Building a Roadmap for Cloud Adoption

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IT World Canada, publisher of *CanadianCIO*, regularly hosts a series of roundtable discussions, bringing together a small group of CIOs and senior IT leaders to discuss topical issues. In May 2014, a roundtable discussion was held in Calgary, Alberta, focusing on the Roadmap to Cloud Adoption and the challenges to adoption and use of the Cloud.

Jim Love, CIO, IT World Canada facilitated the discussions. Our position at IT World Canada from reviewing our own Canadian CIO survey as well as other industry research in Canada and the US – Cloud has reached the "tipping point". It is clear that what we call Cloud will become the dominant means of technology deployment. It will transform how technology is delivered in corporations of all sizes.

What that impact will be will depend on what we mean when we use the term Cloud. Given that Cloud means different things to different people, for purposes of these discussions, we proposed we start from a common point, the widely accepted Cloud from the U.S. National Institute of Technology Standards (NIST).

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Considerations for Building a Roadmap to Cloud Adoption

Strategy
What are the compelling issues?

Processes
How will Cloud impact or enable major business and IT processes?

Road Blocks and Risk Assessment
Security, compliance and other issues are key as is an exit strategy. A comprehensive list of the issues that need to be addressed is required.

Private or Public?
Not so much a technical as a business issue. If data must be controlled, is building a private Cloud the better solution?

Cloud Architecture
Covering all of the areas including data, process, physical and network architectures

Pilot
The devil is in the details; only a thorough pilot will properly surface issues.

Testing
SaaS and other Cloud offerings frequently do massive upgrades. Testing and dealing with the impacts of these is a new skill.

Organizational Change
Identifying how to get the new skills needed and transition the old ones and how to deal with new change issues particular to the Cloud.

From that point, we turned it over to the participants for a wide ranging discussion which started with where they were today.

Current State – Where are you in your current cloud implementation?

There was a wide range of responses from "just planning" all the way to early adopters with long-term experience. Interestingly, there was a noticeable increase in the number of companies who had real experience with cloud solutions. In fact, a number of the participants in our group might well be regarded as "veterans" with a great deal of experience in both the ups and downs of cloud.

Virtualization was "old hat" for most of the participants. As one participant noted, "we have a VM farm and have consolidated all of our servers into one rack."

Of those who had cloud experience, most of these had focused on moving email and Office functions to the cloud. Of this group, the most frequently mentioned cloud applications were Office 365 and cloud based Exchange for email. A few had used specialized industry applications in the cloud.

Under Pressure

Those who had done little in the cloud felt some pressure to adopt a cloud strategy. While one of our participants embraced the idea of moving to the cloud, the reaction of some others who felt pressured was not so positive. It ranged from reluctance to active resistance. Yet even the most resistant of the group pointed out that they were attending this forum to really hear the other side of the argument. Clearly they felt the pressure to move. They wanted to be convinced, but with facts and not "fads".

At What Cost? The Business Case for Cloud

No one questioned the economic advantages of virtualization, but some questioned the cost-benefit of cloud applications. One participant, who had done significant research, felt that after a certain size, the economics of cloud were not very compelling. Cloud versus in-house was "about the same in terms of costs." Even the experts in the room noted that, "sometimes the math works and sometimes it doesn't."

Others felt there was a strong business case, but often not in terms of pure ROI. Cloud economics require that a company looks at a different number - the Total Cost of Ownership (TCO). On that basis cloud became a more viable option. Without looking at TCO we often neglect many of the hidden costs of in-house software, especially the staff and even management time. One participant, who again had done significant research, felt that his company was "borderline" in terms of the cost savings of cloud versus in-house. But he went on to say, "The real benefit is not cost. It (cloud) is easier to manage."

Beyond the "usual suspects"

In earlier sessions across the country as little as a year or two back, we could count on two issues dominating the discussion – data and security. "Where is my data housed?" Data location is a unique Canadian preoccupation. Security is more universal and especially in a post-Snowden era it also dominates discussion.

