

Charter Business White Paper

The Impact of Internet Speed on Small Business Productivity



Why bandwidth is vital for your business growth and competitiveness

Today's small businesses rely on internet speed more than ever. And the speed of your internet service not only impacts how quickly your employees access their email or find important information—it affects the quality of your customers' experience when they access applications on your website. In fact, enhancing the customer experience is a major driver of satisfaction and loyalty—both of which are vital to your bottom line. From marketing your business, providing good customer service, to operating your business, internet speed can highly affect your business. To help you understand the benefits of faster internet speeds on your company, we've covered the basics in this paper. We've also identified the types of businesses that can benefit the most from high-speed internet.

Understanding the differences between internet connection options

Before you can align your business needs to your internet requirements, it helps to understand the different internet options and what they mean for you.

What's bandwidth?

We've all heard the term "bandwidth," but what does it really mean? When it comes to small businesses and the internet, bandwidth means the rate of data transfer measured in bits per second, regardless of whether you're uploading or downloading an audio file, application or medical record. In other words, bandwidth is the maximum amount of information a connection can handle under perfect conditions.

What's the difference between download and upload speeds?

You may think that just because you have a high-speed connection, the speed is the same for both uploading and downloading. Not true. Regardless of the connection type, the download speed is usually faster than upload speed. For example, someone may tell you that you have a 10 Mbps (10 million bits per second) connection. In reality, that connection will only support 10 Mbps download, but the upload speed may barely hit 1 Mbps. This can be a major factor for business productivity.

What's the difference between Internet connections?

Surprisingly, there's a lot more difference between internet connections than most people realize. Here we explore DSL, cable and fiber optic.

DSL - The early days of high-speed internet was ushered in by digital subscriber line (DSL) technology. It uses the same twisted-pair wire connections as the existing phone networks. One drawback of DSL is that you must be within three miles from the DSLAM (Digital Subscriber Line Access multiplexer) to have service. Another limitation is the slow connection speed. DSL connections typically run about 3-4 Mbps download, and less than 1 Mbps upload which can clog large files. In fact, the further you are from the DSLAM, the lower the speed.

Cable - Coaxial cable connections have been around since the introduction of cable TV. Even though multiple users can share a cable connection, it offers very high connection speeds—100 Mbps download, and 5 Mbps upload. Unlike DSL, the connection speed does not degrade with the distance from the Internet provider's hub. Cable has become a major consideration for many small businesses.

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Fiber Optic – While still not mainstream, fiber optic connections are expanding their reach into businesses and residential areas. Instead of using copper wires as a physical connection, fiber optic uses glass—transferring data using photons at the speed of light. Fiber optic connections are blinding fast, 100 Mbps or more, depending on the service plan. To get the most from fiber optic, every piece of the connection media, from the provider to your network, must be fiber optic. Otherwise, the slowest piece of the connection throttles the overall bandwidth. To connect with 100 percent fiber can be cost-prohibitive for most small businesses, but cost effective for larger internet-dependent businesses like hospitals or schools.

Using the internet to drive your business

By now, you may be wondering what difference 5, 50, or 100 Mbps of internet speed will have on your business. The fact is that it can have a huge impact. How can you tell if your business is the type that would benefit from higher internet speeds? The answer depends on several factors such as the type of business you have, how many employees work at your location, their job tasks as it related to the internet, and how your customers interact with your web-based services. The bottom line is—faster downloading and uploading of files and media improves employee efficiency and enhances your customers' online experience.

A wide range of small businesses can realize real results from high-speed internet connections. For the most part, these businesses typically fit within one or more of the following categories:

- Conduct business at multiple (two-four) locations
- Leverage the internet for 50% of their business operations or more
- Deploy 3 or more computers, including laptops and desk side machines
- Employ from 3 or more employees

Healthcare Providers

While no two healthcare providers are alike, they often have similar internet needs. Physician offices, nursing homes, dental offices, diagnostic centers, and eye care facilities tend to use the web in their day-to-day operational systems and require significant information movement. For example, the shift to electronic medical records, large MRI-scan or X-ray file transfers, and managing customer appointments requires

enormous bandwidth. Also, trends in healthcare IT are breaking down the silos of information, enabling healthcare providers to access clinical and patient data via the internet like never before.

