Linksys Gives Premier Surgery Center’s Wireless Network a Face-Lift with 802.11ac Wave 2

Dr. John Layke (left) and Dr. Payman Danielpour (right) are now operating with next-gen Wi-Fi.

Background
Founded in 2009 by Dr. Payman Danielpour and Dr. John Layke, Beverly Hills Plastic Surgery Group has emerged as one of the area’s top surgery centers that focuses on reconstructive, cosmetic, and hand surgery. Dr. Layke and Dr. Danielpour are highly-regarded surgeons who speak regularly at national conferences as experts in their field and have made television appearances on NBC-LA, Home & Family TV, The Doctors, and Entertainment Tonight. The surgeons are known for their use of advanced techniques and technology for surgical and noninvasive procedures, giving patients the best results and most comprehensive care possible.

To meet growing demands, Beverly Hills Plastic Surgery Group moved into a larger space. When looking to modernize its wireless network, Beverly Hills Plastic Surgery Group turned to Linksys to get the new facility up to speed.

Objectives
Upgrade the wireless network to support mobile device growth and intercommunication in and outside of the new facility. Deploy a robust infrastructure that could support the latest medical technologies, including a 3D imaging system used during pre-treatment consultations, while future-proofing the network.

Approach
Linksys installed a Dual WAN Business Gigabit VPN Router, a 52-Port Business Managed Gigabit PoE+ Switch, five AC2600 Business Pro Series Wireless-AC Dual-Band MU-MIMO Access Points, seven MAX-STREAM AC600 MU-MIMO USB Adapters, a premium rack, five CAT6 cable packs, and two CAT6 modular plug packs.
The Challenge

Beverly Hills Plastic Surgery Group, located in Beverly Hills’ “Golden Triangle,” sits in the most prestigious medical building in the area. Despite being a sought-after location for physicians, the environment is not conducive to good wireless. It’s a high-density building with approximately 50+ offices, each with its own wireless network. This coupled with the large amount of metal objects housed inside—file cabinets and medical equipment—greatly interferes with Wi-Fi.

Because the building has limited cell reception and data relay between devices is inconsistent, connectivity has been an ongoing concern for the Beverly Hills Plastic Surgery Group. Connectivity issues and dead zones placed communication challenges on the staff and strained the capacity of the facility. In addition to the inherent obstacles of the environment, Beverly Hills Plastic Surgery Group relied on antiquated wireless technology (802.11n and 802.11g) that could not support the growing number of connected devices on the network.

Due to the organization’s rapid growth, Beverly Hills Plastic Surgery Group decided to expand into a larger facility—although it would remain in the same building and thus face the same Wi-Fi challenges. The new surgery center would be designed to take advantage of the latest medical technology, including a 3D imaging system that uses predictive modeling on a scan of the patient’s face to help them better understand the procedure and what she will look like post-treatment. The 3D imaging system would allow Dr. Danielpour and Dr. Layke to preview the results with patients before surgery and discuss proposed changes in real time, elevating patient care to a new level.

“Staying ahead of the technology curve is important for healthcare facilities to remain competitive. Our goal is to use the most advanced technology to enable more sophisticated surgeries and provide better patient care,” said Dr. Layke, co-founder of Beverly Hills Plastic Surgery Group.

The new wireless network had to be equally advanced to support these technologies. Beverly Hills Plastic Surgery Group needed a reliable and robust wireless network it could rely on to tighten communication and transfer critical data from the 3D imaging camera to the consulting rooms swiftly and securely. The wireless network would need to also support both the broad range and fluctuating volume of devices wanting to connect during business hours—from personal smart phones and tablets to private HD security and imaging cameras.

Beverly Hills Plastic Surgery Group Co-founder Dr. Danielpour said, “Because of the nature of our industry, reliability and data security to assure patient privacy are vital when it comes to wireless communications. My partner and I need to instantly connect with each other, with staff, and to other internal systems in order to share critical patient information in real time.”

Although the Beverly Hills Plastic Surgery Group’s on-site staff is relatively small, the surgery center also wanted to extend network flexibility to off-site users and accommodate personal communication and streaming needs of patients and employees—elevating the consultation rooms, waiting room, patient recovery rooms, and the break room.

The Solution

In a collaborative effort to deploy Beverly Hills Plastic Surgery Group’s new wireless infrastructure, Linksys worked closely with Southern California Security Consultants (SCSC), a Los Angeles–based IT Specialist that managed the network modernization project.

“Technology is an important element in improving the delivery of healthcare services and the advancement of patient care—and wireless connectivity is at the heart of it. Everything is digital these days, and the number of mobile devices and office equipment that connect to the wireless network is only increasing,” said Gabriel Paustian, president of SCSC. “Furthermore, Beverly Hills Plastic Surgery Group’s use of advanced medical technologies and the planning for the implementation of new technology in the future required foresight. We needed quality and flexible wireless technology that could accommodate allowances for new devices and the increased capacity that comes along with them.”

To combat the spotty cellular reception and unreliable wireless connections, SCSC and Linksys outfitted the Beverly Hills Plastic Surgery Group with the latest wireless protocol, 802.11ac Wave 2. Since the surgery center did not have 802.11ac yet, it made sense to skip Wave 1 and move right to the new specification. Wave 2 benefits are compelling, incorporating MU-MIMO (Multi-User, Multiple-Input, Multiple Output) technology to make Wi-Fi more efficient by dedicating bandwidth on a per-device basis.

Five Linksys AC2600 Business Pro Series Dual-Band MU-MIMO Access Points were strategically spaced and installed throughout the office to eliminate coverage gaps and strengthen the wireless connection. This solution allows the office to leverage the Wi-Fi’s calling features even when cellular service is unavailable. The staff was also provided with AC600 USB MU-MIMO adapters to ensure legacy laptops and computers could take advantage of the MU-MIMO technology for optimal performance.

Paustian continued, “We deployed a Linksys 11ac Wave 2–based infrastructure, which enables the surgeons to roam wirelessly and access electronic medical records (EMRs) and other patient data anytime and anywhere, without lag from other competing devices on the network. The clustering capability lets us bypass costly and complex alternatives, such as cloud-based controllers or hardware wireless controllers, while allowing us to implement and manage the core AP functionality from a single administrative screen. Linksys’ business-class networking equipment supports Beverly Hills Plastic Surgery Group’s current wireless needs and features built-in opportunities for future growth.”

SCSC deployed a Linksys Dual WAN Business Gigabit VPN Router to allow off-site employees to safely and easily connect to the network and Linksys’ award-winning 52-Port Managed Business Gigabit PoE+ Switch to reduce the need for additional cables throughout the office.

Five CAT6 Stranded Bulk Cable packs along with two Belkin CAT6 RJ45 Modular Plug packs were used to increase office bandwidth and help future-proof the business.

Additionally, the Belkin Premium Rack Enclosure helped secure the company’s data center and facilitate proper airflow to extend the equipment’s timeline.
Conclusion

Modernizing Beverly Hills Plastic Surgery Group’s new facility with Wave 2 and MU-MIMO, Linksys drastically improved network connectivity and repaired lapses in wireless coverage. The Linksys-powered reboot helped to not only enhance network speed, but also augment the user experience—for both patients and on- and off-site employees.

Dr. Danielpour continued, “Thanks to Linksys, we now have reliable connectivity throughout the facility, something I didn’t think was possible in this building. The network upgrade has enhanced communication between our staff and patients and helped drive office efficiencies and productivity.”