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Wireless in the House

By Bridget McCrea

When Springfield College's 2,000 resident students arrived on the school's Springfield, MA campus for the fall semester, they got a nice surprise: Over the summer, all of the institution's residence halls—along with other areas of the campus—had been equipped with 802.11n wireless Internet access.

Danny Davis, CIO, said the initiative has been on his IT team's agenda for several years and was formally launched when he came on-board in May 2010. "The college had looked at wireless and knew there was a demand for it from the student population," Davis explained. "Today's students use laptops and want the flexibility to be able to move around and use their devices without having to tether themselves to a wall outlet."

A Quick and Effective Rollout

Davis said Springfield College's senior administration supported the initiative but wanted to see a comprehensive plan outlining the move from wired to wireless access in the dorms. "We put a plan together pretty quickly," said Davis. "The catalyst for the project was the students and their needs, so we focused on those points and got approval to go ahead with the initiative."

As it happened, the college was already in a "pretty good position" in terms of Internet access infrastructure, said Davis. The institution had revitalized its cable television network several years prior, he said, and "pulled in some [Cat-5] lines in the process."

The college also had the necessary networking-switching equipment in place and required just a few new Cat-5 and Cat-6 lines to be connected to new access points across its campus. Davis said existing routers were assessed for their usage levels, with some being reallocated to the residence halls. "We took existing areas that were underutilized," he said, "and used those existing facilities to bring up the new WiFi capabilities."

Wireless access in residence halls now serves the full range of WiFi electronic communications devices, such as iPads, iPhones, laptop computers, cell phones, and other technologies. Students can register an unlimited number of devices. "We really don't mind what type of device they're using because these dorms are their homes," said Davis. "That's how we look at it."

For students who are using desktops, the residence halls' wired access points were left intact. So far, Davis said, reaction to the WiFi access has been positive, with anywhere from 70 percent to 85 percent of the students using it. "We've already received a significant amount of positive feedback from students who are back on campus," said Davis.

In all, the initiative took about six weeks to complete and posed few challenges for the school's IT team. Additional wireless zones on campus include Cheney Dining Hall, Schoo-Bemis Science Center, the Wellness and Recreation Complex, Babson Library, the Richard B. Flynn Campus Union, and the foyer of the Allied Health Sciences Center.

Security Concerns

The move from a wired to a WiFi Internet platform did bring up some issues among users, said Davis, who added that a few of them were concerned about the new system's "open" environment. "It was a bit of a cultural shift and required new anti-virus and spam filtering software," said Davis. "We were proactive about putting those elements in place, knowing that we not only need to provide access, but we also have to protect the users."

Davis said the school has taken other steps to ensure that students don't download spyware and viruses when surfing the Web on the WiFi network, which is encrypted and requires registration and a password to access. "With federal mandates [governing] issues like identity theft and protection," said Davis, "we are taking great strides to make sure we're safeguarding users on all fronts."

Davis and his team are also paying attention to issues like iPad security, a concern that has many colleges up in arms over whether to allow the devices on their networks. "We've followed that debate closely, but haven't settled on a particular stance or solution at this time," said Davis. "We want and expect our wireless networking to be as secure as possible, regardless of the platforms. We have a couple of iPads using our networking and haven't had any problems with them."

The Future Is Layered

Looking to the future, Davis said the school's 802.11n WiFi system is well equipped to handle growth in student population and residence halls. It will also be able to accommodate a possible move to a virtualized computing environment—an initiative that Springfield College is looking to implement "in the near term," according to Davis.

"We built this network with the goal of being able to layer other elements on top of it, including new and evolving technologies," said Davis, whose IT team is working on several other initiatives right now, including a new college admissions system. "We have a lot going on right now, and will be introducing even more technology as the school year progresses."

Bridget McCrea is a business and technology writer in Clearwater, FL. She can be reached at bridgetmc@earthlink.net.

U São Paulo Upgrades Massive Wireless Network

By Dian Schaffhauser

One of the largest public universities in Brazil has built up its wireless infrastructure using routing gear from Brocade. The network at the University of São Paulo in Brazil hosts 41,000 computers and thousands of other devices in use by 80,000 students and 6,000 faculty members on seven campuses.

