Meru Deploys the World's Fastest Wireless LAN
at Morrisville State College

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Located in rural upstate New York, Morrisville State College, a State University of New York (SUNY) campus has a national reputation for pioneering the integration of advanced technology into everyday campus life.

Situation

- With its legacy wireless infrastructure reaching end-of-life, Morrisville State College faced a major decision—deploy an 802.11a/b/g network or leap-frog legacy standards to deploy the latest Wi-Fi solution based on 802.11n.

Solution

- Morrisville College deployed 720 dual-radio Meru AP320's to create the world's first campus-wide 802.11n wireless network, providing high-speed mobility to 43 buildings encompassing approximately 1.9 million square feet.

Benefits

- Immediate support for draft 2.0 802.11n devices with 100% full-speed backward compatibility for existing a/b/g devices.

- Unique deployment architecture allows network administrator to easily compensate for coverage holes and fluctuating data rates.

- Both radios may be simultaneously powered by standard 802.3af PoE, protecting investments in wired infrastructure.

- In the first few months of using 720 Meru 802.11n APs, Morrisville College has been able to effectively support over 1,500 simultaneous users at peak usage, with connection speeds of up to 300Mbps.

In 1998, the College became the first in the SUNY system to integrate laptop computers into its teaching and learning environment, partnering with IBM to become a ThinkPad University. Further, in 2003, the College was the first campus in the nation to comprehensively replace all residence hall phones with individual cell phones for students. In 1999, the college became one of the first in the nation to install a campus-wide wireless network.

Fast forward to 2007, however, and the College, a pioneer in campus mobility, found itself with an end-of-life wireless solution supporting 2Mbps connectivity when most higher education campuses were providing its users with Wi-Fi standard speeds of 11-54Mbps.

The Need for Speed

By every measure, Morrisville State College was overdue for a wireless upgrade. The College's legacy wireless network, which was deployed in residence halls and academic buildings, fueled student expectations for Internet connectivity from anywhere at anytime on campus. Similarly, the demands on the wireless network had changed significantly. Rather than occasional access to basic data applications such as e-mail, students wanted instant access to bandwidth intensive application such as video file downloads from YouTube and on-line gaming.

Beyond greater speed and broader coverage, the College's Informational Technology Services team added to the list of requirements: ease of management, support for multiple operating systems (responding to the proliferation of devices), and a product lifespan of 5 to 7 years.

All of these requirements supported the case for leapfrogging existing 802.11 standards and implementing an 802.11n network.

Seizing the 802.11n Opportunity

Once the decision was made to go with 802.11n, Morrisville College, quickly narrowed their solution options and selected Meru Networks for their 802.11n wireless and IBM Global Services as their systems integrator.

Morrisville's 802.11n solution consists of 720 Meru AP300 access points, each equipped with two a/b/g/n radios to support all current standard WiFi clients and newer clients based on 802.11n draft 2.0. The Meru WLAN System ensures optimal performance for every client on the network by assigning each client to the best physical access point. Adding capacity or dedicating spectrum to a specific access technology or user group is just a matter of layering more channels and can be accomplished without increasing network complexity, which is an important consideration for future expansion.

Unlike the design-intensive channel planning architectures from other vendors, Meru's single channel approach does not require complex channel planning to mitigate co-channel interference between access points. In addition, Meru's unique approach allows administrators to more easily compensate for coverage holes and fluctuating data rates, thereby both significantly accelerating network planning and deployment, and simplifying ongoing network management and diagnostics.

From Legacy to Leading-edge Mobility

By October of 2007, only months after launching its ambitious wireless upgrade plan, Morrisville State College announced the world's first 802.11n campus-wide deployment. The College's campus-wide network boasts coverage for more than 40 buildings across two campuses with approximately 3200 students and 140 faculty members. With a

About Meru

Meru Networks is the global leader in wireless infrastructure solutions that enable the All-Wireless Enterprise. Its industry leading innovations deliver pervasive, wireless service fidelity for business-critical applications to major Fortune 500 enterprises, universities, healthcare organizations and state, local and federal government agencies. Meru's award winning Air Traffic Control™ technology brings the benefits of the cellular world to the wireless LAN environment. The Meru Wireless LAN System is the only solution on the market that delivers predictable bandwidth and over-the-air Quality of Service with the reliability, scalability and security necessary for converged voice and data services over a single WLAN infrastructure.

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successful deployment in primarily academic areas, the College also expanded coverage to provide wireless access in non-traditional spaces such as the parking lot, football field, and equine barns.

In the first few months of using 720 Meru 802.11n APs, Morrisville College has been able to effectively support over 1,500 simultaneous users at peak usage, with connection speeds of up to 300Mbps. Deployment of the high-speed access points at the college was smooth according to Matt Barber, Morrisville's network administrator. And deployment tests have confirmed that the new network exceeds expectation. "Some of the statistics [from the tests] were just unbelievable,"

says Jean Boland, vice president of technology services at Morrisville State College. "[In general,] speeds were five times that of 11g." Often, they were higher. According to Boland, a 50MB file uploaded from a laptop took 3 min 51 sec with an 11g connection, but only 26 sec with the 11n connection – nearly nine times faster.

With a world-class wireless 802.11n deployment based on Meru's unique wireless solution, Morrisville State College has set the bar for the fastest, most reliable campus-wide wireless connectivity.