

CFEE Telecommunications and Technology Conference

KEY TERMS

Courtesy of the Federal Communications Commission (FCC)

BROADBAND refers to high-speed Internet access that is always on and faster than traditional dial-up access. There are different types of broadband technology, and the type you choose will depend on a number of factors. These may include whether you are located in an urban or rural area, how broadband Internet access is packaged with other services (such as voice telephone and home entertainment), price, and availability. Broadband includes several high-speed transmission technologies such as:

Digital Subscriber Line (DSL) is a wireline transmission technology that transmits data faster over traditional copper telephone lines already installed to homes and businesses. The availability and speed of your DSL service may depend on the distance from your home or business to the closest telephone company facility.

Cable modem service enables cable operators to provide broadband using the same coaxial cables that deliver pictures and sound to your TV set. Most cable modems are external devices that have two connections: one to the cable wall outlet, the other to a computer.

Fiber optic technology converts electrical signals carrying data to light and sends the light through transparent glass fibers about the diameter of a human hair. Fiber transmits data at speeds far exceeding current DSL or cable modem speeds, typically by tens or even hundreds of Mbps.

The actual speed you experience will vary depending on a variety of factors, such as how close to your computer the service provider brings the fiber and how the service provider configures the service, including the amount of bandwidth used. The same fiber providing your broadband can also simultaneously deliver voice (VoIP) and video services, including video-on-demand.

Telecommunications providers sometimes offer fiber broadband in limited areas and have announced plans to expand their fiber networks and offer bundled voice, Internet access, and video services.

Wireless broadband connects a home or business to the Internet using a radio link between the customer's location and the service provider's facility. Wireless broadband can be mobile or fixed. Wireless technologies using longer-range directional equipment provide broadband service in remote or sparsely populated areas where DSL or cable modem service would be costly to provide. Speeds are generally comparable to DSL and cable modem.

Wireless Local Area Networks (WLANs) provide wireless broadband access over shorter distances and are often used to extend the reach of a "last-mile" wireline or fixed wireless broadband connection within a home, building, or campus environment. Wi-Fi networks use unlicensed devices and can be designed for private access within a home or business,

or be used for public Internet access at "hot spots" such as restaurants, coffee shops, hotels, airports, convention centers, and city parks.

Mobile wireless broadband services are also becoming available from mobile telephone service providers and others. These services are generally appropriate for highly-mobile customers and require a special PC card with a built in antenna that plugs into a user's laptop computer. Generally, they provide lower speeds, in the range of several hundred Kbps.

Satellites can provide links for broadband, just as they provide necessary links for telephone and television service. Satellite broadband is another form of wireless broadband, and is also useful for serving remote or sparsely populated areas.

BANDWIDTH is the capacity of a telecom line to carry signals. The necessary bandwidth is the amount of spectrum required to transmit the signal without distortion or loss of information. FCC rules require suppression of the signal outside the band to prevent interference.

COMMON CARRIER is the term used to describe telephone companies.

LAST MILE is the common term for the final leg of infrastructure that connects end users to the broader communications network.

MEGABITS PER SECOND (or Mbps) is the standard measure of broadband speed. It refers to the speed with which information packets are downloaded from, or uploaded to, the Internet. Basic Service = 3 to 8 Mbps; Medium Service = 12 to 25 Mbps; Advanced Service = More than 25 Mbps.

MIDDLE MILE is the common term for the fast, high-capacity communications infrastructure relaying data between end users and the Internet backbone.

A **NETWORK** is any connection of two or more computers that enables them to communicate. Networks may include transmission devices, servers, cables, routers and satellites.

SPECTRUM is the range of electromagnetic radio frequencies used in the transmission of sound, data and television.

OVER-THE-TOP APPLICATION (OTT) is any app or service that provides a product over the Internet and bypasses traditional distribution. Services that come over the top are most typically related to media and communication and are generally, if not always, lower in cost than the traditional method of delivery.

UNBUNDLING is the term used to describe the access provided by local exchange carriers so that other service providers can buy or lease portions of its network elements, such as interconnection loops, to serve subscribers.