The Wonderful World of the World Wide Web

By Claudia Lynch, Benchmarks Editor (lynch@unt.edu)

How quickly things change! Last year when we wrote about “the changing Internet” (Benchmarks Vol. 15, No. 4), the World Wide Web was subordinate to Gopher as an Internet information access method. Many people thought that “the Web” would never catch on because it required so much computing power to use. Little did they know! Today, many people are phasing out Gopher, Web servers are popping up in the most unlikely places (like tupperware dealerships)¹ and Jim Clark, the founder and CEO of Netscape Communications, the company that sells Netscape — one of the most popular Web browsers — officially became a billionaire recently when the price of Netscape stock rose $9.75 to $110.50 a share.²

Exactly what is the World Wide Web?
The World Wide Web (sometimes known as WWW, W3 or the Web) is one of the fastest growing segments of the Internet. According to Matthew Gray of net.Genesis (http://www.netgen.com/info/growth.html), who has been charting the growth of the Web since 1993, “even with the phenomenal growth of the Internet, the number of Web servers soared to a point [in June 1995] where one in every 270 machines on the Internet is a Web server.” A chart showing the number of Internet hosts worldwide is on page 3.

The World Wide Web allows people to combine different types of electronic data — still images, film, video and/or sound clips, and text — into one document that is easily accessible by a variety of people in a consistent manner, regardless of the type of computer they are using.

¹ There are quite a few tupperware “offerings” on the Web. Point your browser to http://www.weeksweb.com/tupper/index.htm for a sample of these.

² Atlanta Journal-Constitution 18 Nov 95 H3 as reported in Edupage, 19 Nov 95 (http://www.educom.edu/educom.old/index.html).

Please see WWW on page 3.
UNT COMPUTING CENTER ORGANIZATION AND FACILITIES

Computing Center Support Services are available in the Information Sciences Building (ISB), Room 119; phone: (817) 565-2324 (TDD 1-800-RELAY-TX). You can contact Support Services via E-mail at HELPDESK (WFO/GroupWise), #CC1/HELPDESK (P-Mail), or HELPDESK @ UNT.EDU (the Internet). Computing Center service divisions:

- **Academic Computing Services:**
  - Documentation Services
  - ISB 110 General Access Lab (817) 565-3048
  - Mainframe User Services
  - Research and Statistical Support Services
  - UNIX Systems

- **Mainframe Technical Services:**
  - IBM Operating Systems Software Support
  - Computer Operations

- **Administrative Computing:**
  - Admissions Data Systems
  - Database/Central Programming Support
  - General Data Systems
  - NT/UNTSC Fiscal Data Systems
  - NT/UNTSC Payroll/Personnel Data Systems
  - Student Records Data Systems
  - Student Services Data Systems
  - Voice Response Applications

- **Network & Microcomputer Services:**
  - Data Communications
  - Microcomputer Application Support
  - Network Systems Support

CONNECTING TO UNT COMPUTERS

<table>
<thead>
<tr>
<th>Host System (OS) Internet Address</th>
<th>Calling Area:</th>
<th>Denton Local Lines</th>
<th>Dallas Metro Lines (based in Lewisville)</th>
<th>Ft. Worth Metro Lines (based in Keller)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Denton: 255, Chilton: 116]</td>
<td>Phone Number:</td>
<td>565-3989</td>
<td>656-3800</td>
<td>214-221-0059*</td>
</tr>
<tr>
<td></td>
<td>Speed (bps):</td>
<td>2400-14.4</td>
<td>2400-14.4</td>
<td>2400-14.4</td>
</tr>
</tbody>
</table>

All dialup lines use 8 data bits, No Parity and 1 Stop Bit

**Academic Mainframe (CMS) vm.acs.unt.edu**
Choose a host from the menu. If the host is not in the menu, type: telnet internet.address (substituting the correct internet address).

**Jove (UNIX) jove.acs.unt.edu**
Some software and file transfer methods require you to disable the terminal server escape sequence, to do this, type: stty tsexcl none

**Sol (UNIX) sol.acs.unt.edu**
*To avoid long distance charges, do not dial a 1 before the metro line phone number. When dialing from outside the metro service area, please consider using the Denton local lines.

**Gopher gopher.unt.edu login: gopher** (Do not use this if you have an ID on Jove, Sol, CMS or Ponder)
To go to the telnet command prompt, press <CTRL> <I> Typing quit will close your session.

**WWW www.unt.edu login: www** (Do not use this if you have an ID on Jove, Sol, CMS or Ponder)
Etiquette for dialing up the UNT Host Systems: Please do not "camp" on the dialups. There are more users trying to use the dial-up lines. Please hang up when you are finished.

**Ponder (Computer Sciences Sequent)**
ponder.csci.unt.edu

<table>
<thead>
<tr>
<th>Premium Dialup Lines: 28.8 bps, Hardware flow control on.</th>
<th>Dallas</th>
<th>Ft. Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium Dialup Lines: 28.8 bps, Hardware flow control on.</td>
<td>484-0959</td>
<td>732-5533</td>
</tr>
</tbody>
</table>

UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREA HOURS: Spring 1996

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday - Tuesday</td>
<td>8 am-MN</td>
<td>8 am-MN</td>
<td>8 am-MN</td>
<td>8 am-10 pm</td>
<td>8 am-10 pm</td>
<td>8 am-MN</td>
<td>8 am-10 pm</td>
<td>8 am-10 pm</td>
<td>8 am-8 pm</td>
<td>10 am-8 pm</td>
<td>8 am-8 pm</td>
<td>8 am-8 pm</td>
<td>8 am-8 pm</td>
<td></td>
</tr>
<tr>
<td>Wednesday-Thursday</td>
<td>8 am-MN</td>
<td>8 am-MN</td>
<td>8 am-MN</td>
<td>8 am-10 pm</td>
<td>8 am-10 pm</td>
<td>8 am-MN</td>
<td>8 am-10 pm</td>
<td>8 am-10 pm</td>
<td>8 am-8 pm</td>
<td>10 am-8 pm</td>
<td>8 am-8 pm</td>
<td>8 am-8 pm</td>
<td>8 am-8 pm</td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td>8 am-5 pm.</td>
<td>8 am-5 pm.</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td>8 am-5 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturday</td>
<td>8 am-5 pm.</td>
<td>8 am-5 pm.</td>
<td>8 am-5 pm</td>
<td>10 am-5 pm</td>
<td>10 am-5 pm</td>
<td>Noon-5 pm</td>
<td>Noon-5 pm</td>
<td>Noon-5 pm</td>
<td>Noon-5 pm</td>
<td>Noon-5 pm</td>
<td>Noon-5 pm</td>
<td>Noon-5 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td>1-10 pm.</td>
<td>Noon-MN</td>
<td>1-10 pm</td>
<td>1-10 pm</td>
<td>Noon-10 pm</td>
<td>Noon-10 pm</td>
<td>Noon-10 pm</td>
<td>Noon-10 pm</td>
<td>Noon-10 pm</td>
<td>Noon-10 pm</td>
<td>Noon-10 pm</td>
<td>Noon-10 pm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This issue of Benchmarks was produced by the Documentation Services section of Academic Computing using Coral Ventura on a S865X clone and printed on an HP LaserJet VSI. Unless otherwise noted, articles or information may be reproduced for nonprofit purposes provided the publication and issue are fully acknowledged. Mention of a name-brand product does not imply endorsement of that product.

Back Issues of Benchmarks can be found at UNT's WWW page at http://www.unt.edu/UNT/departments/CC/Benchmarks/benchmarks.html/
The World Wide Web

WWW continued from page 1.

One way to look at the Web is as just another method of accessing information on the Internet. Another way to look at it is as a revolutionary way of producing and accessing information, “no less momentous for publishing networked information than Gutenberg’s printing press was for publishing books.”

Whatever your point of view, the World Wide Web will affect your life. More and more organizations, including the UNT Computing Center, are turning to the Web as a way of disseminating information. Look at commercials on TV now and you’re likely to see a URL (uniform resource locator — the “address” of Web pages, signified by http://... ) for the company displayed at the bottom of the screen. Web savvy customers can find out more information about them and their products, thus maximizing the effectiveness of their advertising. Federal, state and local government agencies have also established presences on the Web, as have colleges, universities, countries, and a whole host of interesting people throughout the world.

More Information

You are no doubt asking yourself, “how can I find out more information about this wonderful resource?” The best place to find out about the Web is probably on the Web itself. There are a variety of “search engines” like Yahoo! (http://www.yahoo.com/) that allow you to search for information on any topic you are interested in. Yahoo! has


4Yahoo! is actually defined as “a hierarchical subject-oriented guide for the World Wide Web and Internet.” (http://www.yahoo.com/Computers_and_Internet/World_Wide_Web)

Please see WWW on page 5.

Internet Hosts Worldwide

Courtesy of Matrix Information and Directory Services Inc. (MIDS)
http://www.mids.org/mids

WWW Browsers

In order to access the World Wide Web from a microcomputer it is necessary to have a Web Client, or browser, installed on that computer. Browsers are available from a variety of sources, including the USENET newsgroup comp.infosystems. Following are the newsgroups for the various clients:

- Browsers for Macintosh: comp.infosystems.www.browsers.mac
- Browsers for the X-Window system: comp.infosystems.www.browsers.x
- Browsers for other platforms: comp.infosystems.www.browsers.misc

Netscape is currently one of the most popular browsers. You can get a copy of Netscape off of USENET as shown above, from a variety of other sources including the company, and from Support Services (the Helpdesk) in the Computing Center as part of our PPP support (see page 16 for details) and via anonymous FTP at ftp.unt.edu in the unt_www directory.
The World Wide Web

A Homepage of One's Own

By Doug Bateman, CWIS Coordinator (dbateman@unt.edu)

This is a slightly edited version of a "News From the CWIS/Gopher Hole" column that appeared in the July/August 1995 issue of Benchmarks (Vol. 16, No. 4).

I suppose that, for the majority of you reading this, the most important news to come out of my area in the past several months is the "opening up" of the UNT World Wide Web to serving personal homepages. If you haven't heard about it before now, I'm very surprised. Yes, anyone who has an active account on Jove (our general-purpose UNIX host system) can now publish on the Web. Before I go into the details of how to do this, let me first lay out some of the ground rules.

