

# COMPUTING NEWS

SPRING 2003

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***Pulling the plug on DuckCall:*** Just after 11 A.M. on Friday, February 14, UO Registrar Herbert Chereck pulled the plug on the university's DuckCall phone registration system. DuckCall is being retired in favor of DuckWeb, the online registration system that's become increasingly popular in recent years. See story on page 3.

# Norton Antivirus Troubleshooting Tips: How to Avoid Two Common Problems



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Recently, we've seen a couple of problems on campus related to Norton Antivirus software. NAV's email scanning function caused problems with email settings and SSL security, and network connections were broken when people tried to uninstall NAV 2002.

You can avoid running into either of these snags by taking note of the following tips:

**Problem 1: NAV Email Scanning.** Because of the problems associated with this feature, it's *always* a good idea to turn off NAV's email scanning. Historically, this feature has never worked well. In NAV 2001 and earlier, if email scanning was enabled, the POP proxy daemon running on the desktop PC was vulnerable to external attacks.

**Email scanning and settings issues.** Be aware that Norton may change the POP settings in your email client software when email scanning is turned on. When you turn email scanning off, be sure to check your email configuration settings for accuracy. (To learn more about this problem, go to <http://service1.symantec.com/SUPPORT/nav.nsf/pfdocs/2000020716064206> and open the "NAV 2001" link.)

Here's an example of settings that were changed:

Host: pop3.norton.antivirus  
Server Type: POP3  
Username: jsmith@mail.uoregon.edu

To fix the problem, change these to:

Host: gladstone.uoregon.edu  
(or darkwing.uoregon.edu, as appropriate)  
Server Type: POP3  
Username: jsmith

Each email client looks slightly different. For more information on how to get the correct settings, see <http://micro.uoregon.edu/email/>

**Email scanning and SSL issues.** Current versions of NAV continue to use a virtual proxy, and so cannot be used with SSL. The basic problem is that you cannot proxy an SSL connection, so NAV doesn't try to intercept anything but the standard non-SSL port for POP. Likewise, when email scanning is enabled, NAV also fails to protect IMAP connections. (NAV autoprotect does, however, continue to scan all email attachments for possible viruses).

Suffice it to say that turning off NAV's email scanning feature has been, and continues to be, good advice, and we have updated our NAV pages at <http://micro.uoregon.edu/av/> to reflect this.

**Problem 2: Uninstalling Norton Antivirus 2002 kills network connection.** If for some reason you want to uninstall NAV 2002, you should be aware that you can lose your network connection in the process. This occurs because NAV 2002 adds an entry to the Windows registry that causes the computer to wait for a certain file to load before obtaining an IP address from the DHCP server. Uninstalling NAV through Add/Remove programs or using the NAV uninstaller removes this file but leaves the registry entry, so your computer will never obtain an IP address.

**Solution:** You must edit the registry to remove the entries that were left behind. *Please be careful when doing this—removing any other entries could make your system unusable.* To edit the registry:

1. Click Start, then Run. Type **regedit** and click OK.
2. Navigate to the following subkeys:  
HKEY\_LOCAL\_MACHINE\  
System\CurrentControlSet\  
Services\DHCP HKEY\_  
LOCAL\_MACHINE\System\  
CurrentControlSet\Services\  
NetBT
3. In the right pane, double-click on **DependOnService**.
4. Delete any references to SYMTDI or NISDRV.
5. Exit and save changes.

(See also Cornell's Troubleshooting site at <http://www.cit.cornell.edu/helpdesk/win/nav/navinternet.html>)

*Note: Both these problems relate to special circumstances, and we do not mean to imply that you should not continue to use NAV's regular antivirus features. It is essential to protect your computer from viruses by using NAV and keeping it updated.*



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## Got Extras?

If your campus department receives surplus copies of *Computing News*, you may return them to the UO Computing Center for redistribution.

# End of an Era: DuckCall Phone Registration is No More

## Faithful registration system is superseded by DuckWeb

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After eleven years of faithful service, the DuckCall phone registration system was finally laid to rest on February 14.

At precisely 11 A.M., University of Oregon Registrar Herb Chereck pulled the plug on the old 25 MHz 386 warhorse.

Since its debut in 1992, DuckCall had processed over five million transactions without a hiccup.



*UO Registrar Herb Chereck (center) prepares to dismantle DuckCall, as Associate Registrar Susan Eveland (left) and Administrative Services Project Manager Jim Bohle look on.*



*Longtime DuckCall programmer Tim Ketchum (left) was on hand to witness the dismantling ceremony. Here Herb Chereck takes the preliminary step of removing the "Live" sign on the VPS machine before finally pulling the plug.*

Although it never faltered, DuckCall gradually lost favor as students became increasingly Internet savvy, and the speed and convenience of its younger cousin, DuckWeb, made online registration more attractive.

The DuckCall system was originally designed by systems programmer Pat Lucas. Pat and his Computing Center colleagues Tim Ketchum and Royce Tokar, aided by the VMS expertise of facilities director Rick Millhollin, kept DuckCall running smoothly over the years through numerous iterations of Oracle and Banner and two major VAX/VMS releases.

DuckCall's successor, DuckWeb, was first introduced in 1997 but was not used for registration until fall 1999. Since that date, DuckCall's use steadily declined, and only 4 percent of UO students used it to register in fall 2002.

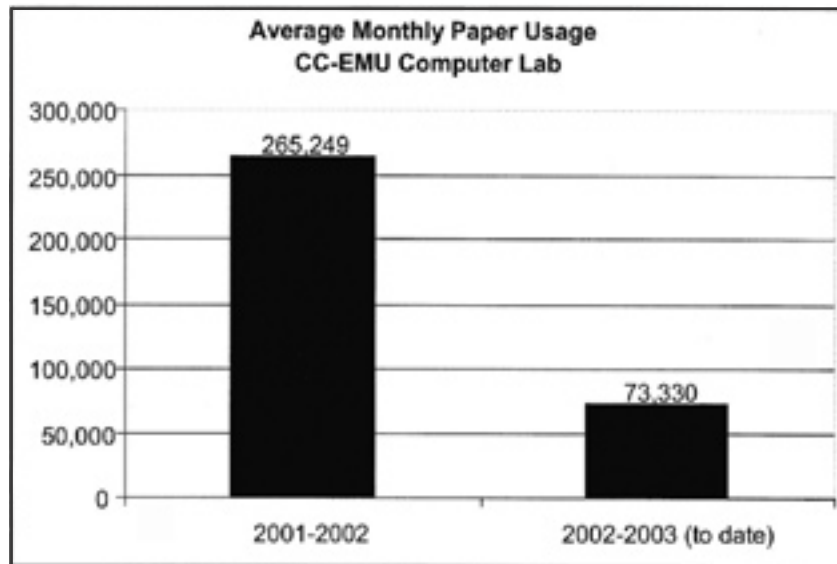
## DARKWING QUOTAS RAISED

When Darkwing storage was upgraded last February, users with a disk quota of 50MB or less had their storage capacity increased to the new default quota of 100MB. More disk space means more flexibility: users whose lives depend on email will find 100MB can store a large number of email messages, faculty who host web sites from Darkwing will have double the capacity for website content, and others may find it handy to use Gladstone or Darkwing to store copies of important course work or to have those files available from multiple computers.

# New Pay-for-Printing Policy Saves Trees, Reduces Costs

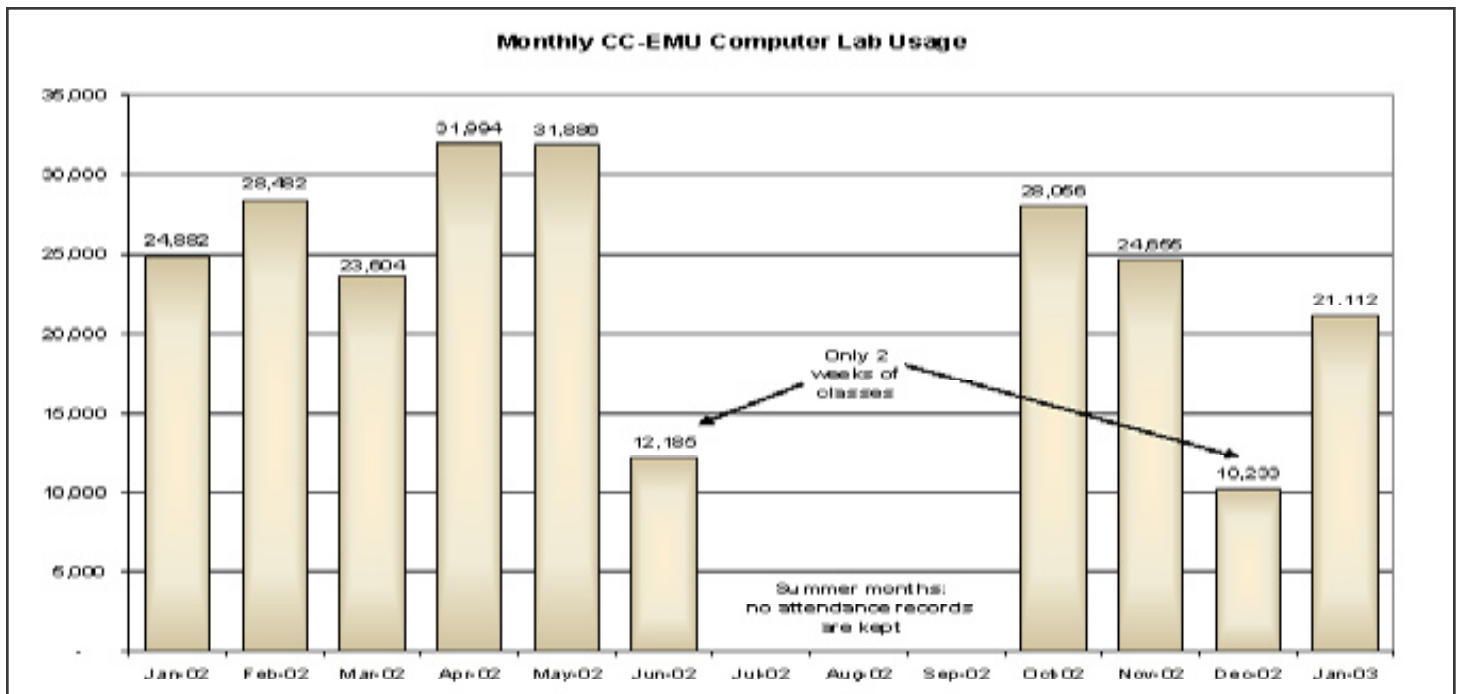
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A dramatic increase in paper conservation is evident since the new pay-for-printing policy was instituted in the Computing Center's computer labs last fall. The change from free printing to fee-based printing has also reduced student traffic, particularly in the CC-EMU Computer Lab. In the CC-EMU Computer Lab alone, paper use has dropped 72%—from 265,249 sheets per month in 2001-2002, to only 73,330 sheets per month over the past six months:



Thanks to the paper savings, Campus Recycling now visits the CC-EMU Computer Lab only once a week—down from last year's average of three weekly visits.

As shown in the graph below, we've also recorded a slight drop (17%) in the number of people using the CC-EMU Computer Lab so far this year (possibly because people who used the lab solely for printing are no longer coming in):





# Recycled Toner Cartridges and Why We Don't Recommend Them

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People often ask us if there is any appreciable difference between recycled toner cartridges and brand new ones. If recycled cartridges are just as good, why not use them and save a little money?

Our experience with laser printer repairs argues against using recycled cartridges. We see a lot of laser printers in the shop that have no problems other than a bad toner cartridge—and in the majority of these cases the cartridge is a refilled cartridge.

## The Life Span of a Toner Cartridge

Toner cartridges have a life span limited by the volume of toner they contain, and toner cartridge manufacturers design the components of their products to be able to function throughout this life span.

**Not all parts are created equal: the importance of the photoreceptive drum.** Most toner recycling companies rely on the fact that many of the components may have been engineered to last longer than a single life cycle, and therefore refill the toner and reuse many of the old cartridges components, most notably the photoreceptive drum.

