



Greater Connectivity on Campus: *How Academic Institutions are Leveraging Broadband to Build Robust Networks*

Wireless communications technology is transforming college and university campuses around the globe, from how teachers teach to how students learn and access information. The two top priorities? Connectivity and content...anytime, anywhere. Students expect to enjoy the same level of mobile Internet access within the campus environment as they do elsewhere. Conversely, campus IT managers must balance an increased demand for bandwidth with the infrastructure costs associated with enabling it.

Ninety percent of college students in the United States say WiFi access is as essential to education as classrooms and computers, and three in five say they wouldn't attend a college that doesn't have free WiFi, according to a recent survey by the WiFi Alliance and Wakefield Research.

A Growing Requirement

Enabling high-speed connectivity and advanced Internet content in the higher education arena is not just a U.S. trend, but a global one. As validated in the results of the WiFi Alliance/Wakefield Research survey, the demand for WiFi may prove a real competitive advantage as it is driving decisions about not only where students attend college, but also how and where they study. They are the Internet Generation, rapidly blurring the lines between social, academic and business communications.

A Global Challenge

One university recently faced the challenge of delivering enhanced wireless capabilities to both its culturally diverse student population and its faculty. In doing so, it had to overcome the complexities of its current wired communications infrastructure comprised of standard cable and fiber optics. The existing system didn't provide the flexibility it needed

to efficiently provide connectivity to remote offices, buildings and open areas around campus. The current network also made it difficult to add the advanced broadband network capabilities the university wanted to implement, such as wireless video surveillance technology and Voice over IP (VoIP) services.

If forced to choose...

- Seventy-two percent would rather wear their rival's team colors for a day than give up WiFi
- More than two in five (44 percent) used WiFi to get a head start on an assignment before a class was finished
- Many students reported that the availability of WiFi influences their choice of coffee shop (52 percent), bookstore (42 percent) and restaurant (33 percent)

*Source: WiFi Alliance/Wakefield Research survey of 501 U.S. college students in September of 2008

MOTOROLA WIRELESS BROADBAND

Purpose-Built Networks

Assessing Costs and Options

Whether wired or wireless, the university recognized that broadband infrastructure is the great enabler of the Internet revolution. When assessing its options, IT professionals wanted to ensure that the infrastructure would support growing demand for broadband speed, power, scalability and functionality. After evaluating a number of options, the university chose to extend its network with a Motorola Wireless Broadband solution consisting of MOTOMESH™ Duo for access, Point-to-Multipoint for backhaul and One Point Wireless Suite for network planning, deployment and management.



Managing the Complexities

Network management is a critical capability for operators of any deployed network, but particularly those with disparate infrastructures. Scalability, monitoring, control, auto discovery and reporting are but a few considerations IT managers need to assess when evaluating options. Motorola's One Point Wireless Suite delivers all these capabilities and more in a single control point for indoor and outdoor wireless broadband equipment (WLAN, MOTOMESH, Point-to-Point (PTP) and Point-to-Multipoint (PMP)). It gives network operators an easy-to-use map-based view of network performance using an embedded Google Earth environment.

Realizing Content-Rich Rewards

With the new wireless infrastructure in place, the university is discovering the many benefits of its extended network. The Motorola Wireless Broadband solution met its demand for high-speed voice, video and data, and was deployed at a fraction of the time and expense of a traditional wireline extension.

Flexible and scalable, the new system has the capacity to accommodate the university's future bandwidth needs. In addition, both students and faculty are enjoying the cost effective benefits of VoIP and significant productivity gains associated with greater WiFi connectivity across campus. The entire university environment is safer thanks to the added security provided by its enhanced video surveillance system.

Here, as at other academic institutions around the world, wireless is not only gaining momentum, but redefining communications possibilities.

About Motorola Wireless Broadband

Motorola's Wireless Broadband and our WLAN solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed Point-to-Point, Point-to-Multipoint, Mesh, Wi-Fi and WiMAX networks that support data, voice and video communications, enabling fixed and mobile applications for public and private systems.



Campus IT Trends

- Among various technologies deployed on campus networks, VoIP, software that blocks spyware, and personal firewalls are increasing steadily
- Forty-nine percent have deployed emergency notification systems – such as text message alerts – and 47 percent are exploring options

Source: EDUCAUSE Core Data Service Fiscal Year 2007 Summary Report

MOTOMESH Duo is a two radio meshed network consisting of a 2.4 GHz WiFi radio (802.11 b/g) and either a 4.9, 5.4 or 5.8 GHz (802.11a) radio. This university selected a 2.4 GHz/5.8 GHz option for deployment. The smallest and lightest outdoor access point in its class, Duo offered an aesthetically pleasing, flexible option providing scalable outdoor wireless connectivity for high bandwidth video and VoIP applications. In addition, the high-powered radios enabled the university to meet its coverage requirements with fewer units than typical low powered options. Motorola's Point-to-Multipoint solution serves as the wireless network backbone linking the university's multiple campus facilities using frequencies in the 900 MHz to 5 GHz bands. Together, this hybrid system delivers ubiquitous and reliable information access, greater bandwidth, equipment and facilities monitoring, and optimized ROI.



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