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The Internet Connection

Making the move to cyberhood? Hooking up to the Internet doesn’t always mean skipping the rent

By Tom Yager

It’s good to be connected. There’s something magical about entering a command into the system on your desk and having a machine halfway around the world bow to your request. Usenet, the worldwide distributed bulletin board system with thousands of discussion groups and plenty of free space, delivers some of this power, but it lacks immediacy. The files you ask for today might show up tomorrow. Or the next day. Or it might take you that long to find out you didn’t form your request properly. No, for sheer, unadulterated network thrills, you have to go all the way: to the Internet.

An Internet connection turns a mere computer into an access terminal to the world’s most amazing example of organized anarchy. You can reach through a wire and ftp files from remote archives holding everything from 3-D models to operating-system source code. Tap into Archie to search dozens of archive sites for specific files. Grab weather reports, movie reviews, electronic books, and other goodies through a friendly gopher menu-driven interface. There’s Internet Relay Chat, Multiuser Dungeons (MUDs), and Internet bulletin board systems (BBSs), and, of course, the World Wide Web. This global village stuff can be addicting.

Getting connected to the Internet used to be as easy as milking a flea. To hook up, you had two choices: buy an expensive leased line to another Internet site, or get a log-in account on someone’s net-connected system. The people with the connections--government, universities, really big companies-- seldom handed out log-ins. Their reluctance was partly out of fear of hackers and crackers, and partly because goodwill doesn’t have a cash value. They were a little freer with UUCP accounts, and until recently this was the approach for most of us commoners to get our mail and news.

Now some of the ‘‘little people power’’ that energizes the Usenet is finding its way into the Internet domain. The most powerful solutions come from commercial Internet service providers. These companies spend big money for a high-speed Internet tap, then sell log-in accounts to those with a yen to traffic in data. Depending on the speed of the link and the number of subscribers, these services, offered by companies like Netcom and regional providers like Texas Metronet, often deliver the fastest throughput on data transfers. With a basic log-in account, you can use telnet, gopher, MUDs , and other interactive services. When you use ftp, the file is transferred to the provider’s hard disk. You then must use some transfer protocol (like Zmodem) or UUCP to pull the file down to your computer.

Another level of service offered by some of these companies is the more expensive SLIP and PPP These set your system up as an Internet node. The provider is your gateway to the rest of the net, and a dial-up modem link passes the TCP/IP packets to and fro. Providers offer both dial-up (on demand) and dedicated SLIP and PPP connections.

In addition to the large corporate providers, there are now groups of smaller players offering Internet services. Larger multiline BBSs, particularly those in metropolitan areas, are gaining Internet access in increasing numbers. These systems are perfect for those who want Internet but don't feel comfortable with the Unix command line. BBS software usually wraps ftp, telnet, and other services in friendly menu-driven shells. This treatment opens up the power of the net to ''just plain folks.''

Considering Costs

Buying an Internet log-in account is easy; with new nodes sprouting up almost daily, it's a real growth industry. As more providers appear, the going rate for log-ins will drop. I've seen ads for Internet-equipped BBSs boasting unlimited connect time for $10 per month. It's more likely, though, that you'll see prices ranging from $15 to $50 dollars monthly. One of the biggies, Netcom, charges $17.50 per month for unlimited time online.

Finding the right provider is one area where it really pays to shop around. Dedicated SLIP and PPP connection rates have fallen low enough that practically anyone with a fast computer and the right software can go into business selling Internet accounts. The big players offer some measure of safety, with telephone support and, generally, plans to minimize downtime. These services account for the comparatively higher cost. BBSs and private systems don't have the same support and reliability, but if your use of the Internet is mostly casual, you may not mind a couple of crashes a month in return for a smaller bill.

Larger providers usually throw in a reasonable amount of local disk storage; five megabytes is typical, and that's generally a ''soft'' limit. You can use more for a short time if you need to without incurring additional charges. You should plan on moving files to your system swiftly, though; it would be foolhardy to use these services as remote archives.

[*Editor's note:* Some Web sites that list Internet service providers include:]

- *Internet World* magazine's The List (http://www.thelist.com/)
- Yahoo's List of Internet Presence Providers (http://www.yahoo.com/Business/Corporations/Internet_Presence_Providers).
- Cornell University's Internet Access and Providers, both commerical and free (http://helpdesk-www.cit.cornell.edu/IAP/INAccess.html).
- Network-USA's Global list of ISPs (http://www.netusa.net/ISP/).

A Good Mix

If you're unfamiliar with the treasures of the Internet, a good place to explore them is on an equipped BBS or online service. My reigning favorite is BIX, one of General Videotex Corp.'s services. BIX offers a variety of local functions including a rich hierarchy of discussion groups, file areas, and interactive chat (called "cbix"). The BIX software permits both menu-driven and command-line navigation. Access is made easier by BIX's connection to the Tymnet network, which has local access nodes in most U.S. cities.

BIX's Internet services are shared with Delphi, GVC's other online service. The level of service is quite complete, starting with an easy electronic-mail address (somebody@bix.com). Outgoing Internet e-mail is no extra charge, and you can address it directly to the recipient using the same interface as that for local mail. Special versions of Telnet, Ftp, and Gopher are integrated into BIX's command structure.

They're always available, and they're also included in the basic subscription.

A standout among BIX's Internet tools is Ftp. BIX programmers have devised a crafty way to get around local (BIX) disk storage requirements. BIX's Ftp program has embedded into it an X/Y/Zmodem file-transfer engine. You mark all the files you want to download from a particular host and then transfer them all at once with a single command. As packets are received from the remote site, they're turned into file-transfer packets and sent straight to your system. If you use Y or Zmodem, Ftp will batch your requested files together and send them all in sequence. This process saves time, a big help with a service that charges hourly, and eliminates the need to manage storage on another system.

The BIX scheme, a mix of attractive local services with easy, no-cost Internet access, is one I expect to see widely duplicated in the future. Already, users of other pay services (like Compuserve and Prodigy) are clamoring for more direct, less costly Internet access. BIX is one of the best examples of the big, stable provider. It's got banks of phone support people, fast computers, and from my experience so far, a very reliable Internet link. The only drawback to BIX's approach is that a lengthy delay in Ftp transmission can confuse a streaming protocol like Zmodem.

A Look Ahead

The past year has seen explosive growth in the number and quality of Internet providers. It's not hard to see where all this growth will lead. This year, we'll see dramatic improvements in modem technology, bringing greater speed and reliability to connections made through ordinary voice-grade phone lines. Regional Bell companies and others are laying the groundwork for other types of communications links including digital cellular, fiber-optic, and bidirectional cable. Before long, the leased line will be a relic of the past, and Internet connections will be as simple as cable TV.

In the near term, I expect to see prices for Internet log-in accounts continue to drop. Right now, a prospective service provider has to shell out about $200 per month for each 14.4-kbps dedicated SLIP and PPP link, including phone line charges. A multiline BBS with a few dozen paying subscribers can swing this easily, perhaps charging an additional $5 to $10 monthly to each user that wants the service. Imagine how the world would change, though, if that dedicated link cost $100 per month or even less. Falling prices will allow the Usenet effect to kick in, where individuals and small companies put their computers, modems, and phone lines into free service for the benefit of all. That community spirit is growing fast throughout the Internet. When we can all afford to participate, the potential of the shared ideas, shared instantly, is the stuff of dreams.

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