



## Fairfax County Public Schools Uses AirWave Software to Control a Wi-Fi Network with 7,000+ Access Points



**F**airfax County Public Schools is not only one of the largest school districts in the United States, it is also one of the most innovative. The district is committed to integrating computer technology into all aspects of its work, and every classroom in the district already wired for Internet access. The district is extending that commitment by implementing a plan to provide wireless network access in every one of its schools by the end of 2005 – which will require more than 7,000 wireless access points to be installed.

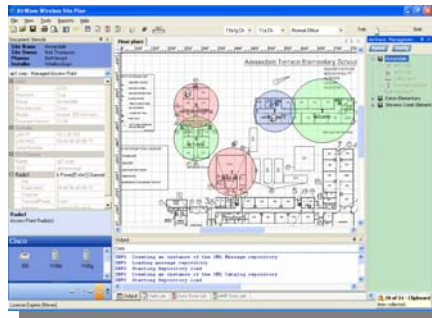
With such a large, geographically-dispersed wireless network, FCPS' Network Engineering & Support Manager John Bayliss knew that he needed a scalable network management solution for his Wi-Fi network. "Deploying thousands of access points in hundreds of different locations is a massive undertaking," says Bayliss. "From the outset, we knew we had to find a solution that would automate access point configuration and allow us to manage the network remotely."

### Reduced Installation Costs

With such a rapid, almost unprecedented, growth plan for its wireless network, FCPS needed the capability to install Wi-Fi in ten or more schools every month. To make this possible, FCPS adopted the AirWave Wireless Site Plan (AWSP) wireless network planning and provisioning tool. The Visio-based software application allows network engineers to draw a detailed RF site plan for each school building. Installation teams then install the hardware in accordance with the design, using AWSP's forms to record the location and MAC address of each access point. When physical installation is complete, AWSP synchronizes with the AirWave Management Platform (AMP) wireless management software. AMP automatically configures the access points to conform to the site plan, eliminating time-consuming manual configuration processes and opportunities for human error.

### Scalability

With a Wi-Fi network consisting of 7,000+ wireless access points, FCPS clearly needed a very scalable centralized management solution. With 250+ schools, managing each Wi-Fi network on a stand-alone basis was out of the question. FCPS selected the AirWave Management Platform Enterprise Edition, in which multiple servers running the AirWave software are controlled and monitored from the central AirWave Master Console. This allowed FCPS to add as many management servers as required by its ever-expanding network while still maintaining centralized control of an integrated network.



RF Site Plan generated with AWSP

### OVERVIEW

Fairfax County Public Schools in Fairfax County, Virginia is the twelfth largest school district in the United States, with more than 240 schools, 166,000 students, and 21,000 staff members. The county covers more than 395 square miles, and educates more than 14% of the students in the state of Virginia.

### REQUIREMENTS

- **Reduced installation time and labor** to keep IT budgets from skyrocketing as the WLAN is installed.
- **Scalability** to control one of the largest Wi-Fi networks in the world.
- **Centralized management** to control Wi-Fi networks in hundreds of locations with limited onsite IT support.
- **Multi-vendor hardware support** to enable the district to seek competitive bids

### SOLUTION

- **AirWave Management Platform™ Enterprise Edition** wireless network management software
- **RAPIDS™** rogue access point detection software module
- **AirWave Wireless Site Plan™** planning software
- **Cisco Aironet** wireless access points.





### Manageability

With a school district encompassing nearly 400 square miles, sending network engineers onsite to individual school buildings to diagnose and correct local WLAN issues would be prohibitively expensive. The AirWave Management Platform automates routine configuration tasks and allows the IT staff to control the wireless network remotely, via an easy-to-use web-based console. FCPS network engineers define configuration policies and specify the version of firmware that should be running on their wireless access points. AMP automatically updates each AP's configuration to comply with the policy and regularly audits each device to ensure that it remains in compliance. Using AMP's real-time monitoring screens, FCPS engineers can monitor network usage and conditions to identify potential problems before teachers, students and administrators are affected.

### Multi-vendor Hardware Support

AirWave's support for most leading WLAN hardware vendors' products enables FCPS to efficiently manage its existing Cisco access points while maintaining the flexibility to add other approved vendors in the future. As a public institution deploying a wireless network in multiple stages, FCPS need the ability to solicit multiple, competitive bids for future stages of the project. Whether they continue to install all Cisco gear or switch to another vendors' products at a later date, they can manage the entire network from the same AirWave Management Platform console.

### RESULTS

FCPS first deployed the AirWave Management Platform software as part of an extensive onsite pilot program. "AMP is one of those rare software programs that works exactly as advertised. The installation was seamless and we immediately discovered the existing access points on our network and brought them under management," says John Bayliss. After successfully completing the pilot, Fairfax County obtained a six-server license to the AirWave Management Platform Enterprise Edition with RAPIDS Rogue AP Detection module. Each server is deployed in one of FCPS's network operations centers and remotely manages the wireless LAN at dozens of different locations in the district. "AMP gives us the control we need over our wireless network. Without AirWave, it would have been almost impossible for us to meet our aggressive timetable for deploying wireless networks in our schools," says Bayliss.

***"From the very outset, AirWave treated Fairfax County Public Schools as a valued partner. AirWave made sure the software would meet our needs and is extremely responsive to our requests. I wish all our vendors were as committed to customer support. We definitely made the right choice when we selected AirWave."***

John Bayliss  
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