



HPE Aruba Networking & Pole Star

Enabling location based value-added services



Enterprises, regardless of their shape, size, type, or purpose, strive to optimize the ROI from their physical space and equipment. 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. Hospitals and factories often needlessly increase costs by over-purchasing equipment to overcome challenges when attempting to respond to urgent situations. Customers in a retail setting, or aboard a cruise ship, who are unable to find or request the services needed can become 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 injury, loss of life or other costly liabilities for the business and brand.

Supplementing IoT data with contextual information from the enterprise network enables applications to become cognizant—or “hyper-aware”—of, and responsive to, the occupants and their environment, service needs, security, and safety. Businesses can use this data to understand where key assets and people are located, track movement, provide navigation, improve the mobile user experiences, drive engagement, and improve safety. These are the tools necessary for optimizing physical space and gaining the insights to recognize revenue opportunities while improving workflows, customer experiences and increasing safety for guests and employees.

Location based applications

Pole Star is a leader in Real Time Location Systems (RTLS) and indoor/outdoor Location Based Services (LBS). Pole Star solutions enable locating equipment and people quickly. Fast, accurate locationing can lead to tremendous savings of time and cost while leading to insights that can improve process workflows and resource allocations. Similarly, RTLS and LBS solutions can increase safety for staff, patients and guests with geo-located duress calls for security responses and incident tracking.

Pole Star uses a powerful suite of applications, APIs, and SDKs to enable integrators to tailor RTLS and LBS solutions for specific use cases and needs.

Pole Star’s solutions deliver the following services:

- **Mobile indoor and outdoor positioning system with the NAO® SDK:** This mobile SDK includes a patented location engine, handling indoor and outdoor transition, while ensuring floor and room discrimination at a 2m accuracy¹. Setup is managed through NAO® Cloud and NAO® Logger. The solution provides location analytics and people tracking options.
- **RTLS with NAO® track:** Pole Star’s cloud or on-premises location engine integrated with NAO® Cloud or NAO® Server, application, tags, and APIs enables asset and people tracking applications. Setup is managed through NAO® Cloud and NAO® Logger.

¹ Dependent upon infrastructure density and placement



These services are delivered through the following components:

- **NAO® SDK:** mobile indoor and outdoor positioning SDK
- **NAO® Cloud or NAO® Server:**
 - Centralized services management web platform for RTLS and contact tracing
 - NAO® Track Location Engine
 - NAO® Track application for tracking people or assets
 - NAO® Analytics provides actionable data about indoor space utilization
 - Configuration and service APIs
- **NAO® Logger:** Companion mobile application for field engineers

Pole Star solutions are deployed worldwide with over 300 million square feet in deployment and growing. Combining Pole Star solutions with the 250+ customizable partner applications, RTLS and LBS solutions can be further tailored to specific customers need:

- Improving guest and patient experiences by providing navigation to the locations and services they seek.
- Driving engagement at tradeshow and retail spaces 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.
- Enabling higher capacity outpatient care services and revenues through improved care center workflow.
- Reducing healthcare costs by improving usage rates of mobile equipment such as infusion pumps, wheelchairs, and beds.
- Improving worker safety through indoor locationing integrated with emergency call and response.
- Mitigating contamination spread in confined environments through accurate contact tracing.

HPE Aruba Networking and Pole Star together

Cloud based asset tracking, as shown in Figure 1, utilizes BLE asset tags that can be attached to equipment or used as wearables for staff, guests, and contractor tracking. The tags communicate with HPE Aruba Networking Wi-Fi 5 and Wi-Fi 6 Access Points via their built-in Bluetooth radios which forward unique tag identification data to Pole Star's NAO® Cloud service where location data processing, reporting and additional analytics or action can be taken. For this solution, persistent cloud connectivity must be maintained for the data processing and subsequent services. The solution also provides interoperability with Pole Star's dedicated NAO® BlueListener BLE receivers, which are optional.



