Achieving Digital Transformation in the Hybrid-Cloud with Cisco Integrated System for Microsoft Azure Stack

As more of the world begins to experience the digital transformation, the need to be highly competitive has driven organizations to look to new ways to drive innovation while delivering anytime, anywhere, any device applications. The use of the cloud is an obvious choice to increase business flexibility and productivity, but many internal IT organizations require full visibility and control over the environment. In order to properly design, develop, deploy, update, secure, and service their critical workloads, internal IT requires simplified management and control – something the public cloud doesn't always provide in the manner required.

As an organization undergoes the assumed growth and innovative change associated with the digital transformation, the environment chosen to host the very future of the organization's success needs to be efficient, elastic, and scale in a way that maintains its ability to accelerate the business while IT retains the same level of security and control.

So, how can organizations gain the benefits of the cloud while still having on-premise levels of control?

The answer is *Hybrid Cloud*, which empowers businesses to deliver a highly-available cloud environment utilizing on-premises infrastructure where cloud adoption and application development can be accomplished in the way that best meets the needs of the organization. With 73% of organizations having some kind of hybrid cloud strategy[1], the evident value of leveraging a hybrid cloud has gone mainstream, presenting the next step of deciding how to best take advantage of it.

No better example of hybrid cloud can be found than that of *Microsoft Azure Stack*. Azure Stack extends the powerful Azure cloud to on-premises

[1] IDC, *CloudView Survey* (2016)

infrastructure, empowering organizations to flexibly and consistently innovate, develop, and deploy within a hybrid cloud.

But even with a platform as robust as Azure Stack, the on-premises half of the hybrid cloud requires the right infrastructure to succeed. Many organizations look to utilize the least expensive hardware that meets the minimum technical specifications from Microsoft, limiting performance, scalability, and flexibility as the organization's needs change over time.

What's truly required, though, is an on-premises infrastructure designed for hybrid cloud.

Today's transformed businesses need an on-premises infrastructure that aligns with the promise of hybrid cloud. More than just a bunch of servers and scalable storage, your hybrid cloud infrastructure should be built from the ground up cloud ready – optimized for performance, unified management, programmability, scalability, and automation. With only 3% of organizations at an optimized level of cloud maturity[1], most organizations simply aren't prepared for the shift to the hybrid cloud.

Then, how can organizations take advantage of Azure Stack and the hybrid cloud ?

The answer lies in the partnership between Cisco and Microsoft that's dedicated to a tightly integrated and innovative hybrid cloud solution – *Cisco Integrated System for Microsoft Azure Stack.*

Cisco Integrated System for Microsoft Azure Stack

This industry-leading hybrid cloud solution makes good on the promise of the hybrid cloud, putting the power of Microsoft Azure into your on-premises data center. Specifically designed for use with Microsoft Azure, this solution provides businesses with the agility of Azure, with the needed performance, security, and governance organizations expect when on-premises.

The solution combines high-performance networking and virtualization, leveraging the Cisco Unified Computing System (UCS), policy-based management, API-enabled automation, and hardware abstraction – all in an effort to achieve accelerated development and delivery of hybrid cloud workloads.

Purpose-built for the cloud, Cisco UCS provides organizations with agility and flexibility of the cloud, but with the visibility and control required for on-premises.

As your organization looks to achieve accelerated business growth by leveraging the hybrid cloud, several critical criteria should come to mind that highlight the value of Cisco Integrated System for Microsoft Azure Stack:

- ✓ Simplified Management
- ✓ Accelerated Performance
- ✓ Service Availability
- ✓ Ease of Scalability

Whether your role in the organization is a technical or business decision maker, you'll recognize the need for these criteria to be addressed by a hybrid cloud solution that actually delivers. Let's look at each criterion and see how Cisco Integrates System for Microsoft Azure Stack stacks up.

Simplified Management

The thought of managing a hybrid cloud infrastructure – especially one that changes over time as the business needs evolve – can be a daunting task. The varying implementations of compute, storage, networking, and virtualization can make any IT organization become concerned about the amount of time

needed to configure, secure, deploy, and support such a potentially complex environment. With conventional server architectures existing in silos – requiring separated hardware, multiple consoles, and complex integration strategies – the level of difficulty only increases over time, with the cost of managing the hybrid cloud potentially skyrocketing.

In contrast, the management of Cisco Integrated System for Microsoft Azure Stack is simplified because it is built on UCS. Using centrally defined policies and profiles, as well as a single point of management (Cisco's UCS Manager), time to perform infrastructure management is dramatically reduced – deployment time is reduced by 84% and management by 68%[2]. Working across domains and disparate geographies, Cisco's policy-driven management drives consistency across the entire infrastructure and throughout the DevOps process, resulting in a 38% reduction in ongoing management costs (as compared to conventional server infrastructure)[2].

