for skiing and hiking trips. Dan also enjoys doing volunteer computing work, and he helped set up the office network for the Eugene Celebration last September.

Joey Mitchell
Auxiliary Systems Consultant
Administrative Services

Since moving to Eugene eight years ago, California native Joey Mitchell still occasionally feels sun-deprived. Joey was raised in Porterville, a small town 50 miles north of Bakersfield, and spent his college days and early work life in T-shirt weather.

Joey earned a B.S. in Math with a minor in computer science from Cal State San Bernardino in 1985. After graduation, he wrote top-level defense system programs for the US Air Force while working at the San Diego office of SAIC (Science Applications International Corporation).

Joey might still be there had his sister not introduced him to her college roommate, Robyn, an Oregon native who hails from Roseburg. Their long-distance relationship blossomed, and Joey proposed on Thanksgiving Day 1989. Three years later, Robyn got an enticing job offer from Emerald Junior Academy in Pleasant Hill. The newlyweds relocated to Eugene, and Joey joined the Computing Center's Auxiliary Services group as a systems analyst to help implement BANNER's Financial Information System (FIS).

Since 1996, Joey has been the primary support person for the BANNER Accounts Receivable system and has overseen the transition of many upgrades, rewriting the cashiering system to work with the new Graphical User Interface that was instituted last fall. He also provides primary support for the Student Loan System and helps support BANNER FIS.

Computing Center

Other on-the-job accomplishments include designing an automated service-request tracking system to fill requests from campus users, and an in-house system that tracks staff time and billing.

While still not quite reconciled to Oregon's wet weather, Joey has adapted and put down roots. He and Robyn have built a home here, and they are now parents of three-year-old Ryan. Young Ryan is already following in dad's footsteps and spends a lot of time on the computer, absorbing lessons from his Disney JumpStart CD.

On sunny days, Joey likes to take to the open road on his Yamaha 1100 motorcycle. He also enjoys landscaping his yard, and vies with neighbors to produce the greenest grass. Joey's other favorite activities include tending his coin collection, accumulating "Hard Rock Cafe" shirts on his travels, and spending time with his son.

Lynn Buffing
Assistant to the Director

Lynn Buffing brings her considerable talents as a designer and many years of administrative experience to her job at the Computing Center.

Lynn was always interested in art, but after a few years of undergraduate work at Vermont College and the University of Vermont, she was persuaded to pursue a more practical path to allow her to care for her ailing mother.

Subsequently, Lynn landed some interesting jobs as an executive secretary at NBC and Young & Rubicam in New York City. It was there she met and married an IBM programmer and marketing representative. When the marriage ended a few years later, Lynn retreated to Mystic, Connecticut, and her artistic roots. She supported her painting by working as a cook in "The Mischievous Carrot" restaurant and as a carpenter for a two-masted schooner. The carpentry stint led to romance with another artist, a sculptor with roots in the West, and it wasn't long before Lynn headed across the country and settled in Eugene.

When Lynn arrived in Eugene in 1979, she continued to eke out a living by designing children's puzzles and working for temporary agencies. But by 1983, Lynn was a single parent looking for more stable employment. Drawing on her earlier experience, she began working as a secretary in the UO Registrar's Office. In 1994, after working several years in succession as an administrative assistant for the Oregon University System and two UO administrative offices, Lynn joined the Computing Center as Assistant to the Director.

Lynn wears many hats at the Computing Center. In addition to providing administrative support to the director, she acts as human resources manager and is responsible for recruiting, hiring, and orientating new Computing Center employees. She also serves as payroll administrator, coordinates special projects, plans special events, and occasionally designs some of the Center's informational material. Most recently, she's been the Computing Center's point person for the Grayson Hall remodeling project, and she's currently lending her organizational talents to remodeling the Computing Center proper—a project slated to begin this year.

While working and raising her son, Lynn took advantage of educational opportunities at the UO, graduating Magna Cum Laude and earning a bachelor's degree in fine arts in 1988.

Although for many years art necessarily took a back seat to parenting, Lynn has recently enjoyed more freedom to paint. She's now in the process of converting her garage into a studio, where she plans to develop her sketches of Oregon scenes into finished watercolors and oils.

NeXTs Running NextStep Shouldn't Be Networked

If you're using a NeXT computer to connect to the campus network, please be aware that we don't recommend using NeXT cubes and slabs—unless you're running something other than NextStep (e.g., NetBSD's experimental release for Black NeXt hardware).

NeXT discontinued manufacturing hardware in 1993, and these machines are no longer supported or maintained by the manufacturer. Because software patches aren't available, they are also a network security risk.

If you have any questions about this policy, please contact Jon Miyake (*miyake@oregon.uoregon.edu*)

What to Look for When Selecting and

Some tips for choosing a DSL ISP provider in the Eugene/Springfield area

Joe St Sauver
joe@oregon.uoregon.edu

If you decide to get DSL service for your home, you'll need to select a provider from a long list of prospects. Qwest's (formerly US West's) list of MegaBit Qualified ISPs currently lists nine choices (besides Qwest itself) for Eugene customers (see **http://www.qwest.com/dsl/learn/isplist.html**).

We're the first to admit that any of the available choices will work just fine for most people. But there is really no perfect ISP, and you should be aware that choosing an ISP is almost always a matter of making trade-offs. For example, "ISP A" may have a wider range of services than "ISP B," but it may cost more.

With these caveats in mind, here are some of the things you may want to consider before making your final selection:

1. Cost

Not all DSL service providers charge the same amount per month, so it may be worth your time to do some comparison shopping before making your choice.

In some cases, pricing information may not be posted on the ISP's web pages, in which case you'll need to request a quote directly. Also be sure to ask about any one-time installation or setup charges that may apply.

2. Length of Contract and Billing Practices

Some ISPs will want you to enter into a long-term contract for DSL service. In general, unless you're *absolutely sure* you're going to be happy with a particular provider, or if the discounts are substantial enough to justify long commitments, month-to-month service will give you maximum flexibility.

Also, be sure to find out how you'll be billed. Will your bill be mailed, charged to your credit card, or… ?