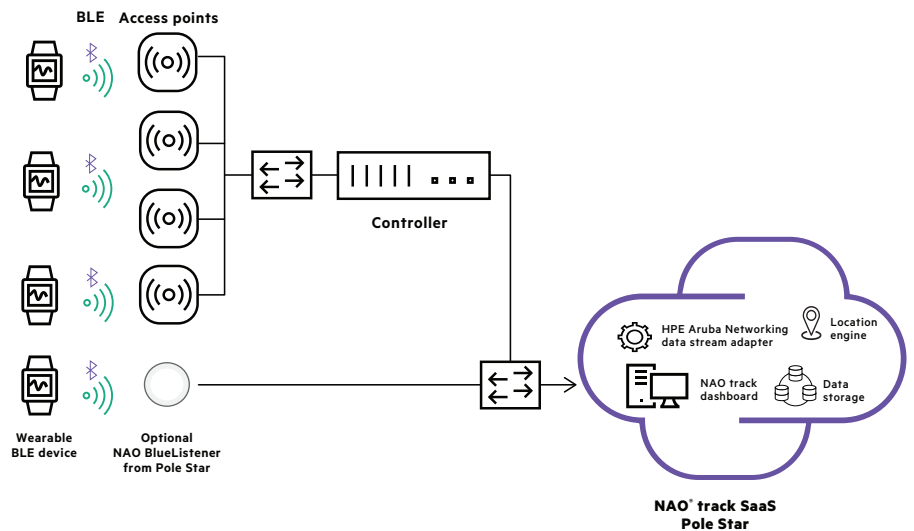


Figure 1. Cloud based asset and people tracking

On-premises based asset tracking utilizes a traditional server client architecture and eliminates the need for a persistent WAN connection to the cloud. As shown in figure 2, the BLE tags attached to equipment or people communicate through the HPE Aruba Networking Access Points. The access points then forward unique tag identification data to Pole Star’s on-premises NAO® Server where location data processing, reporting and additional analytics or action can be taken. This on-premises architecture makes it ideal for use cases where persistent WAN connectivity is either unavailable, unacceptably slow, or prohibitively expensive. The solution also provides interoperability with Pole Star’s dedicated NAO® BlueListener BLE receivers, which are optional.

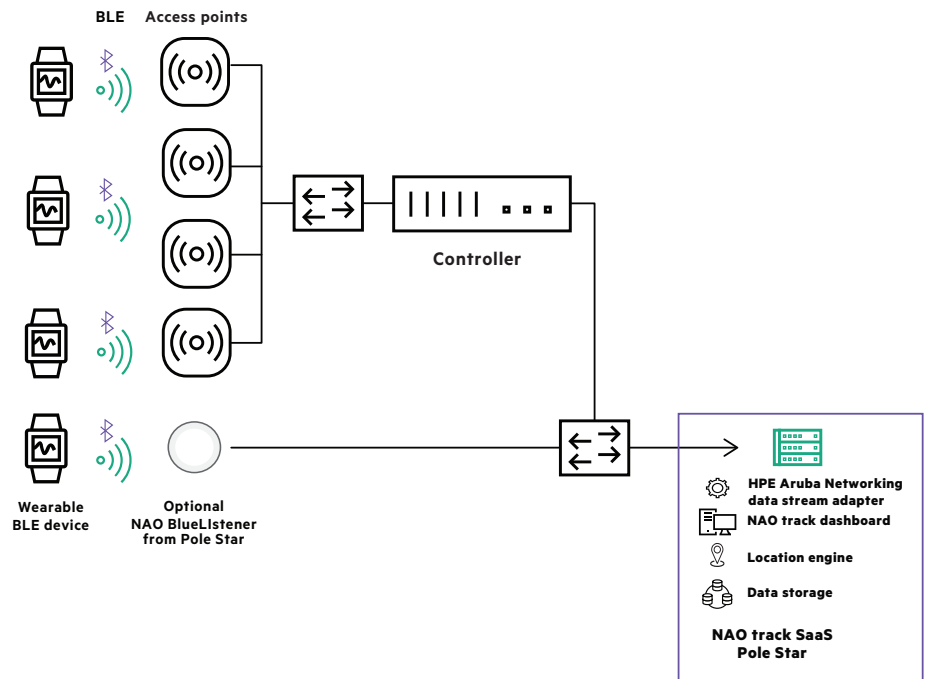
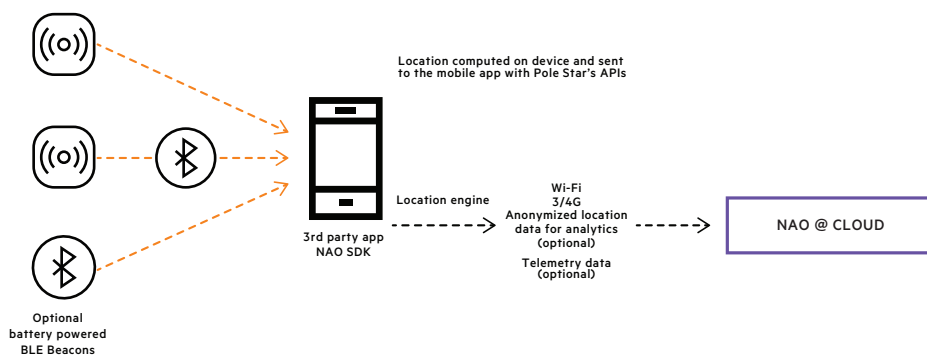


