



U.S. Department  
of Veterans Affairs



Mist hosted a live webinar with the following individuals from the Orlando VA Medical Center:

- Jeffrey Saura, Chief Technology Officer
- Greg Merrill, Program Analyst
- Jason Edwards, Program Analyst and Engineer
- Brian Ritchie, Wide Area Network Manager

A recording can be viewed here:

[https://ai.mist.com/orlando\\_va-building-patient-experience-network](https://ai.mist.com/orlando_va-building-patient-experience-network)

Below is a summary of what was discussed.

# The Orlando Veterans Administration (VA) Optimizes the Patient Experience with Mist

The U.S. Department of Veterans Affairs' Orlando VA Medical Center (VAMC) serves more than 400,000 veterans across a brand new 65 acre, 1.2 million square-foot facility. As a state-of-the-art medical center, the Orlando VAMC is constantly looking for innovative ways to leverage high technology to deliver a high touch experience to patients, guests, and staff.

The wireless network is critical to this objective. More specifically, a state-of-the-art Wireless LAN (WLAN) enables the facility to deliver the following:

- Pervasive and reliable guest Wi-Fi experience with consistent coverage everywhere
- Personalized engagement so patients have better mobile experiences and more control over their journey throughout the facility.
- Accurate asset location (without a separate overlay system)

However, as the Orlando VAMC discovered, "traditional WLAN infrastructures could not do everything nicely and cleanly". Overlay networks for location (based on battery beacons) are very costly to implement and manage, and older Wi-Fi technologies do not provide the accuracy and visibility needed for the facility's location needs.

## GETTING REAL VALUE FROM THE MIST DEPLOYMENT

The Orlando VAMC decided to go with Mist for their wireless needs. First, they daisy-chained Mist BT11 Access Points off its existing Cisco network. This set up a BLE overlay with minimal cabling augmentation. Then they began expanding their next generation wireless network with Mist AP41s, which combine Wi-Fi and virtual BLE (vBLE) together in a cost effective, converged platform.

What started with a single site in Orlando has grown to now support over eight medical center campuses with 2,900 Mist Access Points deployed and 1,400 more planned to be deployed in the near future. When done, the Orlando VAMC will end up with 4,000 to 5,000 Mist APs across Florida and Georgia.

## ABOUT ORLANDO VA MEDICAL CENTER

### INDUSTRY

Healthcare

### ENVIRONMENT

- 1.2 million square foot facility
- 310+ beds
- 400,000+ veterans served annually

### CHALLENGE

Ease and enrich the experiences of patients visiting a 1.2 million square-foot medical facility with wayfinding applications and reliable guest Wi-Fi Internet access.

### SOLUTION

- 320 Mist BT11s and 2500+ Mist AP41s
- Virtual BLE service provides precise asset visibility and new digital mobile experiences, including indoor navigation, check-in and assistance
- Wi-Fi assurance service automates internal operations for simple and reliable guest Wi-Fi





While originally designed for wayfinding – door-to-door navigation across campus – the Mist deployment has grown to cover many additional areas, including asset location (e.g. vacuums and infusion pumps), guest Wi-Fi, patient engagement, and IoT integration.

**TOP USE CASES INCLUDE:**

**Wayfinding with proximity alerts:** The Mist solution has patented BLE antennas that are combined with the industry's only (vBLE) beacon technology to enable indoor location without requiring battery powered beacons or manual site calibration. Machine learning in the cloud delivers location estimates with 1- to 3-meter accuracy and sub second latency, making location-based applications like wayfinding and proximity notifications reliable and cost effective.

One of the things the Orlando VAMC particularly likes about Mist is the manner in which it seamlessly integrates with other solutions.

"Mist location is easily deployed via an SDK which can be incorporated in different applications across the VA portfolio. This also lets us integrate location services with partners, and extend location from mobile apps to kiosks and other strategic platforms."

Once deployed, the benefits of Mist's location services were immediately apparent to the Orlando VAMC.

"Indoor navigation finally become a reality with Mist. As you can imagine, it is challenging to navigate through a 1.2 m sq ft facility. With Mist's vBLE solution, we make it easy for employees, patients and guests to find their way, without requiring an overlay network."

