California School District Overhauls Network Infrastructure to Enhance Teacher and Student Communication Capabilities

Alhambra Unified School District modernizes technology infrastructure to support emergency preparedness planning needs, while reducing operational and maintenance fees.

Executive Summary

Alhambra Unified School District
- **Industry:** K-12 Education
- **Location:** Alhambra, California
- **District Size:** 19 schools; 1900+ administrators, faculty and staff; approximately 18,000 students

CHALLENGE
- Old, outdated telephone system that limit administrator, faculty and staff communication capabilities
- Modernize communication platform to clearly define emergency preparedness plan in lieu of national and state budget cuts
- High operational and maintenance fees

SOLUTION
- Deploy Cisco IP backbone to support the unified communications, high speed data network with latest security features, and Berbee's InformaCast IP broadcasting solutions
- Integrate 175 clocks and robust public address (PA) system components to broadcast time

RESULTS
- Increased communication capabilities districtwide through a single, interconnected network, managed from a central location
- Improved the day-to-day and emergency preparedness operations at flagship high school
- Enhanced teacher-parent interactions due to new voicemail functionality
- Reduced operational and maintenance fees from communication system upgrade by approximately 40 percent

Challenge

Situated just a few miles east of Los Angeles, California is Alhambra Unified School District (USD), a culturally rich school system comprised of 13 elementary schools, five high schools and one adult education learning institution. The District boasts more than 18,000 students and is the recipient of many statewide honors including the California Business for Education Excellence (CBEE) 2009 Honor Roll, the California Continuation Education Association (CCEA) 2010 Student of the Year award from Los Angeles County, and the 2010 Title 1 Academic Achievement award.

Over the past few years, Alhambra USD faced increasing national and state education budget cuts. With each new cut, the need to identify ways to save money became more and more apparent to District officials. As a first step to remedy this problem, the IT Department assessed the effectiveness and efficiency of the District's existing communication platform. It focused on how administrators, faculty and staff communicate with each other, parents and students and discovered there truly was no modern communication platform in place.

The IT Department then looked at the District's emergency response and preparedness systems and realized it was highly dependent on an antiquated, in-house phone system from the 1940's that lacked broadcast and dial-out capabilities, making it ill equipped to handle future incidents.

Lastly, the IT Department calculated the District's yearly maintenance fees and found them to be exceptionally high in comparison to other school districts across the State. For example, its existing phone systems could only be serviced by a few individuals in California, and for a hefty price. In 2010 alone, Alhambra USD faced high maintenance and recovery costs following a number of rainstorms that flooded the facilities that physically housed its older phones.

As a result, Alhambra USD developed an intensive, phased approach to modernize its building and network infrastructure, decrease maintenance and operational spending, and enhance its emergency preparedness capabilities moving forward. "The decision to work with Cisco was easy. We have been a Cisco shop for years and knew its solutions would help us reduce costs and the amount of manpower dedicated to maintain our communication systems," says Ashton Potter, director of Technology and Information Services for Alhambra USD.

Solution

The first phase of the communication system revamp started at Mark Keppel High School (MKHS). Built in 1939, MKHS needed more than just a phone system

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update. The school required a complete overhaul including electrical, facility, mobility and cabling upgrades. Its entire infrastructure needed to be fixed to further the District's goal to deploy a new communications system that would one day operate from school to school.

Working with Cisco and SIGMAnet, a Gold Certified partner of Cisco, the IT Department created the proper IP backbone from the ground up to support the new unified communications platform, high speed data network with latest security features, and Berbee's InformaCast IP broadcasting solution. The next step integrated 175 clocks and robust public address (PA) system components to broadcast time. "MKHS essentially went from using multiple communication systems managed by multiple vendors to one, consolidated unified system operated from a secure data network," explains Potter. MKHS has since become the flagship, or proof of concept system for other schools within Alhambra USD.

As the Communications upgrade project began to gain momentum, SIGMAnet recognized the opportunity to meet the District's technical requirements and cost saving goals with the introduction of Cisco Systems and their industry leading technology solutions. Partnering with Cisco, and with a thorough understanding of the project's requirements, SIGMAnet's engineering team designed the secure Cisco network architecture required to support the Unified Communications upgrade.

Throughout the project SIGMAnet, Cisco, and the team at Alhambra Unified School District maintained excellent communication ensuring each phase of the project was managed to the overall project plan. SIGMAnet's Unified Communications expertise, strong partnership with Cisco and excellent relationship with the Alhambra Unified School District enabled the teams to synergize throughout the project to produce the business objectives outlined for the Communications Upgrade project.

Alhambra USD was recently awarded funding for 15 of its schools through the FCC's eRate program, a government funded program that "helps schools and libraries obtain access to state of the art services and technologies at discounted rates" via the Telecommunications Act of 1996. District officials anticipate it will take up to two years to receive full funding. As such, they are hopeful that 80 to 90 percent of its schools will be upgraded with Cisco's Voice over IP (VoIP) solutions within the next two to four years.

Results

Since the deployment of Cisco's unified communication system, Alhambra USD has drastically improved the day-to-day and emergency preparedness operations at MKHS. Eventually, the system will enhance communications districtwide through

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a single, interconnected network, managed from a central location. The consolidation of technologies under one umbrella also reduced the number of vendors the District needed to manage system, as well as added level of scalability and reliability.

From an operations and maintenance standpoint, the IT Department does not have to worry about broken communication equipment or replacing phones when a teacher changes classrooms or a new staff member is hired. Equipment can be easily transferred to a new location; there is no longer a need to physically move the phone and line. As such, maintenance fees have reduced dramatically, as well as the fees associated with issuing and managing a multitude of telephone numbers. Overall, Alhambra USD has seen close to a 40 percent reduction in operational and maintenance fees from the phone system upgrade.

Teachers are also finding the newly deployed communication technologies to be exceptionally beneficial to parent-teacher interactions. With the addition of voicemail, parents are now able to leave messages for their child's teacher, providing an extra level of transparency to student schedules, workload and educational opportunities. In the past, parents left messages for teachers at the front office, which delayed turnaround times for calls and often time messages got lost in the paper shuffle. This application has increased MKHS's environmental sustainability efforts and reduced the amount of paper pushed from one office or one classroom to the next through the modernization of technology. Furthermore, the phones provide teachers with the ability to conference call, which aids in teacher-to-teacher and teacher-to-parent conversations. From an administrator perspective, the phone system allows principals to connect with teachers in any room at any time.

Previously, the bell system at MKHS only held two schedules, although the district maintained closer to ten. On the days the bell schedule was "off," faculty and staff would actually set

an alarm clock and manually sound the bell between periods. Thanks to the Berbee's InformaCast solution, the District can now pre-recorded messages, issue evacuation alerts, hold any amount of bell schedules, perform live broadcasts, and coordinate every phone and clock as its own zone to broadcast to any combination supported by the system.

"We are still learning how best to use the new system. We have only scratched the surface on the bare minimum of things that we can do; there are a number of other ways we can apply the system to benefits our Alhambra's communication needs. Turnaround time is hours as opposed to weeks, months or even years in some cases," says Potter.

For More Information

To find out more about Cisco unified communication solutions, go to: http://www.cisco.com/go/uc

Product List

ROUTING AND SWITCHING
· Cisco 3750 Series

NETWORK MANAGEMENT
· TBA

SECURITY AND VPN
· ASA
· Product

VIDEO
· TBA

VOICE AND IP COMMUNICATIONS
· Cisco Unified Communications
· Berbee InformaCast

VIDEO
· Cisco 5508 Series
· Cisco 3502i AP