

VERITAS Storage Foundation™ HA 4.3 *for Windows*

POWERFUL PROTECTION AGAINST SERVER, APPLICATION AND DATABASE DOWNTIME

KEY BENEFITS

- Maximize uptime of data, applications and databases
- Reduce planned or unplanned downtime
- Enable high availability solution for local, metropolitan or global clustering from within a single product
- Test your disaster recovery solution without impacting production applications
- Optimize and plan cluster configuration and policies through a portable modeling and simulation tool

Data and application downtime can be attributed to the unavailability, or failure, of a resource that is trying to run a service. If a service becomes unavailable and an organization is not running clustering and storage management software, the users would lose access to the resource until the problem can be manually fixed. This downtime may result in lost revenue, productivity and user satisfaction.

Storage management software assists in decreasing data downtime associated with disk and path failures by ensuring multiple copies of data are accessible and available.

Clustering services protect against server, application and database downtime by eliminating the single point of failure found within a single server. A cluster is a group of computers that work together to run a set of applications and provide the image of a single system to the client and application. The computers are physically connected by cables and programmatically connected by cluster software. The servers within the cluster remain in constant communication. If one of the servers or resources running on the server in a cluster becomes unavailable as a result of failure or maintenance, another server begins providing service, a process known as failover. Users can access the service and are unaware that it is now being provided from a different physical server.

VERITAS Storage Foundation HA *for Windows* is a powerful and comprehensive solution to deliver data and application availability to Microsoft Windows 2000, Server 2003, and Server 2003 x64 environments. VERITAS Storage Foundation HA is comprised of two industry leading availability technologies, VERITAS Storage Foundation *for Windows* and VERITAS Cluster Server.

VERITAS Storage Foundation *for Windows* is a requirement for organizations that require uninterrupted and consistent access to data. Storage Foundation provides easy-to-use, on-line storage management tools for heterogeneous enterprise environments, that reduce planned and unplanned downtime. Storage Foundation enables high availability of data, optimized I/O performance and offers freedom of choice in storage hardware investments.

VERITAS Cluster Server™ is the industry's leading open systems clustering solution that protects your critical applications and databases against downtime, whether planned or unplanned, within the local, metropolitan or wide area network. VERITAS Cluster Server provides high availability for applications, databases and servers by monitoring the health and performance of the resource and automatically restarting the resource on another available server in order to avoid a complete failure.

PRODUCT OVERVIEW

Reduce Training and Hardware Costs:

VERITAS Storage Foundation HA *for Windows* is architecture-independent, supporting Windows platforms as well as the industry's widest range of heterogeneous hardware configurations. Organizations can mix and match the servers and storage within a single cluster and shared storage infrastructure while utilizing a common, cross-platform management console. This unique ability allows IT personnel to manage data and application availability without requiring additional training that may be required for point platform storage management and clustering solutions.

Broad Application Support:

VERITAS Storage Foundation HA *for Windows* provides off-the-shelf support for a wide range of applications, including Microsoft Exchange and Microsoft SQL Server with new agents being developed continuously. Custom agents can be created to ensure virtually any application is highly available on Windows Server 2003 Standard, Enterprise, Datacenter, and x64 as well as Windows 2000 Server, Advanced Server and Data Center Server.

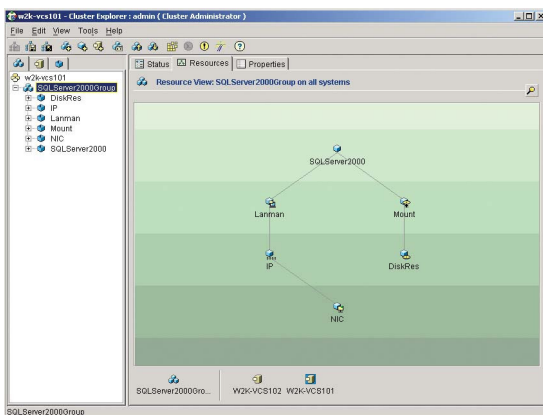
Reduce Planned Downtime:

Organizations can utilize VERITAS Storage Foundation HA *for Windows* for planned downtime by keeping data online and available when performing storage administration and migrating users from one available server to another while server maintenance is occurring. When the maintenance is finished, the application can be easily moved back to the original server. By using VERITAS Storage Foundation HA *for Windows*, organizations may no longer need idle standby servers, thereby reducing the costs associated with expensive hardware maintenance contracts.

Single Solution for Any Architecture: VERITAS ensures that achieving local, metropolitan and wide area high availability and disaster recovery can be done using a single solution. With VERITAS Storage Foundation HA for Windows and available options, all clustering and replication can be performed and managed from a single product while allowing the organization to achieve local as well as wide-area application and data availability.

Prepare, Plan and Test Before Disaster Strikes: VERITAS Storage Foundation HA for Windows provides the ability to configure, implement and test your high availability and disaster recovery environment without disrupting users. The cluster simulator tool allows cluster configurations to be configured and tested without requiring a live cluster testing environment or impacting the production environment. VERITAS Cluster Server's Fire Drill capabilities allow organizations to clone their production environment and allow the disaster recovery solution to be fully tested. These new features reduce the need to invest in additional hardware for testing and configuration purposes while ensuring resources will remain available in the production environment.

