Building your Cloud Strategy 2.0

Six tips for advantage in the hybrid cloud world

August 2017

In a nutshell

The past few years have seen 'Cloud First' strategies widely evangelised, but rarely fully adopted. Part of the problem has been the evangelists' focus on the public cloud, whereas for most organisations the cloud – and the public cloud in particular – is just one service delivery option out of several.

Another factor has been that, even in those cases where the service delivery choices are all cloud-based, the route most likely to emerge is a hybrid cloud one combining public and private platforms – and that's platforms in the plural. In many organisations even today, a thorough audit would turn up multiple public clouds in use, alongside multiple in-house projects of a cloudy nature.

Many of the arguments for cloud adoption remain valid and important, though. Let's look at some of them and at how the concept has evolved, as we offer six tips to consider as you build a workable Cloud Strategy 2.0 for your organisation.

Cloud First – what went wrong?

First off, for some users it didn't go wrong – far from it. The public cloud is an incredibly important enabler in several areas. An example is the provision of IT resources via IaaS or PaaS (infrastructure or platform as a service, respectively) to virtual organisations or to start-ups that don't want the encumbrance of physical IT assets or need extra resources quickly. Another is the way that SaaS (software as a service) can provide smaller organisations with the kind of application support once only enjoyed by large enterprises.

It can also be a great resource. For instance, our research into modern software development practices tells us that, by reducing organisational friction, a commitment to cloud-based technologies strongly correlates with improvements in almost every area of software delivery, including speed, quality and cost control. More specifically that commitment means cloud-hosted software tools, as well as the more general use of public and private clouds for application testing and deployment.

However, the public cloud in particular is not a panacea – it cannot fix every problem there is, nor is it appropriate for all organisations and IT projects. Let's look then at what could be a more appropriate approach to cloud adoption.

Six tips for building your Cloud Strategy 2.0

Anyone building a cloud strategy – and that means pretty much everyone, because everyone should have a strategy even if their immediate cloud usage is low – needs to understand, assess and balance the limitations of the various approaches, as well as the potential benefits.

There is a significant risk of being caught up in the hype, especially as the term 'cloud' has been so broadly and indiscriminately applied. This latter process has even gained its own derogatory name: cloudwashing. Whether we should think of cloudwashing as closer to whitewashing or to brainwashing is left for the reader to decide!

To help cut through that hype, here are six tips, or important factors to consider. They are of course not the only considerations, but they are ones that are often glossed-over or forgotten until it is too late.

1. The future's bright, the future's hybrid

Many-to-many hybrid clouds are the norm, interoperating with traditional IT and SaaS.

Yes, it's the cloud, but it's hybrid cloud, and not just cloud either – other systems need to participate too. In recent research projects, we have seen many respondents report multiple clouds in use, with a significant proportion reporting five or more. This is less surprising once you start thinking of all the services – including SaaS applications such as office suites or CRM tools – that are delivered via a cloud these days.

On top of that, very few have completely abandoned traditional non-cloud architectures, with the majority still using these to a significant degree to host for example internal applications, customer-facing web services, and big data or analytics. At the same time, the original hybrid concept of a single private cloud 'bursting' – moving workloads when it needs more capacity – to a single public cloud provider now looks far too simplistic.

Mainframes too can be part of your Cloud Strategy 2.0.

All this means that any Cloud Strategy 2.0 must account for a many-to-many hybrid future, where multiple public clouds and SaaS applications interoperate (or at least coexist) with multiple private clouds, whether hosted on-site or remotely, and of course with traditional architectures. On that last note, much as the cloud evangelists would like the mainframe to disappear, that is not happening. Mainframes remain key to many businesses, so if your organisation is one of those, your strategy will need to account for them too.

2. Remember ease of management

As well as the accidents of history, there are also good reasons why organisations might work with multiple clouds, both public and private. Avoiding lock-in is one, then there is the simple fact that different suppliers offer different applications or have different capabilities, price points, locations or service qualities. They may also offer varying toolsets and platform capabilities – specific application types could run better and more reliably on one than on another, say.

So your strategy needs to include a robust approach to multi-cloud management. Most cloud providers have their own management tools, but there are also toolkits which can work across several cloud platforms.

Platform-neutral application development can bring significant advantages.

More than that, though, it also means you should adopt a platform-neutral approach to application development. This in turn may also suggest a commitment to containers and containerisation, as these allow workloads to be moved between clouds. And it means multi-cloud orchestration, using tools that can provision and move workloads around a hybrid cloud, either automatically or at least in a semi-automated way.