The photoreceptor surface on a cartridge drum is the most important

element in a toner cartridge, as it most directly affects the quality of the print. The drum surface on a refilled cartridge may not be as good as that of a new cartridge. It's also likely that the mechanical elements (gearwheels, drive belts etc.) of a recycled cartridge could be unusually worn, and these elements are often overlooked by cartridge recyclers.

**Toner.** The toner used by most recyclers is touted as having better print quality than the toner used in the original cartridges. This simply isn't true. The toner used by the manufacturers is designed *specifically* to work in the cartridges they make and in the printers they make. Most recyclers use toner that is designed for copiers, toner that has different properties (in some cases, the toner is finer but also has a rougher texture).

**The recycling issue.** Many laser printer users are concerned with the "recycling" aspect of toner cartridges, and like the idea of reusing their old cartridges. All the major manufacturers of toner cartridges offer some way to recycle their cartridges, usually in the form of a prepaid mailer that comes with the cartridge. Just put your old cartridge into the box the new one comes in and ship it back using the mailer. The manufacturers will recycle the raw materials in your old cartridge (as opposed to reusing its components).

**Cost benefit analysis.** The small cost benefits associated with the use of recycled cartridges must

be weighed against the increased support and maintenance costs, print quality problems, and down time. *Many users don't suspect cartridge problems, even though they are the single most likely cause of poor print quality.* Or if they do, they will install another refilled cartridge, which may not be any better than the one they removed.

We generally find that the small cost savings are not justified. It ends up costing you more to use refills if you have to have your printer down for maintenance because of problems associated with faulty refilled cartridges.

Laser printers *do* require periodic maintenance and component failures *do* cause printer malfunctions, but there is no reason to accelerate the need for service by using refilled cartridges.

## References:

For more information about toner cartridge use and maintenance, see

1. HP's warranty statement at [http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=bp102665&locale=en\\_US&prodSeriesId=25471&prodTypeId=18972#P11\\_1227](http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=bp102665&locale=en_US&prodSeriesId=25471&prodTypeId=18972#P11_1227)

(All printer manufacturers have statements very similar to HP's.)

2. *Laser Printer Secrets* by Steven Burrows. This comprehensive technical guide is available for checkout from the Computing Center Documents Room, 175 McKenzie Hall.

## Note URL Change for Library's Proxy Server Info

UO Library patrons interested in using secure online connections to their patron account should note that the address of the Library's information pages on this topic have changed to <http://libweb.uoregon.edu/dbs/proxy/>

By using this secure connection, students, faculty, and staff can log in to their library account to see what books they have checked out, renew books, and change personal information such as address, phone number, and email address. (See the Summer 2002 *Computing News* article, "Library Now Offers Secure Online Connections to Your Patron Information" at <http://cc.uoregon.edu/cnews/summer2002/library.html>)

# When Good Features Go Bad: Sharing Printers with Mac OS X 10.2



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Mac OS X 10.2 provides the ability to share printers with other users on your network—but unfortunately, Mac OS X does *not* provide a way to indicate which printers to share.

Say you have two printers configured on your Mac, an Ethernet-connected HP LaserJet and a USB-connected Canon i850 inkjet. Enabling printer sharing makes both of these printers available to any other Mac OS X 10.2 user in your department (specifically, other users on your subnet).

Now let's hop over to a colleague's Macintosh. This Mac also has the department's HP LaserJet configured in Print Center. With printer sharing

enabled on the first computer, the LaserJet will appear twice in Print Center: once as the printer added by the local user, and once as a shared printer. The i850 inkjet also appears in the printer list. That's rather confusing!

How can you determine whether a printer is local or shared? Here are some clues:

**1. Color.** First, shared printers appear in Print Center with a pink background.

**2. Delete button.** Second, shared printers cannot be deleted; the Delete button remains disabled when the printer is selected in the list.

**3. Printer menu within applications.** When printing from an application, Mac OS X also gives us hints as to which printer is local and which is shared. In the Print dialog there's a Printer pop-up menu that allows the user to select which printer to use. This menu also features a "Shared Printers" submenu that lists printers available from others' Mac OS X computers.

**4. Appendages.** Another strategy to reduce printer name confusion uses Print Center's ability to append a local printer name with additional text. When adding the printer in Print Center, uncheck the "Use default queue on server" check box and enter some additional descriptive text in the "Queue Name" box.

This hint is limited by several restrictions. First, the descriptive text cannot contain special characters or spaces. Second, in some rare instances, the printer will not work if you alter the default print queue name.

When we contacted Apple technical support regarding this issue, their support staff agreed with our assessment of the problem but couldn't yet offer a workaround. They promised to look into it.

The ability to share printers is new to Mac OS X 10.2 and later. Other users should not be affected by it, although we were not able to test this scenario.

## *Eudora Feature Can Create Network Server Problems* Upgrading to Eudora 5.2? Some Mood Watch settings can eat your quota!

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Here's a cautionary tale for anyone who is upgrading older versions of Eudora to 5.2 and storing mail on a NetWare server.

Newer versions of Eudora have a feature called "Mood Watch" that attempts to rate email messages for "offensive" content. One of the settings (found in the Tools->Options->MoodWatch menu) is "scan stored mail in background." The consequences of selecting this option can be dire.

**Case in point:** One of our users had over 10,000 stored messages, with some individual folders containing

more than 2,000 messages. His .toc (table of content) files were quite large, and after he upgraded to Eudora 5.2, Eudora began filtering all of his stored messages in the background.

This in turn caused the program to constantly rewrite the .toc files as quickly as possible. Since his .toc files were up to 1.5MB in size, system administrators saw his KB/Write/sec numbers on our NetWare server go off the charts, effectively saturating his network card. Only quitting out of Eudora would stop the flood.

Once the server had continually written and deleted a few gigs of his data, things started breaking down and the server processor utilization went through the roof, negatively impacting the other 150 users on our server (a MoodWatch denial of service attack!).

**How we solved the case:** Our first clue about the source of the problem emerged when we looked at the salvageable deleted files in this user's Eudora directory and saw many instances of the same .toc files separated by only a second or two.

We were also fortunate enough to have AdRem Server Manager for NetWare, and we used it to monitor this user's traffic statistics and opened files. I would not have been able to diagnose this problem without this tool. If you haven't tried it, I recommend you download the free trial version at <http://www.adremsoft.com/index.php> and check it out.

**Lesson learned...** We now turn off Eudora Mood Watch entirely. Or, if the user wants to activate that feature, we make sure to turn off background scans when upgrading Eudora.

# UO Computer Science Professor Helps Advance Network Research

## Daniel Zappala's zest for developing practical large-scale network applications fuels the growth of CIS's Network Research Group

Joyce Winslow

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When Daniel Zappala came to the University of Oregon Computer and Information Science Department in 1997, he was primarily attracted by two things: the university's strong support for networking, and the opportunity to establish a cutting-edge network research program.

Zappala had already developed a taste for network research, having worked with leading networking researchers Deborah Estrin, Lixia Zhang, and Scott Shenker, as well as Internet pioneers John Postel and Bob Braden, while earning his Ph.D. in computer science at USC. At that time, the USC team, in conjunction with researchers at Xerox PARC, was developing the Resource ReSerVation protocol (RSVP), which provides quality of service guarantees to applications by reserving resources along network paths.

Although Zappala hasn't lost interest in RSVP, since arriving at the UO he has turned his attention to other portions of the Internet architecture, including multicast routing, peer-to-peer networks, and mobile ad hoc networks.

In the past six years, nurtured by Zappala and several other CIS faculty members, the fledgling Network Research Group has grown to a total of six faculty and five Ph.D. students (with more being recruited this spring), and has graduated a dozen students with M.S. degrees. The biggest boost came last fall, when assistant professors Reza Rejaie and Jun Li joined the team, adding their expertise in multimedia distribution and network security to the research effort.

Zappala is excited about the growth of the program. Since the arrival of the two new faculty members, he notes that there has been a "burst of activity—new projects being started, grants and papers written, etc." "We now have a good 'critical mass' in (networking), so I expect a lot of continuing activity," he says.

Other distinguished core faculty members include Virginia Lo, Art Farley, and Andrzej Proskurowski, who are currently working with Zappala on an interdisciplinary project investigating new group communication architectures. The project, which incorporates aspects of graph theory and parallel computing into Internet group communication, is funded by the National Science Foundation. Last fall, Zappala and grad student Chris Gauthier-Dickey traveled to



*Assistant CIS Professor and Network Research Group co-founder Daniel Zappala.*

Taiwan to present papers on the group's findings to the Global Internet Symposium. This work has led to a joint project, funded by Cisco, between Zappala and Kevin Almeroth at UC Santa Barbara to build new multicast dissemination protocols.

Although the language of multicast protocols ("SSM proxies," "multiple core trees," "Cyclic block allocation") is esoteric and the technology seems arcane, its applications can be practical and universal, and Zappala foresees a time when multicast communication will be "used daily by everyday people."

Multicast technology is already used for transmitting stock market updates and updating website mirrors, and when it's more widely available it could be used routinely in all types of group communication—including education, games, conferences, and Internet TV. The research Zappala and his colleagues are doing in ad hoc wireless networks also has great practical potential. Ad hoc routing protocols, which enable mobile users to exchange data directly among themselves without going through a base station, are especially useful in situations (such as a conference, rescue site, or military campaign) that require networks to be set up on the fly, without first installing the usual network infrastructure.

To further its work, the Network Research Group maintains a research lab for development, simulation, and prototyping of network protocols for the Internet. The lab's custom-built PCs run the Linux operating system, which is both open source and free. This allows the group to modify the operating system code as needed and easily share code with the research community.

If you want to keep abreast of what Zappala and his group are up to, visit the Network Research Group website at <http://www.nrg.cs.uoregon.edu/>



# Security Alerts...

## Critical New Windows Exploit (98/ME/NT/2000/XP)

In mid-March, Microsoft announced a new critical flaw in Windows that has the potential to allow an attacker to run malicious programs on a user's computer. This flaw, which results from the way Windows interprets and executes JScript, exposes users to vulnerability if they open an email or web page containing malicious code.

**Get the patch.** All Windows users are urged to run Windows Update at once, or download the patch immediately from Microsoft's security website at

<http://www.microsoft.com/technet/treeview/default.asp?url=/technet/security/bulletin/MS03-008.asp>

Microsoft also reminds users to use discretion when choosing what websites to visit, or what links to open in an email.

## Vulnerability in Windows Dynamic Link Library (DLL)

### WebDAV-enabled Microsoft IIS 5.0 servers exploited

A newly identified critical security vulnerability in Windows 2000 could allow an attacker to take control of computers used as web servers. Thus far, only IIS 5.0 servers that are WebDAV-enabled have been affected, although DLL is a core operating system component and it's possible that other exploits exist.

Complete information about this vulnerability is available from CERT (Advisory CA-2003-09, "Buffer Overflow in Core Microsoft DLL") at <http://www.cert.org/advisories/CA-2003-09.html> and Microsoft (Security Bulletin MS03-007, "Unchecked Buffer in Windows Component Could Cause Web Server Compromise") at

<http://www.microsoft.com/technet/security/bulletin/ms03-007.asp>

**Get the patch.** You should download the patch immediately from Microsoft at

<http://www.microsoft.com/downloads/details.aspx?FamilyId=C9A38D45-5145-4844-B62E-C69D32AC929B&displaylang=en>

## Windows RPC Could Allow Denial of Service Attacks

### NT 4.0 too flawed to fix

On March 26, Microsoft released an "important" security bulletin (MS03-010) regarding its Remote Procedure Call (RPC) communication protocol. This protocol contains a flaw that could allow a remote attacker to launch a denial of service attack on a Windows machine.

Patches are available for Windows 2000 and XP, but *not* for NT 4.0. Microsoft cites "architectural limitations" as an impediment to removing the vulnerability in NT 4.0, and urges NT users to employ a firewall instead. Both the NT workaround and patches for 2000/XP are available at <http://www.microsoft.com/technet/security/bulletin/MS03-010.asp?frame=true>

## Get Newly Released Patches for Critical Holes in IE, Outlook

In late April, Microsoft issued new patches for security flaws discovered in its Internet Explorer and Outlook Express applications.