U São Paulo traditionally used a combination of Cisco and 3COM equipment. When the latest purchase was put out for bid, the university said in a statement, it selected Brocade® technology owing to a combination of performance and overall cost-efficiency advantages.

“After evaluating various vendors, Brocade was able to provide us the best overall price-for-performance, high reliability, and one of the lowest total costs of ownership,” said Tereza Cristina Carvalho, director of CCE-USP, the campus computing center.

The university has deployed 25 Brocade MLX routers, which provide 10 gigabit Ethernet data transport and 1 gigabit port density. The company says these routers are best suited for metropolitan area networks, Internet edge/aggregation routing, virtualized data centers, large enterprise core, and high-performance computing environments.

Dian Schaffhauser is a writer who covers technology and business. Send your higher education technology news to her at dian@dischaffhauser.com.



A Growth Spurt of Wireless and Bandwidth

By Campus Technology Staff

Wireless is a top priority among private four-year college IT leaders, according to a recent survey by Xwires Communications, formerly X-Wires Broadband, a newly acquired division of satellite cable television and telecommunication services provider Campus Televideo.

The study further suggests that these same colleges are growing their bandwidth at accelerated rates. The survey, conducted in early 2010, queried 1,443 IT professionals at private four-year colleges on a range of technology topics. About 10 percent, or 142 people, participated (including IT professionals from four small public universities).

While that number of respondents represents less than 10 percent of all private four-year schools, the data may be suggestive of trends across the larger universe of private four-year higher learning institutions.

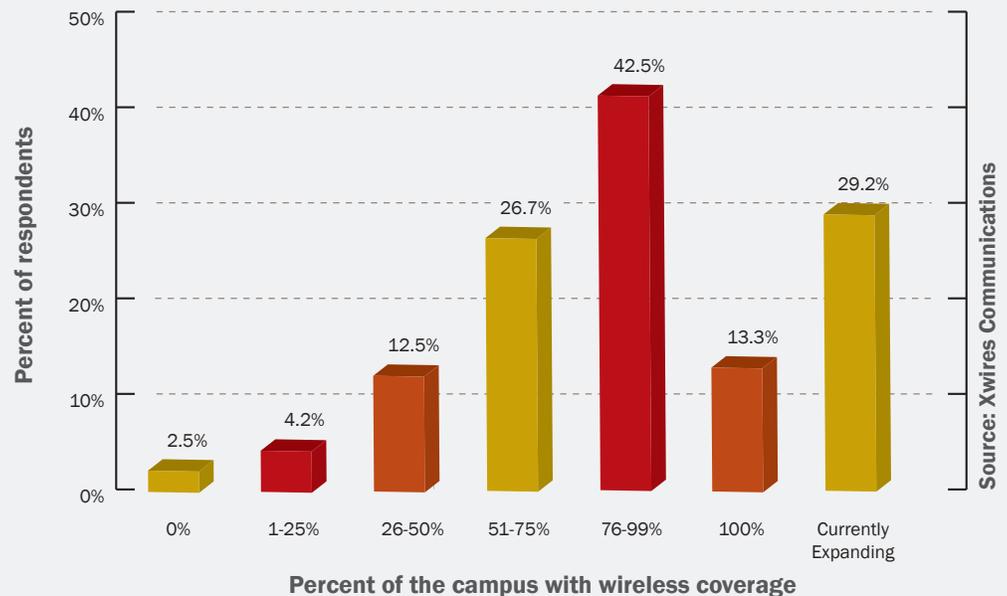
In its second year, the survey found that wireless deployment continues to be a top priority among private college IT professionals, second only to network integrity/virus protection (in 2010 receiving scores of 4.19 and 4.33, respectively, on a five-point scale; results from 2009 were about the same). Wireless has become pervasive at many respondents' campuses, and deployments continue to expand (see chart at right).

According to survey participants, bandwidth is also increasing rapidly on private college campuses. More than 88 percent of respondents said they have added bandwidth within the previous two years, and more than half (52 percent) reported adding 46 Mbps or more within the past year.

"Reacting to accelerating demand, private colleges are adding new bandwidth at a very high rate," the report authors conclude. Furthermore, they say, "The study confirm[s] the importance of wireless networks. Today's students expect high-tech environments and colleges are aggressively meeting that expectation."

A free copy of the report is available to school faculty and staff by contacting Rick Nixon, director of sales and marketing at Campus Televideo, at 203-983-5400 x119 or rnixon@campustelevideo.com.