Rules of the Road

Now before you go off saying to yourself, "Oh no, I knew there had to be catch!", I want to assure everyone that as much concern and thought was put into this process as was humanly possible. At no time was any consideration given to making this opportunity "restrictive" by nature—quite the opposite as a matter of fact. Every attempt has been made to allow everyone the freedom to express his/her own individuality and creativity. Also, please make a note that there has been no attempt to single out student homepages—any reference to personal or individual web pages is without regard to that person's status with the University.

The end result is that instead of me or the Computing Center or whoever coming up with new rules, regulations, etc. to govern the content of personal web pages, existing University policies and regulations regarding the printing or public dissemination or display of materials will be extended to cover individual web pages. Of course, policies that govern use of University computing resources naturally apply here as well.

I won't use this column to quote all the pertinent policies or regulations since they are freely available and many are included in either the student or employee handbooks we've all received or the graduate and undergraduate catalogs. Some of the more obvious violations would include: displaying images that fall under UNT's sexual harassment policies; advertising or promoting a for-profit businesses; and anything that promotes, espouses, or encourages discrimination in the areas defined by University policy.

Let me add that neither I nor anyone that I work with has any intention of playing "Web cop" to enforce any of these policies or regulations. UNT already has in place adequate "grievance" procedures that can be used by anyone who takes issue with anything published or displayed on campus, no matter what form the material may take. So, what should you do if you should happen upon a web page (published at UNT by someone affiliated with the University) that you consider objectionable?

Your first action should be to contact the author of the web page to express your concerns directly. You'd be amazed at how unintentional some offenses are, and how cooperative people can be when their offense is called to their attention. If you are reluctant or unable to do this, or you have tried this without success, I offer myself as a mediator of sorts. You can contact me by phoning (817)365-2568, E-mail me at www@unt.edu, or drop by my office at Room 119, Information Sciences Building (ISB). I will discuss the matter with you, privately and confidentially, and may even attempt to convey your feelings to the individual myself. Ultimately, however, any issues of this nature will be between yourself and the individual concerned, which may involve your following formal grievance procedures.

If you are in the process of creating your own homepage, and have questions about whether something you want to publish may be offensive or objectionable, I would be glad to discuss the matter with you. I certainly do not consider myself the ultimate judge of good taste, but I do feel I can be reasonably objective and nonjudgmental and can provide sensible advice or guidance. Of course, you'd certainly be free to regard or disregard my advice as you saw fit.

How to Start

The following instructions are basically a rehash of the instructions that are available online on Jove. Just enter "help" at a Jove prompt and follow the menu to recall these instructions while you are online.

1. In your home directory, create a subdirectory named www. Note: this directory must be named www.

   % cd
   % mkdir www

2. Change your current working directory to the www directory you just created. This will be the directory in which you create your homepage and any supporting web pages you want to make.

   % cd www

3. Create an empty file named index.html. This file will ultimately become your homepage, but even an empty file is necessary in order to prevent a web browser from "seeing" everything in this directory.

   % touch index.html

4. Use your favorite text editor to edit the file "index.html" and create your homepage. That's it!

Guidelines for Personal Web Pages

I've written a web page that contains links to a lot of good material on the Web—material that teaches you how to write web pages, provide style guides, etc. You can find this information at http://www.unt.edu/~dbateman/links.html. I also teach a basic web-
authoring workshop a few times each semester, one of several Computing Center Short Courses that are available. Here are some additional guidelines, based upon my own experiences:

- Keep the use of graphics to the minimum necessary to convey the information you want. A single inline image should not exceed 20-30k in size, and you shouldn’t sprinkle images all over your page just because you can. People will quickly grow tired of how long it takes for your page to be displayed in their web browser if you disregard this.

- If you do want to use graphics, check out the collection available to everyone at http://www.unt.edu/ icons/. No sense using up your Jove disk quota when you can “borrow” graphics from the server.

- Don’t use Netscape’s non-standard extensions to HTML unless you are deliberately limiting access to your page to only those people who use Netscape. The results displayed in another browser may be hideous!

- Be proud of your work—sign it. At the very bottom of your page you should put your E-mail address so people can easily send you comments. Depending on the information you are publishing, you might also put the date you last updated the information.

- Always keep in mind that the very nature of HTML is that ultimately the web browser determines the appearance of a web page, not the author. Don’t try to force HTML to do what you think it ought to; the end results (to the person viewing your page) are usually not worth the effort.

- Do use this opportunity to tell “the world” a little about yourself. Include your likes and dislikes. Include your interests and hobbies. If you have collected a lot of information about a particular interest of yours, be sure to include it. And let people know about your homepage. There are a number of sites, newsgroups, etc. that encourage

individuals to announce their homepages.

- For those of you who want to be on the cutting edge of web-authoring, I’m afraid you may find UNT’s WWW site somewhat restrictive. Imagery is now supported but server-side includes and locally executable CGI scripts are not available due to security concerns. Unfortunately, this means that HTML forms are not generally available since each form usually requires its own CGI script to process the form data. I will attempt to make generic CGI scripts available that those of you who wish to may use.

- As always, I am available for any questions, suggestions, or comments you may have. I hope that you make use of this opportunity and that it proves useful for you in some way. But most of all: Enjoy it!

WWW continued from page 3.

an extensive set of beginners guides at (http://www.yahoo.com/Computers_and_Internet/World_Wide_Web/Beginner_s_Guides/).

If you’re looking for something in printed media (like a book) just go to the computer section of your favorite bookstore or library and look for books on the World Wide Web, HTML and/or the Internet. You should be able to find something that addresses your area of interest. Good luck, and happy webbing!
Build a Home With No Money Down!
Creating your own home page on the WWW

By Aaron Price, Documentation Services Assistant (price@cc1.unl.edu)

Creating a home page on the World Wide Web is a piece of cake. Just follow these easy instructions and you'll be on your way to creating your own wave the others can surf while on the web.

This is not rocket science, even a politician could put together a web page. Don't feel daunted or worried, if you passed MATH 1100 then you'll pass this.

When you first begin to create a web page you need to understand what's going on. A WWW page is written in HTML language. Which is an abbreviation for Hypertext Markup Language. Fancy name, simple idea.

All you do is write a text file. You can use an text editor you want. WordPerfect is fine, MS Word will work, as will PICO, VI, Qedit, and a million others. Just make sure you save it as raw ASCII TEXT.

Now, when someone surfs your page they use a program that reads this textfile and shows it to the reader. That's it. That is the World Wide Web.

Where to begin?
Begin work on your personal masterpiece by inserting the <HTML> at the top of your document. Don't ask why. Copy Nike and just do it. At the end of your document put </HTML>. Now, I will tell you why.

Making a home page is like writing in two languages. One language is English, and the other is <English>. By that I mean any text you put in angle brackets (<>) is a command to the viewer and will not be seen by the person who is reading your page. Conversely, any text not in angle brackets will be seen by the reader and the viewer will ignore.

This is where you become the boss, the “man” in the “man and machine!” Inside those angle brackets is where you command the viewer to do special things. You want it to show a picture? You want it to mail you an E-mail letter? You can make HTML do basically anything except destroy your computer. That can be accomplished with a sledgehammer and a bad day.

Okay, back to your page we find a document with a <HTML> and a </HTML> in it. Each of those is called a “tag.” Plural is “tags,” not “taggies” or “taggers” for you Star Trek fans out there. The main, and only, difference between the two is a nice pretty slash. When a tag has a slash in front of it means that it is calling for the END of that command. Consider the slash to be a “HALT!” order.

Whatever you want your home page to be, falls within those two tags of <HTML>. Those always have to be the first and last this in your document. Period. Now I want you to cheat. Copy what I have here onto your page:

<HTML><HEAD><TITLE>Home Page Title</TITLE></HEAD><BODY><HTML>

GOSH that's ugly! Let's clean it up — try inserting some spaces and returns in there to make it look like this:

<HTML>
<HEAD><TITLE> </TITLE></HEAD>
<BODY>

</BODY>
</HTML>

That is about as pretty as you'll ever get HTML to look. It wasn't designed to win beauty contests. Now, in the space between the TITLE tags insert what you want your page to be called. It can be as long or short as you want. Save the file under the name index.htm and YOU HAVE YOUR FIRST WEB PAGE! Take a break to celebrate with a good cigar, coke, stretch, or hug. Then come back and we'll get to the fun part.

The fun part
Fun! Yes, there is some fun in HTML. In between the BODY tags is where you put the guts of your web page. Just like the guts in a real body are in your middle section, the body is always the middle of HTML documents. In here you will tell it to show graphics, sounds, colors, charts, even other WWW pages if you wish. Let's start simple.

Stick in the tags <P> and </P> in between the BODY tags. Now, in between the P tags put in text (P stands for paragraph, by the way). Put in just one line so it looks like this:

<P>Don't read this sentence.</P>

Now save it. You have your first web page with “stuff” in it! Okay, so now what? Well, if the page was on the Internet and people would look at it all they would see is:

Don't read this sentence.

Getting it on the Web
So we need to find a way to get it on the Internet. That is where you have your account comes in. If you don’t have one, get one. If you do, then follow these instructions:

☐ If you created (or are planning to create) your index.html file on Jove, follow the steps listed on page 4.

☐ If you created (or are planning to create) your index.html file on a microcomputer:
The World Wide Web

Get the Message Across On-line!

By Aaron Price, Documentation Services Assistant (price@cc1.unt.edu)

Never before has it been this easy to be published. Throughout history it has always been hard to get enough resources to print your material. Whether writing on walls, chiseling in stone, or scrawling on paper, author's had to seek out the proper materials to get their message across. Readers had to have the wherewithal to get the author's works, which were frequently beyond their means.

Now it can all be had for practically nothing. If you have Internet access, you can be reading the complete works of Shakespeare, indulging in a critical analysis of Salman Rushdie's latest work, or even publishing your own magnificent works of art worldwide to millions.

With the WWW exploding in growth right now you don't even have to know any fancy programming languages or be an "Internet Guru." All you need to learn is how to write in HTML, something any online author will tell you is a million times easier than actually writing itself!

Even before the WWW and Gopher, literary groups have been meeting on-line to share works and discuss poetry. Such literary "E-mags", as they are often called, like "The Body Electric" have been around for years floating from one E-mail box to the next.

Here's how you can get in on the Internet's wonderful literary scene. Below is a list of resources on the net that help explore the world of literature in all its forms from ancient poetry and prose to modern science fiction and screenwriting.

