

WESTMARK SCHOOL



CAMPUS NETWORK

Westmark's New Campus Network Brings Advanced Capabilities to Specialized Learning

EXECUTIVE SUMMARY

Challenge

Build and deploy a consistent network infrastructure that supports advanced multimedia requirements, improves network flexibility, and supports specialized education requirements for five to seven years

Solution

- Brocade ICX Switches for campus network access
- Brocade VDX Switches for the core network
- Brocade integration with Aruba wireless network

Results

- Supports high-throughput, low-latency video and media traffic
- Gained fast, seamless deployment and customer confidence
- Simplified network management
- Established a 10 GbE foundation for easy scalability

Westmark School is the leading independent school in Los Angeles, California for children with language-based learning differences. Students from grades 2 through 12 receive an exceptional college-preparatory education that helps prepare them to succeed in college and in life.

Advanced technologies and video play an essential role in students' learning: each student has an iPad, SMART Boards are in every classroom, and a diverse range of technology is used to support an equally diverse range of learning styles. Being able to stream video is a critical requirement to fulfill Westmark's emphasis on art and visual learning and to support their goal to stream news and other information to their highly involved parents.

Jennifer Miranda, the school's new Director of IT, quickly focused on upgrading the network. Antiquated wired and wireless networks were built on equipment from numerous vendors, making them difficult to manage. Network downtime was particularly frustrating to teachers, who lost valuable teaching time when they couldn't access the wireless network. Video performance was poor because of high traffic volumes and limited network links with no Quality of Service (QoS) deployed in the network. With only one fiber uplink to each closet and no QoS, one teacher using video

affected network performance for everyone. Extending the wireless network simply wasn't possible. The network switches lacked Power over Ethernet (PoE) features, and running power to new Access Points (APs) was cost-prohibitive.

NOW WHAT?

"It was clear that we needed to deploy a new integrated wired and wireless network," says Miranda. "The existing network couldn't cope with today's challenges, let alone our plans for the future. And with a very small IT team, we needed a consistent infrastructure that was easily manageable."

The new wireless network had to support the demands of Westmark's one-to-one student tablet program and comprehensive dedicated faculty laptops. Reliable video and media delivery was critical, whether media was delivered from an on-premises server or from a cloud-based service. In addition, Westmark's academic testing program was being migrated to a cloud-based solution. So the new infrastructure had to support equal—or better—performance than the existing premises solution. Finally, Miranda needed a network that could easily expand to support the schools' education demands for the next five to seven years.

"We evaluated network solutions from the three leading vendors and chose Brocade," she says. "The Brocade equipment easily surpassed the others for its performance and manageability, and Brocade support is unparalleled. To top it off, Brocade's pricing was very favorable. We feel that we got the whole package."

THE WHOLE PACKAGE

"Brocade did a great job working closely with us to pre-design and pre-configure our new switches," says Miranda. "We got everything working in our lab. Once equipment was rack-mounted, we tested many potential problem scenarios ahead of time. When it was time to cut over, I just had to move the patch cables."

The new network core features two Brocade® VDX® 6740 Switches. These Ethernet fabric switches allowed Westmark to expand from its existing 1 GbE capacity to 4 GbE (4×1 GbE) in the new network, and will scale easily to 10 GbE throughput when Westmark is ready. In addition to high throughput, the Brocade VDX Switches deliver ultra-low latency for superior video performance and both simplified the network architecture and prepared it for Westmark's new cloud-based student information system and other cloud-based media services.

Brocade ICX® 6450 Switches are deployed at the network edge, distributed through seven buildings. These enterprise-class switches offer stacking capabilities at an entry-level price. They are now stacked to provide 2×10 G uplinks to the network core. The Brocade 6450 ICX Switches also feature comprehensive PoE+, which Westmark uses to power its wireless network APs. Built on the Brocade

HyperEdge® Architecture, the Brocade ICX Switches simplify network operations and deliver extraordinary investment protection. Westmark also deployed several Brocade ICX 6450C-12 Compact Switches for specific deployment requirements outside of a wiring closet. Their fanless, silent operation allowed these fully manageable enterprise class switches to be deployed non-disruptively in the classroom environment.

EVERYTHING—AND WIRELESS TOO

The school's wireless network also was replaced. Miranda chose Aruba for the new wireless network based on recommendations from colleagues and the partnership between Brocade and Aruba. Aruba 802.11ac APs are deployed extensively across the entire school campus. The integration of Brocade and Aruba technologies allows Westmark to use Aruba AirWave to monitor and manage the Brocade switches throughout the campus, as well as the Aruba controllers and APs. Having a single, integrated interface significantly reduces network management time.

"We got our core routing, switching, load balancing, and wireless capabilities together as one package," says Miranda. "The fact that Aruba and Brocade have a partnership really influenced my decision. The two vendors' solutions work well together and I knew that in the event of a problem, I wouldn't have any finger-pointing down the road."

FAST, FLAWLESS DEPLOYMENT

Once the network was pre-configured, it took only two days to move all of the ports and patch cables from the old network to the new one.

WHY BROCADE

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—Jennifer Miranda, Director of IT, Westmark School

"I felt confident to go ahead and take a pre-planned vacation that I never dreamed could happen without knowing that the network would work well," says Miranda. "And it does. I enjoyed the time without a single call about the network."

INSANELY BETTER

Miranda designed the network to serve Westmark for the next five to seven years. She said that with other vendors' solutions, the school would have needed much larger core systems and would have to change switches out when they needed 10 GbE performance as compared to the port speed on-demand feature of Brocade switches

"Brocade was a much cleaner solution," she says. "The stacking feature gives us incredible scalability and we have more uplinks to the core for high-performance, low-latency delivery. It's just insanely faster. And Brocade support is fantastic. I know that they are here to help me if I need them."

THE NEXT STEPS

Westmark is growing with the confidence that its Brocade network can easily deliver a great user experience for students and teachers. The school is planning to add Apple TV technology and a streaming video server for additional media capabilities.

"Technology is required for our students, and it shouldn't limit what can be taught," says Miranda. "With a great network, we have the flexibility to support whatever we need now and in the future."

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