



State University of New York (SUNY) Stony Brook Unwires Hundreds with Confidence

Established in 1957, Stony Brook is the largest university in the State University of New York (SUNY) educational system. Stony Brook is one of the leading public research institutions in the U.S. and one of only 10 universities awarded a National Science Foundation recognition award for integrating research and education.

The University offers a wide-range of undergraduate, postgraduate and professional programs to its 22,000-plus students. With over 13,000 staff and faculty members, Stony Brook is also the largest single-site employer in Long Island.

Challenge

Provide secure and scalable wireless Internet access to students, faculty and staff in common areas across the campus, including at the Charles B. Wang Center, a 120,000 square foot conference and event facility

Solution

- Meru's over-the-air Quality of Service (QoS) for both downstream and upstream traffic ensures high quality data service users in high-density environments
- By coordinating all traffic on the network, Meru's WLAN System eliminates co-channel interference and removes complex RF planning and management tasks
- The Meru Controller automatically discovers and configures APs across the entire network.

Benefits

- Intelligent network automates tasks such as balance loading and QoS, saving money on network administration and support
- No complex RF planning tools and site surveys means simple deployment and expansion
- Scalable network supports large numbers of users by managing channel contention such as the conference center, student activity center, theater, and library

University Searches for Scalable Wi-Fi Solution.

Like other universities, Stony Brook had previously implemented a few standalone enterprise 802.11b access points (APs) to provide students and faculty with mobile Internet and e-mail access. While these APs provided hotspot access to a limited number of users, they were not designed to support the diverse networking requirements of its sizeable user base across a campus comprised of 123 buildings on 1,100 acres. Not only did these stand-alone APs offer decreasing performance in the face of rising user density, they were a significant hassle to deploy and manage, because each new AP deployment required manual site survey, channel configuration, and policy provisioning. Not surprisingly, these traditional WLANs failed to meet the expectations of the Division of Information Technology (DoIT).

Tasked with managing the University's computing, telephony, and network infrastructure including over 8,000 network connections, and business systems in the areas of finance, human resources, and student administration, the last thing that the DoIT needed was another high-maintenance technology.

"We needed a WLAN system that was easy to deploy across many buildings on campus, could be centrally managed over an IP routed network, and could implement different security policies for different classes of users," said Mr. Reeder, Chief Information Officer of Stony Brook University.

When Stony Brook discovered Meru Networks, Wi-Fi technology finally made sense. The system promised to deliver five times the traffic of their current APs by utilizing Meru's Air Traffic Control technology. More importantly for the DoIT, the Meru WLAN System simplified management tasks such as AP provisioning, channel assignment, adapting the network to new applications and user requirements, and troubleshooting. Thanks to Meru's support for mobility both locally and across IP subnets, adding APs was a simple matter of plugging them in, and configuration was automatic via Meru's WLAN controller. These features made the system far easier and less costly to deploy and manage.

Conference on Instructional Technology Delivers Ideal Testbed

The 2004 Conference on Instructional Technologies (CIT), a high-profile annual forum on the use of technology in education, represented the perfect opportunity to evaluate Meru's density and management claims.

From June 1 to June 4 2004 the 18 Meru APs and a Meru Controller were deployed at the Charles B. Wang Center, a 120,000-square feet events facility, to support the wireless networking requirements of the 500-plus event participants. Despite the high user density, the Meru WLAN System performed flawlessly, supporting hundreds of users as they checked e-mail, downloaded presentations and connected to their institutions' Intranet using a VPN connection. Because the Meru System eliminates co-channel interference, the DoIT was able to place APs in the same area for higher density support. This is an opportunity to showcase the Meru capability of overlaying APs on different channels to double or triple the capacity of the overall network.

The successful CIT deployment demonstrated that the Meru WLAN was capable of supporting over 150 simultaneous active users while delivering ease of deployment and management. According to Behzad Barzideh, (Network Engineer at Suny Stony Brook), "the total installation time was less than a day and we received no complaints." "Meru worked painlessly."

Unwiring the Campus

After the successful deployment at the CIT, Stony Brook decided to rollout additional Meru APs to cover common areas such as the student activity center, the theater, and libraries.

Having witnessed the Meru WLAN system in action, the University's IT organization felt confident that the system would be able to take on the future management challenges of Wi-Fi technology. Ability to transparently add new APs on the same channel wherever you need them allows them to scale out full coverage anywhere, and ability to overlay channels in the same space allows them to scale available bandwidth to double or triple that of any other WLAN system, all without increasing management complexity.