

Transforming operations

Mission-driven healthcare system turns to Waves



Challenges

- Reduce IT costs
- Increase efficiency across a multi-state non-profit healthcare system
- Reduce latency of applications across the network
- Create a centralized set of shared tools and resources

Solutions

- Consolidate data centers, linking them to hospitals via fiber
- 10 gig links to shared SaaS applications, cloud service providers and other third-party vendors

Results

- Network bandwidth increased from on average 150Mb to 8000Mb
- Cost per Mb of data transit capacity was reduced by 90 percent
- Overall lower costs, greater scalability, higher network capacity

Challenge

Create shared services as foundation for a flexible operating model

To cut costs and remain competitive, one mission-driven national hospital system wanted to streamline operations and centralize IT services without sacrificing the flexibility of their regionalized operating model.

The hospital system operated 30 regional units spread across multiple cities and states. As each region had its own IT operations, including data centers, inefficiencies multiplied, raising costs exponentially.

A patchwork of network providers tied regions together, causing routing and access issues. Latency issues made application sharing prohibitive. Managing all of the vendors and the complexity of the infrastructure pulled hospital IT staff away from focusing on patient care.

They needed a centralized set of shared tools and resources that the entire healthcare system could access without latency penalties. A single underlying network was crucial to meeting the objective.

Solution

Centralize data centers, connect everything with high-speed fiber

The robust Lumen fiber optics network was within easy reach of the customer's key facilities across the nation. An agile IT infrastructure was architected to address the challenges of centralization.

The solution involved consolidating all resources into five data centers in colocation facilities located in: Chicago, St. Louis, Dallas, Atlanta and Virginia. These serve the various operating regions with a standardized toolset. The five core "Infrastructure Hosting Centers" are interconnected by a diverse set of 100Gb Wave services.

An additional set of hubs provide 10 gig links to shared SaaS applications, cloud service providers and other third-party vendors the system relied on. The layering lowers latency effects for key applications and also reduces costs for the system as a whole, since each region, and often multiple facilities within a region, used to have their own links to the third-party resources.

Lumen Solution Set

- Lumen® Wavelength Solutions
- Lumen® Professional Services

Results and future plans

Increased network speeds and lower costs

Network bandwidth for access to core hosted resource environments increased from on average 150Mb to 8000Mb, while cost per Mb of data transit capacity was reduced by 90 percent. Doctors and other staff were completely unaware that resources had been consolidated because of the dramatic shift in network performance.

Today, the hospital system still operates as 30 regions, but each segment gets the benefits of shared services: lower costs, greater scalability, higher network capacity. Internal IT staff can now be redeployed from managing the patchwork quilt to serving patients more efficiently such as evaluating new applications for patient care.

Future plans include consolidation of hundreds of internet connections across the system, similar to the data center consolidation. By utilizing the fiber backbone, Lumen architects believe it's possible to reduce that number to the single digits and saving those connection costs across regions.