IE 5.01, 5.5, and 6.0 are all affected by four flaws, the worst of which could allow an attacker to take control of a victim's computer. The Outlook Express vulnerability results from an error in the software that handles the encapsulation of HTML in emails, and it could also allow an attacker to run programs on a victim's computer.

*Even if you don't use either Microsoft Outlook Express or Internet Explorer on your Windows machine, you are advised to install the updates.*

For more details, see Microsoft's Security Bulletin MS03-014 at [http://www.microsoft.com/security/security\\_bulletins/ms03-014.asp](http://www.microsoft.com/security/security_bulletins/ms03-014.asp)

## Remote Buffer Overflow Vulnerabilities in Sendmail

This March, Internet Security System researchers reported discovering two vulnerabilities in Sendmail that could be exploited to cause a denial-of-service condition and allow an intruder to gain control of a Sendmail server.

**1. Mail transfer agents exploit.** This particular Sendmail exploit is triggered by a malicious email message that can be passed undetected via mail transfer agents (MTAs) on a network system—even penetrating many common packet filters or firewalls.

**Get the patch.** System administrators should apply the appropriate patch, as listed on the CERT Advisory site at <http://www.cert.org/advisories/CA-2003-07.html>

**2. Address parsing code.** Because of a flaw in Sendmail's address parsing code, an email message with a specially crafted address could trigger a stack overflow. CERT warned that most medium- to large-sized organizations are likely to have at least one vulnerable Sendmail server, and common packet filters or firewalls are an inadequate defence against this exploit.

**Get the patch.** System administrators should apply the appropriate patch, as listed on the CERT Advisory site at <http://www.cert.org/advisories/CA-2003-12.html>



## OpenSSL Security Advisory Users of versions prior to 0.9.6i and 0.9.7a strongly advised to upgrade

Swiss University security researchers recently uncovered a weakness in a common security protocol supported by all major web browsers.

Their tests demonstrated that Secure Sockets Layer (SSL) and Transport Layer Security (TLS) with CBC encryption could be compromised by a timing-based attack on a local network server. This vulnerability is described in detail in a paper by David Brumley and Dan Boneh, "Remote Timing Attacks Are Practical," which is available in PDF format at <http://crypto.stanford.edu/~dabo/papers/ssl-timing.pdf>

Upgrading to OpenSSL 0.9.7a (most desirable) or 0.9.6i is recommended. If such an upgrade is not immediately possible, a source code patch is available at [http://www.openssl.org/news/secadv\\_20030219.txt](http://www.openssl.org/news/secadv_20030219.txt)

## MS-SQL Server Worm

Two buffer overrun vulnerabilities in Microsoft's database server SQL Server 2000 caused havoc last January when the so-called "SQL Slammer Virus" was released on the Internet, negatively impacting network performance worldwide.

The SQL Slammer worm has powerful denial-of-service capability. By using a large number of UDP packets to spread infection, it attacks systems at randomly generated IP addresses and creates huge, paralyzing, amounts of traffic. Affected systems include Microsoft SQL Servers 7.0 and 2000, Microsoft Desktop Engine (MSDE) 2000, and any application that includes MSDE.

**Get the patch.** Although Microsoft first reported this SQL vulnerability in July 2002 and released a patch for it, many servers remained unpatched and vulnerable. Systems administrators are urged to immediately install the patch, which is available at <http://www.microsoft.com/technet/treeview/default.asp?url=/technet/security/bulletin/MS02-039.asp>

You'll find more information on the SQL server worm at

- <http://www.nextgenss.com/advisories/mssql-udp.txt>
- <http://www.cert.org/advisories/CA-2003-04.html>
- <http://www.cert.org/advisories/CA-2002-22.html>

## Hacker Steals Vital Student, Staff Data at University of Texas

A hacker broke into a University of Texas database in late February, compromising the personal information of nearly 60,000 staff members and students. University officials acknowledged that the break-in could have easily been prevented with basic precautions, and redoubled their efforts to phase out most uses of Social Security

numbers on campus as quickly as possible. In addition to 59,000 names and SSNs, the hacker obtained email addresses and some office addresses and phone numbers of current faculty, leaving them vulnerable to the crime of identity theft. (The hacker, a UT student, was soon apprehended. See <http://www.dailytexanonline.com/vnews/display.v/ART/2003/03/17/3e75d4b44ed82> for details.)

In an article posted March 14, 2003, on *eWeek* (<http://www.eweek.com/article2/0,3959,933132,00.asp>), Timothy Dyck discusses the lessons learned from this attack—in particular, the need to implement intrusion detection capabilities in web applications.

## Potential Security Hole in Sprint's DSL ZyXEL Modems

In late January, security experts warned Sprint DSL customers that weak security controls on their DSL modems put them at risk of having their email addresses and passwords stolen—even when their computers were powered off.

The ZyXEL Communications DSL modems issued by Sprint to tens of thousands of its FastConnect broadband customers are protected by the default password "1234" Until recently, Sprint didn't provide instructions for resetting this administrative password, and many of its customers were unaware of the need to create their own password to safeguard access to their personal information. Leaving their modem password set to the widely-known default exposed users to a remote attack even if they shut down their computers when not in use, because their ZyXEL modems often remain powered on.

After the problem was reported, Sprint published instructions for changing the administrative password on ZyXEL modems online at <http://csb.sprint.com/home/local/dslhelp/release645m.html>

## Serious Flaw Discovered in Samba Security Code

A recently discovered flaw in the main `smbd` code of the Open Source Samba freeware suite could allow an attacker to anonymously gain root privileges on a server running Samba. The flaw exists in all versions of Samba from 2.0.x to 2.2.7a, and users are urged to either update to v. 2.2.8 immediately or prohibit access to TCP ports 139 and 445.

Release notes for the Samba upgrade are available at <http://us1.samba.org/samba/whatsnew/samba-2.2.8.html> This page also contains a full description of the flaw, as well as advice for protecting an unpatched Samba server. You may download the source code for Samba 2.2.8 from <http://download.samba.org/samba/ftp/>

# Interactive Media Group: New Mission for New Media

**Team gets a new name and broadens its scope to take on a variety of teaching-related projects**

**Joyce Winslow**

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Since its inception in 1995, the UO's New Media Center has evolved from a specialized multimedia team supporting a few intensive academic research projects, to a broad-based operation encompassing a full range of new and traditional media support services.

The group, which moved from its original home in the Riverfront Research Park to join forces with Knight Library's Media Services nearly two years ago, also has a new name: Interactive Media Services, or IMG.

In addition to taking on leading-edge, large-scale multimedia development projects, IMG now also assists faculty with smaller project proposals—particularly in the areas of web and multimedia courseware and research.

At the helm is a diminutive woman with a big name: Kellie Ann Garsed-Donnelly. As IMG's manager, the energetic Garsed-Donnelly oversees a full-time professional staff of three (two project developers and one project manager) and a crew of five students. On the day of our visit, all eight workstations in 31 Media Services Center were cranking as the team hustled to get four of its current projects out the door.

Two of these projects, "UO [v] MOMA" and "BEAM," are prime examples of the kind of innovative instructional enhancements IMG can provide.

For UO [v] MOMA, a collaboration with Assistant Professor Lars Bleher for his Architecture 222 class, IMG is using Flash and other advanced media tools to create a virtual modern art museum online. This virtual museum, completed just in time for the start of classes in April, allows architecture students to browse interactive galleries of past and current assignments, access student and section information, and witness the development of their ideas into larger, collaborative works.

BEAM (Building and Environment Analysis Modules) is another ambitious project with the Department of Architecture. With the aid of Educational Technology Funds, IMG and Assistant Professor Ihab Elzeyadi are building a complex Internet application using data



*IMG Manager Kellie Ann Garsed-Donnelly in a rare moment of repose. Garsed-Donnelly, who has a deep background in telecommunications and multimedia, also serves as president and principal of Electrum Studios, Inc., a multimedia design firm based in Seattle.*

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loggers and webcams to capture real-time environmental information about interior spaces. The system is being designed to display data such as temperature, humidity, and light levels in searchable format on the web, so that students may access, interact with, and download them for studying energy-conscious heating and cooling, solar building design, electrical lighting controls, and the effects of daylight within a space.

Not all IMG courseware projects fit into the BEAM-UO [v] MOMA mold, however. The group welcomes a variety of assignments, whether it be creating interactive Flash modules for a class website (as they did for Robert Madrigal's Marketing 452 class), developing logotypes, designing promotional websites (UO Art Museum), or multimedia CD-ROMs (School of Music, NASA).

The integration of computer-based instruction and interactive courseware is still in its early phases of adoption on campus, but Garsed-Donnelly intends to work closely with faculty and departments to identify areas where technology might be an appropriate teaching tool. "Although we understand that the use of technology is not the answer for all instructional situations...our goal is to provide campus-wide support in identifying and developing interactive learning environments which improve instructional outcomes and motivate students to learn," she says.

For more information about IMG and its services, visit them online at <http://img.uoregon.edu/> or call **346-1458**.

# Having Problems Enabling SSL for Email?

**Try these tips if you're using Eudora, or if you have Windows CE handhelds and wireless devices**

**Dan Albrich**

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As of April 2, everyone using Darkwing, Gladstone, or Oregon for email was required to reconfigure or upgrade their email program to support encrypted passwords (SSL). Complete instructions for doing this are posted on the Microcomputer Services website at <http://micro.uoregon.edu/security/email/>

For most, the transition to secure email has been smooth, but in some cases, the reconfiguration problem turned out to be a bit tricky—especially for those using Eudora. Some handhelds and Pocket PC devices also require special handling.

If you're in the latter category, here are some tips that may help:

**Windows Eudora.** If you're having problems enabling SSL for Eudora on Windows, try the following "trick:"

1. Open Eudora.
2. Select "Tools" -> "Options..."
3. Scroll down (on the left) to "Advanced Network" and select it.
4. Make your settings look like these:

```
Network Open Timeout [300] Seconds  
Network timeout after [300] Seconds  
Network buffer size of [8192] bytes
```

**Note to Mac OS X users:** Remember, Eudora does *not* support SSL in Mac OS X 10.0 or 10.1. You must upgrade to Mac OS X 10.2 or later in order to use SSL with Eudora.

Comprehensive instructions for enabling SSL with Mac Eudora are available at <http://micro.uoregon.edu/security/email/eudora.html#macosx>

**Wireless.** If you're using Windows CE handhelds and wireless cards, or Pocket PC 2002 devices such as the new Toshiba e740 with integrated wireless, you'll need to download software or firmware updates in order to use 128 bit SSL encryption (128 bit encryption is required to access the campus network).

**Windows CE.** The Windows CE High Encryption pack for 128 bit SSL may be downloaded from <http://www.microsoft.com/mobile/pocketpc/downloads/ssl128.asp>

**Pocket PC 2002.** Many Pocket PCs such as the new Toshiba e740 require firmware updates, which are available from individual vendor websites (usually listed under Products->[select your device] -> Support.)

These updates can be difficult to install, and it is crucial that you follow installation instructions to the letter. If you have questions about installing firmware updates for your device, contact a Microcomputer Services Consultant (346-4412, [microhelp@lists.uoregon.edu](mailto:microhelp@lists.uoregon.edu)).

## Need Help?

If you still run into problems enabling SSL after following the instructions at <http://micro.uoregon.edu/security/email/>, please call 346-4412 and ask to speak with a consultant.

# Floppies Going the Way of the Dinosaur

**Dell's floppy drive phase-out signals the beginning of the end**

**Joyce Winslow**

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In March of this year, Dell Computer stopped installing floppy drives as a standard feature on its high-end Dimension 8250 desktops. Other vendors are expected to quickly follow suit (Apple was the first to abandon floppy drives, when it introduced the iMac in 1998).

This move comes as no surprise, as floppies' limited storage capability has rendered them increasingly less useful in recent years. With the advent of affordable CD-RW drives and keychain-sized, "plug and go" USB storage devices\*, floppies are losing the last vestiges of their utility as a small, portable file transport medium.

Although the phase-out of floppies will be gradual (Dell is still including them as an option), analysts predict their days are numbered.

