

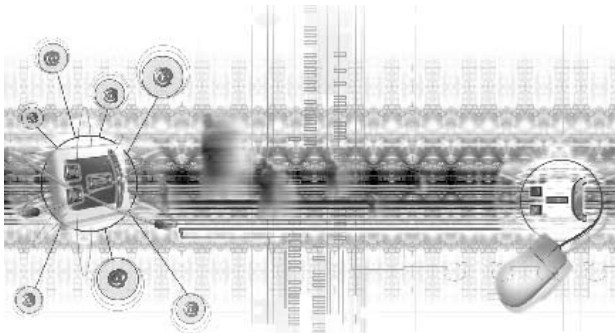


Broadband: Is it right for me?

In the 1990s, the majority of consumers connected to the Internet using a “dial-up” service involving a standard telephone line and modem. As technology advanced, Internet users sought to improve their connection speed and obtain the ability to conduct searches, download music and video, and play online computer games at a much faster rate. Many consumers also wished they could make and receive telephone calls while surfing on the Internet.

New technologies became available that allowed consumers to achieve high-speed “broadband” access through cable, wireless, satellite or digital subscriber line (DSL) technology. Broadband is increasingly required to use some applications over the Internet, including the type of Internet-based telephone service known as VoIP, or Voice over Internet Protocol.

When comparing broadband services, it is important to know that some parts of Ohio have little or no broadband access, while consumers in major metropolitan areas may have choices. When



choices are available, price and the speed of the connection are common considerations.

Connect Ohio (www.connectohio.org) is a public-private partnership to increase access to broadband technology. Among the resources provided by Connect Ohio is an interactive Broadband Inventory Map available at the Connect Ohio Web site that can help consumers determine if broadband is available in their area and, if so, the types and providers from which consumers can choose.

In addition, consumers can use commercial Web sites such as ConnectMyHighSpeed.com to

determine at least some of the choices that may be available in their area.

A connection’s upload speed is how quickly information can be sent from a consumer’s computer to another computer. The download speed is how quickly graphics, music, video or other information can be obtained by the consumer. Typically, residential consumers are most concerned about the download speed.

Online resources such as Speedmatters.org can be used by consumers to determine the upload and download speed of their current Internet connection.

The Office of the Ohio Consumers’ Counsel (OCC), the residential utility consumer advocate, has produced this fact sheet to describe the basics of each type of broadband service.

DSL

DSL expands the spectrum of a standard pair of copper telephone wires and permits consumers to simultaneously use their telephone lines for voice (telephone calls) and data (Internet) use.

For DSL to work best, a customer’s home must be within about three miles of their local service provider’s central office, a facility that connects customers’ lines to the broader telecommunications system. Customers should ask the DSL provider to tell them if DSL is available to their home, or they can visit www.dslreports.com/prequal to pre-qualify. To compare available broadband services, consumers may wish to visit www.dslreports.com. The site also provides direct links to broadband providers and other information.

There is no single speed for all DSL services. The speed of DSL depends upon the service provider, the local telephone company, the type of DSL purchased and how far the customer is from the central office.

DSL service provides a consumer with a dedicated, always-on connection to the Internet. A dedicated line means that the connection to the Internet is not shared with other users.

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Cable broadband

In many parts of Ohio, broadband service is provided over the cable company's lines. A special cable modem connects to the cable outlet in the wall and to the consumer's computer. Cable-based broadband permits consumers to simultaneously use their cable to watch television and connect to the Internet.

The speed of a cable connection to the Internet varies according to the type of cable modem and network as well as how much Internet data is moving through the network by other customers.

Cable broadband provides a consumer with an always-on connection to the Internet. Since the connection relies on the cable connection, when consumers' cable television goes out, they also will lose access to the Internet.

Wireless

There are two types of wireless Internet access available to some customers – fixed and mobile.

Fixed wireless access is performed using radio signals transmitted between a customer's home and the service provider. Typically, a dish-shaped antenna is placed on a customer's roof to establish the connection with the provider. A cable runs from the outside antenna to special equipment and the computer inside the home.

The quality of the radio connection between the home and the service provider is a major factor in determining the speed at which the Internet can be accessed. Typically, a consumer must live between 2 and 35 miles from the service provider's nearest location.

Mobile wireless access uses radio waves in much the same manner as wireless telephones. A consumer with a handheld device is able to transmit and receive information using radio waves, the telephone network and the Internet.

Technology is increasingly being used by hotels, coffee shops, restaurants, airports and other facilities to create wireless "hotspots" known as Wi-Fi. Customers with a laptop or other device with a special wireless modem can use a Wi-Fi hotspot to connect to the Internet. There may be a cost for using a hotspot and some locations are part of

a broad network offering daily or monthly rates to access the Internet from participating locations.

Satellite

Satellite connections provide broadband access primarily to customers in rural areas who may not have a cable or DSL alternative. A satellite connection relies on a signal above the Earth's atmosphere. A customer uses a small outdoor dish (also called a base station) and a special modem.

Satellite service may be slower and more expensive than a DSL or cable connection to the Internet. The speed of the service depends on the provider, the customer's location, the service package purchased and the weather.

Power lines

A technology known as Broadband over Power Lines, or BPL, is being tested in some areas across the country, including portions of the Duke Energy service area in southwestern Ohio. Using existing electrical lines and customers' power outlets, BPL can be set up to allow access to the Internet at speeds comparable to cable or DSL alternatives.

Helpful shopping tips

The OCC provides the following tips to help assist consumers in their comparisons:

- ▶ Remember that there are various broadband service providers. Check out what type of service is being provided in the area and compare the rates and terms of several offers.
- ▶ Ask what additional equipment is needed to establish and run the broadband connection. For example, in addition to a computer, a DSL customer typically needs a Network Interface Card (NIC) and a special modem.
- ▶ Check out the reputation of the service provider. Find out if others in the community have experienced customer service problems. Some services promote do-it-yourself installation which may still require customer support.
- ▶ Before a broadband service is chosen, remember to consider all associated costs. In addition to monthly or annual charges,

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customers may be responsible for setup, installation and/or equipment charges.

- ▶ Ask how billing will occur. Consumers could be billed through their monthly telephone invoice or separately.
- ▶ Request a copy of any contracts or offers and carefully read the terms and conditions prior to subscribing to a service. Service providers often require a user to sign a one-year contract. Check for early termination charges.

- ▶ Consumers do not need to rush into a contract. Technology is developing and advancing in the area of high-speed Internet access. Take time to find the right service provider.
- ▶ Find out the computer system requirements of the broadband service to ensure that the system is compatible and has, for example, enough memory.

The Office of the Ohio Consumers' Counsel (OCC), the residential utility consumer advocate, represents the interests of 4.5 million households in proceedings before state and federal regulators and in the courts. The state agency also educates consumers about electric, natural gas, telephone and water issues and resolves complaints from individuals. To receive utility information, brochures, schedule a presentation or file a utility complaint, residential consumers may call 1-877-PICKOCC (1-877-742-5622) toll free in Ohio or visit the OCC Web site at www.pickocc.org.

The Office of the Ohio Consumers' Counsel is an equal opportunity employer and provider of services.

For additional information from the Office of the Ohio Consumers' Counsel:

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