WIRELESS SOLUTIONS FOR

Primary/Secondary Schools

XIRRUS®
High Performance Wireless Networks

High-performance wireless for high performance education

Smart schools improve learning with intelligent wireless networking.

Mobility is the new norm. Faculty and students expect to connect without wires. They depend on it. The explosion of smartphones and tablets has seen to that. According to the Wi-Fi Alliance, there are now about 800 million Wi-Fi-enabled devices produced every year. The days of a predominantly wired IT architecture are gone. To support students in a mobile world, schools must fully integrate wireless into their connectivity strategy.

At Xirrus, we see why. When we grow wireless user density in classrooms, teachers can engage connected students in new ways and enhance learning. When we provide more reliable wireless access with fewer devices school-wide, cost of wireless implementation and management is reduced. And when we deliver flawless wireless access in busy libraries and study halls, student satisfaction rises. Wireless isn't a nice to have anymore. Done right, it's a strategic IT infrastructure advantage that accelerates learning and lets schools do more than ever before. And Xirrus does it right.

Because of the high density and mobile nature of its users, education is at the forefront of the wireless evolution. Classrooms are now highly dependent on digital resources and the instructional applications they enable. In the primary and secondary school space, there is a drive toward the 21st century (or digital) classroom. Many schools are embracing next-generation technologies and programs that expand learning options, such as 1:1 laptop-to-student and bring your own device (BYOD) initiatives. These initiatives create demands on existing Wi-Fi infrastructures that can increase by a factor of 10 in a single school year. A high-performance, reliable wireless solution is imperative.

With Xirrus High Performance Wireless Network solutions, you can:

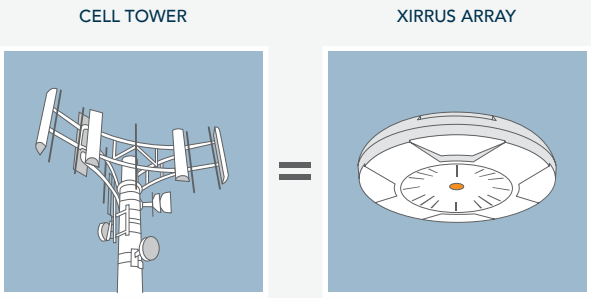
- Meet and exceed the bandwidth expectations of students and faculty
- Effectively support cutting-edge curriculum with appropriate instructional technology
- Protect your institution from risk and security breaches
- Future proof your investment with a highly scalable solution

Xirrus' solutions were developed from the ground up for a wireless world and designed to deliver wired-like performance. And Xirrus solutions support the unique requirements of school environments, particularly in terms of device density, traffic capacity, and the ability to scale on demand. Our innovative, patented technology integrates multiple components into a single device. This helps provide uncompromised access to sophisticated applications and services (multimedia, mobile, cloud-based) school-wide.

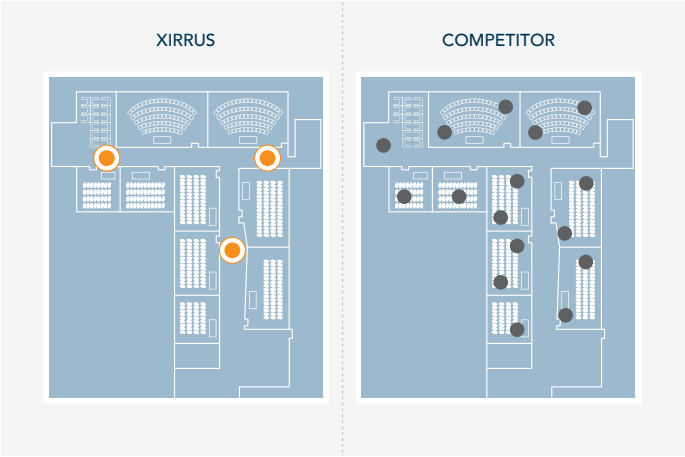
Xirrus wireless solutions are decidedly different.

When we designed our wireless networking solution, we saw little point in developing yet another conventional thin AP + controller architecture. That technology can't provide educational institutions the high performance, wired-like reliability they require. Our technology is based on modern cell phone tower technology, where multiple radios per tower and directional antennas produce greater capacity and coverage.

