

How to Connect to the Internet

News and Reviews

WWW



Is your house online? Sixty percent of your fellow Americans are and there are more options now than ever before. Whether it's for the first time or you're already an Internet junkie, here's how to get connected on campus, at home, and on the road.

On Campus

In a recent survey, UIC was ranked as the 44th best-connected major university in the US. So, if the machine you want to connect is on campus, the only way to go is through the UIC campus backbone network. We have a first quality Internet connection — an OC-3 (155 Mbps) line direct to the Ameritech Chicago NAP (Network Access Point), one of four locations in the US where ISPs (Internet Service Providers) connect to the Internet.

A connection to the UIC campus backbone network can also bring you ACCC Server Services, which allows you to share software, files, and network printers, and to “rent” software from the ACCC. Server Services software is a really good deal. We take care of purchasing, installing, and upgrading it and offer it to you at a much lower cost — in both money and time — than if you did it yourself.

The software available through Server Services includes Microsoft Office, Corel WordPerfect Office, Macromedia Dreamweaver, Adobe PhotoShop, SAS, SPSS, and many more titles. (See the Server Services home page for more information. On the ACCC home page:

<http://www.uic.edu/depts/accc/>
select **Software**, then select **Server Services**.)

CONTENTS

- 1 How to Connect to the Internet
- 1 On Campus
- 2 On the Road
- 2 From Home
- 3 Home Connections at a Glance
- 4 You are not at UIC
- 5 Sharing Your Connection
- 6 You've Been Hacked

Save Yourself from Email Worms (like the Love Bug!)

The first step is to resolve to never open anything that's sent to you as an email attachment unless you were expecting it. (As of now, at least. No worm has ever sent a preliminary email message announcing the imminent arrival of a second email message containing the worm. But I suppose that's just a matter of time.)

But the first step is not enough. Regardless of what email program you use, you must also make sure that your email program never *automatically* executes scripts that come in email messages. Here's how:

For Eudora: Select **Tools**→**Options**→**Viewing Mail** and make sure the “Allow executables in HTML content” checkbox is *not checked*.

For Netscape: Select **Edit**→**Preferences**, then choose **Advanced**. Make sure the “Enable JavaScript for mail and news” checkbox is *not checked*.

For Outlook, Internet Explorer, et al.: This is a huge question, but an easy answer is to stop Windows from executing .VBS scripts when you double-click them. There are instructions for all versions of

Windows at:

<http://www.sophos.com/support/faqs/wsh.html>

Microsoft has also provided updates to Office 2000 that close this and a number of related security holes, but these updates also take away some functionality. For a discussion and a download link, see:

http://www.officeupdate.com/2000/articles/Out2ksec_article.htm

I went a bit further and followed CERT's instructions for disabling active scripting in both Netscape and Microsoft products: http://www.cert.org/tech_tips/malicious_code_FAQ.html#steps (Disabling ActiveX is a very good thing; it supports threats that cannot be defended against.)

Disabling active scripting broke GuruNet (<http://www.guru.net/>), a little one-click information service that I use, but I fixed that by following the instructions to add their Web site to my list of “trusted hosts”: http://www.guru.net/support_faqs_other.html#ActiveScripting

System Icons:

The Internet and
the World Wide Web

Apple Macintosh



MS Windows

Readership Icons:

Everyone



Novice



Expert

Visit Us on the Web

There's a lot more to say about all the topics covered in this newsletter, particularly about cable, DSL, and setting up home LANs. Check out the online version of this issue for online references: <http://www.uic.edu/depts/accc/newsletter/adn27/>

How to Connect on Campus

Go to the ACCC home page and select **Services**. The links you'll need are under "Network Services."

If you're a student living in a campus residence hall, you want Res-Net. Select **Connecting from the Residence Halls** for more information and an online application. The monthly charge for a Res-Net connection is \$10, plus \$5 if you want Server Services. (This is a good idea; Server Services includes all the class-related software that's available in the ACCC public labs.)

