

Dorm Conversion Spotlights Wireless Solution

CAMPUS TECHNOLOGY



Campus residence hall are a challenge for wireless networks not only because they are typically high-density settings, but because students may be using two and even three wireless devices at once. With two students to a room, it's not unusual for two laptop computers, two smart phones or other small wireless devices, and perhaps a device for streaming video to be hitting the network at once, all with highbandwidth demands.

When William Woods University, a 3,000-student private university in Fulton, Missouri—about halfway between Kansas City and St. Louis—looked at converting the university's residence halls from wired to wireless, it needed a creative solution that could handle high-density use. A survey of the 700 students or so residing on campus showed that two wireless devices per student was the average; some had three or more devices.

A summer proof-of-concept in 2009 tested five wireless vendors side by side in a three-month process.

Rather than the standard wireless access points offered by more conventional vendors, Xirrus uses devices it calls Arrays, which serve in place of many traditional access points (APs). The Arrays include 4, 8, 12 or 16 integrated radios, coupled to high gain directional antennas that provide greater range and overlapping coverage to resiliency. The Arrays ability to cover four times the area of traditional APs greatly reduce the number of devices required to create a seamless 802.11n wireless network. Because the Xirrus Arrays deliver much more range, coverage, and bandwidth per device than a traditional access point, they can greatly reducing the number of devices required to create a seamless 802.11n wireless network.

Along with the reduced number of devices deployed, network support administrator Steven Goodson also cites the hands-on service and support that Xirrus offered right out of the gate— sending someone to perform active site surveys to determine coverage requirements and Array placement. "No [other vendor] did that," he says. In fact, a Xirrus representative stayed on-site throughout the deployment, at no additional charge.

By using Xirrus Arrays rather than conventional APs from another vendor, Goodson slashed the number of access points he would have needed. "The Array [technology] was a huge benefit for us," Goodson says. "We installed a third to a half the number of Arrays we would have [technology] a traditional AP deployment."

The residence halls at William Woods are 1940s and 50s-era structures. The buildings' walls were a big concern, Goodson says—not only were they difficult to run wires through, but the thick cinderblock and steel walls can impede wireless signals. While some of the tested vendor products did not transmit well through the walls, Goodson said, Xirrus did.

To cover all of the residence hall rooms, most of which house two students per room (some larger apartments house more), Goodson deployed close to 50 4- and 8-radio Arrays. A recent daily report on wireless use, Goodson says, shows that 856 unique users in the residence halls accessed the wireless network over the past 24 hours. "It averages out to about two devices [in use at once] per student, at least. Most have three wireless devices," all of which were ably supported by the Xirrus Array deployment.

Although the Arrays are more expensive per unit than an access point, Goodson says the university ultimately saved on the bottom line. Fewer wireless devices means fewer switch ports, especially with 11n requirements for gigabit speed ports. Moreover, deploying Arrays means using less wiring overall. That translates to less wire overall, less labor to install the devices initially, and accompanying reductions in costs by mounting and maintaining fewer units.

Less wiring labor had another huge payoff: the project moved ahead very quickly. "Basically, you have the summer to deploy new technology [on a college campus]," Goodson explains, which translate to a month and a half to plan, roll out, and thoroughly test the new system. With less wiring and fewer devices to deploy, the project went quickly. "I deployed in three weeks, start to finish," Goodson says.

Goodson ended up needing two additional Arrays beyond what Xirrus had recommended in the initial site survey—and Xirrus stuck to its pre-rollout promise of filling in any missing Arrays at no charge. "There were a couple of areas that didn't have good signal strength after all. As promised, [technology] stuck to their guarantee and gave us two more Arrays for free."

Finding the wireless network plenty fast and very dependable, students at William Woods have now largely abandoned the wired network in the residence halls. The project has been so successful that if the university upgrades its business users to wireless, Goodson says he'll definitely be calling Xirrus. "If every company treated us the way Xirrus has," he concludes, "I'd be really happy."

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

Xirrus

2101 Corporate Center Drive
Thousand Oaks, CA 91320
1-800-947-7871



1.800.947.78.71 Toll Free in the US
+1.805.262.1600 Sales
+1.805.262.1601 Fax
2101 Corporate Center Drive
Thousand Oaks, CA 91320, USA

To learn more visit:
xirrus.com or
email info@xirrus.com