

HP and VMware: Bringing Agility to Business-Critical Applications

AT A GLANCE

The high cost and complexity of maintaining and scaling business-critical IT solutions are draining budgets and slowing innovation for many companies. VMware and HP offer proven, virtualized solutions for business applications, such as SAP, that can dramatically simplify IT and reduce both capital and operating costs. With a more agile IT foundation and resources freed up for innovation, companies of all sizes can adapt faster and more efficiently to changing business requirements.

By virtualizing your business-critical applications with HP and VMware, you can:

- **Simplify your IT environment** using solutions that are scalable, reliable, and sized right for your business.
- **Reduce TCO by 40 to 80 percent¹**, while providing a better foundation for growth.
- **Increase uptime** with fast, cost-effective High Availability (HA) and Disaster Recovery (DR) for all applications.
- **Improve business agility** by provisioning in minutes rather than weeks and providing self-service provisioning for business units.
- **Scale dynamically and almost without limit** with new support for up to 32 vCPUs and 1 TB of memory per virtual machine (a 4X increase).
- **Increase operational efficiency** by automating infrastructure management.
- **Enjoy one-contact sales and support** for end-to-end solutions from HP.
- **Over 50 HP systems planned for certification** with VMware's new Cloud Infrastructure capabilities.

The Challenges of Traditional Infrastructure

In today's world, core business operations are only as efficient and reliable as the underlying IT infrastructure. Yet, traditional "siloed" deployment models for business-critical applications have left many businesses with complex solution architectures, underutilized systems, and high operating costs. For example, siloed models often lead to inconsistent approaches in matching data center resources to demands for hardware availability, fault tolerance and disaster recovery.

As a result, roughly 70 percent of a typical IT budget is focused on maintaining the status quo. Few funds are left over to drive growth and innovation and to address the increasing number of remote users and rising security concerns. To solve these challenges, customers need infrastructure solutions they can deploy, scale, adapt, and manage more easily at lower cost.

HP and VMware "Always-On" Solutions

With virtualization you can standardize across all business applications. Combined with powerful, fully virtualized HP servers and storage, to replace slow, aging hardware infrastructure; static application islands can be eliminated. This results in a more consolidated, resilient and manageable foundation for business critical applications.

HP and VMware have worked closely together to develop comprehensive, tightly integrated infrastructure solutions for business-critical applications such as SAP.

With HP Server, Storage and Networking solutions, customers can extend the benefits of virtualization throughout their data center infrastructure, to further improve resource utilization and overall IT flexibility. HP always-on reference architectures ensures fast, reliable implementation, and HP Technical Services provide a single point of contact for service and advanced, mission-critical support.

"You forget how it was in the old days with physical hardware. The scalability, resilience and cost advantages of VMware software are that huge. What's more, the technology is so reliable we virtualize even our business-critical applications, including SAP software."

— Craig Rinehart, Administrative Director,
ITS/Business Operational Services, Miami-Dade
County Public Schools

WHAT'S NEW WITH VMWARE CLOUD INFRASTRUCTURE?

Massive scalability for the largest applications and databases. Create virtual machines with up to:

- 32 vCPUs
- 1 TB of memory

.... and support up to 1 million IOPS

Improved business continuity with:

- Simplified High Availability (HA) – Setup HA in minutes to protect all applications.
- Enhanced Disaster Recovery – VMware vCenter Site Recovery Manager now includes automated failback to the primary site, plus VMware vSphere Replication for cost-effective, multi-site storage replication.

Take advantage of extensions to the Array Integration API that support thin provisioning. Leverage the new Storage Awareness and Discovery API to interface with arrays when using the new vSphere Storage DRS and Profile-Driven Storage features.

HP provides optimized support for all the above features in the latest HP ProLiant servers and HP Storage systems including HP 3PAR and HP P4000 Storage systems.

DEPLOY WITH CONFIDENCE

VMware and HP are the market leaders in end-to-end virtualization solutions and work closely together to deliver high value with reduced cost and risk. As a result, you benefit by proven reference architectures, integrated support, and comprehensive consulting options through HP Technical Services. With comprehensive solutions and support, you can virtualize your business-critical applications with confidence.

Elastic Scalability And Lower TCO

- Savings of 40 to 80 percent have been documented for customers moving large SAP landscapes onto VMware!
- Handle growth and spikes by deploying new VMs on demand and by adding resources to running VMs without disruption.
- Automate infrastructure management and provision new services in minutes to reduce costs and increase agility.
- Ensure SLAs are always met by using VMware Distributed Resource Scheduler (DRS) to automatically monitor and dynamically optimize the virtual server and storage environment.

Superior Reliability

- Provide automated virtual machine failover with VMware High Availability (HA).
- Add mirrored operation with VMware Fault Tolerance (FT) to eliminate downtime altogether.
- Take advantage of advanced HP P4000 Multi-site SAN to extend VMware HA and FT across metro and multi-site clusters.
- Provide fast, cost-effective, and fully automated disaster recovery with VMware® Site Recovery Manager™, HP 3PAR Recovery Manager Software, and HP Storage Replication Adapters that are optimized for VMware® vSphere™.

