

## CASE STUDY

# DERBY CLASSROOMS GET FLIPPED WITH ARUBA WLAN

Derby Public Schools adopts a 1:1 model and deploys a new high-density Aruba Mobility Defined Networks WLAN, including AirWave, ClearPass, Deep Packet Inspection and Visual AppRF, enabling teachers to implement the Four C's of modern classrooms.



If you walk into schools in Drew Lane's district today, you'd find teachers using flipped classroom models in conjunction with 1:1 computing to fulfill the potential of the Four C's of 21st Century learning: collaboration, communication, creativity and critical thinking. But it wasn't always that way.

"When we started down the road toward 1:1, we looked at our existing wireless infrastructure and realized we'd need something more robust than we had, particularly in terms of density," says Lane, the Director of Technology for the 6,700-student Derby Public Schools.

With a lean IT staff responsible for servicing 14 buildings spread over 50 square miles, the Derby, Kansas district also required advanced management tools to accompany its planned Wi-Fi network overhaul. It's critical for us to have robust and remote management tools," says Lane.

## HIGHLIGHTS

- Pervasive, scalable enterprise Aruba WLAN supports 1:1, flipped classrooms and other goals.
- Built-in intelligence enables deploying a density-driven Wi-Fi network.
- ClearPass and AirWave offer centralized, comprehensive, secure policy enforcement and network optimization.
- Deep Packet Inspection (DPI) and Visual AppRF provide advance application control.
- Supports future adoption of Aruba AirGroup and 802.11ac APs.



**"Aruba's intelligent wireless network, with robust management tools like AirWave, ClearPass and deep packet inspection, enables our teachers to fulfill the Four C's of 21st Century learning: collaboration, communication, creativity and critical thinking."**

**Drew Lane**

Director of Technology, Derby Public Schools

## SEEKING A SCALABLE ENTERPRISE SOLUTION

To enable its Four C's vision, the district sought a replacement for its Cisco WLAN that not only fulfilled current educational requirements, such as the Kansas College and Career Ready Standards and its accompanying online assessments, but also positioned the district to meet emerging needs as they arose.

"As we began developing our district's most recent technology model, we envisioned an infrastructure system that transcended current standards and assessments," Lane says.

"In other words," he continues, "we wanted to design a platform that not only supports the latest standards, but also enables us to be nimble enough to respond to new requirements as the standards change."

## ARUBA MOBILITY DEFINED NETWORK IS THE ANSWER

To get the best fit for its multiple requirements, Derby undertook a quantitative comparison process, which included its existing vendor. "We were open to new options so we conducted a multi-vendor RFP process," says Lane.

### Full-featured Wi-Fi at a Digestible Price

Of the options evaluated, Aruba's enterprise solution rose to the top. "Feature-for-feature, Aruba matched or exceeded every item on our requirements list," Lane reports. "Aruba's solution was also considerably more cost-effective."

"With Aruba," he adds, "we received the best of both worlds. We could get all the features we needed at a price the district could digest."

In all, Derby selected two types of access points (APs), the Aruba AP-105 for classrooms, and the AP-135 for open or communal spaces, plus 6000-series Mobility Controllers. Additionally, the district invested in AirWave Network Management and ClearPass Access Management to optimize and secure its new WLAN.

## AIRWAVE + CLEARPASS = VISIBILITY + SECURITY

As key components of the Aruba Mobility-Defined Networks architecture, AirWave and ClearPass centralize Wi-Fi management.



### Granular Insights for a Healthy Network

Aruba's AirWave provides organizations like Derby with critical and granular insights into their Wi-Fi networks. This includes the types of devices logging on, the specific access points devices are connected to and the total number of devices on the network at any given time.

Using this information, Derby can ensure all end users have the exceptional and reliable Wi-Fi experiences. "With AirWave's visual dashboard we've created heat maps to help us determine which APs are experiencing too much traffic or where we have areas that are underperforming," explains Lane.

"With a small tech staff and a large number of buildings across a large geographic area, AirWave is critical to operating our network efficiently and effectively," he adds.

### Providing a Secure Wi-Fi Environment

For Wi-Fi security, Derby appreciates Aruba's ClearPass, which provides AAA (Authentication, Authorization, and Accounting) services. This enables comprehensively managing network policies, securely onboarding and managing devices and admitting guest users — all from a single platform.

