

Too, cable and DSL access aren't available everywhere. But if you live in an area where cable or DSL isn't available, you can still get high-speed Internet access by using a satellite hookup or a cellular network.

## Connecting with high-speed private lines

If your network is large and high-speed Internet access is a high priority, contact your local phone company (or companies) about installing a dedicated high-speed digital line. These lines can cost you plenty (on the order of hundreds of dollars per month), so they're best suited for large networks in which 20 or more users are accessing the Internet simultaneously.

The following paragraphs describe three basic options for high-speed private lines:



TIP

» **T1 and T3 lines:** T1 and T3 lines run over standard copper phone lines. A T1 line has a connection speed of up to 1.544 Mbps. A T3 line is a bit faster: It transmits data at 44.184 Mbps. Of course, T3 lines are more expensive than T1 lines.

If you don't have enough users to justify the expense of an entire T1 or T3 line, you can lease just a portion of the line. With a fractional T1 line, you can get connections with speeds of 128 Kbps to 768 Kbps; with a fractional T3 line, you can choose speeds ranging from 4.6 Mbps to 32 Mbps.

You may be wondering whether T1 or T3 lines are really any faster than cable or DSL connections. After all, T1 runs at 1.544 Mbps and T3 runs at 44.184 Mbps, and cable and DSL claim to run at comparable speeds. But there are many differences that justify the substantial extra cost of a T1 or T3 line. In particular, a T1 or T3 line is a *dedicated* line — not shared by any other users. T1 and T3 are higher-quality connections, so you actually get the 1.544 or 44.184 connection speeds. In contrast, both cable and DSL connections usually run at substantially less than their advertised maximum speeds because of poor-quality connections and because the connections are often shared with other users.

Also, both cable and DSL connections download data much faster than they upload data. So, while you may be able to download data at 100 Mbps over a cable connections, you'll be lucky to upload data at much more than 7 or 8 Mbps.

» **Business-class cable:** Cable TV providers (such as Comcast) offer business-class service on their cable network. The price and speed depends on your area. For example, where I live, I can get 100 Mbps service for about \$400/month.