

Business Challenges of Moving to the Cloud



By Graham Jarvis

Special Projects Editor, Cloud Computing Intelligence

According to Dante Orsini, SVP of Business Development at iland, there are 'Six Unexpected Challenges of Cloud'. He writes that 'managing a cloud footprint is much harder and more specialised than many imagine.' The problem is that cloud computing, while it offers significant business benefits such as the ability to get digital products and services faster to market, has been touted as involving less work for IT. Cloud computing is as a result being characterised as a commodity and positioned to be about finding a rapid path to achieve innovation – enabling IT to have 'fewer boxes to maintain, fewer hypervisors to operate, and even fewer purchasing decisions to make', he explains.

Yet he believes this brings with it certain challenges:

- Cloud services must be selected, workloads must be migrated and usage must be tracked.
- Not unlike other complex IT systems, cloud infrastructures have to be monitored and managed,
- Cloud's much touted 'easy scalability' depends on specific infrastructure capabilities and a watchful eye to identify and correct problems.
- A shifted burden of learning how to operate and optimise these platforms onto the user. In fact, many cloud implementations require deep knowledge of scripting, an understanding of the strengths and weaknesses of the architecture, and at a minimum, a strong familiarity with the new platform.
- The pricing models of clouds

have become a feat of financial engineering. This has compounded the burden on IT – not just to operate the cloud footprint but to optimise its cost according to a set of remarkably challenging pricing models.

- And many teams continued to be surprised by the challenges of cloud. In fact, in April 2014 when iland commissioned analyst firm EMA to conduct a global survey on real-world experiences with public cloud providers, 98% of UK respondents reported they experienced at least one unexpected cloud challenge.

Orsini: "Relevant today"

'Orsini's findings are still very relevant today', says Joe Mignano – Vice-President of Channels at

Logical Operations. Shadow IT hasn't gone away; it still exists and he finds that it is becoming an ever greater problem "for IT teams trying to manage their organisation's cloud footprint and security especially." Yet Mignano concurs that there are many advantages to the cloud, such as easy scalability, and optimisation. Yet these benefits are challenging, hard to realise because of the growing skills gap that correlates with almost everything in cloud computing.

"Given the growth that public cloud services have seen since 2014, I'd have to imagine that more organisations are finding that cloud.", Mignano explains. He adds: "Fortunately, since 2014, we've seen new cloud computing training and certifications like CloudMASTER come to market which can alleviate these (surprise) challenges when incorporated into a larger cloud strategy."

Kevin L. Jackson, Instructor at the National Cloud Technologists Association (NCTA) also agrees that Orsini's findings are still relevant today: "The findings have been compounded by the proliferation of both variety and extent of excellent cloud services, increased marketplace confusion caused by the broad practice of "cloud washing" and the consumer's failure to obtain formal cloud computing training."

Jules Trono, CEO, Borderless Learning adds: "His findings are absolutely relevant today, particularly when you consider any cloud integration with a company's existing technology and data systems." The biggest challenge for most companies is the management of change; the need to have the skillset to support rapid change – particularly as cloud computing adds another layer of complexity. "Last year Uber hired 40 researchers from Carnegie Mellon University to help them address driverless car technology for their cloud-based taxi service and everything living in or touching the cloud needs the support of very smart people", she explains.

Real cost of cloud

She often hears people say, "We don't know what we don't know" and yet much has been learnt since 2014 – especially about what we don't know about cloud services. "We've learned about the real cost of building and offering cloud services, we've seen the prices increasing for the use of cloud services, and we now know some of the items contributing to hidden costs", she says. To keep control of what is going on, and what is needed to benefit from everything in the cloud, she believes that everyone needs to better understand the impact of crowd utilisation services because in her view "we are coming to realise that cloud services do not eliminate the need to have smart people on our own staff to manage those services."

Lack of cloud skills

What remains true is that the cloud is important to most organisations' future, but in comparison to 2014 she believes "we are able to better define our expectations in terms of service." However a lack of cloud computing skills is still hampering many organisations' ability to realise all of

the true benefits of the different types of cloud solutions that are available on the market. "The lack of cloud skills makes it very difficult for organizations to implement and develop the "right" cloud solutions," he explains. This issue arises because cloud services require a certain level of development or customisation in order to, as he puts it, "truly make it the right fit for an organisation."

Yet not many people have the skills to do that efficiently or securely. He adds: "In addition, the lack of cloud skills makes it more difficult for an organisation to understand exactly what types of solutions will best suit the goals of the entire organisation – since most Lines of Businesses (LOBs) have or could use cloud solutions." This creates differentiation, making it hard to find, select and implement the right cloud solution for the entire business. Even when disparate parts of an organisation need bespoke cloud services there ideally has to be at some point a level of integration with other functions.

"It is still very difficult for companies to implement and develop cloud solutions that increase productivity





and sales, or reduce costs, because there is still a gap between Lines of Business (LOB) and IT", explains Trono. She says more than 40% of technology spending comes from LOB budgets, and she predicts that expenditure is set to rise to 90% by 2020. So she argues that cloud skills are needed on both sides of this LOB and IT divide.

"The LOB needs to understand how to communicate their needs in a way that addresses cloud capabilities, while IT needs to understand the business needs to help guide the LOB to solutions that actually accomplish the intended business outcome", she advises. IT then need to work with the LOBs to develop and implement the most appropriate solution. This should be one that offers ongoing agility and an understanding of the desired business outcomes because this in her view is the first step forward to address the need for cloud skills.

Jackson adds that most organizations don't understand the composition of 'cloud skills'. "Although technical implementation skills are required, cloud deployment failures are mostly caused by a lack of technology application skills", he claims before

adding: "Cloud Computing professionals apply IT services management and cloud computing economic models toward the attainment of business and mission goals, and yet specific technologies are implemented by junior technologists as secondary considerations that should also have redundant cloud service provider sourcing."

