

# Telecommunications and Accessing the Internet

Many organizations link their networks to the Internet. Individuals can get access to the Internet through telecommunications and an Internet service provider or an online information service. An ISP (Internet Service Provider) offers access to the Internet for a fee. An online information service, such as AOL, offers access to the Internet as well as other services for a fee.

## ISP Fees

ISPs and online information services typically charge a fee that is usually a flat, monthly rate. They also provide the necessary software, a user name, password, and dial-up number for a conventional modem.

*Telecommunications* is the transmitting and receiving of data. Data can be in various forms including voice and video. Telecommunications requires a modem or adapter and a line or cable. The speed of data transmission (sending) and receipt (receiving) is measured in *Kbps* (thousands of bits per second) or *Mbps* (millions of bits per second). Numerous telecommunications options are available, which vary in speed and cost:

- A **conventional modem** uses standard telephone lines to convert analog signals to digital data. A conventional modem is a 56 Kbps modem, which transmits data at 28.8 Kbps and 36.6 Kbps, and receives data at 56 Kbps. Today, most home and business users select options other than conventional modems if they are available in their area, due to the slow access time associated with conventional modems.
- A **DSL (Digital Subscriber Line)** modem uses standard telephone lines with data transmission up to 640 Kbps. Data receipt is from 1.5 Mbps to 9 Mbps. A DSL (Asymmetric DSL) is the most common form used.
- A **cable modem** transmits data through a coaxial cable television network. Data transmission is from 2 Mbps to 10 Mbps and data receipt is from 10 Mbps to 36 Mbps.
- **Leased/Dedicated lines** are used by many businesses and schools for Internet access. They allow for a permanent connection to the Internet that is always active. The cost of a leased line is usually a fixed monthly fee. A T-1 carrier is a type of leased line that transmits data at 1.544 Mbps.
- **ISDN (Integrated Services Digital Network)** is a digital telephone network provided by a local phone company. ISDN is capable of transmitting and receiving data at up to 64 Kbps. ISDN requires the use of an ISDN terminal adapter instead of a modem.

## PLC

PLC (power line communications) uses existing power grid networks to send broadband data communications. Internet connections are established by plugging a computer device into a power outlet.

## Wireless Network

In a wireless network, a router/wireless access point is typically connected by a cable to a cable or DSL modem.