In this session, we were struck by the maturity of questions. For example, questions on security went well beyond the simple, "is it secure" to the deeper issues of cloud providers providing enough information and control over security and data protection. This lack of transparency was a frequent complaint. Many participants complained that they didn't have a good understanding of what the cloud vendors were doing.

Loss of Control

Some early adopters had clearly encountered growing pains and learned some tough lessons. Despite the different software, which ranged from email to proprietary vertical applications, the experiences were similar. Moving to and working with cloud software had more challenges than they initially felt. The fact that every move forward in computing has seen challenges was not lost on them. Mainframe to mini. The advent of the PC. Centralized systems to client-server applications. The internet. All of these and more had shaken up the industry and had their own growing pains. But there was one thing different from all of these and the experience with cloud– loss of control.

Almost every participant expressed concern about the fact that their systems were no longer in their control. They were at the mercy of the cloud vendor. As one participant noted, "I love my data. I love to be in control."

Cloud has a level of standardization that even the most controlling IT department could only dream of. Multi-tenancy systems mean that each client runs the same software. On the positive side, all software is up to date. On the negative side, everyone moves at the same pace, ready or not. One participant spoke of being forced to move off the original virus protection software that was included because the vendor made a decision to standardize on a new package. Others felt that there were changes and sometimes losses of functionality made without warning in updates to the software. Even where functionality is increased, user interface changes to add new functionality can be an issue. As one participant said, "In what we manage, a change in one thing doesn't affect everything else."

In the cloud, IT is no longer fully in control. In pre-cloud days, there were problems, but the internal team would roll up their sleeves and work on them. As an IT leader, you could monitor and even direct the progress. The solution - or lack of it was in our control.

Rightly or wrongly, the other clear perception was a lack of responsiveness. In the cloud – even for a critical problem you are simply one of many users. You raise a ticket – and you wait. It's not that this group didn't understand the reality of IT issues. They knew that no system was perfect. No one expected cloud providers to live up to 99.9999% up time. Yet this loss of control and perceived lack of responsiveness came up time and again.

No wonder. With only a few exceptions the modern vendor help-desk strikes fear into the heart of any IT professional. There is the endless series of questions, many irrelevant – and some infuriating. These questions are dutifully asked by people who do not seem to know the applications beyond their manuals and prescribed processes. Then there is the finger pointing – when you do get an analysis, the vendor states that their software is functioning well – the problem must originate somewhere else. Finally there is the response – or lack of response.

Or as another participant said, "we send in a ticket and wait for an answer." The irony that what most bothered this group was what that IT was now in the same position that their end users have been for the past decades.

Product Immaturity and Buyer Maturity

If the discussion had finished with the "lack of control" issue, it would still have been a valuable meeting, but this group had a number of people who had a great deal of experience both with applications and with IT systems.

If the group was mature – many felt that the software offerings in the cloud were not. To a person, each of these had encountered significant missing functionality or differences in the way the cloud version and in-house version functioned. Others felt like they were working on immature software, or as one participant emphatically put it - "we're beta testers."

To be fair to the providers, it wasn't that the base functionality was missing – although some reported examples of this. More often, the "devil was in the details" and what was missing was not easily noticed but was occasionally of critical importance to a particular business processes.

The bottom line? Making the assumption that the cloud version of a software program is identical to the off the shelf version may serve those who don't stretch the functionality, but if you have power users or specific dependencies on obscure or advanced functions, these need to be fully checked out before proceeding.

Bandwidth

The promise of the cloud is to utilize remote services on a ubiquitous network; providing high quality user experience and access anywhere, anytime – all at a cost that is far less than similar in-house capabilities. On the processing and data

storage side of the equation, virtualization and economy of scale have delivered on this. Participants acknowledged that it was next to impossible for most IT departments to match the cost advantage of the larger cloud providers.

