

University of Minnesota Duluth Uses the AirWave Wireless Management Suite to Control its Cisco Wi-Fi Network



On a campus with more than 50 buildings spread across 244 acres, Wi-Fi technology is clearly a more efficient, cost-effective means of providing connectivity. With a readily apparent need, the University of Minnesota Duluth became a wireless pioneer, starting its Wi-Fi deployment more than four years ago. The network quickly grew quite

large, encompassing more than 180 wireless access points today, with significant additional growth planned. As the network expanded and usage by the campus community increased, efficient centralized management emerged as a clear need. “We have a team of three people in the networking group,” said Josh Richard, a network administrator at the University. “Everyone on the team is highly skilled, but that’s not a lot of people to manage a network that serves a community of 10,000 or more. For us, tools that improve efficiency are an absolute requirement.”

After evaluating vendor-specific wireless management solutions, the networking team selected the AirWave Wireless Management Suite software. “There were less expensive alternatives,” said Richard, “But AirWave was clearly the best fit for our organization.”

Management of the Multiple Cisco Wireless Product Lines

In the four years that the University of Minnesota Duluth has been using Wi-Fi technology, Cisco’s wireless product line has expanded and evolved dramatically. Today, the University has mostly Cisco Aironet 1230 series wireless access points, and recently acquired a Cisco Airespace 4400 controller that it is currently evaluating for future deployments. “Once we get through the hardware evaluation period and resolve some initial issues, we expect to migrate to the Airespace product line and to convert our IOS-based access points to LWAPP,” said Richard. “It’s a huge advantage to us that the AirWave Management Platform supports both the Aironet and Airespace products, so we can migrate from one architecture to another without sacrificing any network visibility.” The University has approximately fifty legacy 350-series and 1120-series Aironet access points that do not have sufficient memory to convert to LWAPP. Eventually, those access points will be replaced, but the AirWave software will enable them to be managed efficiently during the transition. “With AMP, we’re fully in control of the transition,” noted Richard. “We can migrate when we’re ready.”

Visibility

To the University’s networking team, visibility into wireless network performance and usage patterns is critical for user support and for planning WLAN growth. With the AirWave Management Platform, the IT staff has full visibility down to each individual user and device, so the IT staff can determine where they are now and how the network is performing. When a user calls and reports that the “wireless network used to work but now it doesn’t,” the networking team can identify where the user is connected and can view a detailed user history to see whether the user has successfully connected from that location

OVERVIEW

The University of Minnesota Duluth (www.d.umn.edu) consistently ranks as one of the leading regional universities in the Midwest. The University has more than 10,000 students and 1,700 faculty/staff members on its 244-acre campus on Lake Superior.

REQUIREMENTS

- **Management** of both Cisco Aironet and Cisco Airespace product lines from one console
- **Visibility** into the entire network for user monitoring and efficient planning
- **Ease of Use and Integration** with existing network tools and infrastructure.

SOLUTION

- **AirWave Management Platform™ Professional Edition** wireless network management software
- **RAPIDS** rogue access point detection software module
- **Cisco Aironet 1230** series wireless access points
- **Cisco Aironet 350** series wireless access points
- **Cisco Airespace 4400** controller

in the past. "We can tell whether the user is on the edge of a coverage zone or is in an area where there should be a strong, clear signal," said Richard. "AMP gives us the information we need to quickly determine whether there really is a network problem and how we need to respond."

In addition to the near real-time user monitoring, the AirWave software provides the usage and performance reports the University needs to plan its Wi-Fi growth intelligently. "Compared to the other tools we evaluated, AMP really excels in time-series analysis," said Richard. With AMP, the IT staff was able to determine that wireless access points in the medical school classrooms were consistently overloaded, sometimes with 80 or more users connected to a single wireless AP. With AMP's reports, the networking team was able to identify the problem and add new wireless access points while the medical students were on vacation. "Without the type of visibility that AMP provides, we would have been in the dark," added Richard.

Ease of Use and Integration

For the networking group, the AirWave software was a very familiar tool that was extremely easy to use and integrate. The members of the networking team installed the AirWave software quickly and became proficient in using the web-based user interface, finding it 'sane' and 'intuitive' compared to other solutions.

"We're a big Unix, open-source shop," observed Richard. "We build a lot of our own tools here, and the AirWave product has exactly the kind of architecture we would have used if we had the resources to build it ourselves." In fact, the networking team had already built their own wireless authentication gateway, and they were able to connect it directly to the AirWave Management Platform to allow them to see username information on all AMP's monitoring screens. "That's a huge cost advantage for us, because it allows us to use our own and other open-source tools rather than having to buy a high-priced, end-to-end solution," noted Richard.

RESULTS

The University of Minnesota Duluth's wireless network has been enormously successful, meeting the need of the campus community without overwhelming the small networking group responsible for supporting it. "Our chancellor is a big advocate of using technology on campus and is eager to continue to expand the scope of our wireless network over the next 12-18 months. With the AirWave Management Platform software, we have a scalable and efficient solution to control the network and manage our growth," said Richard.

"It's a huge advantage to us that the AirWave Management Platform supports both the Aironet and Airespace products, so we can migrate from one architecture to another without sacrificing any essential management functions."

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