

JUNIPER MIST ASSET VISIBILITY DATASHEET

Product Overview

Accurate asset tracking is essential for businesses to manage inventory, control costs, enhance operational efficiency, comply with regulations, and provide better customer service. Juniper Mist Asset Visibility is a cloud service that enables real-time tracking and historical location analytics of people, assets, and IoT devices. By leveraging the Juniper Mist Cloud and the Bluetooth low energy (BLE) antenna array within Juniper High Performance Access Points, businesses can locate assets in conjunction with any standards-based, third-party Bluetooth tag and make data-driven decisions based off real-time intelligence from the converged Wi-Fi and BLE infrastructure.

Product Description

Juniper® Mist™ Asset Visibility is a cloud service that enables indoor location tracking of people, assets, and their movements over time by leveraging standards-based, Bluetooth Low Energy (BLE) technology with Juniper Wi-Fi [Access Points](#) to provide accurate location information. The asset visibility service, built on the [Juniper Mist Cloud](#), a scalable microservices-based, cloud platform, unites Wi-Fi connectivity, indoor location services for asset tracking, mobile app based engagement and IoT in a single solution. With Juniper's patented [virtual Bluetooth LE \(vBLE\)](#) technology, the same infrastructure for [engaging with mobile users](#) via wayfinding and immersive push notifications enabled via virtual beacons can be used for locating, tracking, and analyzing an organization's most valuable assets. With Asset Visibility, organizations gain:

- Full visibility into the locations of people and things using standards-based Bluetooth LE services easily locates key resources, like nurses, security guards, and sales associates; and tracks IV pumps, forklifts, and high-value assets with BLE tags.
- Asset identity that assigns names to asset tags or BLE-enabled mobile and IoT devices to locate these assets on your venue map or integrate location with business applications.
- Detailed analytics on a comprehensive dashboard show visits and dwell times to help identify zone traffic patterns and congestion points.
- Asset location and analytics powered by a complete and open set of APIs integrate asset tags, asset location, and analytics applications within the Juniper virtual Bluetooth LE infrastructure.

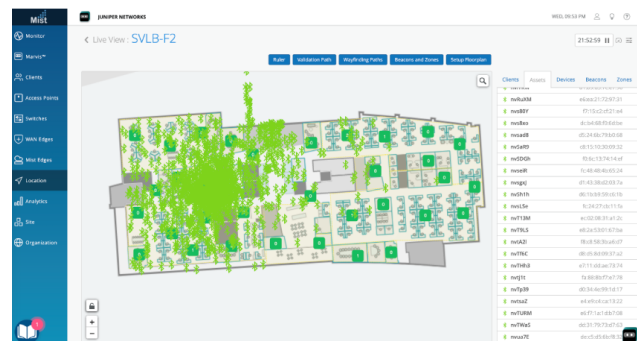


Figure 1: Live Asset Visibility view of an office floorplan (green Bluetooth logos are assets).

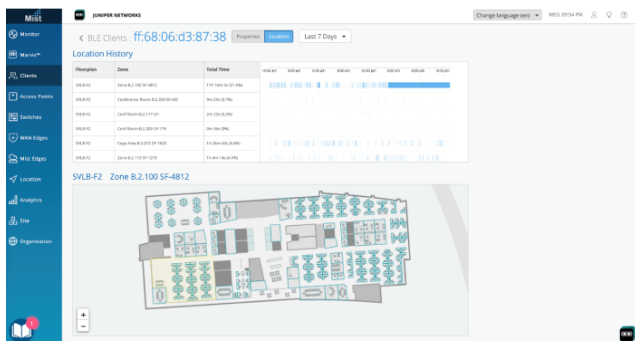


Figure 2: Location history for a specific BLE client asset and highlighting predominant zone.

Juniper has a robust ecosystem of technology partners that can help you deliver amazing wireless experiences through product interoperability. Possible use cases for tags and workflow applications with our ecosystem partners are:

- **Retail:** improve inventory management and loss prevention; optimize shelf management, store layout and merchandise placement and track personnel and equipment.
- **Healthcare:** minimize disruptions and delays in hospital operations, monitor personnel for employee health and safety, and track the inventory and location of medical equipment.
- **Higher education:** manage campus asset visibility/tracking; minimize theft and loss of valuable school property and scientific equipment; and track usage of classrooms, labs, and other indoor campus areas.
- **Manufacturing:** optimize workflows and equipment maintenance; monitor the precise location of products and equipment like forklifts, pallets, and robotic carts.
- **Enterprise:** improve IT asset management; locate audio-visual equipment, office hardware, and mobile computing assets; and optimize space utilization by tracking employee traffic patterns and resource usage.

Architecture and Key Components

Asset Visibility is a cloud-based microservice delivered by the Juniper Mist platform. Juniper High-Performance APs hear BLE asset tags and beacons and transfer the information to Asset Visibility's location engine, which assembles and analyzes the incoming signals. Asset Visibility provides multiple dashboards that help the user locate and identify both people and things, plus gain insight into overall asset activities.

Access Points with Directional BLE Antenna Arrays

Juniper Access Points with a differentiated 16-element [virtual Bluetooth LE \(vBLE\)](#) antenna enable multiple samples to be heard for each third-party BLE asset tag. The APs send detected signals to the microservices-based Juniper Mist cloud architecture. The same infrastructure for engaging with mobile users can be used for asset visibility, and machine learning eliminates the need for manual RF fingerprinting or calibration.

