



# Deriving top value from the cloud

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A 2008 report by Gartner predicted cloud computing might one day be as influential as e-business. Although it might take many years to mature, the report suggested cloud computing would allow Web 2.0 entrepreneurs to “focus on the service provided to them rather than how the services were implemented or hosted.”

The cloud has come a long way in the past decade. It’s no longer an abstract or futuristic concept, and you would now be hard-pressed to find a company that hasn’t moved at least part of its business to the cloud.

And this growth will continue. According to IDC’s Worldwide semi-annual Public Cloud Services Spending Guide, worldwide spending on public cloud services and infrastructure will reach \$160 billion by the end of 2018 and \$277 billion by 2021.

### **Leadership discussion**

It was against this backdrop that ITWC recently brought together representatives from a broad range of Canadian firms for a roundtable discussion on how companies can derive top value from the cloud. Attending the session were: a CIO of an Ontario-based insurance corporation; a SVP & CIO of a mid-sized bank; the CIO of a cargo airline; an Associate VP of a GTA-based hospital system; the CIO of a customs brokerage; and the CIO of a national not-for-profit organization

In the session, hosted by ITWC CIO Jim Love and sponsored by TeraGo, CIOs and other thought leaders shared their cloud concerns and experiences. Expert advice was provided by TeraGo’s President & CEO Tony Ciciretto and Vice President, Product Management and Business Development, Christopher Taylor as well as Country Manager for Amazon Web Services Canada (AWS) Eric Gales.

Jim Love opened the session with a finding from the 2017 CanadianCIO Census that indicated 70 per cent of CIOs found cloud met or exceeded their expectations in terms of producing results. He said that finding was consistent with a recent IDG study that placed cloud among the top three CIO investment priorities for 2018, alongside enterprise applications and data analytics.

Cloud has enormous potential, said Ciciretto, especially for mid-sized and smaller firms. Hyperscale cloud providers like AWS have opened a huge window of opportunity, added Eric Gales. “Firms can have access to the same set of tools and technical capabilities, regardless of company size.” Moreover, these facilities are available à la carte, allowing companies to get started without a huge capital investment.

Throughout the discussion it was acknowledged that new technology involves growing pains. With thousands of cloud options and services released each year, even the senior leaders who have been using cloud for a while had questions. The roundtable gave key players an opportunity to bring forward their concerns and come to some consensus as to best practices going forward.

## Asking the right questions

A senior VP at a mid-sized Canadian bank raised the issue of complexity and multi-cloud, asking how many clouds was too many. Her business has multiple workloads in various clouds, and she wasn’t sure how to assess what she had.

Many organizations are now using multiple vendors on multiple clouds. From the discussion it was clear that companies pursue this strategy for a variety of reasons, from cutting costs to reducing time-to-market to simplifying IT infrastructure. While a multi-cloud approach can be hugely beneficial, roundtable participants cautioned it can also bring complexity and expose a gap between what the organization needs or wants from digital and what IT can reasonably deliver.

Each cloud platform will have its strengths and weaknesses. Organizations attempting to leverage these strengths will find themselves in a multi-cloud scenario. Integration between platforms can be difficult to manage, each vendor having their own tools, APIs, SLAs, configuration, and analytics. The key, then, is not to attempt to bind multiple clouds into a seamless whole but rather to connect the dots on a strategy level. This requires that the right questions be asked before the journey even begins:

- How do we best leverage all cloud capabilities — from private cloud to hyperscale — and match them to our business priorities?
- Do we have the right solutions and infrastructure in place?
- Once those decisions are made, how do we best begin, and ensure the right solutions and infrastructure are ready to go?
- How do we ensure our data and applications are secure?
- Is it possible to enforce a uniform security policy across the board, balancing our on- and off-prem environments?

## Putting resources to best use

An associate VP at a Toronto-area hospital system touched on another key area of concern for today's digital-era leader: resources. In an era where there is more pressure than ever to stretch the impact of your budget, he wanted to know how you get the biggest bang for your buck.

He then proceeded to answer his own question. By deepening their commitment to cloud, businesses can free up bandwidth for other business-critical pieces. He said the time a company might have spent managing infrastructure could instead be used optimizing application stacks and ensuring the best possible end user experience

“Our job at AWS is to maximize every single dollar you spend. Like us, partners can help you optimize your spend too because of their deep knowledge of AWS services and features.

— Eric Gales,  
Country Manager  
for Amazon Web  
Services Canada

The CIO of a GTA-based cargo airline added that moving into the cloud — or deeper into the cloud — should and must be something that lightens internal staff workloads.

For Eric Gales of AWS, it's crucial that companies have a clear vision of what they want and find partners with compatible philosophies. “Our job at AWS is to maximize every single dollar you spend. Like us, partners can help you optimize your spend too because of their deep knowledge of AWS services and features.”

## Addressing security concerns

Concerns over data exposure has made cloud security a priority for the roundtable participants. There was general agreement that responsibility for security was shared between the customer and the cloud provider, but that the line between them had to be clear and agreed upon up front.