Where they did have issues, however, was in the cost and performance of the network access to these services. Several of the participants had large volume data needs inherent in their applications or simply because of size. Canada's relatively expensive data networks were seen as a real impediment to cloud services. As one participant who had business in Canada and the US noted – "Cloud is more feasible in the US because bandwidth is not as big an issue. We are paying 1/3 of what we pay in Canada for unlimited service in the US."

Canada has some unique challenges in addition to cost. Distance and "dark spots" in networks are frequent and often surprising. It's very difficult to get information in planning. Even at IT World Canada we found as we tried to implement a backup DSL connection for one location that we were too far to get less expensive high performance DSL. We were fortunate as we were able (surprise, surprise) to get a more expensive option. Our problem could be solved by mere money. Others are not so lucky and find that bandwidth speeds are an impediment to use of cloud applications, particularly, but not necessarily always in remote locations.

It's not uncommon for Canadians to find their businesses are not able to get the highest speeds at any price.

Even where networks are easily available, Canadians have some of the lowest upload speeds in the industrial world. In fact, there are a number of almost third world countries where upload is much cheaper and much faster. When all we did was view web pages and stream data download speeds were all that really mattered. To build a responsive system and have great user experience both download and upload speeds are essential. Sometimes these problems can be fixed by adding much more expensive services. Sometimes there is no real alternative. This can have a large impact on cloud adoption.

SLAs

With the reliance on vendor support, particularly at critical times, SLAs have gained a new importance. But even strong SLAs are not absolute assurance of success. We heard a number of examples where even at critical times, vendors simply refused to acknowledge there was a problem. One participant related this story. "We did a test when moving mailboxes - the test worked fine. Then they went to do migration over the weekend. They queued up. Nothing was working. Vendor response - "It's all working." We missed the window of opportunity." Other participants noted similar issues. SLAs didn't protect them from service level issues.

Integration

The issue of integration was seen as important when we raised it, but had not been top of mind. “After decades of integrating, removing redundancy and getting our systems talking to each other, did anyone feel that cloud could take us back to the old ‘islands of isolated systems’ that had plagued us for so many years?”

Perhaps because of the particular focus of the group, in terms of the applications so many had chosen to launch in the cloud – desktop, email and specialized applications, there was little experience with deeper integration. These challenges are yet to come. There was a strong acknowledgement of the risks, but little experience to date.

Addressing the Challenges

A majority of our discussion focused on real, tangible problems with moving to the cloud. Yet there were clearly success stories. Some companies, admittedly a minority of our participants, but nonetheless large and successful companies have made the move to cloud and experienced tangible benefits. These included some of our participants. Could we learn from the pitfalls and the successes?

All participants seemed to acknowledge that whether they thought the cloud was a major change or simply a return to older central processing models, one thing was certain – it was a force to be reckoned with and it could not simply be ignored.

There was pressure from their management and executives. Would this be like BYOD, where executives were often the ones who accelerated the adoption as they brought in “prohibited devices” over the feeble protests of IT? Clearly IT has learned that we could not simply be “Dr. No” – the business areas would just go around us. Few participants had the type of control that could prevent the spread of cloud especially if the C-level executives got on board. As well, vendors would continue to go around reluctant IT departments. One participant talked of being at an ERP presentation where the majority of the audience was not IT – but HR. In a SaaS world where many systems can be bought on a credit card, IT is in no position to simply refuse to play.

Cloud is simply here to stay. And cloud will change how technology is delivered and deployed whether IT wants it or not. Even the most reluctant of our group felt that at least a “hybrid” of cloud and on-premise systems were inevitable. The lessons learned from this experienced group were clear:

- develop a clear strategy and road map
- leverage experienced advisors who can steer a company clear of the pitfalls
- understand there is no right answer or “one size fits all”

This last point is important. Cloud is a strategic business imperative, not simply an issue of technology. Resistance and reluctance are futile strategies. Guiding your organization to what is right for them is the real job for IT.

So How to Cope?