3. Network Capacity

Given the potentially high bandwidth that DSL customers can consume, it's important to ensure that your provider has sufficient network capacity to accommodate that load.

The best way to assess the adequacy of an ISP's network capacity is to find and review its wide-area network bandwidth usage graphs. Graphs that show "flat topping" during periods of peak usage are a key indication that the ISP may need more network capacity. Unfortunately, many ISPs do not make that sort of graph publicly available, but it never hurts to ask.

4. Interconnectivity

Raw network capacity in and of itself is not sufficient, however. Your prospective ISP's network connectivity also needs to provide efficient routing so your traffic reaches its destination with a minimum of unnecessary detours. (If you're using a home DSL connection primarily to connect to the UO, you'd undoubtedly prefer not to have to wait while your network traffic—which is just going from somewhere in Eugene or Springfield to the UO—travels to Seattle or Denver or San Francisco just to get across town!)

To see how traffic flows from the UO to an ISP, you can use the **traceroute** command. To use this command from Darkwing or Gladstone, for instance, you'd type:

```
% traceroute www.someisp.com
```

where *www.someisp.com* is the name of an ISP provider's machine. Traceroutes which have a small number of hops and low latencies, or which traverse the Oregon Internet Exchange (look for **oregon-ix.net** in the traceroute output) are generally positive indications that your routing—at least to the UO—will be fairly direct. Note that the reverse path may (or may not) follow the same route.

5. Network Transparency

Some DSL ISPs attempt to reduce the amount of wide-area network capacity they need to purchase by interposing network cache boxes or web proxies between their users and the Internet.

When an ISP provides a web proxy or network cache box for optional use, that's fine—you can use it when you want to, and ignore it when you don't. However, problems can arise when *all* customer web traffic is forced to flow through an ISP's cache boxes. When that is done, unexpected behaviors can arise associated with the loss of network transparency. For example, see the discussion in RFC 2775 ("Network Transparency" by Brian Carpenter) at **http://www.rfc-editor.org/rfc/rfc2775.txt**

6. PPP (typically with NAT) vs. Bridging Mode

Related to the issue of mandatory web caching, some DSL providers require customers to connect via PPP, typically in conjunction with using Network Address Translation (NAT) rather than via bridging mode. For a nice discussion of NAT vs. bridging mode, see John Kemp's article on this topic in the Fall 1999 UO Computing News (**http://cc.uoregon.edu/cnews/fall1999/moredsl.html**).

For a discussion of some of the complications associated with NAT, see "Protocol Complications with the IP Network Address Translator (NAT)" available from **http://www.ietf.org/html.charters/nat-charter.html**

7. Email Service

Most ISPs offer one or more email accounts as part of their DSL service. When you're evaluating email service, you might want to ask yourself these questions:

Evaluating DSL Service Providers

- How many email accounts do I get with DSL service?

- How can I access those accounts (via POP? IMAP? a web email interface? via a shell account?) Can I get encrypted access to email (e.g., via ssh or ssl)?

- How do I change the password for my account? Must I change my password frequently?

- How much storage for messages will I have? Can I get more, if I want or need it?

- Does the ISP take steps to minimize unwanted commercial email like spam? (Spam can be a huge problem at some commercial ISPs.)

- Will I be allowed to create my own email filters using procmail or a comparable product?

- Does the ISP offer mailing list services via Majordomo or something comparable?

- Can I create a "vacation"-type autoresponder to automatically reply to messages I receive while I'm travelling?

- Will my email address be listed in an online directory? Can I be "unlisted" if I want to be?

8. Web Service

Some users may be interested in having web pages hosted by their DSL provider. If that's a factor for you, here are some things to consider:

- How many web accounts can I have, if any?

- How much web space will those accounts have?

- How do I put web pages onto my area (via ftp or …)?

- Can I run cgi-bins from my web area?

- Can I see the traffic logs for my web pages?

- Can I use **.htaccess** features (such as password protection or redirection)?

- Can I park a domain which I may own with my DSL provider? If so, will I be charged extra?

- Does my ISP offer a secure server with credit card processing and shopping cart services?

- Is there a limit on how much traffic I can transfer via my web pages?

9. Can I Run My *Own* Server? What about Availability and Cost of IP Addresses?

Some more advanced DSL users may want to run their own server via their DSL connection.

Some ISPs explicitly allow this, others explicitly forbid this, and others don't publicize their policy. If this is something you think you might want to do, either now or in the future, be sure to check your ISP's stance on this issue.

Also be sure to find out about the availability of IP addresses (beyond the first one that your ISP must provide), and ask if there's any fee for obtaining additional addresses for servers you may want to connect.

10. Availability of Advanced Services (such as IP Multicast)

Many of you may have become familiar with IP multicast video at the UO. Most ISPs still do not routinely offer IP multicast, so if it is important to you, be sure to ask if it's available. If you simply assume that it is, you're likely to be disappointed.

11. Dialup (DSL Backup and/or Roaming Service)

If your DSL service is ever down, or you're traveling, can you dial in to access your ISP's email or web pages over dialup modem? If so, from what area code(s)? And will there be charges for this sort of non-DSL access?

12. Security/Privacy

What about security and privacy? Does the ISP take steps to ensure that its systems are securely configured so as to resist attacks from hackers? For example, are unneeded services disabled? Does the ISP routinely apply all vendor recommended patches? Are crucial system files monitored to detect unauthorized changes via Tripwire or a comparable product?

And what about your privacy? Will the ISP treat your account information and usage information as confidential, or does it reserve the right to use your account information for marketing and other purposes?

13. Reliability/Outage Handling

Does the ISP's architecture contribute to reliable service? How often has the ISP been down in the last month? The last year?

Does the ISP strive to provide advance notice when required outage periods are known in advance? Does it communicate with its customers and explain what's been going on, or do things just mysteriously go down and come back up?

14. Customer Service

What happens when you have a problem? Can you reach someone knowledgeable who can resolve your problem? Are you satisfied with the way the ISP verifies your request for changes to your account? Does the ISP listen to your concerns or problems?