For details on Dell's decision, including its implication for the future of floppies, see the February 6 article, "Dell ready to flip the floppy" by John Spooner of CNET News.com at

<http://zdnet.com.com/2100-1103-983596.html>

*\*You can now buy USB thumb drives from the E-Shop, 151 McKenzie Hall. See story on page 13 for details.*

**Pegasus Mail Now Has SSL**

With the latest release (v4.11) of Pegasus Mail, you can now use this free email client securely.

Instructions for configuring Pegasus 4.11 for SSL on a Windows machine are available on the Microcomputer Services web page at <http://micro.uoregon.edu/email/pegasus/>

To learn more about Pegasus, see <http://www.pmail.com>



# Loading SAS Version 8.2 onto a PC



**By following a few simple steps, you can have the power of SAS at your fingertips**

**Robin High**

*Statistical Programmer and Consultant*  
*robinh@uoregon.edu*

UO faculty, staff, and students who want to perform statistical analyses or need to manage one or more large data files may install SAS software on their personal computers. This includes laptops and computers located off-campus.

SAS installation is straightforward, but it requires you to take two preliminary steps:

**Step 1.** Fill out the SAS software request form at <http://sas.uoregon.edu/>. If you are off-campus and using a third party (not the UO) to connect to the Internet, then you need to install our VPN software to access this information, as well as the SAS online documentation. For more information about VPN, see [http://micro.uoregon.edu/getconnected/vpn\\_overview.html](http://micro.uoregon.edu/getconnected/vpn_overview.html)

The SAS software request form allows us to keep track of the number of SAS users in order to confirm their request and send each one an attached **setinit.sss** text file via email. The text file is actually a SAS program that contains the information SAS needs to verify its license is valid. After you receive this message, you need to transfer the setinit.sss file to your PC's hard disk:

- Log in on Oregon, Darkwing, or Gladstone with a secure shell (ssh) connection and view the message with pine.
- Use **s** to save the attached file in your PC's c:\ directory (it will already have its required name).
- Use a secure ftp client such as SSH to transfer this file to the root directory of your PC's hard disk, either by direct transfer or via another portable disk. (When you begin to load SAS you will be prompted for the location of this file; SAS will expect the file to have this exact name, so don't modify it.)

**Step 2.** The second step is to go to the Computing Center Documents Room (175 McKenzie) with your photo ID and check out the set of SAS installation CDs. You may want to call ahead to **346-4406** to make sure a set of disks is available.

The SAS CDs may be checked out for a maximum of 24 hours. Plan to take about an hour to install the software on your system. Approximately 700MB of free disk space will be required for the installation.

## Installing SAS

Place the first disk marked "SET-UP" into your PC's drive. At this point you will automatically be given a menu with several options. You should read Chapters 1 and 2 at the line labeled "Installation Instructions."

When you are ready to install the program, click "SAS System Setup." One of the first prompts you will receive is to specify the location of the valid setinit.sss file you downloaded in the first step.

For example, if you placed it in the root directory of your C drive you would enter

```
c:\
```

at that point and continue. If your computer uses a different letter designation for the hard drive, or if you placed this file in a subdirectory, you'll need to include the drive and path name where it resides.

When you're finished with each disk, SAS will prompt you to enter the next labeled disk. Most users will require only four of the ten disks that come with the installation set, and of these, Disk 2 requires the most installation time. When you're finished loading SAS, return the installation CDs to the Computing Center Documents Room within the 24-hour time limit.

Now you're ready to discover some of the many powerful data analysis and management tasks SAS can do for you! See "How to Design Your Data Entry for Transfer into SAS or SPSS" on page 14 to learn one of the ways you can use SAS to help you with a common data management chore.

## BHO Cop Keeps IE Problems at Bay

If you use Internet Explorer 4.0 or higher, you may not know that when you launch IE, special Browser Helper Objects ("BHOs") are being installed on your system that allow developers to customize and control the browser application. While there are good uses for some of these, others are "spyware," devised specifically to gather information on your surfing habits without your knowledge or permission. Another downside of BHOs is that, if poorly written, they can cause problems or crashes that are very difficult to diagnose.

A product called BHO Cop is available to help solve such problems. BHO Cop identifies the BHOs on your system and lets you diagnose and resolve conflicts by temporarily disabling them. For more information, and to download the product, go to *PC Magazine's* utility library at <http://www.pcmag.com/article2/0,4149,270,000.asp>

For some good background information on BHOs, see <http://www.techweb.com/winmag/fixes/2000/1023.htm>



## Handy USB Thumb Drives Now Available on Campus

**E-Shop stocks a variety of these compact backup devices**

Now that major manufacturers like Dell are signalling the phase-out of floppy drives (see “Floppies Going the Way of the Dinosaur” on page 11) you may already be looking for reliable alternatives.

One convenient new option for storing and transporting your essential files is the lightweight USB Flash Drive. These colorful translucent drives, barely bigger than your thumb, are small enough to fit on your key chain and can be plugged into any USB port. No power supply or cables are needed. In spite of their toylike appearance, the drives have a lifetime of up to one million rewrites and can retain data for up to 10 years.

The Electronics Shop (E-Shop) stocks USB thumb drives in three sizes: 128MB (\$50), 64MB (\$30), and 16MB (\$15). You can purchase them at the E-Shop reception desk in 151 McKenzie Hall any time between the hours of 8 A.M. and 5 P.M., Monday through Friday.

For more information, call E-Shop technicians Rob Jaques or Robert Bennett at **346-3548**, or send an email message to [hardwarehelp@oregon.uoregon.edu](mailto:hardwarehelp@oregon.uoregon.edu)

Detailed product information is also available at the vendor's website:

[http://usbkeydrive.com/USB\\_Drive.htm](http://usbkeydrive.com/USB_Drive.htm)

## Campus Site License Makes *MathType* Tool Available to UO Users

Thanks to a recently purchased site license, UO faculty, staff, and students now have access to MathType, a full-featured equation editor for Microsoft Word.

MathType runs on both Windows and Macintosh computers and is capable of creating mathematical notation for word processing, web pages, desktop publishing, presentations, and for TeX, LaTeX, and MathML documents. The tool's web capabilities are especially useful, allowing you to create high-resolution mathematical equations that display beautifully on web pages across browser platforms. You can even add color to all or part of your equations, a feature that may be desirable in PowerPoint presentations.

**How to obtain your copy.** As long as you are a UO faculty or staff member or a currently enrolled student, you may install MathType at work and at home.

Bring your UO photo ID to the Computing Center's Documents Room Library (175 McKenzie) and check out a MathType CD. You may want to call first (**346-4406**) to make sure a copy is available. Our site license doesn't include manuals, but one is available for checkout in the Documents Room, or you can purchase your own for \$15.

**Need help?** If you have questions about how to install and use this software, contact Robin High ([robinh@uoregon.edu](mailto:robinh@uoregon.edu), **346-1718**).

For more information on MathType, see

- <http://dessci.com/en/products/mathtype/>
- <http://www.mathtype.com/en/products/mathtype/>

# How to Design Your Data Entry for Transfer



**Prior to data analysis, simplify your data entry by using a Microsoft Excel spreadsheet**

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Data entry can be a very laborious and often very boring task, prone to errors resulting from fatigue or carelessness. Accuracy is likely to suffer when you're attempting to manually enter data from a data source directly into a computer file.

A primary rule of data entry is that it should never be done with a word processing program. Various specialized programs are available for data entry that are far more appropriate. Since most software programs allow data and information to be exchanged between applications, it makes sense to use the most efficient data entry process available.

**Entering data by scanning.** Some data types (e.g., discrete categories or Likert scales) can be entered from questionnaires onto individual Scantron forms, one for each subject. The Computing Center is able to scan them for you at a nominal cost and provide you with a text file that can be read by most statistical programs.

**Entering data into a spreadsheet: the advantages of Microsoft Excel.** If data compiled from other sources are to be entered by hand, one of the most popular and convenient ways is to enter them directly into the rows and columns of a spreadsheet such as Microsoft Excel. Although SPSS and some other statistical programs have their own integrated spreadsheets, they do not offer the flexibility that Excel gives you.

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*A warning!* With data entry as the primary goal, always remember that Excel is first of all a spreadsheet and should *not* be considered a database management system nor a data analysis program.

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If your intent is to analyze data with SAS, SPSS, or some other program, learn to use the features of Excel that will minimize potential problems with data transfer later on. With that in mind, consider some of Excel's limitations for data entry:

- It is very easy to put garbage on a spreadsheet that may later cause problems with data transfer.
- Users often enter character values for missing numerical data such as NA or some other value Excel interprets as text for that particular cell. The best strategy for entering missing data in Excel is to format the columns for the particular data type you will enter

and then leave cells blank that have missing data.

- Data from one subject can easily be spread across several worksheets in an inconsistent manner (i.e., without a unique subject identification for each worksheet).
- Data can be surrounded with screen colors, borders, and other formats not defined for the entire range of cells in each column. Many Excel users seem to consider formats only as a way to improve the way data are displayed, not how they are stored.
- No record is kept of any changes or additions to the worksheets, including the date entered or modified. If you modify or enter anything new, it is very difficult to trace the changes unless you keep separate backups over time or keep a written log of when you made them. Documentation of the stages data entry goes through is one of the criteria to prove they are of good quality.
- For many statistical analyses, especially with large data sets, Excel is not a good choice as a statistical analysis tool, although it is fine for data entry.

Notwithstanding these and several other limitations, Excel remains a reasonable and effective method to enter and store moderate-sized data sets because:

- It is widely available and easy to use.
- It is designed for column-by-column viewing with the split-screen option, which makes data entry and review much easier, more efficient, and usually more accurate.
- It has some built-in functions that provide useful quality control features or compute summary statistics as you enter data.
- It has easy-to-use graphical features that will help you visualize your data.

From the very beginning, design each individual worksheet so that it can be analyzed with another program: columns should contain data of one—and only one—type (e.g., numeric, character, or date) and rows should be the subjects or experimental units in your study. Getting to know your data in this structure is visually helpful, because it is exactly how SAS, SPSS, and other statistical programs work with data.

You'll find a helpful guide on how to effectively use spreadsheet packages for data entry at

<http://www.rdg.ac.uk/ssc/dfid/booklets/topsde.html>

## Getting Started with Excel

If you want to transfer your data into SAS, SPSS, or some other program, follow these guidelines:

The cells in Row 1 should contain the column's eventual data set name. Each name should be a relatively short and unique acronym that clearly identifies the data.



# into SAS or SPSS: the Excel Advantage

It should begin with a letter and contain only letters, numbers, or an underscore ( \_ ) where spaces would naturally fall. Avoid using special characters such as \$, &, @, in variable names. Since each row represents the values from one subject, the first column(s) should contain one or more variables that give each subject a unique identifier. They become especially important if you need to merge two or more data files.

In Excel, data formats are defined for a range of cells rather than for a complete column. For this reason it is important that each entire column, including cells with missing or uncollected data, have one, and only one, format. Actually, you do not need to format the entire column, only the portion you will eventually use. Highlight that portion and select the appropriate format from the Format/Cells option. Do not select formats that will enter commas, dollar signs, or other visual enhancements. Numeric, text, and date formats (e.g. mm/dd/yy is often a good choice) are probably the only formats you'll ever need.

The "Split" option (under the "Window" pull-down menu) keeps the row of variable names and the columns of identifiers in view, whatever range of cells in the worksheet you may need to review. First place the cursor at the most extreme upper left-hand corner where data entry begins (e.g., the intersection of Row 2 and the column in the upper left-hand corner where data appear) and then select "Split" from this menu. For any row or column of the worksheet you move to, you'll know exactly which variables you are observing (column names) and their associated ID values (rows).

For versions of Excel later than 4.0, one file can contain multiple worksheets. By default, the tabs at the bottom of these sheets are supplied names ("sheet1," "sheet2," etc.). You can change these names by clicking this space with your mouse and entering a new name. Use the same conventions for first-row variable names: use a short acronym of the page contents that begins with a letter, use only letters or numbers, and enter the underscore ( \_ ) where a space naturally falls.

