RUCKUS SPoT™

Wi-Fi Location Engine and Analytics

DATA SHEET

BENEFITS

IMPROVE OPERATIONAL EFFICIENCY

Increase efficiency by optimizing staffing levels within hotels, retail stores, and public venues. Determine locations with heavy footfall to maximize ad campaign efficiency and to charge appropriate rental prices.

MINIMIZE INVENTORY AND ASSET LOSS

Minimize loss through stolen or missing devices such as tablets, laptops, smart phones, and any other IT-supplied high-value devices through asset tracking. SPoT Ecosystem partners (3rd party solutions) enable additional features such as receiving notifications when any asset enters or leaves your pre-defined zones.

ENHANCE CUSTOMER EXPERIENCE

Enhance the traveler experience at travel hubs by improving venue efficiency and sub-zones via real-time heat maps, statistical footfall data and dwell-time data. Reduce customer wait times by optimizing staff based on customer demand.

MONITOR STUDENT SAFETY

Ensure student safety by monitoring real-time crowd movement during any emergency on school property.

DRIVE CUSTOMER ENGAGEMENT WITH ECOSYSTEM SOLUTIONS

Analyze marketing and merchandising effectiveness, shopper trends, and improve customer engagement in retail. Enhance the student experience by having automated classroom attendance based on location. Improve customer satisfaction in hospitality with device features such as auto check-in, way-finding, and instant amenity promotions.

REAL-TIME WI-FI LOCATION ANALYTICS

Ruckus Smart Positioning Technology (SPoT™) location engine generates location data that can be used to analyze footfall, track assets and provide other location-based services.

SPoT offers secure APIs that Ruckus ecosystem partners leverage to develop applications with location-aware features while ensuring data privacy. These third-party applications provide customized location-based solutions catered to different industries. Enterprises or Managed Service Providers can also use SPoT APIs to incorporate location data into their own applications.

SPoT software's unique advantages include its flexible deployment options: either as a public, cloud-based subscription service or as a locally-hosted virtual machine.

LEVELS OF SERVICE

SPoT caters to different business needs by providing two levels of service each available as cloud or virtual deployments.

SERVICE	DESCRIPTION
SPoT Point	• Detects device locations in real-time, with an accuracy range of 5–10 meters at 80% confidence • Best option for venues with high access point (AP) density
SPoT Presence	• Detects overall number of devices positioned to the nearest Ruckus AP using proximity analysis • Best option for smaller venues with low AP count, or large venues where additional AP deployment can be challenging and cost-prohibitive

SPoT LOCATION ANALYTICS SOFTWARE

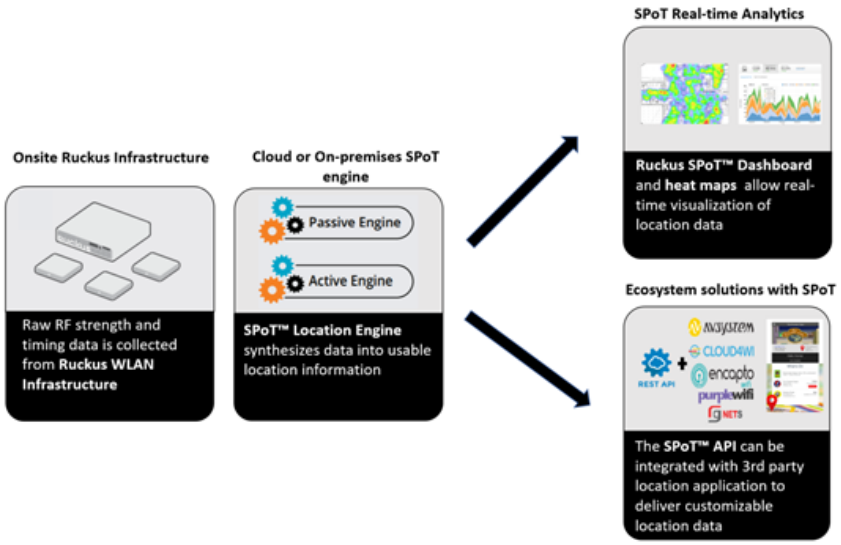

Figure 1: Overview of Ruckus SPoT

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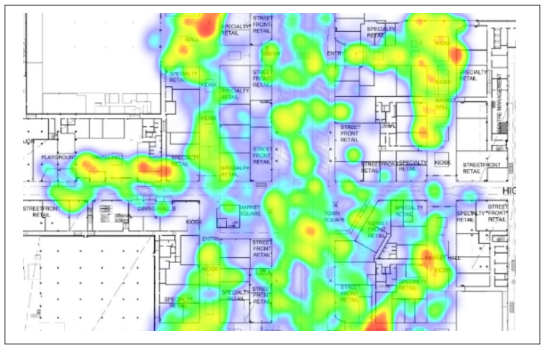

