

VMware vSphere with Operations Management on System x

Managed Virtualization for Advanced Enterprise Infrastructure

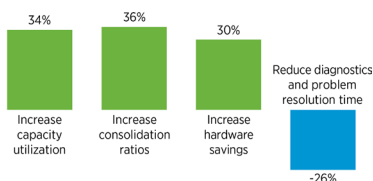
At a glance

VMware vSphere® with Operations Management™ on System x® combines the market-leading and most trusted hardware and software platforms along with best-in-class management capabilities to enable customers to reduce IT complexity and cost and increase agility and performance.

The System x platform features the most advanced innovations available in high-end x86 enterprise servers. Together, the System x server portfolio and vSphere with Operations Management offers an extremely simple, agile and efficient virtualization management solution designed to meet the demands of today's data-intensive, mission-critical workloads.

Virtual infrastructure alone can help reduce IT costs. But when virtual infrastructure is combined with proactive operations management tools, customers can now use a single pane of glass to optimize capacity and monitor workload performance. Compared to vSphere-based virtualized environments, vSphere with Operations Management offers significant advantages including higher infrastructure and application availability, improved resource utilization and staff productivity, and predictive analytics and Smart Alerts for greater visibility and improved Service Level Agreement (SLA) management and compliance.

Benefits of running vSphere with Operations Management
Impact beyond running vSphere alone¹



Benefits of the VMware vSphere with Operations Management on System x solution

VMware vSphere with Operations Management on System x is a pre-tested, managed virtualization infrastructure platform that is easy and fast to deploy—delivering everything customers need to get their mission-critical workloads up and running within minutes for improved performance, immediate visibility into system health, and responsive capacity provisioning for optimal resource utilization and planning.

Users need proactive management that can deliver monitoring, performance and capacity information at a glance as their VMware vSphere® environments continue to grow. The solution delivers a visual and detailed analysis that is easy to understand and view opportunities to optimize by reclaiming unused capacity, rightsizing virtual machines, improving utilization and increasing consolidation ratios. When combined with the benefits of System x X6, with exclusive enterprise X ARCHITECTURE® (EXA) technology, including eXFlash memory-channel storage, an advance that is closing the performance gap in storage input/output, customers are seeing break-through performance at less than half the cost of non-virtualized environments.

- Simplify IT operations at a lower cost:** Workload-optimized systems, predictive analytics, and integrated management enable IT to proactively optimize performance while reducing operational overhead and dramatically simplifying the management of large and geographically distributed IT environments. Centralized management and remote administration enable faster deployment, easier administration and reduced cabling via converged flash technology and one streamlined management console.
- Improve application performance and availability for mission-critical applications and Next Gen workloads:** System x X6 servers, built on Intel® Xeon® processors, speed data-intensive applications and provide faster virtualized performance through better bandwidth and lower latencies. The eXFlash memory-channel storage supports several times more virtual machines per server without degradation of service and is ideal for large databases and highly virtualized systems. Automated load balancing and extended X6 Reliability, Availability, Serviceability (RAS) capabilities ensure availability.
- Better resource utilization, reduced acquisition and operating costs:** Ensure SLA compliance and security with policy-driven capacity allocation. Easily expand and reconfigure compute and storage through the System x X6 innovative modular rack design. Lower operating and acquisition costs through intelligent analytics, flash economics and deep integration of managed virtualization and infrastructure.

