

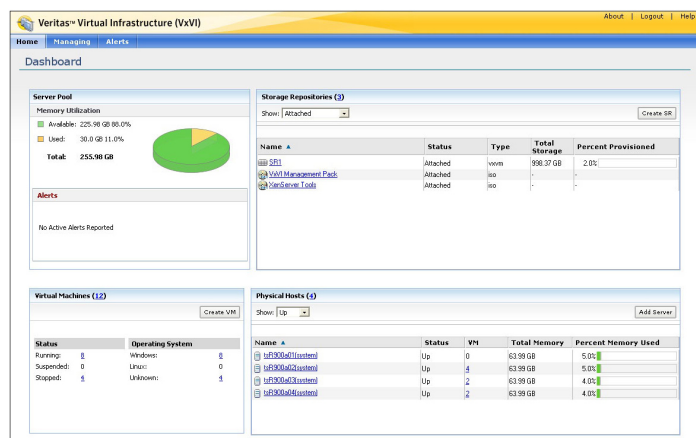
Veritas™ Virtual Infrastructure

Bringing enterprise-class storage management to virtual server environments

Overview

Veritas Virtual Infrastructure delivers the first unified enterprise-class virtualization solution, bringing industry-leading storage management into x86 virtual server environments for enterprise production deployments. Leveraging Veritas Storage Foundation™, along with Citrix XenServer™ server virtualization technology, customers can seamlessly manage both storage and virtual server operations using one intuitive, highly scalable, Web-based console.

Specially designed for large-scale production environments, Veritas Virtual Infrastructure meets the demands of the virtualized data center, allowing IT organizations to leverage many of the same operational processes and configurations across their physical and virtual environments. Based on trusted Veritas technology, it enables storage and application availability, higher system performance and availability, and increased storage utilization.



Centralized visibility and management of both virtual machines and underlying storage

Highlights

Enterprise-class storage virtualization and management:

Manage complex storage operations online, including storage pooling, online migrations, and I/O load balancing and failover.

Enterprise-class server virtualization:

Improve server resource utilization with a solution based on industry-standard open source Xen-based hypervisor.

Centralized management:

Centrally monitor and manage thousands of virtual machines and underlying storage with a highly scalable Web-based console.

Disk-based data protection:

Ensure application data is protected with full and space-optimized snapshots.

Simple deployment and installation:

There is one easy-to-install package for both server and storage virtualization.

Enterprise-class storage management

Veritas Virtual Infrastructure delivers the industry-leading online storage management capabilities of Veritas Storage Foundation that are used extensively across both virtual and physical data center environments on UNIX, Linux®, and Windows® systems to increase operational efficiency. Veritas Virtual Infrastructure minimizes the burden of storage administration by optimizing storage performance and availability without bringing operating systems, applications, or virtual machines offline. The block-level storage management capabilities of Veritas Virtual

Infrastructure enable enterprise-class, advanced online storage management that does not require organizations to re-architect their underlying storage infrastructure.

Organizations are able to deliver increased availability, improved storage utilization, and more efficient storage performance throughout the enterprise, across physical and virtual environments, by using advanced storage provisioning—including the ability to flexibly configure and dynamically allocate storage, along with storage pooling, storage capacity management, reclamation, and advanced SAN multi-pathing for I/O load balancing and failover.

Enterprise-class server virtualization

Veritas Virtual Infrastructure enables enterprise-class server virtualization using Citrix XenServer, based on the industry-leading open source Xen-based hypervisor. Enterprises can easily deploy multiple virtual servers and storage into resource pools on shared hardware, increasing utilization and reducing the costs of hardware, power, and cooling. Up to 16 physical servers and their underlying storage can be joined into a logical resource pool with shared configurations. By combining servers and storage into resource pools that can be assigned to the applications with the highest business need, IT operations can anticipate and respond to changing demand and business priorities.

Virtual machine operations are simplified with advanced provisioning and live migration capabilities that can be easily performed through the management console. Administrators can create virtual machines quickly and easily, provision these new virtual machines across the environment in a matter of minutes, and seamlessly provision storage to virtual machines. Additionally, the live migration capabilities allow IT organizations to dynamically move running virtual machines across multiple servers without impacting application availability.

Centralized management

Veritas Virtual Infrastructure utilizes a single Web-based graphical user interface (GUI) to manage both virtual server and storage resources, based on the highly scalable enterprise-class Veritas Storage Foundation Manager. This robust single-pane-of-glass interface enables the monitoring and management of virtual server and storage resources across server pools.

