Charter Business White Paper
The Cloud and Your Network

Is your network ready for cloud-based services?

Charter Business

White Paper

One of the most exciting trends in information technology for small and medium-sized businesses is the adoption of cloud-based services. From Salesforce.com to QuickBooks Online, businesses owners are increasingly committing key business processes and functions to the cloud. As this trend continues, businesses will want to consider whether their network is prepared to allow employees to take full advantage of cloud-based services. As critical business functions are performed in the cloud, a secure, reliable and fast connection to the cloud will directly impact employee and business productivity.

What is the Cloud?

The term 'cloud' repeatedly appears on television ads, magazine covers, or discussions among IT professionals. The 'cloud' is the new buzz word in business. But what is the cloud? In the simplest of terms, the cloud provides the ability to leverage software applications and resources that businesses do not have to purchase or maintain onsite. Your business is probably already using cloud services today. A piece of software that runs on your web browser and stores data on the internet is the most common example of this, often referred to as Software as a Service or SaaS. Examples include Salesforce.com, LinkedIn, Drop Box, Gmail and Basecamp.

Taking a closer look at how a cloud-based service works, consider the example of QuickBooks. Many small businesses use QuickBooks to manage their finances. The QuickBooks software is typically installed on a single PC within an organization. But for a number of reasons, many businesses are migrating to QuickBooks Online. This is a SaaS service where financial books are accessed through a simple browser. There is no software to install or update; financial data is protected with automatic backups in "the cloud"; and access to the company's books is no longer limited to a single PC but is available to any user, from any browser anywhere.

How can the cloud help businesses?

For most small to medium businesses, the benefits of cloud services are enticing. Here are some of the key benefits of cloud services.

Minimize Upfront Costs.
As a business owner, utilizing cloud-based services allows you to minimize capital investment and operating costs. These services require no hardware on your part to support and the data is stored on an external secure server somewhere on the internet rather than at your own company site. Typically, Software and hardware cost are reduced anywhere from 40% to 80%.

Fast Deployment.
These cloud-based services are perfect for businesses to get up and running quickly with little startup costs. In many cases, you can have an entire business application up and running in days, not months or years.

Scale as Needed.
Since cloud services are priced based on what you use, it is scalable. Your needs may differ month to month and cloud services allow you to use only what you need.

Anywhere Access.
The cloud also offers accessibility from anywhere an employee has access to the internet. This ability to access applications anywhere at any time, from a variety of different devices, such as laptops, tablet PCs, or smart phones is a major advantage of cloud-based services.

Benefits of the Cloud

• Minimize upfront costs

• Fast deployment

• Ability to scale as needed

• Anywhere access

• Human resource savings

• Data backup

Concerns of the Cloud

• Security

• Speed

• Reliability

Human Resource Savings.
Another benefit is the lack of need for IT support staff on site. This eliminates costs of hiring full-time employees to run data backups, maintain servers, or upload software programs to employees' computers.

Data Backup.
One ongoing concern businesses have is loss of data which can occur for a number of reasons ranging from technical glitches to natural disasters. With cloud-based services, your data can be stored off-site and easily restored. To be sure, the safety of company data is of course subject to the sophistication of your cloud-services provider.

Key Considerations with Cloud Services
The migration of your business applications from down the hall to an offsite location in the cloud can be a scary change. When key business applications sit offsite it raises the stakes when it comes to your internet connectivity. The reliability, security and speed of that connection are now critical to effectively run your business.

Key questions to ask before proceeding with cloud services:

1. Where does my data reside? Some cloud service providers may offer off-shore data centers in countries where privacy and security rules are more lax, putting your data at risk. Be sure to understand where your data will reside and ask if you can visit the data centers.

2. What service levels are offered by the vendor? Every system needs maintenance, understanding how often maintenance occurs, when it occurs, and how it is managed will help you manage your business around this. Additionally, understanding the vendor's policy when unexpected outages occur is important.

3. How does the vendor protect my apps and data from other users on the same servers? Understanding how your data is secure and protected will not only give you peace of mind, but also a better understanding of the backend security offered.

4. Who owns my data? Data ownership can come into question when dealing with some cloud service vendors. It is important to address this issue in the early stages of evaluating vendors.

