

## IT Services Vendor Retools Data Center and Peering Environment

This global provider of IT services and managed network services deployed high-performance connectivity for peering connections and a unified fabric capability for its hosting business.

EXECUTIVE SUMMARY
<ul style="list-style-type: none"> <li>• US-based IT Services Provider with global footprint</li> <li>• United States</li> <li>• 300 employees</li> </ul>
<p><b>CHALLENGE</b></p> <ul style="list-style-type: none"> <li>• High-performance, highly available network connectivity to meet service level commitments to customers</li> </ul>
<p><b>SOLUTION</b></p> <ul style="list-style-type: none"> <li>• Replaced legacy switches with high-performance switches</li> </ul>
<p><b>RESULTS</b></p> <ul style="list-style-type: none"> <li>• Smooth integration of switches into existing management systems and operational processes</li> <li>• Lowered TCO and simplified operations by simplifying switching infrastructure</li> </ul>

### Challenge

This leading global IT services provider offers a comprehensive suite of managed solutions, including managed hosting, co-location, disaster recovery, security, and cloud computing services to a large clientele of government agencies and enterprise companies. To provide these services, the company urgently required resilient, high-capacity Layer 2 connectivity for their 160+ peering connections. Additionally, a growing hosting business necessitated a platform capable of offering a unified fabric capability to speed network provisioning and provide for dynamic bandwidth allocation. The company operates a Cisco network infrastructure in partnership with landline and satellite service provider partners.

Features such as unified fabric capabilities, a decentralized forwarding architecture, high-availability, enhanced troubleshooting tools, ability to support emerging transport technologies such as 40GbE and 100GbE, and ability to integrate with common network management tools were among many of the things that the company deemed critical in their next-generation data center platform selection.

### Solution

The company chose Cisco Nexus 5000 and 7000 Series switches as a replacement to potentially 40 legacy switches from Force 10 to improve application delivery and peering fabric to their many national, international, and government customers.

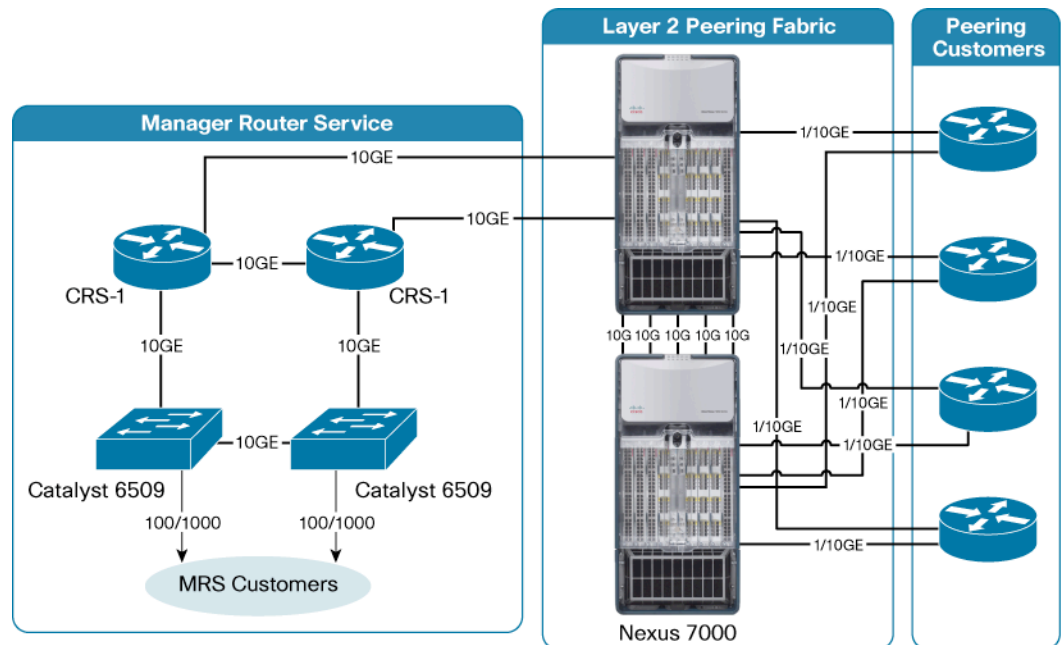
The ability of the Nexus 7000 to deliver non-stop and highly scalable performance was seen as a key differentiator as the company's drive to provide transparent global connectivity continues to grow.