3. Balance expense with performance achieved

Some early cloud projects were justified by the savings to be made by swapping on-site CapEx and salaries for hosted OpEx. Thankfully our research suggests that this economic justification is less common now. A shift to the cloud should instead be based primarily on

the gains in performance, scalability, flexibility and so on; cost savings are an incidental benefit, if they are achieved at all.

The cloud might look cheaper, but by the time its true costs become apparent, it might be too late.

The economic driver often fails because too many organisations find out about the true cost of cloud only afterwards. Switching to cloud computing is far, far more than just the exchange of CapEx for OpEx. Many cloud services are charged by usage, for example, so as your use grows the cost may outstrip your predictions.

And of course cloud usage fees are ongoing – that's less of a problem for a start-up or a project team which might need to pivot in a few months and reorganise its IT, but for a large organisation which expects to amortise its IT systems over several years, it could be a different story.

Then there are other likely costs. For example, if you decide to change public cloud providers or even move your systems back in-house, there is the work needed to move the data. There may well be considerable transfer costs too, because it is increasingly common for cloud storage providers to load their fees onto retrieval rather than ingestion.

In-house skills will remain important as well – the chance to cut the salary bill might look attractive, but if you lose the relevant skills then who is going to manage the cloud contract on your side and keep your cloud providers honest?

4. Have a strategy, don't just react tactically

Cloud adoption as an easy tactical fix may lead to unnecessary complexity and cost in the longer term.

Tempting as it might be to buy in a cloud service or application to solve an immediate need or pain point, in the long run that tactical approach can lead to a proliferation of incompatible silos, along with unnecessary complexity and cost.

The need for digital transformation and a faster, more agile, response to market demands and challenges therefore requires a much more joined-up and strategic approach that includes global cloud management. Cloud adoption must also be informed by business, security and regulatory requirements, of course, as well as infrastructural aspects.

For example, if you switch to a hosted cloud, will your WAN be able to sustain the load without the additional cost of upgrades? Will users at remote sites still get the performance they are used to, or will increased latency cause dissatisfaction? What data are you holding, and how and where should it be stored? Your best plan may be to do data discovery and classification first, then move to a private cloud before deciding what to move on to the public cloud.

5. Visibility is essential

Most, if not all, cloud services will provide SLAs, guaranteeing a minimum level of service. The problem is that these are not always meaningful – for example there might be a number, but does it tell you anything useful? Can it tell you how your hybrid cloud application is performing overall and help you troubleshoot across cloud boundaries, say, or does it measure something you don't really care about? Could you do a better job of measuring service quality yourself, perhaps by deploying a modern APM (application performance management) framework or service?

Visibility is also important for security and risk governance, and for pricing. One reason for going hybrid is that it allows you to move workloads between clouds, so knowing how much you are paying is vital.

In cases where your cloud usage has built up tactically, it is also essential to know what you have deployed with whom, not least because there can be significant opportunities for negotiating volume discounts once you aggregate all your business together. You could also have data in the wrong locations, or it might become cheaper to bring it in-house.

6. Plan for what comes next

By its very nature, much cloud computing relies heavily on virtualised resources – being virtual allows them to be created, allocated and subsequently cleared down more quickly and efficiently – and many cloud services are built on a foundation of object-based storage. Many organisations are moving their on-site IT in the same direction, although few have the same scale of operation.

That move could also push you to think about your data infrastructure. For example, the growing volume of unstructured data and the many drivers for better data management, may at some point push you towards object storage or the adoption of cloud-based APIs – or both. Compared to block and file, object storage can bring greater resilience, scalability and manageability, while cloudy APIs can considerably expand your range of storage choices.

And think about the opportunities offered by new storage technologies, most notably flash. The operational characteristics of enterprise flash lend themselves to cloudy architectures in several ways, such as the ability to build storage systems that are self-tuning and self-managing. Used within the private cloud element, this can for example make hybrid clouds more practical.

The bottom line

Both the Cloud First and the early 1:1 private-to-public hybrid cloud strategies that we saw emerging five or more years ago have not stood the test of time. Instead, many-to-many hybrid clouds are the order of the day.

And cloud technology is still evolving fast. More and more applications and resources are moving to cloudy architectures, for example using cloud-derived APIs such as S3. In addition, the ability to spill or burst to a public cloud, whether for hosting workloads or for tier 2/3 storage, can revolutionise IT system architecture.

With the dominant drivers – as ever! – being performance and business value, rather than simplistic cost, your Cloud Strategy 2.0 will therefore have to be versatile, transparent, encompassing, manageable and agile. That's a pretty good vision for 21st century IT overall.

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