innerwireless

Providing Enterprise-grade WLAN with the Horizon™ DAS.

I am planning an enterprise-wide wireless roadmap. How do I support the many mobile devices on the many different wireless networks that our doctors, nurses, and staff use – carts, tablets, and Smartphones?

Horizon – the InnerWireless Converged Wireless DAS – is an indoor broadband wireless platform that can deliver virtually any wireless service from 400 MHz to 6 GHz, reducing the need to install and maintain multiple, single purpose wireless networks. Engineered for whole-house deployment of wireless services, Horizon supports key wireless initiatives including 3G cellular, 802.11 a/b/g/n Wi-Fi, fire/life/safety, two-way radio, paging, and WMTS.

How can I manage a wireless LAN (WLAN) deployment that can handle both application growth and device proliferation for HIS, EMR, VoWLAN, PACS, telemetry, and location?

When it comes to Wi-Fi, whole-house mobile applications, such as healthcare information systems (HIS), electronic medical records (EMR), voice (VoWLAN), picture archiving and communication systems (PACS), telemetry, and location (RTLS), can maximize healthcare efficiency and improve patient safety and mobility. However, these applications have unique requirements and when deployed together stress traditional and even new 802.11 n-based WLANs in different ways, including coverage, multiple protocol support, device density, and application throughput.

With Horizon, InnerWireless overcomes these challenges by providing wireless assurance for your Wi-Fi network, including guaranteed coverage for all of your devices, a capacity-driven layered WLAN architecture to handle your growth, and industry-leading reliability, to enable mission- and life-critical applications.

Is it possible to deliver WLAN without coverage "holes" and eliminate coverage related helpdesk calls without reconfiguring or retuning access points (APs)?

On Day 1, Horizon provides guaranteed RF coverage and signal strength for both 2.4 and 5 GHz frequencies, including demanding signal strength requirements for Wi-Fi based voice and telemetry. InnerWireless does more than provide a simple heat map. InnerWireless is not a VAR and manufactures, engineers, and installs every Horizon solution.

Working with both the construction characteristics of the facility and staff usage requirements, InnerWireless provides engineered RF coverage for each wireless frequency and guarantees both signal coverage and signal power. InnerWireless provides pre-installation predictions, sets RF power and channels for predictable coverage, and proves key deployment characteristics with a comprehensive post-installation walk-through. This process has yielded 100% first time acceptance.

Horizon is also built to last so your RF coverage stays solid. The InnerWireless DAS carries a mean time between failure (MTBF) of >30 years and an industry-leading 5 year warranty.

With Horizon's engineered RF coverage and reliability, support costs associated with coverage holes, device inconsistencies, and post-deployment AP movement/infection control can be a thing of the past.

With the different operating requirements for Wi-Fi voice, data and clinical clients, how can I ensure consistent network performance and accelerate deployment of key initiatives, such as HIS and EMR?

With Horizon, multiple WLANs can be layered, one on top of the other, across an entire facility using a single antenna system and with the same number of APs as a discrete network. Dubbed Layered WLAN by InnerWireless, this alternative Wi-Fi deployment enables flexible Wi-Fi traffic management to dramatically improve enterprise-wide network performance.

Unlike a discrete wireless network where every access point carries all types of traffic, Layered WLAN allows each WLAN (up to 6) to be tailored to different requirements – by device/application (e.g. separate clinical HIS/EHR on one layer, from clinical voice on another layer, from intensive video on a third layer, and from crowded guest access on another, etc.) or by protocol (e.g. separate legacy 802.11 b/g and 802.11 a from 802.11 n).

Traffic management through grouping of like-devices and like-applications not only ensures that clinical and non-clinical traffic can be securely and physically separated, it dramatically improves whole-house network stability while increasing the network performance by 2x, 3x, or even more – ensuring a superior user experience – even as the numbers of devices proliferate, application throughput grows, and Wi-Fi evolves. Conversely, an inconsistent user experience can delay or even stop adoption of new initiatives.

I need help to better manage services growth. How can I ensure that my WLAN ecosystem of applications and devices are compatible?

Part of enabling wireless assurance is integrating with leading industry vendors to ensure optimized performance between Horizon, WLAN network equipment, and WLAN applications and devices. With interworking knowledge, both application and device requirements can be engineered into the guaranteed signal strength coverage of the network.