The Cisco Nexus product line provided the company with:

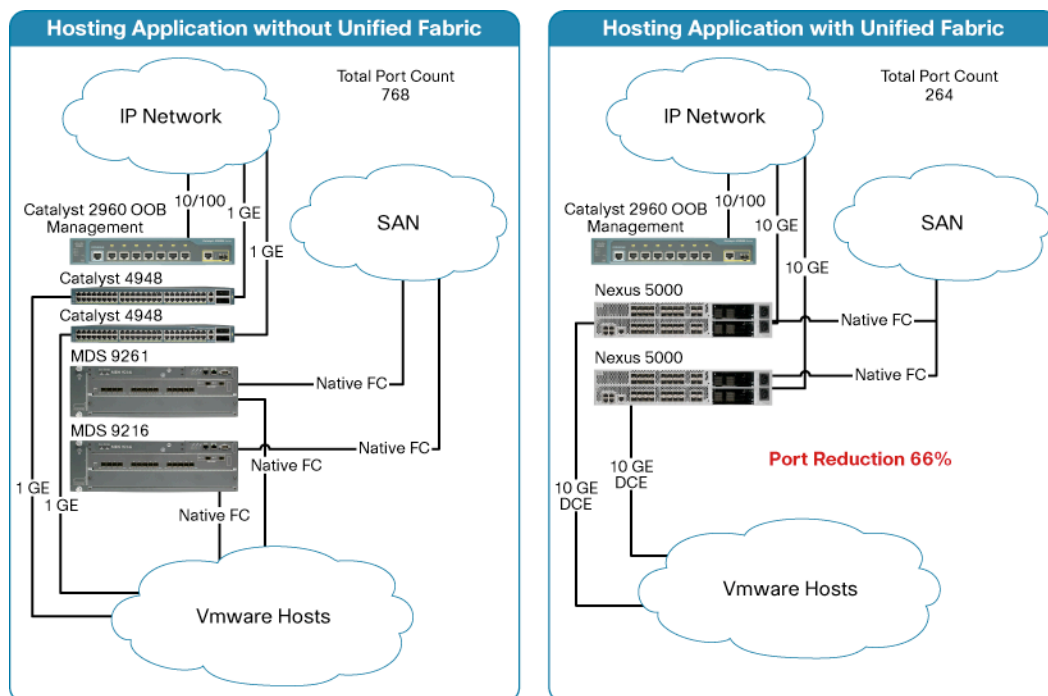
- Advanced management and operations tools, including high-performance Cisco® Netflow statistics, sophisticated quality of service (QoS) management capabilities, and innovative troubleshooting and problem resolution tools such as an integrated WireShark packet sniffer, and “lights-out” management capability.
- Switch fabric architecture that delivers highly scalable forwarding capacity
- Forward investment protection to allow them to take advantage of new technologies, such as faster transport, with incremental investment.
- Unified fabric capabilities to support new service capabilities
- Integration into existing XML management tools
- A “Zero Service Loss” architecture built upon multiple, integrated hardware and operating system features
- IPv6 capability

The company deployed the Cisco Nexus 7000 Series switch platform to provide 10 Gigabit Ethernet and Gigabit Ethernet interconnections between core routers and to provide the Layer 2 peering fabric that is used to link many of the company’s ISP customers, Figure 1.

**Figure 1.** Cisco Nexus 7000 Series Platform for Layer 2 Peering Fabric



The Cisco Nexus 5000 Series switch will be used as the next-generation top-of-rack (ToR) switch, Figure 2. This will allow the company to offer unified fabric capabilities, along with dense 10 Gigabit Ethernet switching services for its hosting environment.

**Figure 2.** Cisco Nexus 5000 Series Switch Provides Unified Fabric

As part of the installation and turn-up process, Cisco spent time with the customer to discuss procedures and best practices for configuration and management. Testing and validation ran for 12 weeks with the close participation of the Cisco account team. Easy integration into the existing management environment and an uneventful testing and validation cycle allowed the customer to quickly take advantage of their new infrastructure in their production environment.

## Results

One of the most significant benefits of using the Cisco Nexus product family was its smooth integration into the company's provisioning and operations systems—something absolutely critical to a service provider. The delivery of complete XML management capabilities and integrated packet troubleshooting tools makes Cisco Nexus switches faster to provision and operate.

Other benefits to the customer included:

- Deployment of the unified fabric produced a 66 percent reduction in the number of physical ports deployed and lowered the number of I/O connections per server from eight cables per server to five. The reduced costs associated with cabling, rack space, upstream switch ports, and the related power and cooling.
- The high density of 10 Gigabit Ethernet interfaces on both the Nexus 7000 and Nexus 5000 allow for a more efficient and simplified switching infrastructure.
- A data center virtualization vision and strategy shared with VMware
- High availability of the hardware and software architecture

The company deployed Cisco Nexus 7000 Series switches for their data center in the southern United States. Additional Cisco Nexus 7000 Series switches will be added in the future to completely transform the core of the Layer 2 infrastructure. The Cisco Nexus 5000 Series switches are deployed in a number of their infrastructure sites. The company will also deploy additional Cisco Nexus 5000 Series switches as they transition their hosting environment transitions to a unified fabric.

### For More Information

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

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



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