Do It Yourself!

You can also publish your own works or even run a literary magazine on the Internet. All you need to do is check out some tutorials on how to write in HTML (see page 6 for a brief overview) and then you'll be ready to show your stuff to people around the world. All users at UNT with a Jove account can easily create home pages. Check out http://www.unt.edu/~dbateman/links.html. This page is maintained by our CWIS director Doug Bateman and has great easy links to HTML tutorials. If you don't have an account on Jove yet come by Support Services in ISB 119 and get one. It's free! We also offer free short courses every semester on how to write HTML pages if you prefer human instruction. You will be absolutely blown away at how easy HTML writing is!

The List O' Literary Links

互联网

- Yahoo's Literature List (http://www.yahoo.com/Arts/Literature/)
- The World Wide Web's Virtual Library (http://sunsite.unc.edu/hibic/IBIC-homepage.html) — This place has everything from books of the month to a multicultural World Literature List.
- Hypertext and Literary Things (http://www.eng.carleton.ca:80/~kmennie/) — You can even have interactive fiction for the web. Sort of a high-tech "Choose Your Own Adventure". Some even allow you to create your own chapters.
- Screenwriters & Playwrites Page 9 (http://www.teleport.com/~cdecme/scrwriter.html) — This is my personal favorite. It has everything, including columns by successful writers, contests, theory, technical information,
The World Wide Web

ancedotes, and tons more for the potential screenwriter or playwright. It is also updated frequently (almost daily).

- **Poet Warrior Press Writing Resource Center**
  (http://www.austarnet.com/~poe-war/writer/writer.html) — This place focuses on getting poetry published and improving your skills as a poet.

- **The Writer's Bay**
  (http://metro.turnpike.net/~cyber/writers.htm) — The author of this site is apparently a Star Trek fan. The site flows with the Star Trek theme, but don't let it fool you. It is a great resource for information on genre writing including horror, romance, childrens, and of course, sci-fi.

- **Literary Research Tools on the Net**
  (http://www.english.upenn.edu/~jlynch/research.html) — For you scholars and critics out there this is THE place for you! It has everything you could ever imagine by linking all the serious literary sites on the web in one place.

- **Gopher**
  - **Wiretap** (gopher://wiretap.spies.com/11/Books) — Wiretap is the best site for classic literature on the net. Here you will find works from Aesop to Willa Cather along with Louis Carroll, Edgar Allen Poe, Thomas Hardy, well you get the picture. All are complete, unabridged, and on-line.

- **Usenet**
  - **alt.usage.english**

Cobwebs

By Doug Bateman, CWIS Coordinator — also known as your Webmaster (dbateman@unt.edu)

This column covers features and resources available through the University's Campus Wide Information System (CWIS). It was formerly named "News from the CWIS/Gopher Hole." UNT's Home Page on the World Wide Web can be found at http://www.unt.edu.

I've Got Those Creepy, Crawly, Cranky, 1 — 2 — 3 Hanky, Webmaster Blues ...

<sigh>

- Yet another bimonthly issue of *Benchmarks*...
- Yet another two months of struggle to enhance and expand UNT's Web site...
- And yet another two months of frustration with lack of time and resources...

Please pardon me if I sound a little "whiny" this time around. It has been anything but a stellar time for this webmaster since the last issue of *Benchmarks* was published. I had expected great things to occur with my announcement in that issue of the tremendous amount of world-wide attention UNT's web site was getting. I mean, I was impressed that UNT's WWW server was experiencing over 500,000 accesses a month. And I certainly was surprised to find that 70% of that number reflected off-campus accesses (i.e. not originating from users at UNT.)

Truth be told, I do suffer from just a "slight" lack of patience at times. I also know that "delayed gratification" has never been a strong suit of mine. However, I find it hard to believe that I wasn't visited by some "Great Webmaster Fairy" who, with a wave of a golden wand, bestowed upon me:

- 9 days of 36 hours instead of a measly 24,
- 3 60-day months,
- 6 about half-a-dozen clones of myself, and
- 3 a small Cray supercomputer (or two).

Ah well, a person can dream, can't they?

Introductions are in order

On a much brighter note, one good thing has happened in the interim. I did get a half-time student employee posi-
The World Wide Web

Opening up the server to the perils of allowing anyone to create their own CGI script.

The solution is near at hand: I have found what promises to be a generic "form-handling" script that will allow anyone publishing a Web page at UNT to easily incorporate interactive forms into their documents. As soon as I am able to verify that all safety precautions have been implemented in the source code of this program, I will let you know of its availability and will provide detailed instructions on its use. Be watching for news of this on the UNT homepages (http://www.unt.edu/ and http://www-lan.unt.edu/).

Re-design Time: Next up is an announcement for all of you to be specially mindful of UNT's main homepage over the next few weeks. Yes, it's time for the semi-annual remodeling of the Web site! I believe that you will find even more improvements in this next iteration than you witnessed after the last remodelling effort. A great deal of effort is being put into making the information that most of you are interested in (as obtained from the Web server's logfiles) more readily available.

By the time that you read this, the new look should have been available for browsing for a while and, with the added capability of interactive forms, you will have had a chance to state your likes or dislikes regarding the new design and structure. The new design will also incorporate many of the guidelines and suggestions that are coming out of the Standards and Cooperation Program Group; adding to the effectiveness and attractiveness of your university's Web site.

And for the future...In addition to the foregoing, but on a more long-term scale, I have been investigating the possibility of providing an SQL database server, with accompanying WWW-interfaces, for the benefit of the departments and offices who may have a need for such capability.

Using the World-Wide Web as a friendly front-end to organizational databases of information is one of the hottest topics on the Internet. Implementing such a service has the potential to increase the amount and kind of information available, and vastly increase the sophistication of the access and retrieval of that information.

This service would unfortunately have to be limited to "official use only" since the addition of database access to a Web server limits the server's capacity. However, it has such a potential that I feel I would be remiss in my duties if I did not try to find a means of providing this service through the Web servers I administer. I invite any faculty or staff members who feel that this may be of benefit to them to email me at dbateeman@unt.edu so that we can discuss the possibilities (and possibly negotiate assistance in this endeavor <wink>).

Wrap Up!

For those of you who may still find interest in the growth of the World Wide Web at UNT, rest assured that growth is still being experienced. The LAN Web server (www-lan.unt.edu) experienced a 50% growth in average daily accesses from September to October, and UNT's main Web site, www.unt.edu, continues to experience a steady 20% growth rate.

No matter what else happens...no matter how few or how many resources are brought to bear on administering, maintaining, developing, and enhancing UNT's Web presence, it will continue to grow. However, growth without a corresponding increase in resources to manage it is making it more and more difficult to ensure that everyone who visits UNT's Web site retains a positive image of the university. Do I hear a call for volunteers?

And so it goes...
The World Wide Web

The Network Connection

By Dr. Philip Baczewski, Assistant Director, Academic Computing Services (baczewski@unt.edu)

This column is a continuing feature of Benchmarks intended to present news and information on various aspects of wide area networks.

If you haven’t seen these Web Sites...

Who knew that in a couple of years World Wide Web would take over as the premier Internet information service? Well, actually, I did, but that’s how I get to write this column. World Wide Web started as an early “competitor” to Gopher in the Internet arena, but it wasn’t until the development of NCSA Mosaic, and its follow-on programs like Netscape, that World Wide Web (WWW) really took off. These programs let you view pictures, read text, and hear sounds all within the control of one program. WWW, a hypertext Internet information organization tool which required a lot of time and effort for which to administer and create documents, was transformed into the hypermedia tool that we know today, for which all that extra effort in creating documents became quite worthwhile.

After collecting bookmarks to various WWW pages over the years, several stand out for a number of differing reasons. Some are good collections of information. Others are particularly well organized, and still others make clever use of the technology. When you find a Web site that does all of the above, then it’s definitely a candidate for a bookmark. So, as the title says, if you haven’t seen these Web sites, then you ought to.

- http://seds.lpl.arizona.edu/nineplanets/nineplanets/nineplanets.html
  The Nine Planets is an on-line atlas of the solar system, and it’s scope of information goes beyond what you’d expect from the title. Not only do you find information about the nine planets, but the Sun, asteroids, and various comets are covered as well. Even the possibility of other solar systems is explored. The page starts with a well organized and comprehensive table of contents that let’s you immediately jump to the information in which you are interested. Along the way are spectacular photos, and occasional movies and sound bites. This page serves as a valuable reference as well as an excellent interactive presentation that compels you to browse its contents. Even if you are not interested in the hard astronomical facts, the pictures will hold your interest. If you want to know how to do a Web page right, take a look at The Nine Planets.

- http://www.emf.net/wm/
  The Web Museum Network provides access to some of the world’s great art treasures. This is online access, of course, so don’t start planning any devious capers. Since this Web page had its origins as the online Louvre, you can see many famous images by browsing the page’s General Exhibition. The popularity of this page caused it to become a network of sites all offering the same starting point. The URL listed above is for a site in Berkeley California. There are other sites in the U.S. as well as pages in South America, Australia, Asia, and of course, Europe. Current special exhibitions are Art of the 20th century and the art of Paul Cezanne. These include information as well as images. For a dose of online culture, check out this page.

- http://www.whitehouse.gov/
  Welcome to the Whitehouse is a view into the executive branch of the government of the United States. In addition to the information about the executive branch, the Tours section of the page allows you to view scenes from the Whitehouse itself, the Executive Office Building, and the First Ladies’ Garden. It’s a nice way to visit an important historic U.S. site if you haven’t been there in person. The design of the page makes good use of graphics, and there’s audio messages available as well. Politics aside, if you are interested in the Internet and its uses, this page shows some active support of these technologies from a high level of U.S. Government.

- http://www.willamette.edu/~tjones/Language-Page.htm
  Have you ever wondered what the German word for butterfly is? The Human Languages Page may hold the answer. This Web site provides links to translation dictionaries, as well as collections of literature and scholarly work in and about more of the world’s languages than you can imagine. For sheer volume of information, this page could win an award. For those involved in academic pursuits who are not language scholars, this site is a valuable reference when you need to translate the occasional word or phrase.