Juniper Access Points work in conjunction with [Juniper Mist Cloud](#) and [Mist AI](#) to deliver premium [wireless access](#) capabilities. Traditional wireless LAN solutions rely on antiquated architectures that lack the scale, reliability, and agility needed to address today's diverse enterprise needs. Juniper solves these issues with an innovative approach to wireless access that combines AI-driven automation and insight with the flexibility and dependability of a microservices cloud.

Juniper Mist wireless solutions enable IT teams to simplify and accelerate troubleshooting while strategically using IoT and location services to transform operations and drive innovation. These Juniper enterprise-grade access points support Bluetooth LE: [AP45](#), [AP34](#) and [AP24](#) Series, which support [Wi-Fi 6E](#), and the [AP43](#), [AP33](#), and [AP63](#) Series, which support 802.11ax (Wi-Fi 6). These access points are all managed by the real-time microservices based in Juniper Mist cloud.



Figure 3: Juniper Access Points have a patented vBLE array

Location Engine Delivers Machine Learning from the Cloud

A cloud-native, AI-driven microservices architecture provides unparalleled agility, scale, and resiliency to your network. It lowers OpEx and delivers unprecedented insights into location services for asset visibility at scale. With the power of cloud, and the standards-based interoperability for Wi-Fi and BLE, Asset Visibility is enabled by a simple click. The operations team can access asset location estimates in real time for all discovered signals on the floor plan. Relevant signals can be named as assets of significance based on MAC address, Service UUID, iBeacon, or Eddystone tag types. All named assets will be tracked for both real-time use and historical analytics.

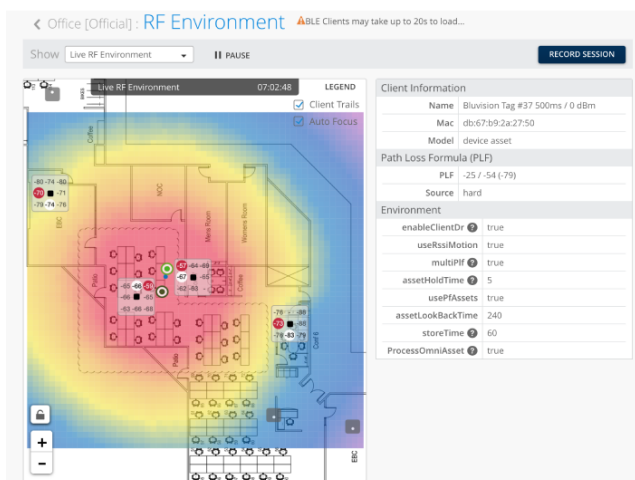


Figure 4: Asset Visibility provides an RF view of a tagged asset in an office environment

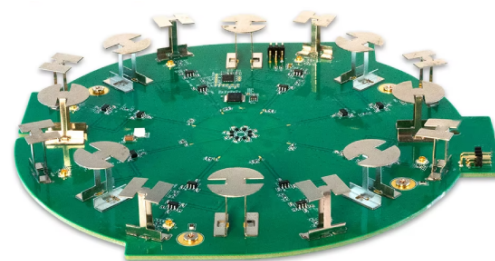


Figure 5: Juniper has a patented 16-element BLE array

Standards-Based Interoperability with Third-Party BLE Asset Tags

Asset Visibility interoperates with any standards-based, third-party BLE tags to provide real-time visibility and location monitoring of assets. By attaching a third-party BLE tag to assets, businesses can streamline operations and management and extensively monitor both people and things. Asset tracking enables more efficient resource allocation, enhances operational efficiency, and improves overall productivity.

Total Programmability via Open APIs and Webhooks

Open APIs allow for automation and seamless integration with external applications. The APIs provide the capability to invoke actions based on user or external events, as well as for using the cloud-native Webhook framework. The Juniper Mist platform, which supports Asset Visibility, is 100% programmable for full automation and seamless integration across Juniper access, wired, wireless, WAN, security, user engagement, and asset location domains.

Automatic Feature and Security Updates

The Juniper Mist cloud architecture keeps the Asset Visibility service optimized with the most advanced technologies. New features, security patches, and updates are automatically added on a bi-weekly basis without interruptions or service downtime. This dramatically simplifies and improves service operations for network IT administrators by eliminating lengthy software upgrades and service downtime.

Workflow Applications

Juniper, along with its extensive group of third-party partners, provides tailored workflow applications to get the most value out of Asset Visibility delivered from the Juniper Mist cloud. From asset tracking to employee health and safety monitoring, use cases span the spectrum and enable data-driven decision making across the various vertical business segments. Third-party applications can integrate easily with the location and zone Webhooks, including raw data for encrypted telemetry payloads. When integrated with Asset Visibility, the apps enable various location-based workflows and IOT use cases.

Features and Benefits

Full Visibility into Resources

You can easily locate key personnel resources such as nurses, security guards, and sales associates, using our standards-based Bluetooth LE services. Additionally, you can track industrial equipment, IT assets, and other high-value assets utilizing Bluetooth LE tags.

Innovative vBLE Technology

Deploying location services is cost effective and efficient with Juniper APs that incorporate a patented, dynamic 16-element directional antenna array for Bluetooth LE signals. Combined with unsupervised machine learning, this unique vBLE solution enables enterprises to deliver asset visibility solutions with scale and minimal costs.

Partner Ecosystem

Having a standards-based platform has been vital to Juniper building a strong [ecosystem](#) of partners that can implement location services and asset tracking. These partners utilize Asset Visibility in their workflow and tracking applications to track assets based on BLE tags and wireless handsets, and they can integrate third-party information onto their platforms. In addition, Juniper supports numerous third-party BLE tag and badge vendors, including iBeacon and Eddystone-enabled tags.

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