Veritas™ Cluster Server One from Symantec

The next generation of high availability and disaster recovery solutions

Overview

Data center applications are becoming increasingly distributed and interdependent. The use of server virtualization for cost savings and simpler server provisioning is also adding another layer of complexity to IT infrastructures. The challenge for IT organizations now is to maintain the end-to-end availability of mission-critical applications in this complex, interconnected, and heterogeneous environment. To respond to this challenge, Symantec is introducing the next generation of high availability and disaster recovery solutions with Veritas™ Cluster Server One from Symantec. Cluster Server One combines the core Cluster Server DNA, rich application awareness and control, with a new, flexible, and highly scalable architecture designed for virtual and scale-out environments. Cluster Server One increases application availability, maximizes cost effectiveness, and prepares IT managers to meet the rising challenges in managing data centers.

Highlights

- **Application-centric virtualization –** Enables applications to fail over from physical servers to virtual machines, virtual machines to physical servers or any other combination desired.

- **Priority-based availability –** Ensures availability of mission-critical applications and enables server repurposing based on business priority in consolidated server environments.

- **Automated disaster recovery –** Provides global disaster recovery by automating the recovery of applications at remote data centers.

- **Comprehensive environment support across heterogeneous platforms –** Supports up to 256 nodes per cluster across multiple operating systems and virtualization platforms.

- **Increased operator efficiency –** Controls thousands of applications running across scores of virtual and physical servers from a single console. Increases automation and reduces manual tasks and errors.

- **Multi-tier application support –** Supports dependency relationships between applications and databases running across different operating systems and physical and virtual platforms. Automatically restarts the entire IT service in the event of a failure.

- **Non-disruptive configuration changes –** Add and remove nodes without interrupting high availability.

- **Role-based access control (RBAC) –** Supports granular access privileges to ensure security and reduce operational errors.

Application-centric virtualization

With the wide adoption of server virtualization technology, there is a growing need for providing high availability and disaster recovery to manage applications running across physical and virtual environments. Competitive products force a tradeoff between protecting applications (clustering between virtual servers) and protecting virtual servers (clustering the actual virtual server with

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no monitoring of what runs inside). With Cluster Server One, applications and virtual machines are monitored for potential outages. Should a failure occur, Cluster Server One will automatically start the appropriate application and its associated virtual server. Additionally, Cluster Server One allows users to fail over applications from physical servers to virtual machines, virtual machines to physical servers or any other combination desired.

Priority-based availability

As organizations consolidate servers to drive up server utilization, they may find it difficult to distinguish which applications have a priority over others. With Cluster Server One, each application can be assigned with a business priority, resource requirement, and compatibility settings. During simple outages, available capacity in the cluster can usually handle application needs. In cases of multiple server outages, higher priority applications take precedence
over lower priority ones to ensure your most critical applications remain available. Using sophisticated policies, Cluster Server One will automatically repurpose server resources, reducing downtime for the most important IT services and business applications, while enabling IT organizations to reduce hardware costs by eliminating the need for standby hardware.

Automated disaster recovery

Cluster Server One provides global disaster recovery by automating the recovery of applications at remote data centers. In the event of a site failure, Cluster Server One notifies administrators of the failure and can automate recovery with a push of a button. The applications are

failed over from the primary data center to a disaster recovery site. By automating recovery, IT organizations can recover more quickly from an event and reduce errors and reliance on personnel. After the disaster, recovering back to the primary site is easy with automated failback capabilities. Cluster Server One provides the flexibility to use a myriad of DR architectures from campus disaster recovery sites to multiple sites around the world and supports the leading data replication technologies out-of-the-box, resulting in quicker, and easier installations.

Comprehensive environment support

Cluster Server One supports heterogeneous physical and virtual platforms, supporting up to 256 nodes per cluster. Physical and virtual operating systems, applications, and databases are supported out-of-the-box eliminating the requirements for customized scripting or consulting. Cluster Server One also eliminates the need for multiple clustering tools, and provides a single interface to manage high availability and disaster recovery operations.

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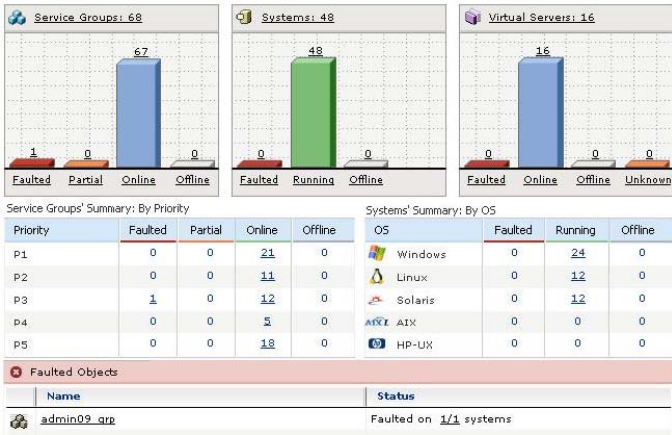
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Increased operator efficiency

Figure 2. Veritas Cluster Server One's web-based console allows users to centrally manage and control a large number of applications running on physical and virtual servers.

