WALT JUNG

Getting Net Connected: Some Sage Advice On Ins And Outs Of Going On-line

Are you on-line yet? If you believe all of the Internet hype, you'd think that access today was like telephone or TV. As of this writing, the frenzy hasn't abated—it has escalated. Given that, a "how-to" article risks instant obsolescence. Yet, even as things change, much stays constant. Below are my experiences from a year plus of Net connection. It was enough time for me to sample two major on-line services and seven Internet Service Providers (ISPs), and also learn about what mistakes not to repeat. It may help some newcomers to be spared from "Net connection" pains.

There are about five general considerations involved with successful Net connection. Here, we deal with them from a newcomer's Windows 3.1 perspective. For MAC users, and/or a broader view, I can recommend Paul Gilster's *The SLIP/PPP Connection* (Wiley, 1995). These considerations include type of service, software/hardware requirements, cost and obligations, support issues, and dial-in access points.

The type of service required for full *graphical* Internet access is either a Serial-Line Internet Protocol (SLIP) connection, or Point-to-Point Protocol (PPP). These allow your computer to talk to a chosen ISP through a standard dial-up modem to Internet-connect. Either can suffice, but PPP seems to be moving to a de facto standard. PPP is also a preferred choice because its PAP and CHAP login options eliminate scripting. You also need software on your computer to provide a Transmission Control Protocol/Internet Protocol (TCP/IP) interface and Windows Socket (WINSOCK). This is usually handled by software known as "WINSOCK.DLL" (also known as the "dialer," even though it does much more than dial and connect). You don't want "Shell" access either, which is more limited than SLIP or PPP. The latter two provide full Internet services such as World Wide Web (WWW) browsing and graphical display, as well as POP-server e-mail.

Your ISP can be local, regional, or national. In theory, all provide basic service, but your best choice will be based on all points covered below. National on-line services such as America On-Line, CompuServe, and Prodigy also act as ISPs, so an account with one also gets you net connected. For many beginners this could be the best route, and you'll also have their proprietary services. This point is significant, as some (such as CompuServe) provide valuable hardware and software support functions via on-line forums. These on-line services all provide easily-installed software, with one-button "turnkey" access. For installation software, just call the listed 800 number. Previously, typical monthly charges were about $10 for five hours, with additional hours $2 to 3 more. At the end of last year, these services all began offering a $19.95/month "unlimited Internet" plan.

WALT JUNG

The minimum **software requirements** for Net access are a Winsock/dialer package, plus a *browser* that includes e-mail. That's it! The browser basically allows you to access (browse) web sites (computers on the NET). It also allows file transfer via FTP, and to send/receive e-mail from your personal address (jdoe@yourisp.com). The standard Netscape (recommended) browser is available on-line from the Netscape site:

http://home.netscape.com

and is found bundled with many ISP starter software packages. Netscape has built-in e-mail and *newsreader* functions. The latter allows access to USENET news, a "bulletin-board" service of about 15,000 plus subjects.

As for the Winsock/dialer software, this is definitely a getting connected task that separates the strong from the faint-hearted, should you "do-it-yourself." For minimum startup hassle, choose one of the major ISPs below. This gets you a self-installing package that includes a Winsock/dialer program. But, if you choose to go with a local or regional ISP, the Winsock/dialer may be left for you to configure from printed or on-line instructions, using a package such as the shareware Trumpet Winsock available at:

http://www.trumpet.com.au/

While viable, this can be daunting the first time, especially with cryptic script commands and esoteric Internet numeric addressing. If not sure, ask the ISP help desk about log-on specifics or recommended packages.

In Windows 95, Winsock hassle is minimal, because this capability is built in. Just follow the prompts under "My Computer/Dial-up Networking."

Hardware requirements are a 28.8 kbits/s V.34 modem on a 16550A COM port, and a fast Pentium or 486 computer with lots of RAM, and (fast) hard-disk space, with sound card and speakers optional. A fast video system is useful, as is 2 Mbytes of VRAM, with Windows tuned for peak efficiency. But few of these are absolutes; you can (slowly) cruise the Net with a 14.4 kbits/s modem, slow hard disks, and 8 Mbytes of RAM.

The **monthly cost** of Internet service dropped dramatically, beginning with AT&T's March 1996 entry. Quite simply, their $19.95/month time-unlimited rate for long distance customers set a new standard. Accordingly, others such as MCI have followed with similar plans. Both AT&T and MCI also have plans

WALT JUNG

where 5 hours/month is free (for now) to their customers. IBM's global network is accessible around the world, at a (new) $19.95/month rate. And, as mentioned above, the national on-line services have begun offering similarly priced "unlimited Internet" options.

