Providing Managed Indoor Location Services to Enterprises

Benefits of offering Indoor Location Services across multiple industries

White Paper

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Challenge

- *Growing market share requires service differentiation that is elusive with legacy technologies*
- *Margins are tightening on connectivity and hardware/software services*
- *Gaps in personnel and technical resources make it hard to fulfill customer demands for superior experience*

Solution

- *Juniper Indoor Location Services, a 2024 Gartner Magic Quadrant Leader for the third year in a row, is an ideal way to enhance relationships between MSPs and enterprises*
- *User engagement services such as indoor navigation with proximity messages has broad applicability across many verticals*
- *Asset tracking allows enterprises to pinpoint critical materials and personnel throughout the campus*

Benefits

- *MSPs and enterprises reduce vendor, appliance, and application sprawl*
- *Improved experience for enterprise staff including but not limited to IT*
- *Increased portfolio monetization for MSPs and revenues for enterprises by fostering greater customer engagement*
- *Simplified operations for rapid ROI and lower TCO*

Executive Summary

As more enterprises turn to Internet connectivity, MPLS revenues are dropping. Managed Service Providers (MSPs) are actively reviewing new services that will capture existing and new customers' interest. Making the right investment in innovative services, though, can be tricky.

There must be a balance that minimizes operational complexity, keeps the investments manageable, and still provides new high-value offerings such as Indoor Location Services.

The Juniper® AI-Native Networking Platform includes all the components MSPs need to launch Indoor Location Services. By using Juniper access points and the Juniper Mist™ SDK, MSPs can deliver pervasive and reliable Wi-Fi connectivity with consistent coverage everywhere, along with scalable and highly accurate Indoor Location Services utilizing vBLE technology.

MSPs can simplify operations, improve performance, and reduce overall TCO while introducing new types of innovative services such as user engagement, wayfinding, proximity visibility, and asset tracking for a variety of industries.

Introduction

Managed Service Providers (MSPs) enjoy growing markets but continue to face new business challenges. For example, new connection models are eating into revenue, and the urgency to gather new technology and talent continues.

MPLS revenues continue to slow as more enterprises turn to Internet connectivity, even for mission-critical needs. This will likely continue, so managing accounts—which had long been a familiar approach of selling circuits and connectivity—has become much more complicated.

In this competitive market, MSPs need to constantly transform to keep up with the pace of innovation. However, doing so can be difficult for those who are often faced with technological debt and a sprawl of management tools. Infrastructure is complex and so is the ecosystem of network operations tools to manage it. The network stack is siloed, and visibility into user experience is difficult to near-impossible.

This must all be addressed to offer new services and to backfill revenue gaps. The key is how to best serve customers, while standing out in a crowded marketplace.

MSPs know they need to be able to offer valuable new services, and that they will have to invest in order to do this. The question is how to minimize operational complexity, keep the investments manageable, and still provide new high value offerings such as Indoor Location Services.

The Way Forward with Juniper

MSPs need to craft offerings that have broad applicability, drive transformation, and widen their Total Addressable Market (TAM). They must find innovative ways to generate additional revenues that don't unnecessarily impart additional complexities to the technology stack.

This is critical, because while it seems intuitive than an MSP should add new service offerings and attract new revenue streams, the reality is that coordinating with new partners for additional solutions, with a new technology, may cut into margins and add another layer of complication for operators and sellers.

A full-stack solution with seamless communications and a consistent, friendly interface mitigates this risk. It allows MSPs to select, and take to market, industry-leading solutions that help their sellers tack on additional, high-margin services to their quotes for branch solutions.

Helping Service Providers Simplify Operations

Juniper Networks continues to develop new ways to help service providers simplify operations, differentiate offerings, deliver premium experiences, and improve their bottom line. When MSPs partner with Juniper, they are better able to help end customers grow their businesses.

Indoor Location Services—an integrated component of the AI-Native enterprise—is the perfect solution to meet the challenges faced by customers in many industries.