- http://www.geom.umn.edu/apps/gallery.html
  The Gallery of Interactive Geometry is one of those sneaky things that manages to be entertaining and educational at the same time. This page uses web forms to allow you to create pictures based upon some geometric concepts and view the results of your efforts. You can even save some of your creations to your local computer. Of course, you can read about the underlying mathematics of the games included in this gallery. The interactive nature
makes this a good example of using World Wide Web for educational pursuits.

Summing up...
The above WWW sites only scratch the surface of what's available on the Web. Each is a good example, however, of how this technology can be used in creative, entertaining, and educational ways. Eddie Chiles' Western Oil Service Company commercials used to say "if you don't have an oil well, get one!" (easier to do in Texas than elsewhere). To paraphrase, if you don't have a Web browser, get one! And take a look at these Web sites.

Edupage Items of Interest

The following items of interest appeared in recent editions of Edupage. Edupage is a summary of news items on information technology provided as a service by Educom (http://www.educom.edu/).

☐ Less TV Viewing, More Online Cruising — A Yahoo/Jupiter Web User Survey reports that 61% of the respondents said they're watching less television and spending more time online. Sixty-six percent would not be willing to pay a monthly fee for access to enter Web sites, which makes it more likely that advertising support will play an increasingly crucial role in making online commerce a reality. (Edupage, 12 Nov 95 reporting from Broadcasting & Cable 6 Nov 95 p 113)

☐ Will Computers Replace TVs? — MIT Media Center Director Nicholas Negroponte says he's decided computers are going to replace TVs because "for the past five years, people who build personal computers have been putting more and more video into their personal computers.

Please see Edupage on page 12.
The World Wide Web

Edupage continued from page 11.

When these two industrial trends converge, there will be no distinction between the two ... In the future, we won't be pushing bits at people like we're doing today. It doesn't matter whether you call the receiver a TV or a PC. What's going to change is how those bits are delivered. (Edupage, 5 Nov 95 reporting from Wired Nov 95 p 146)

- Webmasters in Great Demand — A Web Week survey reports that "Webmasters at big companies generally enjoy responsibility, authority and respectable remuneration." The typical webmaster is male (87.5%), in his 30s (55%), earns more than $45,000 a year (57.5%), and often more than $65,000 a year (37.5%). Rather than being nerdy troglodytes who emerge from their dens only for another meal of nachos, Cheeeze Whiz and Jolt cola, Web Week found that many webmasters play a leading role in developing their companies' online strategies. Andy many of them don't like the name "webmaster," suggesting instead webmaster, webmasterchist, or "all-knowing and-seeing ruler of time, dimension and space" alternatives. (Edupage, 7 Nov 95 reporting from Tampa Tribune 6 Nov 95 A2)

- PCs By Gender — About 50% of all personal computers are purchased by women today (compared to only 30% fifteen years ago), and companies such as Compaq and IBM are planning Major new advertising Campaigns for this strong new market segment. (Edupage, 7 Nov 95 reporting from U.S. News & World Report 6 Nov 95 p. 66)

- Groupware or Webware? — Companies are beginning to turn to the World Wide Web for their "Intranets" - smaller private networks that combine text, graphics and video to distribute news, answer employee questions, update personnel records and connect geographically distant workers. Companies note that doing it on the Web, while less secure, is cheaper, easier to install, more flexible and requires less training than using a groupware package such as Lotus Notes. Sales of Intranet software are on the rise, from $142 million this year to a predicted $1.2 billion in 1997. And while Notes has 3 million users, Intranets link about 15 million workers, according to Zona Research Inc. (Edupage, 7 Nov 95 reporting from Wall Street Journal 7 Nov 95 A1)

- Cutthroat Competition Among Web Browsers — In less than a year, sales of Web browsers have soared from almost zero to $50 million, according to Forrester Research. By 2000, Forrester estimates annual sales will be around $250 million. But don't buy yet — whatever you get will be obsolete in no time: "Any Web browser purchased today should be considered to have a half-life of six months at most, " says a Gartner Group analyst. "There's a tremendous amount of competition and cutthroat pricing. The browser market is a worst-case business situation. You have to constantly innovate. At the same time, you have to cut prices." (Edupage, 22 Oct 95 reporting from Information Week 23 Oct 95 p 81)

- Venture Capital Targets the Net — Anything with the word "Internet" in it is turning the heads of today's venture capitalists, with analysts predicting that venture-capital investment in Net-related companies will triple this year from last year's $42 million. In the first half of 1995 alone, $68 million flowed into Internet startups. Programs that search the Internet for specific information are "the hot story of the moment," says the president of Jupiter Communications, a Market research firm. (Edupage, 22 Oct 95 reporting from Business Week 23 Oct 95 A7)

- Newspapers Combine Help Wanted Ads — Six major newspapers have combined their help wanted listings in a CareerPath database available on the World Wide Web (http://www.careerpath.com). (Edupage, 19 Oct 95 reporting from Miami Herald 18 Oct 95 C3)

- Virus-Blocker — McAfee Associates has a new product called WebScan that identifies virus-infected programs before they're downloaded and warns the user not to continue. Security experts say WebScan is the first product that prevents viruses from infecting a computer to begin with, rather than attacking the problem after it's already occurred. (Edupage, 7 Nov 95 reporting from Wall Street Journal 6 Nov 95 p B6)

- AOL Alerts Users to "Trojan Horse" — America Online issued a warning to its users about a destructive file attached to an E-mail message that has been circulating through its service and also over the Internet. The message itself is okay, but trying to run an attached "Trojan Horse" file called AOLGold or "install.exe" could crash a hard drive. (Edupage, 16 Nov 95 reporting from Atlanta Journal-Constitution 16 Nov 95 F7)

- The Future of the University — Columbia University professor Eli Noam sees a reversal in the historic direction of information flow: "In the past, people came to the information, which was stored at the university. In the future, the information will come to the people, wherever they are. What then is the role of the university? Will it be more than a collection of remaining physical functions, such as the science laboratory and football team? Will the impact of electronics on the university be like that of printing on the medieval cathedral, ending its central role in information transfer? Have we reached the end of the line of a model that goes back to Ninevah, more than 2500 years ago? Can we self-reform the university, or must things get much worse first?" (Edupage, 22 Oct 95 reporting from Science 13 Oct 95 p 247)
Shhh! Honey, did you hear something?

By Aaron Price, Documentation Services Assistant (price@ce1.unt.edu)

In this day and age of tabloid photographers and billion dollar military spy satellites it is of no surprise that the issue of personal privacy has become somewhat of a hot topic. Whether it is a reporter jumping over a wall to shoot a pic of OJ or the NSA reading our license plates from hundreds of miles above the question should still remain clear. *What is considered going too far?*

But it isn’t. Philosophers, politicians, families, and others have taken their turn debating as to where to draw the line that changes through both time and cultures. Now, not to be outdone, the Internet has taken on this burden of decision. A person’s right to privacy is just as blurry in cyberspace as it is sitting at home in front of the TV. In both worlds one must contend with the issues of encryption, censorship, active viewing controls, and now new governmental regulation. Let’s first take a glance at how some of those relate to the Internet specifically.

The US Government has written a book called *The Orange Book*. The National Computer Security Center (NSCS) put in this book a definition table of security levels. These levels are: 0D, C1, C2, B1, B2, B3, A1 where D is the equivalent of a PC or Macintosh sitting on a desk and A1 is protection of such a degree that only one computer system in the entire United States (at Honeywell) has been approved as an A1 system. UNIX is considered to be a C1 system. Now you can see why we need tools to protect our privacy.

**Encryption**

Modern broadcasters of such pay services like cable and satellite have been using encryption standards since the eighties to help stop pirating of their signal. Modern cellular telephones are now employing digital technology in part to defeat personal scanners. On the Internet, you now have an option to encrypt personal e-mail.

Pretty Good Privacy, known as PGP, is a simple and powerful tool used to encrypt private messages. It uses a proven algorithm to scramble a text message into a code that can only be deciphered with a key that only you have. The only way people can decipher the message is if you provide them with a copy of your key. It is the most secure way of sending and receiving e-mail on the Internet.

The program is so secure that the Justice Department in conjunction with the Office of US Customs has convened a grand jury to investigate the program’s author, Phil Zimmerman. Their claim is that the software violates the export of arms because it uses encryption that only the government formerly had access to. An decision to indict has yet to be made.

In the meantime, PGPhone has recently been released. This is a utility using the same algorithm but it allows people to hold secure telephone communications over networks. In its beta form the program only works on Macintosh’s linked directly, but plans are for cross-platform versions and Internet support.

**Legislation & Censorship**

Next we come to the highly divisive and contested issue of Censorship. During the last Congress (104th) the “Communication Decency Act” was approved by the Senate. The House version is beginning committee debate as we speak. The CDA establishes the Internet as under the domain of the FCC and grants it the same privileges as “Mass Media Speech.” This angered many who thought the Internet should be granted the same privileges as private mail and Bulletin Board Systems.

These opponents to the CDA scored a major victory on June 30 when representatives Chris Cox (R-CA) and Ron Wyden (D-OR) introduced an alternative to the bill. This bill, called the “Cox/Wyden ‘Internet Freedom and Family Empowerment Act’” was approved by a vote of 420-4 on August 15. This bill would prohibit the FCC from imposing content regulations on the Internet and would ease the creation of parental controls on the information their children have access to. Both the CDA and IPFEA require approval by both houses of Congress before they become law.

**Anonymous E-mail**

While legislation is pending active controls have been created to allow a user to protect their identity in e-mail and the newsgroups. While the idea of anonymous mail has been around for a while just recently it has come into the spotlight.

A company in Finland has been running an anonymous E-mail service at anon.penet.fi for many years. Anyone can get assigned an anonymous account through their server and route mail through it pretty easily. The only place where your name is recorded is in their personal databases. No ID has ever been compromised. There are about 20 other anonymous servers in the world.

This all changed when Finnish police authorities forced the operators to reveal the name of a specific user. The incident stems from the publication on the Internet of information from The Church of Scientology that was copyrighted and supposed to be held in secret. In their attempt to find the individual who leaked the information authorities in Arizona asked the Finnish government to find the name of a person who used an anonymous account at anon.penet.fi to distribute the
General Information

information. No arrests were ever made.

That was the first time they had ever given up a user’s real name. However, it showed a need for a more secure method of sending anonymous mail. This is where remailers come in. Remailers are a collection of servers that take E-mail, strip them of all identifying features, and then mail them off to the target. By using many of these remailers at once a person can almost ensure anonymity.

