UNDERSTANDING HYBRID CLOUD: A PATH TO FLEXIBLE, SCALABLE AND COST-EFFICIENT IT
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WHAT IS HYBRID CLOUD?

As enterprises mature in their cloud strategy, they increasingly seek to mix and match the best available technologies that will give their companies a competitive advantage. As the result, more and more enterprises are turning to an integrated hybrid cloud model—a mix of on-premises infrastructure and private and public cloud services, with orchestration between the platforms.

A hybrid cloud model provides a single, unified infrastructure, whatever your IT infrastructure mix. In addition, the ability to retain some workloads and data on premises while moving others to services like AWS, Microsoft Azure or Google Cloud Platform opens up a much faster path for enterprises with strict requirements around compliance or legacy technology to take advantage of cloud computing. For instance, an enterprise could use an on-premises private cloud to host sensitive customer credit card data while also leveraging a public cloud provider to host less critical resources, like test and development workloads.

As a result, hybrid cloud has become the dominant IT infrastructure model for most large enterprises. In January 2016, RightScale’s State of the Cloud Survey of the latest cloud computing trends showed private cloud adoption had increased from 63 percent to 77 percent, driving hybrid cloud adoption up from 58 percent to 71 percent year over year. And all signs indicate adoption will continue to increase as more late adopters begin to move some workloads to the cloud.

WHY CHOOSE A HYBRID CLOUD MODEL?

Flexibility

For many organizations, flexibility is the driving factor behind the decision to move to hybrid cloud.

In every business vertical, companies are aware of cloud technology and are making strides to implement it. Many of these businesses are not giving up their on-premises IT; instead, they’re deploying a mixed infrastructure. Legacy applications or workloads with unique security or compliance requirements are still hosted on premises, while public cloud is typically used for non-mission-critical applications like Microsoft Office, document management, test/dev and data storage and archiving.

Elasticity and Scalability

For growing companies, making highly accurate growth projections to scale on-premises infrastructure can be risky and expensive. The beauty of hybrid cloud is it allows companies to leverage those legacy IT investments and marry them with cloud resources, enabling them to more easily and cost-effectively extend their IT capabilities.

SECURITY AND CONTROL

By combining dedicated hardware with cloud-based services, hybrid gives you the flexibility to take advantage of on-demand cloud resources while simultaneously satisfying even the most complex security and compliance requirements.

For example, if you need to ensure PCI DSS compliance, you can retain control over your most sensitive data in your own on-premises data center while running the application’s front end in the public cloud. This allows them to conduct business and transact payments online all within one seamless, agile and secure environment.

For organizations running diverse applications across various legacy systems, it may become necessary to deploy a range of cloud services to manage the complexity of the resulting IT landscape. A hybrid cloud approach ensures the easy integration of applications, infrastructures and services, mitigating risk and simplifying management while allowing IT to provide unified service levels.

With the capacity to offload more data onto the public cloud or to keep it in a private cloud, hybrid cloud is particularly valuable for dynamic or highly changeable workloads. A company that experiences major fluctuations in demand can run an application in private cloud and access additional computing resources from a public cloud to handle spikes as needed.

THE BEAUTY OF HYBRID CLOUD IS IT ALLOWS COMPANIES TO LEVERAGE THOSE LEGACY IT INVESTMENTS AND MARRY THEM WITH CLOUD RESOURCES.

With nearly every business experiencing occasional peaks and valleys in demand, a flexible IT infrastructure eases the burden of mitigating this variability. Because public cloud services offer access to virtually unlimited on-demand compute and storage— and you only have to pay for the resources you consume—access to cloud-based resources enables organizations to respond more quickly to high demand without the need for large capital investments. And, you have the ability to scale down when things go quiet. Therefore, by integrating public cloud with an existing infrastructure, organizations can provide new capabilities to their end users while reducing costs.

Cost Savings

A recent study by IDG Research revealed that 24 percent of executives reduced their IT costs as a direct result of hybrid cloud. And 83 percent of IT leaders either use a form of hybrid cloud or plan to do so in the future.