Simplified Management and Installation: VERITAS provides administrators with easy to use configuration wizards for simplified storage management and cluster implementation while providing a choice of intuitive Web and Java-based consoles to monitor data and application availability across multiple operating systems and across an entire organization.



As seen here through the flexible Java-based graphical user interface, VERITAS Cluster Server provides flexible configuration of a wide variety of application-dependent resources.

Maximize Hardware Utilization: VERITAS Storage Foundation HA for Windows provides the flexibility for adding or removing servers and disks as needed without bringing the applications offline. Support for up to 32 servers in a single cluster allows organizations to achieve availability of applications while achieving maximum hardware utilization. An automated process makes intelligent decisions to ensure applications are hosted on the best server available within the cluster and eliminates the need for a dedicated standby server within the environment.

Part of a Comprehensive Disaster Recovery Plan: VERITAS Storage Foundation HA for Windows and the Global Cluster Option and are tightly integrated with the Volume Replicator option, or with third-party replication technologies, to provide a comprehensive disaster recovery solution across any distance. VERITAS Cluster Server handles local availability issues. VERITAS Volume Replicator replicates critical data to a remote site, and the Global Cluster Option monitors and manages the replication jobs and clusters at each site. In the event of a site outage the Global Cluster Option controls the shift of replication roles to the secondary site, brings up the critical applications and redirects client traffic with a single command or mouse click.

Replication Integration: VERITAS Storage Foundation HA for Windows protects your current investment by integrating with a number of replication solutions including VERITAS Storage Foundation, VERITAS Volume Replicator and EMC SRDF to provide a complete application and data availability solution.

World Class High Availability and Disaster Recovery Consulting Services: A solution for high availability and disaster recovery doesn't stop with the technology. Disaster Recovery and Business Continuity require recovery objective analysis, procedure documentation and security planning to name a few. VERITAS not only provides a proven solution for high availability and disaster recovery, but also offers world-class services to help you define requirements and procedures while ensuring that current investments are utilized and available.

SUPPORTED PLATFORMS

- Microsoft Windows Server 2003 (32-Bit) (Standard, Web, Enterprise, Datacenter)
- Microsoft Windows Server 2003 x64 Editions (Standard, Enterprise, Datacenter)
- Server 2003 SP1 for Itanium-Based Systems (Enterprise, Datacenter)
- Microsoft Windows 2000 (Server, Advanced Server, Datacenter)



Also available on: IBM AIX (5.1, 5.2, 5.3), HP HPUX (11i v2), SuSE (SLES 8), Red Hat (RHEL 2.1, 3.0), Sun Solaris (2.6, 7, 8, 9, 10), VMWare (ESX 2.1, 2.5)

AVAILABLE OPTIONS AND AGENTS

STORAGE FOUNDATION FOR WINDOWS HA OPTIONS

Global Cluster Option: The Global Cluster Option monitors and manages the replication jobs and clusters at each site. In the event of a site outage the Global Cluster Option will control the shift of replication roles to the secondary site, bring up the critical applications and redirect client traffic with a single mouse click.

Volume Replicator Option

The Volume Replicator Option allows data to be replicated between any storage device over an IP network.

Dynamic Multipathing Option: The Dynamic Multipathing (DMP) Option adds fault tolerance to disk storage by making use of multiple paths between a computer and individual disks.

FlashSnap Option

VERITAS FlashSnap allows you to create independently addressable point-in-time snapshots that are copies of mirrors of the volumes on your server. These snapshots can be easily moved to another server for backup or other purposes.

VERITAS CLUSTER SERVER AGENTS

VCS Agents are small applets that allow VCS to monitor system and application resources. Some agents come bundled with the base VCS product, and other agents are separately available for databases and other applications.

Exchange Agent: VERITAS Cluster Server Enterprise Agent for Exchange works to keep Microsoft Exchange highly available by detecting any failures and automatically bringing the application online again.

SQL Agent: The VERITAS Cluster Server Enterprise Agent for Microsoft SQL monitors Microsoft SQL Server 2000 and 2005 (pre-release) on a VERITAS Cluster Server cluster to ensure high availability by automatically detecting faults and bringing a downed database back online.

Oracle Agent: The VERITAS Cluster Server Agent for Oracle ensures high availability of Oracle 9i and 10g databases.

VERITAS Volume Replicator Agent: Make sure your replication is always available with the VERITAS Cluster Server agent for VERITAS Volume Replicator. This agent monitors the replication services to make VERITAS Volume Replicator highly available.

Hardware Replication Agents: VERITAS offers Cluster Server agents for EMC SRDF, Hitachi True Copy, IBM PPRC, and NetApp SnapMirror that monitor replication status and reverse replication roles upon site failover.

For more information visit: <http://www.veritas.com/vcs>

RELATED INFORMATION

- VERITAS Storage Foundation for Windows Datasheet
- VERITAS Services Datasheet
- VERITAS Volume Replicator Datasheet
- VERITAS CommandCentral™ Availability Datasheet
- VERITAS Supported Clustering Architectures Datasheet
- HCL: <http://support.veritas.com/>