FAIRFAX COUNTY PUBLIC SCHOOLS

Embracing Bring-Your-Own-Device via Cloudpath Enrollment System

RUCKUS™ an ARRIS company

CASE STUDY

OVERVIEW

- 11th Largest School District in US
- 180,000 Students, 23,000 Staff
- 194 Schools
- 170,000 Unique Clients per Day
- 120,000 Concurrent Users
- 1.2 million Sessions per Day

CHALLENGE

Move a rapidly growing number of BYOD users to WPA2-Enterprise wireless security without impacting users or support costs.

Nestled next to the nation's capital, Fairfax County Public Schools (FCPS) is the second largest school district in northeastern United States. With a "classroom without walls" mindset, FCPS is constantly looking for new ways to extend the reach and efficiency of the learning environment. The district's high standards have made it one of the most admired in the country and driven its incorporation of advanced learning tools.

With an extensive Cisco and Aruba wireless network in operation, Neal Shelton, the network-engineering supervisor, began to see a change in the wireless usage patterns in 2010 that would ultimately drive a new technology philosophy for the school district. The number of devices utilizing the insecure guest SSID was multiplying as students, staff, and guests walked in the doors with an ever-growing number of Wi-Fi-enabled smartphones, laptops, and tablets.

EMBRACING BYOD

Shelton saw an opportunity to extend the educational use of technology beyond district-owned assets and onto student-owned devices. The potential benefits to this new model, which became known as Bring-Your-Own-Device (BYOD), were numerous. Technology would no longer be something hidden off in a lab; it would be in every student's pocket. The educational use of technology would no longer be time-boxed by class periods, and the availability of such technology would no longer be limited to the district's IT assets. In essence, the educational experience would be available anytime, anywhere on any device.

While the benefits of adopting the BYOD model were obvious, Shelton faced challenges in formalizing the district's adoption of BYOD. For the district to formally embrace these new devices, they needed to comply with the reasonable security and use policies of the district.

During its original wireless rollout to district-owned assets, FCPS had decided that it would utilize WPA2-Enterprise, the gold standard for wireless security, to provide a safe wireless network for educational use. WPA2-Enterprise is the only wireless standard that provides all three forms of wireless security, including user authentication, over-the-air encryption, and network authentication. For FCPS, it most importantly protects the student and faculty community by encrypting their over-the-air communications and preventing man-in-the-middle attacks, which are commonly administered by launching an imitation wireless network. Also, WPA2-Enterprise protects the district by reducing the likelihood of a devastating breach of network security and compromise of personal data. Once configured on a device, it does all of this transparently, without interrupting users to authenticate to a captive portal.

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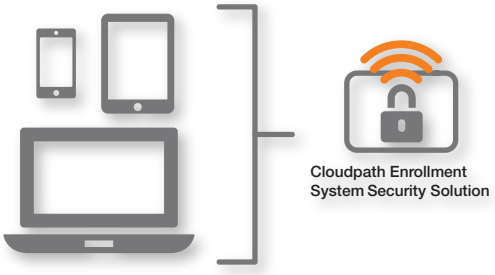
"Technology is now woven into every student's life. If we didn't embrace BYOD, we would be ignoring huge educational opportunities."

NEAL SHELTON
Fairfax County Public Schools, Network Engineering Supervisor



FACING THE CHALLENGES OF DEPLOYMENT

"FCPS understood that one drawback to WPA2-Enterprise was that it was originally designed for environments consisting of managed devices and, therefore, required detailed client configuration to use properly. They realized that extending the benefits of WPA2-Enterprise to personal devices would introduce a new set of challenges related to device ownership and diversity.

To be successful, Shelton felt the BYOD network needed to be easy to use and reliable. The fact that the network was secure could not be an excuse for it being difficult or time consuming to access. According to Shelton, "Wireless network configurations that take 20 minutes to set up and troubleshoot for 10,000 students quickly leads to 200 days worth of productivity loss for IT and, more importantly, 200 days of learning lost by students."

In evaluating options to make BYOD easier, FCPS sought a solution that would onboard devices in a light-handed, self-service manner. They desired a solution that would provide simplified network access without requiring heavyweight management like Microsoft Group Policy (GPO) and Mobile Device Management (MDM) software.

CLOUDPATH ES BRIDGES THE GAP

FCPS turned to Cloudpath ES to make the new BYOD network a reality for 180,000 students and 23,000 staff members, with 120,000 concurrent Wi-Fi users daily. Ruckus met the daunting challenge faced by Fairfax County Public Schools by enabling students and faculty members to quickly access the BYOD network with nearly any device. The automated, self-service model of Cloudpath ensures the device is properly configured and connected to the secure network without IT involvement.

Today, when students and faculty members at Fairfax County Public Schools walk in with new Wi-Fi devices, they are directed to an onboarding SSID named (FCPSonboard). Once there, the user clicks a link to accept the use policy and move to the secure wireless network.

According to Shelton, "Technology is now woven into every student's life. If we didn't embrace BYOD, we would be ignoring huge educational opportunities. As a district, we have chosen to take advantage of the situation and to extend the learning environment in new ways. This means our BYOD network is mission critical. The ability for us to act upon this opportunity is based on our wireless infrastructure and Cloudpath's ability to easily connect users."

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