Propelling Your Enterprise Into the Hybrid Cloud

The majority of enterprise cloud workloads are still run on managed or on-premises private clouds, with public cloud services usually reserved for application development and testing purposes. Going forward, however, the rise of mobility will compel enterprises to move more critical workloads to hybrid platforms that combine both private and public clouds.

And we believe this trend will gather further momentum with the emergence of new technologies that address lingering concerns of CIOs surrounding the use of public clouds.

**The Impact of Mobility**

Mobility is one of the macro trends driving the rise in hybrid cloud adoption. While many people associate mobility with app delivery through smartphones and tablets, it is also having a far-reaching impact in transforming the way we work.

Businesses today see the need for extended workforce mobility to deliver increased productivity from anywhere, anytime and on any device. This approach also requires business data to be mobile, moving between on-premises and off-premises locations, across metropolitan boundaries or even across continental borders.

A Mobile Infringement Notices trial run by the New South Wales Police in Australia last year provides a good illustration of what is happening in the enterprise mobility and cloud space.

The project involved the use of mobile devices that were locked down, so information would be wiped and the device reset should there be any attempt to access them without authorization. The interesting part, however, was that the middleware processing the data was hosted on a public cloud platform. The data was stored on the public cloud infrastructure only for the duration of the transaction, and then deleted from both the device and the cloud servers.

**Hybrid Cloud Gains Traction**

What the New South Wales trial demonstrates is that the public cloud can play a role in complementing private and managed cloud. It can even contribute to applications that deal with highly sensitive personal information, such as vehicle registration and license details.

In fact, with greater competition among public cloud providers and cheaper WAN bandwidth in metropolitan areas, enterprises are waking up to one of the key value propositions presented by hybrid clouds: They see that the combination of public and private clouds presents a more cost-effective platform for running enterprise IT workloads.

Today, the adoption of hybrid cloud is gaining momentum, with some surveys suggesting that 70% of organizations are either using or evaluating it (see Figure 1). Analysts are predicting that it will represent as much as 30% of workloads in the next 4 years.

**Lingering Concerns Surrounding Public Clouds**

However, to truly reap the benefits of the private-public cloud combination, it is vital that we tackle some of the concerns surrounding the use of public cloud for enterprise workloads.

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These concerns include the challenge of integrating legacy applications with the public cloud platform, performance issues, security and fears over cloud lock-in.

Integration
Let us examine these in turn, starting with integration. The fact is that most legacy applications do not talk the cloud language (like REST and S3), making most public cloud services difficult to consume. The process of recoding legacy applications to cloud-enable them can be very resource intensive, not to mention expensive.

Performance
The second obstacle to public cloud adoption is performance. The instant provisioning and bottomless capacity attributes of public cloud services come at the expense of high latency. Very often, the performance penalty for reads and writes renders the public cloud platform unusable for applications, which demand high performance.

Security
Security concerns also continue to hover over the public cloud. With horror stories such as the closure of Code Spaces (a code hosting company which was forced to close down in June 2014 after attackers destroyed its customer data hosted on Amazon), CIOs are quite rightly questioning the risks of putting certain workloads into open environments.

Cloud Lock-in
Besides the abovementioned concerns, there is also genuine worry among CIOs over cloud lock-in. One common question they have is: “Once I put my data in, how can I get it out?” When cloud storage specialist Nirvanix collapsed in 2013, giving customers only 2 weeks to move out their data, it sent shockwaves through the industry. Although this was an extreme case, the fact is that enterprises may want to move data around for different reasons – cost, latency, regulation, sovereignty or just better service from another supplier.

Addressing CIO Concerns
The good news for CIOs is that these issues are being addressed. For example, Hitachi Data Systems recently unveiled new technologies in its Hitachi Content Platform (HCP) portfolio to help businesses mobilize content across multiple platforms, devices, locations, applications and storage resources. At the same time the HCP portfolio ensures tightly integrated control and management of the content wherever it is accessed. The portfolio comprises the latest versions of HCP, HCP Anywhere and Hitachi Data Ingestor.

As large enterprises transition to a hybrid cloud, HCP delivers the ability to tier data to a public cloud without sacrificing visibility or control of data. This enables data to be moved intelligently and automatically to and from leading public cloud services such as Google, Amazon and Microsoft® Azure® based on changes in demand and the organization’s policies.

The adaptive cloud tiering technology helps enterprises address the challenge of integrating legacy applications with the cloud through the presentation of standard CIFS and NFS interfaces. It allows HCP to act as a seamless gateway between legacy systems and the enterprise’s cloud-based repository.

By allowing enterprises to migrate data objects seamlessly between service providers, the technology also helps to allay concerns over cloud lock-in. It empowers enterprises to maintain the optimal balance of choice.

The performance issue is addressed through the use of technologies that employ clever caching algorithms to shuffle data between a local device and the data repository over a wide area network (WAN). Delivered through the combination of Hitachi Data Ingestor and HCP, such technologies give enterprises the best of both worlds:
data-at-the-edge, without the latency issues associated with the public cloud.

To allay CIO fears over-putting workloads into open environments, the use of HCP in a hybrid cloud topology allows for sensitive data sets to remain on-site while less important data can be archived to the public cloud. Regardless of where they sit, all the data can be managed using a consistent set of tools and policies.

HCP also provides full auditability of access, something that is not offered by public cloud storage services. Furthermore, encryption can be managed in-house within HCP instead of the public cloud service provider, giving enterprises a more controlled level of protection.

When it comes to file sync and share, the latest version of HCP Anywhere delivers a 100% on-premises solution and includes additional security features such as ICAP (Internet Content Adaptation Protocol) support, MDM (Mobile Data Management), single sign-on, link management and deregistration.

These product innovations have garnered positive reviews from the analyst community. In February, Gartner scored HCP #1 in the security category in its study into Critical Capabilities for Object Storage.

Conclusion

Here in the Asia Pacific, the public cloud landscape is becoming increasingly competitive as more and more players establish their operations in major locations across the region. Many are also investing heavily into the integration of their public and private cloud solutions, setting the stage for hybrid clouds to take off.

From the enterprise perspective, the crossover point has been reached where the economics of hybrid cloud has begun to make good sense. The use cases for public cloud are now better understood, and can be combined with value-added integration from Hitachi. It is now an opportune time to start planning for the use of hybrid clouds and identifying the workloads that are best suited for this environment.

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3 “Critical Capabilities for Object Storage”, Gartner, February 2014
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