For other on-campus locations, the link that you need is **Connecting via the Ethernet**. In this case, you should see your department's or unit's REACH representative. If your department or unit doesn't have a REACH representative, you'll need to contact the CSO (phone: 312-413-0003, email: consult@uic.edu). There is no monthly charge for the network connections, but there's a \$7-per-month charge for basic Server Services.

On the Road

The best ways to connect while you're on the road are the following:

- ✓ A dialin ISP that has local telephone numbers everywhere you go. This means either a national ISP or a local ISP that has an "on the road" option. (It pays to check your current ISP out before you switch or subscribe to an additional service.)

The four largest national ISPs are:

Earthlink <http://www.earthlink.com/>

AT&T WorldNet <http://www.att.net/>

MSN <http://www.msn.com/>

AOL <http://www.aol.com/>

(AOL doesn't do email well; you have to use either WebMail or AOL's email program with it.)

- ✓ Many hotels provide high-speed Internet connections these days — for a charge, of course, typically about \$10 a day.

Don't plug your regular analog modem into a hotel's phone jack until you check it out; many hotels use digital telephone systems that could fry your analog modem.
- ✓ Rent or borrow a computer with Internet access, in an airport terminal, an Internet cafe, your

colleague's office, or your cousin's home, and use WebMail to read your email.

All but the last require you to bring along a computer; high-speed hotel connections also usually require the computer to have an Ethernet card.

(Some Internet companies provide free dialin telephone connections in exchange for your looking at a few ads. I don't recommend them for everyday use, but they might do when you're traveling.)

From Home

Boy, do you have choices here!

There's the old standby, traditional dialin ISP service, which you use with standard (analog) modems and a standard telephone line. The ACCC is an ISP in this sense; see "ACCC Dialin Services." To get there from the ACCC home page, select **Services**, then **Connecting from Home** (under "Network Services").

And now you also have broadband (much faster, that is) choices for connecting from home: cable modems and DSL (Digital Subscriber Line), and even wireless satellite connections.

Dialin: Casual Use and On the Road

Is your Internet use from home casual? Are you willing to have your telephone line tied up while you're on line or to spring for a second telephone line (or third, if there are teenagers involved!)?

If your answer to both questions is yes, then your best bet is a dialin ISP that:

- ✓ Has several sets of dialin lines that are in your local calling area (and in locations that you normally travel to) and
- ✓ Provides the complete standard set of Internet services. (AOL doesn't.)

The ACCC provides both dialin lines and other Internet services, so do consider us if you're choosing a traditional dialin ISP. But don't use the ACCC dialin lines just because they're "free." Unless you live close enough to campus that your calls to the campus are not metered (i.e., you're charged by the call, not by the minute), the ACCC isn't the ISP for you. Using a commercial dialin ISP will probably cost a lot less than the five cents or more per minute that you'd be charged for the phone call to use our free lines.

The Web is the place to go when you're selecting a commercial dialin ISP.

- ✓ The most complete online listing is modestly called "The List": <http://thelist.internet.com/>
It allows you to search for local ISPs in several different ways; perhaps the most useful is locating an ISP by telephone area code.
- ✓ The **Dial-upAccess** link on CNET's "Web Services" page: <http://webisplist.internetlist.com/>
This page has some interesting features, including a utility that allows you to select a group of ISPs and compare their services.
- ✓ Internet.com's "Directory of Internet Service Providers": <http://boardwatch.internet.com/isp/>
is well organized and has a lot of background information including history of the Internet and a list of questions to ask when selecting a commercial ISP.
- ✓ ComputerUser.com also has a "Choosing an ISP" page; the site also has links to other ISP lists and a quick guide to using the Internet: <http://www.currents.net/resources/isp/>

Oh, and if you don't have a 56 Kbps modem yet, now is the time to buy one. Most ISPs support 56 Kbps modems now; using a slower modem might cause problems with dropped connections. And there's finally an accepted international standard for 56 Kbps modems, ITU V.90.

For Everyone Else: Broadband

Broadband is a class of data communications methods. It's also the buzzword of the year in Internet connection circles.