15. What's The Long Term Outlook For Your ISP?

Some ISPs seem to have been around forever, and show no signs of disappearing. Others may candidly admit they're positioning themselves to be bought out by a larger company, or may otherwise indicate that their future is uncertain. If you have a choice between a stable ISP and one that's going through changes, you're probably better off with the stable provider.

Look Carefully at Prepaid Cellular Phone Plans

Joe St Sauver
joe@oregon.uoregon.edu

Prepaid cellular phones are one of the most intriguing recent developments in wireless service. Prepaid wireless cellular service is currently being offered by ATT (**http://www.attws.com/personal/prepaid/epw_index.jsp**), TracFone (**http://www.tracfone.com**), and Verizon (**https://store.verizonwireless.com/oasys/pp_gstart_new.asp**), among others. (We're not aware of any prepaid cellular program offered by Qwest/USWest at this time.)

Prepaid cell phones are typically very attractively priced. They often cost less than $100 and are sometimes accompanied by deal "sweeteners," such as rebates, a starter phone card for some nominal amount of air time, or a variety of phone accessories.

Prepaid cellular phones, unlike their more conventional counterparts, do not require a commitment to a monthly service plan. Instead, users prepay for air time much as they might buy long-distance phone cards.

Prepaid cell phones are of substantial interest to users who might like to have a cellular phone for occasional use—for unexpected roadside emergencies, for example. But if you just want to have a cell phone as "insurance," it can be irritating to pay a conventional cellular telephone bill of $20 or $30 a month, month after month. For this type of user, prepaid cell phones may seem quite attractive.

What those users may not immediately understand is that the minutes they add to their phone "expire" if left unused after a period of time—a period that varies from six months to as little as 30 days, depending on the service. If you're planning to buy a prepaid cellular phone, activate it with a minimal number of minutes, and then store it in your car's glovebox until an emergency arises, you'd better also plan to replenish your minutes on a periodic basis—whether or not you actually use your phone.

Note: Some services allow you to roll over any unused old minutes, as long as you add *new* minutes before your old ones expire. Many services also *always* allow you to call 911, even if all your airtime minutes have expired.

In any event, if you're thinking of buying a prepaid cell phone, look carefully at the fine print. Because of airtime expiration policies, you may still end up paying the equivalent of a monthly fee, even if you never "use" the time you buy.

You should also be aware that per-minute charges for some prepaid cellular services can be astronomical, particularly if you purchase small denomination cellular airtime cards, or end up roaming. Most prepaid cellular providers also round off any fractional minutes of airtime used, which can further increase your effective cost, particularly for short calls running just a minute or two.

UO Joins Two Major Internet Measurement Projects

The University of Oregon recently joined two major Internet measurement projects that are analyzing Internet topology and performance. The first is a skitter project run by the Cooperative Association for Internet Data Analysis (CAIDA), and the other is a multicast project conducted by the National Laboratory for Applied Internet Research (NLANR).

CAIDA. CAIDA's project uses a skitter tool to measure IP paths, collect round-trip performance data, track persistent routing changes, and help visualize network connectivity.

The UO's skitter box is one of less than two dozen deployed worldwide and is one of only two university skitter boxes in the world (the other is at the University of Waikato in New Zealand). More information about skitter is available at **http://www.caida.org/tools/measurement/skitter/index.xml**

NLANR. The UO is also one of several dozen sites participating in the NLANR Multicast Beacon project (**http://dast.nlanr.net/Projects/Beacon/**), an active measurement project designed to provide selected IP multicast measurements for Internet sites such as loss, delay, jitter, out of order and duplicate multicast packets.

You can see the results for Oregon and elsewhere at **http://beaconserver.accessgrid.org:9999/**

Scanning Rates Rise

On January 1, the Computing Center increased scanning service rates by approximately 20% to offset rising operating costs. The last rate increase was in 1997.

Current charges for optical mark scanning are $0.12 per form for test scoring and ballots, $0.18 per form for course evaluations (includes forms, printing, and scanning), and $0.11 per form for 5- and 10-choice surveys. There is a minimum charge of $2.50 per job. Form setup or modification rates are $60/hour, with a half-hour minimum.

For more information about the rate increase or other scanning policies, call **346-1739** or email *scanning@oregon.uoregon.edu*

I2 Institutions Invited to Join SSM Beta Testing Project

Lucy Lynch
llynch@darkwing.uoregon.edu

An extension to IP (Internet Protocol) multicast called "Source Specific Multicast," or SSM, is now available for testing by Internet2 institutions with an interest in multicast or real-time video broadcasting over the Internet.

The new technology made its debut during the August 2000 Internet2 Joint Techs meeting in Toronto, where the first end-to-end SSM session was sourced across the Internet2 / Abilene network backbone.

The test session was the result of a collaborative effort by Greg Shepherd of Cisco Systems and the UO, Mark Fullmer (Ohio State University), Matt Davy (Indiana University) and UO Computing Center support specialist Hans Kuhn. It was repeated in the fall for the 37th RIPE (Réseaux IP Européens) meeting in Amsterdam, with a live presentation by Arjen Boers of Cisco Systems as part of the Multicast Routing Workshop (see **http://www.ripe.net/ripe/meetings/current/ripe-37/#multicast**).

SSM requires the host to learn about a specific source independently of the Multicast Routing Protocol used in the network. This is usually accomplished by posting the source / group information on a web page consisting of cgi script that starts a particular multicast application on the receiving host.

IGMPv3 is the standard protocol for setting up an SSM data path, but IGMPv3-lite and URD (URL Rendezvous Directory) are viable alternatives. Both IGMPv3-lite and URD enable a user to easily join a multicast group and receive content transmitted to that group, while providing the network administrator with enhanced capabilities to manage multicast streams. (Note that IGMPv3 requires modification of both the host operating system and the multicast application, whereas URD and IGMPv3-lite do not.)

Internet2 institutions interested in multicast or real-time video broadcasting are invited to join the SSM beta testing project. To participate, you'll need to install the current SSM-capable image on at least one router on your campus (to obtain the current image for your router, contact Greg Shepherd at *shep@cisco.com*).

