2014 DATA CENTER TRENDS

DATA CENTERS CANADA
COLOCATION AND DISASTER RECOVERY FACILITIES

A Division of TeraGo Networks

CONTENTS

OVERVIEW

Data centers are quickly becoming an integral part of business as more companies are utilizing innovative technologies to collect information and grow. Previously, large corporations dominated the data center market as barriers to entry, such as high prices, made it challenging for small and medium businesses (SMBs) to get their foot in the data center door. As technology demands continue to increase, many large businesses are moving out of their outsourced colocation facilities and purchasing their own data centers – leaving room for SMBs to move in.

The growth in the use of data center and colocation facilities is also fueled by the increase in IT capacity requirements as well as reduced budgets and the need to access new technologies. By outsourcing certain IT initiatives, SMBs are able to save on costs and utilize their in-house IT department more efficiently. Cloud computing use will continue to increase, despite security concerns raised in the early stages of cloud technology. Providers have begun to offer a variety of cloud services, including private, public, or hybrid solutions, while incorporating additional security measures to protect user data and eliminate any lingering safety concerns.

Another IT industry trend that is having an impact on businesses and their IT departments is the Internet of Things (IoT), which is a system in which unique identifiers (or IP addresses) are assigned to objects, people, or animals – allowing them to transfer data about their assigned "thing" over a network without the need for human interaction. IoT has the capability to provide businesses with an endless amount of data on their customers and products, and give them great insights into their market.

The constant flow of data in all directions requires a secure, reliable Internet connection and data storage facility. The Internet has become a lifeline for many businesses, so any interruption in service can be detrimental. More importantly, however, is the protection of data. Businesses aren't only storing company data, but customer data as well. Any breach or loss of information has the potential to ruin even the most robust companies. To combat this, businesses need to establish a disaster recovery plan to ensure that the proper procedures are in place, should a disaster occur. As businesses and consumers continue to migrate towards an increasingly virtual environment, data management has become critical. Whether you're moving or storing data, it is becoming more and more imperative for businesses to manage data in a safe, reliable, and efficient way.

This whitepaper examines the ways in which industry trends are increasing the use of data center and colocation services.

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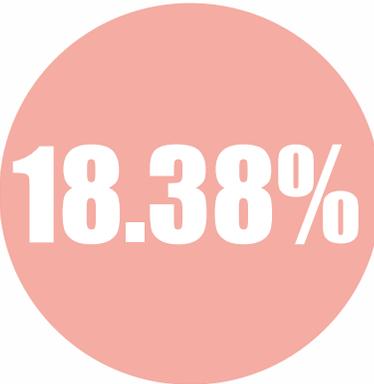
SMALL AND MEDIUM BUSINESS MOVE-IN

SMBs are struggling with the challenge of managing more data with minimal resources and limited budgets. While larger corporations, such as IBM, Microsoft, Verizon, and Google, invest millions of dollars in purchasing new data center locations or expanding their existing facilities[1], small and medium businesses are reaping the benefits. As enterprises move into their shiny, new data centers and out of colocation facilities, SMBs are moving in. It's important to consider the fact that data center space is a finite resource – once every rack within the data center is filled, then it's done. SMBs should take note of this and react quickly, as the best-value data centers will be the first to reach their limit. Many colocation and data center facilities have altered their services to accommodate the influx of SMB prospects.

However, the necessity to do more with less is what initiated the large-scale migration of SMBs to data centers. SMBs recognized that utilizing the right technologies could level the playing field against the large enterprise businesses. In our current digital landscape, data is key to the development and implementation of long-term, productivity-enhancing solutions. Many SMBs are already outsourcing some – or all – of their IT needs because they don't have the resources to keep them in-house.

A recent study conducted by analyst firm Research and Markets[2] found that worldwide spending on data center services by SMBs is expected to grow by 18.39% in 2014. Additionally, the number of SMBs that will utilize colocation and managed services is expected to grow sig-

nificantly. Mark Cattini, CEO at Autotask, anticipates a 50% growth rate in the number of SMBs employing managed services, such as cloud computing, and colocation services as physical servers reach their end-of-life[3].

Data center space is a finite resource – once every rack is filled, then it's done. The best-value data centers will be the first to reach their limit.

18.38%

Anticipated Growth in SMB Worldwide Spending on Data Center Services

[1] http://venturebeat.com/2014/01/16/ibms-latest-weapon-for-the-cloud-fight-a-massive-15-new-data-centers/

[2] http://www.businesswire.com/news/home/20131220005456/en/Research-Markets-Global-SMB-Spending-Data-Centers

[3] http://www.crn.com/news/data-center/240164992/study-predicts-strong-smb-data-center-spending-in-2014-but-vars-say-it-could-skyrocket.htm
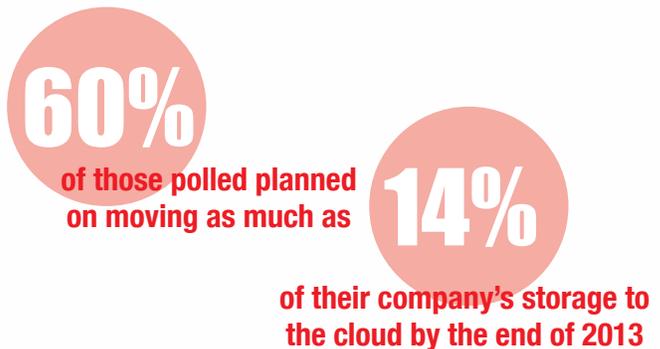
CLOUD COMPUTING USE CONTINUES TO GROW