Most computer communications use **baseband transmission** methods: digital transmission with only one signal per wire. "Most" includes communications between computers and printers, computers and monitors, and so on, and on most types of computer networks.

Newer, faster transmission methods use **broadband transmission**, where a single wire carries several signals at once. Cable TV, for example, uses broadband transmission, which is why you can use a **cable modem** and get TV and Internet access at

Home Connections at a Glance

From poky to presto. *Note:* In addition to the monthly costs given in the table, you should expect a one-time installation and setup fee; some also require additional equipment, which may be supplied by the service provider.

Mode	Cost Per Month	Rated Speeds	Comments
Dialin ISP	\$20 – \$45	up to 56 Kbps	Requires a modem and a phone line; price estimate includes cost of second telephone line. Connected only when you use it, which is a security plus. Lots of choices in providers and in where you can dial in from.
ISDN	\$70 – \$100	64 Kbps; up to 128 Kbps	Requires an ISDN Terminal Adapter or ISDN-to-Ethernet bridge. Runs over standard copper phone lines. Connected only when you use it.
DSL	from \$40 – \$80 to \$100 – \$200 (but going down)	G.lite 1.5 Mbps; ADSL up to 8 Mbps (1,500 – 8,000 Kbps)	Requires Ethernet card, phone line splitter (ADSL only), and a DSL modem (from provider, free of charge or up to \$200). Always connected, but not exposed to your neighbors. Runs over standard copper phone lines, but with strict home-to-switch distance limits. Faster transmission downstream (Internet to PC) than upstream (PC to Internet). G.lite is 1.5 Mbps down, 384 Kbps up. Some choice in providers.
Cable Modem	About \$40	1.5 – 10 Mbps (1,500 – 10,000 Kbps)	Requires Ethernet card and cable modem. The card may be supplied by the cable operator; the modem will be. Always connected. On a LAN with your neighbors, which is a security risk (see "You've Been Hacked") and can slow down your connection. Runs over cable TV cables; may need to upgrade your line. Faster transmission downstream than upstream. (Some wrong-headed companies don't provide upstream connections at all!) Usually no choice in provider.

Searching for an ISP — any kind of ISP?

Check out “Finding and Selecting a Commercial Internet Service Provider”:

<http://www.uic.edu/depts/accc/network/isp.html>

There’s a link to it on the ACCC Services page.

the same time. Your other broadband choices when connecting from home are several varieties of **DSL** (Digital Subscriber Line), in which both data and regular telephone traffic are carried, simultaneously, over a regular home telephone line. And there are also **wireless connections**, perhaps the broadest band of all.

Cable Modems

If your local TV cable company provides cable modem service, that’s probably your best bet, both for speed — cable modem service is by far the fastest (unless it’s vastly oversubscribed) — and for cost — it’s generally a lot cheaper than other broadband alternatives.

Cable modems are different from normal dialin modems. Cable modems are always external, connected on one side to your TV cable and on the other side to an Ethernet card in your personal computer. The cable company might call the Ethernet card a NIC (Network Interface Card); they will probably provide and/or install it, but they might ask you to do it yourself or have it done.

This all sounds complicated, but your cable company will send a technician, or perhaps two, to

your home. They will probably do most of the work of installing and setting up your cable modem and configuring your personal computer to use it.

Cable modem transmission speeds vary. The “Home Connections at a Glance” table says 1.5 Mbps to 10 Mbps (1,500–10,000 Kbps). You may have seen higher speeds quoted, maybe a lot higher, and here’s why. The total **downstream** (from the Internet to you) data flow rate over cable TV cable is 27–56 Mbps. This is opposed to **upstream** data flow (you to the Internet), which is always significantly slower over cable TV connections.

That’s a lot of throughput, but it’s not all yours; you share it with your neighbors. Thus, the number of other connections on your line matters. (It also has security implications. See “You’ve Been Hacked” on page 6.)

