



Illinois State Manages Campus Wireless LAN with AirWave

Wireless Network Overview & Uses

Illinois State University is dedicated to being a "technology-friendly campus" and to using this technology to enhance teaching, learning, communication, and creativity at all levels. As a result, Illinois State became an early adopter of wireless LAN technology, installing its first wireless hotspots in indoor public spaces nearly five years ago. Today, the campus network consists of more than 150 wireless access points, with significant plans for expansion in the near future.

Illinois State's wireless network today covers most public areas on campus, including, the library, dining halls, lounges and even some outdoor areas. Many academic departments have also requested wireless coverage in their buildings, for which they reimburse the Telecommunications and Networking Department through a charge-back program that helps cover the costs of installation and operation of the network.

The secure wireless network is easily accessible to students and the entire campus community. To ensure access for all, the school even allows students to 'check out' university-owned laptops while in the library, using the wireless network to provide flexible broadband connectivity. As a result, wireless usage has been increasing steadily since the network was first installed, and has accelerated rapidly since the university implemented a policy requiring all freshmen and transfer students to have a computer.

One of the most heavily utilized wireless buildings on the network is University High School, which is also located on campus. The school decided to implement a pilot program designed to supplement traditional textbooks with primary source documents online. Laptop PCs were provided in four classrooms to be used by students from the freshmen, sophomore and junior classes in the English, math, science and social sciences subject areas. WLAN usage has naturally increased significantly in those locations, and the reliability and performance of the network have emerged as critical issues. "With students using laptops and teachers incorporating computer use in the classroom, the wireless network quickly became an important resource at the high school," observed Steve Menken, Illinois State's Interim Network Manager of Networking Systems.

As the size and criticality of the wireless LAN grew, Illinois State's networking group knew they needed a better wireless management solution that would allow them to monitor and control their network. After reviewing the available solutions, they selected the vendor-agnostic AirWave Wireless Management Suite software.



UNIVERSITY OVERVIEW

Illinois State University (www.ilstu.edu) in Normal, Illinois was founded in 1857 as the first public university in the state of Illinois. Today, the university is the only public, doctoral research university in Illinois, offering its 20,000+ graduate and undergraduate students more than 160 majors/minors.

WLAN REQUIREMENTS

- **Accurate Trend Reporting** for intelligent planning of network growth
- **Flexibility to Manage New and Legacy Hardware** to accommodate a phased wireless network deployment schedule
- **Centralized Monitoring & Support** for a large, growing campus network

SOLUTION

- **AirWave Wireless Management Suite™** AWMS-200 edition
- **RAPIDS** rogue access point detection software module
- **VisualRF™** RF visualization and location module
- **Cisco** wireless access points and controllers



Wireless that Works. For Education.

Accurate Trend Reporting

"I cannot overestimate the importance of reliable reporting," said Steve Menken. "We looked at other solutions and saw that AirWave's reporting capabilities were vastly superior. That's really what drove us to select the AirWave Management Platform." The Telecommunications staff uses AMP to determine where the network is most heavily used and to plan for expansion of network capacity in those areas. Currently, wireless network usage in public areas on campus peaks at noon and drifts off in the evening as students return to the residence halls, which do not yet have wireless access. Bob Brunke, a Network Engineer at Illinois State, expects those patterns to change dramatically if the school chooses to 'unwire' the residence halls in the next few years. "That's one reason that AMP is so important. We know for certain that usage patterns and overall usage levels will change quickly as the network grows. With AMP, we'll be able to monitor those changes and make whatever adjustments are needed," said Brunke.

Flexibility to Accommodate a Phased WLAN Rollout

In the years since the first wireless installation on campus, technology has evolved significantly. "Early on, we were using Cisco VxWorks access points, then Cisco shifted to IOS. Since then, we've converted all of our IOS access points and are now using Cisco's latest LWAPP access points," said Bob Brunke. "I'm willing to bet that there will be almost as many changes in the next four years," he added. One of the reasons Illinois State was attracted to the AirWave Management Platform is that it is a flexible tool that can manage legacy equipment as well as state-of-the-art new hardware. "That gives us the confidence to know that we'll be able to manage our entire network even as the technology changes and improves. No one can afford to rip out and replace network equipment every time a product line evolves," Brunke noted.

Centralized Monitoring & Support

With responsibility for a large and growing wireless network, the Illinois State Telecommunications and Networking department must be able to support the network remotely, from a centralized console. "The AirWave software is easy to learn and lets us see exactly what's happening anywhere on the network. The VisualRF module allows us to document the network, so we know where all the access points are located and can use that information when we need to diagnose and resolve any problems with the network," said Lew Wheatley, Network Engineer.

RESULTS

The initial wireless network installation at Illinois State University has been such a success that the university is planning a significant network expansion, adding nearly 200 new wireless access points to its existing 150 node network. The university is even considering a much more aggressive plan that would blanket the entire campus over the next several years.

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Bob Brunke
Network Engineer
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