At-A-Glance
Cisco Wireless with CenTrak’s Multi-Mode RTLS Platform

Healthcare Business Issues
The healthcare industry is faced with a wide variety of business challenges, from improvements in patient care, throughput of specific units and reduction of staff workflow and capital expenditures.

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How Can RTLS Help?
Anything that leverages location awareness has the effect of increasing capacity. Whether it’s just seeing assets on a map or a comprehensive workflow optimization solution.

- **Increasing Capacity**
  - More Revenue
- **Improving Workflow/Processes**
  - Maximizing Resources
  - Reduce Costs
- **Elevating Patient Satisfaction**
  - Better HCAHPS Scores
  - More Patient Referrals

CenTrak and Cisco Integration
CenTrak can be seamlessly integrated with Cisco’s MSE to create a high-performance real-time location solution that uses the Cisco Wi-Fi network. CenTrak is a Registered Developer in the Cisco Developer Network. Together, the Cisco WLAN and CenTrak’s Multi-Mode technology provides the certainty-based RTLS that is often a requirement for automating healthcare and workflow applications.

Solution Overview
CenTrak’s Multi-Mode RTLS Platform combines Cisco® Wi-Fi location services with CenTrak’s patented certainty-based Gen2IR into one scalable and flexible solution. The platform enables the use of the Cisco® Wi-Fi infrastructure to determine location through RF triangulation and also supports CenTrak’s Clinical-Grade Locating technology, which delivers certainty-based room and bed-level accuracy using battery-operated infrared devices and low-frequency RF technology.

Means of Determining Location
The location of the tag can be determined by one of two means. The first occurs when the tag is in an area covered by CenTrak’s Monitors and Exciters, which transmit a unique location ID using Gen2IR (using low frequency with Exciters).
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The tag recognizes the signal and then communicates a unique location ID, along with the unique tag ID, back via the Cisco Wi-Fi network to the Cisco Mobility Services Engine (MSE). The second way location can be determined is solely using the triangulation calculations completed by the MSE from data received through the Cisco wireless access points and wireless controllers that make up the Cisco Wi-Fi infrastructure. Once location is determined, the data can be streamed in real time by the CenTrak server to more than 100 integrated partner applications, including nurse call, electronic medical records (EMR), and high acuity systems.

What Are the Components of This Solution?

Cisco Wireless LAN
The position of the CenTrak Multi-Mode tags is determined by triangulating the RF signals as detected by the Cisco Wi-Fi network. A robust, well designed Wi-Fi network is central to the solution.

Cisco Mobility Services Engine
Other than access points and controllers, the Cisco MSE is required in that it is key to calculation of location. The MSE also provides a rich set of security functions, including Cisco CleanAir®, rogue detection and location, wireless intrusion prevention system (wIPS), and wireless attack mitigation.

Centrak Certainty-Based RTLS Devices
CenTrak’s Gen2IR devices enable a high level of accuracy, which can location-enable a variety of healthcare applications. The battery-operated Gen2IR emitting Monitors and Virtual Walls can be positioned wherever certainty-based location data is needed, including rooms, hallways, and even bays. Like light, Gen2IR will not pass through walls. However, it does not suffer from traditional infrared and ultrasound line-of-sight limitations that often affect performance in compact areas (such as emergency departments and clinics) and open areas separated by curtains or glass.

CenTrak Multi-Mode Tags
Active-RTLS tags may be attached to assets or worn by people to provide accurate location data in real time. CenTrak’s Multi-Mode Technology includes a unique combination of Wi-Fi locating, CenTrak’s Gen2IR, and low-frequency RF to keep the investment ready for the future and increase ROI.