Key Features and Components of vSphere with Operations Management on System x X6

- **VMware vSphere® Hypervisor** provides a robust, production-proven, high-performance virtualization layer.
- **VMware vSphere® Flash Read Cache™** dramatically lowers application latency by virtualizing server side flash.
- **VMware vSphere® Big Data Extensions™** support Apache Hadoop workloads on one platform to achieve higher utilization, reliability and agility.
- **VMware vSphere® Scalability** enables configurations to grow 2x from previous limits.
- **VMware vSphere® Low Latency Applications** enables fine-tuning to increase level of customization for best performance possible.
- **VMware vSphere® Data Protection™** provides more efficient backup and restoration.
- **VMware vSphere® Replication** delivers more granular recovery, supporting more appliances for increased scalability enabling automated DR orchestration.
- **VMware vSphere® Thin Provisioning** provides dynamic allocation of shared storage capacity.
- **VMware vSphere® vMotion®** enables live migration of virtual machines between servers with no disruption to business.
- **eXFlash™ DIMM storage:** Up to 12.8 TB of ultra-low latency flash storage and consistent performance that scales with additional modules while keeping latency consistently low.
- **FlashCache Storage Accelerator:** Advanced intelligent-caching software that enables eXFlash memory-channel storage and hard disk drive storage to transparently work together to maximize performance and minimize cost.
- **Modular, fit-for-purpose “book” design:** Configure the server to meet business unique requirements; scale capacity and performance from 4-socket to 8-socket, to deliver twice the performance for growing applications without creating IT sprawl.
- **Predictive Failure Analysis (PFA)** provides up to 48 hours notice that a component may fail. Select models feature PFA on memory, hard disk drives, CPUs, fans, blowers and voltage regulator modules.

What can vSphere with Operations Management on System x do for you?

PAIN POINTS	BENEFITS
Ineffective resource planning and allocation (over or under provisioning) exacerbating capacity problems	<ul style="list-style-type: none"> • Enables 36% higher consolidation ratios by identifying idle VMs, right-sizing over-provisioned VMs, and safely increasing VM density without impacting performance
Lost revenue due to business disruption. Its current practice of using legacy tools for virtual performance is inadequate for averting outages	<ul style="list-style-type: none"> • Predictive analytics and Smart Alerts identify emerging performance issues and guides remediation to automate manual tasks with control cutting diagnostics and resolution time by 26%
Data sets are growing exponentially, storage silos and legacy data management practices are inadequate to quickly deploy and provision applications and services	<ul style="list-style-type: none"> • Achieve faster time-to-value by saving time on configuration, deployment, and provisioning of infrastructure and services. • Thin provisioning provides virtualization-aware automated allocations of shared storage and capacity. • Streamlines application data management across development, QA and production environments
Large business critical workloads need scalable performance and extremely high availability	<ul style="list-style-type: none"> • Supports legacy and new applications (low-latency, Hadoop) that require high resource intensity and run bigger and more powerful VMs
Increasing CapEx and OpEx	<ul style="list-style-type: none"> • Reduced IT management costs • Increase hardware savings by 30% • Flash economics lower TCO

The VMware and Lenovo Advantage

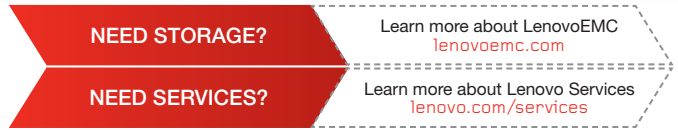
The vSphere with Operations Management on System x solution is a streamlined, agile, and efficient managed virtualization infrastructure platform solution. The integration of VMware virtualization software and advanced virtualization-enabled Lenovo infrastructure allows IT to standardize and consolidate data centers with intelligent, policy-based IT operations and lower TCO. The offering is an enterprise-ready solution that addresses today's data-intensive workloads while preserving flexibility to scale up for tomorrow's changing business requirements.

How to Buy

Lenovo offers the majority of the VMware software portfolio, through its standard distribution and reseller channels. Please contact a Lenovo or VMware business partner for details.

Find Out More

VMware and Lenovo Alliance website: <http://www.vmware.com/partners/global-alliances/lenovo/overview.html>.



1 Management Insight Technologies (2014). The Benefits of VMware's vCenter Operations Management Suite: Quantifying the Incremental Value of the vCenter Operations Management Suite for vSphere Customers.



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IBM x86 products are now products of Lenovo in the U.S. and other countries. Learn more at ibm.com/lenovo-acquisition

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