

High-Performance Wireless Coverage Offers Anytime-Anywhere Access

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For Cajon Valley (CA) Union School District, providing ubiquitous wireless coverage is all about giving students anytime-anywhere access to the internet. With a growing number of devices, including school-issued iPods and iPads, the district needs a fast, efficient, and reliable wireless infrastructure—at an affordable price.

Cajon Valley Union School District, located just east of San Diego, includes 25 schools—six middle and 19 elementary schools—and a community day school program, serving some 16,500 students. The district launched a 1-to-1 initiative earlier this year that distributed wireless devices to students at 15 schools.

Different schools are using different methods to deliver wireless access to students, according to Assistant Superintendent for Educational Services Stephen J. Mahoney. Some are using consumer-grade wireless access points to deliver wireless; others have set up school-wide systems that include specific wireless “hot spots” around the school. At two schools—one middle and one elementary—the district has installed wireless Arrays from Xirrus.

In weighing its wireless options, Mahoney explains, the district considered the kind of access that students—and teachers—would need and expect. The district’s goal for the Xirrus-connected schools was to enable students to effortlessly incorporate internet access into daily school life. “Students are on the internet all day long, so we need wireless all day long,” Mahoney says.

In addition to always-on access, it was important that wireless coverage blanket the entire school, not just certain classrooms or areas. “We need technology, but we want it to be seamless. We want students to log on as needed, whenever and wherever they are,” he explains. “We want to enable our kids to be on and off the internet all day long, not waiting for another kid, or waiting to use one of three computers at the back of the classroom.”

While a conventional wireless solution would have required at least one access point per classroom to achieve adequate coverage and device density, Xirrus uses a technology that employs innovative access devices called Arrays. Each Array can contain four, eight, 12 or 16 radios per unit, and can therefore replace four or more access points. The radios in each Array can be programmed independently for signal strength, the antennas’ directional signal, and to avoid channel conflict, ensuring a quality of service equal to a wired connection.

"Two years ago, we were thinking about how many cable 'drops' we'd need in each classroom for wireless coverage," Mahoney says. But at the schools with Xirrus Arrays in place, the number of drops, or terminals for wireless access points, is greatly reduced.

The Xirrus solution will also scale well, which is important for Cajon Valley's ambitious wireless growth plans. Within the past few months, 62 additional classrooms in the district—each with 35 students and a wireless device—have introduced 1-to-1 technology. "Xirrus at these schools is really an enabling technology," Mahoney says. "Face it—this is the world that our kids are going to be in. They're all carrying some [wireless device] around in their pockets. They need to have the ability to connect."

The anywhere-anytime wireless coverage, he says, "enables our students to be current in both gathering and producing content. Those are skills they need in today's world."

The 1-to-1 initiative is replacing more traditional classroom setups, which often involve a handful of computers at the back of the room for students to use for internet access, plus a computer lab located elsewhere in the building. "We don't want technology to be something you go to," Mahoney says of the new wireless coverage. "We want it to be there all day."

Students at Cajon Valley took quickly to the project. A fourth-grade class recently used its wireless devices in a science experiment that involved studying rock formations. Instead of the typical teacher explanation followed by a test, the project involved using the internet to collect pictures of various rock formations, creating a storyboard with a summary of rock types, then building multimedia presentations complete with verbal reports.

Other students, Mahoney says, are using their iPods to record themselves reading assigned content out loud, then listening to themselves and their classmates, and competing to improve.

In an example of how widespread and accepted technology has become for today's student, Mahoney offered this example: A kindergarten student posted a comment on a teacher's education blog over the summer. "What's up? Where is everyone?" the student wanted to know. With wireless devices eventually in the hands of every student at Cajon Valley, that question may become a lot easier to answer.

If you are interested in deploying a high performance Wi-Fi solution, please contact Xirrus at: info@xirrus.com.

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