



SOLUTION BRIEF

Fortinet and Pole Star Mobile Indoor Positioning Solution

Turning Mobile Applications Location-Aware to Improve UX, Safety, and Processes

Executive Summary

Pole Star NAO® Mobile is an indoor positioning technology that makes smartphones and smart wearables aware of their own position in any environment (indoor and outdoor) via advanced algorithms that fuse and process data from multiple sources, ultimately delivering real-time and accurate positioning to Android, Android Wear, and iOS applications. This capability enables the development of applications aimed at improving user experience, safety, and getting valuable insights on the utilization of an indoor venue, especially in stringent environments where GPS is unreliable or unusable. The integration with Fortinet leverages the Fortinet AP series access points, FortiGate Next-Generation Firewall (NGFW), and the Fortinet Security Fabric for comprehensive security and secure, high-performance networking.

The Challenge

Businesses of all sizes strive to optimize the ROI from their physical space. For businesses focused on hospitality, healthcare, retail, events, transportation, or traditional carpeted enterprise, the challenges of unoptimized space can result in wasted time, lost opportunities, and risk to the safety of employees and guests.

- Lost appointments cost the healthcare industry millions of dollars every year.
- Customers in a mall, airport, or hotel resort who are unable to get directions and assistance from staff can be disappointed by the experience, causing consequences for the brand and revenues.
- Failure to locate, provide aid, or muster people under emergency conditions can result in injuries and other costly liabilities for the business.

Addressing all of these challenges with one single location platform, leveraging one unified infrastructure, reduces the overall cost of technology adoption. Pole Star leverages highly standardized BLE technology at unmatched levels of performance, providing down to room-level location accuracy, associated with fast response.

Joint Solution

Pole Star and Fortinet have partnered to deliver an advanced, reliable, and affordable BLE-based Indoor Positioning System to address the challenges encountered in healthcare, senior living, hospitality, and transportation markets. The integration of NAO® Mobile and Fortinet BLE features, enabled through the Fabric-Ready Program, delivers location-aware applications to improve operations, safety, and drive revenue, for customers.

Solution Components

- Fortinet FortiGate Next-Generation Firewall
- Fortinet AP Series Access Points
- Pole Star NAO® Mobile SDK
- Android and iOS smartphone and Android OS Wear smartwatch

Solution Benefits

- Improving guest and patient experiences by providing "blue-dot" turn-by-turn navigation to the locations and services they seek
- Driving engagement at hotels, tradeshows, retail spaces, and more with location-targeted notifications or special offers
- Improving enterprise space utilization and productivity with mobile room booking, campus navigation, flexible office space management, and room comfort control

Solution Components

- **1. Infrastructure:** The Fortinet AP series access points transmit BLE beacons. Coverage can be locally augmented with Pole Star's 10-year battery-life BLE beacons when gaps in coverage with existing APs are identified.
- **2. Location engine:** Nested in an easy-to-integrate mobile SDK (compatible with Android, Android Wear, and iOS), it provides real-time location data and location-based alerting to the host application.
- **3. Setup and management:** The NAO® suite comprises the management and field deployment tools, along with documented deployment processes to avoid pitfalls and maximize performance.

Fortinet AP series access points provide a high-performance, premises or cloud managed Wi-Fi network with a broad range of Wi-Fi APs that ease deployment and scaling and offer a number of compelling quality-of-experience advantages. They also provide a complete portfolio of security services that offers additional means of protection to combat the ever-evolving threat landscape. Fortinet also offers an RF technology that uniquely manages the spectrum utilization, allowing it to dramatically simplify deployment vs. competing solutions.

Fortinet FortiGate NGFWs provide industry-leading threat protection and decryption at scale with a custom ASIC architecture. They also deliver secure networking with integrated features like SD-WAN, switching and wireless, and 5G.

Solution Benefits (contd.)

- Improving worker safety through indoor locationing, integrated with emergency call and response
- Providing secure, highperformance networking using the Fortinet AP series access points, FortiGate NGFW, and the Fortinet Security Fabric



Solution Integration

Fortinet AP series access points provide for the transmission of BLE radio beacons, for advertising purposes. Pole Star's location SDK, integrated into partner mobile applications read these BLE radios, and fuse the received data with GPS data and motion sensors into a complex location algorithm to provide accurate positioning data to the host application.

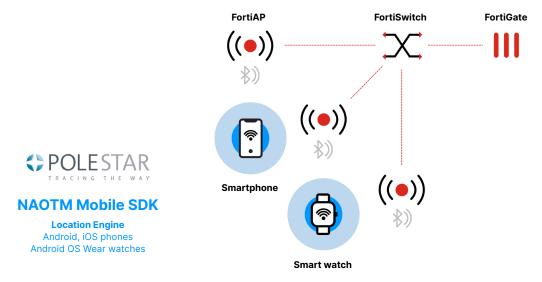


Figure 1: Pole Star and Fortinet integrated solution

For integrators, Pole Star's solutions are designed with two attributes in mind:

- 1. Ease and flexibility of integration: Any solution provider who want to integrate BLE location services can integrate Pole Star using a wide set of APIs, including REST and MQTT.
- 2. Fail-safe deployment processes and tools, ensuring maximum system reliability and performance: Solution partners will benefit from 20+ years of expertise in location services.

Joint Use Cases

- **Staff duress:** Staff raise geo-located alerts in duress situations, either via a soft button directly from the UI of a mobile app, or from a physical button paired or embedded on the phone itself (such as Zebra or Spectralink).
- Nurse call automation: Nurse calls are automatically closed when they enter the relevant patient room.
- Mustering management: Staff is alerted and tracked via their phones during emergency situations. Best exit or shelter paths can be shown to every person depending on their real-time location.
- Workflow management: Data analytics can be collected for workflow optimization.
- Digital blue-dot turn-by-turn wayfinding: Users can find their way to people, POI, or assets across the premises
- Workplace analytics: Space utilization measurement based on real-time and historical anonymous location of building tenants.
- Automated booking: For workplace amenities like rooms and desks.

About Pole Star

Pole Star is the most experienced (21 years of existence) indoor location technology partner. We enable software integrators and enterprises to build and deploy location-aware solutions in a fast and easy way, to help enterprises augment customer experience, improve processes and improve safety. 700M+ square feet of space are covered worldwide by hundreds of location-aware applications.



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