We didn't simply "admire the problem." Our discussion was frank and often intense but it yielded a number of areas where the experiences of the group could be useful and where IT could make a valuable contribution. It also demonstrated that the move to the cloud required some new skills in IT and the business. Throughout the discussion we heard some key ways to avoid the pitfalls and drive the benefits of cloud.

1 Understand where you are in the "cloud maturity curve" – in some of the examples we discussed, companies may have gone too far, too fast. But so have some suppliers who appear to have promised more than they could deliver. Each company is at a different stage in terms of their knowledge of cloud and maturity. But the cloud maturity curve is not just your company – it's also the maturity of the applications that you need.

2 Get out in front with controlled pilots – the devil is in the details. The time to find out these details is not after you have done a big rollout of a cloud application. You need a process that will detect these showstoppers before you dive in with both feet. It starts with conference room pilots, it moves to controlled usage and it leads to involving a wide range of people in the final decisions. Many of our IT group had a healthy skepticism. Given the experiences around the table that's probably a good strategy.

We cannot implement cloud with the optimism that we may have applied to earlier systems – "get the basics and fix it later". With cloud you do not have the control of what gets fixed when. With cloud, the Silicon Valley motto, "fail fast" (and in a controlled environment) would probably be the best motto.

3 Develop and maintain a cloud strategy and develop your own road map (see below) – Although anyone can start the move to cloud by giving a vendor a credit card, the actual move to cloud is more complex. It's a multi-stage process. At IT World Canada, we've identified a road map of steps. We didn't imagine that there was one way and one way only that the move could be made. We designed it as a way of starting the discussion, of communicating the issues and a start for building your own unique journey to the cloud. Pay particular attention to the need for an architecture. Don't know how to do a cloud architecture? See point 4.

4 End the adversarial model and build relationships with one or more cloud advisors. On an ongoing basis, companies need advisors who they can trust. It's fair to say that IT professionals are often suspicious about the motivation of vendors. But it's important to not be blinded by our prejudices. Size doesn't count. Expertise, reputation and good old fashioned relationships matter. In the process, do not ignore boutiques, some of who have a great deal of experience with moving

to the cloud. Work with them to develop a strategy. Those with real experience know that this is essential to success and it's an excellent way to develop the relationship that you need going forward. If there is a strong relationship, it may be wise to have an advisor either on a full time basis or in the early stages.

5 Go out and see for yourself – you need SLAs and contracts, yes, but these don't save you from disaster. Nor can you rely on that snappy quote or case study when you have problems. If the cloud facility or application is really that important to you, visit or at least Skype-chat with a couple of existing customers who are similar in their needs to you. Their time is valuable, do your homework. But ask tough questions and beware anyone who had an absolutely flawless implementation.

6 New skills are a required in IT – at one time, a real "go to" skill was deep knowledge of technology. In a cloud-based world, the "go to" skills will change. Patience with both frustrated users and the frustration of help desks may be the new key skills. Some of the best support people are now better at doing Google searches or navigating forums than they are in pure technical knowledge.

7 Start by knowing your exit strategy – Lastly, if we could propose only one way to evaluate a cloud vendor it would be this – understand how you get out before you get in. Knowing an exit strategy indicates that they don't want to have or hold unhappy customers. Vendors who make it easy to leave will work harder to keep you as a client. They'll also be more likely to be up front in what it takes to succeed and where the pitfalls are.

Summing it up

I think that all our participants, from the very experienced to the newest all remarked on how important discussions like this are. Knowing what others are doing – where they have succeeded and where they have been challenged is important to our own learning and success. Even those with a great deal of experience learn a lot from these sessions. As we are fond of saying at IT World Canada, "if you are always the smartest person in the room – you are in the wrong room."

We hope we've shared with you some insights from this discussion. We'd welcome your feedback and questions.

About Long View

Long View is one of the most powerful IT solutions and services companies in North America with offices across the continent. With a clear focus on combining business and technology through our Hybrid IT methodology, Long View is able to define and customize what the future of IT looks like. Innovative, flexible, cost-effective, and business focused... that's Long View.

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