

BETTER NETWORKING EXPERIENCES: MANAGED INDOOR POSITIONING AND NAVIGATION



With Ruckus Networks and PenguinIN

SOLUTION BRIEF

INTRODUCTION

With the proliferation of mega venues today, determining the indoor position of people and assets is important to extend traceability and navigation use cases. With its PenNav and PenTrack products, PenguinIN offers indoor navigation and indoor tracking solutions drive visitor experience and improve operational efficiency.

Integrating PenguinIN with the Ruckus IoT infrastructure simplifies the deployment process. Use cases, which are tried and tested for full inter-operability with Ruckus, include indoor navigation with turn-by-turn instructions, location-aware push notifications, online and offline asset and people tracking, and business rules where events are detected, and alerts are issued.

Across verticals, including healthcare, education, shopping/ retail, airports/ transportation, theme parks and hospitality, PenNav and PenTrack with Ruckus IoT provide tangible opportunities to digitally transform networks.



CHALLENGE

Indoor positioning systems (IPS) support use cases that are perceived as an integral part of today's smart buildings and have become a prerequisite for successful innovative enterprises.



For more than a decade, positioning people and objects indoors has been a challenge –mainly due to signals from GPS satellites not being able to penetrate building materials, which renders GPS-reliant positioning applications ineffective.

Even though a large number of IPS technologies exist today, deploying and maintaining an IPS solution continues to be a challenge due to continuously changing indoor environments and the use of specialized infrastructure that is outside the realm of most IT departments' expertise. Solution upkeep, data ownership, solution monetization, security, privacy and accuracy KPIs continue to be some of the challenges around IPS as well.

SOLUTION

Ruckus has realized the opportunity of building vertical-specific IoT solutions over the connectivity infrastructure by building an IoT controller and availing an API to enable network-support applications.

As a leading IPS provider, PenguinIN has integrated its indoor positioning technology with the Ruckus APIs to offer resellers and customers a full suite of indoor positioning and navigation that can be deployed in even the most challenging environments.

In the global RTLS market, PenguinIN's products distinguish themselves by effortlessly leveraging Ruckus's existing WiFi infrastructure - no additional hardware is required. The offered managed service guarantees reliable performance for the solution's lifetime.

PenguinIN's indoor positioning engine, the core of our products, applies machine learning algorithms to deliver a 'blue dot' that indicates the location of people and assets within a venue. Based on site surveys and by leveraging machine-learning algorithms, this 'blue dot' is stable and smooth and provides up to sub-meter accuracy. PenguinIN's indoor positioning is then used to enable a plethora of use cases including

- Indoor navigation
- Location-based messages
- Automated Attendance
- Asset tracking
- Family & Friends Finder
- Car Finder
- Queue Optimization

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Market Solutions

PenguinIN is passionate about its innovative PenNav and PenTrack suites and offers customized applications to a variety of verticals. The highlighted solutions present examples of what is possible with PenguinIN.



Healthcare

Indoor asset, staff and patient tracking over an interactive digital map enables staff and patients to answer all the 'have you seen it' questions by locating a doctor, a critical asset or a specific room and navigating to it. Infection Control, controlled access and automated attendance are solutions that aim at enhancing efficiency while rich analytics of location data can be leveraged to improve decision making.



Education

Schools and universities are compelled to adapt to the needs of their students. PenguinIN supports students, parents, staff and administrators with better everyday experiences. Solutions supported over the Ruckus infrastructure include automated attendance, on/off school bus tractability, and asset management.

Shopping/Retail

Shoppers are offered a smooth, guided shopping experience with an interactive digital map and indoor navigation to find what they look for. PenguinIN also allows operators and retail tenants to push curated proximity marketing to the fingertips of their customers. Features such as Car Pin and Family & Friends Finder also enhance shopper's experience.



Airport

Indoor navigation, queue optimization and context-based updates put an end to stressed travelers and improve travelers' flow. Location-based marketing turns the airport into a shopping center that engages the travelers while asset tracking and staff monitoring increases operational efficiency. Access Control and rich analytics are solutions that enhance safety and security at the airport.



Theme Park

A digital map and turn-by-turn navigation support ease orientation and navigation around the theme park. PenguinIN also allows operators to send personalized suggestions and advertisements to visitors. They can check rides' wait times, schedule their rides and find their family members with Friends & Family Finder.

For more information, visit www.penguinin.com or send a request to info@penguinin.com

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About Ruckus Networks

Ruckus Networks enables organizations of all sizes to deliver great connectivity experiences. Ruckus delivers secure access networks to delight users while easing the IT burden, affordably. Organizations turn to Ruckus to make their networks simpler to manage and to better meet their users' expectations. For more information, visit www.ruckuswireless.com.

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About PenguinIN

PenguinIN was founded in 2011 with [headquarters in Irvine, CA](#), USA. In 2013, our R&D team launched the first multi-technology indoor positioning and tracking platform of its kind.

Our vision is to be venue operators' first choice to support digital transformation of venues, processes and activities that touch staff, visitors and assets.

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