

**The terminology has been taken from the Washington State Department of Commerce:  
Washington State Broadband Office  
January 25, 2021**

## **Frequently asked questions**

Telecommunications terminology can be confusing, and in a space, that's always changing, it can be difficult to keep up. Below we've identified some of most commonly used terms:

**5G**  
5G, or fifth generation, is the next iteration of cell phone networks. 5G service will be faster and have lower latency than 4G LTE, and will require densely deployed "small cells" rather than the macro cell towers commonly used for 4G. Because many 5G small cells must be deployed closely together in order to create the network, the technology is best suited to densely populated cities.

**Anchor Institutions**  
Flagship community institutions, including but not limited to schools, health care centers, and libraries. Anchor institutions are sometimes connected to fiber, even when fiber service is not commercially available in the community. Because of this, they can act as a connection to the internet backbone

**Asymmetrical**  
Internet connections have two components – a download and upload speed. When the two speeds are not the same, the connection is termed asymmetric.

**Backhaul**  
The portion of a broadband network in which the local access or end user point is linked to the main Internet network.

**Bandwidth**  
The maximum rate of data transfer.

**Bit**  
The bit is a basic unit of information in computing and digital communications.

**Broadband**  
Technologies that provide high-speed internet access and other advanced telecommunications services to end users.

**BTOP**  
Broadband Technology Opportunities Program – former funding opportunity that was part of the American Recovery and Reinvestment Act of 2009.

**Byte**  
Unit of digital information that most commonly consists of eight bits.

<https://www.commerce.wa.gov/building-infrastructure/washington-statewide-broadband-frequently-asked-questions-office/>

**Cable Internet**

A form of broadband Internet access that uses the same infrastructure as a cable television.

**Cloud**

Cloud computing is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user. The term is generally used to describe data centers available to many users over the Internet.

**Conduit**

A reinforced tube through which cabling runs. Conduit protects fiber-optic cables in the ground and can be placed underground when convenient and later “blow” or “pull” the fiber cabling through.

**Cooperative (Co-Op)**

A non-profit, member-owned organization that provides a needed service. Members pay a small fee to join and have voting rights within the organization.

**CPE**

Customer Premises Equipment – typically describes the box on the side of a house that receives and sends the signal from the network, connecting the subscriber.

**Dark Fiber**

Unused fiber infrastructure that has not been “lit” with internet service. When someone is building a fiber network, the cost of adding more fiber than immediately required is negligible and the cost of having to add more fiber later is very high. Therefore, many projects include dark fiber for a future need.

**Data Center**

A large group of networked computer servers typically used by organizations for the remote storage, processing, or distribution of large amounts of data.

**Datacasting**

Broadcasting of data over a wide area via radio waves. It most often refers to supplemental information sent by television stations along with digital terrestrial television, but may also be applied to digital signals on analog TV or radio.

**Dig Once**

A policy to encourage the placement of fiber or conduit in the ground any time a trench is dug for a public project.

**Downstream**

Internet connections have two components – a downstream and upstream. Downstream refers to the rate at which the user’s computer can receive data from the Internet. Synonyms: download

**DSL**

Digital subscriber line (DSL; originally digital subscriber loop) is a family of technologies used to transmit digital data over telephone lines.

<https://www.commerce.wa.gov/building-infrastructure/washington-statewide-broadband-frequently-asked-questions-office/>

**Fiber-Optic**

A system that uses glass (or plastic) to carry light to transmit information. Typically, each side of the fiber is attached to a laser that sends the light signals. When the connection reaches capacity, the lasers may be upgraded to send much more information along the same strand of fiber.

**Fixed Wireless**

A connectivity model that uses stationary wireless technology to bridge the “last mile” between the internet backbone and the subscriber.

**FTTH**

Fiber-to-the-home. As most telecommunications networks use fiber in some part of it, FTTH specifies those that use fiber to connect the subscriber.

**FTTP/FTTU**

Fiber-to-the-Premise or Fiber-to-the-User are used somewhat interchangeably with FTTH to describe full fiber networks.

**Gbps**

Gigabits per second (Gbps) is a data transfer speed equal to 1,000 megabits per second (Mbps). Colloquially referred to as “Gig”.

**I-Net**

Short for Institutional Network. This is the network a municipal government requires to carry out its duties. I-Net frequently refers specifically to a network built for city uses (connecting schools, for instance) by the cable company as part of the franchise agreement with the city. Synonyms: Institutional Network

**Information Technology (IT)**

The use of computers to store, retrieve, transmit, and manipulate data or information.

**Internet Backbone**

Principal data routes between large, strategically interconnected computer networks and core routers of the Internet.

**Internet Of Things (IoT)**

A system of interrelated computing devices, mechanical and digital machines with the ability to transfer data over a network without human-to-human or human-to-computer interaction.

**Kbps**

Kilobits per second is a data transfer speed equal to 1,000 bits per second.

**Last Mile**

The final leg of a connection between a service provider and the customer. *Synonyms: first mile*

**Latency**

A measure of the time delay required for information to travel across a network.

<https://www.commerce.wa.gov/building-infrastructure/washington-statewide-broadband-frequently-asked-questions-office/>

**Line of Sight (LOS)**

Refers to technologies that can deliver a signal only to destinations that it can 'see'. An example would be upcoming 5G cellular communications, the signals for which cannot penetrate most surfaces.