Rather than relying on another set of point tools to manage the heterogeneous storage, administrators can leverage consistent operational processes across their virtual environments. The Web-based interface provides easy-to-use wizards and dashboards, designed to simplify multi-step operational tasks. Features include dashboards for server pool and storage status, alerts for reporting and notification, mapping of virtual machines to physical storage, virtual machine file system usage reporting, provisioning of new virtual servers in minutes, and coordination of virtual server and storage migrations across multiple hosts without impacting application availability.

Disk-based data protection

With Veritas Virtual Infrastructure, virtual machines can easily be cloned for off-host processing by using advanced full or space-optimized storage snapshots of application data that is storage hardware independent and can leverage tiered storage. Rather than taking a snapshot of the entire virtual machine, this block-based approach allows granular application data snapshots of only the data that needs to be copied. IT organizations can easily provision volumes/disks to virtual machines providing full and space-optimized snapshot capabilities.

Additionally, the snapshot capability has full compatibility with Microsoft® Volume Shadow Copy Service (VSS) to ensure reliable snapshots and quick backups of VSS-compliant applications such as Microsoft SQL Server.

Simple deployment and installation

With Veritas Virtual Infrastructure, there is one easy-to-install package for both server and storage virtualization. The management interface offers one simple screen to monitor and manage both server and storage virtual resources. While other solutions can require calls to multiple vendors when there is a problem, Symantec delivers a single point of support for troubleshooting either storage or server virtualization issues.

Data Sheet: Storage Management

Veritas™ Virtual Infrastructure

Feature	Benefit
Storage virtualization	
Online storage management based on Veritas Storage Foundation	Granular, block-level storage management delivers robust storage operations including mirroring, migration, and data re-layout, and does not require downtime for virtual machines
Advanced disk layout support	Create RAID 0, 1, 1+0 storage volumes to ensure high performance as well as data redundancy
Dynamic multi-pathing (DMP)	Integrated SAN multi-pathing that balances I/O across all available paths between the server and the storage array to improve performance and availability
Storage pooling	Treats available storage as a pool and allocates storage on a per-virtual-machine basis to minimize white space and allow administrators to meet virtual machine storage allocation needs without sacrificing flexibility
Storage provisioning	Enables provisioning of new storage to virtual machines without downtime and increases existing storage for virtual machines with minimal user interaction
Heterogeneous array migrations	Dynamically manage data movement across heterogeneous storage environments
Snapshots	Full and space-optimized snapshots of data for disk-based recovery; includes the ability to refresh a snapshot rather than taking a new snapshot
Microsoft VSS SQL snapshots	Ensure data-consistent snapshots for SQL databases with integrated VSS hardware provider as well as automatic SQL configuration detection
Broad storage connectivity support	Fibre Channel, iSCSI, and NAS support
Server virtualization	
Server virtualization based on Citrix XenServer and open source Xen-based hypervisor	An open source software “engine” that is a proven, rapidly evolving industry standard with broad support from virtually all the major hardware and software vendors
Windows and Linux guest support	Create Microsoft and Linux virtual servers easily. Windows support includes Windows Server 2003, 32/64-bit. Linux support includes Red Hat Enterprise Linux 4 and 5, 32/64-bit
64-bit hypervisor support	Highly scalable platform; supports up to 32 processors and up to 128 GB of RAM, and supports up to 32 GB of RAM for each virtual machine
Support of industry-standard VT-enabled hardware	Virtualization technology (VT) optimized hardware ensures highest performance for virtual machines
Virtual machine provisioning	Rapid provisioning of virtual machines and underlying storage with easy-to-use templates
Virtual machine cloning	Ability to instantly create identical copies of virtual machines
Virtual machine live migration	Virtual machine live migration across up to 16 physical servers in a single pool without impacting application availability to the end user
VLAN support	Supports 802.1Q with VLAN tagging
Windows-optimized drivers for network and disk I/O	Increased performance with Windows Hardware Quality Labs (WHQL)-tested drivers; performance tuned to deliver higher I/O performance and lower network latency
Centralized management	
Web-based graphical user interface	Single-pane-of-glass monitoring and management of both virtual server and storage resources
Easy-to-use templates	Simplify complex operational tasks with easy-to-use templates—for storage and virtual machine operations
Server pooling	Create and provision new virtual machines online
Storage pooling with advanced storage layout and provisioning	Dynamically change storage layouts, provision new storage, and resize existing storage without downtime for virtual machines
Storage mapping	Manage storage with end-to-end visibility; view file system usage in a virtual machine and map to back-end storage in the same GUI
Performance monitoring	View both physical node and individual virtual machine performance
Boot image management	Instantly provision new virtual machines with template-based boot image management

More information

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About Symantec

Symantec is a global leader in providing security, storage, and systems management solutions to help businesses and consumers secure and manage their information. Headquartered in Cupertino, Calif., Symantec has operations in more than 40 countries. More information is available at www.symantec.com.

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