



Pulaski County Special School District

Large Urban School District Deploys Aerohive and Paves the Way for Gigabit Wi-Fi

Challenges

- Meet requirements for technology plan that includes 1:1 initiative and eventual Gigabit Wi-Fi migration
- Provide adequate throughput and bandwidth to District serving over 18,000 students and 36 schools
- Move away from controller-based solution to save cost and management headaches
- Deploy a flexible network management solution with distributed architecture, with consideration for seamless compatibility and control for Apple devices

Results

- Significant cost savings achieved with controller-less solution
- Flexible network solution to meet demands for current and future Wi-Fi needs with superior connectivity and coverage
- Network management solution allows simplified management and control of guests, staff and students
- Router solution from Aerohive enables mobility and flexibility for staff
- Aerohive's Bonjour Gateway is invaluable for managing over 20,000 Apple devices

About Pulaski County Special School District

Pulaski County Special School District (PCSSD) is the second largest school district by population in the state of Arkansas and its 36 schools encompass 730 square miles, serving students in the out-lying areas of Little Rock, Arkansas.

The District is committed to academic excellence, and ensuring all students reach their maximum potential through collaborative, supportive and continuous efforts by teachers, administrators, support staff, families, students, communities and local businesses.

The District is among the 500 largest school districts in the nation with over 18,000 students and approximately 2400 faculty and staff. It has six high schools, six middle schools and 24 elementary

schools. With an IT staff of 24, four network technicians are dedicated to the wireless architecture.

Challenge

PCSSD recognized the need for a comprehensive Wi-Fi solution across all district schools, especially as it got approval and began to make plans to implement a district-wide 1:1 iPad initiative. As the District analyzed its network infrastructure, it realized the Cisco solution that had been deployed at a small number of schools was not sustainable going forward for a district of its size.

Like the majority of school districts, cost was one of the biggest challenges for PCSSD as they considered an upgrade of the network architecture. If the District chose to continue with a Cisco solution, it would need to deploy a controller at each of its 36 schools, as well as incur additional hefty costs for annual licensing and year over year expenses.

A controller-less solution was mandatory in order to scale and effectively meet the District's criterion for a new network solution. Two of the biggest priorities were architecting a network that would seamlessly migrate to 802.11ac Gigabit Wi-Fi, and implementing a network solution that integrated seamlessly with Apple devices.

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—Will Reid

Chief Technology Officer

The District also needed a robust and reliable network to handle an ever-increasing BYOD environment. The District recognized that one of the biggest challenges would be managing a myriad of devices on the network, including a large number of Apple devices. With plans in place to deploy 20,000 iPads and 300 Apple TVs, as well as iPhones issued to District personnel, the District is a heavy user of Apple products.

Finally, a secure network was crucial to meet standards and requirements of the Children's Internet Protection Act, as well as protect valuable student data and information.

The Solution

When the District received additional funding to upgrade its network architecture, it was important to put a solution in place that could scale and meet future demands. PCSSD evaluated numerous solution providers including Cisco, Aruba, Meraki, Xirrus and HP before selecting Aerohive for its superior solution offering.

The District deployed Aerohive AP330 access points and AP230s, one of Aerohive's 802.11ac Gigabit Wi-Fi access points. By the end of its rollout, the District will have approximately 4,000 access points. The District is also using Aerohive BR100 branch routers for certain staff to access the network from home. Aerohive AP330s are used for branch router functionality in order to access the VPN remotely as well.

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The District has a metro area network to connect all 36 schools and to allocate bandwidth by need. The District currently has over 15,000 devices connected to the network, with forecasts up to over 18,000 devices once the full 1:1 plan is in place. Networks are set up for guests, staff and students, as well as a separate iOS VLAN to route Apple devices and for increased security. The guest network includes stateful firewall and Aerohive's Private Pre-Shared Key feature provides guests WPA2 level security without complexity.

PCSSD uses HiveManager on-site to manage all access points and branch routers, and Aerohive's Bonjour Gateway allows the District to easily manage the large amount of Apple devices, as well as control AirPlay used in many classrooms.

The Results

Since it began the Aerohive deployment, PCSSD has been more than impressed and very pleased with all aspects of the network.

The District is electing applications and learning tools with cloud-based platforms, including its learning management system from BlackBoard. A robust wireless network has enabled teachers, students and staff to access tools and resources from anywhere on campus. The District is committed to eventually migrate to Gigabit Wi-Fi capability, dedicating resources and funds to new cabling and other infrastructure upgrades. Aerohive's solution makes it easy for the District to deploy 802.11ac access points in the midst of the upgrades, smoothly integrating with the existing PoE infrastructure at a modest entry price.

A comprehensive Wi-Fi solution has also enabled the District to not only deploy its 1:1 initiative, but also transform other educational and administrative functions to wireless capabilities. The District often hosts speakers and other district meetings in its large auditoriums and can now easily provide guest Wi-Fi access. Outside organizations also rent the facilities, including hosting basketball tournaments where groups can video stream the games back to the visitors' hometowns.

Mobile laptop and iPad carts are used in many classrooms and schools, including PARCC testing for grade three and above, conducted on iPads. In the first year of online testing this coming fall, more than 50% of the District will do all state testing wirelessly. The District also will implement PLUS 360 from SunGard, education software for student information management, as well as other cloud-based software programs for managing academic credit recovery and testing data.

Management and superintendents within the District can now access student information and databases from home with Aerohive branch routers, and IT staff have more flexibility to manage and control the network from home.

The cost savings realized with a controller-less architecture and moving to an Aerohive solution have been tremendous. One example of cost savings includes warranty coverage. With the previous Cisco network, the District would have only had a 30-day warranty, but with Aerohive PCSSD receives a 5-year warranty covering everything, not to mention a network solution with licensing built-in to a single cost. As CTO Will Reid elaborates, "There is no doubt in my mind that Aerohive has the best price point for K-12 educators. With robust features, better warranty coverage, enterprise-class network management and knockout customer service, you don't just get what you pay for, you get more from an industry-standard perspective."

Management of the network is greatly simplified with HiveManager and Bonjour Gateway. HiveManager Wi-Fi planning tools are helpful and allow the District to easily manage deployments, including consideration of heatmaps. Many classrooms are equipped with SMART Boards, and as these begin to expire, they will be replaced with a solution using Apple TVs and HDMI projectors, which was not possible with the previous wireless network infrastructure.

Firm Foundation for Education

With a network infrastructure in place from Aerohive that will easily scale and adapt to Gigabit Wi-Fi, the District is going forward with additional plans to begin moving away from desktop computers.

"As Chief Technology Officer, I am not privy to working every day in the nuts and bolts of our network like our team, but what I can definitely tell you from my 30,000-foot perspective is that Aerohive is the perfect solution," states CTO Will Reid. "I like to compare our experience with Aerohive to going to a restaurant. Do you choose a menu with 10 really great items that you actually want or a bigger menu with 30 not-so-great items? Aerohive's enterprise-class features are tremendous and more robust than any solution on the market. Technology from Aerohive is easy to manage, simple and the customer service experience is amazing. Aerohive just gets wireless."



Contact us today to learn how your organization can benefit from Aerohive wireless LAN architecture.

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