## Planning Ahead: Multivariate or Univariate Format?

Another reason to give careful thought to the design your data entry worksheet is to consider the objectives of your data analysis. Some statistical procedures require data to be entered in "multivariate" format; others require "univariate" format. A simple example demonstrates their difference. If you collect repeated measurements of data on individuals over time, your data would typically be stored in a multivariate format with this structure:

Subject	Date	P1	P2	P3	T1	T2	T3
P001	11/01/2002	123	234	345	30	28	27
P002	11/01/2002	111	232	143	31	23	22

The numbers on the variable names (attached to P and T) indicate the order two different types of variables were collected over time for each individual (row). This is the data structure required for multivariate analysis with PROC GLM in SAS or repeated measures with SPSS. However, to use this same data in procedures that require a univariate format (such as with procedures MEANS, PLOT, or MIXED) you should store the data with the structure shown below:

Subject	Date	Time	P	T
P001	11/01/2002	1	123	30
P001	11/01/2002	2	234	28
P001	11/01/2002	3	345	27
P002	11/01/2002	1	111	31
P002	11/01/2002	2	232	23
P002	11/01/2002	3	143	22

Time now becomes a new index variable. The values of the two variables are now listed in two individual columns. You may need to be able to convert data from one structure to the other. Several methods of transposing data in SAS are available at

<http://darkwing.uoregon.edu/~robinh/06appl.txt>

## Transferring Data from Excel

After you've entered a few records into Excel, you can test the procedure to read them into SAS or SPSS. To transfer your data to another computer system such as Darkwing, your one choice with SAS version 8.2<sup>1</sup> is to save it as a text file (comma, \*.csv, or tab-delimited, \*.txt) and move it with a file transfer program. The column headers you entered into Row 1 will be your variable names. This row can be extracted and form the variable names of the INPUT statement.

By default, statistical programs assume all variables are numeric, so if you have text or date formats, you'll need to specify them on the respective input statement. Also, indicate **firstobs=2** on the INFILE statement to show the data begin in Row 2:

```
DATA one;
INFILE 'mydata.csv' dlm=', ' dsd firstobs=2;
INPUT subject $4. date mm/dd/yy/10. p1 p2 p3 h1 h2 h3;
RUN;
```

---

<sup>1</sup>**Note:** *Unix SAS 8.2 doesn't have the capability to access PC files directly across a network, but you can expect to be able to do this with SAS 9.1, which is scheduled for release sometime next year.*

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# Designing Data Entry for Transfer to SAS, SPSS, continued...

To read data into PC SAS, you can follow the procedure above for saving data as text files and read them in an analogous manner, or you can review several data transfer methods summarized at

<http://www.ita.doc.gov/industry/otea/dcsug/excelsas.pdf>

**Instructions for importing to SAS or SPSS.** Assuming you have followed the above steps for data entry and your data begin in Row 2 of an Excel worksheet, both SPSS and PC SAS have the capability to read them directly. In SPSS, select “Open/Data” and choose \*.xls as the filetype. PC SAS has an IMPORT wizard that will lead you through these steps one at a time, but it’s helpful to know how to use the SAS IMPORT procedure.

```
PROC IMPORT DATAFILE="c:\<path>\test.xls" OUT=test REPLACE;
  SHEET="sequence" ;
  GETNAMES=yes;
run;
```

The **DATAFILE=** option tells SAS where to find the Excel file (path and file name).

The **OUT=** option tells SAS to create a temporary dataset called “test.” This dataset could be made “permanent” by using a reference to a LIBNAME statement with a *libref* that appears prior to PROC IMPORT.

The **REPLACE** option tells SAS to over-write the data set listed on the OUT= option if it currently exists.

If the Excel file contains multiple worksheets, you’ll need to specify the name of the worksheet you want to read with the **SHEET=** statement.

If SAS variable names have been placed in the first row, the **GETNAMES=yes** statement tells SAS to use these

names rather than to create default names and formats of VAR1 VAR2 VAR3, etc.

To verify that data transfer worked, immediately print the data file with PROC PRINT (use the **obs=** option for large files) and check the data formats with PROC CONTENTS:

```
PROC PRINT DATA=test (obs=20) ;
PROC CONTENTS DATA=test;
RUN;
```

## Another Data Entry Option

You might also consider using EpiData, a comprehensive, easy-to-use tool for simple or programmed data entry and for data documentation. Thanks to donations and volunteer efforts, EpiData is free. It is currently developed for Windows 95/98/NT/2000/XP, but also works on PowerMacs with emulators. You can download EpiData from <http://www.epidata.dk/>

EpiData is easy to get, easy to set up, easy to learn, and has valid-range checking capability. It also outputs the entered dataset for use in SAS, SPSS, Stata, etc., by producing files of commands plus data, so going through the process described above with PROC IMPORT is not necessary.

## References

Bourque, Michele. “Reading External Data Files Using SAS®: Examples Handbook.” Cary, NC. SAS Institute, Inc., 2002.

Bourque, L.B., & Clark, V. (1992) *Processing data: The survey example* (Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-085). Newbury Park, CA: Sage. (Email: [order@sagepub.com](mailto:order@sagepub.com))

## UO ‘Buffleheads’ Ace Regional ACM Programming Competition

A trio of computer-savvy UO students who call themselves “the Buffleheads” recently took first place in a regional programming competition sponsored by the Association for Computing Machinery (ACM).

Because of their win, Buffleheads James Marr, Dan Stutzbach, and Carl Howells were among the select few invited to participate in the international finals. Out of a total of 3,850 competing teams, only 70 (the top two from each region) moved on to the finals, in which students from Africa, Europe, and the South Pacific participated.

The international competition, officially titled the ACM International Collegiate Programming Contest, challenged each team to solve eight complex problems in only five hours and write a computer program implementing their solutions. Each team’s score was based on how many problems were completed, how much time it took to complete them, and the accuracy of the solutions.

CIS Professor Eugene Luks coached the UO team for the international finals, where they distinguished themselves with an honorable mention. You can see the full report of the contest at <http://icpc.baylor.edu/icpc/>

## « some sites worth seeing »

1. **Monoculture Considered Harmful**... Thought-provoking article by John S. Quarterman comparing the Internet to an ecosystem and warning of the dangers of a “monocultural,” homogeneous Internet.  
[http://www.firstmonday.org/issues/issue7\\_2/quarterman](http://www.firstmonday.org/issues/issue7_2/quarterman)
2. **The Online Books Page**... Full texts online, including over 18,000 books, literary news, special online literary features such as *A Celebration of Women Writers* and *Banned Books Online*, and general and foreign language archives. Edited by John Mark Ockerbloom at the University of Pennsylvania.  
<http://onlinebooks.library.upenn.edu/>
3. **Locally produced E-book holdings**...
  - A selection of texts, most in Microsoft Reader format, a few in PDF format. Many topics in Asian history, culture, and literature.  
<http://fluffy.uoregon.edu/read/product.html>
  - *Renaissance Editions*, an online repository of works printed in English between the years 1477 and 1799. The site is created and maintained by the UO Library's Richard Bear.  
<http://www.uoregon.edu/~rbear/>
4. **“A radical rethink...” on current copyright laws**... Opinion column in *Economist.com* tackling the thorny issues surrounding copyright in the digital age.  
[http://www.economist.com/opinion/PrinterFriendly.cfm?Story\\_ID=1547223](http://www.economist.com/opinion/PrinterFriendly.cfm?Story_ID=1547223)
5. **Unofficial Visio 2000 FAQ**... Questions and answers about Microsoft's diagram preparation tool, Visio.  
<http://www.diagramantics.com/diagenvs/visio/faq>
6. **AOL.Webmaster.Info**... Technical information on AOL and its operations.  
<http://webmaster.info.aol.com/>
7. **Ripoff Report**... If an offer sounds too good to be true, it probably is. But to be sure, you can check it out at  
<http://ripoffreport.com>  
This site includes publicly searchable consumer complaints from around the country.
8. **“Why Doesn't MSN work with Opera?”**... Is Opera specifically targeted by Microsoft and MSN? An analysis of the technical background of Opera problems with some MSN sites.  
<http://deb.opera.com/howcome/2003/2/msn/>
9. **SpeedGuide.net TCP/IP Analyzer**... Type in your network address and see your stats at  
<http://forums.speedguide.net>
10. **Test Your Network Connection and Throughput**... Check out  
<http://miranda.ctd.anl.gov:7123/>
11. **Tech Bargains**... Interested in discount computer deals? Check out  
<http://www.techbargains.com/>

## One-Stop Shopping for List Owners

One website has it all

Everything you ever wanted to know about managing a campus mailing list is now in one location!

Visit the Majordomo List Owners information pages at  
<http://darkwing.uoregon.edu/~majordom/>

There you'll find answers to common problems, list application and deletion forms, Majordomo and MHonArc workshop materials, detailed information about your lists—and more.

Still have questions? Send email to [listmaster@lists.uoregon.edu](mailto:listmaster@lists.uoregon.edu)

### *Darkwing Email Duplications Traced to Sendmail Glitch*

A bug in Sendmail 8.12.7 caused Darkwing users some annoyance recently when duplicate email messages began to appear frequently in their mailboxes.

Because of the Sendmail bug, Darkwing's mail queue wasn't updating quickly enough, causing some messages to be sent multiple times.

To avoid this problem, system administrators who are running Sendmail may want to lower the “CheckpointInterval:” option in their server's `sendmail.cf` until a patch becomes available.



# Looking for the Next ‘Killer App?’ Use

Mary Harrsch

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RSS (Rich Site Summary, sometimes known as Really Simple Syndication), is a very basic implementation of XML. It's a syndication format that enables content providers to share news headlines, links to recent articles, descriptions, and even images—with not only other content providers, but also users of a variety of devices such as PDAs, cell phones, email ticklers, and voice update pagers. This is possible because XML is, fundamentally, a database tool instead of a display language like HTML.

In education, RSS files can be used to syndicate research news, learning modules, position vacancies, awards and achievements, new publications, significant donations—anything that is dynamic in nature and would be of interest to a particular audience. As information sources, RSS files can also be used to create subject-specific news portals for students, faculty, and staff, making it easier for them to stay abreast of discoveries and developments in their particular area of interest.

The RSS file itself, like its HTML cousin, is a simple text file. It begins with two lines to identify the version of XML and RSS that can utilize the file:

```
<?xml version="1.0"?>
<rss version="0.91">
```

This is followed by “channel” information to describe the type of news contained in the file, the related URL of the publication, the language used, contact information, etc. Example:

```
<channel>
<title>Roman Archaeology</title>
<link>http://darkwing.uoregon.edu/~mharrsch/romanarch.html</link>
<description>Items of interest about excavations and history of the ancient Roman world</description>
<language>en-us</language>
```

Then each news item, enclosed by the <item></item> tag, includes a title, a URL, and a description. Example:

```
<item>
<title>Wooden cart and team found in Roman grave </title>
<link>http://www.ekathimerini.com/4dcgi/news/content.asp?aid=262 </link>
<description>A team working under archaeologist Diamantis Triandafyllos uncovered the four-wheeled cart, which was decorated with bronze ornaments and buried along with the two horses that drew it, in a large tumulus near the village of Mikri Doxipara, some 25 kilometers. </description>
</item>
```

After all news items have been included, the document closes with:

```
</channel>
</rss>
```

XML does have a few characters that are reserved for special purposes. These characters must be replaced by their XML equivalents: The five most common are:

1. **&amp;**; for the ampersand &
2. **&quot;**; for the double quote “
3. **&apos;**; for the single quote ‘
4. **&lt;**; for the less-than bracket <
5. **&gt;**; for the greater-than bracket >

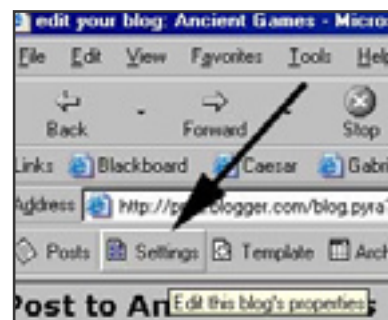
XML also does not like em dashes. I replace these with two hyphens (--).