Questions about receiver solutions (URD, IGMP-aware Linux patches) and sourcing SSM broadcast content should be directed to *multicast@lists.uoregon.edu* For more background information on SSM, see **http://darkwing.uoregon.edu/~llynch/ssm-decoder.html**

NSF Awards $2.9 Million for Web100 Research

The National Science Foundation recently gave a $2.9 million dollar boost to a project called "Web 100" that aims to help researchers attain real data transmission rates of 100 megabits per second at their desktops.

The three-year grant was awarded last fall to help researchers develop software that automatically "tunes" computer operating systems to fully exploit available network bandwidth.

Because of a bandwidth delay problem, most researchers currently attain only a fraction of the maximum performance that high-speed research networks are designed to provide. To address this problem, researchers at the Pittsburgh Supercomputing Center, the National Center for Atmospheric Research (NCAR), and the National Center for Supercomputing Applications have joined forces to craft a solution.

More information on the Web 100 Project is available at **http://www.web100.org**

UO Multicasts 49th IETF Conference

Last month, the UO sent Computing Center specialists Hans Kuhn, Joel Jaeggli, and Jon Miyake to San Diego to multicast the proceedings of the 49th Internet Engineering Task Force (IETF).

The broadcast, which was produced in collaboration with UC Santa Barbara and the University of Colorado, was done in both MPEG1 and H.261 format.

Try *OpenOffice*, Alternative Office Software for Windows

A new Office software package is now on the market. OpenOffice, a StarOffice spinoff launched by Sun Microsystems, enables you to open, edit, and create documents in Microsoft Office-compatible format—and it's completely free.

You can download OpenOffice from **http://www.openoffice.org** The product works with Windows, Linux, and Solaris, but not Macintosh. OpenOffice has a cleaner interface than StarOffice (available on the Duckware 2000 CD) and is a good alternative for students who need an inexpensive tool for producing term papers and reports.

WINTER 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 ("IT") workshops are free and open to currently enrolled students, as well as staff and faculty.

There is no registration; all seating is available on a first-come, first-served basis. You *must* meet the workshop prerequisites as stated in the description.

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**, *cbell@darkwing.uoregon.edu*, **http://libweb.uoregon.edu/instruct**).

Note: The skills taught in these workshops, whether taught in a Mac or Windows environment, are transferable across platforms.

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.
THE SPRING WORKSHOP SCHEDULE WILL BE AVAILABLE MARCH 15

Basic Computing and Software Skills ★ ✔ Prerequisites

EndNote and ProCite: What Are These, and Why Should I Use Them?				
	Tue Feb 6	3:30 - 4:50pm	EC	Brownmiller, Lenn
	Wed Feb 7	3:30 - 4:50pm	RSR	Brownmiller, Lenn
PowerPoint Basics	Tue Feb 6	2 - 3:50pm	ITC	Heerema
More PowerPoint - ✔*Prerequisites:* PowerPoint Basics or equivalent knowledge and skills				
	Tue Mar 6	2 - 3:50pm	ITC	Heerema, Johnson

Communication and Research Topics ★ ✔ Prerequisites

Net a Job: Use the Web! ✔*Prerequisite:* familiarity with a graphical web browser (e.g., Netscape or Internet Explorer)				
	Wed Mar 14	3 - 4:20pm	EC	Haynes
Managing a Majordomo List: Basics see ***http://darkwing.uoregon.edu/~llynch/majordomo/***				
	Tue Jan 16	3 - 3:50pm	EC	Lynch
Managing a Majordomo List: Advanced - ★✔*Prerequisite:* ownership of an existing Majordomo list. See ***http://darkwing.uoregon.edu/~llynch/majordomo/***				
	Tue Jan 16	4 - 4:50pm	EC	Lynch
Using MHonARc to Archive a Majordomo List - ★ ✔*Prerequisites:* ownership of an existing Majordomo list and an account on Darkwing. Workshop materials: see ***http://darkwing.uoregon.edu/~llynch/mdwks/*** (username: **lists** password: **letmein**) See a sample of MHonArc output at ***http://darkwing.uoregon.edu/~consult/deptcomp/***				
	Tue Jan 23	3 - 3:50pm	EC	Lynch

Web Publishing ★✔ Prerequisites

Web Publishing I - ★✔*Prerequisites:* Familiarity with a graphical web browser like Netscape or Internet Explorer and an account on Darkwing or Gladstone (not Oregon!); you must know your username and password				
	Fri Jan 12	9 - 10:50am	EC	Frantz, Nesselroad
	Mon Jan 22	3 - 4:50pm	EC	TDSmith

* WORKSHOP LOCATION CODES *

EC: Electronic Classroom (Windows)	16 PCs	144 Knight Library
ITC: Macintosh Classroom	20 Macs	267B Knight Library
RSR: Reed Seminar Room (Windows)	7 PCs	235 Knight Library
St A:		Studio A Knight Library

★ **Requires an active account on Darkwing or Gladstone**

WINTER WORKSHOPS

Workshop	Day/Date	Time	Location	Presenter
Web Publishing … continued	***★✔ Prerequisites***			
Web Publishing II - ★✔*Prerequisites:* Web Publishing I or equivalent knowledge and skills, and a web page you've created	Fri Jan 19	9 - 10:50am	EC	Benedicto
	Mon Jan 29	3 - 4:50pm	EC	TDSmith
Web Publishing III -★ ✔ *Prerequisites:* Web Publishing II or equivalent knowledge and skills	Fri Feb 2	9 - 10:50am	EC	Bell
Web Design Principles and Practices - ***http://darkwing.uoregon.edu/~cbell/design/*** ★✔*Prerequisites:* Web Publishing I & II or equivalent knowledge and skills)	Tue Feb 13	2 - 3:50pm	RSR	Bell
Cascading Style Sheets - ***http://darkwing.uoregon.edu/~jqj/inter-pub/css/*** ✔*Prerequisites:* Introduction to Dreamweaver, or equivalent knowledge and skills	Tue Feb 6	2 - 3:50pm	RSR	Johnson
Introduction to Javascript - ***http://darkwing.uoregon.edu/~jqj/inter-pub/js/*** ✔*Prerequisite:* Web Publishing III or equivalent knowledge and skills; some knowledge of computer programming is desirable	Tue Feb 20	2 - 3:50pm	RSR	Johnson
Digital Media				
Shooting Great Digital Images	Wed Feb 14	2 - 3:50pm	St A	Kirkpatrick
Introduction to Photoshop - ✔*Prerequisite:* Shooting Great Digital Images recommended	Wed Feb 21	1:30 - 2:50pm	ITC	Kim
Introduction to Digital Video ***http://www.apple.com/education/dv*** **-** ✔*Prerequisite:* Shooting Great Digital Images recommended	Tue Feb 20	2 - 3:50pm	ITC	Heerema, Howell