24 PERCENT OF EXECUTIVES REDUCED THEIR IT COSTS AS A DIRECT RESULT OF HYBRID CLOUD.

According to Milind Govekar, Managing Vice President at Gartner, “Hybrid cloud computing can maximize cost efficiency, particularly capital expenditure, through competition and automated arbitrage.”

Many organizations have missed opportunities to reduce costs and improve cloud ROI through implementing cost management and optimization strategies such as shutting down unused workloads or selecting lower-cost cloud or regions. Twenty-six percent of respondents mentioned cloud cost management as a significant challenge, according to RightScale’s State of the Cloud Survey 2016.
Other gains can come from changes in operations and maintenance. A reduction in on-premises servers can translate to reduced energy consumption, as there is less infrastructure to power and cool. And less on-premises hardware to maintain leads to more effective use of human resources. Using inexpensive cloud storage, data and application segmentation and taking advantage of infrastructure elasticity are also ways to reduce costs.

THE PATH TO HYBRID CLOUD: PLAN, ASSESS, DESIGN, MIGRATE, MANAGE AND OPTIMIZE

Although hybrid cloud can offer significant benefits, successfully implementing a hybrid IT strategy is easier said than done. Hybrid IT environments are more complex than infrastructure strategies that rely solely on on-premises, private cloud or public cloud solutions. As a result, a well-considered implementation methodology is essential.

The Rackspace approach to hybrid IT breaks the process into six phases — plan, assess, design, migrate, manage and optimize — comprising a step-by-step framework to achieving a successful hybrid IT transformation.

Plan

The plan stage begins with discovery and definition. This critical step focuses on the most basic of questions: Which business problems will the hybrid IT solution actually solve? Defining objectives and understanding how hybrid IT can fit into this broader plan is essential for ensuring that this is the right decision and will benefit the company as much as possible.

Assess

Before the hybrid deployment can begin in earnest, it’s imperative to understand precisely which applications are in use and what kind of infrastructure is already in place. All areas of IT — including workloads, applications, workflows, systems and data centers — need to be inventoried and evaluated. And you also need to understand the life cycle and contracts associated with each app, so you can anticipate how they might evolve and ensure your new architecture design to support them for years to come.

It’s also important to look at utilization rates to see which resources are strained, and which are underused. For example, are energy costs a major drain on the operational budget? Are administrative costs associated with management and maintenance out of line with industry norms? The primary goal during this phase should be to identify all the applications that are candidates for replacing, rehosting, refactoring and rewriting. These decisions will, in turn, affect the design phase.

Design

Now that you have a complete picture of what you’re working with, you can focus on making platform choices and designing architectures that best incorporate new technologies while also building on and supporting the technologies you already use. This is where you make critical decisions about which workloads belong on which platforms, and which belong in house rather than the cloud.

Automation, orchestration and security are all key factors to consider during this phase to ensure your chosen solution is efficient and secure. For many companies, compliance is particularly important during a transition to hybrid IT due to the large number of operational changes necessary. Achieving and maintaining compliance with PCI, HIPAA, SOX or any other regulatory standard is certainly possible in a hybrid configuration, but only when the IT transformation is handled carefully by knowledgeable, experienced experts.

Migrate

At this point, we devise a comprehensive migration strategy for transitioning to a hybrid IT deployment. All the planning, assessment and design work that’s taken place so far is preparation for this critical step, which incorporates timelines and workloads that will be impacted and is geared toward optimizing both usage and cost efficiency.

For instance, how will you protect your data and ensure that none of it is lost in the move? How will you resynchronize applications? Will you enhance your disaster recovery plan during the migration by rewriting system build documents or run books? Answering these questions will help you mitigate risk during the migration phase.

Manage

A major aspect of the manage phase is ensuring every component of the hybrid IT architecture performs in accordance with the previously approved templates. At this point, you’ve either significantly streamlined administrative responsibilities associated with your migrated application, or you’ve handed that responsibility off to a service provider. You should now be leveraging automation wherever possible, setting up monitoring and alerts, writing run books and taking a proactive approach to cybersecurity.