Cloud computing has been on the scene for a while now, and its popularity continues to grow. A majority of IT professionals are primarily interested in cloud storage, which offers companies a way to archive data for a long period of time without occupying internal storage space or spending a great deal of money. One study had revealed that as many as 60% of those polled planned on moving as much as 14% of their company's storage to the cloud by the end of 2013[4]. But where are the cloud computing providers keeping all this data?

Several cloud computing providers are making the decision to lease space in colocation facilities instead of purchasing or building their own data centers[5]. The cost associated with constructing and managing a data center is significant, and many cloud providers aren't interested in making this investment. By utilizing colocation, providers are able to focus more on other aspects of their business, such as advertising, operations, or customer service, instead of spending money on hardware, power, or cooling facilities.

Colocation also offers the opportunity to reach geographically dispersed customers quickly. Instead of building an entirely new data center facility, cloud providers are able to lease space in multiple data center locations. This gives them a great deal of flexibility because they are not limited to a single location. It also provides them with a larger target market because they are no longer confined to one area. A new report by DCD Intelligence[6] has identified that almost a quarter of all data center footprints in North America is now outsourced.

Like cloud providers, several large organizations are looking at cloud computing as a resource for their global enterprise. By storing company data in a virtual cloud environment, company members can easily access the information from almost anywhere. In an era when businesses are spread across great distances, cloud computing provides the capability for employees around the world to connect with critical company data. This also supports the consistency of company data, since all employees are drawing their materials from one location instead of relying on timely distribution processes.

"The spending shift from on premise to cloud-based infrastructure will stem from practical decisions based on cost and growth scalability," stated Patrick Burns, vice president of product management at Autotask. Whether it's cloud providers, SMBs, or large corporations – there is a strong demand for data center facilities and services.

60% of those polled planned on moving as much as **14%** of their company's storage to the cloud by the end of 2013

[4] http://www.cloudtweaks.com/wp-content/uploads/2013/05/TechInsights-Report-Cloud_FINAL.pdf
[5] http://searchcloudprovider.techtarget.com/news/2240187427/Colocation-services-Cloud-providers-are-leasing-not-buying

THE INTERNET OF THINGS GAINING SPEED

Data is the livelihood of any business, and the Internet of Things (IoT) provides a seemingly limitless amount of it. The Internet of Things (IoT) is a system in which unique identifiers are assigned to objects, people, or animals. These unique identifiers then transfer the data they've collected about their assigned "thing" over a network, without the need for human interaction. IoT uses machine-to-machine (M2M) protocols so that the objects, people, or animals are able to communicate with one another[7].

For example, a "thing" can be a person with a heart monitor implant, a car that has built-in sensors to alert the driver when tire pressure is low, or any other object that can be assigned an IP address and is provided with the ability to transfer data. The advent of IPv6 has also driven the use of IoT, since IPv6 provides an almost infinite number of IP addresses that can then be assigned to each "thing".

The Internet of Things presents businesses with a whole new way to gather information on their products, services, and customers. Companies frequently use focus groups to test their products, but utilizing IoT would allow companies to distribute their product to an audience and gather the data remotely – without disrupting the audience member. Businesses could learn how their audience or target market interacts with the product, how often they interact with it, or if the product has any defects or errors.

Once a product is in-market, companies can monitor its lifecycle to learn how long it's in use before it breaks or is discarded by its user. Businesses can also use IoT to track the "health" of the product – does it need something repaired? Is there a way to make it run more efficiently? Are the batteries low? And so on. This provides businesses with information that was previously hard to come by. Typically, companies had to rely on consumer feedback or service appointments to gather data on their products or services that have been in the market for an extended period of time. With IoT, they can access that information instantly, without having to interact with or inconvenience the consumer.

For most companies, co-location is the best option because it allows them to utilize space within a data center without having to build their own.

[7] http://venturebeat.com/2014/02/04/9-factors-creating-a-perfect-storm-driving-the-internet-of-things-to-14-4-trillion-in-10-years/
[8] http://www.samsung.com/ca/news/cesnews/2014/samsung-unveils-new-era-of-smart-home-at-ces-2014
[9] http://searchdatacenter.techtarget.com/news/2240209084/Internet-of-Things-data-deluge-to-impact-data-centers-IT-market

THE INTERNET OF THINGS
GAINING SPEED – continued

Not only is IoT changing the way that businesses collect data, but it also enables "things" to communicate with each other. One example is the line of household appliances unveiled by Samsung and LG at the 2014 Consumer Electronics Show. The refrigerator can tell the owner what items it contains, and suggest meals based on those food items. Once the owner has chosen a meal recipe, the fridge can then communicate pre-heating instructions to the oven[8]. The number of Internet-connected products is expected to explode and by 2020. There will be up to 30 billion devices connected with unique IP addresses, most of which will be products, according to Gartner Inc. Others predict that number could be even higher, especially if radio frequency identification (RFID) devices are included[9].