To make sure you haven't overlooked any special characters or made a mistake in your tags, you can validate your RSS file at <http://feeds.archive.org/validator/check/>

Although I have also learned to create my own RSS files from scratch, I have found it most convenient to create them with a tool like Blogger Pro (<http://www.blogger.com/>). Blogger is a web log service that provides an environment to produce date- and time-stamped postings of information. Blogger offers free weblogs, but only the Pro version (presently costing \$35 per year for any number of blogs totaling no more than 100KB of text per month) provides automatic RSS file generation of your web log content and the ability to assign team members to a weblog.

Blogger Pro must first be configured to create an RSS file. The resulting RSS file is then updated automatically each time you post an item to your weblog.

First, select **Settings**:



Then select the **Format** tab:



# XML to Create and Syndicate News Feeds

Scroll down and select **Yes** for the Titles field and the URL field :



Then highlight and copy the code under the URL field (it includes the code under the Title field).

Save your changes. Then click on the **Template** button:



Scroll down to the section that begins with the <Blogger> tag and insert the Title/URL text below the </BlogDateHeader> tag:



Save your template changes and click the **Publish** button to apply your new template.



You should now see a Title field and URL field in your posting environment. Now press the **Settings** button again and choose the **RSS** tab.



Select your Descriptions option. With the None option, none of your own text will appear in the RSS file, only the Title and URL. With the Small option, the first paragraph of your text up to 255 characters will appear with the Title and URL. With the Full option, your entire text will appear as well as the Title and the URL.

Scroll down and fill in your server directory location (like your other Blogger settings, use the full path from the root level of your host server), filename, and URL to your RSS file and click Save Changes:



You're now ready to become the next competitor to CNN!

## Some Glitches to Watch For...

I have encountered a few glitches in Blogger's RSS conversion tool, however. At this time, Blogger does not appropriately convert apostrophes to their XML &apos; equivalent. It also chokes on em dashes in text and ampersands in link references (some database driven sites and search tools result in links containing ampersands). I have reported these bugs to Blogger but in the meantime I simply omit apostrophes, avoid links with ampersands (sometimes I have to find a different source), and replace em dashes with --. Blogger-generated RSS files include a <lastBuildDate> tag that the RSS validator does not like, but it does not seem to interfere with actual use of the feed.

# XML News Feeds, continued...

## Inserting Images

RSS files can also include images. Blogger Pro lets you upload files to attach to your post, but I prefer to insert HTML image source code into a post so I can manipulate the placement and alignment of the image. However, it is important to remember that the code must include an absolute (full) path to the image:

```

```

I usually just keep Dreamweaver open, insert the image I want into a blank Dreamweaver page, set the alignment, size, etc. then copy the `<img src ... >` code. Then with my web post in the edit window of Blogger, I place my cursor in the position of my web posting where I wish the image to appear and select "paste." You'll see the result in the lower post list window.



When the RSS file is created, it includes the image reference as well and displays the image appropriately.

## Publicizing Your News Feed

To publicize your news feed, submit your RSS file URL to an aggregator like <http://www.syndic8.com/> Syndic8 will not only add your file to their database of over 10,000 news feeds, but also provide links to other news feeds you may wish to use in creating a news portal. I also recommend including a link to your RSS file in your web log template so it appears on your web page and can be easily copied by others interested in integrating your news file into a news portal.



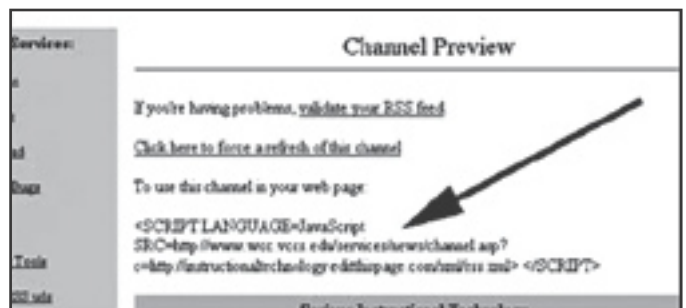
Since news feeds cannot be displayed directly as HTML, embedding a news feed in a web page requires the use of CGI or JavaScript. However, there are free tools on

the web to help you with this as well. I presently use a site provided by Wyethville Community College at <http://www.wc.cc.va.us/services/news/>

I simply select an appropriate feed from Syndic8, right click on the XML tag and copy the shortcut.



Then I paste it into the JavaScript tool on Wyethville's page and press Enter. If the feed contains no errors, it will display the appropriate script to copy and paste into your web page.



It also nicely formats the feed with a gold title bar. If the feed contains an error, you can trouble shoot the feed by clicking on their "Validate feed" link. Although you can't correct someone else's feed, you can use the tool to check one of your own or to provide the information to email to the feed publisher to aid them in correcting their feed. To see a page created this way, go to <http://interact.uoregon.edu/RSSNews/ITnews.html>

Since RSS production and use is still rather new, I try to spread the word about its potential use. When I find a web page that contains news items I'd like to include in one of my news portals, but the page does not appear to offer an XML link, I email the webmaster with information about RSS, links to basic resources, and an explanation of how I would like to use an RSS feed from their site.

I've been looking for the next "killer app" for quite some time and think this implementation of XML technology could be it. Although relatively simple in concept, much like email, RSS provides an opportunity to efficiently communicate relevant information to specific interest groups and leverage distributed effort across a global environment.



# Free Fortran, C/C++, and Pascal Compilers For PCs

## Compilers for Windows and Linux are available for the asking

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Most Unix programmers are quite familiar with GCC (<http://gcc.gnu.org/>), which really sets the standard for Unix compilers, as well as various vendor proprietary compilers such as those offered by Sun and HP (formerly Compaq, formerly Digital Equipment Corporation).

However as PCs running Windows have become faster and faster, there has been growing interest in Windows-oriented C/C++/Fortran/Pascal compilers, too.

There are many good commercial compilers available for Windows users, but if you're looking for a free option, you're in luck—some excellent free compilers are now available for Windows:

**Open Watcom compiler suite.** For example, on February 7, 2003, Open Watcom released a free open source C/C++/Fortran compiler suite for Windows users. For more information, please see <http://www.openwatcom.org/>

**Borland compiler.** Borland has released its C++ Compiler (version 5.5) for free download. See <http://community.borland.com/article/0,1410,20633,00.html>

If you miss the “good old days,” you may be interested to know that Borland is also making free copies of some of its “antique” compilers (as released circa 1989) available at no charge from their online “software museum.” For example, you can obtain Borland Turbo Pascal 5.5 from <http://community.borland.com/article/0,1410,20803,00.html>, Borland Turbo C v2.01 from <http://community.borland.com/article/0,1410,20841,00.html>, and Turbo C++ 1.01 from <http://community.borland.com/article/0,1410,21751,00.html>

**Salford compilers.** Salford's FTN77 Personal Edition Compiler for Windows 98/ME/NT/2000/XP, including the Salford C/C++ Compiler, is available free for private non-commercial use. Note that this license permits personal use at home and use by students for their personal studies, but it may *not* be used in teaching environments such as college or university classes, nor in

university projects with commercial funding. Executables display a popup box with a licensing message at run time. For more information, see <http://www.salfordsoftware.co.uk/compilers/ftn77pe/index.shtml>

**Digital Mars compiler.** Another C/C++ compiler for Windows that you may want to check out is the free compiler from Digital Mars. For more information, see <http://www.digitalmars.com/>

**Pascal.** If you're interested in Pascal, FreePascal, a Borland-compatible Pascal for Windows, is available from <http://www.freepascal.org/>

**Intel compiler for Linux.** If you are running Linux on Intel hardware, rather than Windows, you could run GCC just like any other Unix user. However, you should also know that Intel is now making its Intel Fortran 7.0 Compiler for Linux available for non-commercial use at no charge. See <http://developer.intel.com/software/products/compilers/flin/noncom.htm>

This appears to be a very fast compiler, based on benchmarks shown at [http://www.polyhedron.co.uk/compare/linux/f77bench\\_p4.html](http://www.polyhedron.co.uk/compare/linux/f77bench_p4.html). Intel also makes its C++ 7.0 Compiler for Linux available for noncommercial use at no charge. See <http://www.intel.com/software/products/compilers/cln/noncom.htm>

In addition to free compilers, users are often interested in free or inexpensive numerical libraries. Some resources you should know about include:

- The GNU Scientific Library, available from <http://sources.redhat.com/gsl/>
- The Imatrix Standard Function Library (about 450 functions), available from <http://www.imatix.com/html/sfl/index.htm>
- A variety of mathematical software, available from <http://www.netlib.org/>
- Several versions of the Numerical Recipes books from Cambridge University Press, available online at <http://www.nr.com/>

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*Please note that while the Numerical Recipes books are available for free online, you will still need to purchase a license to use the routines contained in the books (a single screen license for a PC running Windows or Linux, or a single screen license for a Mac, costs \$65).*

CHUCKING YOUR OLD COMPUTER HARDWARE? CHECK OUT DELL'S RECYCLING SERVICE  
[http://www.dell.com/us/en/dhs/topics/segtopic\\_dell\\_recycling.htm](http://www.dell.com/us/en/dhs/topics/segtopic_dell_recycling.htm)

# Understanding the Ins and Outs of World

## Answers to some common questions about navigating the Internet

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In talking with users, we know that while many folks are able to “click around” and eventually get where they need to go on the World Wide Web, they may still be confused about web addresses (also known as “URLs”) and how browsers work with them. This article is intended to clear up some common questions and help you use your browser more efficiently.

### Changing Your Browser’s Default Home Page

Your web browser comes preconfigured to start at a default website, usually the browser creator’s own “portal” site. Most of these sites aren’t bad, but since you have a choice, you may want to set your default home page to any web page you like, such as:

- Google ( <http://www.google.com/> )
- The Open Directory Project ( <http://dmoz.org/> )
- The University of Oregon’s home page ( <http://www.uoregon.edu/> ),
- Your own home page on Darkwing or Gladstone, or even a home page stored locally on your own Mac or PC.

Below are instructions on how to change your home page setting, according to the browser you’re using:

**Mac OS X Mozilla:** Go to the Mozilla menu and select *Preferences...* Click on *Navigator*. Enter your preferred home page in the *Location:* box. Click *OK*.

**Windows Mozilla:** Go to the Edit menu and select *Preferences...* Click on *Navigator*. Enter your preferred home page in the *Location:* box. Click *OK*.

**Mac OS X Internet Explorer:** Go to the Explorer menu and select *Preferences...* Click on *Web Browser*. Enter your preferred home page in the *Address:* box. Click *OK*.

**Windows Internet Explorer:** Go to the *Tools* menu and select *Internet Options...* On the *General* tab put your preferred home page in the box. Click *OK*.

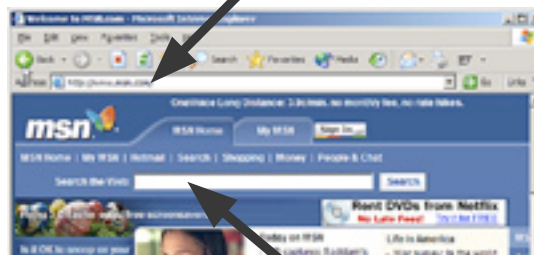
### Manually Entering a URL

Although it’s common practice to begin web journeys by using a search engine, there are times you will already know *exactly* what site you want to visit. If so, there’s no need to search for anything, you can just go directly to that site.

To do so, simply type that web address into your browser’s address bar and hit return. Your web browser will then

immediately take you to that address. Note that your browser’s address bar is near the very top of the browser screen—it is *not* the search box that most portal pages prominently feature.

**This is the browser’s address bar** (you can directly enter known website addresses here)



**This is a portal page search engine box.** If you already know the complete web address of a site you want to go to, you do not need to bother searching for it here! Simply enter the address in the browser address bar.

### Not All Web Addresses Begin With “www”

It is certainly true that many web sites have addresses that begin with “www,” but many others may not. For example:

Site	Address
UO’s password-changing website	<a href="http://password.uoregon.edu">http://password.uoregon.edu</a> (not <a href="http://www.password.uoregon.edu/">http://www.password.uoregon.edu/</a> )
Slashdot, a popular site for technical news	<a href="http://slashdot.org/">http://slashdot.org/</a> (not <a href="http://www.slashdot.org">http://www.slashdot.org</a> )

In some cases, sites with perfectly good three-part addresses have become so resigned to users habitually using the *www* prefix that they’ve simply defined an additional address that includes *www* at the beginning of the address. However, we do *not* recommend that sites do this—it just adds to the confusion rather than eliminating a problem.

