

Keeping Cisco Unified Computing Systems Highly Available with Symantec™ Cluster Server



Solution Overview: High Availability

Executive Summary

Symantec™ Cluster Server, powered by Veritas is a market leading High Availability solution that ensures 24x7 availability by providing automated local and remote failover to meet sub-minute recovery objectives. Cluster Server now supports unified data center infrastructure by addressing high availability needs for Cisco Unified Computing System (UCS™) servers.

Cisco's UCS server business has seen tremendous growth over the last few years, by re-defining data center infrastructure and providing a new computing model that delivers cost advantages, improves agility and reduces operational challenges. By breaking through the traditional data center infrastructure model Cisco UCS introduces a new unified infrastructure environment by pooling blade servers, storage and network resources together.

As customers embrace Cisco UCS servers to recognize the benefits of cost and simplified management, they are realizing that there is no standard High Availability solution available for Cisco UCS servers.

In partnership with Cisco, Symantec now offers a solution to address availability concerns for Cisco UCS server customers. With Symantec Cluster Server customers can now achieve High Availability for Cisco UCS servers and perform service profile failovers from one server to another. Cluster Server automates the recovery process, greatly reducing service recovery times by automating recovery of Cisco UCS servers.

This Solution Brief provides a high level solution overview of the new High Availability capability provided by Cluster Server for Cisco UCS. It is aimed at IT decision makers and consultants involved in the design and planning of technical solution architectures for High Availability business solutions.

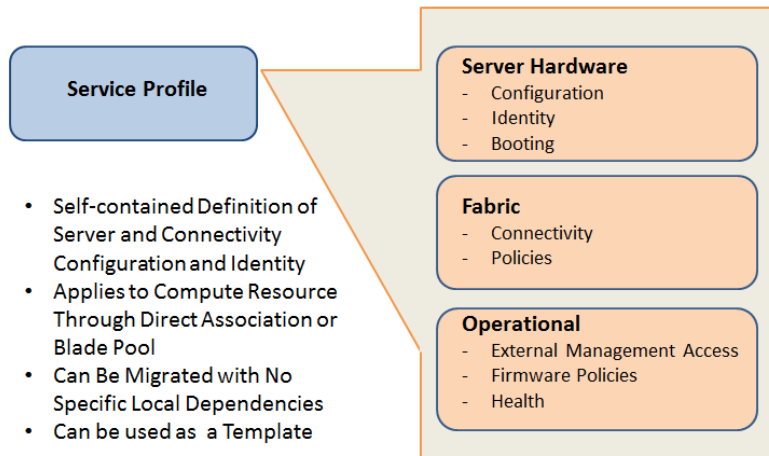
Introduction to Cisco UCS and Service Profiles

Cisco Unified Computing Systems technology uses the concept of service profiles¹ - a hardware identity abstraction model central to UCS, through which UCS achieves the necessary abstraction of server, storage and network to group together into a single unified system. In typical compute environments, a service profile in UCS extends the concept of virtualization to include entire data center environment variables such as server, storage access and network access. A service profile is a software definition of a server along with its LAN and SAN characteristics. The management layer for UCS called Cisco UCS Manager automatically configures the server, adapters, and fabric interconnects etc. to match the configuration as defined by service profile. In the most basic terms, the Cisco UCS service profile captures the personalization needed for a server workload. When a service profile is applied to a server, the server hardware is programmed with server identity components such as Network/SAN identifiers (MAC/WWN), firmware levels, BIOS settings, Boot Order etc.

1. Refer to " Understanding Cisco Unified Computing System Service Profiles: "http://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-manager/white_paper_c11-590518.html"



What Is a Service Profile?

