

Wheaton Franciscan Healthcare

CASE STUDY

Trapeze Smart Mobile® Delivers Wireless Mobility for 16,000 Professionals in 100 Facilities at Wheaton Franciscan Healthcare



Based in suburban Milwaukee, Wisconsin, non-profit Wheaton Franciscan Healthcare (WFH) is one of the largest healthcare providers in the Midwestern United States. It operates approximately 100 facilities in Wisconsin, Illinois, and Iowa, including 14 hospitals, 4 long-term care facilities, and numerous clinics of varying size. WFH employs approximately 16,000 people, including more than 600 physicians. Nearly 3,000 additional MDs are affiliated with WFH facilities. Total annual revenues exceed \$2.2B.

Trapeze Delivers Medical Mobility

Like health workers everywhere, WFH's workforce is inherently mobile: doctors and nurses are constantly on the go, making their rounds, conferring with colleagues, and performing paperwork. Over the years, WFH had implemented various generations of wireless technology to support clinicians' workflow with mobile applications such as clinical charting. Most recently, when WFH wanted to replace their Cisco-based 802.11b network with newer 802.11a/b/g technology, they explored possible options. After narrowing the candidates to a short list that also included Cisco and HP, WFH's network engineers tested each vendor's offering and selected Trapeze.

System-Wide Wireless Roll Out

"We were launching an initiative to make wireless coverage ubiquitous throughout our entire system of about 100 facilities," said Larry Griffith, Director of Technology Operations at WFH. "In addition to the fundamental requirements of reliability and security—which are essential to healthcare environments—the ability to centrally manage a network of that scale, with minimal resources, was critical. And as a non-profit, we are very careful with our spending. Trapeze provided the best overall solution that met our requirements at the lowest total cost of ownership."

WFH is in the final leg of a phased, system-wide rollout of Trapeze Smart Mobile wireless networks. Complete coverage is in place at many facilities. Approximately 1,500 Mobility Point® (MP®) access points have been deployed, out of an estimated total of 2,000 when the implementation is complete. The access points are supported by 35 Mobility Exchange® (MX®) WLAN controllers. Each facility has two to eight MX controllers in place, depending on its size.

Voice Over Wi-Fi For Communication

WFH is among a fast-growing number of healthcare institutions that are leveraging wireless networks to support voice communications for their highly mobile staff. Wheaton

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—Jeff Weissmann
Lead Network Engineer
Wheaton Franciscan Healthcare

DESCRIPTION

- One of the largest healthcare providers in the Midwestern United States, with 16,000 employees and approximately 100 facilities in Wisconsin, Illinois, and Iowa.

OBJECTIVE

- Replace a dated 802.11b Cisco-based network with newer Wi-Fi technology.
- Deploy a system-wide wireless LAN to meet WFH's requirements for mobility, security, manageability, and growth.
- Allow use of laptops, PDAs, Wi-Fi phones, and other handheld devices by physicians, nurses, and support staff.
- Deliver lowest total cost of ownership.

SOLUTION

- Phased deployment of Trapeze Smart Mobile wireless LAN across 100 facilities in three states.
- Approximately 2,000 Mobility Point access points in total.
- Two to eight Mobility Exchange WLAN controllers per site, depending on size.
- Trapeze RingMaster wireless LAN life-cycle management application suite for centralized planning, configuration, deployment, 24 x 7 monitoring, and ongoing performance optimization.

RESULT

- Trapeze Smart Mobile provides system-wide, unified wireless network supporting broad range of mobile applications, including clinical applications (e.g., charting, surgery management), voice over Wi-Fi, monitoring, and guest access.
- Trapeze wireless LAN integrates seamlessly with WFH's wired networks.
- Clinical staff can move wirelessly throughout WFH facilities while maintaining connectivity to applications and clinic resources.
- Centralized WLAN using RingMaster allows small wireless network management team to efficiently monitor and maintain geographically distributed wireless network.

Wheaton Franciscan Healthcare (continued)

Franciscan Healthcare - All Saints, a large multi-campus hospital in Racine, Wisconsin, is being equipped with a higher density of access points in order to support expanded use of voice over Wi-Fi. Using Polycom SpectraLink handsets, doctors and nurses will be able to maintain seamless voice communications as they roam freely throughout the facility's multiple buildings and floors.

Enabling Key Mobility Applications

Today, Trapeze Smart Mobile™ wireless networks support a broad range of mobile applications at WFH facilities, from basic support for email and web browsing to a number of clinical applications. For example, physicians use handheld devices to digitally record patient medical notes. The audio files are automatically uploaded over the wireless network to a server, where they can be accessed and transcribed by trained specialists. Wireless is used to support surgical management applications for scheduling surgeries and ordering supplies. A variety of wireless monitoring applications are also supported, which transmit clinical data to patient monitoring stations. Wireless guest access is also available at every large WFH facility.

Wireless will also play a key role in enabling WFH to implement a system-wide Electronic Health Record initiative, which will give physicians instant access to patient records, practitioner reminders and alerts, clinical decision support systems, and medical knowledge bases. In addition to improving quality of care, patient safety, and administrative efficiencies, the EHR initiative is expected to save WFH \$70 million over the first five years of operation.

Centralized Management is Critical

Manageability of the network was an important consideration in evaluating vendors' wireless offerings. "Operating and maintaining a network of our scale would be exceedingly difficult without the centralized management and monitoring capabilities that RingMaster uniquely provides," said Jeff Weissmann, Lead

network engineer. RingMaster, the industry-leading WLAN management software suite from Trapeze Networks, is used to manage all wireless networks throughout the WFH system. From their network operations center in suburban Milwaukee, Weissmann and team have complete visibility to remotely configure, monitor, and manage the WLANs at every facility.

RingMaster has helped WFH simplify network management, such as application of security features across the various WLANs and sub-networks. WFH maintains separate SSIDs for different types of wireless network traffic, such as voice, data laptops, PDAs, and guest access.

The strongest 802.1X security standards—including WPA2 authentication and encryption—are applied to all WFH wireless traffic except guest access, which is provided as a public service for visitors and is securely segregated from internal WFH traffic.

Highly Responsive Customer Support

In addition to the advanced technical capabilities and cost advantages of the Trapeze solution, another major factor in WFH's selection of Trapeze was quality of customer service and support. Rolling out large-scale, geographically distributed WLANs like those at WFH is a major undertaking. "Trapeze customer support provided excellent service and really backed us up throughout the deployment," said Steve Kaczowski, a network engineering specialist, and the WFH team's primary liaison to the Trapeze technical support team. "They have been very responsive to our support requests.

Looking Ahead

As WFH rolls out Trapeze Smart Mobile wireless across their entire system, they continue to anticipate and plan for future enhancements. For example, they expect to expand the use of voice over Wi-Fi throughout their facilities. In addition, they are looking forward to enhanced capabilities such as clustered switching which delivers non-stop availability and allows in-service upgrades with zero downtime.