



Cloud 3.0: How to build a better roadmap to a cloud architecture

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For many, the journey into the cloud has not been smooth sailing. Indeed, the cloud challenges encountered by IT leaders were on full display during ***A Checklist for Success in the Cloud***, a recent CanadianCIO roundtable sponsored by TeraGo.

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— Participant

One participant had the group nodding as he described the phases of cloud adoption he had encountered, from kicking tires and beginning the build stage, to getting unexpectedly large bills and encountering a spike in security breaches, to reconsidering the whole idea of going to the cloud.

It’s clear many organizations identify with this experience. As another participant put it, “Cloud hit us like a ton of bricks.” It wasn’t supposed to be like this. What went wrong? More importantly, how can these pitfalls be avoided?

Participants shared their advice on how to build a better roadmap to the cloud, based on hard-earned lessons. What follows are the most common issues, as experienced by those who participated in the discussion.

THE TOP CHALLENGES ON THE CLOUD JOURNEY:

• Unexpected costs

Cloud is not yielding the dollar savings people anticipated. Most CIOs dismiss the idea that cloud is cheaper than in-house or colocation solutions. For some, the costs came as a shock.

While moving data into the cloud and storing it are relatively inexpensive, there are unexpected costs when data is processed or moved. Attempting to estimate these costs, even using the “calculators” provided by the hyperscale providers, involves a lot of guesswork for many.

As well, the ease of spinning up a server or getting a new application leads to challenging scenarios. It’s easy to add new servers, resources, and items from the huge list at the “App Store” environment run by hyperscalers. It’s not so easy to police the shutdown of these resources when they aren’t being used. One participant used an interesting analogy, stating that the cloud is like having a “fridge full of beer. It looks like a lot until your friends come over, and before you know it, all the beer is gone. And you say, where did that go?”

• Security concerns

While everyone went into the cloud with the idea that large providers could invest in security to a level that few companies could match, even the most experienced IT leaders in the room had concerns over security after adopting the cloud. IT leaders are struggling to understand how to set up the proper security architecture in the cloud. In fact, one participant shook his head and threw his hands in the air at the mere mention of it. Clearly, this confusion has led to misconfigurations which, in turn, have exposed their data to threats.

• Too many choices and a continually changing environment

The good news for many of the participants is that the cloud is always up-to-date. The bad news is that, for some, it's changing too frequently.

On top of the frequent updates, the number of new products, services, applications, and add-ons is always growing. IT leaders say it's a challenge to keep up with this constantly changing environment. As one noted, "AWS must have launched 100 services in one day. How do you keep up with that?"

• Loss of organizational knowledge

Outsourcing can have an unforeseen disadvantage, as one IT leader noted. When his enterprise outsourced to a cloud provider, it lost a number of key staff members, and a great deal of organizational knowledge went with them. Fortunately, at least one key person moved to the outsourcer, and remained so valuable that the company brought him back in house. However, that may not always be possible.

• Loss of control

One participant found that after signing the cloud deal, his company was just another small customer for a large scale provider. "If you have a problem, even if it's severe to you, you raise a ticket and you wait." As another participant said, "Once they had made the sale, they weren't responsive when they were needed."



HOW TO BUILD A BETTER ROADMAP

Few of the roundtable participants felt they had an effective plan or roadmap for their journey to the cloud. One explained that his company had a whiteboard plan, but it didn't really tell him what he needed to know. Another noted that he didn't have a good way to "measure where we are."

A clear roadmap with directions is essential for success. To assist others going forward, the participants reviewed the lessons they've learned and came up with a number of insights to help populate that roadmap.

• Focus on how the benefits meet your objectives

People should "stop looking for a magic bullet" with cloud, said one participant. Rather, they should focus on how the benefits of cloud can contribute to their business objectives.

Despite the challenges, roundtable participants developed a strong list of realistic benefits from adopting cloud. These include:

- Time to market
- Addressing the skill shortage to "get good IT resources"
- Getting away from the headache of managing hardware.

“ It’s also important to stop thinking about cloud as “the end state”.

The elasticity of cloud was also seen as a major benefit. Some recalled the days when they would double the amount of hardware they might need just in case they didn’t get another budget increase. Cloud allows organizations to accommodate peaks and bursts in usage. This scalability isn’t just about cost savings. It makes organizations more agile. When they need to rapidly scale up or down temporarily, a cloud option is unbeatable in terms of the speed of getting it done.

— Blake Wetzel,
Chief Revenue
Office

It’s also important to stop thinking about cloud as “the end state.” As Blake Wetzel, Chief Revenue Officer of TeraGo noted, there are a number of choices that are available. There are cases where on-premises or co-location makes sense. “Not everything has to go to the cloud,” he said.