Although there was agreement the exact nature of responsibilities varied per cloud provider and/or project, a suggested rule of thumb involved:

- the customer being responsible for proper configuration at the application level and the associated security requirements, and ensuring employees aren't exposing sensitive data to unauthorized parties; and
- the cloud provider being responsible for preventing unauthorized physical access, and pending the level of service chosen, patching at the firmware, hypervisor, and operating system level. Some cloud providers also offer application level patching, as well as backup and disaster recovery capabilities.

Ciciretto stressed that security should always be top priority, and suggested companies can greatly improve their security posture by working with providers like AWS. Love agreed, pointing not only to the organization's resources but also to the fact that small- and mid-sized companies have benefited enormously from all the research and development AWS has done in coming up with solutions for larger companies around the world.

This advantage also applies to compliance issues like data residency. One participant said that in the past, companies were afraid that moving to the cloud would be contrary to regulations that require data to stay within geographic boundaries. Today, AWS can retain data within a specific geographic region ensuring it is not copied or replicated to any other location. This regional structure offers another benefit in that it allows companies to keep processing close to the data, preventing latency problems.

## THE FOUR STAGES OF CLOUD ADOPTION

**PROJECT:** seek opportunities for a test project to prove the value of cloud

**FOUNDATION:** build your cloud foundation

**MIGRATION:** move your applications into the cloud

**REINVENTION:** develop new products and services and more efficient ways to deliver your current offerings

## Making the case for cloud

Although the roundtable participants were at various stages of cloud adoption, they shared some key concerns and questions, including "How do we communicate the value of cloud to our business partners and senior management?"

Gales was clear as to where the value was not. "There is no business value in running infrastructure," he said emphatically. As to how to articulate the value that cloud can provide, he outlined four key areas of focus to demonstrate the benefits of cloud:

### Agility

Cloud facilities from providers like AWS allow companies to spin up resources quickly and when they need them. With no need to purchase hardware or build facilities, companies are more free to experiment with new pilot projects. This removes a lot of the risk and investment required to try even large-scale experiments.

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Architecture is even more important in the cloud and should be established right after the initial pilots and proof of concept.

— Tony Ciciretto,  
President & CEO,  
TeraGo

**Elasticity**

Spin up the resources you need, and collapse them when you don't need them. This eliminates what was once the huge expense of having to purchase hardware and facilities to meet peak processing. This in turn improves the ability of the business to respond to changing market needs or requirements.

**Innovation**

There are literally hundreds of services and features that AWS makes available to companies of all sizes. These can range from offerings like big data analytics to security and compliance management tools. AWS has more than 125 services, and in 2017, released 1,430 new features.

**Cost Saving**

The freedom to “pay-as-you-go.” AWS allows customers to trade capital expense for variable expense, paying for IT as they consume it.

“Our job is to aggregate and scale,” said Gales. “The more we take on, the cheaper it becomes to provide services, and this gets passed on in a competitive environment. We don't want you to spend one more dollar than you have to.”

As for the financial aspect of being a Cloud & Managed Services provider, Christopher Taylor, TeraGo's Vice President, Product Management and Business Development, was clear: “My job is to guarantee there is real value in what we provide, and ensure there are no gotchas or hidden costs.”

**AI and beyond**

The group was eager to discuss how cloud makes new things possible, without massive budgets. In this context, participants were interested in taking advantage of artificial intelligence capabilities. Gales noted that AWS has a huge number of AI offerings that allow companies to experiment.

One AI approach is to observe the business and look for things that are inefficient for workers to do, said Gales. “Once identified, you could look through the vast number of AI tools on AWS, and look for ways to solve those problems.” The availability of these solutions and the falling cost of hardware make new approaches practical, he added.

As an example, Gales talked about Amazon's new self-service store, which uses an incredible number of cameras to monitor activity and let the customer pick items off the shelf and leave without any checkout. "AI software makes this possible, but it wouldn't work from a practical standpoint without the cost of each camera becoming so cheap," he said. "That same approach is available to companies like yours," he noted.

AI services and large-scale cloud environments also make it possible to analyse huge data sets to find patterns and insights, or to teach machines to recognize those patterns. One of the participants noted that they routinely collect as much as eight terabytes in a single day. Analysing this volume of data is only feasible for mid-sized companies by using a provider like AWS, which can do so at a reasonable cost.

As noted in the introduction, cloud is seen by CIOs as "meeting or exceeding their expectations" in terms of the benefits received. What was clear from the discussion was that there are ways for companies to take advantage of the full potential of cloud. TeraGo's Ciceretto noted that his company can help companies find those benefits. "Our mission is to help you maximize the benefits you get. We're happy to share our knowledge with 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.

[terago.ca](http://terago.ca)

## About AWS

For over 12 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers over 125 fully featured services for compute, storage, databases, networking, analytics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 55 Availability Zones (AZs) within 18 geographic regions and one Local Region around the world, spanning the U.S., Australia, Brazil, Canada, China, France, Germany, India, Ireland, Japan, Korea, Singapore, and the UK. AWS services are trusted by millions of active customers around the world—including the fastest-growing start-ups, largest enterprises, and leading government agencies—to power their infrastructure, make them more agile, and lower costs.

[aws.amazon.com](http://aws.amazon.com)

## About CanadianCIO and ITWC

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