CASE STUDY

Minooka CCSD #201
We Work Best When We Work Together

OVERVIEW

Minooka School District serves 4,500 pre-K through 8th-grade students. The district covers over 70 square miles in Minooka, Illinois. Minooka had been running a hardware controller-based Aironet infrastructure and faced difficulty troubleshooting and supporting increased network demands from faculty and students.

REQUIREMENTS

- Cloud-based Wi-Fi infrastructure for easy deployment and management

- Fast and reliable Wi-Fi access to support in-classroom learning

- High performance, high capacity district-wide Wi-Fi infrastructure

SOLUTION

- Ruckus Cloud Wi-Fi for distributed site network management

- 92 Ruckus Unleashed indoor R500 and R600 access points (APs)

- More than 90 clients actively taking a test on a single Ruckus AP

- During the Illinois PARCC test this spring, we had more than 1,000 clients connected across two buildings

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

DISTRICT EQUIPPED WITH AN EASY-TO-MANAGE NETWORK AND RELIABLE CLOUD-BASED WI-FI

Network reliability and speed have become almost as important as electricity for school districts. Teachers and students are using a variety of devices at schools, including Chromebooks, iPads, laptops, smart phones and more. Both students and faculty are expecting these smart devices to constantly be connected throughout the entire building, not just a classroom. Educators are looking for ways to leverage smart devices in classroom learning to keep students engaged and focused in this digital era.

But before this can happen, a reliable and high performance wireless network must be in place. School districts can no longer deploy networking solutions that don't make the grade, as both students and faculty demand better. Yet, high-performance, distributed-site networks require time, expertise and money to deploy and manage.

Minooka School District knew this challenge all too well. After six years of running a legacy hardware infrastructure, it was clear that a network upgrade was essential.

CHALLENGE

Minooka School District is located in Minooka, Illinois, with seven campuses over 70 square miles, serving 4,500 pre-K through eighth-grade students and 300 faculty and staff. For the past six years, Minooka has been running a hardware controller-based Aironet infrastructure. Aaron Souza, Director of IT for the district, found it challenging from a network management and performance perspective to keep up with the increasing network demands.

"We started having troubleshooting problems where access points (APs) would fail or start to fail, and it was increasingly difficult to determine which of the multiple APs in a building was actually failing," states Souza.

The Aironet interface was complex, making it challenging to get any insight into why the network was not functioning. If there was a network outage, all that Souza and his staff could do was reboot the APs and hope the problem would resolve itself. Furthermore, the Aironet infrastructure required all data to be tunneled through the controller, creating a single point of failure. Added pressure to support online testing and cloud-based learning programs inside the classroom made the case for a network upgrade.

"Since the deployment, we have seen a reduction in the number of help tickets about wireless connectivity issues. But the main benefits have been the faster connections, higher data rates throughout the schools, and we can see where all of our clients are coming onto the network from. Bottom line—it has made our life much easier."

AARON SOUZA
Director of IT, Minooka
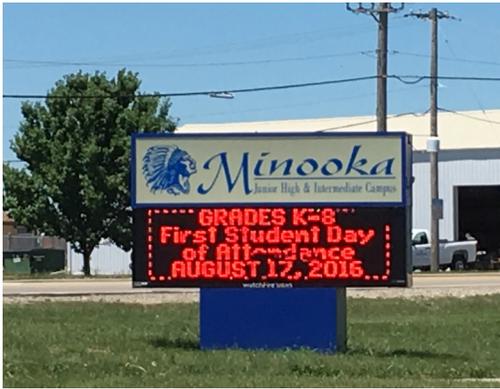
SOLUTION

As the district had recently been moving all technology to the cloud (including switching over to Google Apps for Education), Minooka IT was very interested in deploying a cloud-controlled networking solution to save time and resources for deployment and management.

Working with value-added reseller Bytespeed, Souza considered multiple cloud-managed WLAN vendors but was drawn to Ruckus Wireless for the performance and reliability of the APs. "We evaluated many different access point vendors, using our own real-world stress tests and the Minooka IT team all came to the conclusion that Ruckus was our recommended AP", stated Souza. When Bytespeed announced the Ruckus Cloud Wi-Fi Early Access Program (EAP) was available, Minooka quickly decided to deploy Ruckus Cloud Wi-Fi.

This WLAN Management-as-a-Service enabled Minooka to easily set-up, monitor and manage the entire school district from an intuitive and easy-to-use network interface. For consistent network coverage, Minooka installed 92 Ruckus Unleashed™ Indoor R500 and R600 APs district-wide to ensure consistent coverage and performance. The R500 is a dual-band 2x2:2 802.11ac AP that combines patented adaptive antenna technology and automatic interference mitigation to deliver consistent, predictable performance at extended ranges with up to an additional 4dB of BeamFlex+™ gain on top of the physical antenna gain and up to 10dB of interference mitigation. The R600 is a dual-band 3x3:3 802.11ac AP which delivers high performance connectivity and an additional 6dB of BeamFlex+ adaptive antenna technology gain on top of the physical antenna gain and up to 15 dB of interference mitigation.

"Ruckus Cloud Wi-Fi gives us a couple of advantages over traditional controller based environment. For example, when we have a power outage, there's concern on whether the controller is going to come back online and find all the APs again. With the Ruckus Cloud solution, we don't have to worry about that anymore," stated Souza.

The Ruckus Cloud Wi-Fi deployment was completed by mid-April, just in time for the Partnership for Assessment of Readiness for College and Careers (PARCC) state testing. "During the Illinois PARC test this spring, we easily had more than 1,000 clients connected across two of our buildings. We also had more than 90 clients actively taking a test on a single AP," states Souza.

In addition to the network performance, Minooka was able to save significantly on this installation. Souza commented, "With Cloud Wi-Fi, there is no need to purchase multiple controllers to ensure redundancy. In terms of student learning, Cloud Wi-Fi has changed the way teachers are engaging with students."

Souza continued, "Since the deployment, we have seen a reduction in the number of help tickets about wireless connectivity issues. But the main benefits have been the faster connections, higher data rates throughout the schools, and we can see where all of our clients are coming onto the network from. Bottom line—it has made our life much easier."

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