Additionally, a unique feature for service providers looking to simplify multitenant operations is the Juniper® Mist™ Managed Services Dashboard, which provides visibility into an MSP's entire managed estate across all customer organizations. Using the dashboard, MSPs provide experience-first networking for users and operators in all network domains—wireless, wired, and WAN—across their entire customer base.

Indoor Location Services as Part of the AI-Native enterprise

Figure 1 shows a high-level view of the AI-Native Networking Platform, which provides value-added services that allow providers to differentiate and drive premium user experiences for network operators and end customers with AIOps.

Indoor Location Services is an integral component of the Juniper Wireless Infrastructure and Juniper Mist AI Cloud. With Indoor Location Services, MSPs can co-purpose their Wi-Fi solutions to extend their service offerings without taking on additional partners or technology.
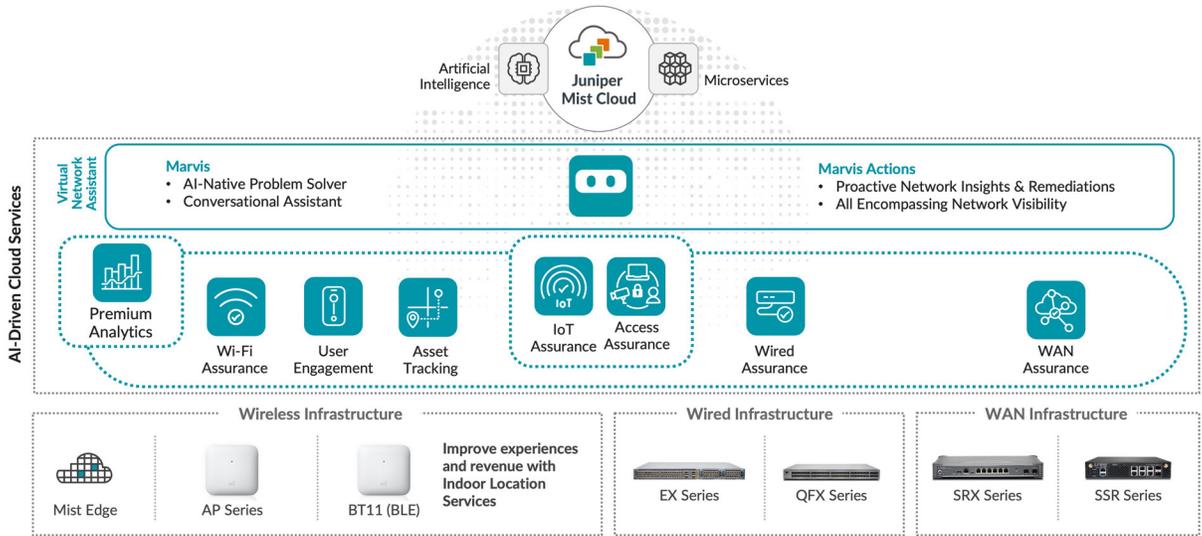
Figure 1: Location Services in the AI-Native Networking Platform Portfolio

The same quality-of-experience measurements that can be taken throughout the enterprise are valuable to the demands of Indoor Location Services, which are most useful with near-instantaneous and correct response. Key features of Indoor Location Services include user engagement, wayfinding, proximity visibility, and asset tracking.

Features such as these are why Gartner named Juniper a Leader in the Indoor Location Services Magic Quadrant in 2022, 2023, and 2024. The 2024 report notes the precision of Juniper's location accuracy and highlights Juniper's open architecture, support for multiple technologies, and ease of deployment as strengths.

In deploying Indoor Location Services, MSPs add valuable services to those that customers already enjoy (such as wireless networking with AIOps capabilities). For example, an MSP can build an application for a customer in a "big box" store using APIs packaged into an SDK, and leveraging location to help people find products, reposition employees around the store, or locate congested points where customers get stuck and position employees there to help. A similar process is repeatable across a variety of verticals.

Indoor Location Services is built on Juniper Wi-Fi. With Juniper as a partner, MSPs can vastly extend their impact and offer a supplemental purpose to this critical solution without adding hardware or management tools.