Even if you were the only person on your cable, your actual transmission rate would be limited by the Ethernet/PC transmission rate on your personal computer — about 10 Mbps — and/or by the cable operator’s Internet connection. For example, mine has a T1 telephone line, which is 1.5 Mbps. Thus the more realistic estimates in the table. But take my word for it, cable modems are still very fast!

DSL (Digital Subscriber Line)

DSL is relatively new as a choice for Internet connections in the home. Its speeds are comparable to cable modems and it has some advantages over them, but it also has disadvantages. First, the advantages:

- ✓ Assuming that you’ve got an ordinary telephone line, you’ve already got the wiring required for DSL in your home — POTS lines (plain old telephone service). And chances are that your local phone provider offers DSL services. (Ameritech does; it’s hard to miss their flashing DSL link: <http://www.ameritech.com/>)
- ✓ Even if your local telephone provider isn’t in the DSL business itself, you might have other choices for DSL ISPs. Check out the ACCC’s “Finding and Selecting a Commercial Internet Service Provider” document for links to DSL service-finding sites.
- ✓ DSL service isn’t shared with your neighbors, so it can offer better peak services and better security than cable modem service.

Warning: When you connect through an commercial ISP, you are not “on the UIC campus”

Duh, right? But this has consequences. For various reasons, chiefly security, privacy, and licensing, some services, Web pages, and FTP downloads have “IP restrictions.” These restrictions mean that they only work when accessed from machines with UIC IP addresses (128.248.x.x or 131.193.x.x).

UIC Bluestem authentication can often solve this problem for people connecting from outside campus via commercial ISPs. For example, there’s a Web proxy system that allows you to login using Bluestem once per browser session and have it appear that you’re on campus even when you’re not. For instructions on how to set this proxy up, see the University Library’s “Off-Campus Access to UIC Library Web-based Electronic Resources” at <http://www.uic.edu/depts/lib/news/libnew20.html>

If there’s a UIC resource that you can’t use from home because of IP restrictions, ask the resource’s provider to contact the ACCC; we’ll help them to also accept authentication with Bluestem.

If the problem is a file transfer, you can either download the file in an on-campus lab to a floppy or a Zip disk and take the disk home with you, or you can use the two-step method: log in to your tigger or icarus account, download the file to there, then transfer the file from tigger or icarus to your machine.

We talked about another consequence in the last issue of this newsletter — you can’t use the ACCC’s outgoing SMTP email servers when you’re not on campus. We didn’t mention it then, but you should also use your ISP’s DNS — domain name server — too, not because you can’t use ours, but because theirs will be much faster.

And then the disadvantages:

- ✓ There are strict distance-to-switch limits (the telephony term is “local loop”) on all manner of DSL, which can be a problem even in a large metropolitan area like Chicago. (My home in Elmhurst, for example, is OK for G.lite but not for ADSL.)
- ✓ DSL service requires a pretty good phone line; it may not work for you if the wiring in your home or neighborhood is deteriorating. The phone company may be able to provide a “clean line” for you, but don’t count on it. (Your existing

phones may also cause problems, but these problems are easily solved by installing filters at the jack or replacing equipment.)

- ✓ DSL service is still in its infancy; its quality varies and I’ve heard many horror stories about getting it installed. (This is particularly true if you select a DSL provider that doesn’t have some connection to your local phone company.)

By far, DSL’s best feature is its ability to run over regular telephone lines. It can do this because it uses different frequencies than analog telephones. You can even use your phones for voice or fax at

In-Home LANs: Sharing Your Home Internet Connection

All the connection methods we’ve discussed involve connecting one personal computer to one outside line. What do you do if you have more than one computer you want to surf with? With dialin connections, you just connect each computer’s modem to the phone line and make sure you don’t try to do online banking while your teenage daughter is busy ICQing. But you can do better. (Even with dialin connections.)

Doing better is a two-step process. Step one is a bit scary: Connect the computers in your house to your very own LAN. In-home LANs aren’t nearly as hard to set up as you might think — they definitely aren’t just for geeks any more — and they have a lot to offer. No more having to work in the basement just because that’s where the printer is. No CD drive on your laptop? No problem; you can use the one on your son’s PC. And you haven’t lived until you’ve played a good game of multiplayer Quake.