5. How do I ensure my employees have reliable, secure and fast access to cloud-based applications? Your internet connection is now critical to business application performance.

Evaluating your internet connection for the cloud
With the cloud, your internet access evolves from simply carrying email and web browsing traffic to providing mission-critical, real-time access to business applications.

Employees need fast access to their cloud-based services. Anything less can negatively impact productivity. As such, businesses should carefully scrutinize their internet access in a way that probably wasn't necessary just a few years ago. It is important to evaluate whether your current provider offers the speed, reliability, and security needed to access cloud applications.

Previously, when a business software application was housed onsite, employees were accessing that application over the company network at very high speeds ranging anywhere from 100 Mbps to 1 Gbps. This contrasts with the speeds at which businesses typically access cloud based business applications over the internet which can be as slow as 1.5 Mbps.

These slower speeds can impact productivity. Businesses across a variety of industries have the need to download and upload large files to cloud applications as a normal course of business. Average CAD files or graphic design files, for example, can easily exceed 50 MB. With a 1.5 Mbps connection, this would take almost 5 minutes to download. With a 60 Mbps connection, however, the file is downloaded in a mere 6 seconds.

The above example is a best case scenario. In the real world, internet bandwidth is of course shared amongst all the employees on the network. If multiple users are taxing the internet connection at the same time, that 1.5 Mbps could be considerably slowed to the point where employee productivity is harmed. A "slow internet day" is no longer just a passing inconvenience. It can impair employees' abilities to do their jobs.

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Accelerating your access to the Cloud

As it is determined what cloud based services your company will employ, IT departments should consider what internet speeds are required to maximize employee productivity. The good news is that bandwidth options even for small businesses are more varied and economical than ever before. While just a few years back a 1.5 Mbps connection for businesses was common, now much faster connections are available. Charter Business, for example, offers speeds of 60 Mbps, 80 Mbps, and 100 Mbps to businesses at economical rates.

Businesses should evaluate the economic benefit of choosing a faster internet connection. Too often businesses are penny wise but pound foolish when it comes to choosing their internet bandwidth. As an example, consider a business with 10 employees. Assume they choose an internet speed that is insufficient for their peak usage during a typical workday and that on average each employee's work is slowed by 15 minutes per day. If we assume that the average employee is paid $25/hr, this 15 minute hit to daily productivity costs the business approximately $1,250 per month. Furthermore, this calculation only takes into account the hard costs and ignores the potential opportunity costs which would likely be much greater.

It is important to understand your bandwidth needs and subscribe to the speed that will easily accommodate your cloud services.

What are my next steps?

Now that you have evaluated the network considerations regarding cloud services, you may want to consider a few tips and questions to ask.

• **Talk with your current business application vendors.** You may have an existing software vendor that is launching a cloud-based service. There might be an opportunity for you to migrate your current business applications to the cloud.

• **Talk with your network services vendor.** Your networking or telecom vendor may be able to recommend cloud services and help you evaluate your networking needs for the cloud. At Charter Business, we have technical experts who will work with

you to evaluate your network connectivity to make sure you are ready for cloud-based applications. In fact, your network services provider may actually offer some cloud-based services. Charter Business, for example, offers hosted Microsoft Exchange mailboxes and cloud backup services for businesses.

• **Do your research.** There are several resources available online that will help you evaluate potential vendors. In today's online market place, people are freely sharing their experiences and reviews of vendors and services. Take advantage of this information to help you chose a solution right for your business.

• **Join the conversation.** Speak to other businesses using the cloud. This will help you identify how the cloud will work best for your business and also overcome pitfalls before they occur.

Conclusion

The cloud has opened up many possibilities for businesses; allowing them access to software, infrastructure, and networks that weren't cost effective previously. Your network connection is now an integral part of your applications' performance. Starting with a good partner can help you take full advantage of the cloud. You may want to consider engaging your Charter Business representative to get started with not only the internet speed your business needs, but also backup and storage solutions you might desire.

Approximate time to download a 200 Megabyte Video Clip at Various Speeds
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1.5 Mbps - 18 minutes

10 Mbps - 3 minutes

30 Mbps - 1 minute

60 Mbps - 27 seconds

80 Mbps - 20 seconds

100 Mbps - 16 seconds