Indoor Location Services (Figure 2) utilizes Bluetooth Low Energy (BLE) with a high density of antenna arrays integrated into Juniper Access Points. The service incorporates AI capabilities from the Juniper Mist AI Cloud and is unique in its ability to both send and receive BLE signals. Virtual BLE (vBLE) beacons can be distributed liberally and as necessary to deliver the best user experience.
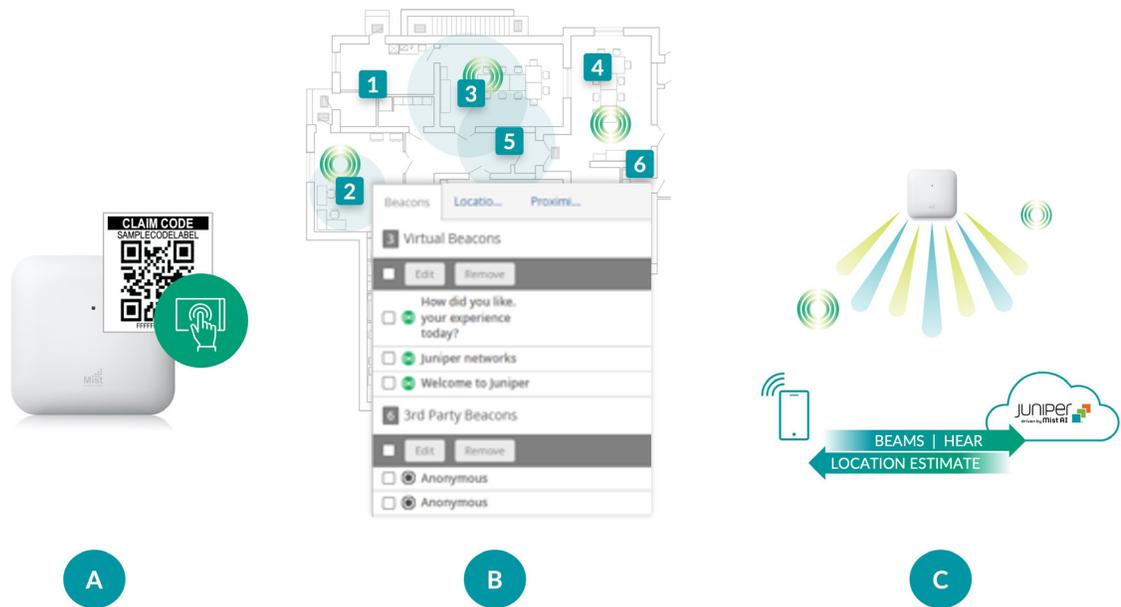
Figure 2: Indoor Location Services—How it Works

The deployment is simple:

1. Scan and claim the Wi-Fi device to deploy industry-leading Wi-Fi

2. Remotely deploy patented vBLE beacons via the Juniper Mist portal

3. Stream the highly accurate location-based telemetry

Once in service, the mobile devices listen to the BLE beacons and the apps (built with the Juniper Mist SDK) send Received Signal Strength Indicator (RSSI) information to the Juniper Mist AI Cloud, which maintains location and map information. The Juniper Mist Location Engine in the cloud sends location and map information back to the mobile application. Virtual beacons can be created anywhere in the coverage area for personalized experiences.