Use of these remailers is under extensive debate. While many liken it to sending postal mail without a return address, others like to compare anonymous mail to telephone prank calls. Like any powerful feature, it is the responsibility of the user to decide how to discipline themselves. Basically, if you are not mature enough to know the serious benefits of remailers and why not to abuse them, then you shouldn’t use remailers. Like I said, there is much debate on this and I advise you to the information I provided in the table so that you can see it all for yourself.

The Clipper Chip

Finally, the Clinton administration, with Al Gore as the point man, is pursuing the implementation of a device known as the “Clipper Chip.” This device would replace all other encryption standards available to private citizens. It would be placed inside computers, telephones, and anything that encryption can be applied to.

The idea behind the new program is to keep terrorists and other criminals from defeating the government’s ability to tap telephone lines by using their own encryption standard. The Clipper Chip has two keys to it and both must be obtained to decipher the code. The only way the government would be granted both keys is if a specific search warrant was approved by a judge much the same way permission to tap telephone lines can be obtained.

Opposition to this proposal has skyrocketed in the computer industry and over the Internet. Questions about the security around where both keys will be kept, the usefulness of such a program in face of modern terrorism which seems to be anti-technology (And not likely to use encryption), and the ability of one to protect themselves from government spying have been raised. The White House has since agreed to change the program (also known as Key Escrow) into a more moderate form, but the exact changes have yet to be made clear.

Conclusion

In summary, you can choose from many options on many levels to protect your own privacy. First, you must ask yourself what levels of privacy do you support? You have to decide whether your right to watch Hard Copy or Inside Edition outweighs Joe and Jane Superstar’s right to keep their lives private.

None of us want to live in a world of walls and mirrors. We just have to read reports about the former Soviet Union to know what that is like.

Personal Privacy Pointers

By Aaron Price, Documentation Services Assistant (price@ece.unt.edu)

Here is a collection of ways you can protect yourself on the Internet and find out more information about the complex issue of personal privacy.

PGP (Pretty Good Privacy): As I mentioned in the corresponding article this is the best way to keep your E-mail secure. PGP scrambles your E-mail with a variety of security levels that you get to choose.

Platforms: Windows, Mac, UNIX, DOS, OS/2, VMS, the Atari ST, Archimedes, and the Commodore Amiga. A Windows NT version is under development.

Latest Version: 2.6.2

Locations: http://bs.mit.edu:8001/pgp-form.html or you can telnet to net-dist.mit.edu and log in as “getpgp”. This is required because it is an export controlled file.

More Information: A FAQ is located at http://www.prairienet.org/~jaliquid/pgpfaq.txt. In addition, the newsgroup alt.security.pgp has been created for discussions concerning PGP.

PGP Phone: This is the same as PGP except it encrypts voice communication as opposed to E-mail communication. The initial beta version does not support the Internet.

Latest Version: 1.0b4

Platforms: Macintosh only. A Windows 95 version is in development.

Location: http://web.mit.edu/network/pgpfone/

More Information: A FAQ has not been generated yet, but the manual is available at http://web.mit.edu/network/pgpfone/manual/.

Mixmaster: This remailer strips E-mail of all identifying characteristics. Mixmaster was created as a more secure alternative to the Cypherpunk remailers. This is the best way to send anonymous mail. Abusing of these remailers is enforced.

Latest Version: 2.0

Platforms: UNIX

Location: This is another export controlled program. It can be found by reading http://obscura.com/~loki/agreement.html.

More Information: A remailer FAQ can be read at http://www.well.com/user/abocard/remail.html and a list of remailers and
other information can be obtained at http://www.cs.berkeley.edu/~raph/ remail-list.html. A help file is located at http://kether.alias.net/~mix/remailer-help.html.

- Anonymous Mail Servers: These are sites that allow anyone to obtain anonymous E-mail address that you can use to send anonymous mail or post anonymous news messages. You send E-mail to these sites and they will resend them to the target under the name of the anonymous account assigned to you. The recipient can also reply to this account and their message will be forwarded to your real account. Most of these servers are private, however there are two popular public servers.

- Anon.Penet.Fi: This is the oldest of the anonymous servers. Recently they were forced by Finnish authorities to give up a user's real ID. Once again I refer you to the corresponding article for more information. Otherwise this server has a good reputation.

More Information: A help file is located at http://www.cs.berkeley.edu/~raph/penet.html and a help message can be obtained by E-mailing help@anon.penet.fi.

- Alpha.c2.org: c2.org is the home of the people who offered free T-shirts to anyone who can find cracks in Netscape and report it. This server is much more secure than anon.penet.fi. It forces the user to use PGP encryption, remailers, and reply blocks. Not even the admin know who uses this service.

More Information: A help file is at http://www.stack.irc.tue.nl/~galactus/remailers/alpha.html and can be obtained by sending E-mail to help@alpha.c2.org.

- WWW Anonymous Resources: Tons of anonymous mailers on the Internet have come and gone. They usually sprout up and run for a few months, then some people begin to abuse them by using them to harass and annoy others. This causes enough Internet outrage that the site is shut down usually rather quickly. The folks at c2.org have created an anonymous remailer that has remained for a while. This site is not very secure, however, and should not be considered top security.


- General Information On Privacy Issues: Here is a collection of items of general interest to anyone who wants to join or follow the privacy debate. There are many sites on the Internet so I had to narrow it down to just a few. This is by no means a comprehensive list.

URL's:
- Electronic Privacy Information Center — http://www.privacy.org/
- Anonymity, remailers and your privacy — http://www.stack.irc.tue.nl/~galactus/remailers/
- The Electronic Frontier Foundation — http://www.eff.org/
- Privacy Bibliography — gopher://pwa.acusd.edu:70/

- Privacy International — http://www.privacy.org/pi/

USENET
- alt.security
- alt.security.index
- alt.security.pgp
- alt.privacy
- alt.privacy.clipper
- alt.privacy.anon-server
- comp.privacy
- comp.society.privacy
- comp.security.unix
- misc.security

---

1996 Spring Short Courses

The schedule for Spring 1996 Short Courses will be available from the Computing Center main office (ISB 119) shortly before the beginning of the spring semester. Check the Support Services Web page (http://www-lan.unt.edu/cc1/helpdesk/www/) in January for more information.

As always, faculty members can request “customized” short courses for their classes. Other groups can request special courses also. Contact ACS for more information (565-2324, ISB 119).
PPP Service is Here!
By Aaron Price, Documentation Services Assistant (price@cc1.unt.edu)

Did you know that you can have faster, stronger, more colorful, full Internet access straight from your home computer? Well you can, with the new Point to Point Protocol (PPP) service that has been implemented by Computing Center Networking and Microcomputer Services.

The new service, as discussed in the last issue of *Benchmarks* (vol. 16, no. 5), allows all Jove account holders to use PPP, enjoy 28.8K dial-up speeds, and even purchase access to a group of private dial-up telephone lines.

The PPP service allows users to get acquainted with the Internet by using point-and-click applications through Windows equipped PC’s or Macintosh computers. This also allows for full-color graphics via the WWW and easy downloading of files via FTP and E-mail messages to your computer at home. The new modems zip along at 28.8K. Everyone with modem speeds ranging from 1200-28,800 bps is able to access our dial-up lines. However, for PPP you should only use 14.4K or 28.8K modems since it runs very slow on others.

A set of dial-up lines has separated and allocated only to those who pay a fee every semester to access them. These lines are limited to a 7 users to 1 telephone line ratio. This will make it much easier to log in during the “prime time” hours and heavy traffic times towards the beginning and end of each semester. About 96 local lines and 48 metro lines will be created for this service so space will be limited. Subscriptions are being sold through the University Bookstore. (The articles below and on the following page address these topics more thoroughly.)

Support Services Coordinator Chris Strauss is doing an excellent job at updating and maintaining a quick reference page on the World Wide Web for this topic. Check it out for the latest information. It is located at: [http://www-lan.unt.edu/unt_ppp/](http://www-lan.unt.edu/unt_ppp/)

Check out the Internet in all its power and glory. Hop on the onramp as UNT speeds off into the future of the Internet.

---

Premium Remote Access Subscription Service

Description
The UNT Premium Remote Access Subscription Service Plan provides high-speed analog modem access to UNT and Internet computing resources via a Point-to-Point Protocol (PPP) connection or a terminal menu interface. Subscribers will be guaranteed that the user/line ratio will not exceed 7 to 1. There will be three subscription periods—fall term, spring term, and the two summer terms combined. Individuals subscribing to the service will pay a flat amount for the entire term. The rate per term will not be prorated (nor will refunds be made for partial terms) with the exception of the initial offering which will cover the balance of the fall 95 semester through the holidays to the start of the spring 1996 semester. The initial fee structure will be as follows:

<table>
<thead>
<tr>
<th>Service</th>
<th>Initial offering</th>
<th>Long semester</th>
<th>Both summer terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denton</td>
<td>20.00</td>
<td>45.00</td>
<td>30.00</td>
</tr>
<tr>
<td>local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dallas</td>
<td>30.00</td>
<td>67.50</td>
<td>45.00</td>
</tr>
<tr>
<td>local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ft. Worth</td>
<td>30.00</td>
<td>67.50</td>
<td>45.00</td>
</tr>
<tr>
<td>local</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subscriptions may be purchased via Interdepartmental Order (IDO) through the Computing Center Support Services area in ISB 119 or via check, cash, ID Plus card, or credit card through the UNT Bookstore. Subscriptions are on a first come, first serve basis. Subscribers should allow three working days for their access to be set up.

Recommended Minimum Configuration
The Premium Remote Access Subscription Service is geared primarily toward graphical user interfaces. The Computing Center recommends the following minimum configuration for your machine:

- a 386 w/8 MB RAM running Windows 3.1x or Windows for Workgroups, and a 9600 baud modem; or
- a Mac II w/8 MB RAM, 10 MB free disk space, and a 9600 baud modem.

The service supports the ISO v.32 and v.34 standards. Modems labeled ITU-T compliant support these standards. V.34 modems are known to generate errors if there are problems with the telephone line quality and the connection speed is renegotiated.

