

University of Denver Achieves 200%+ Return on Investment in One Year with the AirWave Management Platform



Like students, faculty, and staff members at most colleges and universities, the University of Denver's users have come to rely on their wireless network for Internet access, email, and other critical applications. The campus police even use the wireless network to access databases from several parking lots throughout campus. The Wi-Fi network today consists of more than 250 wireless access points, with more than 800 regular network users.

As the WLAN grew, managing the network became more time-consuming and costly for the IT Staff. Wireless Network Specialist Marcelo Lew and Network Architect Chad Burnham began

spending an increasing amount of their time managing AP configurations and addressing user problems. "I became increasingly worried that I could not detect if one of my APs was configured incorrectly or had out-of-date firmware," Lew recalled "I couldn't even tell which of my users were connected to each AP on our network," he added. Lew evaluated several wireless LAN management solutions before selecting the AirWave Management Platform™ Professional Edition software with RAPIDS™ rogue AP detection module.

Improved Visibility

The University's most immediate priority was to find a solution that would give them the real-time information they needed to quickly diagnose and resolve end-user problems. The AirWave Management Platform's real-time monitoring views allow the IT staff to quickly locate a user on the network and immediately see all relevant data that might affect his connection and throughput. "By integrating with our Cisco 3030 VPN, AMP identifies every user on the network by username and provides real-time information on all users, enabling us to see which APs they're connected to, how much bandwidth they're using, the signal strength they're getting, and more," said Lew. "Now we can troubleshoot most problems remotely and can even diagnose when certain users are consuming too much bandwidth. We can even tell which APs are getting over-used so we can more intelligently plan our network growth." Using AMP, Lew calculated, enabled the University to reduce average problem resolution time by 50% or more.

Manageability

With a large and growing network of 250+ wireless access points, the University IT staff needed a centralized management solution to automate configuration management and eliminate manual processes. They centrally define their policies using AMP's web-based user interface. "AMP automatically applies the correct firmware and settings to every access point on our network," said Lew. "With AMP, there is no possibility of human error." AMP's real-time monitoring capabilities help Lew proactively identify and eliminate common network problems to improve overall performance of both the wired and wireless networks. According to Lew, "We have been using AMP to detect laptops that have wireless bridging

OVERVIEW

The University of Denver, the oldest independent university in the Rocky Mountain region, is also one of the largest, with more than 9,500 students and 600 faculty members. The university's wireless LAN that covers classrooms, conference rooms, cafes and lounges, and even many outdoor areas.

REQUIREMENTS

- **Improved visibility** to enable the existing IT organization to support a rapidly growing WLAN.
- **Manageability** to ensure uniform network configuration and performance.
- **Security** to combat unauthorized rogues and misconfigured access points.

SOLUTION

- **AirWave Management Platform™ Professional Edition** wireless network management software
- **RAPIDS** rogue access point detection software module
- **Cisco 3030 VPN** for wireless authentication and access control.
- **Proxim ORiNOCO** wireless access points.

enabled. When users bridge their wireless and wired interfaces, and then plug into the wired network with wireless enabled, it creates huge problems in both the wired and wireless networks. The DHCP server goes crazy when it gets requests from both networks from the same MAC address. With AirWave, we have been able to find these users quickly, call them, and have them disable the bridge before the network became completely unusable."

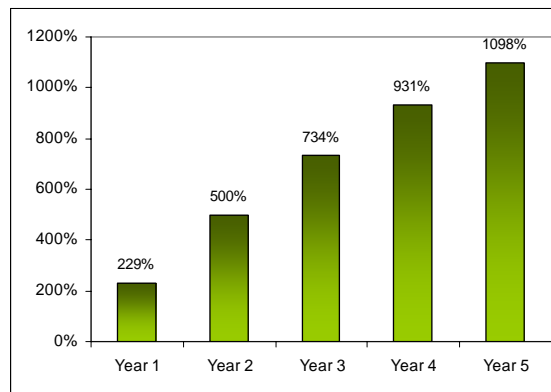
Security

AirWave helps make the University of Denver network more secure in two key ways:

- *Automated configuration audits* – "AMP audits each AP's configuration on a regular basis and generates an automatic alert whenever an AP's configuration has changed in a way that violates our policy," said Lew. "With AMP, we have peace of mind, knowing that all our APs comply with our security policies."
- *Rogue access point detection* – Using the University's Proxim wireless access points as sensors, AirWave's RAPIDS rogue detection module scans the airspace and identifies any unknown, unauthorized wireless access points within RF range. The software simultaneously scans the University's wired network, searching for any other rogues that may be out of range of the legitimate wireless access points.

RESULTS

The AirWave Management Platform has dramatically simplified management of the University of Denver's wireless network, allowing the UT staff to reduce costs even as they improve the performance and reliability of the network. "In less than a year, we have seen over a 200% Return on Investment with the AirWave Management Platform," concluded Marcelo Lew. "We have been able to reduce the cost of running our Wi-Fi network by one Full Time Engineer (FTE) through automation, faster problem resolution and the elimination of network errors."



University of Denver ROI Study

"The AirWave Management Platform has really simplified the management of our wireless network. We've calculated that AirWave has reduced overall WLAN management labor by 50%."

Marcelo Lew
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