

SUMMIT PUBLIC SCHOOLS

Elevating the classroom experience with end-to-end networking



CASE STUDY



OVERVIEW

Summit Public Schools is a charter management organization that has 10 campuses located in California and Washington state. Summit serves 3,000 students from 6th-12th grade with 300 faculty and staff.

REQUIREMENTS

- Cloud-based security management solution for multiple campuses.
- Reliable and high performance wireless infrastructure that can enhance in-classroom learning initiatives.
- High-performing wired network that can support multiple types of traffic.

SOLUTION

- Cloudpath Enrollment System (ES) for security and policy with varying levels of access.
- Deployed ZoneFlex R710 Access Points (APs) campus-wide for high density coverage.
- ZoneDirector 1200 for ease of management.
- ICX switches for increased productivity and network scalability.
- Able to facilitate new education platforms and initiatives.

BENEFITS

- Able to facilitate new education platforms and initiatives.
- Secure device authentication across all campuses.
- Shared responsibility between IT and faculty for device onboarding.

CLOUDPATH ENABLING RELIABLE, SECURE AUTHENTICATION ACROSS

RUCKUS PROVIDES A ROCK SOLID INFRASTRUCTURE TO FUTURE PROOF THE NETWORK.

Reliable, high-performing Wi-Fi is becoming a necessity both inside and outside the classroom. Students are carrying more devices, aided by the schools themselves, which now are providing not just books and binders, but laptops and tablets. All those devices need to be well-connected for digital learning to work. But great connections aren't enough—it's essential to have a secure device authentication in place, too. Summit Public Schools was struggling with this very challenge. Devices constantly had to be re-authenticated to the network; this slowed down learning initiatives. The IT department needed something better.

Summit Public Schools is a charter management organization with 10 campuses located in California and Washington State. Summit serves 3,000 students from 6th-12th grade with 300 faculty and staff. Since inception, Summit has been determined to create an innovative model for education by pioneering personalized learning initiatives. Faculty and staff mentor students to be self-directed learners and set personal educational goals. Summit has even created a customized personal learning platform that supports common core curriculum at all campuses.

From the beginning, it was evident to Summit that technology investment was critical to supporting and enhancing the student experience. In fact, Summit supports a 1:1 device to student ratio in all classrooms.

THE CHALLENGE

With the multitude of devices being used by students and faculty, Summit Schools was facing a significant device authentication challenge across all of its campuses. Summit Schools had implemented the use of pre-shared keys (PSK) which caused a significant amount of problems.

"Teachers were constantly going through the hassle of authenticating and re-authenticating their devices and it was becoming a teaching and learning bottleneck. Our job is to bring in technology that accelerates student learning, not slow it down," says Bryant Wong, Chief Technology Officer of Summit Public Schools.

Network ownership and responsibility is shared between faculty and the IT department. Teachers are responsible for ensuring device connectivity within their individual classrooms. However, without a centralized authentication service in place, the IT staff was being overwhelmed with troubleshooting devices that were no longer authenticating, thus rendering the question of connectivity moot.

Summit was also facing several challenges related to the wired and wireless infrastructure. Summit had deployed Cisco switches and a Cisco Aironet wireless infrastructure in the first campus.

Wong states, "We started seeing problems with the Cisco switches after two to three years. If we connected more than six APs per switch, the equipment started failing."

The Cisco Aironet wireless network didn't fare much better. When 30-35 web-browsing clients connected to an AP, the AP failed, dropping traffic and clients.



“When we compared Cisco and Ruckus, Ruckus blew Aironet out of the water.”

BRYANT WONG

Chief Technology Officer of Summit Public Schools

THE SOLUTION

Wong knew that he wanted a cloud-based device authentication solution that provided centralized management and supported Google Applications. When he heard of the Cloudpath Enrollment System (ES), it seemed like the perfect option for Summit. Cloudpath ES software is a security and policy management platform that enables schools to provision and connect a multitude of devices to the wireless network at varying levels of access. Deployed at all 10 campuses, Cloudpath software has enabled Summit to implement reliable, secure authentication across all of its campuses. Once a device is authenticated using Cloudpath software, it remains connected to the network regardless of which campus the student or faculty member is visiting.

“Cloudpath software has provided shared responsibility for device authentication between our IT department and faculty,” says Wong. “Now the faculty can troubleshoot and provide access as needed.”

When it came to Wi-Fi, Wong decided to deploy Ruckus Wireless at another school campus so he could compare performance to that of their existing Cisco infrastructure.

“When we compared Cisco and Ruckus, Ruckus blew Aironet out of the water,” Wong says.

The school district outfitted all ten campuses with Ruckus ZoneFlex™ R710 indoor access points (APs). The R710 is an 4x4:4 802.11 ac Wave 2 AP supporting a data rate in excess of two gigabits per second (Gbps). For controller functionality, Summit deployed a ZoneDirector™ 1200 at each campus. The ZoneDirector delivers advanced features such as smart wireless meshing and high availability while easily integrating with network, security, and authentication infrastructure already in place. Wong also decided to take a different direction with his wired infrastructure—by deploying ICX switches at two campuses.

“I needed to go to the next level switch with more functionality and better back-end processing. I was looking for a high-performing back-end network that aligns with our needs and goals from an educational perspective,” says Wong.

The new wired network made a world of difference. Students no longer experience interruptions or lose productivity, even when hundreds log onto the network simultaneously. Having increased power support on the ICX switches makes the installation and distribution of network connections simple and effective. The network easily handles all types of traffic: Web browsing, video streaming, and administrative applications. Wong can scale the switches as demand grows, either increasing port capacities and/or stacking up to eight switches into a single logical domain to simplify management.

The overall solution has helped Summit effectively drive its mission at all of its campuses. Students and faculty alike are now able to use the network infrastructure in place to accelerate their learning initiatives, rather than spending time troubleshooting or rethinking lesson plans.

Wong concludes, “We want our students to have a phenomenal experience. Ruckus didn’t throw any hurdles in our way. In fact, the new infrastructure facilitated the new education platform that we have in place today.”