Figure 2. On-Premises based asset tracking



Mobile-centric indoor locating services support turn-by-turn navigation, wayfinding and proximity data and alerts by interacting directly with the mobile devices carried by the users. For these solutions the HPE Aruba Networking Access Points are configured as BLE beacons for mobile devices to register their user’s location on a map displayed on the user’s device. The solution can also support utilization data for rooms and routes, as well as alerting administrators or users when congregations of people exceed preset limits—useful for return-to-work initiatives and space utilization analytics.



Note: internet connectivity required for solution set-up. Internet connectivity not required for use.

Figure 3. Mobile centric indoor locating services

Why HPE Aruba Networking and Pole Star

A cost effective and secure way to deploy LBS and RTLS within closed environments is by leveraging the existing HPE Aruba Networking Wi-Fi network infrastructure. This has the benefit of amortizing one capital investment across multiple services. Leveraging the HPE Aruba Networking Wi-Fi network for Pole Star solutions also eliminates incremental installation and maintenance costs of overlay networks supporting dedicated beacons and gateways. Cybersecurity posture is improved for the customer deployment as HPE Aruba Networking enables security policies and network visibility to extend edge-to-cloud security across the venue. HPE Aruba Networking Wi-Fi access points support a broad range of LBS and RTLS services thru integrated Wi-Fi, Bluetooth, 802.15.4 radios and USB IoT device interfaces, making HPE Aruba Networking AP’s an ideal platform for location-based use cases.

- Increases the ROI of your infrastructure investment by enabling indoor location and tracking use cases.
- Lowers implementation and maintenance costs by leveraging the existing HPE Aruba Networking Wi-Fi infrastructure.
- Certified interoperability means worry free deployment and support.



Partner solution overview

Depend on Pole Star



Pole Star is a global leader and pioneer in indoor positioning services created in 2002. Based in the US and in Europe, Pole Star has almost 20 years of proven industry experience in indoor location and a robust portfolio of customers. Their indoor positioning solutions are deployed in 35 countries with over 300 million square feet covered.

www.polestar.eu

Certified interoperability

We've taken the guesswork out of deploying joint solutions by certifying the interoperability of Pole Star's platform with HPE Aruba Networking's wireless infrastructure. This allows joint deployments to be setup faster and simplifies maintenance of the completed solution.

Summary

Pole Star's NAO Suite when integrated with HPE Aruba Networking Wi-Fi 5 and Wi-Fi 6 access points deliver value with location services, supporting a multitude of indoor positioning-related use cases. Highly scalable, these solutions solve accuracy and availability issues where GPS is either unreliable or unavailable.

Learn more about HPE Aruba Networking solutions

arubanetworking.com

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Contact our presales specialists.**



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