Overall, as one participant said, the important thing is to look at the total cost of ownership for cloud, including people. Companies will see many more benefits with this kind of assessment.

• Plan for people and knowledge

As organizations move to the cloud, they should develop a training plan for staff to help them adapt to the new environment. Retaining knowledge is important, but equally important is the idea that moving to the cloud doesn’t mean that the role of IT is over. It’s just different. New tasks, new responsibilities, and new skills may be required to meet the challenges of this new environment.

• Map out the data architecture

Even in the cloud, organizations must have an effective data architecture and a clear plan on how to manage their data. A detailed plan on where data will be stored is essential to avoid the cost overruns that some of the participants experienced. Moving data out of the cloud can add to the costs. And in some cases, getting it back in a meaningful structure can be difficult or even impossible.

Good data architecture can help to avoid these issues. As one participant described, the ability to “tier your storage” allows companies to put enormous amounts of data into very cheap storage while using more expensive storage only for essential data where performance matters. These types of strategies can allow companies to retain huge amounts of data at a low cost, which they can retrieve in the future, as needed.

While data is a critical driver of architecture, there are many other elements that have to be addressed. Issues such as systems integration, edge computing, microservices architectures, and a host of other developments make it essential to have a clear architecture for all systems, whether or not they are in the cloud.

• Learn to decommission

As one participant noted, “it’s hard to say no.” The key benefit of the cloud may not be the lower cost for computing resources but the fact that companies can use them only when needed. However, that advantage only comes into play when organizations learn to decommission and scale back when a resource is no longer required. To reap the rewards, the pay-for-usage approach requires discipline. And for some, cloud maturity means knowing when to move some things out of the cloud.

FAST FACTS ABOUT CLOUD

77%

Anticipated growth in Canadian spending on the public cloud by 2023
– *IDC*

95%

Percentage of global data centre traffic to be in the cloud by 2021
– *Cisco Global Cloud Index*

2

Cloud-as-a-service is the number two priority for Canadian CIOs
(next to transformation itself) – *CanadianCIO Census 2019*

33%

Enterprises that have a documented cloud strategy
– *Gartner*

70%

Enterprises that look to cloud managed services experts to accelerate cloud migrations and drive productivity gains – *451 Research*

“When critical things go down, there has to be a commitment that there will be an immediate response.

— Participant

• Rethink security strategy

Participants agreed that a comprehensive security strategy is needed for the cloud. It should start with zero trust according to one participant. Organizations should always assume they will be breached or that identities will be compromised. They should develop a security plan to protect their data with these assumptions in mind.

Rethinking their security strategy should force companies to examine where they should be making their investments. As one person noted, “When we moved to the cloud, 80 per cent of our security costs with our next-generation firewall was protecting data that is no longer stored on our premises.”

• Develop a new governance model

Organizations should define the impact of downtime and negotiate master services agreements (MSAs) with their cloud providers that support real-life situations. “When critical things go down, there has to be a commitment that there will be an immediate response,” said one participant. For example, organizations that run health care and critical equipment cannot tolerate any downtime. Strict MSAs may be necessary in other situations as well, such as a building management system in the cloud. “When the air conditioning goes down, it’s not a good thing,” noted one participant.

• Get objective advice for the journey

All participants agreed they needed an advisor with real experience in cloud strategy and deployment. Equally, however, many noted they didn’t have the budget for large consulting bills.

This created a dilemma of sorts. They want an objective advisor, not someone who takes you in a direction because it’s what they sell. They need a third-party analysis on which cloud provider will best suit their needs.

Many people stick with what they know, said Jim Love, CIO of IT World Canada. “They say they selected Azure because they’re a Microsoft shop. There may be many, many good reasons to select Azure, but that’s not an objective analysis.”

A good place to find valuable objective advice is with a firm like TeraGo, which provides independent consulting. “We do the consulting side of sitting down with customers and working with them,” explained Wetzel. “It’s just as much pain for us if we put you with the wrong provider.”

As well, TeraGo helps its customers manage the network and cloud infrastructure. “In our mind, the customer shouldn’t have to worry about that,” said Wetzel. They should be focused on their businesses. Then, helping you figure out those right things. We have some very impassioned conversations. We do that whole array of the IT infrastructure, most of our customers don’t know that we do all of these things.”

It’s clear one of the biggest lessons these participants learned on the cloud journey is that we all need help from those with experience. It reflects a growing understanding of the challenges and benefits of cloud, and a realization that the chances of success will be greater when you’re not driving alone.

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 MarketScape Cloud Vendor Assessment. TeraGo Networks.

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