Accelerated Performance

The definition of whether an application is performing or not is determined by every piece of infrastructure that lies between the read of some bit of data from a disk, all the way to its delivery on an endpoint. With best of breed hardware, the components themselves may perform to needed standards, but this kind of infrastructure working as a whole may be an entirely different story. The challenge of both monitoring and managing performance is greatly exacerbated, consistency across hardware is difficult to maintain, and requires disparate infrastructure skills across multiple vendors.

All the hardware and software in Cisco Integrated System for Microsoft Azure come from Cisco, designed for virtualized workloads, with all integration points centrally managed by the Cisco UCS Manager. For example, should a node fail and need replacing, the new server is inserted to the rack and the system automatically discovers this node and applies the Azure Stack service profile.

[2] IDC, *The Business Value of Cisco UCS Integrated Infrastructure Solutions* (2016)

This profile enables the server to have the Azure Stack files loaded and the node integrated in to the Scale Unit thus dramatically reducing the downtime such a replacement can cause.

This type of innovation allows Cisco to drive improved uptime and performance, while leveraging key features such as 40 GbE end to end ethernet and NVMe. Cisco is the only vendor to make these features not only available but also standard across the Cisco offerings.

Service Availability

One of the major reasons to go to the cloud is for the availability it provides. So, choosing to utilize a hybrid cloud can raise questions around whether the on-premises half is going to be as beneficial as a public cloud offers. Issues around latency, connectivity, and a lack of redundancy in the design can all contribute to meeting needed service level agreements.
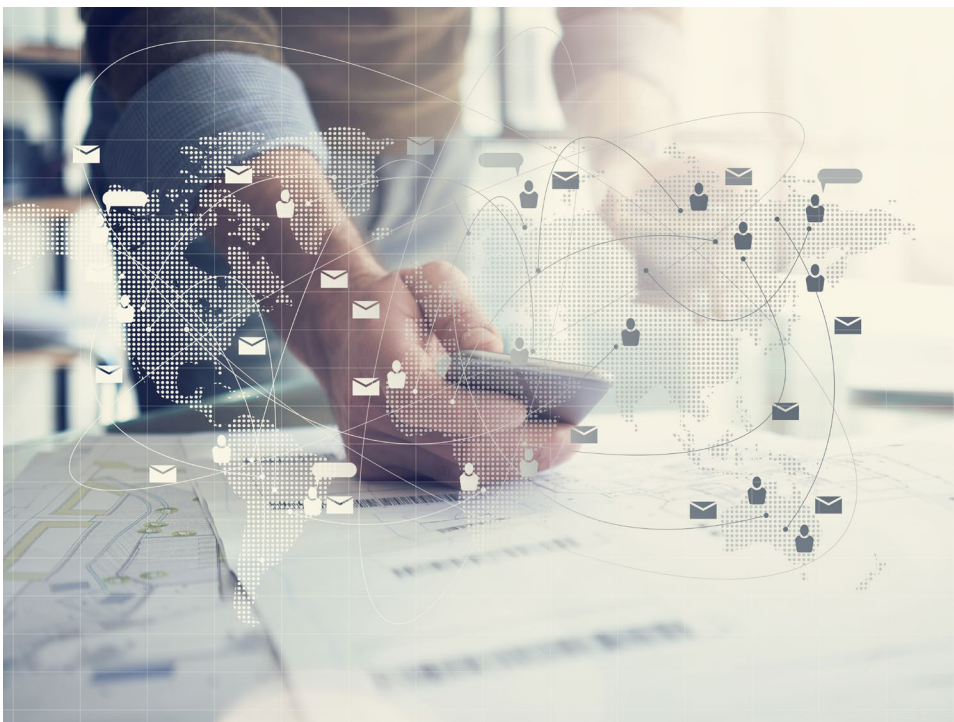
Designed for cloud-ready applications, the Cisco UCS infrastructure provides the highest levels of service availability, yielding a 96% reduction in IT staff time required for server downtime.[2]

Ease of Scalability

The challenge of scaling in the hybrid cloud is a multi-faceted problem. It's not as simple as, say, just needing additional storage on one array. Scaling an application on traditional infrastructure may involve multiple arrays and servers across multiple geographies, requiring the involvement of different teams.

Cisco sees scaling in a different way. With its unified system approach, every element of the system is software-defined, making scaling the resources needed for a given application an easy task. And with its modular architecture built with forward & backward compatibility in mind, evolving your physical footprint is far simpler than traditional scaling up or out.

The Hybrid Cloud: Your Path to Achieving Business Growth

The growth of your business during the digital transformation is dependent upon how quickly and how well you can execute. From an idea in development, to proof of concept, to deployment in production, your use of the hybrid cloud can accelerate your time to market, improve customer satisfaction, and increase profitability.

Using a hybrid cloud solution from Cisco and Microsoft means your hybrid cloud is designed and supported by proven innovators and trusted technology partners that are the market leaders in hybrid cloud infrastructures. By leveraging the Cisco Integrated System for Microsoft Azure, you will reduce operational complexity and improve end-to-end performance, while ensuring the availability and scalability of your workloads as you make the jump into the hybrid cloud. ●