If you're a healthcare provider, the faster your data transfers, the more patients you can process and service. Installing 50 or 100 Mbps Internet connections moves the critical information that medical staff needs quickly, and can help speed up the patient diagnosis process. Faster information access improves office efficiency, reduces administrative costs, and improves quality at the point-of-care. In addition, medical practitioners can access critical patient data that might be stored at their medical practice office from a hospital 5 miles away, quickly, and efficiently, while reducing administrative overhead.

Business Services

Consultant services encompass a wide range of small businesses. Insurance offices, advertising and creative agencies, architectural firms, local banks, and law offices all have diverse internet needs. Architectural firms rely on costly CADD software packages to service their customers. Ad and creative agencies move vast amounts of data including streaming Flash media, files created by Adobe® InDesign®, Dreamweaver®, photo-realistic rendering, and web content management systems. Financial services depend on a wide variety of analysis software include trading and business intelligent applications, like S&P or Thomson Reuters, and other web-enabled tools.

If your business fits in the business services category, boosting your Internet speed could pay back big dividends. First, consider how much faster—4x, 10x, or more—you could move those large files around. Web and video conferencing requires higher speeds of at least 25 Mbps and beyond. You could collaborate with customers more effectively, turn around projects faster, and gain peace of mind that your web-enabled tasks perform at peak efficiency. Your customers will perceive that your business is “different” from the competition, and will refer others to your services.

Computer Services

Like the business services sector, technology firms and consultancies depend on efficient data movement to maximize productivity. IT design firms, software and hardware development teams, and computer repair shops consume data, anytime, anywhere. Data-intensive applications require faster data

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speeds, and it's that simple. These businesses transfer large files between locations, share work tools, files, or software, and access critical data on servers when working off site.

Imagine what happens when that 3.5 GB application fails to download within the time you expect it. A domino effect now begins. First, it impacts your schedule—then your customers—and then your customers' customer. Boosting your connection speed to 50 Mbps and beyond with the right service provider means your data is delivered, right now. No more worries about slow file transfers, angry customers, or inefficient collaboration. Increased speed helps upload fresh content quickly. You can rest assured that your team remains productive and connected to the information they need, even while working remotely.

Retail Stores and Franchises

Any retailer with an online presence, from car dealerships to merchandise ordering, has felt the embarrassment of slow online transactions. The results could be as simple as a few lost orders, or as extreme as a tarnished name within your local community.

If your business requires significant credit card processing, online merchant or consumer ordering, you require the fastest and most reliable Internet connection available. Your need expands even further if you require high storage capacity and must access large files at off-site servers or data centers. Accelerating your connection speed simply means more orders processed—and a faster track to boosting your bottom line.

Next steps - getting the most out of your internet connection

Now that you know the internet basics, and how your business can benefit from faster internet access, here are a few things you can do to take advantage of your new understanding.

1. First, it pays to talk to an expert—someone who has installed hundreds of business-class internet connections to a wide range of small businesses.
2. Next, you'll want to meet with that expert and explore how to align your internet speeds with your specific business goals.
3. Finally, you'll want to partner with that expert, and allow them to show you how to use the internet to accelerate your bottom line.

Conclusion - choosing the right path for business success

While the internet is an amazing place, full of new information and the latest fads, internet speed is what really drives your business. Faster downloading and uploading of files and media help your employees stay efficient and enhance your customer's online experience.

That's why you need an internet partner that delivers the performance, reliability, and value-added services critical to your business. Charter Business has the knowledge that you need and the answers you require, and can set you firmly on the path to success. A complete networking solution from Charter Business® Internet (CBI) scales as your business requirements grow—delivering a cost-effective, high-performance solution that fits your unique business needs.