A Fully-Converged Platform

Tight integration of hardware, virtualization, and management provides a flexible, cost-effective, and resilient foundation for business-critical applications.

Virtualized Servers And Storage

- The HP C-Class BladeSystem unites compute, storage, network, power, and management to eliminate sprawl and reduce total cost of ownership by up to 56 percent compared with traditional infrastructures.
- HP ProLiant DL servers provide up to 8 processors (80 cores) and 2 TB of memory for consolidating large, virtualized workloads on vertically scalable, enterprise-class servers.
- HP P4000, P6000, HP 3PAR and P9500 Storage systems all deliver advanced storage virtualization, thin provisioning, and simplified management. These storage solutions increase storage utilization, accelerate provisioning, and reduce administration costs while providing a secure foundation for virtualized tier 1 applications.
- HP Storage systems including the P2000, P4000, 3PAR, P9500 and XP support VMware vStorage APIs for Array Integration (VAAI). VAAI improves performance and efficiency by up to 70% across a range of key tasks, by off-loading copying, block zeroing and other functions to the storage array.

- VMware vSphere converts the HP hardware infrastructure into shared resource pools that can be allocated dynamically across all workloads. Complex silos are replaced with a dynamic and flexible infrastructure that dramatically improves utilization and scales easily to support enterprise workloads.
- HP 3PAR Utility Storage, HP c-Class BladeSystem and VMware vSphere have been tested and validated to provide a proven blueprint for highly virtualized utility computing – delivering the level of agility, efficiency and multi-tenancy required for business critical applications.
- HP Virtual Connect FlexFabric and VMware vSphere helps you make the most use of your network. You can assign as much or as little capacity to each connection as you need, Don't strangle your server connection or over-provision your network anymore. Virtual Connect FlexFabric can adjust to meet your VMware environment needs rather than forcing you to adjust yours.
- Pre-assign all of the LANs and SANs that the server pool might ever need—at the same time that you wire the rack and enclosures. As a result, you do not need to engage LAN and SAN administrators for every installation and upgrade.

Integrated Management

- VMware vCenter provides unprecedented visibility and control over business-critical assets. Policy-based management tools let IT “set it and forget it” to improve service levels while greatly reducing cost and effort.
- Tight integration with HP Insight Control and HP Storage Management Software enables centralized management from a single console.
- VMware® vCloud™ Director can be added seamlessly to deliver advanced cloud capabilities. IT organizations can deliver secure, catalog-based services to business units across the enterprise.
- Leverage the new Storage Awareness and Discovery API to interface with HP Storage systems when using the new vSphere Storage DRS and Profile-Driven Storage features.

Proven Value

More than 60 percent of VMware customers have already virtualized one or more of their business critical applicationsⁱⁱ

and are now enjoying the benefits of lower costs and higher agility. Read the following for documented proof points.

TCO and ROI Analysis of SAP Landscapes using VMware Technology

This detailed study documents 40 to 80 percent savings for three customers who moved their business-critical SAP landscapes onto VMware virtualized infrastructure.

Read the complete study at:

http://www.vmware.com/files/pdf/partners/sap/SAP_TCOR-OI_Customers_Final.pdf

Miami-Dade County Public School Success Story

The fourth largest school district in the U.S. has virtualized its entire SAP landscape and most of its other applications. In the process it has reduced provisioning times from 40 hours to less than 2 hours, and achieved a three-year ROI of 116 percent with total savings of more than \$2.6 million.

Read the complete success story at:

http://www.vmware.com/files/pdf/customers/10Q3_MIAMI_DADE.pdf?src=WWW_customers_10Q3_MIAMI_DADE.pdf

Find Out More

Visit the following links to learn more:

- **Virtualizing Business-Critical Applications with VMware**
VMware Web site:

<http://www.vmware.com/solutions/business-critical-apps/index.html>

IDC White Paper:

http://campaign.vmware.com/imgs/campaigns/business_critical_apps/phase2/assets/IDC_WP_Virt-BusCritApps_Critical_Step.pdf

- **Security for mission-critical environments**
(with HP TippingPoint and VMware® vShield™):
<http://h30507.www3.hp.com/t5/HP-Networking/HP-Tipping-Point-amp-VMware-What-s-the-real-deal-for-the-cloud/ba-p/89383>
- **VMware Storage Solutions from HP**
www.hp.com/go/storagevirtualization
- **The HP and VMware Alliance**
<http://www.vmware.com/hp>
<http://www.hp.com/go/vmware>

ⁱ Source: “TCO and ROI Analysis of SAP Landscapes using VMware Technology,” a VMware white paper, 2010.

ⁱⁱ VMware Customer Study: “Business and Financial Benefits of Virtualization,” March, 2011.