"We use ClearPass to drive our guest network," says Lane. "We permit guest devices to access the Internet. With ClearPass we ensure guests have zero visibility into our institutional network, giving our teachers and students a secure Wi-Fi environment."

### NEW ARUBA TOOLS FOR APPLICATION CONTROL

Looking forward, Lane and his staff are keen to leverage additional new Aruba capabilities such as advanced deep packet inspection and visual AppRF for application control as well as AirGroup for screen sharing and media streaming.

#### Using Deep Packet Inspection and Visual AppRF

"Aruba's new application visibility, control and diagnostics will help us dig even deeper," says Lane. "For example, we'll be able to examine application usage to assist us with determining which apps the district should keep and which we should divest from."

"We're also very excited about the Layer 7 deep packet inspection," adds Lane. "Many cloud-enabled applications no longer respond to URL filtering, so you must manage them at Layer 7. Aruba's new tools allow for making solid, informed decisions about whether I should prioritize, flow control or block various types of traffic."

#### Up Next: AirGroup for Apple TVs and IEEE 802.11ac

In addition, Aruba's AirGroup feature is assisting the district with rolling out Apple TVs.

"We've standardized on Apple iPads and MacBooks for devices," says Lane. "So we foresee an explosion in the number and usage of Apple TVs. We'll use AirGroup to silo those devices as they tend to be chatty on the network."

The district also expects to deploy 802.11ac-enabled APs to provide what's commonly known as Gigabit Wi-Fi. "802.11ac is definitely next-generation," Lane says.

### INTELLIGENT WI-FI SUPPLIES MULTIPLE BENEFITS

As a whole, the intelligence built into an Aruba WLAN addresses Derby's strategy for moving from a coverage-based wireless model to one that emphasizes density.

### High-density Smarts

"For today's teaching and learning needs it's critical for us to have a wireless network that is smart enough to allow us to put APs in very close proximity to one another," Lane says. "APs need to size themselves appropriately and communicate with each other to intelligently determine which AP should serve which client."

"With Aruba, we receive all of these capabilities," he adds.

### Scalable at a Savings

Another benefit of Derby's new enterprise Aruba WLAN is reduced resources allocated to supporting wired infrastructure. "We engineered our new environment with the intention of making wireless the primary network," affirms Lane. "To that end, we scaled back the number of wired ports in favor of wireless. This strategy permits scale-out our wireless network as needed."

In addition, troubleshooting is streamlined. "Aruba's tools enable us to tune, secure and troubleshoot the network from our central IT department," says Lane. "We rarely need to dispatch a technician to work on wireless equipment anymore, which is a huge savings for us."

### TEACHERS GIVE ARUBA AN A+

Of course the most important role for Derby's robust and reliable Aruba WLAN is enabling teachers to achieve their educational goals.





"I teach a paperless, modified flip class," reports Laura Hayden, eighth-grade digital studies and yearbook teacher at the Derby Middle School. "It's essential for my students to get to their online material quickly and our wireless system enables them to do just that. It's significantly faster than our old wired network."

"Also," she continues, "I've been able to expand my personal, as well as student collaboration, with laptops that can travel within the room, hall or building. And, our yearbook staff can easily take their laptops to another part of the building to verify information."

According to Mindy Opprieht, a third-grade teacher at Derby's El Paso Elementary School, it's a similar story at the elementary level.

"Our Wi-Fi network allows us to teach our students how to properly do research online and communicate through Google Docs or Email," she says. "It also opens up a limitless amount of resources for teachers to use in providing a more in depth learning experience for our classrooms. I don't know what I'd do if I didn't have all of that access at my fingertips."

“ Our Aruba WLAN provides the intelligence we need ”



### ABOUT ARUBA NETWORKS

Aruba Networks (NASDAQ:ARUN) is a leading provider of next-generation network access solutions for the mobile enterprise. Its Mobile Virtual Enterprise (MOVE) architecture unifies wired and wireless network infrastructures into one seamless access solution, enabling entities of all sizes to securely address the Bring Your Own Device (BYOD) phenomenon, dramatically improving productivity and lowering capital and operational costs.

Based in Sunnyvale, California, Aruba has operations throughout the Americas, Europe, Middle East, Africa and Asia Pacific regions.

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