



case study

OVERVIEW

Dublin, California, located 35 miles east of San Francisco, has consistently ranked as one of the fastest-growing cities in Alameda County. That growth is reflected in its school district, which expects to enroll more than 10,000 students in the 2015-2016 school year. The Dublin Unified School District (USD) currently includes eight elementary schools, two middle schools, one comprehensive high school, and one continuation high school.

WHAT THEY NEEDED

- A more reliable wireless network to service the expanding student & faculty need for network access
- A replacement for their existing and under-serving wireless network
- A network that could grow to support exploding demand from increased number of students, devices and size of school

WHAT THEY DID

- Deployed more than 500 Ruckus 802.11n & 802.11ac access points
- Installed 2 ZoneDirector 5000 (N+1) controllers

WHAT THEY ACHIEVED

- Rolled out 10,000 Chromebooks for school-year 2015-2016 to meet their 1:1 computing goal for the student body
- Satisfied students and faculty who can rely on their Wi-Fi because of the increase in bandwidth, capacity, and reliability of the Ruckus Wi-Fi solution
- Future-proofed their network to grow as their district grows

MOVING TO THE HEAD OF THE CLASS

MASSIVE 1:1 CHROMEBOOK DEPLOYMENT ACHIEVED

Schools have become more dependent on their wireless networks for providing the best education for their students. On-line learning resources and testing platforms are becoming more prevalent and teachers, office/facility staff and students all utilize wireless services to complete their daily school tasks. As the demand for wireless access grows, however, the demand for higher data rates and network reliability becomes more important for daily operation. To meet this growing demand, a network must be designed to provide the latest wired/wireless technologies.

“The existing infrastructure was clearly inadequate for our needs today,” said Stephen Hanke, Superintendent of Dublin Unified School District. “We also have several strategic objectives to achieve, but with the old network, that wasn’t going to be possible.”

CHALLENGE

Upgrade to a new wired and wireless network that enables digital teaching, enriched learning experiences, and effortless management leveraging 21st century technology.

The use of mobile devices to facilitate classroom learning is exemplified with Common Core. District administrators knew that the standard required all students to have immediate access to technology in order to read across multiple types of media, write, conduct research, and make digital presentations. To provide ubiquitous access, Dublin USD planned to migrate all of its schools to a 1:1 computing model—rolling out 10,000 Chromebooks—and standardize on cloud-based Google Apps for Education.

“We needed a robust wireless environment that could support expanded digital learning, Common Core testing, and broad access to online resources,” said Custer Rodriguez, Network Administrator at Dublin Unified School District.

After conducting an extensive evaluation process and trying numerous wireless network options, Dublin USD chose Ruckus Wireless based on its highly rated performance. They also chose Brocade as the wired network provider. A Ruckus/Brocade collaboration was able to bring the perfect solution to address the Dublin USD wired/wireless networking requirements.

Dublin Unified School District

“We used just a little over half the number of APs with Ruckus compared to the old HP wireless network,” said Rodriguez. “With Ruckus, we just installed one AP for every two classrooms. The performance has been great and the range is definitely better.”



SOLUTION

The Dublin USD network is based on two data centers—one in the district office and one at the high school—with fiber or cable connections to the elementary and middle schools. The data center at the district office hosts the Infinite Campus student information system and multiple instructional systems based on databases that interface with Active Directory. A separate Layer 3 link connects Dublin USD to the California K-12 High Speed Network, which provides California educators, students, and staff with access to the Internet and other resources.

All district offices and the 12 campuses have Wi-Fi service via Ruckus wireless LAN consisting of 460 ZoneFlex 7982-802.11n and 50-R700 802.11ac access points.

Dublin USD also selected Brocade Network Advisor to simplify network management across the district. In the past, Rodriguez had to travel between schools several days per week to make sure that the network was operating properly. Now he can see the entire infrastructure, including the Ruckus APs, which are identified as devices attached to each switch port.

The Dublin USD IT team replaced the entire wired and wireless network infrastructure in approximately two months. The installation went smoothly, allowing the district to distribute 10,000 wireless Chromebooks before school ended for the summer. Beginning in fall 2015, Dublin USD achieved its 1:1 computing goal, with all students online. Any student can pick up any Chromebook, log in, access class materials, and access the Common Core testing capability, which resides as an app on the devices.

BENEFIT

“The large wireless bandwidth increases opened everything up,” said Rodriguez. “We immediately saw that everything was much faster and more stable. Now teachers can use whatever assets they want, because bandwidth is no longer an issue.” In fact, Dublin USD has increased its use of digital textbooks. Students don’t have to carry textbooks back and forth between school and home, nor do they need to carry their computers.



Dublin Unified School District

“The wireless infrastructure is the critical layer as we integrate technology as a tool for learning. Our goal is success with Common Core and project-based learning. Technology supports instruction and should become invisible in the teaching and learning process. That’s essentially where we’re headed. However, we also needed a wired network that would support the new wireless network and our future goals.”

Stephen Hanke
Superintendent at Dublin Unified School District Administrator at Dublin Unified School District.



“The best feedback we have received is from our teachers, saying that the network just works,” said Hanke. “They can rely on it for instruction, and students have much better access to their coursework.”

Dublin USD expects the network to support its fast-paced growth for at least the next five years. Mobile carts on wheels in classrooms are replacing fixed computer labs. The high school has just been renovated, and the district has added multiple buildings and a new performing arts center. As the district grows, so does the network.

“Now everyone is using wireless technology every day”, said Rodriguez. “We’re not even close to consuming our network capacity, but when we need to scale up, with Ruckus, we can simply add more access points and we’re good to go. It’s just great.”

With its robust wired and wireless networks, Dublin USD has greatly accelerated achievement of its computing goals. The next step is to create a seamless integration between the technology, teaching, and learning styles.

“The network is a critical layer for success as we integrate technology as a tool for learning,” said Hanke. “Our goal is success with Common Core and project-based learning. We believe that technology supports instruction and should become invisible in the teaching and learning process—that’s essentially where we’re headed.”

WHAT IS NEXT?:

A new elementary school will be ready for the 2017 school year and be equipped with Ruckus 802.11ac Wave 2 access points.

