



# RHA Health Services

## Healthcare Provider Deploys Aerohive Wi-Fi to Support EMR System

### Challenges

- Needed reliable Wi-Fi to support EMR system
- Required ease of management
- Required ease of deployment
- Required security for HIPAA compliance

### Results

- Enabled shift from paper-based to EMR system
- Using HiveManager NMS on a virtual appliance
- Utilizing PPSK (Private Pre-Shared Key) security
- Leveraging mesh for AP redundancy

Founded more than 20 years ago, RHA Health Services is a leading non-profit provider of services and support for people with developmental and intellectual disabilities. Although RHA began as a small cluster of group homes in North Carolina developed to offer support to people with disabilities, the healthcare provider has expanded to include supported living, vocational and day programs, periodic respite, and personal care services. This expansion has resulted in an organization that has more than four thousand employees and 50 offices spread across North Carolina and Tennessee. It was time for the corporate network to keep pace with the company's growth and success.

### WLAN Network Challenges

The main driver behind RHA's decision to deploy enterprise-class Wi-Fi was the organization's requirement for a reliable enterprise wireless network infrastructure over which it would run its EMR (electronic medical record) system.

"If you look at what it takes to do a redundant controller-based solution, the cost is insane. You need two controllers. You license everything separately. It's just very expensive. In the end we found the Aerohive solution offers more than what is offered by a controller-based Wi-Fi solution, but at half the cost."

—**Scott Daniel**  
RHA's Senior Network Architect

RHA already had a small Wi-Fi deployment, covering about ten offices, using wireless equipment from Aruba. However, the architecture was not considered reliable enough to support its EMR plans, and it was too expensive to expand upon.

"The existing network was not used at all for EMR, or any mission critical apps like that. It was used simply for Wi-Fi access in the offices," said Scott Daniel RHA's Senior Network Architect. "It wasn't until deploying Aerohive that we made our first foray into the wireless EMR world."

RHA is offering PointClickCare in locations where clinical services are offered, starting with its Kingsport, TN site. PointClickCare is a web-based EMR/EHR application that streamlines and connects clinical, billing, and administration processes to maximize reimbursements, enhance quality of care, improve operational efficiencies and increase staff productivity. PointClickCare, can for example, run over Aerohive Wi-Fi and be used with iPads and wireless kiosks located around the building for electronic bedside retrieval and submission of clinical information.

While guest wireless networks were not planned for clinic locations, RHA is also deploying Aerohive at its corporate Headquarters in Atlanta where it will run both corporate and guest networks.

"We were looking for an upgrade to our Wi-Fi network that would provide us with reliability, ease of management, ease of deployment, and security," said Daniel. "When designing for Kingsport, we were designing for redundancy, reliability and security. This was an absolutely mission critical network that would, for example, support the carts that control the dispensing of medication."

## The Aerohive Wi-Fi Solution

RHA quickly discovered Aerohive's Cooperative Control wireless architecture was the right solution for the job. Among many advantages, Aerohive clearly offered the most reliable enterprise wireless network infrastructure, which was a key requirement for RHA's move from a paper-based system to a fully integrated EMR system.

Aerohive Cooperative Control access points ("HiveAPs") provide secure fast roaming, ease of management, and state-of-the-art security without network controllers or overlay networks. Instead, software in the HiveAPs 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 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.

RHA ended up only evaluating Aerohive for this deployment, considering no other Wi-Fi solutions as capable of meeting RHA's requirements. In fact, Cumbee said the move to replace Aruba resulted when he came on board with RHA about a year ago and was tasked with improving on the existing deployment, or coming up with something better.

"That's what I did- I came up with something better. Aruba's licensing is cumbersome. The configuration is cumbersome. It's just not an easy product to use," said Daniel. "When it came time to evaluating Aerohive, 'it just worked'," said Daniel. "That's exactly what we were looking for - something that 'just worked'."

He said cost was also a key consideration, especially because redundancy was a key ingredient in the planned wireless network, but a costly one when controllers are involved. "If you look at what it takes to do a redundant controller-based solution, the cost is insane. You need two controllers. You license everything separately. It's just very expensive. In the end we found the Aerohive solution offers more than what is offered by a controller-based Wi-Fi solution, but at half the cost."

## Aerohive WLAN Solution Benefits

The technology itself also helped make Aerohive the clear winner for RHA's Wi-Fi deployment.

"As an organization, we tend to go best of breed and will generally pay more if we find we are not going to have the technology in a cheaper product. But with Aerohive, we discovered we wouldn't have to pay more to get what we wanted," said Daniel. "Also, Aerohive's architecture is self-sustaining due to the intelligence in the HiveManager Network Management System, and that's a no brainer."

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.

RHA is hosting its own HiveManager NMS using a virtual appliance, and has had smooth sailing. "We've had zero problems with the HiveManager deployment. The ease-of-use factor has been abundant. It really has been a solid product."

Security was high on RHA's requirement list, a criterion that Aerohive easily met. "We are a HIPPA organization and therefore must be extremely security focused when dealing with private healthcare info," said Daniel.

To that end, RHA is utilizing Aerohive's PPSK (Private Pre-Shared Key) technology for an added layer of security that is unique to Aerohive.

PPSK gives administrators a way to assign a unique, revocable key to every single user or client (or both) on the network. This identifies a user or groups of users based on the key they're using and assign different permissions. If a user leaves the company, administrators can quickly and easily remove the key and it can't be used by anyone else. It also means every client that supports a PSK can now be configured to securely connect to the Wi-Fi network. With PPSK in place, users cannot use a sniffer to see each other's traffic. And best of all, it is easy to setup and deploy.

"We have medication carts and kiosks and each one of those is assigned a PPSK, which means if one were to go missing, we could cancel the key. This has huge, positive security and ease-of-management ramifications," said Daniel. "The administrative headache involved in canceling a PPSK compared to a shared PSK scenario is night and day."

RHA is looking to Aerohive's mesh technology to inexpensively and easily address its redundancy requirements. For example, RHA would deploy a HiveAP 120 set up, with one radio for client access and another radio for wireless backhaul. "We would be creating a mesh so if a wireless link failed, the AP would stay up and mesh with its neighbors," said Daniel. "We liked that because it gave us the extra layer of redundancy."



Contact us today to learn how your organization can benefit from Aerohive wireless LAN architecture.

Aerohive Networks, Inc.  
330 Gibraltar Drive  
Sunnyvale, CA 94089

toll free 1-866-918-9918  
phone 408-510-6100  
fax 408-510-6199

[www.aerohive.com](http://www.aerohive.com)  
[info@aerohive.com](mailto:info@aerohive.com)  
CS-HEA-1204604