SUCCESS STORY

City of Chattanooga

EXECUTIVE SUMMARY

Challenge

Upgrade the campus network to support VoIP and a growing number of demanding applications while maximizing taxpayer dollars

Solution

- Brocade ICX switches for network access and aggregation
- Brocade FastIron SX Series for the network core

Results

- Improved application performance and reduced backup times from more than a day to minutes
- Future-proofed the network for anticipated automation requirements, reliability demands, and wireless data traffic growth
- Delivered a cost-effective solution that stays within budget and maximizes taxpayer dollars
- Simplified network management and saved valuable time for IT staff

City of Chattanooga Future-Proofs Its Campus Network While Maximizing Taxpayer Dollars

Scenic Chattanooga lies in southeastern Tennessee and boasts a stable economy, civic vitality, and recognition as one of the most livable cities in the United States. The city government provides services to more than 171,000 citizens, as well as to businesses and nonprofit organizations. Approximately 2,000 of those citizens also work for the city, relying on a network that spans more than 100 locations. When JW Windberry, Network Manager for the City of Chattanooga's IT department, arrived, the city had already decided to deploy Voice over Internet Protocol (VoIP) and was ready to implement its chosen solution.

However, the aging network infrastructure was not ready to support this technology. The new VoIP system required Quality of Service (QoS) and Power over Ethernet (PoE), features not available in the existing network. In fact, the network was barely supporting the city's wide range of existing applications. Performance for business, real-time water monitoring, asset tracking, and Geographic Information System (GIS) mapping applications was lagging. For example, simply backing up GIS data required more than a day. Equipment lacked the necessary functionality, and systems failed frequently.

Rebuilding the Network Foundation

"The network needed a major overhaul," says Windberry. "We needed more reliability, advanced capabilities, lower latency, and a lower price tag. After considering all the major network vendors, we chose Brocade. Brocade network solutions gave us everything we needed, as well as a way to accommodate the city's future needs."

The new infrastructure uses Brocade® FastIron® SX Series core switches in the data center and the Development Resources Center, which houses the compute-intensive GIS services group. The city campus network includes City Hall, an Annex, the City Council, and several other sites. Each site houses a Brocade ICX® 6650 Switch for traffic aggregation and distribution, as well as Brocade ICX 6610 and 6450 Switches for aggregation and access.

"The Brocade ICX 6650 Switches are really cost-effective and offer multiple 10 Gbps fiber ports," says Windberry. "I can aggregate traffic from multiple building floors and send it to the data center over 10 Gbps, which improves application performance."

Within the main city center deployment, Brocade ICX 6610 switches aggregate and distribute traffic from Brocade ICX 6450 edge switches to the network core. In some instances, Windberry stacks the Brocade ICX 6610 and 6450 Switches together to simplify management.

Mixed stacking is a feature of the Brocade HyperEdge® Architecture, which supports the consolidation of aggregation and access switches to streamline management while enabling premium switching features and services to be extended to entry-level switches.

"When we create a mixed stack of Brocade ICX 6610 and 6450 Switches, we can easily manage the stack as one switch," says Windberry. "We get all of the capabilities of the Brocade ICX 6610, plus added port density and the cost advantages of the Brocade ICX 6450 with simplified management. No other vendor offered us this capability."

Voice Services and More

With the new network, the city is able to complete its VoIP deployment and provide voice services across the network. The new network also provides the capacity and flexibility to take advantage of other innovative technologies. For example, firefighters now can use tablets on the fire trucks, connected via Brocade switches and wireless access points, to view architectural drawings of buildings when needed. Having current, accurate information onsite saves valuable time while helping to protect property and lives.

Non-Stop Performance

The new switch platforms deliver unprecedented performance for the city. Application performance, in particular, has dramatically improved.

"Backup processes now take minutes instead of hours or days," says Windberry. "That's the kind of performance we need to expand our wireless deployment and support exponential increases in data traffic. Now we're ready for it. Brocade always seems to know what I need."

Complete, Comprehensive, and Cost-Effective

Windberry estimates that Brocade ICX 6650 Switches cost the city less than 25 percent of what it would have spent on large chassis. Mixed stacking stretches the IT budget even further by enabling high port density and leveraging the fully featured Brocade ICX 6610 capabilities across entry-level Brocade ICX 6450 Switches.

Upcoming Plans

The Emergency Services Center will soon upgrade its network to support automation for fire processes, communication, police processes, and surveillance. The network will feature a Brocade core switch with Brocade ICX 6610 or 6450 Switches on every floor. This switch combination will provide the high density needed for connecting regional, city, and federal emergency services over the city's infrastructure.

In addition, plans include deploying a compact Brocade ICX switch at a city park to provide point-of-sale capabilities for park attractions. Compact switches are ideal for city locations where there are few devices and a standard 1U switch would be excessive. The ability to have an affordable, enterprise-class switch in these locations makes it practical for the network team to manage.

"It's really exciting how the city embraces innovation to improve citizens' lives," says Windberry. "We're pushing the envelope here. Brocade is with us every step of the way, offering flexible solutions that save us critical time and money."

For more information, visit www.brocade.com.

WHY BROCADE

"We replaced all our legacy chassis with Brocade ICX 7750 distributed switches. The Brocade ICX 7750 Switch takes up less space, has lower power consumption, and is less expensive to support than the Cisco 6509 chassis. It's reliable, robust, and scalable technology. It was a phenomenal move for us."

—Patrick Gittisriboongul, Director of Educational Technology and Information Services, Huntington Beach Union High School District

Corporate Headquarters
San Jose, CA USA
T: +1-408-333-8000
info@brocade.com

European Headquarters
Geneva, Switzerland
T: +41-22-799-56-40
emea-info@brocade.com

Asia Pacific Headquarters
Singapore
T: +65-6538-4700
apac-info@brocade.com

BROCADE