*All users of the Premium Remote Access Subscription Service must have an account on Jove, the Computing Center's general purpose UNIX machine*. You can apply for these in the Computing Center Support Services area in ISB 119 or the ISB 110 lab. There is also a link to the Jove account application on the [http://www-lan.unt.edu/unt_ppp/](http://www-lan.unt.edu/unt_ppp/) Web page.
Software distribution

The software to provide PPP services will be available through the following means:

<table>
<thead>
<tr>
<th>Method</th>
<th>IBM-compatible</th>
<th>Macintosh</th>
</tr>
</thead>
<tbody>
<tr>
<td>via a PC-based menu option</td>
<td>Initially this will be available in the Support Services area in ISB 119 or the ISB 110 lab. Ask at other General Access Labs.</td>
<td>see instructions in README.pc</td>
</tr>
<tr>
<td>via anonymous FTP to ftp.unt.edu; cd to unt_ppp directory</td>
<td>see instructions in README.macos.</td>
<td></td>
</tr>
<tr>
<td>via the World Wide Web</td>
<td><a href="http://www-lan.unt.edu/unt_ppp/">http://www-lan.unt.edu/unt_ppp/</a></td>
<td></td>
</tr>
</tbody>
</table>

Each of these options will download software to floppy diskettes. The downloaded software will include platform-specific installation programs.

The Windows software is based on Trumpet Winsock for Windows 3.1. It requires four of either 3.5" or 5.25" high-density diskettes and requires 7 MB of free hard disk space to install. The applications being distributed include Netscape, WS_FTP, WSGopher, Trumpet News Reader, and TCP3270, among others.

The Macintosh software assumes that you have MacTCP already installed (UNT cannot legally distribute MacTCP, which is included in System 7.5). The Mac software takes four 3.5" high-density diskettes and requires 10 MB of free hard disk space to install. The software being distributed includes MacPPP, Fetch, Netscape, NewsWatcher, NCSA Telnet, Brown TN3270, and TurboGopher. We currently do NOT support Open Transport but plan to in the future.

Documentation

Documentation for the software being distributed is available through the Computing Center Support Services area and via the http://www-lan.unt.edu/unt_ppp/ Web page.

Renewal Process

Three weeks before the expiration of each subscription period, an electronic mail message will be generated to current users informing them of their opportunity to have priority for renewing their subscriptions. During the period of time between the generation of that notice and the end of the subscription period, the UNT Bookstore and Computing Center Support Services will only process renewal requests for current subscribers. Any subscriptions not renewed at the end of that period will become available for new subscribers in addition to any additional subscriptions available because of expansion of the dialup facilities’ capacity.

Administrative Issues

The initial plan calls for no time restrictions on sessions under the Premium Remote Access Subscription Service. However, the Computing Center does retain the right to establish session limits if it is evident that abuse of the no limit policy by some users is causing others to not be able to access the service as needed. Furthermore, the Computing Center is reserving the 7 am to 8 am time slot for the Denton lines and the 8 am to 9 am time slot for the Dallas and Fort Worth lines for system maintenance activities. What this means is that the service may or may not be available during these time periods.

PPP Support

The following is a slightly edited version of the “University of North Texas Point-to-Point Protocol Support Fact Sheet” prepared by Network and Microcomputer Services

Description

The UNT Computing Center is now supporting Point-to-Point Protocol (PPP) in addition to a terminal menu interface on all academic remote access (dialup) lines, both the free lines which have been in place for several years and the lines supporting the new Premium Remote Access Subscription Service.

Recommended Minimum Configuration

The main reason to use PPP is to be able to use a graphical user interface to access Internet resources. For this type of application the Computing Center recommends the following minimum configuration for your machine:

- a 386 w/8 MB RAM running Windows 3.1x or Windows for Workgroups, 7 MB free disk space, and a 9600 baud modem; or
- a Mac II w/8 MB RAM, 10 MB free disk space, and a 9600 baud modem.

The free lines are a mix of 28,800 and 14,400 baud modems. The subscription service supports 28,800 modems under the ISO v.32 and v.34 standards on all lines. Modems labeled ITU-T compliant support these standards. V.92 modems are known to generate errors if there are problems with the telephone line quality and the connection speed is renegotiated.

All users of Computing Center dialup lines must have an account on Jove, the Computing Center’s general purpose UNIX machine. You can apply for these in the Computing Center Support Services area in ISB 119 or the ISB 110 lab. There is also a link to the Jove account application on the http://www-lan.unt.edu/unt_ppp/ Web page.
General Information

Software distribution
The Computing Center is distributing software to provide PPP services through the following means:

- **via a PC-based menu option.** Initially this will be available in the Support Services area in ISB 119 or the ISB 110 lab. We will also be making the software available for downloading from the other General Access Labs, so inquire there as well.

- **via anonymous FTP to ftp.unt.edu;** look in the unt_ppp directory (i.e., cd unt_ppp). IBM-compatible users should read the instructions in the README.pc file. Macintosh users should read README.mac.

- **via the http://www-lan.unt.edu/ unt_ppp/ Web page.**

Each of these options will download software to floppy diskettes. The downloaded software will include platform-specific installation programs.

The **Windows software** is based on Trumpet Winsock for Windows 3.1. It requires four of either 3.5" or 5.25" high-density diskettes and requires 7 MB of free hard disk space to install. The software being distributed includes Netscape, WS_FTP, WSGopher, Trumpet News Reader, and TCP3270, among others.

The **Macintosh software** assumes that you have MacTCP already installed (UNT cannot legally distribute MacTCP, which is included in System 7.5). The Mac software takes four 3.5" high-density diskettes and requires 10 MB of free hard disk space to install. The software being distributed includes MacPPP, Fetch, Netscape, Newswatcher, NCSA Telnet, Brown TN3270, and TurboGopher. We currently do NOT support Open Transport but plan to in the future.

**Documentation**
Documentation for the software being distributed is available through the Computing Center Support Services area and via the http://www-lan.unt.edu/unt_ppp/ Web page.

---

Troubleshooting PPP Connections at UNT

A collection of known problems and possible solutions contributed by helpdesk and data communications staff members.

The following is a slightly edited version of a Web document available off of the http://www-lan.unt.edu/unt_ppp Web page. It's direct URL is http://www-lan.unt.edu/csl/helpdesk/www/ppp/troubles.htm. This article is reflective of the page on 30 November, 1995 — please check the Web page for the latest information.

**Line Problems**

- **Problem:** The general access metro lines (221-0059 and 337-0063) are not accepting PPP connections in the automatic login mode for some reason. This problem also occurs on other lines (general access AND premium) intermittently for SOME users (depends on your system and modem).

  **Resolution: Windows 3.1** — Use the manual login method to connect PPP to these numbers if you cannot get in on automatic.
  - In TCPMAN, Dialer — Options, set to No Automatic Logon
  - Use Dialer — Manual login to dial the number

- **Problem:** When you get a connection the terminal mode menu will appear — enter `ppp` and press **ENTER**

- **Problem:** When PPP starts, the characters on the screen will change to garbage characters - press **ESC** to switch to PPP

- **Problem:** You should see Accepted followed by My IP Address = 129.120.XX.XX. Start Netscape or any other winsock application.

**Resolution: Macintosh** — After selecting Open on the Config PPP panel, if Waiting for menu choice appears instead of Establishment, type ppp and press **ENTER** and **ESC** (there isn't even a dialog box open to do it in!!) and the connection SHOULD go through.

**Resolution: Windows 95** — Change the properties of the Dial-Up Networking icon for either metro line to reflect manual selection of PPP.
  - Right-mouse click on the icon and select Properties
  - In the General **TAB**, click on Configure...
  - In the Options **TAB**, Check Bring up terminal window after dialing
  - Click OK twice to close all dialog boxes, then double-click on the icon and press Connect to start a session

- **Problem:** After dialing, a Post Dial Terminal Screen window will appear; garbage characters will stream across it and stop.

  - Enter `ppp` and press **ENTER**, then click on the Continue... button

**Windows 3.x Problems**

- **Problem:** UNT PPP Installer cannot find drive a: after installing from the first diskette.
General Information

Resolution: The installer is losing its “focus” on drive a: after the first disk for some unknown reason, on some computers. Open File Manager and click on drive a: on the drive bar to bring the focus back to a:. Then tell the installer to retry. If this does not work, open a DOS window and log on to drive a: to bring the focus there, minimize the DOS session, and continue the install.

- Problem: UNT PPP Installer GPFs after installing all four disks and before creating Internet Applications group in Program Manager.
  Resolution: Restart Windows and run installation again. It has taken several tries on some machines to do a successful install (load disks and uncompress software, configure TCPMAN, and create Internet Applications group).

- Problem: UNT PPP installer installs Dallas Premium number instead of Fort Worth Premium number.
  Resolution: In TCPMAN select Dialer — Setup, cmd and change the phone number to 732-5533, the correct Premium line for Fort Worth. [This should be fixed by the time you read this — ed.]

- Problem: TCPMAN gets “modem not responding” when trying to connect PPP.
  Resolution: The UNT PPP Installer sets COM port speed to 14,400 by default, no matter what setting you select for modem speed. It should be setting a valid COM port speed such as 9,600; 19,200; 38,400; or 57,600. Try placing one of these settings in TCPMAN File — Setup - Baud rate.

- Problem: If you had CompuServe (or AOL, probably) installed with Web services before installing the UNT PPP software, it puts a winsock.dll in the Windows directory that conflicts with Trumpet winsock.dll.

- Problem: Rename the winsock.dll in their Windows directory to winsock.old or some other name. Then TCPMAN will find the correct winsock.dll when it activates. This may “break” the CompuServe or other provider software if it a) must have its own winsock.dll in a specific location to run, or b) it is not compatible with the Trumpet winsock.dll.

- Problem: You want to click on Netscape (or some other icon) and make it dial and connect automatically as opposed to starting Winsock and then starting your application.
  Resolution: Change the working directory of the icon to “C:\untppp\ %trmpswk”. You can change the working directory by using the Windows Properties feature. Just select the icon (single click on it) and press ALT + ENTER. Then modify the “working directory” as mentioned previously. dow

- Problem: You connected with TCP Manager just fine, broke the connection and want to reconnect, but after it dials it says “Rejected”.
  Resolution: Trumpet Winsock doesn’t always clear from memory the IP address you were assigned last time you connected. Close TCP Manager and reopen it, then try connecting again.

