

Trucking Conglomerate Consolidates Data Centers

As part of a consolidation among its subsidiary companies, this trucking and logistics holding company integrated multiple data centers.

EXECUTIVE SUMMARY

Customer and Industry:

- Trucking and logistics conglomerate

Challenge:

- Consolidate multiple data centers into one centralized site
- Increase bandwidth capacity to 10 Gigabit Ethernet
- Deploy scalable 10 Gigabit Ethernet aggregation layer
- Sustain high availability in consolidated data center environment
- Provide future support for cross-chassis EtherChannel

Solution

- Cisco Nexus 7000 Series switch
- Cisco Catalyst Blade switch 3120X

Results:

- Boosted bandwidth and capacity with new Cisco 10 Gigabit Ethernet switch infrastructure
- Provided high availability infrastructure to run high-density VMware applications on HP C-Class server platform
- Chose a platform that will provide future support for cross-chassis EtherChannel

Challenge

This United States-based company provides an array of services related to the shipment of industrial, commercial, and retail goods domestically and internationally. Following the acquisition of several freight-forwarding companies in 2003 and 2005, the company in 2007 began integrating freight terminals, trucks, drivers, sales staff, backend operating systems, and IT infrastructure (including data centers).

To support the consolidated data center environment, the company determined that it would have to deploy approximately 40 new HP c-Class BladeSystem chassis. Within the chassis, there would be either half-height or full-height servers depending upon the application. The current server farm infrastructure did not have sufficient capacity to provide network connectivity to that quantity of new servers. This would be especially true if pass-through continued to be used.

The company's high-speed switch requirements included:

- Ability to support dense VMware deployments on the HP c-Class server platform
- 10 Gigabit Ethernet connectivity to a data center-class network aggregation platform
- Highly available network design
- Future support for cross-chassis EtherChannel

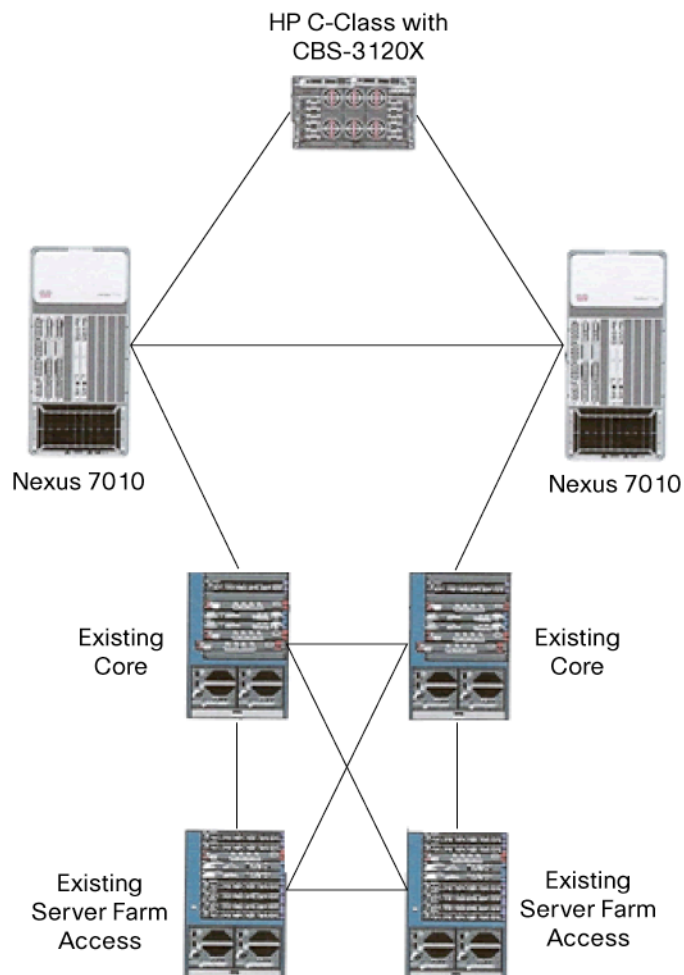
The company chose Cisco for a number of reasons, including superior standards compliance, which translated to easier operations and management. Furthermore, of the solutions considered, the Cisco® solution was the only one that supported the company's strategy to deploy VMware in their blade environment.

Solution

The Cisco Nexus 7000 Series was chosen for its ability to aggregate a large number of 10 Gigabit Ethernet links. The company also felt that the roadmap for the Cisco Nexus 7000 would give it investment protection and provide the advanced features, such as virtual Port Channel and Data Center Ethernet, that the company would need as its data center needs evolve.

Figure 1 shows the logical design of the consolidated data center.

Figure 1. Consolidated Data Center Design



The Cisco Catalyst[®] Blade Switch 3120X for HP was installed in the HP c-Class BladeSystem chassis. The blade switch is designed to deliver scalable, high-performance, highly resilient connectivity while supporting ongoing IT initiatives to reduce server infrastructure complexity and total cost of ownership with its Virtual Blade Switch (VBS) technology.

Results

The successful deployment of two Cisco Nexus 7000 Series switches supports the installation of VMware ESX servers running on HP's c-Class BladeSystem. For the consolidated data center, the transportation and logistics company has found that the Cisco Nexus 7000 provides:

- Infrastructure scalability through the use of virtualization, power and cooling efficiency, density, and performance to support efficient data center infrastructure growth
- Operational continuity through its integrated hardware, software, and management design to support zero downtime environments
- Transport flexibility to enable the adoption of new technologies, such as EtherChannel and virtual port channels, in an incremental, cost-effective manner

Forty Cisco Catalyst Blade Switches 3120X for HP support up to four 10/100/1000BASE-T ports and two X2-based 10 Gigabit Ethernet ports. Based on Virtual Blade Switch (VBS) virtualization technology, the Cisco Catalyst Blade Switch 3120X for HP treats the interconnected physical switches in a rack as one logical switch. This innovation is the foundation of the switches' capability to deliver increased performance and resilience while simplifying operations and management and reducing operational costs.

For More Information

To find out more about the Cisco Nexus 7000 Series switches, please visit:

<http://www.cisco.com/en/US/products/ps9402/index.html>

To find out more about the Cisco Catalyst Blade Switch 3120X for HP, please visit:

http://www.cisco.com/en/US/prod/collateral/switches/ps6746/ps8742/ps8749/data_sheet_c78-439133.html



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