Avondale Elementary School District No. 44

Aerohive Deploys Comprehensive Wi-Fi for Avondale Elementary School District No. 44

Challenges

- Acquire robust wireless solution to enable 1:1 program across all schools
- Enable IT staff to easily manage and control network across numerous physical locations
- Resolve issues of integration with Apple products and technology
- Put a cost-effective wireless infrastructure in place to scale for future needs

Results

- Controller-less architecture mitigates risk and single point-of-failures
- Aerohive's Bonjour Gateway simplifies management of Apple devices
- Cloud-enabled network management gives visibility and control
- Enterprise features and superior support give IT team clear direction for future network expansion

About Avondale Elementary School District No. 44

The Avondale Elementary School District is situated in the Southwest valley of Arizona, approximately 20 miles southwest of Phoenix. The District is home to nine elementary schools and one middle school, serving over 6,000 students in grades K-8.

The District places a strong emphasis on technology education, placing devices in the hands of its students as frequently as possible. There are a variety of specialized learning programs, including a STEM academy that issues iPads to all students for classroom and take-home use.

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>
> **— Mark Gresko**
> Director of Technology
> Avondale Elementary School District No. 44

With approximately 500 employees and a budget of $30M, the District is set to expand its digital curriculum and use of technology across all schools. The diverse district is committed to providing outstanding educational opportunities and offers a rigorous academic focus. The District has adopted a youth development strategy called "Kids at Hope", believing all children are capable of success, without exception.

The Challenge

Approximately seven years ago, Avondale Elementary deployed a Cisco wireless network when it secured e-Rate funding, but with the addition of a large amount of Apple devices across its network, the District began to have challenges, prompting the IT team to seek new solutions.

While certain schools in the District have been using wireless technology for several years, the District is now enacting a 1:1 program across all schools and recognized that it needed a fully comprehensive Wi-Fi solution. Over the next few years, all students in the district will be issued an iPad or Chromebook,

With access points limited to carts moving from classroom to classroom, this was no longer a viable option since schools were deploying greater numbers of devices for a 1:1 program, and moving to online testing for all students. In addition, the District aimed to enhance classroom learning and teaching using wireless technology to access a digital curriculum and other tools.

Another driver for a new solution was the absolute requirement for the wireless technology to seamlessly integrate with Apple products and technology, and the existing Cisco environment was not as compatible with Apple products which created more work for the IT staff.

The Solution

The Avondale School District evaluated solutions from Aerohive, Aruba, Cisco, Meraki and Xirrus, looking at the network management strategies, compatibility with Apple products and software, enterprise features and cost. Aerohive was chosen based on its superior technology and support, as well as the cost effectiveness of its solution. Other vendors had separate line items for many of the features Aerohive offered out-of-the box, as well as licensing fees that drove up the cost of the total solution.

The District needed to move away from a controller-based infrastructure to eliminate a single point of failure, and to reduce overall cost. Apart from meeting these criteria, Aerohive's HiveManager Online management interface was far superior to other solutions. Mark Gresko, Director of Technology explains, "Our school district began to take a harder look at Aerohive when we learned Aerohive has partner relationships with Apple and JAMF, and is quick to support new upgrades of Bonjour. Having a solution partner that we knew would work well with our MDM was critically important to ensure a solid and seamless wireless infrastructure."

The District deployed Aerohive AP230 802.11ac access points in classrooms, cafeterias and gymnasiums, as well as throughout the majority of administrative buildings. Aerohive's Bonjour Gateway feature has been instrumental in managing Apple devices, especially at the STEM Academy where all 600 students use iPads for classroom instruction. Bonjour Gateway allows the IT team to monitor and control the traffic on separate VLANs for staff and students.

Other Aerohive features the District hopes to deploy in the near future include Aerohive's Private Pre-Shared Key (PPSK) to enable seamless and effortless guest access, allowing lobby personnel to assign network access. Since taking part in Aerohive's certified training program, the IT team has begun to leverage a broader set of Aerohive technology and features.

To prepare for the district deployment, the District worked alongside Aerohive to map and plan for the wireless network, using planning tools in HiveManager to evaluate density models, physical maps and blueprints, determining radio configurations and power settings, and analyzing heat maps. Aerohive was the only vendor who was able to offer heat maps and spectrum analysis, which set the IT team up for success from the very start – namely during the planning phase.

The Results

In the last year since deploying Aerohive, the District has realized both educational and operational benefits to having a robust network in place from Aerohive. The IT team now has access to information that is far more detailed and comprehensive than with the previous Cisco solution. "We now have visibility into our network that we never had before," explains Gresko. "Working with Apple technology and having built-in band steering and mesh capabilities are enormous advantages to our staff and students. We are able to see what's working and what's not and make adjustments."

In the classroom, teachers and students enjoy a collaborative learning environment. Apple TVs in classrooms are used to highlight student work and re-teach a problem or demonstrate teaching tools. Google Classroom tools are used for engagement and to gauge student response. Librarians use hand-held scanners to check materials in and out and to conduct inventory.

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Language, arts and social studies now interact with content that includes interactive maps, supplemental reading materials and other resources. Kindergarten students start coding and computer programming, using iPads for learning. The District will initiate a VEX Robotics League starting in the upcoming school year. Schools have implemented the digital curriculum and tools from McGraw Hill and MobyMax for more personalized education.

Attendance is taken daily and hourly through mobile devices. Administrators evaluate teachers wirelessly, and teachers participating in the instructional advancement program conduct cluster meetings using Wi-Fi. As a National Institute for Excellence in Teaching and part of the TAP System, schools use an iPad app to score evaluations that are uploaded directly and allow the evaluator to easily capture video or photos as part of the evaluation process.

Summary

The Avondale Elementary School District is taking full advantage of a comprehensive wireless infrastructure, reaping the benefits of greater visibility and superior management capabilities from Aerohive. By eliminating bottlenecks and allowing seamless integration with Apple across the entire district, schools are enjoying a teaching and learning model that is setting new standards for collaboration, instructional advancement and student engagement.