

GLOSSARY of TERMS

Internet speed: Internet speed is your allocated bandwidth. Bandwidth is the amount of data that can be sent to you, usually measured in seconds. You can think about bandwidth like a road: the wider the road, the more cars (bits of data), can travel side-by-side. For example, 10 Mbps would mean that you can receive up to 10 megabits of data per second, or 10 cars driving in 10 different lanes on a single wide road.

Bandwidth: Bandwidth is like a road. All cars (data) travel at the same speed, so to receive more data faster, the road needs to be wider.

Broadband: Broadband relates to the speed of your connection, but there is no agreement on what speed is required to be considered a “broadband” connection. The Federal Communications Commission (FCC) defines broadband as connection speeds of at least 25/3 Mbps but most ISPs argue that broadband is anything from 10/1 Mbps (this translates to 10 megabits of data per second download, and 1 megabit per second upload). 10 Mbps is generally good enough to stream a 1080p (high-def) video, but 10–20 Mbps is a more reliable speed to stream content and/or make fast downloads, and often an even better connection is required to run multiple applications at once.

Fiber-optic network: A network of fiber-optic cables (made from glass or plastic) that carries light to transmit information. These networks offer far superior speeds, transmitting data at near the speed of light. They also provide symmetrical speeds—in other words, the same speed for download (e.g. video streaming) and upload (e.g. putting a video on youtube or sending a large file to friends). Fiber is a critical replacement for copper wires or cable and is the dominant method of transmitting information for the foreseeable future.

Fiber-to-the-home: A high capacity fiber-optic line that is connected directly to the home.

Open access network: Open access networks allow multiple services and service providers to operate on the same network infrastructure. This arrangement gives residents the ability to pick and choose services, from internet to telehealth, from providers who compete on price and service to sign-up customers. We're all familiar with the highway system that ensures we all receive the goods and services we need, from a variety of providers. But imagine if services like FedEx, UPS, and USPS all decided to build their own roads, and each provider could only drive on the road they owned. That's the way the internet is currently configured. Instead of this nightmare, roads are "open access" for all service providers who are then able to compete on cost, speed and service.

ISP: ISP stands for Internet Service Provider: this is the company that supplies your internet connection e.g. iFiber, Buckeye Broadband, Comcast etc. In the open access model, all these providers operate over shared, open access, networks so consumers can easily choose between services based on price, service, and needs.

5G: 5G stands for fifth-generation cellular wireless — new, better mobile internet that will one day replace the standards for current 4th generation mobile networks. A popular misconception is that 5G will replace the need for physical fiber broadband networks, when in fact fiber networks are the critical underpinning that are required to power this and other wireless technologies.

Dark conduit / dark fiber: Unused fiber-optic cable, usually installed to expand the system capacity. Some ISPs lease these dark fibers to other companies that add equipment in order to transmit signals through them.

Mesh network: Network connections that are spread over multiple nodes that "talk" to each other to help share the connection over a large area.

SDN: SDN stands for Software Defined Network or Software Defined Networking. Historically, networks relied on hardware devices like routers to move traffic across network infrastructure. SDN removes control from individual devices and centralizes it in a software application called a controller. This system promises better network management and more precise control over traffic flow because it enables prioritizing, de-prioritizing or even blocking of specific types of information packets. This system is usually installed right outside or right inside the home, and is the responsibility of the infrastructure owner.

Take-rate: The percentage of residents in a defined community who are subscribers to a broadband network.

Last Mile: Last-mile technology carries signals from the main infrastructure system the short, final distance (hence, the “last mile”) to and from your home or business. Or to put it another way: the last mile is the infrastructure at the neighborhood level—this is the community broadband network!

Middle Mile: Middle mile refers to the network connection between the last mile and central internet infrastructure. For instance, in a rural area, the middle mile would connect the town’s network to a larger metropolitan area where it interconnects with major carriers.