HP Converged Storage

Delivering a Virtualized Foundation for VMware Cloud Infrastructure

Overview

For some organizations, virtualization provides a starting point for migrating to a hybrid cloud environment that can improve their ability to dynamically respond to new opportunities. However, virtualization and cloud computing require new technologies built to flex with the demands of unpredictable workloads. To deliver a storage infrastructure designed for virtualization and cloud computing, HP and VMware have jointly optimized HP Converged Storage with VMware's cloud infrastructure suite.

HP Converged Storage fundamentally changes how data is accessed by integrating scale-out storage software with converged server and storage hardware platforms. Advanced management tools that orchestrate across servers, storage, and networks help speed IT service delivery. As a result, clients can deploy and scale storage 41 percent faster[1] while reducing administration time by up to 90 percent[2].

Only through integration between VMware and HP Converged Storage can clients deploy VMware vSphere®-based servers in the same physical blade infrastructure as shared storage, delivering greater density and lower power footprint. Converged management of servers and storage will enable VMware administrators to easily manage all resources and achieve lower operational expense.

HP has also developed mission-critical business continuity innovations with VMware that deliver end-to-end Quality of Service (QoS) from VMware Virtual Machines (VMs) to the disk subsystem.

Enhanced business continuity and application availability

Whether it's a virtualized remote office or a global cloud service provider, the integration of HP Converged Storage with VMware's cloud infrastructure suite will deliver enhanced business continuity and application availability for all clients. This includes:

— Reducing business risk with HP SAN portfolio Replication Adapters for VMware vCenter™ Site Recovery Manager 5 to automate the recovery of virtualized applications in the event of a disaster.

— Ensuring continued data access at a cost 50 percent lower than competitive offerings using multi-site SAN capabilities within [HP P4000 LeftHand Storage Systems](). This pioneering capability, coupled with VMware enhances resiliency and certify best practices for deploying fault tolerant solutions across multiple sites.

— Planning HP reference configurations for virtualizing Microsoft Exchange and SAP applications with VMware vSphere 5 will deliver optimized storage for popular application environments. These configurations, based on industry best practices, allow clients to accelerate deployment by taking the guesswork out of sizing and performance for infrastructure resources.

Increased performance and efficiency
In response to unpredictable cloud workloads, HP will boost performance and efficiency of storage , while reducing the total cost of ownership, by:

— Improving capacity utilization and performance of certain VMware functions by over 90 percent via support for VMware vSphere 5 and new VMware vSphere Storage API for Array Integration capabilities.[3]

— Increasing capacity savings by up to 50 percent and accelerated VM provisioning with the [HP 3PAR Utility Storage]() Thin Built In™ ASIC's zero-detect algorithm. This feature runs as a hardware service to achieve maximum performance and extends the value of VMware storage API integrations by non-disruptively reclaiming space from deleted VMs. [4]

Simplified orchestration of resources across the virtual stack
New management capabilities resulting from the integration of HP Converged Storage with the VMware cloud infrastructure suite, will extend quality of service from VMs to the storage layer, enabling clients to:

— Reduce the expense and complexity of managing storage resources from within VMware vCenter Server with a single [HP Insight Control]() plug-in that spans servers, storage and networking. This includes integration of HP storage with VMware vSphere Storage Awareness and Discovery APIs, enabling VMware administrators to view detailed information about storage resources.

— Reduce costs by consolidating both mission-critical and general purpose applications on the same server and storage hardware with the upgraded HP P9000 Application Performance Extender (APEX). This capability allows customers to assign specific service level targets

to VMs and prioritize all storage system resources to meet them.

(1) "2010 Scale-Out Storage Survey," ESG Research.
(2) Based on documented client results that are subject to unique business conditions, client IT environment, HP products deployed and other factors. These results may not be typical; results may vary.
(3) vStorage API for Array integration performance characterization for Block zero offload and Hardware Assisted Locking.
(4) 50 percent capacity savings based on survey of HP 3PAR clients' use of Thin Built-In capabilities.