Case Study: Lexington County School District One

CASE INFORMATION

Customer: Lexington County School District One

Industry: Education: K-12

Location: Lexington, SC

The Challenge

Lexington County School District One is one of the largest school districts in South Carolina in terms of student enrollment and geography. It has 28 total schools, including four high schools, seven middle schools, 16 elementary schools and one technology center – and is still growing. The district is focused on helping its graduates become global citizens and community leaders.

Lexington One has always been committed to providing the highest quality education for K-12 students in Lexington County, South Carolina. In fact, the quality of the schools is a driving force in the growth of the county, as many who work in the Columbia area choose to live in Lexington County specifically for that reason.

An important focus for the district has been on educating the 21st Century learner. A major contributor is using technology to encourage students to pursue more self-directed learning inside and outside the classroom.

"Today's students have grown up with technology, are comfortable with it, and like to use it," says Harriet Zwart, IT Director at Lexington One. "For a number of years, we researched schools across the nation that are successfully using technology in the classroom. We wanted to make sure we provided a high quality of education incorporating technology. We also sought input from several committees comprised of administrators, teachers, students, parents and community members."

An initial pilot program using laptop computers validated the core concept, but, ultimately, wasn't quite right for the ambitious personal mobile computing (PMC) Lexington One planned to launch. The district wanted devices that were lightweight and easily portable, would boot up quickly, could network easily with other students and teachers and were intuitive to use. They also wanted devices with built-in cameras and microphones so students could interact with their counterparts around the country and the globe. Ultimately, they determined that they would provide an Apple® iPad® 2 to every administrator, faculty member and middle and high school student. The increase in devices would require them to beef up the wireless networks in the schools to handle the huge influx of traffic the devices would bring. They also needed to find a way to ensure the devices would only be able to access appropriate websites while outside the school as well as within its walls.

The Solution

For help with these technical issues Zwart brought in Internetwork Engineering, a Cisco Gold Partner with whom Lexington One has collaborated on security, wireless networking and other projects over the last five years. Internetwork Engineering helped with the design and layout of the wireless infrastructure to ensure 100 percent coverage on school grounds.

The design included adding Cisco 5508 wireless controllers, Cisco Aironet 3500 Series access points with CleanAir technology, and the Cisco ASA 5585 security platform. In a collaborative effort with Cisco and Lexington One, Internetwork Engineering helped design a routine that automatically establishes a virtual private network connection back to the Cisco ASA 5585, which filters the content, anytime the device is powered on.

"If a history class is studying Roman times, they can take a 'field trip' on their iPads and explore the Coliseum. Art classes can visit museums all over the world, and physics classes can tap into NASA's educational programs. Our students are also able to interact with others across the globe via applications such as FaceTime. The more they get hooked on learning, the more they are exploring on their own. We want them to do more than learn rote facts. We want them to acquire critical thinking skills. PMC is helping them do that."

— Harriet Zwart, IT Director, Lexington District One

"We have used Internetwork Engineering on a number of projects and have always had great success. They're reliable and trustworthy. They have always been great about working with us to deliver affordable products and services. We want to provide our students with the tools they need to support their learning and to prepare them for higher education opportunities and careers. IE helped us make that a reality."

— Harriet Zwart, IT Director, Lexington District One

The Results

The initial plan for PMC was to provide a 1:1 ratio of devices for every high school student, a 1:3 ratio for middle school students and a 1:5 ratio for elementary school students sharing devices. That plan was quickly changed after the first rollout.

"We gave iPads to all of our 7,000 high school students and 1,000 to the administrative staff, principals, assistant principals and high school teachers in the 2011-2012 school year," Zwart says. "At the end of the 2011-2012 school year we provided all the elementary and middle school teachers with devices as well. They were so well-received that we've changed our plans to provide devices to all middle school students, and are reviewing the ratio for distribution at the elementary level."

To fulfill the mission of developing 21st Century learners, Lexington One teachers have been using PMC in a number of innovative ways to expand the horizons of students beyond the world they know in Lexington County.

Of course, not everything available on the Internet is appropriate for high school, middle school or elementary school students. Maintaining control over content while at the school is fairly easy. But, once the devices leave school grounds there is much greater risk. Lexington One network engineers in conjunction with Internetwork Engineering were able to devise an innovative solution.

"The iOS doesn't allow modifications or content filtering on its own," Zwart says. "So we asked Internetwork Engineering and Cisco to help develop a solution to maintain filtering. Their solution with the VPN was very innovative. If users do manage to get around the security, we're also using a mobile device manager that tells us when they go out of bounds. It then becomes a disciplinary matter. To use the device, students have to follow the written policies we have in place."

Reaction from students, parents, faculty and administrators has all been very positive. Teachers are finding that students are engaging more in the classroom than they ever have and are getting the opportunity to be more collaborative and creative.

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