Workshops Available on Video

Looking for an alternative to the workshop format? The Computing Center Documents Room (175 Grayson Hall) has a growing collection of videos on using computers and computer software. You can use your UO picture ID to check out these videos. For a list of available titles and descriptions, visit ***http://darkwing.uoregon.edu/~docsrm/video.html*** Call **346-4406** for more information.

New CDs in Computing Center Documents Room

The following CDs are now available for checkout in the Computing Center Documents Room (175 Grayson Hall):

- OpenOffice6 for Windows/Linux
- Debian 2.2 (set of three CDs)
- FreeBSD 4.1.1
- Red Hat 7.0
- Mandrake 7.2
- Red Hat 7.0 Powertools

*** WORKSHOP LOCATION CODES ***

EC: Electronic Classroom (Windows)	16 PCs	144 Knight Library
ITC: Macintosh Classroom	20 Macs	267B Knight Library
RSR: Reed Seminar Room (Windows)	7 PCs	235 Knight Library
St A:		Studio A Knight Library

★ **Requires an active account on Darkwing or Gladstone**

The Importance of Documentation

Keeping track of each step as you go saves you time—and grief—in the long run

Robin High
Statisical Consultant
robinh@darkwing.uoregon.edu

This article is designed to motivate you to develop disciplined habits of careful data analysis, and walks you through some essential preparatory steps:

1. Clearly understand and write down your data analysis objectives

A statistical analysis plan should clearly state your objectives and list the most important tasks. Beyond these essential steps, this plan should also provide you with a detailed description of exactly what you want to do and why.

Write out the details on paper with plenty of visual aids showing what results could look like. Create mock versions of tables or graphs you would eventually include in your final report. From that point, the data you will collect, as well as appropriate analysis procedures, will become much more obvious.

Here are a few of the many basic questions to ask yourself to help you with this step:

a. Will you be working with categorical (nominal or ordinal) or continuous (interval or ratio) data, or some combination of both?

b. Will you need to create scales or perform computations with existing data? If so, what formulas will you use? Do they already exist or will you need time to include this step as part of your research?

c. Will data transformations be of value? How will you decide and what will be their interpretation?

d. How will you handle missing data? What will be the criteria for judging a data value to be an outlier?

e. Given you have stated answers to *a* through *d*, what data analysis techniques will you apply? You may discover a need to learn how to use, or better understand, some new or more advanced techniques. Perhaps logistic regression would be more appropriate than linear regression. Or, there may be a repeated measures or multivariate structure with your data for which the usual assumptions of independence will be violated if you apply a standard technique.

As you proceed, continuing to spend time in this disciplined effort will make your future data analysis needs much clearer. Keep written notes and tables with you and look at them frequently. A single glance at your handwritten notes a few months (or even weeks) from now can bring back a flood of valuable memories.

2. Document!

Writing summary results of what you do is just as important as the final written document, and it's an easy and natural task if you do it as you proceed. As you work on a project, budget enough time to successfully plan, execute, and document your analysis tasks as you go. If you don't, you'll very likely find yourself rushing the job, making unnecessary mistakes, and having to redo your work—spending much more time in the long run.

What seems intuitively obvious in the data analysis plan you are currently writing may be only remotely familiar several weeks from now. For example, exactly why did you apply a procedure to calculate the means and variances? How did you define outliers and what did you do with them?

One rule-of-thumb to consider is to include at least one short paragraph of written documentation for each data analysis task. While this exercise will increase the amount of written material you need to manage, it ensures you'll have a clearer picture of what you did and why when you revisit summary files later on.

A single glance at your handwritten notes a few months (or even weeks) from now can bring back a flood of valuable memories

3. Archiving: Use your program files and save your documents

Almost all data analysis tasks can be written into a program file that serves as written documentation of what you did. Within the data analysis program, make liberal use of comments to describe what each step does and include TITLE statements that will print a brief description of the analysis and a date on your printed output. This simple task will save time trying to guess the type of analysis and its creation date down the road.

Set up a retrieval system to keep your program files and output organized. The name you assign to programs should give a brief description of what the program does. Folders or subdirectories on the computer system you use are a very valuable aid to organizing numerous types of data files.

It shouldn't matter whether you use paper copies or electronic files (safely backed up, of course), but your retrieval system must be structured to allow you easy access to your programs and data files, as well as quick orientation to the purpose of the analysis as it was carried out.

in Data Analysis

4. Use a sequence of data management and procedural steps

When writing a statistical program, structure it with two tasks in mind: those that perform data management and those that perform the data analyses, so that both steps fall within a logical sequence where the output of one step is passed on for use in the next.

Data management steps involve reading data from external files, merging separate files together, making transformations or recodings, or creating new variables with formulas. Original data files should be left unchanged; let the program itself calculate new variables for you (such as sums or averages) rather than store the original and computed values in the external data file.

Procedural steps perform the actual data analyses (for example, summary statistics for a collection of variables, performing analysis of variance, plotting residuals to check assumptions, and so forth). The program itself should consist of combinations of these steps structured in a meaningful way.

In general, think of data analysis processing in a step-by-step manner, where each step can't take place until required information is passed to it from a previous step.

The SAS Advantage

You should never rely on your own memory for steps taken in data analysis. You may remember small facts of a program you ran yesterday, but how clearly will you recall the steps you took two months—or even two weeks—from now?