### Not All Web Addresses End With “.com”

Because most commercial websites end in “.com” it is easy to make the unwarranted assumption that *every* web address has that suffix. Many web addresses do end in “.com,” but many others do not.

Consider, for example, <http://www.uoregon.edu/> (our domain ends in *.edu* because we’re an educational site), <http://www.whitehouse.gov/> (the *.gov* domain is for US government entities), or <http://www.bbc.co.uk/> (the British Broadcasting Corporation’s website in the United Kingdom).

# Wide Web Addresses and Your Web Browser

If you forget to mind your **.edu**'s, **.gov**'s, or other URL endings, you can end up in some unexpected (and occasionally unsavory) online neighborhoods.

## What Are All Those Two-Letter Domains I Sometimes See?

While **.com**, **.net**, **.org**, **.gov**, **.mil** and **.edu** are probably the most commonly seen domains at the University of Oregon, you may see other “exotic” domains such as **.de** (Deutschland, better known to Americans as Germany), **.ch** (Cantons of Helvetica, aka Switzerland) or **.za** (Zud Afrika, aka South Africa).

For a complete list of domain name country codes, including pointers to the *whois* servers that have registration information about domains, see <http://www.iana.org/cctld/cctld-whois.htm>

## “You Can Call Me Mr. Thomas James Smith III... or You Can Just Call Me Tom”

While you're always okay entering a complete web address (such as <http://www.uoregon.edu/index.html>), you can usually get away with abbreviating web addresses quite a bit.

For example, most of the time you can safely omit the “http://” at the front of a web address. Thus, entering <http://www.uoregon.edu/index.html> or [www.uoregon.edu/index.html](http://www.uoregon.edu/index.html) will get you to the same location.

Likewise, if you just want the default top page for a website, you don't need to explicitly specify the “index.html” part of the URL. Thus both <http://www.uoregon.edu/index.html> and <http://www.uoregon.edu/> will get you to the same web page. You can also usually omit the trailing slash, but it is more efficient (at a technical and probably imperceptible level) if you remember to include it.

If you trim a web address further still, your browser will still try to make a good guess at the site you're trying to reach. For example, if you enter just a single word as a web address, such as “darkwing,” your browser will usually assume that you're looking for *darkwing* <your default local domain>.

If you're connecting from the UO campus network, or from a UO dialup modem, your default local domain will be **uoregon.edu**, and hence you'll go to **darkwing.uoregon.edu**, which is probably what you intended.

However, if you're connecting from a non-UO network, such as **mindspring.com** or **attbi.com**, for example, your default local domain will *not* be **uoregon.edu**, and your computer may assume you're trying to go to **darkwing.mindspring.com** or **darkwing.attbi.com** by default, which is probably *not* what you meant. Specify the entire URL in that case.

The people who created your browser also knew that many of the most popular websites have home pages of the format **www.<domain>.com**. Because of that fact, if you're at the UO and you enter a single word as a web address, such as **cnn**, your browser will first look for **cnn.uoregon.edu**, and then try **www.cnn.com** (which is probably what you meant).

Can these rules cause problems sometimes? They certainly can. Consider the case of a national website known as **www.darkwing.com**, or a local website called **cnn.uoregon.edu**!

If these rules about abbreviated web addresses seem puzzling to you, don't worry about it. When in doubt, you can always just enter a full web address and it will work fine.

## Why Do Some URLs Have a Tilde ( ~ ) ?

If you see a URL that has a tilde in it, that's a clue that the web page is user-maintained and located within a user's personal web space. Web pages that are stored in a web server's primary document directory will typically *not* have a ~ in their URL.

Why would this matter? Knowing whether a web page is an “official” web page or a user-maintained web page may help you assess the degree to which that web page may be considered “authoritative” or “official” or may give you important clues about where to direct comments about a web page that may need attention. For example, if you had a question about the web page <http://darkwing.uoregon.edu/~xyz/>, you'd know to try writing to [xyz@darkwing.uoregon.edu](mailto:xyz@darkwing.uoregon.edu) to ask for help with that page.

## Why Do Some Website Addresses Consist of Numbers Instead of Letters?

When we talk about all-numeric web addresses, we're talking about URLs consisting simply of a “dotted quad,” or a numeric address that might look like <http://128.223.142.13/> —*not* a “symbolic” domain within **.com** or **.net** or wherever that just happens to include a number, such as <http://www.411.com/>

The first thing you should know about websites using raw numeric addresses is that using raw numeric addresses for websites is a *really* bad idea. If a web server needs to move from one network address to a new one and all you've got as an address for that server is its old numeric address, you've effectively “lost” that website.

On the other hand, if you are using a symbolic address for a server and that web server is relocated, everything will be back to normal as soon as the symbolic name for that server has been updated to reflect the new location.



# Ins and Outs of the Web, continued...

So why *do* some sites use all-numeric addresses?

Some websites with just a numeric address may have intentionally not bothered to create a symbolic name for that address. For example, in some foreign countries that don't use the roman alphabet (e.g., China, Russia, Greece, Thailand), there may be little perceived value in registering an English language domain name and hostname in an "alien" alphabet that will never be used by local customers.

In other cases, a user may not have authorization to register a host name or to run a web server, and may be using just a numeric address in the vain hope that will let them fly under the radar. (It usually won't!)

## Why Do Some Web Page Names End in .html, While Other Web Pages End in .htm or .cgi or .php or .asp or .txt or...?

Originally, normal web pages written using HTML (HyperText Markup Language) had names ending in **.html**, while preformatted plain text files (the online equivalent of a page of plain typewritten text) had file names ending with **.txt**

When your web browser would see a web page with an **.html** extension, it would "know" to expect a page that included HTML formatting instructions. Similarly, when your browser processed a URL ending with a **.txt** extension, it knew it could just display that file "as-written," that is, as a preformatted plain text file.

**So how did .html become .htm?** The **.html** extension was created as a matter of necessity for some systems that didn't know how to handle file names with file extensions that were more than three characters long.

**What about .cgi, .php, and .asp?** Those file extensions all signify that you're working with a "dynamic" web

page, or a page that will usually accept information from you and return customized results. Examples of pages of this sort include online shopping carts used by e-businesses.

## Speaking of Online Businesses, What's the Big Deal About 'Secure' Websites and Certificates, etc.?

Most web pages are sent across the network unencrypted. That is, if someone were eavesdropping on your transmissions, they could see exactly what you were looking at, or see all the information you might be entering into an online order form. URLs that begin with **https**, however, are transmitted "encrypted," meaning that someone looking at an **https** file as it is transferred over the network would see nothing but gibberish. This is obviously a good thing for sensitive information such as usernames and passwords, credit card information, and so on.

Secure web pages also protect you against another potential problem: how can you be sure of the identity of a particular site? In the case of websites running with a certificate issued by a major certificate authority (such as Verisign), you can be quite confident that you're not connecting to a fraudulent site that's masquerading as a legitimate e-commerce destination. You should be wary, however, if you connect to a site that is using a "self-signed" certificate, or a certificate issued by a certificate authority that your browser doesn't recognize! That site may be fine, but you can't tell for sure.

One other thing we should mention: just because a website transmits its pages securely using **https** doesn't mean that the site as a whole is secure. Protecting network transmissions from interception is important, but doesn't do a thing to protect you from other threats— such as a hacker/cracker breaking into a server that has your credit card number stored on its disks in plain text!

## Caution: Early Versions of Apple Mail Server Vulnerable to SMTP Relay Abuse

Although most Apple OS X users don't use Apple's Mail Server (and don't need to), it is very important that if you *do* use it, you use a secure version. We've seen at least one UO user running a version of Apple Mail Server older than 10.1.3. *Please note that Apple's Mail Server prior to 10.1.3 is insecure and vulnerable to SMTP relay abuse by spammers, and must be upgraded.* More information about this is available at <http://docs.info.apple.com/article.html?artnum=106763>

For general information on how to update your Apple OS X system's software, please see <http://docs.info.apple.com/article.html?artnum=106704>. Or, go to *System Preferences* in the Apple Menu, select *Software Update*, and click on *Check Now*. While you're there, make sure you've got "Automatically check for updates when you have a network connection" and the "Daily" option selected.

Information on configuring Mac OS X Server Mail service to prevent open SMTP relay is available at <http://docs.info.apple.com/article.html?artnum=107344>

*Note: Apple Mail Server is an optional feature of OS X and is not part of the default installation.*

# Microsoft Windows XP, Linksys DSL Routers, Universal Plug and Play, RIP, and the “Internet Gateway Device Discovery and Control Client”

## Avoid unnecessary complexities when using Windows XP with certain gateway devices

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The observation that there seemed to be an awful lot of network activity on a quiescent home network connection at an acquaintance’s home lead me to notice something rather interesting (in a horrifying sort of way) about Windows XP when used in conjunction with certain Linksys DSL routers.

As you may already know, “Universal Plug and Play” (UPnP) permits your PC to recognize and manage stand-alone external devices.

Microsoft’s enthusiastic overview of UPnP is available online at

<http://www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/winxpro/evaluate/upnpxp.asp>

After reading it, you may be convinced that UPnP is the best thing to come along since sliced bread. But as we’ve previously mentioned, UPnP has some grave issues. For example, in the Winter 2002 issue of *Computing News*, we provided a heads-up about serious UPnP security issues ([http://cc.uoregon.edu/cnews/winter2002/xp\\_hole.html](http://cc.uoregon.edu/cnews/winter2002/xp_hole.html)), and included a pointer to a patch for that vulnerability. A more general discussion of UPnP vulnerabilities is also available at Steve Gibson’s excellent web site at <http://grc.com/unpnp/unpnp.htm>

Today, however, we’d like to alert you to one specific example of how running UPnP on your PC can lead to unintended, unnecessary, and undesirable network behavior.

You need to be concerned about this if you happen to have the following setup:

- a Windows XP, with UPnP enabled (as it is out of the box)
- a Linksys BEFSR41 DSL router (this is Linksys’s popular combination firewall/4 port ethernet switch) with a relatively current firmware revision with UPnP Service enabled, and
- you use the Windows XP Network Configuration Wizard to set up your network connection

If you have this setup and use the Configuration Wizard (as many folks will), then Windows XP will try to “help” you by configuring your PC to talk to your DSL router via the Internet Gateway Device Discovery and Control Client, Internet Connection Sharing (ICS) and UPnP. See, for example:

- [http://www.microsoft.com/windowsxp/home/using/productdoc/en/hnw\\_dc\\_understanding.asp](http://www.microsoft.com/windowsxp/home/using/productdoc/en/hnw_dc_understanding.asp)
- <http://www.smallnetbuilder.com/Sections-article21-page7.php>

In most cases, having XP talk to your DSL router via ICS and UPnP is both completely unnecessary and highly inappropriate.

The DSL router should handle “connection sharing” at the hardware level (it *does* include a four-port integrated ethernet switch after all!), and the PC should need to do nothing more than shovel packets out its network interface card directly to the DSL router—no additional network shim need be in the path.

This problem is exacerbated when you throw the Windows XP RIP Listener service into the mix. RIP is a primitive and chatty routing protocol that is completely unnecessary for a typical simple home network consisting of a few PCs simply connected to a single shared DSL line via a Linksys DSL router/switch.

**Are you an XP user with a DSL router? Worried that you might be configured this way?** If you’re not sure of your configuration, you can check it by following the steps outlined below. (As always, before making *any* changes to your system, make sure you have a good backup in case you run into problems and want to back those changes out.)

1. Go to *Start*—> *Settings*—> *Control Panel*—> *Add or Remove Programs*, then click on *Add/Remove Windows Components* in the left-hand column. When the *Windows Components* window comes up, scroll down and click on the *Network Services* line, then click *Details*.
2. Do you see *Internet Gateway Device Discovery and Control Client* selected? If so, clear that check box.
3. Do you see *RIP Listener* selected? If so, clear that check box.
4. Do you see *Simple TCP/IP Services* selected? If so, clear that check box.
5. Do you see *Universal Plug and Play* selected? If so, clear that check box.
6. Click *Next*, as needed, to get to *Finish* (you’ll need to reboot if you’ve made any changes).