Either way, time commitments around operations, monitoring and troubleshooting have been reduced or eliminated. At the end of the day, you need to know how to integrate your own service delivery model with the deliverables from service providers outside of their own firewall. This is where tangible improvements like self-service options and improved availability come into play.

Optimize

The final key component of successful hybrid cloud implementation is ongoing optimization. Organizations (and/or their service providers) must proactively look for cost savings; ensure they are adhering to current and upcoming regulatory compliance requirements; find ways to increase efficiencies, and continuously modernize their applications.
Keep in mind that hybrid cloud transformation is almost always an evolving process. Most businesses start by migrating a small number of applications. Then, after taking the time to assess the project and incorporate lessons learned, they repeat the process to transform additional applications.

Our framework can be used to push through one application bundle at a time and repeated as needed in Agile development, or to work across a broader, end-to-end process in a more traditional “waterfall” development process. But either way, it’s an ongoing process — not a one-time lift-and-shift.

HYBRID CLOUD IN PRACTICE

To further illustrate the Rackspace IT transformation framework in the context of hybrid cloud implementation, here’s a real-world customer case study: A global enterprise wanted to unify and centralize its infrastructure and decrease its time-to-deploy from months to days. At the same time, it needed to standardize the user experience, which was previously inconsistent, and automate as many processes as possible.

The company faced several significant challenges. First, it relied heavily on Oracle RAC, which has difficulty integrating with AWS services. It also needed a governance framework that included PCI compliance orchestration and regulatory governance in multiple locations.

During the assessment phase, it became clear that the company’s existing IT infrastructure needed significant changes. The environment couldn’t scale to meet requirements, wasn’t sufficiently automatable and was failing to meet governance and compliance needs. Any solution would have to address these issues while also integrating the existing physical Oracle RAC database.

Following the assessment phase, the company decided, with the help of Rackspace, to design and implement a highly available multi-region hybrid solution that incorporated both AWS and physical Oracle RAC, while also ensuring PCI compliance and general data security. It was critical to ensure that the new hybrid IT environments were compliant from the very beginning, rather than attempting to modify the infrastructure to achieve compliance after the fact.

Additionally, the design included compliance documentation identifying ownership and accountability for every component of the hybrid IT environment. Not only did this offer superior dependability, but it also made it easier to deploy new applications quickly without worrying about compliance regulations. Finally, to further support the company’s security needs, the hybrid IT design featured centralized monitoring and backup, as well as an ITIL-based service portal for incident tracking and governance.

Ultimately, the company’s successful hybrid cloud implementation — enabled by the Rackspace IT transformation framework — enabled it to consolidate and modernize its infrastructure and reduce costs while meeting its complex compliance requirements across the board.

CONCLUSION

In today’s complex, multi-cloud world, every company from small businesses to international enterprises needs to understand the utility and value that hybrid IT has to offer. While there are a number of different approaches for implementing a hybrid cloud architecture, the Rackspace IT transformation framework (plan, assess, design, migrate, manage and optimize) offers a proven, systematic approach to help companies get the most out of their technology investments. With careful planning — and access to the right cloud expertise both internally and through trusted service providers — hybrid IT adoption can provide a major competitive edge for companies in every sector.

Sources:
ABOUT RACKSPACE

Rackspace is the #1 provider of IT as a service, in today’s multi-cloud world. We deliver certified expertise and integrated managed services across public and private clouds, managed hosting and enterprise applications. Because Rackspace partners with the leading technology providers, including Alibaba®, AWS, Google, Microsoft®, OpenStack®, Oracle®, SAP® and VMware®, we are uniquely positioned to provide unbiased advice on the technologies that will best serve each customer’s specific needs. Rackspace was named a leader in the 2017 Gartner Magic Quadrant for Public Cloud Infrastructure Managed Service Providers, Worldwide and has been honored by Fortune, Glassdoor and others as one of the best places to work. Based in San Antonio, Texas, Rackspace serves more than 150,000 business customers, including a majority of the Fortune 100, from data centers on five continents.

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