



Customer Case Study

Community Health Network Boosts Capacity to Deliver More Reliable Services and State-of-the-Art Care

Community Health Network replaced its network with a high-speed Cisco optical network to connect five hospitals and more than 70 doctor's offices.

EXECUTIVE SUMMARY

Community Health Network

- Healthcare
- Indianapolis, Indiana
- 9800 employees and physicians

BUSINESS CHALLENGE

- Increase network performance to support state-of-the-art clinical and disaster recovery applications
- Gain the network capacity and control to quickly deploy new locations and services as needed
- Help ensure maximum reliability and resiliency to support a modern clinical environment

NETWORK SOLUTION

Replaced costly carrier-based network with a more flexible, resilient, and higher-capacity private optical network

BUSINESS RESULTS

- Delivers return on investment of more than \$11 million over 13 years
- Reduces operating costs
- Supports key clinical and disaster recovery applications
- Achieves 99.999 percent network availability
- Provides a scalable foundation to support virtually unlimited expansion

BUSINESS CHALLENGE

Community Health Network is a major healthcare system in central Indiana, encompassing five major hospitals, more than 70 satellite facilities and physician offices, and nearly 10,000 employees and physicians. Committed to providing state-of-the-art care, the organization uses technologies such as digital medical records and picture-archiving and communication systems (PACS) that allow physicians to access high-resolution X-rays, magnetic resonance imaging, and other images from anywhere in the healthcare network.

However, by 2003, Community Health Network's network infrastructure was struggling to keep up with the organization's requirements. Serving a wide range of constituents at the hospitals, as well as providing voice and data connectivity to dozens of smaller physician offices in the region, the healthcare provider's bandwidth needs were growing at a rate of 400 percent annually.

Community Health Network leaders also wanted to make the network more reliable and resilient. The IT team wanted to add greater redundancy to all critical circuits in the wide-area network (WAN) and deploy a new disaster recovery system that would replicate all data across the organization in real time. However, Community Health Network's existing WAN services were leased from a local carrier. Leasing additional services to provide the needed redundancy and capacity – especially for a high-bandwidth storage-area network (SAN) solution – would be extremely expensive.

Looking ahead, the IT team realized that staying with a carrier-based network could also impede Community Health Network's flexibility as the organization grew. As their

internal customers (hospital administrators, radiologists, remote physicians) demanded new services and applications, the team needed to be able to quickly add bandwidth and turn up new services anywhere that the organization required – without waiting weeks or months for a carrier to process the order. Ultimately, to provide the flexibility, capacity, and resiliency that Community Health Network required, the company needed to deploy a private optical and storage network.

NETWORK SOLUTION

After performing a thorough return on investment (ROI) analysis, Community Health Network leaders decided to move forward with the migration to a private optical network. The organization had relied on Cisco Systems® LAN solutions for years, and turned to Cisco® first for its optical network requirements.

PRODUCT LIST

Routing and Switching

- Cisco ONS 15454 Multiservice Transport Platform
- Cisco Catalyst® 6500 Series
- Cisco 2800 Series Routers

“We standardized on Cisco network solutions in 2000,” says Christine Cerny, enterprise networking manager, Community Health Network. “Since that time, we have found that Cisco provides excellent support, and that our investments scale nicely to accommodate changes in technology. If we need it, we are looking to see if Cisco sells it first.”

“The reliability of our network is also very important, both to our IT staff and to our clinicians,” says Rick Copple, vice president and chief technology officer, Community Health Network. “That is exactly what the Cisco products provide.”

For assistance deploying, integrating, and managing the new optical network, Community Health Network turned to Cisco Certified Partner and network and storage expert CentrePath. With CentrePath’s assistance, Community Health Network migrated its entire network in just over a week.

A High-Capacity, Highly Reliable Solution

Today, a high-capacity Cisco optical network connects the five Community Health Network hospitals, including major data centers at Community Hospital and the organization’s all-digital Indiana Heart Hospital, as well as a disaster recovery data center in downtown Indianapolis. The network also serves as the backbone for delivering mission-critical voice, medical record, and clinical imaging applications to physicians at more than 70 satellite sites across the region.

