Nimble Storage SmartStack for Desktop and Server Virtualization with Cisco and VMware

A pre-validated reference architecture for unifying desktop and server virtualization workloads in a single converged infrastructure stack

Business critical applications such as Microsoft SQL Server, Exchange, and SharePoint are a must-have for productivity, but care needs to be exercised in selecting the right storage infrastructure for hosting these applications in a virtualized environment. Additionally, businesses are increasingly turning to desktop virtualization as they are forced to re-evaluate how they manage end-point devices, secure data and enable workplace mobility, but struggle to deliver the storage performance expected by end users. Due to the differing characteristics and performance requirements of business critical applications and virtual desktop infrastructure (VDI), enterprises are forced to create and manage infrastructures in silos. Provisioning these separate silos increases capital expenditures and the administrative burden in managing increasingly complex infrastructure ultimately leads to increased operational expenditures as well.

Accelerate Virtualization and Eliminate Silos

Nimble Storage SmartStack™ for Desktop and Server Virtualization with Cisco® and VMware enables your IT organization to:

- Reduce cost and simplify management with infrastructure consolidation
- Achieve aggressive price/performance ratios
- Deliver higher levels of application availability and uptime
- Speed deployment and reduce risk

This pre-validated solution leverages Cisco Unified Computing System™ (UCS), VMware vSphere™, and VMware Horizon View™ technology to eliminate the guesswork involved in planning, sizing, and provisioning infrastructure for desktop and server virtualization. The prescriptive design for deployments supporting up to 500 virtual desktops as well as 500 users of MS Exchange, SharePoint, and SQL Server databases in a highly available environment includes:
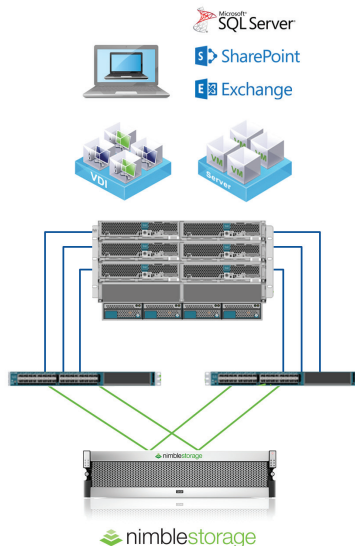
Storage
- Nimble Storage CS-Series Array

Compute
- Six Cisco UCS Blade Servers
- Two Cisco UCS Fabric Interconnects

Virtualization
- VMware vSphere
- VMware Horizon View

Applications
- Microsoft Exchange
- Microsoft SQL Server
- Microsoft SharePoint

Nimble Storage for Desktop and Server Virtualization

Nimble Storage delivers a powerful platform for both desktop and server virtualization with VMware.

Nimble Storage systems provide:

- **Superior Price/Performance:** Get optimal storage performance that adapts to the demands of the most critical virtualization workloads.
- **Enhanced Protection and Availability:** Enable frequent and fast backup, simplified recovery, and affordable disaster recovery.
- **Simplified Deployment:** Speed up deployments with efficient VMware integration, and scale performance and capacity as your user base grows.

Do More With Less

By leveraging Nimble Storage SmartStack for Desktop and Server Virtualization, IT organizations can also take advantage of:

- **Greater Consolidation:** VMware's virtualization management solutions free up IT organizations from the rigors of virtual machine creation and inefficient deployments by centralizing the efficient provisioning of virtual desktops and servers. This functionality complements Nimble Storage's use of high capacity disks and inline compression to accommodate more users in a 3U appliance, as well as the dense compute and I/O capabilities of the Cisco UCS blade servers, allowing for hundreds of users per server. IT organizations can see 30 to 75 percent reduction in their data footprint and as much as 50 percent reduction in the physical foot print compared to traditional solutions, with no end user impact.

- **High Performance:** Nimble Storage arrays with Cisco UCS servers deliver the adaptive performance to handle rich desktop and server virtualization functionality, in a compact 3U rack space footprint. This, along with VMware's virtualization platforms allow IT to maintain a positive user experience through heavy application use and periods such as boot/login storms, patch operations and upgrades.

- **Simplified Operation:** VMware vSphere API integration and the vCenter plug-in help streamline deployments, monitoring, and management.

- **Enhanced Protection:** Nimble's native snapshot technology enables frequent, fast data protection, and simplified recovery. In addition, Nimble's replication capabilities can efficiently send data to a remote location for disaster recovery, and are integrated with VMWare's Site Recovery Manager for complete workflow automation.

- **High Availability:** Cisco UCS and Nimble Storage arrays both incorporate redundant components, with no single point of failure, along with proactive monitoring and reporting. The result is less end-user and/or application disruption, which means fewer calls to the helpdesk.

Scalable Infrastructure that Grows with Your Business

By adopting a modular building block approach of integrating compute, fabric, storage, and virtualization into a single architecture, IT organizations can start small and independently scale horizontally or vertically to large deployments, supporting thousands of virtual desktops and hundreds of virtual servers as needs grow.

Nimble Storage's scale-to-fit functionality lets IT independently and non-disruptively grow storage performance and capacity by upgrading controllers, increasing cache, and by adding additional capacity. Cisco UCS scales by adding blade servers, taking advantage of its stateless computing model based on UCS service profiles for rapid server provisioning, and a scalable IO architecture.

The Bottom Line

As partners, Cisco, VMware, and Nimble Storage have created a prescriptive solution for both desktop virtualization and virtualized business-critical applications in a single converged infrastructure stack that is cost effective, simple to manage, and easy to scale. This prescriptive solution takes the guesswork out of planning and deployment, helping organizations accelerate their virtualization journey. For more information, visit www.nimblestorage.com/solutions or contact an authorized reseller.

Engineered for Efficiency

Nimble Storage systems are built on the patented Cache Accelerated Sequential Layout (CASL™) architecture, a hybrid data layout engineered to use the best of flash and disk storage.

With Nimble Storage you get:

- Accelerated performance for higher throughput/IOPS and sub-millisecond latencies

- Higher storage efficiency—reduce storage footprint by 30 to 75 percent

- Non-disruptive scaling to fit changing application needs through increased performance, capacity, or both

- Maximized data and storage availability with integrated data protection and disaster recovery

- Simplified storage management and reduced day-to-day operational overhead

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