Mist's virtual beacon technology lets the Orlando VAMC put beacons anywhere with very granular accuracy. For example, when people walk into a cafeteria, they can push the url of the daily menu to that person's device. Or, they can recommend a flu shot or a mammogram depending upon who is walking around the facility and where they are located.

The VA's broader vision is to guide patients every step of the way in their journey through the medical facility. This includes directions to the facility, recommendations on where to park for their appointment, online check-in upon arrival, and interactive and useful engagement as they move across campus.

"The simplest things can personalize the patient exposure and give veterans much needed control over their visit to the VA. If patients want to opt-in for these services, we are committed to making them available in a simple and secure manner that maintains tight control over patient privacy."

**Asset visibility with real-time analytics:** The Orlando VAMC converted old battery beacons into tags for asset location, then used Mist to track them around the facility. "We get 95% or better room location accuracy, which is fantastic. Anyone with experience using Wi-Fi for location knows there are built in limitations, which Mist's vBLE has overcome."

The Mist platform is open ended, tag agnostic, and application agnostic. "This makes it future proof, which is very valuable."

Mist also provides live reports that let the Orlando VAMC team compare sites against each other in real-time. For example, they can look at dwell times within customized zones to monitor patient behavior. In addition, they can see when and where the most Wi-Fi connections are occurring so they can optimize the wireless experience.



**Reliable Wi-Fi.** “It is essential for us to have a guest Wi-Fi network that is reliable and free of spotty coverage areas.”

According to the team, “We are processing 20k to 30k patients and guests every day hitting the network, so Wi-Fi operational simplicity and management is huge. With Mist, we get one pane of glass across all networks to solve problems quickly. It is easy to plug into other platforms using APIs, which helps us streamline patient engagement using Wi-Fi. Plus, we get extensive analytics that enable us to optimize network operations. When is the busiest day? What time do patients arrive at the facility or go to lunch? What are dwell times for employees?”

In addition, Mist’s AI-driven Radio Resource Management (RRM) is solving issues in grueling Wi-Fi environments, such as our garages, and it enables key troubleshooting tools, like event correlation and dynamic Packet Capture (dPCAP). This lowers OpEx through proactive monitoring and rapid fault isolation.



Sample Mist Analytics Report

The Orlando VAMC can also drill down into so key Wi-Fi metrics to monitor the user experience, like time to connect and AP status.

“Within minutes. Mist can tell me if I have a software issue across the network stack. With other solutions, it is hard to get that kind of info – if you can get it at all.”

“Imagine a small team trying to take care of up to seventy facilities with Wi-Fi. Mist really helps reduce OpEx of running such a large system with AI-driven features like dynamic packet capture, even correlation, and the Marvis Virtual Network Assistant. For example, it used to take us three days to solve issue like a DHCP misconfiguration. With Mist, it takes us just 30 minutes.”



**IoT Integration.** Mist AP41 Access Points have an integrated IoT port that has enabled several interesting use cases at the Orlando VAMC. For example, the community living center (i.e. assisted living for elderly veterans), had an issue with patient elopement in the dementia ward. They wanted to keep residents safe, but also allow them the freedom to walk around.

Rather than implement another overlay system that nurses had to operate and we had to manage, the Orlando VAMC leveraged the existing Mist platform to help with patient elopement. They built a hypo allergenic bracelet that residents could unobtrusively wear. When the patient approaches an exit, the Mist system can lock the doors and send a message to nurses with the exact patient location so they can come and assist.

“This is done via the same infrastructure we are using for Wi-Fi and other location services, which makes it so special! You just can’t do this on traditional controller-based Wi-Fi solutions.”

The medical center is now looking at other use cases for IoT and location integration, such as notifying housekeeping after a room had high traffic volume.



### A BETTER PATIENT EXPERIENCE

The Orlando VAMC is committed to using the wireless network to deliver the best patient care.

However, for the wireless infrastructure to be effective, it needs to be scalable and reliable, with location services that are “easy to use out of the box so people won’t discard it.”

With Mist’s AI-driven WLAN, they found the perfect solution.

For more information and similar use cases, please visit [www.mist.com/healthcare](http://www.mist.com/healthcare).

### MOBILE APP INTEGRATES WITH MIST LOCATION API FOR INDOOR NAVIGATION AND NOTIFICATIONS



Guest Access Engagement across the campus



In-app notifications with Virtual Beacons