



## APPLICATION BRIEF

# Location & Asset Tracking

## Aruba's Location and Asset Tracking Solution

Tracking expensive assets and resources is a critical requirement in many environments, and enterprises immediately recognize the benefits of using their existing Wi-Fi wireless LAN to automatically track critical assets. In healthcare organizations, expensive life saving equipment must be tracked down, both in emergencies and for routine maintenance. In the distribution chain, workflow tracking can help realize savings due to inventory optimization. With the proliferation and rapid price reduction of 802.11 RFID tags, WLAN-based location services can be delivered economically on a network serving multiple applications (e.g., data, voice). Aruba's secure mobility systems provide a robust platform for real time location services (RTLS) applications across all industry verticals.

### The Aruba Networks Solution

Aruba offers a broad solution set in partnership with the leading RTLS solution vendors. There are two components to Aruba's solution. First, Aruba controllers and access points capture the position of Wi-Fi devices such as laptop computers or RTLS tags. Second, a server component is used to record the information, display it, and make it available to other applications. The server role may be fulfilled either by Aruba's AirWave Wireless Management Suite® (AWMS) or an by an RTLS partner product. Advanced applications tailored to specific industries such as healthcare, gaming, retail, and manufacturing often benefit from a dedicated RTLS server.

#### "ASSOCIATION-MODE" LOCATION CAPABILITY

Devices that actively associate to a wireless LAN, such as laptops, phones, and PDAs, can be tracked using "association mode." Because these devices must periodically transmit data to maintain their association with the access point, location tracking of these devices can be accomplished through simple triangulation of signal strength measurements taken by multiple APs that "see" the tracked client. With this

location method, RF fingerprinting and site surveys are not needed. For association-mode location tracking, it is required that a minimum of three access points or air monitors detect a signal from the device. Rogue APs and interfering Wi-Fi networks are also tracked using this method. The location of tracked devices may be displayed on a building floorplan through either the ArubaOS or the AWMS web interface, and APIs are available to allow external applications to query for the location of a device.

#### REAL TIME LOCATION SERVICES

For tracking assets without wireless LAN radios such as IV pumps, golf carts, or projectors, special-purpose RFID/RTLS "tags" are available that attach to assets to be tracked. To conserve battery life, tags do not associate to a wireless LAN. Instead, they periodically transmit "blink frames" that are received and interpreted by the WLAN infrastructure. To enable this application, Aruba has partnered with AeroScout and Ekahau, the leaders in 802.11 tag-based RTLS. Blink frames received by the WLAN infrastructure can be forwarded to the AirWave Wireless Management Suite's VisualRF

### Benefits:

- Solution uses your existing WLAN: Aruba APs and controllers track and record all Wi-Fi objects
- Easy to read: Graphic displays of tracked objects are overlaid on building floorplans
- Cost-effective: No dedicated location appliance is required
- Easy to deploy: No site survey or RF "fingerprinting" required
- Go back in time: Historical location information recorded and displayed
- Extensible: APIs integrate with industry-leading RTLS vendors
- Scalable: Solution tracks thousands of devices simultaneously

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module for processing. AWMS provides graphical display of location, APIs to interface with external applications, and historical location information that can be used to reconstruct the path of a tracked object.

RTLS solutions extend beyond just location tracking to include functions such as panic buttons, temperature sensors, motion sensing, and telemetry. For these applications, the Aruba WLAN infrastructure interfaces with server platforms from RTLS solution providers such as Ekahau and AeroScout. In addition to location display and historical tracking, RTLS servers offer integration with business process software and the ability to track many thousands of devices simultaneously. Advanced tracking functionality includes support for asset entry/exit into/out of special zones, rooms and buildings, and “maintenance due” alerts.

**SOLUTION BENEFITS**

Aruba provides a scalable, cost-effective set of solutions for location and asset tracking. By leveraging the WLAN to provide location tracking, parallel dedicated networks of RTLS sensors need not be deployed. The Aruba

solution requires no site surveys or RF “fingerprinting,” making installation simple and fast. And because no dedicated location appliances are required, the solution is very cost-effective.

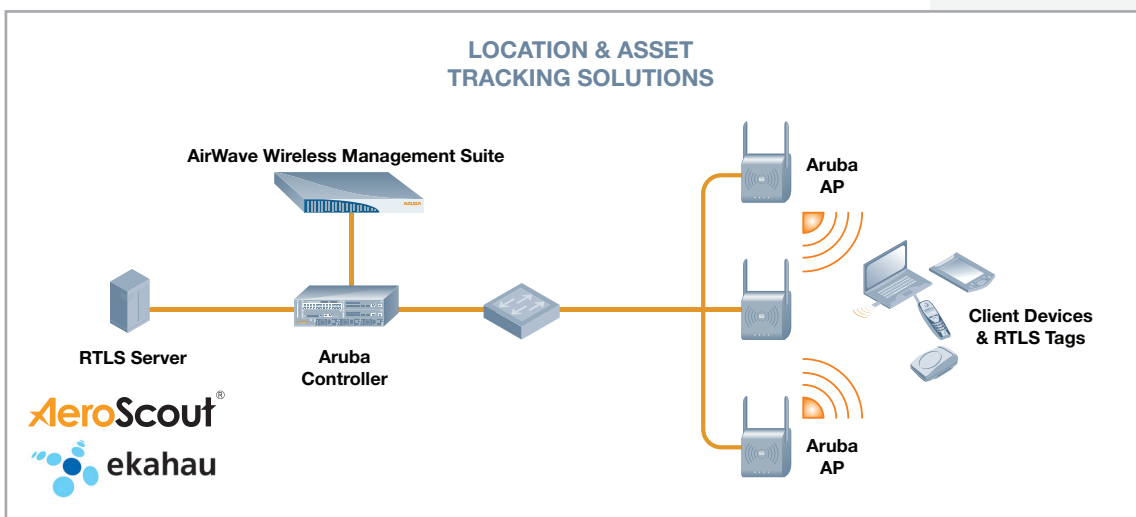
The AirWave Wireless Management Suite is a multi-vendor management system for wireless networks. Using the VisualRF component of AWMS, location tracking is fully integrated into management workflows. For example, help desk personnel have access to location information when assisting users with troubleshooting, and IT security personnel have instant access to location information when tracking rogue APs or other wireless security events.

When extension of the solution is required, Aruba offers tested and guaranteed interoperability with the leading providers of RTLS solutions. A typical installation would include the tags, which are attached to the assets to be tracked, and an RTLS server that programs and tracks the tags, provides months of historical data, and integrates with the organization’s software applications to incorporate location information with business rules.

**Partners:**



**LOCATION & ASSET TRACKING SOLUTIONS**



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