If you had the printed document in front of you and someone asked you to do it again with a minor change, could you still reconstruct the steps it took to reach your conclusions? For example, do you remember all the data items used to compute scales, or how the derived variables were coded (e.g., age < 60 or age <= 60)?

Perhaps you haven't realized it, but one of the main goals of this article is to highlight a major advantage of using SAS: SAS allows you to document exactly what you do *within* the program itself. While this may also be true of other data analysis software, some of them have taken an 'easy-to-use' approach that makes it all too tempting to sit down and try out an analysis already planned "in your head" simply by clicking a button. The problem is that not documenting your work as you proceed invites frustration—or even disaster—when trying to explain or reproduce results later.

A SAS program can be written that essentially describes everything in great detail from start to finish, and all the steps in the process will read very much like your data analysis plan. There is no doubt what you did, and with inserted comments, the reasons will be clear when you need to review it or modify it later. Another advantage is that you can easily modify these descriptions for use with a similar analysis of new data.

Useful URLs...

Here's a list of URLs you may want to investigate the next time you're browsing the web:

Google's handy web directory. Find everything from health and consumer information to arts, sports, and science resources at home and abroad at
http://directory.google.com

Get some perspective on the way the Internet is changing our world. See the U.S. Department of Commerce report on Internet subscribership in the U.S. at
http://www.lightreading.com/document.asp?doc_id=2486

Learn more about how federal computing law deals with cyber-crimes. Those who'd like to dive into this subject in detail will want to read the full text of the Santa Clara Computer and High Technology Law Journal's May 2000 issue, "Cyber-Crimes: a Practical Approach to the Application of Federal Computer Crime Laws" by Eric J. Sinrod and William P. Reilly.
http://www.sinrodlaw.com/CyberCrime.pdf

Learn more about PC SAS. If you're looking for a good introduction to PC SAS, this online tutorial ("Getting Started with SAS Software") is for you. A good companion to the SAS 8 software available for checkout from the CC Documents Room in 175 Grayson Hall.
http://www.sas.com/software/tutorialsv8/base/main_spl.htm

UO network security info. Keep abreast of new security applications and find out who to contact about a variety of network security issues.
http://security.uoregon.edu

Get security tips for Linux on the UO network. If you run a Linux box on the UO network, be sure to see
http://ns.uoregon.edu/security/linux.html

iBEAM Teams with Oregon-IX to Deliver Streaming Media

Oregon's students, faculty, and staff benefit from expanded Internet services

Last month, iBEAM Broadcasting Corporation announced an agreement to deploy its streaming media equipment and related services in network facilities housed at the University of Oregon.

Per the agreement, iBEAM will install its MaxCaster™ media serving systems at the Oregon Internet Exchange (Oregon-IX), which implements an efficient, cost-effective Internet traffic solution for diverse providers throughout the state.

One of the immediate benefits of this development is that public school students will have improved Internet access through the Oregon Public Network (OPEN), which serves virtually all of Oregon's K-12 schools. Other beneficiaries include students, faculty, and staff at the UO, OSU, and PSU, as well as over 30,000 state agency employees.

iBEAM's distribution network is connected by satellite and augmented with fiber-optic cable. This delivery strategy avoids network traffic snarls while minimizing streaming media costs.

To learn more about iBEAM, whose clients include such entertainment and enterprise leaders as Sony Music Entertainment and Launch.com, go to **http://www.ibeam.com**

Information about the Oregon Internet Exchange is available at **http://www.oregon-ix.net/**

Canoga Perkins Now Offers Gigabit Fiber Converters

Canoga Perkins is now offering Gigabit speed versions of its transponders.

These Canoga L602 series transponders can be used either by themselves or mounted in Canoga's 1U and 5U Chassis, and are available for $2500 or less.

For more information, contact Sy Beck, Canoga Perkins' regional sales manager, at 408-980-9656 (fax: 408-980-0574).

Visit Canoga Perkins online at **http://www.canoga.com/**

Are You Sure You're Covered?

Be aware that your wireless Internet cellular phone may not work everywhere you go

Joe St Sauver
joe@oregon.uoregon.edu

If you travel frequently and plan to take along a WAP-enabled wireless Internet cellular phone, it's important to check the coverage area where those phones will work. Data service areas will *not* necessarily be the same as voice cellular service areas.

If you have a state cell phone with ATT PocketNet™ service, you will want to check the coverage maps at

http://mirror.attws.com/images/maps/oregon_ip.gif (Oregon)

and

http://mirror.attws.com/images/maps/national_ip.gif (national)

What you learn may surprise you.

For example, if you travel to Corvallis, you won't be able to access the wireless Internet from your ATT PocketNet™ phone—our friends at Oregon State and the other good citizens of Corvallis don't have PocketNet coverage. Likewise, while PocketNet coverage apparently exists in some smaller Oregon cities such as Medford and Florence, there's no coverage in Bend.

Nationally, you might be surprised to find that PocketNet™ service is *not* available in Atlanta or New Orleans, nor, according to the PocketNet™ coverage map, is service available anywhere in Wisconsin, Montana, North or South Dakota, Nebraska, Oklahoma, Arkansas, Alabama or or Mississippi.

If you don't travel to those states, or if you don't need access to the wireless Internet when you do, that's fine. However, if your travel includes one or more of those areas and you expect to use your PocketNet™ service while you're there, you'd better reconsider those plans. Your phone may work fine for voice calls wherever you happen to go, but its wireless Internet coverage is less assured.

UO Faculty, Staff Eligible for NWACC Technology Grants

Project proposals due by March 15

UO faculty and staff are eligible to apply for two awards offered by the Northwest Academic Computing Consortium (NWACC), which comprises 34 colleges, universities, and other nonprofit and for-profit organizations in six Northwestern states.

This year's two-grant program, in accordance with NWACC's primary goal, is aimed at promoting awareness of innovative technologies at member institutions. A total of $250,000 is available for awards in two categories: "Technology Collaboration" and "Proof of Concept."

Technology Collaboration. This program provides up to three grants of $50,000 each for projects that promote team-based approaches to developing and using information technology for instruction and research.

