

Healthcare Provider Expands Mobile Applications

Kaweah Delta Health Care District leverages Cisco unified network to facilitate growth, cut costs, and enhance patient care.

EXECUTIVE SUMMARY
<p>KAWEAH DELTA HEALTH CARE DISTRICT</p> <ul style="list-style-type: none"> • Healthcare • Visalia, CA • 3200 employees
<p>CHALLENGE</p> <ul style="list-style-type: none"> • Deploy one unified network to converge data and voice applications and reduce operation costs • Improve communications with physicians and nurses to enhance patient care • Facilitate network scalability to support facility expansion and integration of new mobile applications
<p>SOLUTION</p> <ul style="list-style-type: none"> • Cisco Unified Wireless Network provides guest access services and supports wireless devices that capture patient data in real time • Cisco Wireless IP Phones make it possible for nurses to interact with patients and communicate with other medical staff quickly and easily • The controller-based architecture and location capabilities of the wireless network made it easy to add 390 new wireless pumps while facilitating administration and asset management
<p>RESULTS</p> <ul style="list-style-type: none"> • Ease of network implementation enabled the addition of a 250,000-square-foot building and 65 access points without adding staff • Simplified network management resulted in consolidation of IT staff while improving efficiency and realizing huge time and cost savings • Direct communications with nurses expedited response time and decision-making, improving patient care

Challenge

Kaweah Delta Health Care District is one of Central California’s most progressive healthcare providers. To provide a broad spectrum of high-quality healthcare services, including its nationally recognized cardiac and cancer programs, Kaweah Delta has always been at the forefront of technology. “We have five campuses consisting of nineteen buildings, and our emergency room serves 72,000 patients each year. Technology that enables timely efficient communication is essential to delivering excellent patient care,” says Lindsay Mann, CEO of Kaweah Delta Health Care District.

When Kaweah Delta began its North Expansion project three years ago, which entailed adding a new 250,000-square-foot building, the District decided to reevaluate its network needs. “Deploying a separate telephony system in the new building would have been costly and required additional management resources. Our nurses had been using cordless Ericsson phones for years, and we wanted a better way to keep them communicating from wherever they were in the hospital,” says Dave Gravender, Kaweah Delta’s CIO. At the time, Kaweah Delta also had a small Cisco wireless network in place to support PDAs in the pharmacy but wanted the ability to add new wireless devices, services, and equipment as needed. “We were looking for a unified

system that could improve communications, reduce operations costs and easily grow with us as our facilities and mobile applications expanded,” Gravender says.

Solution

Kaweah Delta had been working with Cisco for years and began exploring the possibility of migrating to a unified IP environment. Collaborating closely with Cisco to design a new system, Kaweah Delta migrated to a Cisco® converged voice and data network and expanded the existing wireless network to support more mobile applications and services, including Voice over Wi-Fi. “One unified wired and wireless network that supported voice and data was essential to our expansion plans,” says Gravender.

Direct access to Cisco support made deployment quick and easy. The Cisco support team helped Kaweah Delta identify the right devices and configure them properly. To overcome interference from a concrete dome at the medical center, Cisco also worked with Kaweah Delta to choose the appropriate antennas and access points. “No other company’s support compares to the level of service that we receive from Cisco,” says Nick Volosin, Kaweah Delta’s ISS Director of Technical Services.

Since its deployment, Cisco’s Unified Wireless Network has made a significant impact on hospital efficiencies and patient satisfaction. Wireless devices make it possible for nurses to document cases in real time and spend more time in the room with patients. PDA applications take and record vital signs; wireless electrocardiograms (EKGs) transmit data to a central server enabling doctors to pull up results from wherever they are, as soon as the studies are complete; and wireless guest access provides secure Internet services to patients, families, and visitors.

With Cisco Wireless IP Phones, nurses’ interaction with patients immediately improved. Nurses provide their telephone numbers to patients and, with one phone call, are able to find out what’s needed before walking into the room. “We deliver what our patients need in one trip, saving us a lot of time and making it possible for us to provide faster care,” says Linda Pruett, Kaweah Delta’s CNO. Kaweah Delta uses Rauland-Borg software with the IP phones, enabling overhead and inter-departmental paging. In addition, the District’s employee and physician directories are now accessible via the phones, reducing calls to the operator and eliminating printed directories.