Pervasive Wireless on Private College Campuses



More than half (55.8%) of the IT directors at private colleges responding to an online survey reported that they have deployed wireless coverage across more than three-quarters of their campuses. Thirteen percent said their campus is completely wireless and another 29% said they are in the process of expanding their wireless deployments.

Enabling the Pervasive Wireless Campus for Higher Education

Institutions of higher education are leveraging the Internet to enrich the learning experience for today's university and college students. Many professors now administer tests online and use Webinars and podcasts to disseminate supplemental information on a variety of subjects. In addition, teachers and administrators post assignments, grades, and study guides online, helping to ensure student success.

Growing up in a wireless world, today's students expect "anywhere, anytime" access to whatever information they need, on whatever device is in their hands. At the same time, the increasing emphasis on campus safety is forcing security personnel to rely on new wireless technologies—from video surveillance to crisis notification systems—to extend their reach and work more efficiently. Given these challenges, universities and colleges must determine how to cost-effectively provide the high-speed wireless access and applications required to meet the needs of both students and campus staff.

Brocade® Mobility enterprise Wireless LAN (WLAN) solutions, featuring support for 802.11n-based wireless networking, can help institutions of higher education efficiently meet these requirements while containing costs and laying the foundation for future growth. Fully integrated with Brocade wired campus networking solutions, Brocade Mobility solutions enable higher education IT departments to unify their wired/wireless communications, providing a seamless edge networking infrastructure to support next-generation applications.

THE PERVASIVE WIRELESS CAMPUS

Leveraging best-in-class wireless networking technologies, colleges and universities can address today's challenges by enabling pervasive wireless networking across the

entire campus. High-performance 802.11n WLANs allow the reliable delivery of high-speed wireless voice, video, and data inside buildings as well as throughout the campus grounds.

This provides support for applications that greatly improve the learning environment, campus security, and the overall productivity of faculty and staff—while providing value-added services that strengthen communications with both students and their parents. These wireless applications include:

- Real-time faculty and administrative applications
- Distance learning
- Video surveillance
- Security and regulatory compliance

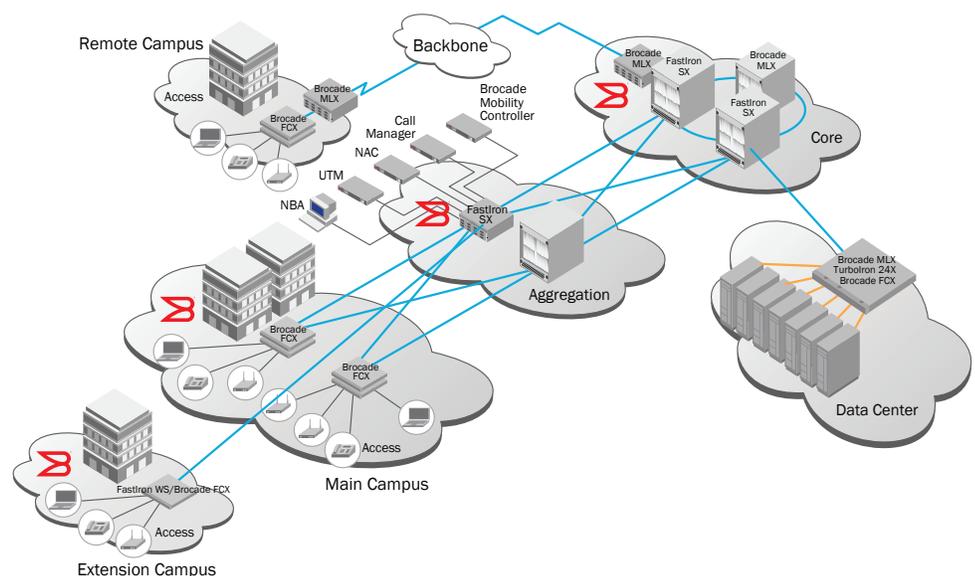
Real-time Faculty and Administrative Applications

A wireless network can deliver applications that

enable teachers to spend more time on teaching and less time on administrative tasks, helping to improve the quality of education. Wireless attendance applications, for example, can eliminate paper forms, saving time, eliminating errors, and enabling rapid identification of missing students. The ability to send wireless work orders to maintenance staff not only improves productivity, but also enables faster repair—from a leaky faucet or faulty heating unit to the removal of broken glass in the parking lot—helping to maintain a safer and cleaner environment for all.