You won’t need a server, and unless you’re still using DOS, you already have the software you need for a basic peer-to-peer LAN. You will have to buy some hardware, though. Most likely you’ll need an Ethernet card for each PC. This usually means opening the computer’s case, but you can avoid that on newer computers by using Ethernet-to-USB cables and on laptops by using PC Card Ethernet adapters. For a wired network, you’ll also need a hub or switch. Or you can do without the hub and cables and use a wireless network kit or your home telephone lines. (Wireless LANs are easier to set up but they’re slower.)

And don’t worry, you won’t have to search

through aisles of hardware and end up with cables that won’t work with your cards that won’t work with your hu. There are ready-to-use LAN kits that come with everything, from a complete set of compatible hardware to instructions!

Step two: After you set up your LAN, you can use a proxy or NAT (Network Address Translation) to share your Internet connection. That sounds scary, too, huh? Don’t worry, there’s cheap and easy-to-use software that will take care of this for you. (Internet Connection Sharing, ICS, is built in to Windows 98 Second Edition and Windows 2000.)

In all, we’re talking a couple hundred dollars and a few hours of your time. Interested? Visit this article on the Web for online references:

<http://www.uic.edu/depts/accc/newsletter/adn27/>
The best plain-English discussion I’ve seen is at CNET’s Gamecenter.com: **<http://www.gamecenter.com/Hardware/Doit/Homelan/>**

Note: Some broadband service providers have extra-cost options that allow you to have more than one IP address; we pay \$20 per month for four. In that case, you can just attach the modem to one port on your network hub and your allotted number of personal computers to the others. This requires an in-home LAN, but not a proxy or NAT.

Also note: It’s possible that your agreement with your service provider explicitly forbids the use of your connection more than one computer at a time. A proxy would still work in that case, but they are detectable and the company could conceivably decide to terminate your service if they find it. That’s a monopoly for you.

Where is broadband now?

It's hard to say how many homes have broadband Internet connections now, but it's clear that the number is growing fast. In the first quarter of 2000, more than 2.2 million digital modems (both cable and ADSL) were shipped worldwide. (That's an increase of around 38 per cent for cable; 46 per cent for ADSL!)

the same time as you're using your DSL Internet connection for data. That's cool!

There are two varieties of DSL listed in the "Home Connections at a Glance" table. ADSL and G.lite are the varieties most commonly used in homes, but there are many more types of DSL. There are so many, in fact, that we should use xDSL when talking about DSL lines in general. (In the trade, just plain DSL means ADSL.)

ADSL (Asymmetric DSL) is the most common form of DSL. G.lite, a.k.a. DSL-Lite and UADSL (Universal ADSL), is a variation of ADSL that has two advantages for the home market: it has less strict distance requirements, and it's easier to install because it can be turned on remotely. ADSL requires the installation of a splitter in your home, which generally means two service calls to get it going — one for the phone and another for the computer. G.Lite is also cheaper and slower.

If you can't get cable modem service and are out of range for ADSL and G.lite, you should look into IDSL, which is DSL running on ISDN lines (see below). It supports much longer wires.

ISDN and Wireless: the Old and the New

ISDN (Integrated Services Digital Network) runs over standard copper telephone wires (like DSL). ISDN was actually a simple innovation. The telephone network is already almost entirely digital, the only exception being the line between the customer and the local exchange. ISDN makes this last segment digital as well. ISDN allows telephone wires to carry two **B-channels** (bearer channels) of voice or data at the same time at 64 Kbps each, 128 Kbps if both are used for data. Compared to 56 Kbps dialin connections on one hand and the 20 or more times faster cable modems on the other, there's little practical use for ISDN anymore.

And there's also wireless. Don't expect to get it any time soon, but it is on its way. It's competitive in speed, too, in the megabit (Mbps) range. The system to watch for is **G3**, the third generation cellular telephone system (the first generation was analog cellular and the second was digital PCS — Personal Communications Service).