Macintosh Problems

- Problem: If you previously had MacPPP installed on your computer, the “Internet Quick-Start for Mac” installer will not over-write the existing PPP preference file. When you open “Config PPP” the only configurations you see are the ones you previously set.
  Resolution: Delete the file “PPP Preferences” from the “Preferences” folder in your “System Folder.” Using “Internet Quick-Start for Mac”, install only “MacPPP” using the “Custom Install” option.

- Problem: After successfully establishing a connection using “Config PPP” the control panel doesn’t show that the connection has been established.
  Resolution: There is a bug in the “MacPPP” software where it won’t always refresh the window once a connection is made. Close the window and re-open it. If the connection was successful, the control panel will now reflect it.

Windows 95 Problems

- Problem: Newly created Dial-Up Networking icons are unable to connect PPP.
  Resolution: If the Windows 95 system has stored a username for you in all capital letters (I have seen this on systems connected to Novell servers with the same username as that used for jove/PPP) then the PPP connection cannot be authenticated. Make sure that your username and password for jove are stored in each Dial-Up Networking icon in the correct case, normally LOWER case.

- Problem: Changing the selected modem for a Dial-Up Networking icon “breaks” PPP connectivity.
  Resolution: If you have a working Dial-Up Networking connection defined (as an icon) and change the modem, only the modem settings are carried in correctly. The TCP/IP settings are reset to the defaults (most of the protocol boxes checked... and no name servers defined). You must go back into the TCP/IP server settings and UNCheck everything except TCP/IP, and re-add the name server information.
UNIX Research Computer Replacement Being Sought

By Marc St.-Gil, UNIX System Manager (mstgil@unt.edu) and Maurice Leatherbury, Ph.D., Interim Director of Academic Computing Services

The aging Solbourne 6/904 ("Sol") is rapidly reaching the end of its useful life and the Research Program Group of the Information Resources Council started a process in mid-October to select a replacement for that UNIX machine. There were several reasons for retiring the system and bringing in a new one:

1. It is no longer supported by its manufacturer so keeping it running is difficult and expensive.
2. It cannot run the latest UNIX operating system and limits our ability to add new users to it.
3. A larger, faster UNIX platform will provide a means of migrating users off of the campus mainframe and thereby reduce the growing load on the administrative IBM computer, and
4. We have increasing requirements for large-scale computing capabilities that support research and advanced instruction at UNT.

A meeting of the Research Program Group was held on October 19th and everyone on campus who had an interest in the UNIX research computer environment was invited to attend. About 20 persons attended the meeting and together developed some guidelines for the selection of the research computer:

1. Software that should be available:
   A. Statistics — SPSS and SAS
   B. Statistical databases — ICPSR, CRSP, Computstat
   C. Mathematics packages — Mathematica, Maple, Matlab, IMLS
   D. Programming languages — Fortran, C, C++, COBOL, Lisp
   E. Visualization frontends — Spygrass, Precision Visuals, S-Plus

2. Hardware configuration that should be provided:
   A. CPU power at least twice that of Sol
   B. 1 GB of physical memory that can be addressed by a single program
   C. At least 72 GB of fast disk memory
   D. At least 72 GB of slower disk memory
   E. A 9-track tape drive

3. Management and support issues that should be addressed:
   A. High uptime, with rapid response to trouble calls
   B. Upgrade path for the hardware to take advantage of improvements in CPU's and storage
   C. Local support for hardware and software
   D. Easy software migration path for both system administrators and users
   E. Easy ordering process with a short delivery time
   F. Cost of hardware and software (initial and ongoing)

The goal of the Academic Computing Services is to purchase the new UNIX research computer and install it by Fall 1996, a goal that is quite ambitious when one takes into account the fact that over 10,000 users will have to be registered on the system. The switchover to the new system can only take place when classes are not in session and when there is an extended period (at least two weeks) during which the research computer is not available for use by faculty and students.

Virus Trek: The Next Generation

By Eric Neale, ACS General Access Lab Manager (neale@unt.edu)

OK, I'll be the first to admit complacency. I've let my guard down, I've been less than paranoid. Though I've not been burned yet, I had a definite slap in the face recently. It seems that one of our old friends has come back to haunt us again, this time in a completely different way.

Just when you thought it was safe to use your computer again, the old microcomputer virus rears its ugly head. Yes, heads, because the latest threats are coming at us in a completely different way. Instead of the same boot sector or file infector viruses, these new evils reside in your Microsoft Word documents as a malignant macro. Dubbed the WordMacro viruses, they have sent our notions of virus protection out the window, even though the concept is something that was investigated several years ago.

What has happened so far?

The first of these ugly beasties is called the WordMacro.Concept virus. Essentially, it was a macro that would run when an infected document was opened and would rewrite several default system macros so that it would be written into other Word documents.
(This is a very superficial description of this virus, but David Chess at IBM has posted a much more detailed (and very accurate) description of the operation of this virus on the Web. [http://www.research.ibm.com/xw-D953-weak.html] If you would like to know more detail about the virus, please look there.) Fortunately, the virus did no damage as part of its actions, it merely replicated. But this replication proved what some had only theorized. As this was a fairly simple virus, it was easily located and easily dealt with. In fact, a fix for it can be found via ftp, [ftp://ftp.command.com/pub/fix/virfix.zip]

The second known instance of this strain, the WordMacro.Nuclear virus, was not as nice. Unlike the WordMacro.Concept virus, WordMacro.Nuclear added text regarding nuclear testing in France to the open document. The macro is also set as "execute-only," so the macro commands cannot easily be viewed, making a fix like that for the WordMacro.Concept virus not easily available. But this virus also dropped a payload on the unsuspecting user: it created a self-executable on the hard disk that contained a virus, and then executed that DOS executable, infecting the computer in another way. The question of why someone would even open an infected Word document comes to mind. The WordMacro.Nuclear virus was first distributed in a Word document describing the fix for the WordMacro.Concept virus. Clever, huh?

Probably the scariest aspect of this new thread of virus is that it is cross-platform and not necessarily application-specific. The Word macro language functions the same for both Word for Windows and Word for Macintosh. Other word processing programs on the market today are macro-compatible with Word, and would therefore inflict the same damage. In the case of the WordMacro.Nuclear virus, the creation and execution of the DOS virus program would have no effect on a Macintosh user, but other ugly things could happen.

What happens next?
The anti-virus community is still responding to the situation. Even though the WordMacro.Nuclear virus is set execute-only and not text-readable, it still has an identifiable binary signature. Some anti-virus products have published extra search strings to use with their scanners to detect this virus. And, for the most part, we should be able to expect that anti-virus vendors will be able to identify these viruses and incorporate search strings for them into the existing packages. Disinfection like we have come to know, however, will probably not be possible.

Though several suggestions on avoiding getting infected with these viruses have been made, the best one is still to open a suspect document with an application that does not execute Word macros. At UNT, the WordPerfect products will import Word documents and retain their formatting while ignoring the macro content of the documents. Other programs with Word file translators may work the same way.

You can practice the same protection techniques for WordMacro viruses as you do with other viruses with very similar results. One, do not open Word documents from questionable sources. Two, check the files before using them to see if they're infected. This is a little more difficult with the WordMacro viruses as there are not many ways to check them, but opening a Word document in another program, such as WordPerfect in this brief example, saving the document as a WordPerfect file, then opening that file in Word would eradicate the malignant macros from the file. Of course, it would also remove ALL macros from the document, so that may not be the best solution. And it doesn't help if your Word global macros are infected anyway.

What is down the road?
As I mentioned in the last issue of Benchmarks, I've created a Web page dealing with the virus issue. It is a collection of reliable information about viruses, though it is not comprehensive. I will be keeping the page up to date with the latest virus information, especially new WordMacro viruses that creep into the wild. You can access the page at http://lipsmacacs.unt.edu/Virus/virinfo.html. The page also has pointers to the latest anti-virus tools for you to download.

The world of viruses is constantly changing. I'm reminded of the first Michelangelo scare back in 1991. There was such a media blitz surrounding that outbreak of that virus that it incurred limited damage. The public, however, sensing an overreaction to the virus, let down its guard the following year, and Michelangelo caught many people by surprise. These WordMacro viruses pose the same sort of threat. I sincerely hope the world at large takes this particular threat more seriously than it did the Michelangelo virus. Last I heard, Michelangelo still hits in March.

Staff Activities

Soaring Eagles

- Eric Duchemin (UNT/HSC Fiscal Data Systems) and Rory Rivoire (Network & Microcomputer Support) were recognized in the November Human Resources Newsletter (Vol. 19, No. 3) for their hard work in the computing arena. Eric was honored by the departments he provides service to and Rory was honored by the Technology and Cognition Department, where he used to work.

Presentations

- Dr. Philip Baczewski, Assistant Director of Academic Computing Services presented a paper, co-authored with Dr. Rosemary N. Killam, entitled "An Examination of Error Frequency and Magnitude in the Melodic Dictation of Professional Musicians" on a poster session at the national meeting of the Society for Music Theory in New York on November 3.
General Information

Information Resources
Council News

Minutes provided by Sue Ellen Richey, Recording Secretary

IRC Regular Voting Members: David Shrader, College of Music (Chair); Douglas Allen, Student Association; Walter Bowen, Academic Administration; Bill Buntain, Communications Program Group; Cengiz Capan, College of Business; Carolyn Cunningham, Student Affairs; Paul Dworak, College of Music; Brian Forsman, UNT Health Science Center; Chuck Fuller, Fiscal Affairs; Dan Grose, Libraries; Jonelle Harris, Administrative Program Group; David Hartman, School of Community Services; Jenny Jopling, Instruction Program Group; San Magill, UNTHSC Director of Information Technology Services; Sharon Marek, Graduate Student Council; Steve Miller, Human Resources; Dennis Mueller, Research Program Group; Russ Pensoy, School of Visual Arts; Paul Schieve, College of Education; Kathleen Swigger, College of Arts and Sciences; John Todd, Faculty Senate; Virginia Wheelless, Chancellor; IRC Ex-officio Nonvoting Members: Jim Curry, Microcomputer Maintenance Shop; Richard Harris, Computing Center; Coy Ringgard, Computing Center; Maurice Leatherbury, Computing Center.

September 19, 1995

Dr. Blaine Brownell, Provost, introduced Dr. David Shrader, Dean of the College of Music as the new Chair of the IRC. Brownell expressed his desire to focus as much of his attention as possible this year on technology at UNT, because of the many opportunities presenting themselves to this campus. The Provost invited IRC members to bring their concerns to him, and stated that he will attend as many IRC meetings as possible this year.

