Building Next Generation Infrastructure

KPIT Technologies

Industry
Global IT & Engineering Products and Services Organisation

Location
India

City, State/Province
Pune, Maharashtra

"We engaged with Cisco because of their unique ability to deliver a simple, adaptable and cloud scale solution with HyperFlex Systems for workloads like VSI and VDI. Cisco's vision of preventing silos by integrating this infrastructure with their best of breed technologies like the Enterprise Cloud Suite including Cloud Center and Application Centric Infrastructure also impacted our decision to partner with Cisco."

Mandar Marulkar
Chief Information Officer

"Of all the solutions in the market, Cisco's HyperFlex Systems offered the best value proposition, which gave me and the team a lot of confidence to deploy workloads like VDI. The real secret lies in the HX Data Platform, a log structured distributed file system that differentiates HyperFlex from others in the industry."

Suresh Patare
Sr. Practice Manager – Data Center

"I was amazed at how simple it was to deploy Cisco's HyperFlex System. As with past implementations –the deployment was absolutely simple despite having to meet out of the box network requirements. For the first time, we have a solution that does not depend on the network implementation, administration and operations team during and post commissioning."

Akshay Deshpande
Sr. Practice Manager – Availability and Performance

The prevailing economic environment requires enterprises to ensure that their IT infrastructure keeps pace with the speed of business and has the capability to efficiently handle increase in workloads. But existing enterprise infrastructure often lacks the agility required to match business demands and underscores the need for a rethink in infrastructure strategy.

KPIT is a global technology company that specializes in providing IT Consulting and Product Engineering solutions and services to key focus industries - Automotive and Transportation, Consumer and Industrial Goods, Energy and Resources, High Tech, Life Sciences, and Utilities. They wanted to build next generation infrastructure to handle its development and test workloads. To achieve this, KPIT needed to re-evaluate its existing IT infrastructure strategy and transition to a Hyperconverged architecture model.

The Challenge

KPIT is a massive Cisco Data Center and UCS customer ever since it was launched and has more than 2500 cores and 50TB of memory already in production. It was one of the first adopters of the vBlock and has been running mission and business critical workloads on Cisco's integrated infrastructure for more than five years now. KPIT is one of the first customers to deploy Cisco's Application Centric Infrastructure in its production set up and has reaped both business and technology benefits.

KPIT's IT team has always been at the forefront of building an infrastructure that responds better to business demands and new age workloads. KPIT wanted to augment its Virtual Desktop Infrastructure (VDI) and Virtual Server Infrastructure (VSI) and called upon the Cisco team to share their thoughts on helping build the Next Generation DC Infrastructure. Since KPIT has adopted the hybrid cloud model, they were keen on building an infrastructure that offered them the cloud scale economies on premise.

Cisco engaged with KPIT early through the sales cycle and conducted due diligence to list the details of the workloads. Post a comprehensive evaluation of the existing infrastructure, Cisco proposed a Hyperconverged architecture with Cisco HyperFlex Systems, specifically for these workloads. The objective was to build a next generation platform and ensure that the existing resources in the Converged Infrastructure solution could be used for existing or other IT as well as business production applications thereby providing complete investment protection.

The Cisco Solution

Cisco worked with KPIT and deployed Cisco HyperFlex Systems to deliver on three main asks:
· Simplicity and integration with existing tools and processes
· Easy scaling and the right mix of capacity and performance for applications
· Support for virtual machines and VDI as well as a system with the ability to support a world of containers and microservices

KPIT evaluated other Hyperconverged architectures available on various parameters like management, ease of network configurations, integration with the existing network and administration, robustness of the file system and its capability to leverage existing UCS deployment and integrate with various cloud management and network automation tools like Cisco's Enterprise Cloud Suite and Application Centric Infrastructure respectively. KPIT wanted to engage with a partner based on product features and whether the overall architecture aligned with KPIT's vision.

The first-generation Hyperconverged systems achieved simplicity. However, they cut time to market through design trade-offs and architectural shortcuts, creating several challenges — manual networking compromising simplicity of deployment and system expansion; inflexible scalability; performance tradeoffs; narrow application support; and siloed infrastructure landscape. For Hyperconverged Infrastructure (HCI) to become mainstream and provide lasting value, it is essential to close these gaps and deliver HCI as part of a comprehensive architecture.

More Agile Infrastructure

Highly Efficient and Scalable
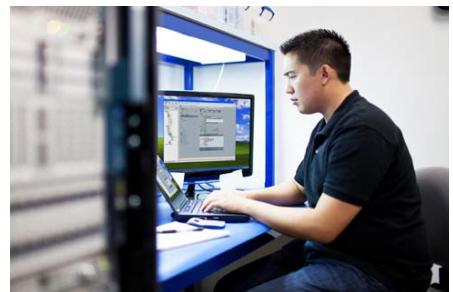
Adaptable and Simple Operations

The Business Benefits

Cisco HyperFlex Systems delivered an agile, efficient, and adaptable solution to KPIT. The solution was suitable for hosting environments such as virtual desktops, server virtualization deployments, and test and development environments, which was the current requirement at KPIT.

Agility

Cisco HyperFlex provided enhanced agility with automated bare metal and virtualized infrastructure set-up, install and configuration; automated networking and server configuration as well as distributed storage cluster. It also provided a single, easy to use interface that simplified daily operations; no new consoles were required and the solution integrated with existing tools for simplicity and ease of management. It provided secure application containers for VMs, bare metal and dynamic network deployments, and UCS Director support for application containers with one or more fenced networks and VMs/BMs. The Cisco solution also enabled a common infrastructure control plane, centralized monitoring and integration with third party tools, as well as an API for servers, networking with centralized logs, and error reporting in existing tools.

Efficiency

Other HCI solutions in the market do not offer a cloud-like resource expansion/contraction. Cisco's HyperFlex System provided a simple automated expansion at the cluster level on a subscription pricing model. This included one-button expansion at the cluster level, auto-discovery of infrastructure elements and subscription pricing per server.

Cisco's solution helped KPIT to manage remote infrastructure as a single, unified system, enabling simplified global management using domains and service profiles.

By using Cisco's solution, KPIT has avoided infrastructure and management silos created by new interfaces. With Cisco's solution, KPIT was able to orchestrate traditional, converged, HCI and composable infrastructure across vendor and third party infrastructure through a single interface. By integrating with the UCS Director, Cisco HyperFlex System allowed KPIT to move to an Infrastructure-as-a-Service (IaaS) model while also orchestrating Cisco and third party infrastructure. Cisco HyperFlex provided programmable networking with consistent workflows and integrations with a broad partner ecosystem for UCS and ACI through UCS Director.

Adaptable

With Cisco HyperFlex Systems, KPIT was able to achieve linearly independent CPU and storage scaling using different server types as well as both scale-up and out integration; the existing solution was limited to scale-out deployments. With Cisco's HX Data Platform, KPIT has the ability to independently scale resources on demand. It also allows KPIT to leverage existing UCS blade deployment to scale compute resources independently, which is not offered by first-generation HCI players. In addition, the solution was adapted to support KPIT's wide range of applications and use cases. The architecture also helped KPIT overcome the performance overhead of SDS and virtual fabric to support more workloads by capitalizing on the performance advantages of the UCS fabric architecture.

In summary, KPIT realized the benefits of a complete end-to-end solution. Cisco HyperFlex Systems delivered a new generation of more flexible, scalable, enterprise-class hyperconverged infrastructure solutions.

Products and services

· Cisco HyperFlex™ Systems
· Cisco UCS®

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