

Huntington Beach Union High School District



EXECUTIVE SUMMARY

Challenge

Provide the high performance and reliable networking resources required to support Smarter Balanced assessments and digital learning with a long-term foundation to future-proof the district

Solution

- Brocade ICX 7750 Switches for aggregation and network core
- Brocade ICX 6610 and Brocade ICX 6450 Switches for aggregation and access
- Brocade Network Advisor for management and administration

Results

- An advanced network wired infrastructure that supports the performance demands of the expanding wireless network and Voice over IP
- Easy-to-use network management tools that empower the entire IT staff
- A robust, scalable, and cost-effective network that will support the district for many years

Huntington Beach Schools Achieve New Network Standards with Brocade

The Huntington Beach Union High School District in Southern California encompasses six high schools, one day school, and two adult schools, with more than 16,000 students and 1,500 staff and faculty. This expansive district relies heavily on its network infrastructure to create an excellent learning environment and provide a critical resource for teaching fundamental skills.

The school district needed to boost its network technology to support Common Core (Smarter Balanced) testing. It had also invested in Chromebooks to enable digital learning, and faculty, staff, and students were bringing more laptops, phones, and tablets on campus. On any given day, more than 10,000 wireless devices connect to the school district's network, and the aging infrastructure was faltering under the increased demands.

The district wanted to deploy a new wireless network to support its thousands of users and meet its Common Core requirements. "We quickly realized that we also needed to invest in our wired network as well," says Patrick Gittisriboongul, Director of Educational Technology and Information Services at Huntington Beach Union High School District. "We had an outdated infrastructure with legacy devices throughout all of our campuses. We were experiencing oversubscription; speed, connectivity, and latency issues; and packet loss."

First-In-Class Equipment

The district started evaluating products from several vendors in order to find the right solution. "We needed a network that would support our wireless plans and would be cost-effective," says Gittisriboongul. "Whatever we chose would have to meet our short-term needs and had to be scalable enough to support our long-term growth. I didn't know how long it would be before we have the funds to do another network refresh, so we needed a solution that would last at least seven to eight years."

The district selected Brocade for the wired infrastructure upgrade, replacing its entire legacy Cisco infrastructure. Because of its commitment to open standards, Brocade enabled the district to select the wireless vendor that best suited its needs and grant the peace of mind that it would work seamlessly with Brocade. "Brocade provided us with a complete portfolio of equipment that was easy to manage and configure, and allows us to grow,

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

scale, and expand for the long term," says Gittisriboongul. "Brocade delivered a full network refresh with better performance at less than half the cost of Cisco's proposal."

Each school now has a Brocade ICX 7750 Switch or Brocade ICX 6610 Switch for aggregation and multiple Brocade ICX 6450 Switches with Power over Ethernet at the network edge. The edge switches deliver 1 Gigabit Ethernet (GbE) throughput to clients, and the aggregation layer supports 10 GbE capacity to the network core. "When I started here, the network could only deliver 100 Mbits/sec to end users at each school site, and now we offer gigabit speeds down to the desktop," says Gittisriboongul.

The most dramatic and valuable network change occurred at the core. "We replaced all our legacy chassis with Brocade ICX 7750 distributed switches," says Gittisriboongul. "Honestly, we love that 1U switch. The Brocade ICX 7750 Switch takes up less space, has lower power consumption, and is less expensive to support than the Cisco 6509 chassis. Brocade provided the performance we wanted in a much smaller footprint and with a much longer warranty. It's reliable, robust, and scalable technology. It was a phenomenal move for us."

Lessons Learned in the Classroom

The network performance and reliability showed immediate improvement with the new Brocade infrastructure. "I wanted to move from an adequate network to an optimal network," said Gittisriboongul. "And because of the Brocade solution, we now have an optimal network that's fast and efficient." Students and teachers work through lesson plans easily with their Chromebooks and other mobile devices, moving seamlessly between online activities, video streaming, and approved mobile apps. The district has also added hosted Voice over IP on the new network, something the previous infrastructure could not handle.

Migrating from Cisco to Brocade was a breeze. For the network engineers who had previous Cisco training, the similarity in the command line interface made migrating to Brocade easy. The Brocade Network Advisor (BNA) software made network management simpler for everyone on the team. Even those without networking experience quickly adapted to the BNA configuration process and user-friendly interface. "BNA allows my staff to support the entire environment, even if they aren't certified engineers," said Gittisriboongul. "BNA is an easy-to-use, straightforward tool."

The combination of robust, scalable infrastructure and user-friendly management tools has earned rave reviews from the school district. "The Brocade portfolio offers the most comprehensive set of equipment from any vendor. Brocade offers cost-effective solutions that I will always recommend," said Gittisriboongul.

Ready for 21st Century Learning and Beyond

The Huntington Beach Union High School District expects that its network requirements will continue to change and the district is confident that the Brocade infrastructure has them prepared for anything that comes their way.

"Software Defined Networking (SDN), also supported by Brocade, will be an important factor in the future for dynamic configuration and network optimization," says Gittisriboongul. "Having SDN as a future option with our new Brocade network changes the discussions about what we can and cannot do." He adds that moving toward SDN will give the school district improved network security, reliability, and performance. "It will allow us to expand, scale, and provide even more connectivity options and speed to classrooms."

The district is confidently looking forward with its Brocade network in place. "By bringing in the Brocade solution, it allowed us to focus on how we can do things in the class room and improve student learning," says Gittisriboongul. "So it becomes less about the infrastructure and more about what's really important—improving student achievement."

He adds that Brocade has helped reach the goal of implementing a network that will be relevant for years. "By going with Brocade, we've been able to future proof our organization," says Gittisriboongul. "It will allow us to incorporate other solutions from Brocade and benefit from a more cost-effective implementation."

The school district is also looking ahead to cloud-based solutions. Gittisriboongul and his team know that when the time comes for them, SDN, or any other additions and improvements to the network, they'll be ready thanks to the strong foundation from Brocade.

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