Collaborative projects must be coordinated by an NWACC member institution and partners may include other NWACC members, K-12 schools, libraries, museums, for-profit corporations, or government agencies. (If parties other than NWACC members are included in the collaboration, the proposed project must directly benefit NWACC members.)

Proof of Concept. This program is intended to stimulate new curricular uses of advanced information technologies—including voice recognition software, multicast video, wireless voice and data, GIS software, and so on—through demonstration projects.

Up to ten grants of $10,000 each will be awarded. Grant funds may be used to purchase hardware or software, provide access to networked resources or communications links, develop new software or modify existing software, provide faculty stipends, and the like.

Submission Procedure

Before submitting your proposal, you'll first need to contact your NWACC representative to obtain an *eligibility code*. The UO's contact is Joanne Hugi (see contact information below). A full list of institutional representatives is available at

http://www.nwacc.org/members/individuals.html

Once you have your eligibility code, you can submit your proposal via the appropriate web application forms at

http://www.nwacc.org/grants/forms/technology.html

or

http://www.nwacc.org/grants/forms/proof_of_concept.html

Deadline. Project proposals must be received on March 15, 2001, by 5 pm Pacific Time.

UO Contact Information. If you wish to obtain an eligibility code or have questions regarding either of these grant programs, contact Joanne Hugi, Chair of the Grants Committee (**541-346-1702**, *hugi@oregon.uoregon.edu).*

More details about these awards, including grant guidelines and selection criteria, is available at

http://www.nwacc.org/grants/

UCITA and You…

The Uniform Computer Information Transactions Act (UCITA) is a "contract law statute that would apply to computer software, multimedia products, computer data and databases, online information and other such products." (**http://www.cpsr.org/program/UCITA/ucita-fact.html**)

While this statute is strongly supported by the Software and Information Industry Association, the Business Software Alliance and some other industry groups, it has shortcomings which have led 26 state attorneys general to oppose it, as has the Federal Trade Commission, the Association for Computing Machinery, the Free Software Foundation, Consumers Union, the IEEE, the Association of Research Libraries and many others.

We urge you to review the facts about UCITA, since it has the potential to dramatically impact your rights when it comes to software contracts and access to online information. For useful background information, see:

Computer Professionals for Social Responsibility UCITA Fact Sheet
http://www.cpsr.org/program/UCITA/ucita-fact.html

The text of the Act itself
http://www.law.upenn.edu/bll/ulc/ucita/ucita200.htm

Comments on the Act
http://www.law.upenn.edu/bll/ulc/ucita/ucitacom300.htm

Approved amendments relating to the Act
http://www.law.upenn.edu/bll/ulc/ucita/approveamend.htm

Uniform Computer Information Transactions Act Consumer Advocates' Site
http://www.consumerlaw.org/ucita/index.html

ALA UCITA: State Copyright Law Intersects Federal Copyright Law
http://www.ala.org/washoff/ucita.html

Security Flaw Persists in Some Non-UO Webmail Systems

Joyce Winslow
jwins@oregon.uoregon.edu

If you use a commercial webmail product, be aware that a serious security flaw has been discovered in a popular web-based email service offered by some commercial providers. While the flaw was first reported last summer and the vendor has issued assurances that it is working on a fix, the problem remains as we go to press.

The bug makes users vulnerable to having their email accounts hijacked by a malicious user, who then can read or delete the victim's mail, or send mail undetected from the victim's account. The problem potentially affects over 22 million people, including those who use webmail products from some of the leading service providers.

The bug takes advantage of a well-known browser vulnerability to steal a "session cookie" from a webmail user (for more information on cookies, see "How to Avoid Being Profiled by Online Advertisers" on page 23). Once in possession of the cookie, a perpetrator can easily take over the user's email account.

Unfortunately, users cannot defend themselves against attack by simply changing their passwords. Once an email account has been usurped, it cannot be reclaimed.

To read Brian McWilliams's original article on this problem, go to **http://www.internetnews.com/wd-news/article/0,,10_444201,00.html**

Check Out These Secure Email Options for Your Friends and Family

If you have a UO computing account, you already have secure webmail options available to you (see **http://email.uoregon.edu**), but unfortunately non-UO users don't have this advantage.

Fortunately, there are several free email sites outside the UO that do offer SSL security for webmail:

HushMail.com (**http://www.hushmail.com**)
Lokmail (**http://lokmail.net/**)
Ziplip (**http://www.ziplip.com**)

You can find other providers of encrypted email service by going to Yahoo and searching for "encrypted email."

If your friends and family prefer sending and receiving email via the web, they might be interested in knowing about these sites, which are similar to Hotmail or Yahoo mail but are enhanced with SSL encryption.

SOEN in Transition

Oregon's Department of Administrative Services is currently preparing to reissue its telecommunications RFP

The State of Oregon Enterprise Network, or SOEN, has gone back to the drawing board with its Request for Proposal (RFP) to Oregon telecommunications providers. The new RFP is expected to be released later this month.

The current Fastpacket network contract officially expired last November, although it may still be extended for another year.

The SOEN project, which operates under the aegis of Oregon's Department of Administrative Services (DAS), is charged with providing network connectivity for state agencies throughout Oregon (see **http://enterprise.das.state.or.us**)

Higher education institutions (including the University of Oregon) as well as K-12 schools, public libraries, hospitals, and local governments, where desirable, may eventually buy telecommunications services from this state contract.

Don Mazziotti Retires

Don Mazziotti, Chief Information Officer for the State Department of Administrative Services Information Resources Management Division (IRMD), recently announced his retirement. He is succeeded by Ann Terry, who took office December 1.

How to Avoid Being Profiled by Online Advertisers

Joyce Winslow
jwins@oregon.uoregon.edu

Like it or not, you're being tracked and targeted by advertisers whenever you travel the World Wide Web.

How? Advertisers utilize "cookies," small text files recorded in your hard drive that collect data such as the IP address of your machine, your operating system, the browser you're using, and other information. These data allow advertisers to "remember" you and the sites you visit, targeting you for advertising tailored to your interests.