From the Juniper Mist AI Cloud perspective, the interface is intuitive, simple, and powerful. It can all be accessed through the same cloud-based portal. Figure 3 shows assets and devices mapped to a site's floorplan.
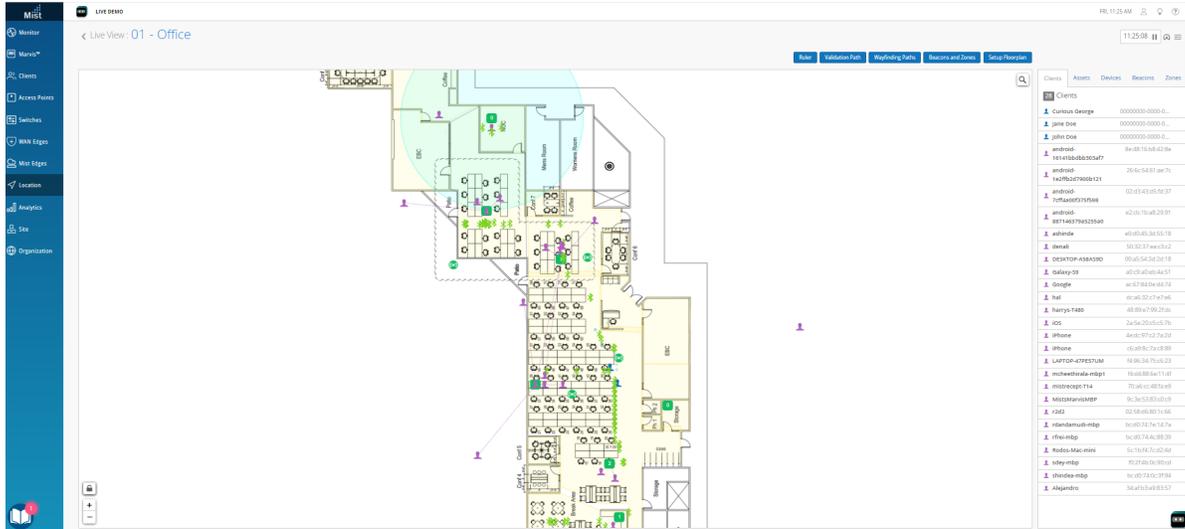
Figure 3: Indoor Location Services Interface

Serving Many Verticals with Indoor Location Services

The solution applies to many industries (Figure 4).
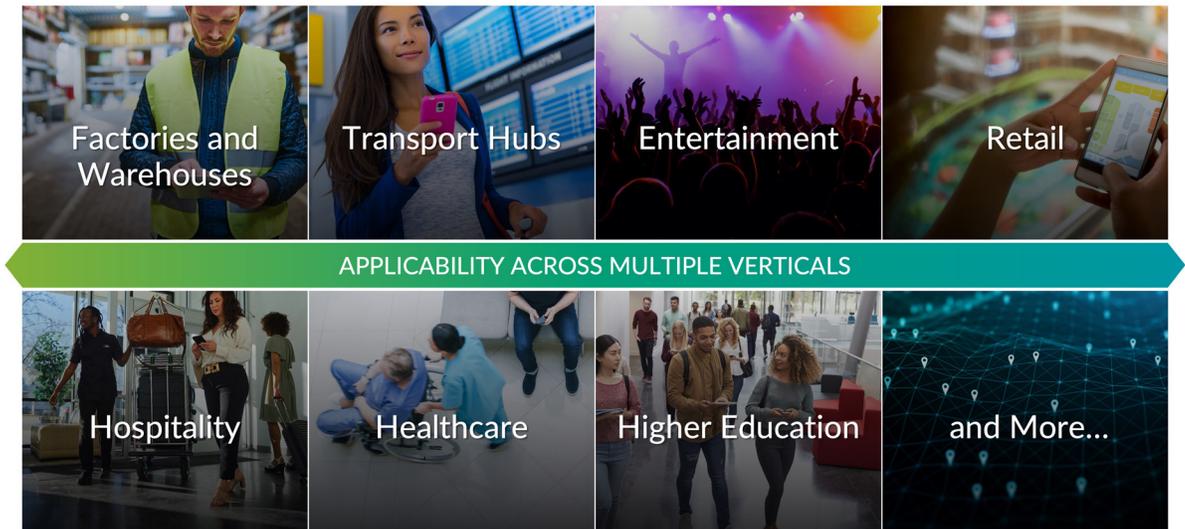
Figure 4: Applicability Across Multiple Industries

This allows MSPs to drive stickier engagements and further establish themselves as a key strategic business partner to their customers:

- **Factories and Warehouses**: Facilitates delivery, inventory, and access logistics

- **Transportation**: Improves service at airports, train stations, bus terminals

- **Arenas and Entertainment**: Optimizes experience at sporting events, concerts

