

Healthcare Company Gains Dramatic Increases in Efficiency and Scale

Customer Case Study



Molina Healthcare uses Cisco MDS Multilayer Directors as powerful cornerstones in converged infrastructure.

EXECUTIVE SUMMARY

Customer Name:

Molina Healthcare, Inc.

Location: United States

Challenge:

- Manage escalating data storage requirements
- Simplify infrastructure and reduce costs
- Improve operational efficiency

Solution:

- Cisco MDS 9500 and 9700 Series Multilayer Directors
- Cisco Nexus 5000 Series Switches
- Cisco Unified Computing System

Results:

- Increased capacity and scalability without a proportionate increase in headcount
- Significantly accelerated provisioning
- Greatly simplified management while gaining efficiency and agility

Challenge

Since 1980, Molina Healthcare has been a leader in providing quality healthcare for financially vulnerable individuals and families. Today it arranges for the delivery of healthcare services and offers health information management solutions for 4.3 million individuals and families in 15 states who receive care through government-funded programs.

To accommodate growth, in 2009 Molina consolidated its data center operations and virtualized much of its server infrastructure. Since then, business growth and the need to support new healthcare plans have escalated data storage demands. For example, in 2009, Molina stored 200 terabytes (TB) of data. By 2013, that figure had risen to almost 7 petabytes (PB).

Growth has also affected the company's network infrastructure. In 2009, Molina deployed separate LAN and SAN infrastructures. By 2013, cabling costs and management complexity had risen to unacceptable levels. Without budget to add IT headcount, and with the SAN due for a refresh, Molina decided to converge its LAN and SAN infrastructures. Molina had turned to Cisco for network solutions and services during its 2009 data center migration and consolidation initiative. Once again, the company chose Cisco® solutions for its converged infrastructure.

Solution

Molina chose Vblock™ 300 and 700 Infrastructure Packages to build a highly scalable foundation and refresh its infrastructure. Vblock™ 300 and 700 Infrastructure Packages include Cisco Unified Computing System™ (Cisco UCS®), Cisco Nexus® switches, EMC Symmetrix VMAX storage, and VMware vSphere 4 and are designed to meet the high-performance demands of mission-critical applications and large-scale virtualization. Molina also chose Cisco MDS 9500 Series and 9710 Multilayer Directors to replace its existing SAN switches.





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Gautam Mukherjee
Manager, IT Service Design, Enterprise
Infrastructure Services
Molina Healthcare

“Cisco MDS 9710 Multilayer Directors are cornerstones of our infrastructure,” says Gautam Mukherjee, manager of IT Service Design, Enterprise Infrastructure Services, for Molina Healthcare. “They deliver superior performance and availability and provide high consistency across the data center. The Cisco MDS 9710 will be essential to supporting all of our data center storage infrastructure.”

Molina had originally implemented Cisco MDS 9500 Series systems and is moving to the Cisco MDS 9710 as it replaces systems from another vendor. Cisco MDS systems deliver the performance, availability, scalability, and security needed for mission-critical applications, massive amounts of data, and cloud environments. Cisco MDS 9710 Multilayer Directors will support up to 16-Gbps Fibre Channel and 1.5-Tbps throughput per slot, giving Molina superb scalability. Ten-Gbps Fibre Channel links connect the Cisco MDS Multilayer Directors, Cisco Nexus switches, and Cisco UCS systems to allow Molina to migrate to a converged infrastructure in the future.

The Cisco MDS 9710 also supports a comprehensive security framework consisting of RADIUS and TACACS+, Fibre Channel Security Protocol (FC-SP), Secure File Transfer Protocol (SFTP), Secure Shell (SSH) Protocol, and Simple Network Management Protocol version 3 (SNMPv3).

