Simplify Your Virtual Server Deployments and Improve IT Agility

ıı|ıı|ıı
CISCO™

With Cisco HyperFlex Systems

Highlights

Simplify Virtual Server Infrastructure Deployments
- Deploy preintegrated clusters that are fast to deploy, simple to manage, and easy to scale.

Centralize Virtual Server and Storage Management
- Gain full control over your computing, network, and storage resources used in your VMware vSphere environments deployed on Cisco HyperFlex™ Systems and other servers, all from a single VMware vCenter interface.

Instantly Provision and Clone Virtual Machines
- Let your VMware vSphere administrators use familiar tools to instantly provision, clone, and take snapshots of virtual machines.

Benefit from Always-On Storage Optimization and Monitoring
- Take advantage of always-on inline compression, deduplication, and monitoring for optimal resource use and greater visibility and control.

Deliver High Performance
- Eliminate performance bottlenecks with a system that securely distributes and optimizes data across scalable servers and storage tiers to achieve high I/O performance.

Companies are turning to Cisco HyperFlex™ Systems to simplify the operation and management of their virtual server infrastructure.

(intel)
XEON
inside™

Cisco UCS with Intel Xeon Processors

Server virtualization is an important strategy for optimizing the data center. Yet many IT managers recognize that traditional approaches to IT infrastructure and virtual server implementation have left the data center burdened by a sprawling and complex set of virtual machines and storage systems that are difficult to scale, optimize, and manage on a daily basis. Cisco HyperFlex Systems offer the rapid deployment, flexible scaling, and unified management you need to simplify your virtual server deployments based on VMware solutions and improve IT agility.

Hyperconvergence Makes It Possible

Cisco HyperFlex Systems, powered by Intel® Xeon® processors, combine computing, storage, and networking into a simplified, easy-to-use platform. These systems bring the pay-as-you-grow economics of public clouds to on-premises IT infrastructure so you can gain new levels of agility, efficiency, and adaptability. With an integrated network fabric, powerful data optimization, unified server, VMware vSphere hypervisor, and storage management, Cisco HyperFlex Systems bring the full potential of hyperconvergence to your virtual server deployments. These solutions are fast to deploy, simple to manage, and easy to scale. They arrive ready to provide you with a pool of infrastructure resources to power your virtual machines and applications as your business needs dictate.

Easy and Rapid Deployment

If you need to improve the agility of your IT organization, simplifying the deployment and operation of your virtual server infrastructure can help. Cisco HyperFlex Systems are delivered as a preintegrated cluster that is up and running in an hour or less. Integrated management detects any component plugged into the system, making the system self-aware and self-integrating, helping it adapt quickly to changes in

hardware configuration. You can move a node from the loading dock and add it to your cluster simply by plugging in network and power cables—no manual node configuration is required. Cisco Unified Computing System™ (Cisco UCS®) service profiles prepare the node's identity, configuration, and connectivity characteristics, increasing efficiency and security and reducing deployment time. You no longer need to configure and manage logical unit numbers (LUNs) and volumes, and the system delivers consistent performance that reduces daily management challenges.

Centralize Virtual Server and Storage Management

In traditional virtual server deployments, you manage your virtual servers and storage systems independently. That can make it controlling your resources difficult. Cisco HyperFlex Systems remove these management silos, allowing you to view, manage, and optimize your vSphere environments deployed on Cisco HyperFlex Systems and other servers as well as your related storage systems all from a single VMware vCenter interface. Your IT staff can extend their virtualization skills to storage management and get better visibility into and control over your computing, network, and storage resources from a single console, improving IT operations.

Instantly Deploy and Clone Virtual Machines

Cisco HyperFlex Systems offload operations to the VMware vSphere vStorage API for Array Integration (VAAI) and integrate with the native vSphere menu. As a result, your vSphere administrators can use familiar tools and instantly provision, clone, and take snapshots of virtual machines for deployment, backup, and disaster-recovery tasks.

Independent Scaling

Cisco HyperFlex Systems let you independently scale computing and storage resources. You can easily scale computing capacity by adding blade servers or increase storage capacity by adding drives to existing converged nodes depending on the needs of your applications. Data is automatically rebalanced across the cluster. There is no need for long-term storage acquisition planning or complex processes between your vSphere and storage administrators.

Always-On Storage Optimization and Monitoring

When you use multiple management tools, it's difficult to balance server and storage resources and keep track of configuration options. In Cisco HyperFlex Systems, native inline deduplication and compression are always on to help ensure that your

storage resources are used optimally without adversely affecting virtual machine performance. Monitoring and analysis tools are visible from the same dashboard, simplifying your management tool chain and giving you confidence that your IT staff are aware of how your infrastructure is performing.

Performance

Some virtual server infrastructure implementations are limited in their capacity and performance. In Cisco HyperFlex Systems, data is securely distributed and optimized across scalable servers and storage tiers in the cluster, reducing performance bottlenecks to achieve high I/O performance. To validate this strategy, Cisco tested an 8-node cluster using Iometer, a tool that tests the performance of disk storage under load conditions. In a four-virtual CPU (vCPU) configuration with 8 GB of RAM and 20 GB of storage capacity, the system performed 1,018,194 I/O operations per second (IOPS) with an average latency of 2.51 milliseconds (ms) for throughput of 4170 Mbps.

For More Information

For more information about Cisco Hyperconverged Infrastructure solutions, visit http://www.cisco.com/go/hyperflex.

ıllıılıı
CISCO™