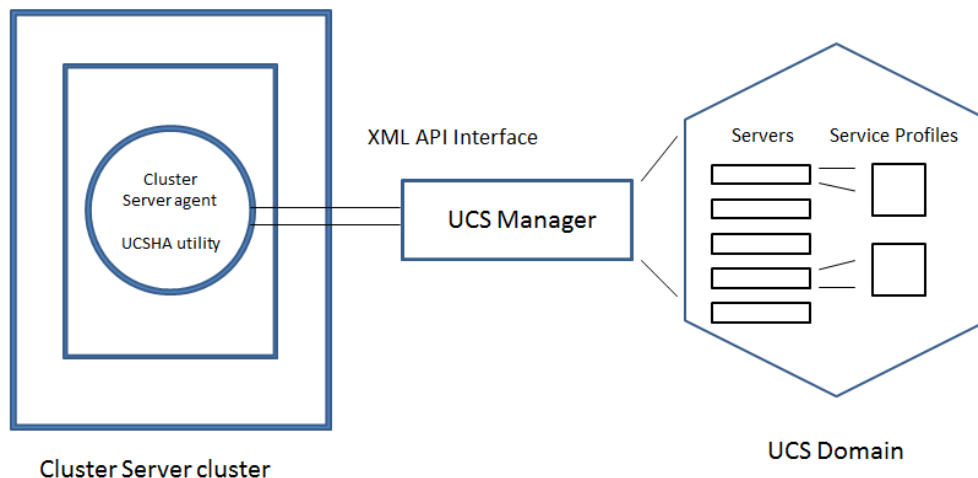


Cisco Unified Computing Systems Service Profile

Overview of High Availability using Symantec Cluster Server

Today, there is no standard high availability solution for UCS servers, which means the service profile migration to a different server requires either scripting or manual intervention, slowing down the overall recovery process. A user has to identify a target server and then manually associate the service profile to the new server. In addition, Cisco UCS Manager has no visibility into application and operating system health status running on the Cisco UCS server. This can lead to increased downtime in UCS server environments. It also requires active fault management across these broad set of faults, which could lead to high operational costs because there is no standard way of managing them.

To minimize downtime in UCS server environments in event of hardware failure, Symantec has built a Cluster Server agent that integrates with the Cisco UCS Manager to allow for automatic detection of service profile configuration and hardware related faults. This performs automatic failover of service profiles to the target Cisco UCS server in case of a failure. Symantec also plans to extend this detection and failover capability to other set of faults including application and operating system failures.



Symantec Cluster Server and Cisco Unified Computing Systems Manager integration

Cisco UCS servers have a concept called domain. Each Cisco UCS domain is comprised of (up to) 160 servers and is managed by Cisco UCS Manager. The Cluster Server agent for Cisco UCS is highly scalable with one Cluster Server deployment per UCS domain. Symantec recommends using two Cluster Server nodes in a High Availability configuration per deployment, to eliminate any single point of failure. The solution can also scale to support multiple Cisco UCS domains, with one Cluster Server deployment per Cisco UCS domain.

The solution integrates tightly with UCS Manager through the UCS Manager XML API interface and continuously monitors Cisco UCS hardware and service profile as a health check. On detecting hardware and/or component configuration faults, Cluster Server performs service profile failover to the target server.

The Cluster Server High Availability Agent supports two different failover mechanisms:

Automatic Failover

In Automatic Failover mechanism, Cluster Server continuously monitors the status of Cisco UCS service profile and servers to detect user-selectable faults. On detecting a fault, Cluster Server communicates with the UCS Manager XML API to decommission the service profile from the faulty server, identify the new target Cisco UCS server and migrate the service profile to the target server. Cluster Server leverages the Cisco UCS concept of Server Pools². A Server Pool is a logical grouping of Cisco UCS servers that have similar characteristics or configurations. Automatic Failover of service profile can be performed within the same Server Pool.

Intelligent Failover

In Intelligent Failover, in addition to monitoring for and detecting faults, Cluster Server reviews the configuration of the faulty server and identifies the target server with the closest configuration and performs the failover. Intelligent Failover mechanism does not require the servers to be associated with Server Pools.

Conclusion

The Symantec Cluster Server agent for Cisco Unified Computing Systems exploits the capabilities of the UCS platform by automating the migration of service profiles during hardware failure events. Maintaining business continuity is important in today's competitive business world. With Cluster Server, Cisco UCS customers can deliver appropriate and timely services to their customers by minimizing planned and unplanned downtime in their IT environments.

Relevant Links

The Symantec Cluster Server, powered by Veritas High Availability agent for Cisco UCS is available for download at <https://sort.symantec.com/agents> (select Application Type: Application Agents and Release: 6.1).

The agent is available for all major Linux platforms: Oracle Enterprise Linux, Red Hat Enterprise Linux and SUSE Linux Enterprise Server.

For information on Cisco UCS visit <http://cisco.com/go/ucs>

² For details on Server Pools, refer to Cisco UCS GUI Configuration Guide, Configuring Server Pools: "http://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/sw/gui/config/guide/2-0/b_UCSM_GUI_Configuration_Guide_2_0/b_UCSM_GUI_Configuration_Guide_2_0_chapter_011010.html"

More Information

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About Symantec

Symantec Corporation (NASDAQ: SYMC) is an information protection expert that helps people, businesses, and governments seeking the freedom to unlock the opportunities technology brings—anytime, anywhere. Founded in April 1982, Symantec, a Fortune 500 company operating one of the largest global data intelligence networks, has provided leading security, backup, and availability solutions for where vital information is stored, accessed, and shared. The company's more than 20,000 employees reside in more than 50 countries. Ninety-nine percent of Fortune 500 companies are Symantec customers. In fiscal 2014, it recorded revenue of \$6.7 billion. To learn more go to www.symantec.com or connect with Symantec at:

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