Cisco Unified Computing System enables Molina Healthcare to easily scale its capacity to meet changing business needs while consolidating resources and reducing the number of devices needed. Cisco UCS Manager provides unified, embedded management of all software and hardware components in a data center design based on Cisco technology. It controls multiple chassis and manages resources for thousands of virtual machines. With unified model-based management, configuring hundreds of servers is as fast as configuring just one server, with lower total cost of ownership and improved business continuity.

“Cisco UCS is one of the best things that ever happened to our infrastructure,” says Mukherjee. “We had planned to move to a blade server architecture, and Cisco UCS allows us to unify computing, networking, management, virtualization, and storage access into a single integrated architecture.”

Cisco Nexus switches create the high-capacity backbone of Molina’s infrastructure while significantly simplifying system management. The network design based on Nexus switches provides architectural flexibility to connect servers with 1 Gigabit Ethernet, 10 Gigabit Ethernet, or Fibre Channel connectivity and simultaneously reduce costs associated with ports, cables, and cooling requirements.

Results

The converged infrastructure has greatly simplified management of all of Molina’s data center resources. One operating system and a single point of management have accelerated provisioning, delivered operational consistency, and reduced cabling costs.

Today, critical applications including Microsoft Exchange, Molina’s Picture Archiving and Communication System, all virtual machines, and health plan business applications are fully migrated to the converged infrastructure. Plans call for completing the movement of Molina’s electronic medical record system, healthcare reporting applications, and care management solutions to the converged infrastructure by the end of 2013.

Molina’s familiarity with Cisco platforms accelerated deployment. In the past, changing portions of the infrastructure required several months of design and testing. The current project took two weeks to move the entire new infrastructure into production. Server provisioning used to take two months and now takes days.

PRODUCT LIST

- Cisco MDS 9700 Series Multilayer Directors
- Cisco Nexus switches
- Cisco Unified Computing System

Because Cisco tools are consistent across product families, such as Cisco UCS and networking products, deployment is greatly simplified. The consistent operating system used across Molina's Cisco MDS 9710 systems has enabled IT staff to complete migrations within days rather than weeks or months.

By converging the infrastructure, the IT staff has also improved team efficiency. The IT organization recently shifted from the traditional approach of having technology-specific teams to a streamlined model with three teams. The new service design, service operations, and service delivery teams are sharing tasks and becoming conversant with a broader range of infrastructure technologies, enabling everyone to produce better results and save Molina time and effort in accomplishing IT tasks.

"We already see benefits from merging our teams," says Mukherjee. "Not only were we able to greatly scale our capabilities without proportionate increases in headcount, our teams have gained a much more comprehensive understanding of how the entire infrastructure works. It is paying off in far greater efficiency and agility."

IT will gain additional cost savings when the new Cisco MDS 9710 systems are fully deployed in the SAN core. Molina will gain the benefit of the newest systems and technology and avoid having to extend costly maintenance agreements on technology from another vendor while keeping its infrastructure ready for future speed requirements and technology migrations.

Cisco UCS also provides a transparent environment for scaling operations, allowing Molina to easily add new product lines, deliver new constituent services, and integrate company acquisitions without having to redesign the network or add headcount. Molina relies on Cisco UCS Manager to support a high level of operational efficiency, simplify provisioning, increase agility in meeting changing business requirements, and deliver superior visibility and control.

Next Steps

"We are planning to migrate the connections within our Vblock Infrastructure Packages from Fibre Channel to Fibre Channel over Ethernet," says Mukherjee. "The Cisco MDS 9710 will be essential to supporting all of our data center storage infrastructure."

Having systems that offer a wide range of connectivity options, high scalability, and simplified management have set Molina on a high-performance path to its future. No matter how rapidly healthcare needs change, Molina Healthcare is ready.

For More Information

To find out more about Cisco Multilayer Director Switches, visit www.cisco.com/en/US/products/ps5990/index.html.

To learn more about Molina Healthcare, Inc. visit www.molinahealthcare.com.

This customer story is based on information provided by Molina Healthcare, Inc. and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.

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