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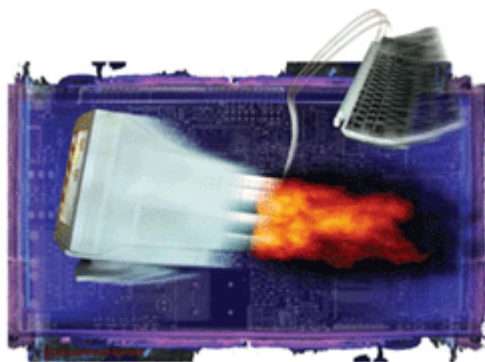
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Technology

Brave New Broadband World

Want better connections? Here's how to get them.

by Martin B. Schneiderman



The demand for affordable high-speed Internet access is exploding. Broadband communications such as digital subscriber line (DSL) and cable modems provide “always on” Internet access—10 to 20 times faster than a typical dial-up connection—for as little as \$40 per month. This is almost as fast as a dedicated T1 line, which generally costs more than \$1,000 per month. Broadband is

a “must-have” not only for professionals who work regularly from a field or home office but also for many small organizations, too.

I've been using broadband from my home office for the past nine months and during that time I've significantly boosted my productivity and realized great cost savings. There's no more dialing and waiting for a connection. With speedy Internet access I use my browser to conduct more extensive and better research. I exchange more information with colleagues and project team members. E-mail messages with large attachments come and go in the background. Best of all, I do less commuting and business travel because I can now work at home or on the go as effectively as I can from my foundation client offices.

I've come to realize that broadband is the most significant thing that has happened to the Internet since the advent of the Web browser. This technology is quickly changing the way we use computers and so, too, the way we work.

How things are changing. IDC, a market research firm, reports that today about 2 million people, or 5 percent of all U.S. households have broadband access. That's expected to increase to 30 percent of households by 2003.

Faster Internet access causes people to spend substantially more time online. Forrester Research cites that after switching to a broadband connection users stay online twice as long as they did when they used modem dial-up connections.

Remote access and telecommuting. In surveys that I've conducted of grant managers, program officers, and forward-thinking leaders of

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foundations and nonprofits, remote online access to information systems is consistently ranked as a high priority. There's also growing awareness that high-speed networks with the right hardware and software can enable geographically dispersed collaborators, consultants, reviewers, and board members to work together effectively in teams.

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But until recently the high cost of communications has been an obstacle for most organizations. An attraction of broadband is the opportunity for people to telecommute and access their organization's network from home just as if they were at the office. To accomplish this your organization will need to purchase and support specialized communications and security equipment to protect the network from intruders. IDC reports that by 2004 there will be 11 million U.S. telecommuters, an increase of 31 percent since 1999.

DSL vs. Cable Modem. DSL permits you to use surf the Web and talk on the phone at the same time using a single phone line. This magic is accomplished by transmitting data on your phone line's unused frequencies. A prerequisite for DSL access is being within about three miles of a phone company central office. The closer you are, the higher the possible connection speed.

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Cable modems connect using the same lines that provide your TV signal. This means that you're sharing the line with neighbors, which can result in slowdowns during peak hours when others log on. Cable's primary advantages are that it's easier to install and more widely available than DSL. Seventy percent of U.S. homes can be served by a cable TV provider—but all don't offer Internet access as yet.

How fast is it, really? To determine the speed of your current connection and to compare it with broadband, go to <http://msn.zdnet.com/partners/msn/bandwidth/speedtest50.htm> . Read the Frequently Asked Questions (FAQs) at this site to learn why connections don't reach the advertised speed.

Is it available in your area? Broadband isn't yet available everywhere in the country. Check out www.getspeed.com to identify all cable modem, DSL and satellite providers in your area, plus availability and costs.

The Townsend
 Group
 301/215-6710
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Installation and support woes. The main problem with broadband is that many providers offer unacceptable levels of service and support. This is due to poor capacity planning, inadequate financing, inexperienced staff and multiple players. Problems can take days or weeks to resolve.

Subscriptions
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Cable modem installations are usually less of a hassle since you're dealing with a single provider. When connection problems occur with DSL lines, there may be a question as to who can solve it: the DSL provider or the local phone company. DSL users say, however, that once it's installed, they encounter fewer service outages and more consistent speed than users with cable modems.

In a *PC Magazine* survey of subscribers with broadband connections it was reported that "many complain of installation and other hitches; even so, almost 90 percent say broadband benefits justify the hassle." My personal experience supports this. It took me 15 calls to my local telephone company in one week to troubleshoot and get my DSL connection working just right. Since then it has proven to be consistently fast and reliable. I still keep my dial-up modem connected and ready to go as a backup. You can also mitigate downtime risk by taking the belt-and-suspenders approach of

opting for a combination of DSL and cable for good bandwidth at a low price.

Connecting multiple PCs. Through the use of a device called a network hub from LinkSys (starting at \$55) or a integrated hub/firewall (starting at about \$150) you can share your high-speed connection with multiple home or small office PCs. Windows 98 and Millennium Edition have an Internet connection sharing feature that also allows you to do this. Your broadband provider probably won't advertise or support this so you'll need to contract for a network specialist to do this separately.

Firewall security is a must. An "always on" connection means that you're a sitting duck for hackers to break into your computer to read or delete files, and to use your computer to attack others. I find it particularly troubling that so few broadband providers explain this to their customers.

It's critical that you install a hardware firewall (starting at \$150) or a software firewall such as Norton Internet Security 2001 (\$65), or Zone Alarm (free to home users and nonprofits). Be sure to download and install updates regularly, just as you do with your virus detection software. Then link to <http://www.grc.com> and run Shields Up! to test your security. In the future look for service providers to offer firewall capability as part of their subscription service.

Before you buy. I recommend the following:

- | Guard against the current industry shakeouts by selecting a large regional cable or telephone company. Many of the smaller companies won't survive.
- | In today's highly competitive and fluid market buy only the bandwidth that you need and the shortest possible contract.
- | Keep an eye out for promotions that offer free installation, free DSL or cable modems and a month or two of free service.
- | Be wary of using broadband technologies for your only connection if you can't afford any downtime.

Resources for this article:

- | [Comparison of Internet Connection Services](#)

Martin B. Schneiderman is president of Information Age Associates, Inc., (www.iaa.com), a firm specializing in the design, management, and support of information systems for grantmakers and nonprofits. He can be reached at mbs@iaa.com.

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