Front-line operators often have the difficult task of starting and stopping applications. This requires coordination between different teams, complex run books, and custom scripting. Cluster Server One provides a web-based console for centrally managing and controlling a large number of applications running on physical and virtual servers. Within this console, administrators can easily monitor the status of applications and start, stop, and move applications or virtual machines with a few clicks. This capability comes without a requirement for the user to actually login to the systems, or administrators to employ complex scripting or permissions. By using the same Service Group concept Cluster Server One users have traditionally used for failing over applications, Cluster Server One is able to automate and standardize application movement and control on a much larger scale, enabling front line operators to take action, without increasing backline support costs.

Multi-tier application support

Many critical multi-tier applications are composed of different components, the web server, the application server, the database, etc. Failure of any of these components will cause the outage of the entire IT service. Maintaining the availability of these complex architectures is difficult or even impossible with traditional clustering tools. Cluster Server One allows customers to configure dependencies between application tiers running across different operating systems on physical and virtual servers. For example, consider the following sample three-tier application environment: Web servers running on Linux® require one or more application servers running on AIX®, which in turn requires a database server on Solaris™. On any restart or failover of the database, the application servers must be restarted, while the web servers may remain running. In traditional environments, legacy application clustering would be used on the database, and the application and web tier would be handled manually via scripting. With Cluster Server One, the user can completely automate the start-up, shut-down, and fault handling of the entire application stack reducing downtime and complexity.
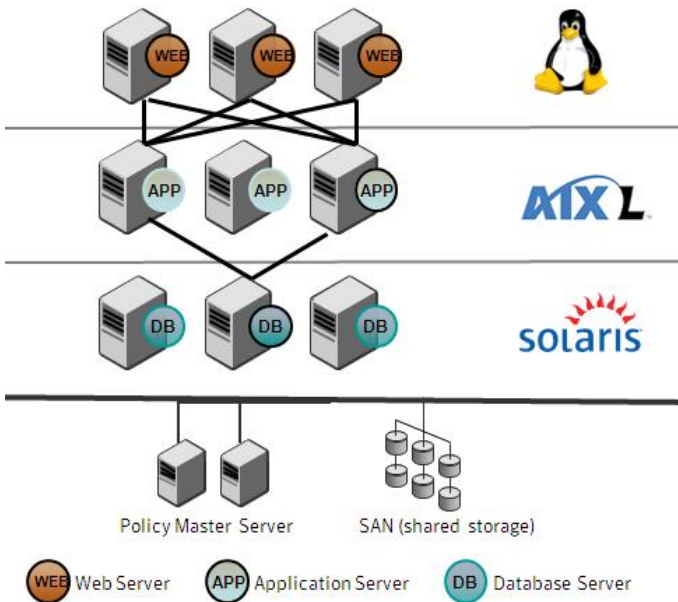
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Figure 1. A three-tier application with dependency relationships configured between application tiers running across different operating systems.

Non-disruptive configuration changes

Cluster Server One allows users to easily add or remove nodes from the cluster without interrupting high availability. Upgrades can be implemented without downtime to either the IT service group or any Cluster Server One client component. Additionally, multiple versions of Cluster Server One within the same cluster are fully supported, allowing for flexibility to implement updates without impacting business operations.

Role-based access control (RBAC)

In large enterprises, there are usually different user groups performing operations on different applications. Cluster Server One allows granular access control by defining specific user privileges, which are based on a user's login or enterprise group membership.

Each user or user group's privileges can be individually customized as needed to meet specific needs. Cluster Server One would, for example, allow a business unit's IT team to only have access to the specific applications for which they have responsibility.
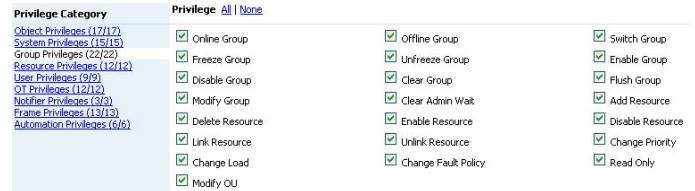

Figure 3. Within Veritas Cluster Server One's web-based console, one can view and change the fine-grained user permissions.

Supported Veritas Cluster Server One client operating systems

• IBM AIX®

• HP-UX®

• Sun™ Solaris™

• Linux®

Supported Veritas Cluster Server One policy master operating systems

• Red Hat® Linux

• Sun™ Solaris™

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Visit our website

www.symantec.com/business/cluster-server-one

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

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