

Solution Impact Analysis

Comanche County Memorial Hospital Turns to Brocade Network Subscription to Cost- effectively Overhaul Its Network

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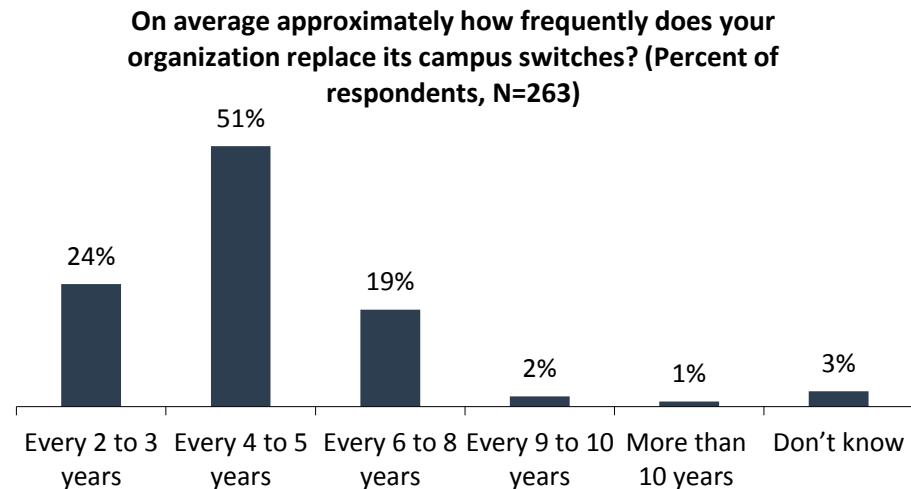
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Overview

The traditional approach to meeting network requirements is to regularly refresh network equipment on a set schedule. ESG conducted a survey in which 51% of research respondents reported replacing their campus switches every four to five years and 24% reported refreshes as frequently as every two to three years (see Figure 1).¹ These refreshes are typically capitalized, as new equipment is purchased with a sizable upfront payment. Additionally, ongoing maintenance and support costs, usually a percentage of the upfront cost, are then paid to the vendor over time to cover eventualities such as break-fix events or software updates and enhancements.

Figure 1. Frequency of Network Switch Refreshes



Source: Enterprise Strategy Group, 2016

When CIO James Wellman took the helm at Comanche Country Memorial Hospital, the majority of the switching and routing infrastructure had little life left. The hospital was experiencing regular network outages, which both impacted patient care and caused loss of revenue for the hospital. Wellman reported, “When we started the journey to assess our IT infrastructure, we realized we were in a challenging situation. We would lose connectivity on almost a weekly basis. For example, I had a switch malfunction, with no backup switch architected for high availability, and not under support. When we lost service to the radiology department, that cost us six figures per day, until we could get a replacement.”

Moreover, cabling at the hospital was woefully inadequate. Connections to the 27 network closets at outpatient clinics were not redundant. In short, the entire network needed to be rebuilt from the ground up. However, there was a problem: The traditional economics of infrastructure purchasing wouldn’t work for the hospital. Wellman was facing a host of problems, “We had too many things to fix. We didn’t have the capital that we needed to do it in a traditional way. We would have had to do the network in pieces, which would have left us with segments of the network still operating in emergency mode and costing us lost revenue, significant costs from responding to fire drills, or both.”

Organization Profile

Industry

- Healthcare – Hospital with 283 beds and 27 remote clinics, and operating a federally qualified health center.
- Nearly 2,000 employees, including 250 physicians.

Challenges

- Frequent network outages and expensive network solutions impacting patient care and hospital operations.

Benefits

- Accomplish a timely refresh of the entire network without exceeding the capital budget.
- Lowered the network’s TCO by 30%.
- Increase network availability, eliminating weekly outages.
- Dramatically improve network performance.
- Improve the hospital’s ability to attract and retain network administrators.
- Enable the networking team to explore new security initiatives.

Network Profile

- Brocade Network Subscription for network-as-a-service acquisition.
- Brocade 6520 SAN Switches for the data center.
- Brocade MLX Series Core Routers in the network core.
- Brocade ICX Switches for aggregation.
- Brocade FCX Switches for access.
- Brocade CER 2000 Series for Internet routing.

¹ Source: ESG Research Report, [Trends in Data Center Networking](#), February 2016. All ESG research references and charts in this solution impact analysis have been taken from this research report.

Solution

Wellman’s philosophy for funding IT investments is simple: Achieve cost predictability by eliminating CapEx spikes and procuring IT solutions and services in an OpEx fashion. It essentially applies the same principles of cloud computing and infrastructure-as-a-service (IaaS) to the network. By viewing the complete overhaul of the network as an opportunity to streamline operations, Wellman sought to standardize the IT infrastructure to reduce the burden on IT staff and avoid compatibility problems.

