

Education Solution Overview



voice. Data. wireless. *Become one.*

Increasing Open and Collaborative Learning with Wireless LANs

Wireless LANs provide students, faculty, guests and staff with instant access to information from anywhere on campus.

Increased productivity, lower costs and improved competitiveness for today's technologically savvy students are just some of the benefits of deploying a wireless LAN network in education.

Applications for Wi-Fi in Education

- *Anytime, anywhere learning throughout campus*
- *Network connectivity for hard-to-wire buildings*
- *Easy guest and visitor Internet access*
- *Comprehensive voice service deployment*

Education Challenges and Solutions

Universities are adjusting to the influx of the Internet generation - an increasingly technically savvy student and their expectation for Internet, voice, video and other network services on an anywhere, anytime basis. This coupled with the never ending flow of new users of IT services leads to significant implementation and administrative challenges

Wireless LANs can be part of the solution to these challenges. Universities recognized this early on and represent some of the largest wireless LAN sites in the world. They have been early adopters of the technology, both due to their natural exploration of new technologies and the sheer practicality of a solution that eases Internet access across large geographies.

As they move from hotspot to campus-wide deployments, and the perception of wireless changes from a "nice-to-have" to a transformational technology, network administrators will experience significant growing pains if key capabilities are not available in the wireless LAN system. Not all wireless LANs are the same, nor do they meet education's unique requirements. A wireless LAN solution for education should include:

- ***Simple, Low Cost Deployment Method***

Higher educational facilities often span many acres and can encompass hundreds of buildings. Physical site surveys and complex channel planning are unquestionably too expensive for these environments. The wireless LAN system should eliminate the need for this process.

- ***Support for High Densities of Clients***

Universities are the ultimate gathering place for large numbers of people in small locations. Auditoriums, conference centers and libraries are all spaces where the number of users accessing the wireless LAN typically exceeds enterprise usage patterns by an order of magnitude. The wireless LAN system should be able to accommodate high densities of clients without losing performance. Both voice and data clients should have fair access and overall network performance should remain high.

- ***Ability to Support Voice and Data Applications Simultaneously***

Cell phones are as ubiquitous on campus as textbooks. But many buildings may have poor to non-existent call capability due to poor coverage. Leveraging the already-there wireless LAN offers a new opportunity to build reliable in-building voice communication systems for students, faculty and staff. Doing this simultaneously with high densities of data users while maintaining high voice quality is a requirement of the wireless LAN system.

- ***Multiple simultaneous user communities with different security profiles***

The campus is the ultimate revolving door with different students, faculty, staff and guests coming and going every day. All expect easy access to the Internet. Having a simple method to allow guests to access the wireless net-



About Meru Networks

Meru Networks is a global leader in Wireless Voice over IP (VoIP) infrastructure solutions. With its innovative, award-winning Air Traffic Control technology that brings the benefits of the cellular world to the wireless LAN environment, Meru's WLAN System is the only solution on the market that offers the reliability, scalability, and security necessary to deliver converged voice and data services over a single WLAN infrastructure. Meru's Wireless LAN System provides major Fortune 500 enterprises, universities, and healthcare organizations with the predictable bandwidth and over-the-air Quality of Service required to support a wide range of current and future wireless applications.

work without burdening the IT administrators is critical. The wireless LAN system should support guest access simultaneously with secure faculty, staff and student access. Customizable web portal pages should assist visitor's with maps, directions or other facilities available on campus.

- **Means to ensure high performance in a mixed 802.11b and 802.11g environment**

Very few enterprises have as little control as the university as to the wireless client being used. Students, faculty and staff will bring in a wide variety of client devices. A mix of both 802.11b and 802.11g clients should be expected. This mix will cause the 802.11g infrastructure to perform at much lower throughput rates than in an all 802.11g environment, frustrating those with higher speed cards. The wireless LAN system should adjust for the mixed environment and deliver performance for 802.11g users much closer to that expected in an all 802.11g environment.

Meru Wireless LAN Controller

The Meru Wireless LAN Controller provides centralized management and control of Meru Access Points. Meru Wireless LAN Controllers intelligently manage the RF air space to deliver a wireless LAN network that is as reliable as the wired network. Intelligent management of client access ensures the highest performance for dense voice and data applications, delivering a true converged voice and data WLAN network.

- Simple deployment with E(z)RF for one-touch configuration without complex channel planning
- Centralized management
- Multi-layer security approach with captive portal function for guest access
- RF aware with self-healing properties in event of interference or reconfiguration
- Integrates easily with existing infrastructure
- Scalable solution from community colleges to the largest universities

Meru Access Points

Meru Access Points provide leading Wi-Fi performance for 802.11b, 802.11g and 802.11a clients. Deployed wherever Wi-Fi coverage is required, they work in conjunction with Meru Controllers to deliver the highest toll quality voice over Wi-Fi service, excellent data client performance, self-healing and rogue access point prevention.

- E(z)RF installation and self-healing
- Dramatically improved 802.11g performance in mixed 802.11b environments
- Toll quality voice over Wi-Fi with zero handoff between access points
- Ten-fold increase in client density
- Automatic AP discovery, configuration and RF channel and power assignment
- Intelligent load balancing