

Shelton State Community College



Shelton State Gains High Performance and Availability with Brocade Network

Shelton State Community College is part of the Alabama Community College System. The college originally combined Shelton State Technical College with the Tuscaloosa branch campus of Brewer State Junior College and later consolidated with the C.A. Fredd State Technical College to become today's Shelton State Community College. Shelton State also is recognized for its contribution to music, dance, and theatre, earning its designation as Alabama's Junior College of the Fine Arts.

EXECUTIVE SUMMARY

Challenge

Provide a high-performance, high-availability network that supports teaching and learning, rapid growth, and demanding applications.

Solution

- Brocade ICX campus network access and aggregation switches Brocade FCX Series switches
- Brocade FastIron WS Series Switches
- Brocade VDX Switches for the data center and SANs
- Brocade Network Advisor for network management

Results

- Deployed a highly resilient, high-performance campus network for nonstop learning and teaching
- Expanded port densities to support growth cost-effectively
- Gained instant visibility into network performance at all levels for ensuring a quality student experience
- Gained flexible capabilities to support expanded wireless and video deployments

More than 5,600 students launch their postsecondary educations at Shelton State across two campuses and numerous distance-learning sites. The college plans to double enrollment to 12,000 students by 2020 and deliver a university-caliber education as it prepares students for the future.

In 2010 to support its mission, the college initiated a major network upgrade, which involved comparing potential solutions from Brocade and Cisco. The college's criteria were straightforward. It needed full line-rate performance from the network edge to the core to meet day-to-day computing requirements for labs and classrooms, which can vary greatly. It also needed high availability, because education cannot stop if a network system goes down. The new network had to support the college's aggressive virtualization plans, as well as a new Voice over IP (VoIP) deployment. Ease of management was important, and of course, price was a factor.

"We directly compared solution specifications and performance," said Vaughan Lynch, Network Manager for Shelton State. "The Brocade solution delivered significantly better performance, reporting features, and pricing. That made our decision easy."

Deploying a Solid Foundation

Shelton State's infrastructure is built on two redundant data centers across the Martin Campus with links to a third data center on the Fredd campus. Four off-site distance-learning locations connect to the Martin campus data centers through VPN links. The college has implemented Brocade campus, data center, and Storage Area network (SAN) switches across its infrastructure. Martin campus data centers feature a pair of fully redundant Brocade SX 1600 switches. Another fully redundant pair of Brocade FastIron SX 800 Switches is deployed at the smaller Fredd campus. Brocade switches at the main campus carry SAN and data traffic, switching over a Layer 2 fabric supported by Brocade VDX® data center switches.

Campus aggregation and edge switches are being migrated to Brocade ICX® switches with Power over Ethernet (PoE) or PoE+ capabilities for aggregation and edge switching to support wireless and video camera equipment. Depending on specific campus needs, Brocade ICX 6610 and 6450 Switches will be deployed singly, stacked, or in mixed stacking configurations. Mixed stacking is a feature of the Brocade HyperEdge® Architecture, which enables premium switching features and services to be extended to entry-level switches.

"The Brocade ICX 6610 switches are great," says Lynch. "We do a lot of Layer 3 multicasting for digital signage, TV channels, security, and in-class recording. When I need higher port density, I stack Brocade ICX 6450 and 6610 Switches. In this configuration, the Brocade ICX 6450 Switches inherit the Layer 3 features needed from the Brocade ICX 6610 Switches but at a much lower cost per port. Mixed stacking delivers the network functionality that our applications need, with the port density I need, plus outstanding performance. And, we get it all with a significant price advantage."

A University-Grade Infrastructure

Shelton State is continuously evolving its network to maintain a university-grade infrastructure that prepares students to use the types of applications and capabilities they will need later. The Brocade infrastructure is delivering better resiliency, application performance, and backup speed.

"If a failure occurs, students and teachers can still use the network with zero impact," says Lynch. "They never know anything is wrong, and that's exactly what we want." High performance is an extra bonus for students who attend Shelton State but do not have access to high-speed Internet connections at home. Many local counties are not served by high-speed Internet access providers. While on campus, students can complete their work efficiently and gain the same high-quality education as urban students.

High Visibility Everywhere

"Brocade gives me better visibility into our Layer 2 infrastructure," explains Lynch. "I need as much information as possible to make sure that students are getting the full capabilities of the network. When we evaluated network solutions, Cisco only offered visibility into routing. But with Brocade Network Advisor, I can monitor network performance in classrooms, labs—wherever I need to."

Great Support

Shelton State is doing exciting things with its network, and Brocade is committed to the college's success.

"Brocade has been really responsive to our needs," he says. "They stand behind their word and make sure that our Brocade solution works the way we need it to work. That's outstanding partnership and we appreciate it."

What's Next?

Shelton State's network continues to grow. Vaughan plans to expand mixed stacking deployments as the college upgrades its edge switch uplinks from 1 Gbps to 10 Gbps capacity. He also foresees a comprehensive upgrade for the Fredd campus using Brocade ICX switches. The switches will provide better support for an expanded 802.11ac wireless network with built-in PoE+, and they will also make it easy to power a growing number of security video cameras that rely on PoE+ injectors.

Shelton State Community College is progressing steadily toward achieving ambitious goals for 2020. The college is deploying Brocade ICX 6650 Switches in its data center to upgrade traffic routing. It's also deploying Internet connections between data centers to more closely align operations. In addition to meeting its enrollment goals, it plans to expand its online learning offerings, increase its impact on workforce education, and establish a long-range technology plan. With Brocade, Shelton State is moving forward at full line-rate speed.

For more information, visit www.brocade.com.

WHY BROCADE

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— Vaughan Lynch, Network Manager

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