

VMWARE VIRTUAL SAN ON SYSTEM X SOFTWARE-DEFINED STORAGE SOLUTION

AT A GLANCE

The VMware® Virtual SAN on System x®, powered by Intel, radically simplifies VM storage management and lowers storage TCO. VMware Virtual SAN is a software-defined storage solution integrated with VMware vSphere® that uses the high capacity System x server-side disks and flash to deliver a persistent, scalable, and high-performance storage tier. Storage needs are defined on a per-VM basis through a single-pane-of-glass management interface.

BENEFITS

- Save time: Easy to deploy and manage storage. VM-centric, policy-based management and automation — no more LUNs or Volumes.
- Granular scaling: Add a disk or a System x server to scale up or out with modular simplicity.
- Cut costs: Reduce TCO — CapEx and OpEx — up to 50 percent.¹
- Simplify deployment: Eliminate over-provisioning, while continuously providing the right capacity and performance to meet SLAs.

REDEFINING SOFTWARE-DEFINED STORAGE

The VMware® Virtual SAN™ Software-Defined Storage (SDS) solution — featuring System x® servers built on Intel® Xeon® processors and Intel® Solid-State Drives (Intel® SSDs) — redefines storage for virtual environments.

This solution combines best-in-class offerings from VMware, Lenovo and Intel, enabling customers to radically simplify storage for virtual machines, easily scale and adapt to storage needs automatically, and reduce their total cost of operations in the data center.

SOLUTION BENEFITS

- Save time: Virtual SAN is embedded into the vSphere kernel, making deployment of the software-defined storage solution fast and easy. Virtual SAN significantly simplifies storage administration using VM-centric policies and built-in automation.
- No special skillsets required: If you know vSphere, you know Virtual SAN. Virtual SAN storage provisioning and management can be easily controlled through the vSphere web interface.
- Granular scaling: To scale up more storage, simply add more disks. To scale out overall capacity, just add System x servers, with modular simplicity. Virtual SAN will detect and automatically adapt storage to your VM-centric policies.
- No single-point of failure: Designed for demanding, business-critical virtualized workloads, the solution is built on highly reliable System x servers, with distributed RAID architecture, Predictive Failure Analysis, and light-path diagnostics.
- Better performance: A highly tuned and Intel processor-optimized solution on System x servers offers 46 percent better virtualization workload performance.²
- Reduce TCO: Leverage inexpensive industry-standard storage components instead of proprietary, customized storage hardware. Lower energy costs with a great thermal design. Save time and money through automation and a pay-as-you-grow approach instead of overprovisioning from the start.



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- Enterprise-grade, high-performance SSDs: Intel® SSDs (DC S3700 Series) are known for consistently fast, reliable performance.

KEY FEATURES AND COMPONENTS

SIMPLICITY

Hypervisor-converged and policy-based, Virtual SAN software abstracts System x server-side disks and flash to automatically deploy VM-centric storage to meet your SLAs.

SCALABILITY

Dynamically scalable with a set-it-and-forget-it approach, Virtual SAN non-disruptively maintains the specified storage capacity for your VMs.

PERFORMANCE

Virtual SAN on proven System x servers is the ideal combination for a high-performance enterprise-class software-defined storage solution.

- Embedded in the vSphere kernel, Virtual SAN delivers the shortest I/O data path from disk to virtual machine.
- Running on high-performance, industry-standard System x servers with up to 36 Intel Xeon processor cores, the solution is highly tuned and optimized for virtualized workloads, delivering up to 46 percent better performance.²
- Intel components deliver 2× higher bandwidth^{3,4}, 30 percent lower latency^{3,5}, and powerful processing capacity.
- Flash-accelerated with Intel® SSDs (DC S3700 Series) caching enables high storage throughput.

RELIABILITY

System x servers are designed to support the mission-critical workloads enterprises depend on every day.

- Lenovo offers the most trusted server platforms.⁶
- System x servers are known for reliability and serviceability with the highest uptime in the industry.⁷
- The Intel SSD DC S3700 Series provides end-to-end data and power loss protection.



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SOURCES

1. Taneja Group. (June 2014). Transforming the Datacenter with VMware's Software-defined Data Center vCloud Suite. Hopkinton, MA.
2. Based on Intel Internal Test Report #1310 using SPECjbb*2013 benchmark, July 2013.
3. Software and workloads used in performance tests may have been optimized for performance only on Intel® microprocessors. Performance tests, such as SYSmark* and MobileMark*, are measured using specific computer systems, components, software, operations, and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.
4. Intel measurements of average time for an I/O device read to local system memory under idle conditions. Improvement compares Intel® Xeon® processor E5-2600 product family (230 ns) vs. Intel Xeon processor 5500 series (340 ns). Baseline Configuration: Green City system with two Intel Xeon processor E5520 (2.26GHz, 4C), 12GB memory @ 1333, C-States Disabled, Turbo Disabled, SMT Disabled, Rubicon* PCIe* 2.0 x8. New Configuration: Meridian system with two Intel Xeon processor E5-2665 (C0stepping, 2.4GHz, 8C), 32GB memory @1600 MHz, C-States Enabled, Turbo Enabled. The measurements were taken with a LeCroy* PCIe* protocol analyzer using Intel internal Rubicon (PCIe* 2.0) and Florin (PCIe* 3.0) test cards running under Windows* 2008 R2 w/SP1.
5. 8 GT/s and 128b/130b encoding in PCIe 3.0 specification enables double the interconnect bandwidth over the PCIe 2.0 specification. Source: http://www.pcisig.com/news_room/November_18_2010_Press_Release/.
6. TBR 1Q14 Customer Sat Survey, May 2014.
7. ITIC 2014 Global Server Hardware, Server OS Reliability Survey-April 2014.

SYSTEM X VIRTUAL SAN READY NODES

VMware and Lenovo offer System x Virtual SAN Ready Nodes, which are jointly recommended server configurations to accelerate Virtual SAN deployment.

Each Ready Node is a certified server with specified size, type, and quantity of CPU, Memory, Network, I/O Controller, HDD, and SSD that are best suited to run a specific Virtual SAN workload. The Ready Nodes can be quoted/ordered as-is or further customized with Virtual SAN-certified components.

FIND OUT MORE

SUPPORT AND SERVICES

Lenovo offers comprehensive support for the entire line of VMware products sold on the Lenovo price list. For customers requiring additional services, Lenovo also offers an extensive list of services from basic server virtualization to comprehensive cloud implementation services. Lenovo is among the leading IT providers of services for VMware environments with thousands of VMware-certified sales and technical professionals worldwide.

Contact your CDW account team for more details or to schedule a call with our Lenovo and VMware specialists.



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