However, finding a partner to help Wellman execute that vision was not so easy. Only one vendor was able to listen to his requirements and design a solution and procurement methodology that met Wellman’s requirements. That vendor was Brocade. Wellman explained, “We needed to be able to ease our way [financially] into this refresh. Brocade was the only vendor that offered an OpEx model and gave us the ability to change the network on the fly as our requirements changed. It’s great to be able to sit down with my CFO and show him my network costs are stable and predictable. I’m not walking in every 3 or 5 years and asking for multiple millions of dollars to do a network refresh. It’s built into the model—our price stays pretty stagnant.”

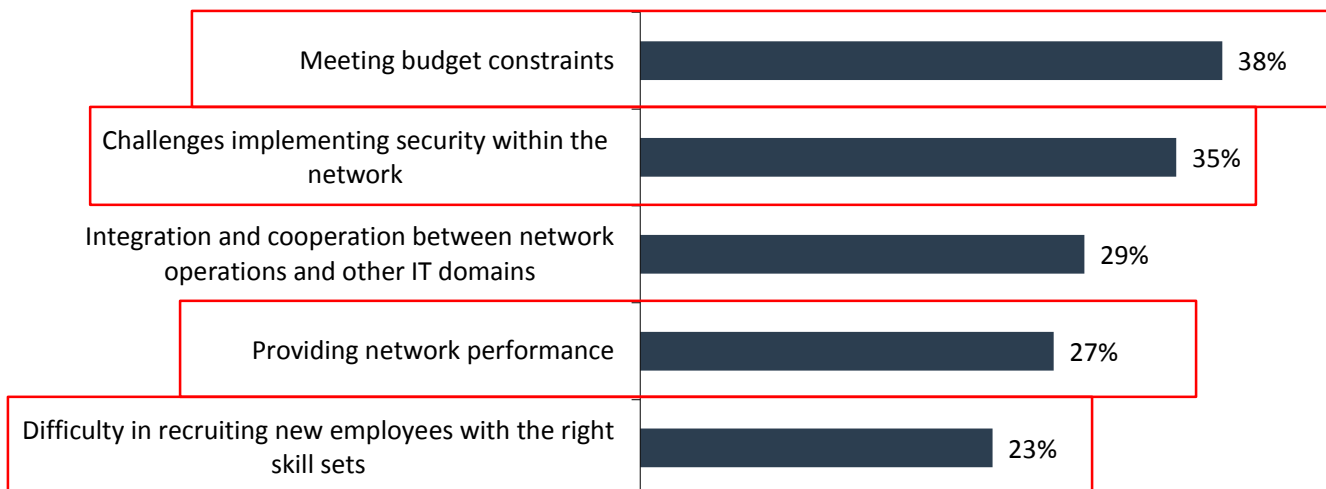
Results

Beyond the foremost challenge, eliminating network downtime, the new Brocade network allowed the hospital to address a number of other challenges. With Brocade Network Subscription providing a way to pay for the network as infrastructure as-a-service, the hospital significantly improved its network capabilities without throwing the annual budget into disarray. The upgraded network in turn enables Wellman to take a forward-looking approach to providing connectivity to staff, patients, and visitors because performance is no longer a bottleneck. Additionally, as a hospital in a fairly remote area of Oklahoma, attracting and retaining talent can be a challenge. By allowing employees to work with best-of-breed wired and wireless equipment, Wellman is able to foster high employee satisfaction and minimize churn. As the burden to respond to emergency situations lessens, Wellman has been able to advance key network security and monitoring initiatives. This focus would not have been possible for the budget- and time-strapped infrastructure team without the network subscription model.

The challenges Wellman faced align very well to recent ESG research. Respondents to the study rated meeting budget constraints (38%), implementing network security, providing network performance, and recruiting top talent among the five most frequently faced challenges for the network team (see Figure 2).

Figure 2. Top Five Challenges Faced by the Networking Team

In your opinion, what are the biggest challenges facing your organization’s networking team? (Percent of respondents, N=306, five responses accepted)



Source: Enterprise Strategy Group, 2016

Improving Network Availability

Prior to the Brocade implementation, network availability was a key concern for the hospital. As Wellman puts it, “We had a perfect storm of problems, bad apps, bad servers, bad switches, bad routers, and bad cabling. Outages were a very common occurrence...For example, a physician could be in a meeting with a patient and not be able to place an order for a test because the network was down. These are critical things that can cost us dollars, and more importantly, hinder patient care.” With weekly outages costing the hospital in the range of \$100,000 per event, reducing the number of events from 52 to zero can quickly deliver a significant return for the organization while increasing patient confidence and satisfaction.

The days of weekly network outages are now in the past. The hospital’s network today is entirely Brocade. Since the network refresh, there have been no outages or service disruptions tied to network infrastructure. It just works. The hospital enjoys the benefits of 30% cost savings, better patient care, and improved employee productivity.

Meeting Budget Constraints

The only way the hospital could execute such a major network refresh was by paying for the network “as-a-service.” As Wellman puts it, “Brocade Network Subscription is what enabled us to do this refresh.”

