Business Internet Connections: Finding the Right Fit

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Two decades ago, businesses had only one choice for an Internet connection: dial-up. They couldn't be on the phone and on the Internet at the same time unless they purchased two separate phone lines; they primarily used the Internet for email and browsing the "World Wide Web;" and they purchased software for critical business applications and installed it on employees' computers.

It almost seems **unbelievable, right?**

Fast forward to today's business environment, which is heavily dependent on Internet connections. You're using the Internet for nearly every aspect of your operations: advertising, updating your corporate website, communicating and collaborating using email and Voice over Internet Protocol (VoIP) and/or unified communications solutions, paying bills, delivering customer service and using your web-based, mission-critical business applications.

The **stakes are high**, too: without a secure, reliable network, your business operations can come to a screeching halt for the average of the one to five hours that it takes most businesses to find and resolve a connectivity issue once it's reported.[1] That's lost productivity for employees, who you're still paying, lost sales, and overall, a bullet to your bottom line.

But, with all the different types of Internet connections available, it's hard to decide which your business needs. Add on the extra stress of figuring out how much bandwidth you'll need based on your business activities, and it seems even more of a herculean task to find the best fit.

Read on to learn more about the types of Internet services, how to determine your business bandwidth needs, and other factors to keep in mind as you begin your search.

Your Guide to Business Internet Services

Cable

Cable Internet delivers high-speed Internet access through cable television lines. This type of connection uses a cable modem and a coaxial cable to transmit data into your business.

- Average download speed: Up to 300 Mbps, Average upload speed: Up to 10 Mbps
- Ideal capacity: 1-35 users
- Pros: Fast speeds at affordable prices, Performance isn't reliant on distance from the provider
- Cons: Limited availability, Susceptible to electromagnetic interference, Shared connection will negatively affect speeds particularly during peak usage times, Speed limitations due to dated technology

DSL

Short for digital subscriber line, DSL allows for high-speed Internet through use of copper telephone wires. Unlike dial-up, DSL uses a frequency that lets phone and Internet data transmit simultaneously without interference.

- Average download speed: Up to 100 Mbps, Average upload speed: Up to 8-10 Mbps
- Ideal capacity: 1-20 users
- Pros: Widely available, Affordable prices, Less prone to speed variations due to individual lines connecting each business
- Cons: Sensitivity to distance from provider, Susceptible to electromagnetic interference, speed limitations due to dated technology

Fiber

Fiber Internet uses light passing through glass tubing, called fiber-optic cables, to transmit data. These connections use fiber cables all the way to your business location, enabling the fastest speeds on the latest technology.

- Average download/upload speed: Up to 1 Gbps (1,000 Mbps) with the opportunity for faster speeds in the future
- Pros: Fastest download and upload speeds option, Most reliable, Resistant to electromagnetic interference
- Cons: Limited availability, Possibly longer installation time, Potentially higher one-time costs for installation

Dedicated Internet

Dedicated Internet can be delivered through a variety of circuits, such as fiber, ethernet over copper, fixed wireless and so on. The biggest difference between dedicated Internet and other types is that it provides a private connection, making it more common in businesses that must meet compliance requirements.

- Average download/upload speed: Up to 1 Gbps Pros: Private connection gives you
- more security, Guaranteed bandwidth, Symmetrical upload and download speeds, SLAs
- Cons: Costlier than shared connections

Satellite

Similar to television, satellite Internet uses a dish or antenna to send and receive data from an orbiting satellite.

- Average download speed: Up to 25 Mbps, Average upload speed: Up to 3 Mbps

- Pros: Sometimes the only Internet option for rural areas

- Cons: Often too slow for business use, Unreliable and susceptible to outside elements, More expensive

Fixed wireless

Fixed wireless Internet uses a dish or antenna to send and receive radio signals from a nearby transmission tower.

- Average download speed: Up to 100 Mbps, Average upload speed: Up to 5 Mbps

- Pros: Sometimes the best option for rural areas, Can provide equal to or faster speeds than traditional broadband, which has limited availability in rural areas

- Cons: Limited availability, Needs clear line of sight to transmission tower for best results

Mobile hotspot

Mobile hotspots give you an Internet connection through use of a cellular data plan. It creates a Wi-Fi hotspot — either built into a smart device or through a free-standing device — that allows any Wi-Fi enabled device within a certain distance to connect.

- Average download speed: Up to 3 Mbps, Average upload speed: less than 1 Mbps

- Pros: Allows for mobility

- Cons: Expensive, Data caps that you can typically go over if you're doing anything more than browsing or using your email

Dial-up

Dial-up provides an Internet connection through copper telephone wires. Unlike DSL, dial-up does not allow for voice and Internet data to be transferred simultaneously.

- Average download speed: Up to 56 Kbps (or 0.056 Mbps), Average upload speed: Up to 6 Kbps (or 0.006 Mbps)

- Pros: Most affordable

- Cons: Far too slow for a business Internet connection, Obsolete, Doesn't allow for simultaneous phone and Internet use

Now that you're aware of all the available internet services and their download and upload speeds, it's time to turn your attention to your business needs, namely your bandwidth. Used interchangeably with Internet speed, bandwidth refers to the measurement of how fast data can be sent over a wired or wireless connection.

Calculating your bandwidth needs can also help guide you to what type of connection you might need. After all, you don't want to pay for more than what you actually need, and, on the other hand, you don't want a slow connection that will cut into employee productivity, sales, and your bottom line.

You likely already know that your bandwidth will depend on the size and nature of your business. But where do you even begin trying to tally up all those activities your employees will be carrying out online?

Take a look at the chart below to get a better understanding of where some of your business activities would fall. Note that the bandwidth consumption numbers are generalizations for an office of up to 10 employees.

Light Usage (5-10 Mbps)

☑ Basic Email Operations   ■ Basic Web Browsing

Moderate Usage (25 Mbps+)

☑ Email
☑ VoIP Services

☑ Web Browsing
☑ Video and/or Web Conferencing

Heavy Usage (50 Mbps+)

☑ Email
☑ VoIP Services
☑ Online Backup Solutions

☑ Web Browsing
☑ Video and/or Web
☑ Conferencing Cloud-based
   Business Software

1 https://www.networkworld.com/article/3142838/infrastructure/top-reasons-for-network-downtime.html