If you're not happy with the thought of making your user profile available to advertisers, you do have some alternatives:

- you can disable cookies altogether
- you can use a proxy server
- you can use "cookie eating" software

Disabling Cookies. To disable cookies, open your browser's "Preferences" section (usually located in the "Edit" menu) and find the section pertaining to cookies. Then check the option that disables them. In Internet Explorer 4.5, "Cookies" are found under "Receiving files." In Netscape 4.7, select "Advanced" to see the Cookies menu.

Note: *Be aware that some web sites (including* ***DuckWeb*** *and many shopping sites) will not allow you to access them if you have disabled cookies.*

If you don't want to refuse *all* cookies, IE 4.5 allows you to choose the option "Ask for each cookie." This notifies you when each cookie arrives, and you can decide at that time whether you want to accept or reject it. The disadvantage of this method is that you may have to reject scores of cookies from any given site each time you try to open a new page.

Proxy Servers. While cookies are not entirely foiled by using a proxy server, using a proxy does accelerate access to frequently used web pages and also speeds web browsing.

If you'd like to use a proxy server, open your browser's Preferences menu and go to the section that allows you to enter a proxy server setting (look under "Network" in IE 4.5 and open "Advanced —>Proxies" in Netscape 4.7). In the HTTP field, type **proxy.uoregon.edu**; in the "port" field, enter **3128**. For more information on the UO's proxy server and detailed instructions for browser settings, see **http://proxy.uoregon.edu/**

Cookie-eating utilities. If you prefer to use cookie-eating software to do the job for you, there are a number of utilities to choose from. One of the leading contenders is Kookaburra Software's "Cookie Pal" (**http://www.kburra.com**). This software is currently available for a 30-day free trial period.

Similar products are Cookie Crusher (see PC World's review at **http://www.pcworld.com/fileworld/file_description/0,1458,3057,00.htm**) and IDcide Privacy Companion (**http://www.pcworld.com/downloads/file_description.asp?fid=7588**).

AdSubtract is yet another utility that blocks cookies, as well as the advertisements that clutter your screen and slow your surfing. You can download a stripped-down version of AdSubtract for free from the company's web site (**http://www.adsubtract.com**).

For more information on opting out of cookie-tracking by some of the biggest online profiling firms, see:

AdForce -
http://www.adforce.com/company/privacy/optoutoption.asp

DoubleClick-
http://www.doubleclick.net/us/corporate/privacy/opt-out.asp?asp_object_1=&

Engage -
http://www.engage.com/privacy/optout_privacy.cfm

E-preferences -
http://delivere.preferences.com/OptOut/

You might also want to check out the Center for Democracy and Technology's "opt-out online" section at **http://opt-out.cdt.org/online**

Concerned about Carnivore?

Learn more about the FBI's Internet surveillance tool

If you're concerned about preserving your privacy, you'll probably want to learn more about "Carnivore," the FBI's Internet surveillance tool.

While Carnivore has sweeping capabilities, including the power to monitor large quantities of email and web communications, its use by federal agencies is restricted by law. Last October, a lawsuit filed by the Electronic Privacy Information Center (EPIC) forced the release of 565 pages from government files on Carnivore. EPIC is continuing to pursue a more complete disclosure of relevant information, both legal and technical.

More details about the case are available at **http://www.epic.org/privacy/carnivore,** and a recent video update is online at **http://videolab.uoregon.edu/nanog/carnivore/** If you're interested in reading the full text of the Carnivore documents released under the Freedom of Information Act, see **http://www.epic.org/privacy/carnivore/foia_documents.html**

COMPUTING CENTER GUIDE

UO Web Site
http://www.uoregon.edu/

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

Microcomputer Services
(Room151 Grayson Hall)

- 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/hour, 1/2 hour minimum)

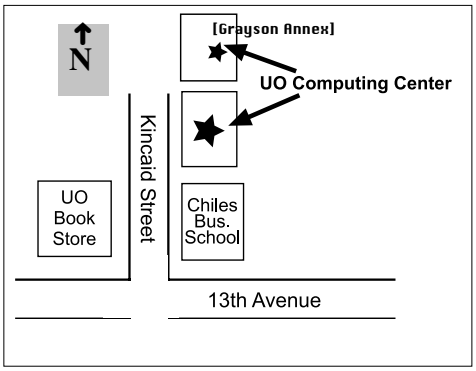
346-4412
microhelp@oregon.uoregon.edu
http://micro.uoregon.edu/

Statistics Consulting
Robin High
346-1718
robinh@darkwing.uoregon.edu
http://darkwing.uoregon.edu/~robinh/statistics.html

Large Systems Consulting
(Rooms 233-239 Computing Center)

- VMS, UNIX (Gladstone, Darkwing, Oregon)
- email, multimedia delivery
- scientific and cgi programming
- web page development

346-1758
consult@darkwing.uoregon.edu
consult@gladstone.uoregon.edu
consult@oregon.uoregon.edu
http://cc.uoregon.edu/unixvmsconsulting.html



Documents Room Library
(Room 175 Grayson Hall)
346-4406
http://darkwing.uoregon.edu/~docsrm

Electronics Shop (151 Grayson Hall)
For computer hardware repair, installation, and upgrade services, call **346-3548** or write *hardwarehelp@oregon.uoregon.edu*
Also see ***http://cc.uoregon.edu/e_shop.html***

Network Services
Provides central data communication and networking services to the UO community.
346-4395
nethelp@oregon.uoregon.edu
http://ns.uoregon.edu

Administrative Services
Provides programming support for administrative computing on campus, including BANNER, A/R, FIS, HRIS, and SIS. Call **346-1725**.

Modem Number
Dial-in modem number for UOnet, the campus network: **225-2200**

Computing Center Hours
Monday - Friday	7:30 am - 5:00 pm

Grayson Hours
Monday - Thursday	7:30 am - 11:30 pm
Friday	7:30 am - 7:30 pm
Saturday	9 am - 9:30 pm
Sunday	9 am - 8:30 pm

COMPUTING NEWS
UO COMPUTING CENTER
1212 UNIVERSITY OF OREGON
EUGENE, OR 97403-1212