With the wealth of data being communicated by each individual "thing", companies will need to find an efficient way to manage, store, and uti lize that information. Employing a data center to house and protect the information is imperative. To house all that information internally, a company would need to spend a great deal of money on building the equipment required to store the data as well as hire to appropriate IT members to manage it. For most companies, colocation is the best option because it allows them to utilize space within a data center without having to build their own.

The tidal wave of data could be problematic for any data center facility that isn't prepared. Server virtualization can increase the number of workloads per physical server, saving data centers from running out today and buying racks of servers[10]. Additionally, the virtualization of analytics software makes it easy to use and share, which benefits businesses and data centers.
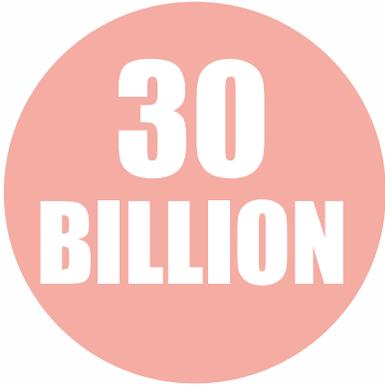
30 BILLION

The number of devices with unique IP addresses expected to be connected to the Internet by 2020

[10] http://www.cisco.com/en/US/prod/collateral/modules/ps10598/white_paper_c11-611291.html

DISASTER RECOVERY IS A NECESSITY

Disaster recovery needs to be a top priority for almost every business, as natural disasters, power outages, and other similar threats have the potential to create significant downtime and expenses for organizations. Recently, Gartner compiled a list of the eight most influential factors driving a change in the way businesses go about planning their data center strategy, ranking disaster recovery (DR) among them[11].

The purpose of a disaster recovery plan is to plot out the actions that need to be taken in the event of a disaster in order to protect the interests of the business, its employees, and its customers. By having a plan in place before a problem occurs, businesses can react more quickly and efficiently since they'll already know what actions they need to take to get the business up and running again. Establishing contingency plans for the most likely disasters will assist in mitigating any negative effects.

The study by Gartner also emphasized the importance of data centers and their role in disaster recovery (DR), reporting that between 70 and 90% of companies that experience a major loss of computerized data go out of business within two years[12]. Taking the growing popularity of the Internet of Things and cloud computing into consideration, it's easy to understand why the implementation of a reliable DR plan is critical. With so much data being transmitted and stored, businesses need to ensure that data is protected and accessible.

Although virtualization and cloud computing have brought significant benefits to both the infrastructure and the business, they also introduce unintended consequences. What happens if your connection to your company's cloud is severed? Do you have a redundant connection in place? If there is no redundant connection, then what are your next steps? Who needs to be involved? What is the impact on customers? These are the types of questions that need to be asked to avoid a costly and timely disruption. Companies don't need to steer clear of virtualization and cloud computing altogether –they do offer an array of benefits – but it is important to fortify connections to ensure your business isn't left in the dark if a disaster should occur.

Many SMBs utilize colocation as an effective alternative to establishing their own DR site in a remote location or outsourcing DR to a disaster recovery service. Although there are several benefits to using colocation services for DR, businesses need to ensure that the co-located data center facility is secure and reliable. Utilizing colocation for DR also helps save on costs, while putting control back in the hands of your business – unlike outsourced DR solutions, where your outsourced provider is in control of your data.

70-90%

The percentage of companies that go out of business within two years of a major loss of data

[11] http://www.lifelinedatacenters.com/data-center/special-report-gartner-data-center-conference-nov-2013/
[12] http://www.continuitycentral.com/feature0660.html

SUMMARY

The importance of utilizing data center services has become very clear as businesses continue to move to a virtual environment. Data centers provide many businesses with the ability to implement technology trends that were previously only reserved for enterprises. SMBs can compete on a level playing field by using technologies like cloud computing and IoT. IT departments are continually expected to do more with less, and data centers can help them achieve their goals.

DATA CENTERS CANADA

Data Centers Canada (DCC), a division of TeraGo Networks, provides colocation and disaster recovery services to businesses, government establishments, and technology service providers. By relocating mission critical information and equipment to a data center, businesses will achieve the resiliency they require while saving time and money. Colocation services are available to companies of any size, whether they only need 1U of space or a whole cage.

Any business that stores its data offsite at a colocation facility stands to gain considerably from the greater security and performance levels provided without incurring any significant costs.

DCC is equipped with resilient power and cooling systems, as well as high security levels, to ensure all data customer data and IT infrastructure is operating and accessible 24/7.

The facility also provides disaster recovery solutions, including dedicated work spaces as well as information technology and support services to minimize the interruption to your business. When an unforeseen event leaves you or your entire company without a place to work, one quick call to DCC can activate priority access to a private office – ensuring your business stays connected.