He therefore thinks that "junior candidate qualifications may be driven by cloud service provider (CSP) selection, but senior candidates should be steeped in the applicable industry norms, legal and regulatory environment and business model." Yet establishing a cloud footprint tends to be harder and more specialised than many people imagine, requiring specialised skills.

Development required

"Many people don't realise the development required to truly achieve the goals the organization sought to achieve with cloud solutions", Mignano explains. The mistake the many people make occurs when they think cloud solutions are simply plug and play, but many of them aren't in reality. They

therefore don't make the required plans and preparations to train or foster talent and teams who'd be required to do the additional work upon the adoption of a cloud strategy and when the time has come to migrate software and services to a cloud.

"The core of a successful cloud strategy is a successful business strategy", claims Jackson before adding: "Failures occur when the economics of the business model are disconnected from the economics of the IT services model."

Information sharing

Trono advises that information needs to be shared in order to be useful. "Whatever is happening in the cloud needs to feed back into other systems and vice versa, which may be in the cloud or on premise", she explains. This is important to consider because some services and software applications may exist in public cloud, private or hybrid clouds and she is right to point out the some countries require datacentres to store cloud data in the same country, where the company is utilising a specific cloud service in order to comply with data protection and national

security laws.

“The cloud is not one defined place which makes the footprint hard to delineate, and the need to communicate with other things in and out of the cloud makes those lines even fuzzier.” She adds that this makes “keeping the shared information secure difficult at best and can seem near impossible at worst.” So there is a minimal need for skilled cloud specialists who understand how datacentres, big data, networking, security and collaboration should work. Without specialised support, cloud services become vulnerable to uptime and security issues”, she warns.

Core: Strategic management

Mignano believes that IT and cloud specialists should be core to the strategic management of cloud computing. “They are the team that must aggregate all the cloud services to most effectively manage, monitor, and protect the information flowing back and forth from the organisation to the cloud service”, he stresses. He warns that as shadow IT involves side-stepping IT and cloud specialists, information and data is put at risk. This only helps to open up a lot of opportunities for cyber-security threats. Cloud computing should therefore be arguably managed by IT and nobody else. Yet this doesn’t preclude IT from developing collaborative partnerships with the LOBs. That is vital.

Lifting the burden

So how can organisations avoid shifting the burden of learning onto the user? Mignano offers his thoughts in answer to this question:

“Organisations can avoid shifting the burden of learning onto the user by including training in their cloud strategy. Before adopting any cloud services, a strategy should be built and a critical part of it is training. I’d actually argue that training should be done prior to any decisions being made about what types of solution(s) to implement. Vendor-neutral training like CloudMASTER helps individuals better understand the many facets of cloud administration and integration

by utilising the industry-leading public cloud service providers and tools. Taking these types of classes early on would help an organization better define what services they want and need and cut down on the amount of time they spend figuring out how to use them, thus achieving a better ROI at a quicker pace.”

“I do agree with Orsini’s list of required skills and competencies because all of them are important in successfully implementing a cloud strategy and avoiding the challenges cloud adoption presents”, he says. He would add security to the list too because this remains a concern that sits at the top of many companies’ agenda, but he argues that many of their concerns are in actuality unfounded. “However, if the teams managing and especially developing cloud solutions have security skills and are putting them to use in their cloud efforts, then the security risks are lessened”, he explains.

Addressing the challenges

He concludes by offering his top 5 tips for addressing the challenges of moving to the cloud:

1. Train your existing teams. Looking outside of your organisation for cloud skills is time-consuming and when you find them, they’ll be costly!
2. Start with hands-on, vendor-neutral training. It’s important that the training develops an individual’s portfolio of cloud skills across the leading vendors and tools since most organisations don’t subscribe to just one service.
3. Don’t limit training to just the developers or just the virtualisation or datacentre engineers. Inevitably, the whole IT team will be involved in an organization’s cloud subscription(s), whether it be from an architectural, administrative, security, or other perspective.
4. Build out a cloud strategy, clearly defining what all LOBs want to achieve via cloud services. Then, attend vendor-neutral training to fine-tune the strategy and help select optimal vendors. This

will ensure less time is spent experimenting and struggling to understand how to best implement and use various cloud solutions, cutting down the skills gap.

5. If you run an IT group, have your employees get certified. And if you are in IT, make sure you get certified. Not only will the pressure of an exam ensure you and/or your employees get the best ROI on your training dollars, but it will also allow you to communicate that you have knowledge in cloud computing, which is valuable no matter who you are trying to impress (a client, your manager, or a hiring manager).

Jackson warns that cloud service customers shouldn’t assume that the largest cloud service providers (CSP) are always best, and he advises them to do their due diligence before signing up any CSP. Unfortunately many of them fail to do even the most basic checks. “These same customers also have a very limited appetite for learning foundational cloud computing concepts, and so these facts have combined to make cloud computing pilot errors typical and CSP transition failures much more common”, he warns. In his view the broadening use of hybrid cloud solutions and the rapid growth in the sheer number of cloud service provider options have also contributed to this unfortunate trend.

He concludes: “Although there is always great value in vendor-specific training, this type of focused investment should be made after enterprise IT professionals have been well grounded in cloud computing fundamental and well versed in the now plentiful cloud service provider options.” With a widening range of options available for organisations wishing to move to the cloud, he believes that vendor-neutral cloud computing training is critical to today’s IT professional and, by extension, the modern business enterprise. Organisations can then overcome the business challenges of moving to the cloud – particularly by addressing and resolving the cloud computing skills shortage today.