The network is a dense wavelength-division multiplexing (DWDM) optical ring built with Cisco ONS 15454 Multiservice Transport Platforms (MSTPs), overlaid by a Cisco ONS 15454 Multiservice Provisioning Platform (MSPP)-based SONET ring. The DWDM network supports Fibre Channel (FC) traffic for the disaster recovery system, while the SONET ring delivers day-to-day clinical applications and voice-over-IP (VoIP) service for the hospitals and remote physician offices. The Cisco optical platforms also incorporate Cisco ML-Series line cards that support Resilient Packet Ring (RPR) protection schemes. As a result, Community Health can build carrier-class resiliency and redundancy into network circuits without the substantial cost of leasing multiple physical connections.

Based on the exceptional service CentrePath provided during the implementation, Community Health Network turned to CentrePath to provide ongoing management and 24-hour monitoring of the optical and storage network. Today CentrePath’s Magellan Remote Management Service isolates any faults in real time, informs Community Health Network IT staff of any problems or performance issues affecting the network within minutes, and immediately begins to resolve network issues and remediate any impact that they might have on network applications.

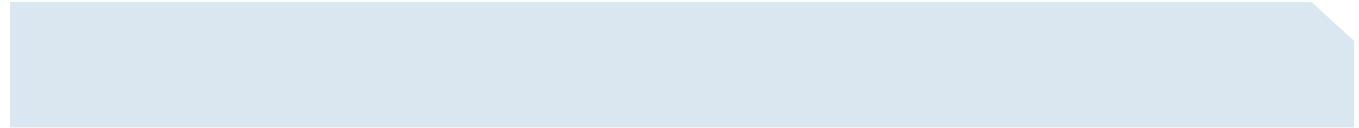
“Community Health Network trusts us with their mission-critical network largely because of what Cisco and CentrePath, working as a team, have been able to do for them,” says Rick King, CentrePath’s principal engineer for Community Health Network. “It was a great relationship from start to finish. Community Health Network, Cisco, and CentrePath have all worked together to get this network up very quickly, with very few problems.”

“The Cisco optical network has enabled us to operate as a true health ‘network’ and provide consistent care across all of our facilities.”

—Rick Copple, Vice President and Chief Technology Officer, Community Health

BUSINESS RESULTS

With the migration to a Cisco optical network, Community Health Network now has a highly reliable, flexible, and cost-effective infrastructure to support the organization’s current and future needs. The network delivers ample capacity to support even the most



bandwidth-intensive clinical imaging and disaster recovery applications, while providing built-in scalability to easily integrate new applications and services in the years ahead.

Physicians anywhere in the organization can now access real-time patient records and high-bandwidth images in just seconds instead of minutes, from any location in the provider network. As a result, they can deliver faster, more effective care and service to their patients.

“From a clinical standpoint, the Cisco optical network has enabled us to operate as a true health ‘network’ and provide consistent care across all of our facilities,” says Copple. “We no longer have to worry about the bandwidth available between our campuses, or about the network failing because someone is pulling a large PACS image across the network. We also have the peace of mind of a stable and reliable network.”

Migrating to the Cisco optical network managed by CentrePath has yielded financial benefits as well. By aggregating multiple services that were previously managed separately onto a single optical ring, Community Health Network has cut its costs for fiber leasing and network maintenance and expansion. These savings alone mean that the new network will deliver an ROI of more than \$11 million over 13 years.

The advantages of owning the optical network have also made an enormous difference for Community Health Network. Today, the organization can boost bandwidth or add an entirely new service easily and almost immediately. For example, the IT team recently decided to add two new 100-Mb circuits. Previously, they would have waited a month for the new connections. With the Cisco optical network, CentrePath was able to add the circuits in less than 10 minutes.

“The biggest impact to our IT team has been the addition of a layer of control that we did not previously have,” says Cerny. “Now we control our own network. We do not have to communicate through layers of engineers to add needed bandwidth or troubleshoot problems.”

Most importantly, Community Health Network IT executives, clinicians, and patients can depend on the critical clinical applications that the optical network supports. With the highly reliable Cisco solutions, the ability to employ advanced network protection features such as RPR, and the exceptional support that the organization receives from CentrePath, Community Health Network has achieved carrier-class 99.999 percent availability.

“There has been no realized downtime on this network since it was installed,” says King. “Even when we have had the risk of an outage, the protection schemes that we have employed have preserved access to the applications. Community Health Network has been able to maintain a constant data flow, with no issues whatsoever.”



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