The new Brocade network allowed the hospital to move away from its reactionary mode of operation. Before the refresh, the network team was frequently operating in “emergency mode,” constantly replacing failing equipment and struggling with root cause analysis due to the complicated mashup of network infrastructure and its subpar state. Additionally the organization was carrying expensive extended maintenance contracts covering much of the old infrastructure deployed.

When analyzing the cost of the new network, it turned out that the cost of the brand new, higher-performing network was lower than maintaining the old piecemealed network. Wellman expounded, “We actually lowered our costs by refreshing our network. Before the refresh, we were very reactionary. We would have to pay a premium to procure and implement new equipment. We were constantly in fire drill mode, and spent a lot of money putting out fires. Two years into the refresh, we reduced our overall costs and saved about 30% on the network.”

Providing Network Performance

Today, staff, patient, and visitor expectations with regards to connectivity are high. Visitors expect the hospital to provide high-performing wireless connectivity, and the availability of that connectivity weighs heavily on overall patient satisfaction. This is critical for a number of reasons.

First, patient and visitor satisfaction is critical to their future utilization of the hospital’s services. If for any reason a patient does not have a positive experience at the hospital, that increases the likelihood that she will move to a competing hospital in the future. It is important that network connectivity is a positive aspect of the patient experience.

Secondly, patient approval has direct financial ramifications to the hospital. The reimbursement schedules of hospitals are directly tied to patient satisfaction ratings. The happier the patients, the greater the reimbursement to the hospital.

The combination of these two factors augments the economic return the hospital is reaping on its network investment. Wellman said, “As the population and demographics of the patient community change, higher technology expectations become more common. That means we need to be able to meet those expectations and it’s only going to be more important over time. Patients and their families now expect high-grade wireless, so we see a lot of network traffic—hundreds of devices—that need a high level of service. Before we redesigned our network, the visitor network had been shared so we couldn’t control the network as well as I would have liked. With our redesign, we’ve been able to create physical separation and ensure service levels for both visitor and business-critical network traffic. This helps us deliver higher-quality care, higher customer satisfaction, and receive higher reimbursements.”

Enhancing Recruiting/Employee Retention

Attracting and retaining top IT talent can be a challenge. One of the unexpected benefits of implementing a top-tier network is that attracting and retaining network administrators has become easier for Wellman. The new network enables the team to learn cutting-edge network switching and routing technology and design a simple infrastructure that optimizes their operations. For example, the new campus network has collapsed many unnecessary network layers, and has improved stacking capabilities where multiple switches can be managed as a single device. With an intuitive command line interface, Wellman's network administrators can quickly learn to deploy and manage the network, and scale ports and services across the entire hospital environment and its remote locations.

By designing entry-level switches to leverage advanced network services from premium switches, the hospital enjoys greater efficiency and investment protection. As Wellman put it, "Our administrators get to work on first-rate equipment. Constantly fixing old stuff wears on you. Now we have equipment that staff actually like to work on. They are able to stay ahead of the curve, better themselves, and work on more interesting projects."

Improved recruitment and engagement is not the only tangible benefit of the network. The hospital has also been able to reduce costs associated with staffing. Prior to the refresh, the hospital had employed six contract employees at hourly rates of \$35-65 per hour to combat network issues. Six months after the network refresh, the hospital was able to phase out all six contractors, resulting in a significant savings of \$400,000 per year.

Looking to the Future

With a high-performing network in place, the hospital prepares to take on additional initiatives to improve both patient care and financial performance, which would otherwise have been impossible.

For example, Comanche Country Memorial Hospital was recruited as one of three flagship hospitals to deploy a next-generation electronic medical records (EMR) application from eClinicalWorks utilizing another cost-effective subscription model. This allowed the hospital to avoid a huge CapEx refresh of its EMR software, with costs estimated in the range of \$15-20M. As an early adopter of the application, Wellman has the opportunity to shape the development direction of the application to ensure it meets his organization's requirements. The hospital's network was a key reason why the hospital was recruited for the EMR deployment. Wellman notes, "Our commitment to our infrastructure was a key component to being selected [by eClinicalWorks]. Application vendors want to ensure your infrastructure can support the application—we have a rock solid network and they were really impressed with that. With this application we're not just checking a box. We are able to improve patient outcomes. We want to provide the best available care for patients in southwest Oklahoma so they don't need to travel to a major city to receive quality care. As long as we continue to execute on our mission of providing safe, compassionate, and innovative healthcare, that's what will truly set us apart."

The Bigger Truth

Comanche County Memorial Hospital needed a cost-effective way to quickly rebuild its failing network infrastructure. Brocade offered a unique combination of a solid high-performing infrastructure and a flexible subscription model to allow CIO James Wellman to quickly effect change. The results for the health system have been sizable in terms of providing a network with zero downtime and reducing costs by 30%. The organization is reaping significant returns from its investment along with a future that offers endless possibilities through the subscription plan. With improved quality of patient care today and enhanced security moving forward, the hospital is positioned to take advantage of the opportunities the new network enables.



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