**Lit Fiber**

Fiber infrastructure that is being used to provide internet service

**Macrocell**

A cell used to provide cell network coverage to a large area (compared to small cells, which cover a smaller area). Often mounted on towers.

**Mbps**

Megabits per second is a data transfer speed equal to 1,000,000 bits per second and also equal to 1,000 kilobits per second.

**MDU**

Multiple dwelling unit – most frequently apartment buildings.

**Middle Mile**

Middle mile is a term most often referring to the network connection between the last mile and the greater Internet. For instance, in a rural area, the middle mile would likely connect the town's network to a larger metropolitan area where it interconnects with major carriers.

**Municipal Network**

A broadband network owned by a local government.

**Non-Line of Sight (NLOS)**

Radio transmissions across a path that is partially obstructed

**NTIA**

National Telecommunications and Information Administration – a division of the US Department of Commerce.

**Open Access**

An arrangement in which the network is open to independent service providers to offer services. In many cases, the network owner only sells wholesale access to the service providers who offer all retail services (ie: triple play of internet, phone, tv).

**Overbuild**

To create a network that goes into competition with an incumbent provider.

**Passed**

Residences or businesses that have access to the network. As a FTTH network is constructed, it will generally be built through a neighborhood before individual houses or businesses are connected via a drop cable (which is also a fiber-optic cable). When a house or businesses is "passed," it means they are eligible to sign up for services (which may still require a technician to hook up the drop cable).

<https://www.commerce.wa.gov/building-infrastructure/washington-statewide-broadband-frequently-asked-questions-office/>

**Peer-To-Peer**

This is a type of network that allows computers to connect directly to each other rather than organizing them via hierarchical connections. This term is most often used to describe a type of file sharing that has greatly increased bandwidth usage and allows faster downloading of the same file from multiple computers. *Synonyms: p2p*

**PoP**

A Point of Presence is an access point that provides a connection from one location to the rest of the Internet. ISPs have multiple PoPs within their networks.

**RUS**

Rural Utilities Service – a branch of the US Department of Agriculture.

**Satellite Internet Access**

Internet access provided through communication satellites.

**Satellite Constellation**

Group of artificial satellites working together as a system to provide permanent global or near-global coverage.

**Small Cell**

Small cells provide wireless service via a connection to fiber optic networks. These units are much smaller and exist closer to the user — often attached to telephone poles and light posts — than macro cells (“cell towers”). Small cells already exist in many cities to provide 4G service.

**Smart City**

Used generally to describe a community that uses IoT technologies and data.

**Symmetrical**

Internet connections have two components – a download and upload speed. When the two speeds are the same, the connection is termed symmetric.

**Take Rate**

The number of subscribers to a service – typically expressed in a percentage of those taking the service divided by the total number of people who could take the service. If a community fiber network passes 10,000 people and 6,000 people subscribe, it has a take rate of 60%. When planning the network, it will be built to be profitable at or above a certain take rate as defined in the business plan. Generally, networks require a few years to achieve take rates due to the long time it takes to connect each customer.

**Telco**

Telephone company – a provider of telecommunications services such as voice (telephony) and data services. Also called common carriers or LECs (Local Exchange Carriers); ILECs are incumbent providers, like AT&T or Verizon.

**Telecommunications**

The exchange of information by various types of technologies over wire, radio, optical or other electromagnetic systems

<https://www.commerce.wa.gov/building-infrastructure/washington-statewide-broadband-frequently-asked-questions-office/>

**Telehealth/Telemedicine**

Health care initiatives supported by a broadband connection. Telehealth applications are especially reliant on high-capacity, low-latency service. Goals include the ability to bring quality health care to those living far from hospitals or to elderly patients wishing to age in place.

**Triple-Play**

The three main services offered over these networks – television, phone services, and Internet access.

**Upstream**

Internet connections have two components – a downstream and upstream. Upstream refers to the rate at which the user's computer can send data to the Internet. Synonyms: upload

**USF**

Universal Service Fund – a federal program with four programs: high cost (subsidizes the high cost of services in rural areas), low income (includes Lifeline and Link Up discounts to those in poverty), rural health care (reduced rates to rural health care providers to ensure they have access to similar services as urban counterparts), and schools and libraries (E-Rate subsidizes telecommunication services to schools and libraries).

**White Space Internet**

Uses a part of the radio spectrum known as White spaces (radio). This frequency range is created when there are gaps between television channels. These spaces can provide broadband internet access that is similar to that of 4G mobile.

**Wi-Fi**

This is a suite of protocols that allow wireless devices to exchange information using unlicensed frequencies. Equipment carrying the Wi-Fi brand is interoperable.

**Wireless Access Point**

In computer networking, a wireless access point (WAP), or more generally just access point (AP), is a networking hardware device that allows other Wi-Fi devices to connect to a wired network. The AP usually connects to a router (via a wired network) as a standalone device, but it can also be an integral component of the router itself. An AP is differentiated from a hotspot which is a physical location where Wi-Fi access is available.

**Wireless Broadband**

Telecommunications technology that provides high-speed wireless Internet access or computer networking access over a wide area. The term comprises both fixed and mobile broadband.

<https://www.commerce.wa.gov/building-infrastructure/washington-statewide-broadband-frequently-asked-questions-office/>