Glossary

Fiber optics: is a flexible, transparent fiber made by drawing glass (silica) or plastic to a diameter slightly thicker than that of a human hair.[1] Optical fibers are used most often as a means to transmit light between the two ends of the fiber and find wide usage in fiber-optic communications, where they permit transmission over longer distances and at higher bandwidths (data rates) than wire cables. Fibers are used instead of metal wires because signals travel along them with lesser amounts of loss; in addition, fibers are also immune to electromagnetic interference, a problem from which metal wires suffer excessively.

Broadband

As part of its 2015 Broadband Progress Report, the Federal Communications Commission has voted to change the definition of broadband by raising the minimum download speeds needed from 4Mbps to 25Mbps, and the minimum upload speed from 1Mbps to 3Mbps, which effectively triples the number of US households without broadband access.

Communications Backbone

A backbone is a larger transmission line that carries data gathered from smaller lines that interconnect with it.

E-Rate

is the commonly used name for the Schools and Libraries Program of the Universal Service Fund, which is administered by the Universal Service Administrative Company (USAC) under the direction of the Federal Communications Commission (FCC). The program provides discounts to assist schools and libraries in the United States to obtain affordable telecommunications and Internet access. It is one of four support programs funded through a Universal Service fee charged to companies that provide interstate and/or international telecommunications services.

FCC

Abbreviation for Federal Communications Commission. The U.S. Government board of five presidential appointees that has the authority to regulate all non-Federal Government interstate telecommunications as well as all international communications that originate or terminate in the United States.

FTTC

Fiber-to-the-Curb

Fiber-to-the-Home (FTTH)

Fiber optic service to a node located inside an individual home.

Last Mile

Last-mile technology is any telecommunications technology that carries signals from the broad telecommunication backbone along the relatively short distance (hence, the "last mile") to and from the home or business. Or to put it another way: the infrastructure at the neighborhood level.

Modem

Acronym for modulator/demodulator. 1) In general, a device that both modulates and demodulates signals. 2) In computer communications, a device used for converting digital signals into, and recovering them from, quasi-analog signals suitable for transmission over analog communications channels such as telephone lines.

Ethernet Is Wired - Wi-Fi Is Wireless

Ethernet uses cables to connect computers; Wi-Fi is its wireless counterpart, and both technologies are used together.

Wireless

A network or terminal that uses electromagnetic waves, such as RF, infrared, laser, visible light, and acoustic energy, not wires, for telecommunications.

Wi-Fi

Works with no physical wired connection between sender and receiver by using radio frequency (RF) technology -- a frequency within the electromagnetic spectrum associated with radio wave propagation. When an RF current is supplied to an antenna, an electromagnetic field is created that then is able to propagate through space.

The cornerstone of any wireless network is an access point (AP). The primary job of an access point is to broadcast a wireless signal that computers can detect and "tune" into.

A common misconception is that the term Wi-Fi is short for "wireless fidelity," however this is not the case. Wi-Fi is simply a trademarked phrase that means IEEE 802.11x.

Every laptop, tablet and smartphone comes with Wi-Fi, as well as most security cameras and home theater devices. Printers and scanners may also support Wi-Fi, and home appliances increasingly use it for control and notifications.

More on the this later.

Bandwidth

Broadband

Speed

Storage

Bandwidth: Is like the speed limit of the highway. Assuming each car is fixed size, the number of cars going through a highway is nothing but the average speed of the cars on the highway. Cars per second would be the unit.

Broadband: Is like the highway itself. A fast lane that allows cars to go at a speed higher than on most other roads.