Long Island Veterinary Specialists

Wi-Fi Helps Specialty Vet Center to Provide State-of-the-Art Pet Care

WLAN Network Challenges	Aerohive Wi-Fi Solution Benefits
• Cutting edge, global veterinary practice limited by existing network • Required a Wi-Fi network to increase mobility • Required a system to support new Practice Management system • Required network robust enough for high bandwidth apps	• Deploying more advanced mobile medical technologies • Three networks segmented for guests, staff and voice-only • Practice Management software accessible wirelessly via mobile device • Leverage RFID technology on mobile devices in patient care

For so many people, pets are considered a member of the family. When they fall ill, like any family member, they receive the best healthcare the family is able to provide. With a deep understanding that the well-being of a pet is a primary concern, Long Island Veterinary Specialists (LIVS) provides peace of mind to pet owners. LIVS offers state-of-the-art emergency medical services, utilizing more advanced equipment than is what is generally found at a specialty veterinary center. LIVS is the busiest 24-hour emergency and critical care center on Long Island, and operates with a staff of over 150 dedicated professionals that includes about 25 doctors.

With a growing clientele, its advanced services, and a goal to leveraging the latest wireless-enabled medical equipment available, LIVS center faced the need to deploy business-class Wi-Fi throughout its facility.

WLAN Network Challenges

Offering specialists in almost every discipline, LIVS has become a regional resource where certain animal care cases are sent for advanced diagnostics and treatments. These cases rely on technology, and range from brain surgery to intraocular lens implantation, cancer therapy, hip replacements, cardiac evaluations, and MRIs. Referrals for care at LIVS have not only come from the local area, but from out of state and as far away as the U.S. Virgin Islands and even Japan.

"LIVS can be so cutting edge because, as veterinary specialists, they don't have the same limitations as humans, such as HIPPA regulations," said Joseph Funaro, Director of Technology Imvirtus Inc.,

the reseller managing LIVS' Aerohive deployment. "Their patients get to see a lot of technology before humans can."

However, despite its state-of-the-art facilities, and its increasing need for wireless-enabled technology, LIVS had been operating without a formal, managed Wi-Fi infrastructure and had become challenged by a need for increased mobility.

There were some off-the-shelf routers within its facility, such as in a conference room or labs, but nothing that could provide reliable wireless coverage across the 20,000-plus square feet of office space, twelve exam rooms, or accommodate the needs of highly mobile medical staff. Meanwhile, the facility itself was located in a building with concrete floors, which are notorious for making it difficult to deploy a wireless network.

"Their services are advanced and required a robust wireless architecture. If, for example, they were doing an endoscopic procedure and they want to input those images into the network, they would

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> **—Joseph Funaro**
> Director of Technology, Imvirtus

need to have rolling carts with Wi-Fi available," said Funaro. "Also they need to be able to walk around with tablets, whether they are iPad, Androids or Windows tablets, or a SIP phone, that are capable of running over Wi-Fi."

Nor did its antiquated network setup do justice to the specialty vet center's aesthetics, and the vision behind its architectural design. "You walk the halls here, and you would think you were in a prestigious hospital in New York City," said Funaro. "LIVS is the world's best animal care center, and they see about 50,000 patients (animals) per year. The lobby is closer to a Starbucks than an animal hospital, and it has won awards for its unique design.

The Aerohive Wi-Fi Solution

The main driver to deploy Aerohive was to mobilize individual users, and to rely increasingly on advanced mobile equipment. "LIVS couldn't do any of that unless they had an enterprise-class Wi-Fi infrastructure in place, and that would allow us to create the environment they wanted."

Funaro quickly discovered Aerohive's wireless solution was right for the job.

Aerohive access points (APs), leveraging cooperative control protocols, provide secure fast roaming, ease of management, and state-of-the-art security without network controllers or overlay networks. Instead, software in the APs enables them to self-organize into groups called "hives", to share network control information, and to deliver QoS, identity-based policy enforcement and other advanced functionality.

Eliminating controllers from the network substantially reduces the cost of Aerohive solutions. Aerohive's cooperative control-based networks are also more reliable than controller-based networks, because controllers' "single points of failure" are eliminated. Removing controllers from the network also eliminates the bandwidth bottlenecks, latency, and jitter that result from backhauling traffic through a controller, creating an ideal platform for demanding applications such as medical imaging.

Among the bandwidth-intensive applications LIVS is looking to use is Radio-frequency identification (RFID)-based cell phones that leverage near field communication. In a grocery store setting, near field technology, for example, lets shoppers scan a loaf of bread to learn the price. In animal medicine, use of this technology would translate to, say, finding the temperature or blood sugar levels of an animal and broadcasting that info to the staff's cell phone.

"Not all of this technology is available yet, but that's a direction they want to go, and a direction where I will be able to take them due to the robustness of their Aerohive network."

Funaro only evaluated Aerohive for this deployment, considering no other Wi-Fi solutions as capable of meeting LIVS' requirements. "There was nothing else out there that would improve on my original findings. Wi-Fi is Aerohive's business and they are passionate about the technology. I pride myself on trying to find products that have that young spirit and are innovative."

Aerohive WLAN Solution Benefits

LIVS is using Aerohive's cloud-based Software-as-a-Service (SaaS) management system - HiveManager Online - to manage its deployment of Aerohive APs. Funaro likes this approach due to the plug-and-play simplicity it offers for both deploying and managing the network.

Aerohive's HiveManager Network Management System (NMS) enables simple policy creation, firmware upgrades, configuration updates, and centralized monitoring throughout an entire Aerohive deployment, whether building-, campus-, or global-wide, from within a single console.

The HiveManager Online service is designed to make it cost-effective to start small and grow a network with no upfront capital costs beyond the access points. HiveManager Online offers the same enterprise-class features, but it's easier and less expensive to implement because it is all set up and ready to use, and organizations are not required to deploy another device in their network. HiveManager Online is hosted within secure Tier IV SAS 70 Type II data centers, with scheduled backups and disaster-recovery capabilities, and it is accessible via a web browser on Windows, Linux, or Mac OSX.

"This cloud-based scenario made sense for LIVS– we have limited space and the cost was attractive," said Funaro. "I deployed all the APs myself in an hour or two. I simply built my configuration and kept replicating it until I was done. This tool is very intuitive, which I like because it means you don't need a wireless degree to work with the software."

LIVS leveraged Aerohive's network-based mobile device management (MDM) features to create segmented three networks – one for guests, which has a QOS policy on it to limit bandwidth usage. It also has a secure network for staff's iPads and other devices based on MAC addresses and secure credentials. "This gives me total control over what devices end up on the network," said Funaro. Lastly, LIVS has a voice network, which runs on a separate VLAN so there is no contention for bandwidth.

LIVS will also rely heavily on its Aerohive wireless network for its new Practice Management software – which is the veterinary-counterpart to an Electronic Health Record (EHR) platform used for capturing charges and patient information on-the-go – once that is deployed.

All doctors will have tablets, so this Practice Management system will allow LIVS to store the app in the data center and then run thin client on tablet or phone. "Our requirements for our Practice Management system are that it has to have a mobile client that is tablet friendly. This is a critical example of the type of mobility Aerohive's wireless architecture can provide."

LIVS is dedicated to providing the best animal care in the nation so it made sense to equip its medical staff with the latest and greatest wireless medical equipment, and to enable that technology with an Aerohive wireless network. When it comes to cutting edge medical care for pets, LIVS is leading the pack.