As Kaweah Delta grows, the District continues to expand its wireless applications. Six months ago, Kaweah Delta decided to add 390 Alaris intravenous pumps to the wireless network. By transmitting relevant data remotely via the wireless network, these pumps enable the pharmacy to control medication administration rates and thereby significantly enhance patient safety. Kaweah Delta knew that adding 390 pumps would affect the existing network, requiring 25 additional standalone access points and more management time.

By migrating from standalone Cisco access points to a controller-based architecture, Kaweah Delta has now grown its network to 200 Cisco Aironet® lightweight wireless access points. “The controller-based architecture enables centralized management that dynamically updates policies for all access points, simplifying network administration,” says Volosin. Kaweah Delta also uses a Cisco Wireless Location Appliance to track and manage the location of these expensive pumps throughout the medical centers. “The network’s location capability enables us to keep track of all wireless devices, facilitating asset management,” says Volosin.

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—Dave Gravender, CIO

Results

The Cisco Unified Wireless Network provides infrastructure scalability that makes continuous expansion and growth easy for Kaweah Delta. “The ease of implementation of the Cisco Unified Wireless Network enables us to get our new facilities up and running quickly and cost-effectively. In our new 250,000-square-foot building, we added 65 access points without having to add more staff,” says Gravender. As the District adds new mobile applications, the controller-based architecture makes their deployment simple as well. “All we need to do is create one protocol, and the controller rolls it out to all of the access points,” says Volosin.

By converging voice and data over one integrated network, Cisco enabled Kaweah Delta to maximize its resources, improve efficiency, and realize tremendous time and cost savings. “Today, we’ve consolidated our IT staff into one team that manages telecom, wireless, and desktops. Because all of the applications have the same configuration, we only have to train our technicians one time on one unified network. Upgrades take place once, and the entire network has full redundancy,” says Volosin. In addition, the District saves on expensive cable costs. “Compared to three years ago, we’ve cut the amount and cost of wire by half,” says Gravender.

The Cisco Unified Wireless Network significantly improved communications, as well as patient care. By providing physicians and patients with a direct line to nurses who are always mobile, Cisco Wireless IP Phones enable quicker response and care. “Both patients and doctors are much more satisfied with the new system,” says Pruett. The Cisco Unified Wireless Network makes it possible for both doctors and nurses to assess what’s happening with a patient and make decisions more quickly and accurately, regardless of where they’re located. According to Gravender, “Cisco helps us achieve our mission to provide the right information to the right person at the right place, at the right time, in the right format, and at the right value, enabling us to administer the best patient care possible.”

PRODUCT LIST

Wireless

- Cisco Catalyst 6500 Series Wireless Service Modules
- Cisco Wireless LAN Controllers
- Cisco Aironet 1131AG Series Access Points
- Cisco Aironet 1242AG Series Access Points
- Cisco Wireless Location Appliance

Voice over Wi-Fi

- Cisco Wireless IP Phones 7921

Voice and IP Communications

- Cisco IP Phones 7961

Routing and Switching

- Cisco Catalyst 3750 Series Switches
- Cisco Catalyst 4500 Series Switches
- Cisco Catalyst 6500 Series Switches
- Cisco MDS 9000 Series Multilayer SAN Switches

Next Steps

Kaweah Delta has many plans to expand its wireless applications. Wireless IP phones are currently in use in the downtown campus and will be rolled out throughout the rest of the District in stages. In early 2009, the District will begin piloting a new electronic medication administration system, providing barcodes for patients and medications to help ensure accurate medicine management. Another future project entails extending the use of RFID (Radio-frequency identification) tags to more hospital equipment, such as wheelchairs, in order to further facilitate asset management.

The Cisco Unified Wireless Network provides many opportunities for expansion. The District is also in the process of exploring the possibility of adding a system for monitoring heart rate, blood pressure, and respiration to the existing network. Gravender says, “Since the unified network’s been in place, we always ask ourselves what new systems and applications we can integrate with it. Our goal is to keep leveraging the expansive capabilities of the Cisco Unified Wireless Network as we continue to grow.”

For More Information

To find out more about the Cisco Unified Wireless Network and 802.11n technology, visit:

<http://www.cisco.com/go/nextgen-wireless>

To find out more about Kaweah Delta Health Care District, visit: <http://www.kaweahdelta.org>



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