Distance Learning

A high-speed wireless network provides a vehicle to enhance and extend the learning environment. In higher education, students can access learning portals, course information, and online libraries as well as collaborate with classmates and professors on other campuses.



Brocade Mobility solutions provide the foundation for pervasive wireless campus deployments.

High-performance wireless networks can give students online access to class and individual lessons as well as homework assignments, library services, and more.

Video Surveillance

The ability to wirelessly connect video cameras both indoors and outdoors eliminates the high cost of wiring, enabling educational institutions to blanket the campus with video cameras. The result is real-time streaming video, providing visibility into every inch of the campus, enabling security personnel to immediately discover and respond to virtually any type of on-campus incident. The digital video is easy to archive and retrieve, and sophisticated analytics help security personnel proactively identify potential problems. The wireless network allows personnel anywhere on campus to watch the video, enhancing overall campus security.

Security and Regulatory Compliance

Because higher education institutions house volumes of financial, health, and other personal information about students, alumni, donors, faculty, and staff, they must keep this data confidential. Wireless networks have multiple layers of security to help ensure airtight data protection, prevent security breaches, and help ensure compliance with regulatory standards, including those set forth by the Payment Card Industry (PCI) and the Health Insurance Portability and Accountability Act (HIPAA).

Brocade Mobility Solutions: Making the Pervasive Wireless Campus a Reality

Brocade 802.11n wireless networks are helping higher education institutions of all sizes around the world realize the promise of the pervasive wireless campus. With speeds up to six times the bandwidth of 802.11a/g, Brocade indoor/outdoor 802.11n wireless networks offer the performance, scalability, coverage, resiliency, and security required to enable cost-effective delivery of some of the most demanding applications.

Brocade offers the unmatched reliability and gap-free security required for successful wireless deployment in educational environments. As a networking industry leader, Brocade can deliver the breadth of experience and proven, integrated wired and wireless products universities and colleges need to maximize the success of their wireless solutions.

Expansive Reach with Indoor and Outdoor Coverage

Brocade Mobility Solutions seamlessly integrates with industry-leading Brocade wired access and aggregation solutions, enabling the extension of secure and ubiquitous wireless access to every corner of the campus—including in (and between) remote buildings, in sports arenas, and even in off-campus housing. The pervasive campus-wide connection provides students with the anywhere, anytime high-speed access they expect while providing the process automation that faculty and campus staff need to improve productivity and efficiency. In addition, it provides the constant video connection required to improve campus security and situational awareness.

Superior WLAN Performance with 802.11n

The Brocade WLAN product family helps institutions of higher education deliver quality mobile video, voice, and data. Enterprise-class Quality of Service (QoS), pre-emptive roaming, load balancing, WMM Admission Control, and seamless Layer 3 mobility combine to provide users with toll-quality voice and a resilient connection as they roam throughout campus—from classroom to dormitory halls to outdoor common areas, sports arenas, and more—ensuring continuity of service for phone calls and data applications. Virtual AP enables broadcast domain separation for secure hotspot enablement.

Gap-free Security

Brocade Mobility solutions offers comprehensive best-in-class wireless security that rivals

that of the wired network. A tiered approach protects and secures every point in the network—wired and wireless. This complete suite of tools includes a role-based wired/wireless firewall that provides protection against attacks and unauthorized access right at the wireless edge—including Layer 2 and Layer 3—using advanced encryption and authentication technologies.

Optimization for Dense Deployments in Indoor Areas

Many university and college campuses require support for high-bandwidth applications in small areas, such as conference rooms and lecture halls. Brocade Mobility SMART RF technology increases capacity in these dense areas by automatically self-tuning the network for optimal performance. In addition, Brocade Mobility solutions adaptive architecture allows local traffic such as video streams from faculty computers to be bridged locally, eliminating potential network bottlenecks.

Interoperability

Faced with limited budgets, institutions of higher education need to be able to leverage their existing technology investments as much as possible. Brocade standards-based wireless networks easily integrate into the existing technology environment, allowing colleges and universities to preserve their current wired and wireless networking infrastructures.