

CommScope's ION-E® in-building wireless solution helps Loma Linda raise the bar on patient care

Since opening in 1905, Loma Linda University Health (LLUH) in Loma Linda, CA, has earned a reputation for world-class patient care and medical technology. In 1990, LLUH pioneered the use of proton therapy treatment, giving more than 30,000 patients a new lease on life. The 1071-bed teaching hospital also operates some of the largest clinical programs in the U.S. and is the international leader in infant heart transplantation.

Unfortunately, this world-renowned medical facility struggled with a basic challenge: providing reliable indoor wireless coverage throughout its campus. Thanks to CommScope and the innovative ION-E® indoor wireless platform, that challenge has been conquered and LLUH will be more connected, responsive and capable than ever.

The challenges of indoor wireless coverage

In a hospital, a reliable high-speed indoor coverage network is a game-changer—for EMS in route, surgeons in need of lab results, visiting doctors needing to communicate with their offices, and patients who want to stay in touch with their loved



ones. However, finding a solution that's cost-effective, reliable and manageable is challenging. Traditional distributed antenna systems (DAS), the commonly preferred solution, have a reputation of being complex and costly to install, manage and scale.

As a result, Les Morton, Director of Communication Network Services (CNS) at LLUH, spent several years reviewing DAS options from carriers and commercial companies. In late 2015, he was introduced to CommScope's ION-E. "It was unlike anything we had seen before," he said.

Rewriting the rules of indoor coverage

Introduced by CommScope in February 2014, ION-E is a unified, flexible digital wireless infrastructure platform noted for its ease of installation and management. The system is technology- and operator-agnostic and capable of supporting multiple service providers on a common infrastructure. This will enable LLUH to continue scaling the system as their physical footprint expands.

Unlike other DAS systems, ION-E runs on the standard Category 6A copper and fiber-optic

cable already in place in many areas of the hospital. Installation is easy enough that Morton's staff is completing it themselves with a little training from CommScope. Using in-house copper and fiber cabling crews and their own network group not only lowers the initial cost—it minimizes any potential disruption of LLUH's patient care.



“Running the ION-E on Category 6A gives the hospital the opportunity to support things like Wi-Fi, wireless security cameras and low-voltage lighting off the same cabling infrastructure,” added Gary Harrison, CommScope's lead for the LLUH project team.

Members of Morton's CNS DAS team have been energized by the project. John Rodgers, who works with the hospital's infrastructure, was impressed by the equipment's small footprint in the closets and ease of installation. Manuel Ortega, the project supervisor, echoed Rodgers' enthusiasm: “Our in-house installation team was able to deploy the system with the ease and simplicity that was promised. CommScope's ION-E has proven to be the right choice for us.” Project management coordinator, Don Clemons, added, “The Category 6A cabling is far easier to run out to the antennas than the traditional and much heavier coaxial cable. Also, the digital equipment is easier to manage than analog systems—the ION-E is a win for everyone.”

Bringing the system on line and managing it is simple as well. A single web-based interface enables easy testing and commissioning. As access points are added, the system automatically detects and configures new hardware. During operation, ION-E senses the traffic demand at each access point and adjusts signal transport levels to optimize output power.

Another key for Morton is that ION-E supports the hospital's public safety and paging networks. In fact, it can incorporate a wide variety of radio types, making the DAS platform available for use by different departments such as security and engineering.

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“It's completely changed our perception of DAS,” he said. Morton also sees the ION-E as a great recruitment tool. “By improving coverage and accessibility across the campus, we're able to attract and maintain the high caliber of talent that we're known for,” he added.

Success leads to continued expansion

The ION-E platform gives patients and visitors the high-speed, full-signal service they expect, while providing the secure and reliable communications platform the staff need to continue improving patient care. Carriers are in the process of connecting their networks to the DAS, the final step in making this phase of the project an overwhelming success.

The future for the LLUH/CommScope partnership is bright. The hospital recently broke ground on two new hospitals—one for adults and another for children. Phase I of the expansions will provide an additional million square feet that will complement the current Loma Linda Medical Center and include a new tower for its growing children's hospital. Over the next few years, future expansions could add another three to four million square feet. CommScope is charged with expanding the existing ION-E system to cover the additional areas and buildings across campus. As LLUH continues to grow, the ION-E will scale effortlessly.

“When you think about it, LLUH and CommScope share something that's really important,” Morton mused. “We've succeeded, in part, by taking that which is highly complex and making it simple and accessible.”

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