Comments are welcome; send them to Judith Grobe Sachs, judygs@uic.edu

You've Been Hacked

News and Reviews

Macs

Do you have an "always on" Internet connection? Congratulations, you've been hacked!

It's easy to think that no one could possibly be interested in your poor, slow, little 486 or Pentium 90 (or iMac, for that matter), but that's simply not the case. Having a fast Internet connection that's "always on" when you want to surf the Web is great for you, but it's also great for hackers from around the world who have nothing better to do than sweep through thousands of random IP addresses looking for machines that they can exploit.

And what they can do is really quite scary. Without any visible sign or warning, hackers can infiltrate your system to obtain personal information about you or to use your computer to disguise themselves when they attack other machines. Remember last February when CNN, eBay, and Yahoo! were crashed by denial of service (DOS) attacks? Those attacks were made using "zombie computers," academic and corporate computers that had been

hacked into from the outside twice: once to install attack software and a second time to initiate the attack.

While it's likely that nothing this drastic has happened to your computer yet, it's certain that you've been probed. My PC at work is probed at least once a day. You really need to take care of this.

Turn Off Sharing Now

The first thing to do to protect your always-on-the-Internet personal computer from attack from the outside is turn sharing off on all your disk drives and printers. And you must do it right now. (Unless you have a LAN in your house, of course; in that case, you should put a password on all your drives.)

This is particularly important if you have a cable modem, because your computer is on a LAN with your neighbors.

To turn off file and printer sharing in Windows: Double-click the **My Computer** icon on your

Need help interpreting your firewall's logs?

If you're using ZoneAlarm, click the **More Info** button. Or check out Robert Graham's "FAQ: Firewall Forensics (What am I seeing?)" page: <http://www.robertgraham.com/pubs/firewall-seen.html#2.8>

desktop. Then right-click on the name of a drive, select **Properties**, click the **Sharing** tab, then click the **Not Shared** radio button. Repeat for each drive. Then double-click the **Printers** folder and repeat the same process for each printer.

To turn off file sharing in Macs: Open the **Sharing Setup** control panel. In the **File Sharing** section, you should see the message "File sharing is off" with a **Start** button beside it. If you see a **Stop** button instead, click it. A dialog box will open asking "How many minutes until file sharing is disabled?" Select **0** and click **OK**.

Get and Use a Personal Firewall

If you have an always-on Internet connection, via a cable modem or DSL or IDSN line, you must also install a **personal firewall** (a network protection tool that guards against and reports intrusions on your computer from the outside), and you must keep it running at all times.

What a Firewall Can Do For You

To get an idea of what the firewall will do for you, use Security Space's Desktop Audit before and after you install the firewall. This service checks the security of your computer's connection to the Internet by sending it various connection requests.

Visit: <http://www.securityspace.com/> and select **Desktop Audit**. You have to register before you can run an audit. To register, fill out the New User box on the Desktop Audit page, click the **Register** button, then follow their instructions.

Personal Firewalls for Windows

There are more, but these three are the most popular and most highly regarded Windows firewall software packages.

Network ICE BlackICE Defender:

Home page: http://www.networkice.com/html/blackice_defender.html

Review:

<http://cws.internet.com/lannet-blackice.html>

Special features: Easy to set up; has extensive anti-intrusion and intrusion reporting features. Small footprint and not a resource hog.

Cost: \$39.95, including one year of signature updates; \$19.95 yearly after first year. (BlackICE Basic, a free demo version, is also available.

There's a link on the review page or go to <http://download.cnet.com/downloads/> and search for **BlackICE**. BlackICE Basic isn't a

firewall, though; it just notifies you of intrusions and suggests that you buy the full product.)

Symantec Norton Personal Firewall 2000:

Home page: <http://www.symantec.com/product/home-is.html>

Review:

<http://cws.internet.com/lannet-nortonis.html>

Special features: Very highly rated; works with Norton AntiVirus 2000 (see box at left); has Web security features, including control over cookies, banner ads, and pop-up windows. *Cost:* \$49.95, including one year of signature updates.

