Veritas™ Cluster Server from Symantec

Reduce Application Downtime

Overview

Veritas™ Cluster Server from Symantec is an industry-leading high availability solution for reducing both planned and unplanned downtime. By monitoring the status of applications and automatically moving them to another server in the event of a fault, Cluster Server can dramatically increase the availability of an application or database.

Veritas Cluster Server can detect faults in an application and all its dependent components, including the associated database, operating system, network, and storage resources. When a failure is detected, Cluster Server gracefully shuts down the application, restarts it on an available server, connects it to the appropriate storage device, and resumes normal operations.

Veritas Cluster Server can temporarily move applications to a standby server when routine maintenance such as upgrades or patches requires that the primary server be taken offline.
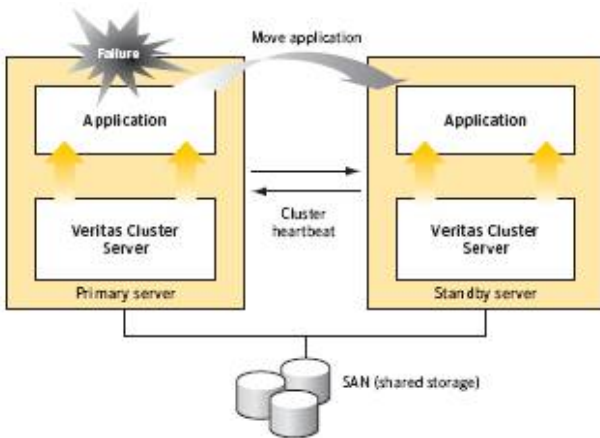

Figure 1. In the event of failure of a mission critical application, Veritas Cluster Server gracefully fails over the application stack, including associated directory, network and disk group resources.

Highlights

- **Out-of-the-box support for applications and databases –** Guarantees application compatibility, reduces time to deployment, and cuts consulting costs

- **Comprehensive hardware and platform support –** Using the same tool across platforms reduces training, administrative and hardware costs

- **Advanced virtual machine support –** Provides clustering for virtual machine architectures

- **Availability across any distance –** Builds both local and remote clusters for local availability and disaster recovery

- **Advanced failover logic –** Ensures that server resources are utilized as efficiently as possible by failing over applications to the most appropriate server

- **Automated disaster recovery testing –** Tests both failover and replication configurations without affecting the primary environment

- **Simple to install, configure, and maintain –** Provides wizard driven installation and simulated failovers for easier implementation and management than other clustering products

- **Support for all replication technologies –** Provides flexibility to use any of the major replication technologies for disaster recovery

- **Multi-cluster management and reporting –** Manages and reports on multiple local and remote clusters from a single console

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Out-of-the-box support for applications and databases

Veritas Cluster Server provides off-the-shelf support for a wide range of applications, including, but not limited to; SAP®, BEA®, Siebel®, Oracle Applications, Microsoft Exchange®, and PeopleSoft® as well as enterprise-class databases such as Oracle®, DB2®, SQL Server®, and Sybase®. In addition, Symantec continually provides support for new applications. Support for custom-built applications can also be added through Symantec Consulting.

Figure 2. Sample of supported applications, databases, and storage

Comprehensive hardware and platform support

Most clustering solutions require identical hardware and operating system environments for implementing a clustering solution. This can be an expensive and restrictive solution since customers need to ensure platform parity in a cluster. Veritas Cluster Server is the only solution that can support all leading operating systems, including UNIX, Microsoft Windows®, Linux and virtual platforms, as well as the widest range of heterogeneous hardware configurations. Using Cluster Server, customers can add high availability to the current infrastructure without having to purchase additional hardware. Organizations can mix and match the servers and storage within a single cluster and share storage infrastructure using the same tool across platforms to reduce training, administrative, and hardware costs.

Advanced virtual machine support

With virtualization technologies, multiple virtual machines are commonly hosted on a solitary physical server. A failure of that physical server can lead to a loss of availability for several applications. As a result, the need to make services highly available increases with the use of virtualization technologies. Veritas Cluster Server provides a single solution for clustering both physical and virtual systems. With Cluster Server, administrators can monitor an application running within a virtual machine and recover it in the event of a failure.

Availability across any distance

For mission critical applications that must remain online even in the event of a site failure, Veritas Cluster Server provides disaster recovery across any distance. Cluster Server allows organizations to deploy both local high availability and remote clustering for complete disaster recovery. With the single click of a button, Cluster Server can migrate applications between single servers in a local data center or move all applications to a data center several thousand miles away.

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Automated disaster recovery testing

Because production servers and applications are constantly changing, regularly testing a disaster recovery strategy is critical to guarantee a successful recovery in the event of an outage. To better guarantee the success of the disaster recovery strategy, Veritas Cluster Server includes Fire Drill, a tool that simulates disaster recovery tests, reducing the time and expense of disaster recovery testing. Cluster Server is the only solution that integrates automated testing with a market-leading disaster recovery solution. Now administrators can make frequent changes to the IT infrastructure and simultaneously reflect those changes at a remote site. And because using Fire Drill does not disrupt production applications, it can be run as often as necessary.

Simple to install, configure, and maintain

Symantec offers Installation and Upgrade Assessment Services to ensure server readiness for the Veritas Storage Foundation™ from Symantec, Veritas Storage Foundation™ for Windows® from Symantec and Veritas™ Cluster Server from Symantec products.

Veritas Cluster Server provides administrators with easy-to-use configuration wizards for simplified storage management and cluster implementation. The Cluster Simulator, a free download, allows cluster administrators to simulate application failover scenarios and familiarize themselves with Cluster Server. Cluster Simulator helps administrators simulate high availability environments from their laptops and test multiple application failover scenarios without affecting production environments.