Be careful when shopping around, as you might be able to find an ISP to better this unlimited monthly rate--but be wary! Don't sign up with an unknown ISP for a special yearly rate without a trial and cancellation option. Too many things can happen to sour you--poor (or no) phone support, your local node is consistently down, the e-mail server goes down--these things do happen. Beware of setup charges, as these seem to be going away for ISPs with automated account creation systems. And, if you need e-mail while traveling, an 800 access phone number is a real help. Some ISPs offer it for $6/hour, but AT&T's $4.50/hour rate is a plus. Many small ISPs simply have no 800 service.

Support can be a real critical item with an ISP; when you need it, you need it bad. Potentially best is a 24-hour, 7-days-a-week 800 number, but that isn't everything. Hold time is a key factor, as is on-line help proficiency. Sometimes you need a 1-on-1 to resolve an issue. The worst form of help is the local ISP's "black hole" answering machine where your questions just (sadly) disappear, or black hole e-mail. I've dumped three ISPs with those help systems, so be wary! Do try and gauge just what sort of help is available before signing up with any ISP, as you'll be living with it. Many ISPs also have their own newsgroups, useful for broadcasting network information, and sharing user tips and experiences.

A local dial-in access number is a final criteria which can be crucial in ISP selection. Make sure that a potential ISP is a local call! Further, call the number several times on different days/times, noting connect speed. If it isn't always 28.8 kbits/s, don't be totally disheartened. On the other hand, if you never see anything higher than 14.4 kbits/s, don't consider that ISP. Also, note if you ever get a busy signal. You shouldn't if the ISP has sufficient lines/modems.

The World Of Internet Providers Is Unfortunately Still One Of Caveats And Cautions.

For travel access, look either for a substantial U.S. city number list or a reasonably priced 800 service. TIP: Try *http://www.thelist.com/* which itemizes rate structures and services.

So, what's it boil down to? Pick your provider on overall specifics. While personal experiences are useful, remember, all ISPs have a bad day now and then! Of those listed in the table, I have used AT&T Worldnet, InternetMCI, and IBM, with generally good experiences *(see the table)*.

I don't care for the InternetMCI setup, which rearranges your system for a special boot configuration, possibly conducive to conflicts. On my system, I had to reboot (via a multiple CONFIG.SYS) to select InternetMCI. But once it was up and running, the software performed well. InternetMCI comes with a customized Netscape, an e-mail package, E-mail Connection, plus FTP and Telnet applications.

The AT&T Worldnet setup installs easily, with no special boot setup. I'd rate the AT&T setup as good in some regards, but with a strong caveat if you deem e-mail service critical. In mid-July 1996, the AT&T E-mail system suffered an "E-mail horror," with numerous outages and mailing errors. Due to a flood of new users, they initially had delays in delivering setup diskettes. AT&T Worldnet comes with a customized Netscape, and Eudora Lite for e-mail.

I had first tried IBM's network about a year ago, when it was more expensive and not fully 28.8 kbits/s Upon return, I now find it generally better, and less expensive. The IBM package comes with a dialer and customized Netscape, all of which install hassle-free. Of the "Big 3" ISPs, I found IBM overall the most responsive to questions. But, they also suffered serious news and e-mail problems late last year.

To put the service outage horrors into an overall perspective, it appears that with AT&T and IBM, just being big is no guarantee of flawless service--perhaps to the contrary. It is likely that the operating glitches have come due to thousands of new users. While over time the problems ultimately get addressed, it sure is frustrating in the short term. In truth, we are still very much in the "growing pains" days of Internet service.

At this point in the article, it would be reassuring to just unconditionally recommend one provider. But, given my experiences (and those of others), the world of Internet providers is unfortunately still one of caveats and cautions. In fact, many heavy Net-users maintain more than one account, to buy some degree of problem immunity. Such are the ISP facts of life in early 1997.

While the tips above aren't the final word on getting Net connected, they certainly should start you off. Do let me know of your own Internet experiences, and any questions/ideas for future columns

Walt Jung is a Corporate Staff Applications Engineer for Analog Devices of Norwood, Mass. A longtime contributor to Electronic Design, he can be reached via e-mail at Walter.Jung@Analog.Com.

NATIONAL INTERNET SERVICE PROVIDERS

Service	800 #	Website
America Online	1 800 827-6364	http://www.aol.com
Compuserve	1 800 336-6823	http://www.compuserve.com
Prodigy	1 800 PRODIGY	http://www.prodigy.com
AT&T	1 800 WORLDNET	http://www.att.com
IBM Global Netwowk	1 800 821-4612	http://www.ibm.net.access
MCI	1 800 955-3565	http://www.internetmci.com