What does this superior architecture translate to in operation? Noteworthy performance improvements over conventional thin AP architectures: 4X the coverage and up to 8X the bandwidth and capacity per access device. All with better security and the equivalent reliability of wired networking. And at the user level, organizations see dramatic gains in productivity and satisfaction, too.



Wireless architectures



A typical school space covered with 3 Xirrus Wi-Fi Arrays versus 16 traditional access points

Lowest cost

- 75% less equipment to deploy and maintain
- 75% fewer cable pulls and switch ports
- 75% less installation time
- Lower total cost of ownership compared to other wired and wireless solutions

Highest performance

- Multi-radio design with 4 to 16 802.11n radios per Array
- Distributed intelligence in each Array with no central controller
- High-gain, directional antennas for greater coverage per Array
- 4X more coverage and up to 400% more bandwidth per device and per cable drop

Additional elementary education clients

PLANO ISD :: FORSYTH COUNTY SCHOOLS :: CREIGHTON SCHOOL DISTRICT

BRISTOL BRUNEL ACADEMY :: ENVISION SCHOOL DISTRICT :: PUEBLO SCHOOL DISTRICT

GREENSBURG KANSAS SCHOOL DISTRICT :: JSERRA CATHOLIC HIGH SCHOOL

QUANAH INDEPENDENT SCHOOL DISTRICT :: FRISCO ISD :: POUDRE SCHOOL DISTRICT

CASE STUDY — FORSYTH COUNTY SCHOOLS

"We did extensive testing over the years and determined that Xirrus was the best fit for our extensive educational enterprise. We will be able to provide our students, teachers, and faculty high performance broadband wireless access throughout our district — anytime, anywhere, anyplace with the same quality of service as a wired network — enabling them to pursue new methods of teaching and communicating without worrying if the infrastructure can handle it."

BAILEY MITCHELL — both CTO and CIO at Forsyth County Schools

Established in 1860, Forsyth County Schools was one of the first free public school systems in Georgia. The school district continues to expand at a rapid pace as more and more families move in due to the school district's smaller class sizes and personalized education for children. Currently, the Forsyth County Schools serve over 36,000 students adding 2,000 new students each year.

Requirements

- High reliability for classrooms
- Reliable Internet connection throughout schools
- Bandwidth to support hundreds of simultaneous connections in a given area
- Provide needed wireless support for wireless notebooks, handhelds, and phones
- Provide needed wireless bandwidth for voice, video, and data applications
- A solution designed to be upgraded, not replaced

Solution

- Xirrus 8 radio 802.11n Arrays
- 75% less equipment to deploy compared to traditional APs (1,785 total)
- 75% fewer cable runs (1,785 total)
- 75% fewer GigE switch ports deployed (1,785 total)
- Average power savings per year (185,931 kWh total)

The benefits of smarter wireless:

High scalability

The Xirrus Wireless Array scales to the highest user density and traffic capacity in the industry with 4 to 16 radios and distributed intelligence in each device, as compared to traditional solutions with 2 radio APs and centralized controllers. More radios leverage the available spectrum to deliver a better experience to all clients.

Upgradeability

While traditional APs are static, throwaway devices, the Xirrus Wireless Array employs a fully modular radio and software upgradeable design. Maximum investment value is provided by avoiding future forklift changes to add network capacity or incorporate new wireless technologies.

Complete security

Xirrus implements multi-level security for comprehensive wireless network protection. Each Array integrates a stateful firewall and dedicated threat sensor radio for 24/7 RF security protection without compromising user servicing resources.

High reliability

Xirrus distributes intelligence across the network into each Array, eliminating the single point of failure and performance bottleneck of centralized controllers in legacy wireless architectures. Redundant radio, uplink, and Array features ensure seamless wireless network operation.

Economical

With 4X the coverage of traditional APs and no central controller, a Xirrus Array network can be deployed with 75% less equipment. With far fewer components to install and cables to pull, a Xirrus wireless network can be turned up much faster and more economically than traditional solutions to accelerate ROI.

About Xirrus

Xirrus provides unique, high-performance, array-based wireless solutions that perform under the most demanding conditions, while delivering wired-like reliability, superior security, and less infrastructure requirements. Xirrus is a privately held company headquartered in Thousand Oaks, CA.

XIRRUS®
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