Figure 3. By using Veritas Cluster Server Simulator, administrators can ensure that critical applications are running on an optimal set of servers in the cluster configuration.

Advanced failover logic

With Veritas Cluster Server, IT administrators can set failover policies based on server capacity. Cluster Server then chooses the best server for a specific application at the time of failure based on application needs and the current state of resources in the cluster. It allows true N+1 "roaming spare" or N+M "active – active" capability for maximum availability without the cost of a dedicated spare per application. When a failure occurs, Cluster Server can automatically choose the least utilized server and add repaired servers back into the selection pool when they rejoin the cluster. Advanced failover logic in Cluster Server ensures that application uptime is maximized and server resources are utilized as efficiently as possible. Additionally, when intra-cluster communication breaks down, it is possible that two systems in a cluster try to write to the same storage and cause data corruption. Cluster Server advanced data protection logic shields data from becoming corrupted when a split brain situation

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arises by providing arbitration over cluster membership decisions. This guarantees data integrity as well as availability of service. The membership arbitration is provided using SCSI III protocol utilizing an odd set of coordinator disks or optionally through a software solution that is enabled via a Coordination Point Server.

Support for all replication technologies

Since a good disaster recovery plan should include both data and application availability, Veritas Cluster Server supports all major hardware, software, and database replication technologies. Cluster Server completely automates the process of replication management and application startup at the remote site without the need for complicated manual recovery procedures involving storage and application administrators. Cluster Server provides all the necessary logic to completely control the underlying synchronous or asynchronous replication configuration.

Symantec offers an integrated solution for application and data availability. Veritas™ Volume Replicator from Symantec, an option of Storage Foundation, provides continuous data replication that transfers data across any distance. Unlike traditional array based replication, Volume Replicator offers synchronous and asynchronous data replication across different storage hardware to enable storage tiering or use of existing storage at the DR site. In addition to Volume Replicator, Veritas Cluster Server provides full support for all major third-party data replication solutions, including Hitachi® TrueCopy, HP® Continuous Access XP, HP® Continuous Access EVA, EMC® SRDF, EMC® MirrorView, NetApp® SnapMirror, IBM® Metro

Mirror, IBM® Global Mirror, IBM® HADR, Oracle® DataGuard, and others.

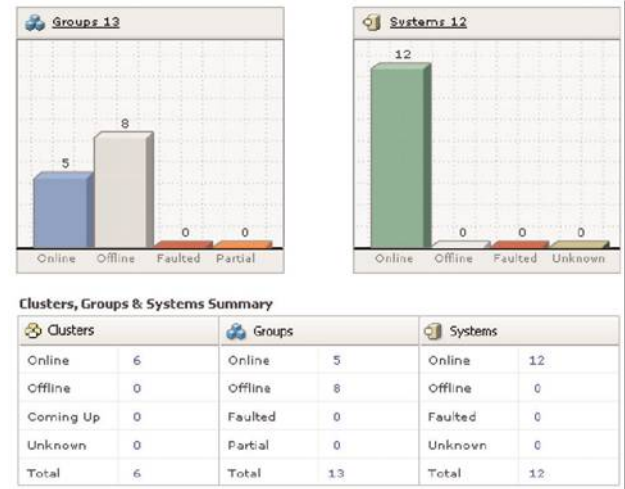## Multi-cluster management and reporting

Figure 4. In the Cluster Server Management Console, one can view the status of all the clusters in a data center.

With the increasing number of applications and heterogeneous clustered servers distributed across multiple data centers, management of clusters can be painful. From the Veritas Cluster Server Management Console, customers can now monitor, manage, and report on Veritas Cluster Server implementations on different platforms from a single web-based console. The Veritas Cluster Server management capabilities increase administrator efficiency by providing enhanced visualization of the managed clusters, centralized control for global applications, and complete reports of each application's availability status. Cluster Server also reduces application downtime by helping administrators avoid common cluster configuration mistakes, audit unexpected cluster configuration changes, and provide a

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standard way for administrators to detect and investigate cluster problems and track management history of all the managed clusters.
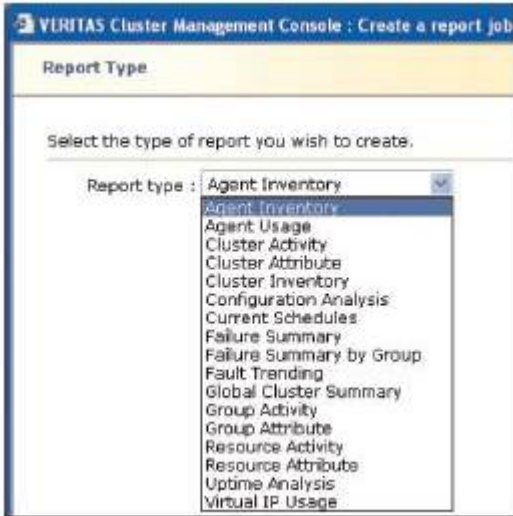

Figure 5. You can generate 17 predefined reports in Veritas Cluster Server.

Supported operating systems

For complete operating system support, please visit support.symantec.com or contact your local Symantec representative.

• IBM AIX®

• HP-UX®

• Sun™ Solaris™

• Linux

• Microsoft® Windows

• VMware®

Visit our website

http://enterprise.symantec.com

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Call toll-free 1 (800) 745 6054

To speak with a Product Specialist outside the U.S.

For specific country offices and contact numbers, please visit our website.

About Symantec

Symantec is a global leader in providing security, storage and systems management solutions to help consumers and organizations secure and manage their information-driven world. Our software and services protect against more risks at more points, more completely and efficiently, enabling confidence wherever information is used or stored.

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