Bill Buntain reported that there has been progress made in the implementation of GroupWise. The delays that have been experienced have been due to problems with NetWare 4. Installation of GroupWise is scheduled for the Administration Building in the week of October 16th, and in the Business Building in the week of October 9th. Due to the mission-critical nature of this project Paul Dworak has been selected as Project Manager to oversee it, with the assistance of Technical Project Manager, Bill Buntain.

Program Group Reports

- **Administration Program Group**: Jonelle Harris reported that the installation of the new mainframe went very smoothly; however, problems with response time were experienced during freshman orientation. During fall registration, more serious problems were encountered. She reported, however, that IBM has been very supportive, investigating the problems from every angle. Preliminary results seem to point to an increase in the overall workload on the machine since last fall’s registration period, however, it has not been determined if there is a problem with fine tuning the multiple processor machine. The Computing Center is attempting to acquire and use a network simulator software product to see if it can be determined at what point in the workload increase the response-time slowdown occurs.

- **Communications Program Group**: Bill Buntain reported that they will have their first meeting of the year on October 2, at which they will deal with Novell Site Licenses. Bill explained that in the initial site license agreement, Novell was going to allow copies of the software to be made available to students for $1.50, so that students could take home a copy to use on their home computers. In the process of working out details of the contract, Novell withdrew the student part of the license. A revised amendment to the agreement has been received which will allow on-campus use of the software by faculty, staff and students, but off-campus use only by faculty and staff. However, Novell will allow the purchase of copies of the software for use at home at a highly discounted price.

With regard to the dial-up system, Bill reported that equipment has been evaluated, tested, and will be ordered. He estimates that the start-up time for the service to provide access to the Internet will be around the first of November. Expanded services allowing access to Novell networks will be later. He stated that in addition to what is available now, as of November 1, there will be 72 more local dial-in lines, 16 Dallas, and 16 Ft. Worth lines. The subscription service will cost $10.00/month for local access and $15.00/month for Dallas/Ft. Worth access. The same set of services will be available on both the free and the subscription lines; the advantage of the subscription lines being a guaranteed ratio of 7 users to 1 line.

- **Instruction Program Group**: Jenny Jopling reported that the group met and elected a co-Chair, Bob Bane, to serve with Jenny for the year. The group discussed the recommendations that were made to the IRC at the June meeting and requested a report from the IRC as to the status of those requests. In response, the Provost stated that $160,000 has been allocated to CIS to take care of everything on the “Dead & Dying” list of equipment. The other recommendations have not been acted upon, since limited funding requires that no other allocations be made until the final resolution is made on the cost of the campus-wide communication project, including platform upgrades and GroupWise implementation. He further explained that there might be enough money to address some of the issues that have been raised by the Instruction Program Group and the Research Program Group, but first it is essential to bring everyone up to a standard desktop platform so that the GroupWise system can be used, and that will be a major problem, budget-wise.

Dr. Brownell expressed his hope that when the final allocations are made no disadvantage will be placed on anyone. He asked that the IRC set priorities, which he will abide by, and then the
schools and colleges will know what they have to provide for with their own funds.

A motion was passed to allocate $500,000 to be divided by academic unit, per head count, to upgrade faculty desk-top workstation computers to achieve a minimum standard platform across campus for communication purposes.

- **Research Program Group**: Dennis Mueller reported that the committee has not met, and that they need four members replaced. The committee requested to know the status of the UNIX system upgrades that have been approved. Richard Harris reported that funding will be available to do the upgrade. Mueller also asked for the status of the Innovative Projects Program. The Provost responded that there are no funds for that project at the present time. He explained that if any funds were left after taking care of basic and critical needs, they could be used for the Innovative Projects Program, possibly in a smaller amount that was originally requested. The Chair stated that this will be an agenda item at the October meeting.

- **Standards & Cooperation Program Group**: Paul Dworak reported that they are working on World Wide Web implementation; that Doug Bateman has put together some guidelines on the use of Web sites; and that the committee as a whole is working on a policy which will be brought to the IRC in a couple of months. They are working through the issues of managing information as well as trying to form a working group of Web managers.

**November 14, 1995**

Paul Dworak reported on the progress of E-mail implementation. Since the last IRC meeting, a SWAT team has been sent to UNT to deal with some specific issues. It was the intention that the three groups that formed out of the initial meeting with Novell (Project Mgmt. team, the User Consultant team, and Technical Support team) meet actively. He believes that can happen now since answers have been received from Novell. In response to a question about the timeline for completion of this project, Richard answered that the decision needs to be made within the Project Team and by the groups that remain to be set up.

Virginia Wheless asked if departments whose version to GroupWise is imminent should be told how to upgrade their computers so they will be prepared for the conversion? Richard replied that there is an Administration Building project team that will be scheduling meetings with people in that building so that any questions can be answered and a convenient schedule can be set for the conversion. It has been well known and advertised by the vice presidents that people need to upgrade their computers, and Prop II money has been allocated for that.

Discussion continued regarding the direction of future software and hardware configurations. Dworak pointed out that a strategic decision was made at UNT to strive to be at the forefront in the use of technology. It was stressed that it is important for everyone at UNT to be able to use the campus-wide system, not only for electronic mail, but for the applications that are planned for the future, such as electronic forms transfer.

**Network Manager Group Concerns Outlined**

Cathy Cobb distributed a document outlining concerns of the UNT Network Manager Group regarding the GroupWise project. Cathy reviewed the history of the E-mail decision, which ranged over the period of January 1991 through the present time. She reported that Bill Buntain had met with the LAN managers at their last meeting and addressed their concerns and questions. There were some questions relating to administrative accountability for the project that could not be answered; therefore, the remaining concerns are being presented to this council. She requested that these concerns be addressed by the council in the December meeting. The Chair requested that the LAN Managers meet with Paul Dworak and his committee, then Paul will bring the results of that meeting to the IRC.

Cengiz Capan asked if UNT is committed to go with Netware 4.1; if that is definite then the LAN managers could at least know that and could go forward in getting ready for that conversion. Bill Buntain answered that it was Novell’s recommendation that the conversion to Netware 4.1 be done prior to installing GroupWise. The campus is committed to go with Netware 4.1 in the long run, but there is a question as to the timing of that conversion. Recommendation to install 4.1 first.

There was a question raised as to the appropriate committee to bring recommendations to the IRC, since the Electronically Enabled Communication Commission (EECC) is no longer in existence. Paul Dworak explained that when the IRC approved the pilot project that the EECC recommended, responsibility and authority to carry out that recommendation was given to the Computing Center. Further, the group Paul is working with is dealing with operational issues, working with the people who can make this project work. It was agreed that this implementation group would be the appropriate source for future recommendations regarding the GroupWise project.

**Program Group Reports**

- **Administrative Program Group**: Joneel Harris reported that the group met on November 9th, at which time they talked about the year 2000 and the implications for administrative applications running at UNT. She explained that the SIEC system is the one that will be the most significantly impacted, while some applications have been structured to handle the 4 digit year. They also discussed the new version of COBOL that the FAMS system will begin running under as of February 1996; mainframe versus client server, and graphical user interface issues; and COM-PLETE as their teleprocessing monitor, which is an ongoing issue. They also dealt with the ADABAS product performance issue. Performance of the new mainframe was also discussed. Although no conclusive decision has been made at this time, it would appear that an upgrade to the
mainframe will be a viable option at 12-18 months, as originally proposed.

☐ Communication Program Group: Bill Buntain reported that they have not met, but he reported that the Novell Site License was signed on October 27th. The license will require that users coordinate purchases and installations of Netware with the Computing Center in order to be accountable to Novell on the number of copies deployed. In addition, Bill stated that Novell announced that it is attempting to sell its Perfect Office Suite of products. The site license includes those applications and Novell has assured that they will honor the license agreement.

Bill also reported that the Premium Remote Access Service is now in place for Denton; they are waiting for phone service to be installed in Dallas and Ft. Worth, but everything should be ready in a few days. There will be two ways to obtain the service: 1) for on-campus use, departments will submit an ITO; and 2) individual subscriptions will be paid for through the University Bookstore, on a semester by semester basis.

☐ Instruction Program Group: Jenny Jopling reported that they have met to discuss the formulation of a questionnaire to send to departments to find out how much they are spending on classroom equipment and maintenance of that equipment. Mark Withers reported that the Provost has allocated money to renovate 140 classrooms to a minimum standard. Changes will include zoned lighting, relocating electrical outlets, and window coverings. The Chair asked that people send suggestions and comments to him or Jenny and they will make sure they are discussed with Mark Withers before any changes are made.

☐ Standards & Cooperation Program Group: Paul Dvorak reported that the group has developed a World Wide Web Publishing Policy, a draft of which he distributed. IRC approval of this policy will be requested at the December meeting. Paul explained that the emphasis of the policy are: 1) what kinds of information will be served; 2) who is responsible for making sure it is accurate; 3) what is the role of the Campus Wide Information System administrator; and 4) what is “official” information and how it will be dealt with by the university under state and federal law.

Other Business

Susan Pierce presented the Biennial Operating Plan that she prepared and distributed copies of her overhead presentation as well as the Plan itself. Susan explained how she arrived at the figures in the Plan spreadsheet, and explained that the report format is determined by the Department of Information Resources. DIR asks agencies to report Baseline Operations, purchases of hardware and software, and acquisitions of over one million dollars.

Dennis Mueller recommended that the Research Program Group’s proposal for an Innovative Projects allocation be revisited at the December IRC meeting. Kathy Swigger seconded that recommendation and voiced her support for that proposal, stating that since UNT is pushing technological advances, it will be important to invest in some research projects that will highlight UNT. The Chair agreed to put that item on the December meeting agenda and call for a vote at that time.

Richard Harris reported that a policy decision needs to be considered regarding “Everyone” E-mail. The Human Resources department, PAIS and the Police Department want a way to send an emergency message, so it is important that all employees be members of the “Everyone” group. Who will be allowed to send out “Everyone” messages is yet to be decided. Richard asked for the IRC’s blessing to bring this up at the next IRC Steering Committee meeting, since that’s where the policy decision needs to be made. The Chair stated that Richard could bring that issue to the Steering Committee.