Figure 2: Heat map for footfall visualization

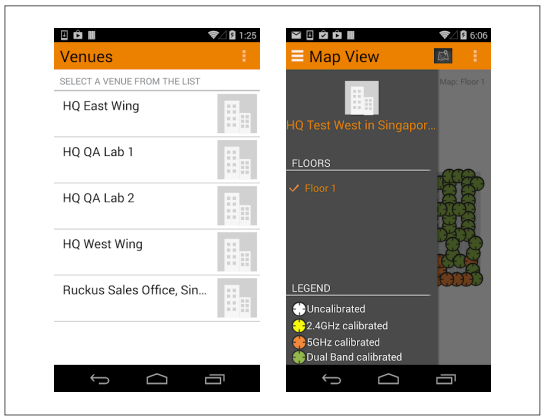

Figure 3: Mobile app calibration

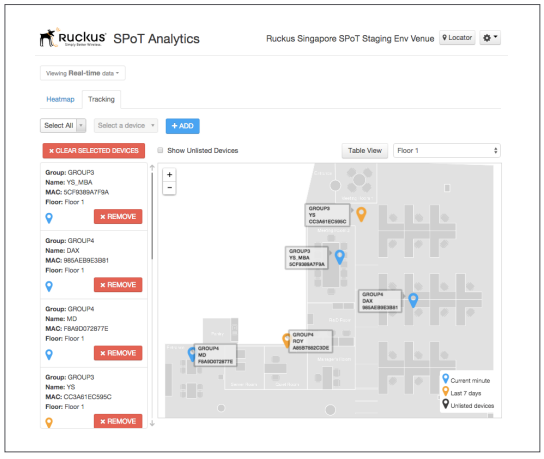

Figure 4: Ruckus SPoT asset tracker dashboard

RUCKUS SPoT HIGHLIGHTS

Generation of accurate and granular location data

- Utilizes both probes and data packets for more accurate location
- Detects associated and unassociated Wi-Fi devices
- Offers option to exclude resident Wi-Fi devices from location analytics for higher accuracy
- Generates more accurate location reports when calibrated using RF Fingerprinting
- Offers different levels of service through SPoT Point and SPoT Presence

True real-time positioning

- Calculates real-time location of new client devices within 5 seconds of it appearing at a site
- Provision to dynamically select update intervals to allow up to per-second positioning
- Allows easy consumption of footfall metrics via heat maps in real-time (per-minute auto refresh)
- Locates assets in real-time through real-time Wi-Fi tracker

Ecosystem solutions

- Offers secure RESTful APIs as well as streaming APIs that ecosystem partners can leverage to provide location-aware features to customers
- Enhances the way businesses interact with their customers, based on precise location calculation

Minimal configuration

- Offers on-site provisioning and testing through a free mobile app for venue calibration
- Provision to create and edit floor plans of venue through simple mapping tools
- Offers multi-venue support through a single dashboard

Asset tracking

- Tracks real-time location of assets within and around a defined venue
- Allows historical tracking of assets
- Locates position of unlisted Wi-Fi devices within and around a venue

Scalability

- Supports unlimited venues and client devices through scalable cloud architecture

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RUCKUS SPoT ATTRIBUTES	
Supported Infrastructure	• All ZoneDirector and SmartZone controllers • All Ruckus 802.11n/ac APs • Minimum OS version: ZoneDirector 9.8 or SmartZoneOS 3.0
Supported APIs	• Venue, zones, floors • Wi-Fi client location data, timestamp, client MAC address, zone info, in/out • APIs for all the analytics reports in SPoT Dashboard
Deployment and Connectivity	• Available as cloud-based subscription service or as an on-premises virtualized instance • Two levels of service available depending on client requirements: – SPoT Point: Detects device locations in real-time, with an accuracy range of 5–10 meters at 80% confidence. – SPoT Presence: Displays clients positioned to the nearest AP; heat map will appear as colored spots around the AP. • Secure RESTful API support for northbound ecosystem solution integration • Enhanced accuracy with client RSSI and venue RF fingerprinting
Analytics	• Footfall traffic visualization via heat map, by zone/geo fence, floor, or venue • Maps can be created or updated in minutes by using any map image (jpg, jpeg, or png format) • Historical view of hourly, daily, weekly, and monthly data up to 30 days with Presence or 90 days with Point • Real-time heat map (per-minute, auto-refreshed) and total footfall counter • Real-time Wi-Fi asset tracker • Repeat versus new device counter • Repeat count distribution • Average dwell time and distribution
Security and Privacy	• All data is encrypted end-to-end: southbound between controller/AP and SPoT engine, and between SPoT engine and analytics/mobile app APIs • Customer has option to hash the PII data (MAC address) • Cloud service hosted by world-leading IAAS vendors • Data center presence across the world • Secure RESTful/JSON APIs

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RUCKUS™ an ARRIS company

350 West Java Dr., Sunnyvale, CA 94089 USA

www.ruckusnetworks.com

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