

A Meru Case Study in Healthcare

Sun Health Healthcare Network (Phoenix, Arizona)



Meru Networks leading the industry in providing wireless access to mission critical applications in high-density healthcare environments

"Our goal is to exploit next-generation technology to better serve our patients," said Larry Stillman, chief technology officer for Sun Health. "The Meru Wireless LAN System was the best solution to support all of the critical voice and data applications and devices that we wanted to deploy now, and it will easily support those planned for the future, such as RFID."

Situation

- Based in Phoenix, Arizona, the Sun Health Healthcare Network provides care through two hospitals, a nursing school and a rehabilitation facility. Faced with outdated systems, a crucial need for reliable communication for doctors and staff, and a goal to deploy emerging technology to better serve its patients, Sun Health needed to upgrade its wireless system to a next-generation, pervasive Wireless LAN (WLAN).

Solution

- Sun Health deployed the Meru WLAN System throughout its network, covering an area of 1.2 million square feet, and providing pervasive wireless access to its 3,000 employees.

Benefits

- Zero-time handoff means no dropped or missed calls in this mission-critical environment.
- Single channel architecture enables quick deployment and easy management.
- Wireless network easily handles a variety of a/b/g devices simultaneously.
- Security features meet HIPAA regulations.
- Able to support a large density of users, ability to add greater density is easy and affordable.

The Challenge: Support Critical Communications

In the highly competitive healthcare industry where patient care is what makes or breaks a provider, a reliable communications network is essential for staff as they respond to life's critical situations. The better access clinicians have to accurate and timely data, enhanced by a renewed ability to communicate with one another, ultimately determines the level of care delivery. As healthcare institutions deploy state-of-the-art communication devices to better serve their patients, they need a network that can adapt to the demanding needs of the enterprise.

Sun Health, based in Phoenix, Arizona, consists of the Sun Health Boswell Hospital, the Sun Health Del E. Webb Hospital, the Sun Health Research Institute, a nursing school and a rehabilitation facility.

Sun Health needed to upgrade their staff paging system and had deployed several new clinical applications that used wireless as a primary transport. Unable to provide seamless network coverage with an early generation wireless network, they were not able to leverage the capabilities of the new applications and point of care devices. Staff members would have to stop at different spots in hallways to ensure they would not lose coverage during a critical call or while collecting real-time data. It was obvious that to take full advantage of the new clinical applications and to move to a more comprehensive communications system, a reliable and pervasive WLAN network was necessary.

Further complicating the situation was the size of the deployment and the great density of users that would be accessing the network. More than 3,000 Sun Health employees and approximately 230 patients would be using the wireless system on any given day, including two multi-story hospitals and a rehabilitation facility. In total, the communications network needed to cover approximately 1.2 million square feet.

Meru Networks Provides Needed Access

For staff communications, Larry Stillman, director and chief technology officer for Sun Health, chose the Vocera Communications System. Vocera's communications badges – small, wearable devices that enable two-way voice communication – required seamless roaming, as it was imperative that staff never miss critical calls.

Sun Health therefore needed a wireless network that could provide pervasive access while meeting security mandates (such as HIPAA) and deliver over-the-air quality of service for a wide variety of devices in addition to the communications badges, such as computers and workstations-on-wheels. In addition, the network had to support multiple data, voice (VoIP) and video applications simultaneously, a high density of users, and needed to be standards compliant.

Working with local Value Added Reseller (VAR) Extreme Integration, Sun Health chose Meru after evaluating five different WLAN providers. "In a hospital environment, we literally are dealing with life and death situations. The better access our staff has to data, the better able they are to communicate with one another, which in turn improves the level of care we can provide to our patients. With Meru's voice and data infrastructure, we found there was zero hand-off time between access points. Medical personnel were therefore able to move around the facilities using their badges and data devices without fear of being dropped, or having garbled calls."

The Result: Pervasive Coverage and Ease of Deployment

For the network deployment, Sun Health installed the Meru AP208 Access Point, 3150 Controller, and E(Z) RF™ Application Suite. Because of Meru's unique Air Traffic Control™ architecture, Sun Health was also able to quickly and easily deploy the solution, as lengthy site surveys were unnecessary.



"Meru's single channel architecture was the only system that enabled the zero-handoff time necessary for our new communications badges to perform optimally."

Upon deployment, immediate benefits included:

- Zero-time handoff which meant no dropped or missed calls in this life-critical environment.
- Single channel architecture enabled quick deployment and easy management.
- Wireless network easily handled a variety of a/b/g devices simultaneously.
- Security features met HIPAA regulations.
- Instantly supported a very high density of users and voice and data traffic.

As Sun Health continues to grow, they can easily and affordably add support for an even greater density of users with the Meru WLAN System. Sun Health's

wireless network now supports more than 1,500 Vocera badges, 38 tablet PCs, 14 workstations on wheels, and approximately 100 other devices. "As we continue to grow, we can easily and affordably add support for an even greater density of users with the Meru System," said Stillman.

"The Meru Wireless LAN System was the only one we evaluated that provided the security and reliability that we need," said Stillman. "Meru's single channel architecture was the only system that enabled the zero-handoff time necessary for our new communications badges to perform optimally."

About Meru

Meru Networks is the global leader in wireless infrastructure solutions that enable the All-Wireless Enterprise. Its industry leading innovations deliver pervasive, wireless service fidelity for business-critical applications to major Fortune 500 enterprises, universities, healthcare organizations and state, local and federal government agencies. Meru's award winning Air Traffic Control™ technology brings the benefits of the cellular world to the wireless LAN environment. The Meru Wireless LAN System is the only solution on the market that delivers predictable bandwidth and over-the-air Quality of Service with the reliability, scalability and security necessary for converged voice and data services over a single WLAN infrastructure.

Meru Networks

Corporate Headquarters

894 Ross Avenue

Sunnyvale, CA 94089

Phone 408.215.5300

Fax 408.215.5301

www.merunetworks.com

info@merunetworks.com

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