Turning Cloud Concepts into Growth Opportunities

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Interest in cloud computing infrastructures has never been more intense. Members of TeraGo's senior team met in Calgary recently with local IT executives from various industries to discuss the opportunities and challenges that the cloud offers.

ITWC CIO Jim Love facilitated the session, sparking lively discussion with his observation that growth in the adoption of cloud computing during the past two years has exceeded everyone's already high expectations. According to Love, cloud computing moved rapidly through the phases of blue-sky concept, skepticism, fad, and early adoption, and is now moving to widespread adoption with irrefutable benefit cases.

Cloud Computing Adoption Trend

Many organizations are already using at least one cloud-based service to deliver application functionality to their internal end-user communities, their supply chain partners, or their customers.

Most organizations are actively studying cloud concepts and experimenting with cloud computing for new business ideas. Cloud computing is attractive because it reduces the elapsed time and cuts the cost of experimentation required to shape business ideas into viable concepts and then into attractive products or services.

Application software package vendors are making significant investments to migrate their software packages — historically targeted to an on-premise environment — for deployment to a cloud environment. Often this shift to the cloud is accompanied by a change in the licensing model from number of seats to usage or Software as a Service (SaaS).

Cloud service providers, including TeraGo, are making significant infrastructure investments in network, computing capacity and storage to meet the growing demand from clients in every industry.

Cloud Benefits

Organizations will adopt more cloud-based services as their initial experience builds comfort with reliability and effectiveness. The following benefits of cloud-based services are causing increased interest:

Scalability

The reality is that capacity planning is difficult, and building computing infrastructure for demand peaks is expensive. The estimated growth rate of data is almost always underestimated materially.

Cloud computing addresses these issues by offering near-instant scalability to meet underestimated workloads and space requirements.

Application functionality

Most organizations struggle to develop custom application software within an acceptable budget.

SaaS operated in the cloud offers immediate access to more application functionality. The risk of software development is outsourced to the service provider and shared across the community of customers for the service.

Reduced time to market

Organizations are frequently under competitive or regulatory pressure to achieve an ambitious schedule to launch a new product or service. Unfortunately, the launch is often dependent on achieving production status for a new supporting application.

Supporting the new product or service with SaaS operated in the cloud can meet the schedule demands of the opportunity.

Cost reduction

Information systems departments are under considerable pressure to reduce operating costs as the cost of information technology increases to become a significant share of total operating cost. Concurrently, the various business departments are clamoring for more application functionality, and higher availability is pushing costs up.

Information systems departments have discovered that by using more cloud-based services they can deliver significant operating cost reductions compared to operating an on-premise computing environment.

Business continuity
As global applications and 24/7 operations demand higher application availability, operating with reasonable business continuity features becomes difficult and unsustainably expensive.

Cloud service providers, including TeraGo, can offer superior business continuity to their clients because the significant capital, operating and expertise costs can be shared across their customers.

Computing infrastructure management
The management of software and hardware updates for the on-premise computing infrastructure can be time-consuming and tedious. Most organizations do not perform this work well. Outsourcing this work to a cloud service provider can improve the quality of the management work and reduce its cost.

Migrating to the Cloud
"We encounter many executives who see potential value in adopting more cloud-based computing," says Tony Ciciretto, President and CEO at TeraGo, "but they are unsure of how to start, and become hesitant by the number of buzzwords some vendors toss around. Accessing TeraGo's technical experience reduces risks associated with migrating to the cloud, and the associated anxiety many of our clients initially feel."

Nabeel Sherif, TeraGo's Cloud Evangelist, reminded the group that many organizations do not migrate their entire application portfolio to the cloud, but instead operate with a hybrid IT environment that consists of multiple cloud services and some on-premise applications. Love agreed with this observation, pointing out that such a situation re-introduces the many application and data silos that we have worked so hard to reduce or eliminate since the 1980s.

Operating multiple cloud services creates significant integration issues because data analytics applications require real-time access to data from multiple internal and external data sources.

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> *– Anis Edraki, an Account Manager, TeraGo*

Cloud Security Concerns

Participants discussed their cloud security concerns. The IT director working for the owner of several restaurants described a recent ransomware incident at a national restaurant chain in the United States, which resulted in hundreds of its restaurants being closed for almost a week and the chain suffering a huge loss. Participants agreed that they were allocating more resources and budget to gaining a better understanding of various breach risks and to improving security defenses.

"Contrary to a widely held opinion, security risks in a cloud environment are no higher than in an on-premise environment," said Anis Edraki, an Account Manager at TeraGo.

Love urged participants to expand their internal security discussions to include resilience, business continuity, containment, and recovery. Given the likelihood that security breaches will hit even well-managed companies, he suggested that the security conversation should focus on how to reduce recovery times.

Sadly, some organizations think that backup is the same as disaster recovery (DR), and that a high-availability computing infrastructure can avoid both for the most part.

The Director of IT for a mid-sized oil and gas producer said that he became skeptical of the high criticality ratings some applications had received in their DR plan after the 2013 Calgary flood knocked out parts of their computing infrastructure for multiple days. Despite various outages, much of the business was able to continue operating with only minor inconveniences.

The conclusion was that cloud security issues, as an impediment to adoption, are likely overblown. However, business continuity deserves more attention.

Cloud Regulatory Issues

Some Canadian organizations, particularly those in the public sector, are concerned about not becoming embroiled with the United States Patriot Act. They insist that data managed by the cloud service must be managed in a Canada-resident cloud. This issue can restrict the cloud services available to those organizations.

Regulatory compliance that must be addressed by on-premise computing must be similarly confirmed with the cloud service provider. The major regulations include:
1. Personal Information Protection and Electronic Documents Act (PIPEDA)
2. General Data Protection Regulations (GDPR)
3. Payment Card Industry Data Security Standard (PCI DSS)

A member of the management team at the University of Calgary described how their regulatory and internal reporting needs interfered with the online performance of their production cloud application. This issue led to the construction of separate reporting data marts that solved the problem at a material added cost.

Starting the Cloud Journey

The industry participants agreed that many organizations begin the cloud journey quite unknowingly when an executive contracts for an industry-specific or function-specific service with no IT department involvement. There's typically no consideration of security, data privacy or disaster recovery, and the IS department finds out about the cloud service when there is a request to export data to the cloud service or import data from the cloud service into the on-premise environment.

TeraGo VP Product Development Christopher Taylor shared that "their new customers typically begin exploring cloud computing with a proof of concept for a current application or a new application that is under consideration." They are frequently impressed by the short time required to ramp up, and the modest cost of the entire cloud project.

Love concluded by saying: "You can't learn the cloud issues that can derail you fast enough. You have to find reliable partners that have the skills and experience to help you."

About TeraGo

TeraGo provides businesses across Canada with cloud, colocation and connectivity services. TeraGo manages over 3,000 cloud workloads, operates five data centres in the Greater Toronto Area, the Greater Vancouver Area, and Kelowna, and owns and manages its own IP network. The Company serves business customers in major markets across Canada including Toronto, Montreal, Calgary, Edmonton, Vancouver and Winnipeg. TeraGo Networks is a Competitive Local Exchange Carrier (CLEC) and was recognized by IDC as a Major Player in its MarketScape Cloud Vendor Assessment. TeraGo Networks was also selected as one of Canada's Top Small and Medium Employers for 2017.

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