BELLEVILLE SCHOOL DISTRICT
Ruckus Cloud Wi-Fi Enables High-Density Learning

OVERVIEW

Belleville Township High School District 201 serves 4,700 students and 480 faculty and staff. The district covers 120 square miles in Belleville, Illinois. Belleville had been running the Ubiquiti Unifi solution for several years and faced significant challenges with client density.

REQUIREMENTS

- Cloud-based Wi-Fi infrastructure for easy deployment and management
- Enterprise-grade solution with intelligent APs
- Fast and reliable wireless infrastructure supporting high-density for in-classroom learning

SOLUTION

- Ruckus Cloud Wi-Fi for distributed site network management
- 75 Ruckus Unleashed indoor R600 APs throughout each high school
- Connected up to 100 clients on a single AP with no connectivity issues

CUSTOMER INSIGHTS

- Allows students and teachers to access the resources they need
- Cloud Wi-Fi enables far better client roaming from room to room
- Ruckus Access Points deliver dramatic improvement in connectivity, i.e., higher data rates and more
- Significant cost reduction due to higher number of devices per AP

TOSS OUT THE RULERS, BRING IN THE (CLOUD) WI-FI

In days of old, learning involved rulers, chalkboards, creaky desks and plenty of recess. Today, technology has become a central part of learning, and educators know how important it is to keep students engaged. The tech-savvy generation of students—and educators—uses laptops, smartphones and iPads in the classroom. On average, students are bringing two to three devices each to school for use inside and outside the classroom, and they expect them to be constantly connected. A high-performance, reliable Wi-Fi network is crucial, and so is support for high surges in network usage. Belleville Township High School District 201 in Illinois understood this, so when the network could no longer keep up with high-density campus-wide, it decided to upgrade the network.

CHALLENGE

Belleville Township High School District 201 is located in Belleville, Illinois, with two high school campuses over 120 square miles, and serves 4,700 students and 480 faculty and staff. The district had been using the Ubiquiti Unifi solution for the past several years, and was plagued with density challenges from the beginning. If more than 30 clients connected to an access point (AP), it would stop functioning. Additionally, if there were several classrooms close together that were using smart-devices, the signal overlap made the connection slow and unreliable. Both students and teachers were complaining: students because they couldn't utilize the cloud-based learning resources and teachers because their lesson plans were falling apart. It was clear that a future-proof network infrastructure was necessary to meet both student and faculty needs.

SOLUTION

Curtis McKay, the network administrator for Belleville, was interested in deploying an enterprise-grade solution with APs that were more intelligent and leveraged features such as channel selection and power bandwidth. The goal was to deploy a wireless infrastructure that could support high density in the classroom, easily connecting more than 30 clients at the same time.

When it came to selecting a platform, Belleville preferred a cloud-managed infrastructure because it would not require any additional hardware at either high school campus. Ruckus partner Bytespeed Systems introduced McKay to the Ruckus Cloud Wi-Fi Early Access Program (EAP), offering him the opportunity to be one of the first to trial Ruckus Cloud Wi-Fi. He also spoke to other school districts who had tested both Ubiquiti Unifi and Ruckus Wireless APs.

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Network Administrator, Belleville

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Belleville deployed 75 Unleashed™ R600 Indoor APs throughout each high school. The R600 delivers Ruckus' patented adaptive antenna technology to deliver consistent performance with an additional 6dB of BeamFlex+ gain and 15dB gain in interference mitigation. The APs were placed in a zig-zag pattern throughout each building, providing coverage to more than one classroom at a time. Public areas such as the cafeterias and auditoriums have two to three APs.

Ruckus Cloud Wi-Fi was able to handle high-density environments right away. McKay stated, "We have gone up to 100 clients on a single AP with no connectivity issues, and the cloud user interface makes management and control a snap."

The in-classroom experience has also been transformed. McKay added, "We have seen better client roaming—cell phones and laptops hop from room to room more efficiently. Teachers' lesson plans have run smoothly over the wireless network and students no longer have to worry about being disconnected."

From a network management perspective, the Ruckus Cloud Wi-Fi solution was truly "set-it-and-forget-it." Belleville isn't concerned about another piece of hardware crashing. And, the entire district's network can be monitored through a single pane of glass.

McKay concluded, "Ruckus Cloud Wi-Fi has been a great benefit to the Belleville School District. It allows students and teachers to access the resources they need, when they need them. We give Ruckus an A+."

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