You may also want to ensure that the *SSDP Discovery Service* and the *Universal Plug and Play Device Host* are stopped and disabled in *Services*. To do so, go to *Start*—> *Settings*—> *Control Panel*. Double-click *Administrative Tools*, then double-click *Services* and scroll down until you can double-click on *SSDP Discovery Service*. Make sure it is listed as *Startup type: Disabled* and *Service Status: Stop*. Repeat this process for the *Universal Plug and Play Device Host* service.

As you install service packs or hot fixes to your system, you may want to check to make sure that these changes

# Network Anomalies, continued...

don't get inadvertently reversed during the patching process.

After you've cleaned up your PC, you should check your Linksys DSL router's configuration to ensure that Universal Plug and Play is also disabled there.

The easiest way to do this is via a web browser running on a networked PC connecting through your Linksys DSL router. From that PC, open Internet Explorer or Mozilla, and then go to the address <http://192.168.1.1> (this is a "private network address" which will only be available to systems connecting from behind your DSL router).

The router's UPnP's setting is located on the *Password* tab (for

more information on this, see page 54 of the BEFSR11 user's guide, available at [ftp://ftp.linksys.com/pdf/befsr11\\_befsr41ug.pdf](ftp://ftp.linksys.com/pdf/befsr11_befsr41ug.pdf)).

While use of a DSL router that does NAT (such as the Linksys\* DSL router mentioned in this article) eliminates many external attacks that may target your PC, it's still probably a good idea to also use a bidirectionally functional software firewall product such as ZoneAlarm on your home PC, too (see <http://www.zonelabs.com/store/content/home.jsp>).

\*Cisco Systems recently purchased Linksys. See details at <http://news.zdnet.co.uk/story/0,,t269-s2132250,00.html>

## « spam sites worth seeing »

1. **All About Email Headers...** Comprehensive introduction to the behavior of email headers. Primarily designed to assist the victims of unsolicited email, but also useful to the general reader. <http://www.stopspam.org/email/headers/headers.html>
2. **Spamfaq.net...** Voluminous FAQs about unsolicited bulk email, including a glossary of spam fighting's unique jargon. <http://www.spamfaq.net/terminology.shtml>
3. **Anti-Spam Research Group...** A research group affiliated with the Interent Engineering Task Force that is dedicated to investigating spam problems and solutions. For details, see <http://www.irtf.org/charters/asrg.html>
5. **Spam Forum...** The FTC is hosting a three-day "Spam Forum." See details at <http://www.ftc.gov/opa/2003/02/spamforum.htm>
5. **SpamGlass...** If you want to get a sense of the spam people are seeing, check out the Spam Looking Glass, or SpamGlass, at <http://www.openrbl.org/spamglass?s=last>
6. **Another Way to Block Web Ads...** If you're interested in an alternative way to block ads from your web browser, you may want to visit [http://www.smartdesigns.com/hosts\\_info\\_main.htm](http://www.smartdesigns.com/hosts_info_main.htm)
7. **Get the Scoop on Open Proxies...** Comprehensive report on the privacy and security pitfalls of open proxy servers (pdf and ppt formats). <http://darkwing.uoregon.edu/~joe/proxies/>

## State "Super DMCA" Acts Could Have Serious Side Effects

A number of states, including Oregon, are currently considering exceedingly broad new statutes outlawing devices or software that conceal the existence, or place of origin, or destination of any telecommunications service.

While these bills nominally target telecommunications fraud, they are so inclusive that they may outlaw important security tools such as network address translation (NAT), or use of encryption. See, for example, the discussion at

<http://www.securityfocus.com/news/3912>

These bills, which have come to be called "Super DMCA" acts, all apparently modeled after a common "model bill" drafted by the MPAA. You can see the Electronic Freedom Foundation's analysis of these bills at

[http://www.eff.org/IP/DMCA/states/200304\\_sdmca\\_eff\\_analysis.php](http://www.eff.org/IP/DMCA/states/200304_sdmca_eff_analysis.php)

Local users should note that Oregon is among the states that have "Super DMCA" bills pending:

<http://www.leg.state.or.us/03reg/asures/sb0600.dir/sb0655.intro.html>

## HOME WIRELESS NETWORK TIP:

A Wireless-to-Ethernet Bridge adapter is a device you may want to know about if you're interested in adding a hard-wired Ethernet device such as an Xbox console to your home wireless network. This device is simple to install and works on all platforms and under any operating system. For details, see [http://www.linksys.com/splash/wet11\\_splash.asp](http://www.linksys.com/splash/wet11_splash.asp)



# SPRING WORKSHOPS

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. **Unless otherwise indicated, prerequisites are required.** 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](mailto:cbell@darkwing.uoregon.edu), <http://libweb.uoregon.edu/instruct/>).

**This schedule is subject to change.** See <http://libweb.uoregon.edu/it/> for course outlines and the most current information, including answers to frequently asked questions (such as why you can't use your Oregon account in most of these workshops).

Workshop	Day/Date	Time	Location	Presenter
<b>Web Publishing, Multimedia - ✓Prerequisites</b>				
<b>New! HTML Forms</b> ★✓Prerequisite: Web Publishing I & II or equivalent, and an account on Darkwing or Gladstone (not Oregon!) Learn all about forms on the web.	Fri May 9	9 - 10:50 AM	144 Knight Library	Lechnyr
<b>Web Publishing I</b> - ★✓Prerequisites: Familiarity with a graphical web browser such as Netscape or Internet Explorer and an account on Darkwing or Gladstone (not Oregon!); you must know your username and password	Tue April 15	2 - 3:50 PM	144 Knight Library	Nicholson
	Fri April 18	9 - 10:50 AM	144 Knight Library	Frantz
<b>Web Publishing II</b> - ★✓Prerequisites: Web Publishing I or equivalent knowledge and skills, and a web page you've created	Tue April 22	2 - 3:50 PM	144 Knight Library	Munro
	Fri April 25	9 - 10:50 AM	144 Knight Library	Benedicto
<b>Web Publishing III</b> - ★ ✓ Prerequisites: Web Publishing II or equivalent knowledge and skills	Tue May 6	2 - 3:50 PM	144 Knight Library	Bell
<b>Web Sites with PHP</b> - ★✓Prerequisite: Web Publishing I & II or equivalent, and an account on Darkwing or Gladstone (not Oregon!).	Fri May 23	9 - 10:50 AM	144 Knight Library	Lechnyr
<b>Shooting Great Digital Images</b>	Thu April 24	2 - 3:50 PM	Studio A Knight Library	Kirkpatrick
<b>The Art of Recording Audio</b>	Thu April 17	2 - 3:50 PM	Studio A Knight Library	Kirkpatrick
<b>Introduction to Photoshop</b>	Tue May 20	2:30 - 4:20 PM	144 Knight Library	Harmon
<b>Dreamweaver I</b> - ✓Prerequisite: Web Publishing I & II or equivalent knowledge and skills	Fri May 2	9 - 10:50 AM	144 Knight Library	Nesselroad
	<b>Dreamweaver II</b> - ✓Prerequisite: Web Publishing III and Dreamweaver I (or equivalent knowledge and skills)	Fri May 16	9 - 10:50 AM	144 Knight Library
<b>Publishing with Equations</b> -	Wed May 7	10 - 10:50 AM	235 Knight Library	Johnson
<b>Course Websites, Presentation &amp; Research Software, Academic Integrity</b>				
<b>Blackboard for Instructors</b>	Tue May 27	2 - 3:20 PM	144 Knight Library	Johnson
<b>Net a Job: Use the Web</b> - ✓Prerequisite: Familiarity with a graphical web browser. <i>To register, contact the Career Center (346-6001)</i>	Thu April 17	3:30 - 4:50 PM	144 Knight Library	Haynes
<b>EndNote/ProCite...</b> Two programs to help you organize and retrieve your citations and format your footnotes and bibliographies	Mon April 14	12 - 1:20 PM	Seminar Rm Science Lib	Lenn, Zeidman-Karpinski
	Tue April 15	12 - 1:20 PM	235 Knight	Lenn, Zeidman-Karpinski
<b>PowerPoint Basics</b>	Tue April 29	2 - 3:50 PM	144 Knight Library	Heerema
<b>More PowerPoint</b> - ✓Prerequisite: PowerPoint Basics or equivalent knowledge and skills	Tue May 13	2 - 3:50 PM	267B Knight Library	Heerema
	<b>Academic Integrity...</b> A free-for-all discussion of the issues surrounding student academic integrity, led by experts from the UO Office of Judicial Affairs and the ASUO	Tue April 8	6 - 8:00 PM	Browsing Room Knight Library
<b>Human Research Protections &amp; UO Institutional Review Board</b> - Protecting the rights of human subjects in academic research	Mon April 7	2 - 2:50 PM	Studio A Knight Library	Kyrk, Olson
	<b>Cheating and Plagiarism Using the Internet (Videoconference)</b> - Learn about solutions to a growing problem	Thu April 3	11:30 AM - 1:20 PM	Studio A Knight Library
<b>Dealing with Plagiarism</b> - Official UO policy, and tips for minimizing the likelihood of cheating in your class	Wed April 9	2:30 - 3:20 PM	Studio A Knight Library	Loscavio
	<b>Research Conduct and Misconduct</b>	Fri April 4	2 - 2:50 PM	Studio A Knight Library
<b>Visibility+Accountability=Reduced Plagiarism</b>	Mon April 7	10 - 11:20 AM	Studio A Knight Library	Bell, Neighbors

★ Requires an active account on Darkwing or Gladstone

# COMPUTING CENTER GUIDE

## UO Website

<http://www.uoregon.edu/>

## Computing Center Website

<http://cc.uoregon.edu/>

## Microcomputer Services

(151 McKenzie 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@lists.uoregon.edu](mailto:microhelp@lists.uoregon.edu)

<http://micro.uoregon.edu/>

## Documents Room Library

(175 McKenzie Hall)

**346-4406**

<http://darkwing.uoregon.edu/~docsrml/>

## Modem Number

Dialin modem number for UOnet, the campus network: **225-2200**

## Large Systems Consulting

(225-239 Computing Center)

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

**346-1758**

[consult@darkwing.uoregon.edu](mailto:consult@darkwing.uoregon.edu)

[consult@gladstone.uoregon.edu](mailto:consult@gladstone.uoregon.edu)

[consult@oregon.uoregon.edu](mailto:consult@oregon.uoregon.edu)

<http://cc.uoregon.edu/unixvmsconsulting.html>

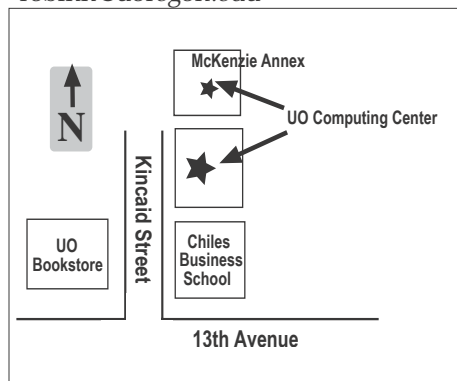
## Statistics Consulting

Robin High

219 Computing Center

**346-1718**

[robinh@uoregon.edu](mailto:robinh@uoregon.edu)



## Electronics Shop (151 McKenzie Hall)

Computer hardware repair, installation, and upgrades.

**346-3548**

[hardwarehelp@oregon.uoregon.edu](mailto:hardwarehelp@oregon.uoregon.edu)

[http://cc.uoregon.edu/e\\_shop.html](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](mailto: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**.

## Computing Center Hours

Mon - Fri 7:30 A.M. - 5:00 P.M.

## McKenzie Building Hours\*

Mon - Thu 7:30 A.M. - 11:30 P.M.

Friday 7:30 A.M. - 7:30 P.M.

Saturday 9 A.M. - 9:30 P.M.

Sunday 9 A.M. - 8:30 P.M.

\* Note: These are *building-access* hours; hours for individual facilities may vary.



UNIVERSITY OF OREGON

UO COMPUTING CENTER

1212 University of Oregon Eugene, OR 97403-1212