- **Retail**: Helps consumers more easily find items, employees are more easily located

- **Hospitality**: Serves the functionality of a maître d' and other staff in travel accommodations

- **Healthcare**: Helps locate a specialist's office, find a doctor or equipment in the building. Keeps patients safe to tie location and IoT together

- **Higher Education**: Finds available study rooms, classrooms, and locating emergency beacons across campus

For all of these verticals, MSPs can offer new industry-leading, premium services on top of Wi-Fi connectivity that has little to no overhead. They can innovate offerings with professional services across a range of use cases. Accordingly, account teams within MSPs can sell another industry-leading technology with a value proposition that is easy to communicate.

Business Outcomes

With the AI-Native Networking Platform, you can add services, increase revenues, simplify operations, and further evolve into a key strategic partner to your end customer without heavy lifting. Both providers and their enterprise customers realize better business outcomes.

For Providers

With a Managed Indoor Location Services offering, MSPs can generate new revenue streams leveraging a solution with broad applicability.

Using Wireless LAN and Location Services (which is all built into the AI-Native Networking Plaltform), providers get two market leading solutions in one, without the added complexities of additional hardware or software.

This is a compelling supplemental offering: providers immediately extend and co-purpose the capabilities of an industry leading Wi-Fi and wired LAN solution, and simplify the management tool portfolio with a single, microservices cloud-based portal to manage user experience and engagement, all built on a 100% open API architecture.

Furthermore, as mentioned previously, the Juniper Mist Managed Services Dashboard provides visibility into an MSP's entire managed estate across all customer organizations. Using the dashboard, MSPs provide experience-first networking for users and operators across their entire customer base.

For Enterprises

Enterprises are served by Juniper Mist **Wired**, **WAN**, and **Wi-Fi** Assurance for a complete (**Client to Cloud**) integrated solution of which Indoor Location Services is a valuable part.

Marvis® **Virtual Network Assistant** helps MSPs locate issues and provide their customers with a far better experience than what they have today. AI-native campus fabrics, Mist AI, and Marvis helps MSPs scale to grow their business while adding Indoor Location Services and other premium options to ensure customer stickiness.

Conclusion

For three years in a row—from 2022 through 2024—Gartner has included Juniper as a Leader in the Indoor Location Services Magic Quadrant. The 2024 report placed Juniper as furthest in completeness of vision and highest in ability to execute among other networking vendors.

By using Juniper access points and the Juniper Mist SDK, MSPs can deliver pervasive and reliable Wi-Fi connectivity with consistent coverage everywhere, along with scalable and highly accurate Indoor Location Services utilizing vBLE technology.

This combination greatly accelerates the digital transformation initiatives of an MSP's customers. Enterprises gain valuable insights into their workflows and increase productivity with services such as wayfinding and asset tracking.

The integration of Wi-Fi and Indoor Location Services allows customers to simplify operations and consolidate these disparate services into a single industry-leading solution. This ensures improved performance and an overall TCO reduction for these services.

Finally, MSPs can easily tap into Juniper's large partner ecosystem to develop powerful and engaging applications across a variety of industries.

Resources

Analyst Reports

- 2024 Gartner Magic Quadrant for Indoor Location Services

Videos

- Delivering Indoor Location Services as a Managed Service
- Juniper Indoor Location Services Introduction

Web Pages

- Indoor Location Services
- AI for IT Operations
- Wireless Access
- Marvis Virtual Network Assistant

Data Sheets and Solution Briefs

- Juniper Location Service, Driven by Mist AI
- Juniper Mist MSP Dashboard Datasheet
- Client to Cloud Assurance with an AI-Driven Enterprise

About Juniper Networks

Juniper Networks believes that connectivity is not the same as experiencing a great connection. Juniper's AI-Native Networking Platform is built from the ground up to leverage AI to deliver the best and most secure user experiences from the edge to the data center and cloud. Additional information can be found at Juniper Networks (www.juniper.net) or connect with Juniper on X (Twitter), LinkedIn, and Facebook.

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