Unlike a traditional Wi-Fi VAR, InnerWireless interoperates with all clinical Wi-Fi vendors, including VoWLAN (Ascom, Cisco, Spectralink, Vocera), HIS and EHR (Allscripts, Cerner, Epic, McKesson, Siemens), and WMTS/ infusion therapy (Philips, Alaris, Cardinal Health, Dräger, Hospira). Working together, our relationships ensure compatibility so your IT staff can focus on the deployment without worrying about the network.

Can I deliver 802.11n data rates and capacities throughout my facility - today - while not disrupting legacy 802.11b/g/a devices?

Horizon, which by definition is a broadband, diversity-based antenna system, is compliant with 802.11n and supports MIMO, narrowband at 2.4 GHz and narrowband/wideband at 5GHz per the Wi-Fi Alliance recommendations. Additionally, InnerWireless supports all MIMO-enabled features, including Maximum Ratio Combining, Beam Forming, Spatial Multiplexing, Packet Aggregation and advanced features, such as Cisco ClientLink.

Using Layered WLAN, 802.11n can be deployed on its own WLAN layer(s) and separated from 802.11b/g/a – which are deployed on their own WLAN layer(s). Not only does this ensure uninterrupted use of existing devices and applications during the rollout of 802.11n, but separation of legacy traffic also enables green-field equivalent network performance for the new 802.11n deployment. Comparatively, in a conventional 802.11n deployment with 802.11b/g/a devices, the network performance for 802.11n is substantially decreased.

How do I improve voice performance without impacting my ability to deliver, support, and grow other wireless applications?

Today, all wireless deployments should meet voice-grade requirements for both coverage and capacity. With facility-wide Layered WLAN and traffic management (e.g. deploying voice traffic on its own layer, separated from other applications), Horizon is able to minimize roaming while maximizing the number of deployable handsets and the throughput of voice traffic – even in very dense deployments. With live deployments of all major vendors on Horizon, including Cisco's latest 802.11a-based Unified Wireless IP Phone model 7925G, and independent, third party validation of both traffic and voice quality improvements by Novarum, voice on the InnerWireless DAS is crystal clear.

Can I track infusion pumps, laptops and other assets for asset management using RTLS?

Working with AeroScout, InnerWireless provides temperature monitoring and location services with location specificity – within ten (10) meters, 90% of the time and five (5) meters, 50% of the time – on Horizon and also provides location-oriented professional services. Using an equivalent number of APs when compared to an optimally designed, discrete RTLS deployment (voice/data/location), InnerWireless recommends using a combination of traffic-bearing APs and monitor-only APs. This mix of APs maximizes accuracy while minimizing the impact to overall network performance. Similar location-oriented features, such as rogue detection are also supported.

I am looking for a healthcare-oriented partner. Is there a DAS vendor with a long track record in improving WLAN by deploying WLAN on DAS?

InnerWireless has a long track record of deploying both DAS and WLAN. From 802.11b/g to 802.11a to 802.11n, from data to voice to location, and from diversity to MIMO/ClientLink, InnerWireless has evolved Horizon to keep pace with Wi-Fi advances while providing the unique value proposition of both converged wireless and wireless assurance.

Establishing the industry-first WLAN on DAS solution in healthcare, the first InnerWireless Horizon using Cisco WLAN was installed in 2004 at the University of Chicago Comer Children's Hospital. Today, InnerWireless is a Cisco Select Certified Partner, specializing in Cisco wireless LAN technology and maintains similar relationships with all major WLAN vendors, including Aruba and Meru. InnerWireless is the industry leader in deploying facility-wide WLAN on DAS and has deployed Horizon in some of the most respected healthcare organizations, most wired hospitals and largest buildings in North America.

InnerWireless provides numerous WLAN professional services from assessment to design to implementation. In addition, InnerWireless can provide first line support for both Horizon and Wi-Fi infrastructure and provide an escalation path to the WLAN vendor for hardware and software support.

To learn more about the many benefits of InnerWireless' Converged Wireless Platform, please visit **www.innerwireless.com**, or call **214.242.7777**.

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Everything. Everywhere. Everytime.