Zone Labs ZoneAlarm:

Home page:

<http://www.zonelabs.com/zonealarm.htm>

Review: <http://cws.internet.com/lannet-zonealarm.html>

Special features: Not just a firewall; it includes application control, which, for example, blocks email worms, including detecting your computer's spreading them! This application control feature means that Zone Alarm blocks outgoing connections, too, so you'll have to do a bit of OKing to get applications such as Eudora, Netscape, and AOL IM working. (And **nslookup**, too; you'll be using that a lot to look up the DNS names of all the machines that probe you.) *Cost:* Free for personal use.

Personal Firewalls for Macs

Open Door Networks DoorStop Personal Edition:

Home page:

<http://www2.opendoor.com/doorstop/>

Review: <http://macworld.zdnet.com/2000/06/reviews/doorstop.html>

Features: Easy to set up; allows selective access by IP address. *Cost:* \$59.

Intego NetBarrier:

Home page: <http://www.intego.com/netbarrier/>

Review: <http://macworld.zdnet.com/1999/12/reviews/netbarrier.html>

Features: Outgoing-content filter; real-time traffic measurements. *Cost:* \$150.

Don't Think This Applies To You?

Believe me, it does. Or don't believe me. Download and install ZoneAlarm or BlackICE Basic and run it for a week or so. That will convince you.

Comments are welcome; send them to Judith Grobe Sachs, judygs@uic.edu

Norton AntiVirus 2000

The ACCC has a new site-licensed antivirus software: the highly regarded Norton AntiVirus 2000, which works with Norton Personal Firewall 2000. For more information, see <http://www.uic.edu/depts/accc/software/antivirus/>

Note: The site license for our previous antivirus software products, Virex and Dr. Solomon's Antivirus Toolkit, has expired. If you have either installed on any machine that you control, you must uninstall it.

The A3C Connection

Academic Computing and Communications Center (MC 135)

Room 124 Benjamin Goldberg Research Center

1940 West Taylor Street

Chicago, Illinois 60612-7352

About The A3C Connection

The A3C Connection is published four times per year by the UIC Academic Computing and Communications Center, providing news and information about the use of computers, communications, and networking at UIC. It is edited by Judith Grobe Sachs with help from Bill Mayer and the UIC Office of Publications Services.

Distribution of the *A3C Connection* is free to UIC faculty, staff, and students and to other universities and not-for-profit organizations. To subscribe, send us your name and address, UIC campus address if possible, including your department name and mail code. To cancel your subscription, send us your address label or a copy of all the information on it.

Contact us by electronic mail at connect@uic.edu; by telephone at the Client Service Office, (312) 413-0003; by US Mail at The A3C Connection, ACCC (MC 135), Room 124 Benjamin Goldberg Research Center, University of Illinois at Chicago, 1940 West Taylor Street, Chicago, Illinois 60612-7352; or by fax at (312) 996-6834.

We welcome any comments, suggestions, complaints, or requests you might have concerning the *A3C Connection*.

The Fine Print

The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval by the University of Illinois of any product or service to the exclusion of others that may be suitable. Trade names that may appear in this publication include the following: Apple and Macintosh (trademarks of Apple Computer, Inc.); IBM, PC-DOS, and OS/2 (trademarks of International Business Machines Corporation); UNIX (a registered trademark licensed exclusively through X/Open Company, Ltd.); HP, HP-UX, SPP-UX, HP-Convex, and Exemplar (trademarks of Hewlett-Packard Corporation); Sun (a registered trademark of Sun Microsystems, Inc.); and Microsoft, MS-DOS, Windows, Windows NT, Windows95, Windows98, and Windows 2000 (trademarks of Microsoft Corporation). All other product names mentioned herein are used for identification purposes only and may be the trademarks or registered trademarks of their respective companies.

Permission is granted to reprint or adapt all or part of the *A3C Connection* for nonprofit use, provided that full acknowledgment of the source is given.