# Mist BT11 Access Point

## Enterprise-Grade BLE Location Services


Mist provides highly flexible, highly accurate enterprise-grade BLE location services that save time and money by eliminating expensive physical beacons and site surveys. In addition, Mist increases user satisfaction and drives new business opportunities by enabling new location-based services like push advertising, wayfinding/navigation, asset tracking, and analytics.

Mist's enterprise-grade BLE location services are delivered via the following products:

**Mist Intelligent Wireless Cloud (IWC) –** The Mist cloud platform is designed to provide unprecedented visibility and control at web scale, with a microservices architecture for extreme agility when rolling out new features/services.

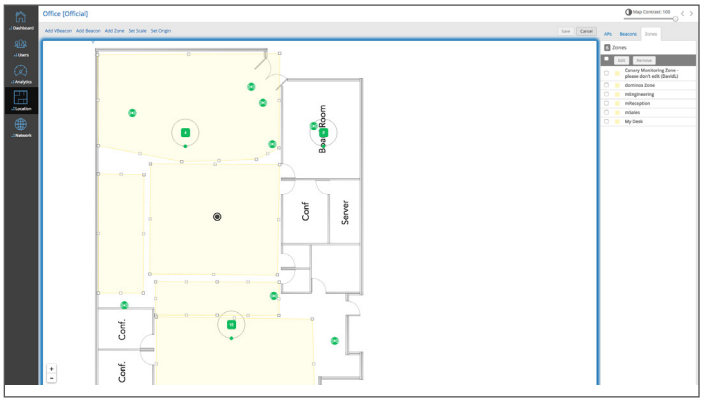
**Mist Access Points –** The Mist AP41 is a high performance, enterprise-grade Access Point for 802.11ac Wave 2 Gigabit WiFi and Bluetooth Low Energy (for more information, see the AP41 data sheet). The Mist BT11 (profiled here) is an enterprise-grade Access Point exclusively for Bluetooth Low Energy.

## BT11 Features

The Mist platform brings unprecedented flexibility and cost savings to wireless location services via the following unique features:

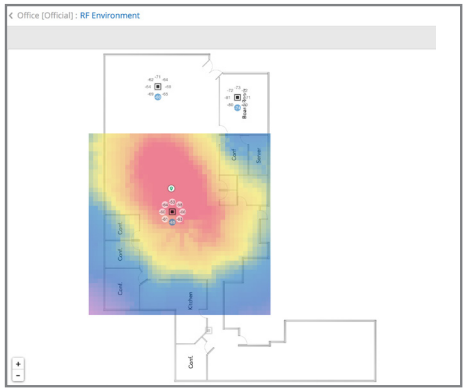
**Let's get virtual –** With Mist's patented vBLE technology, you can deploy an unlimited amount of virtual beacons in your physical environment with the simple click of a mouse. There is no need to purchase and deploy separate physical beacons, do site-surveys and no need to continuously swap out batteries as the BT11 runs on Power over Ethernet (PoE).

Virtual beacons can be easily stacked, so different applications and tenants can deliver different messages using the same infrastructure. In addition, location calculations are performed on the cloud instead of the user's mobile device, which means Mist preserves battery life on your wireless devices.




*Eliminate the costs and hassles of physical beacons with Mist vBLE technology*

**Highest accuracy –** Best location performance. Mist uses passive antennas to enhance the power of a single BLE transmitter and produce directional beams. As a result, a single BLE transmitter can detect not only the distance to a mobile device but also the device's location on a map. By using directional antennas. Mist ensures the most accurate location estimates in the industry (1 – 3 meters). Location estimates are taken with extremely low latency, which is critical for use cases where real-time updates are necessary for a positive user experience (e.g. wayfinding).

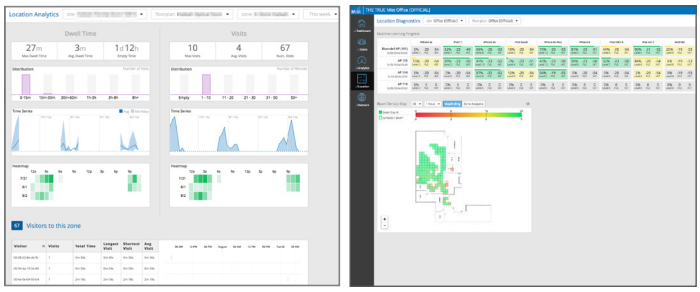


*Mist delivers the best BLE location accuracy with sub-second latency*

**Machine learning ensures a consistent user experience –** The Mist platform automatically adapts to different devices and RF environments, eliminating the need for BLE site surveys and ensuring the best mobile experience under changing circumstances.

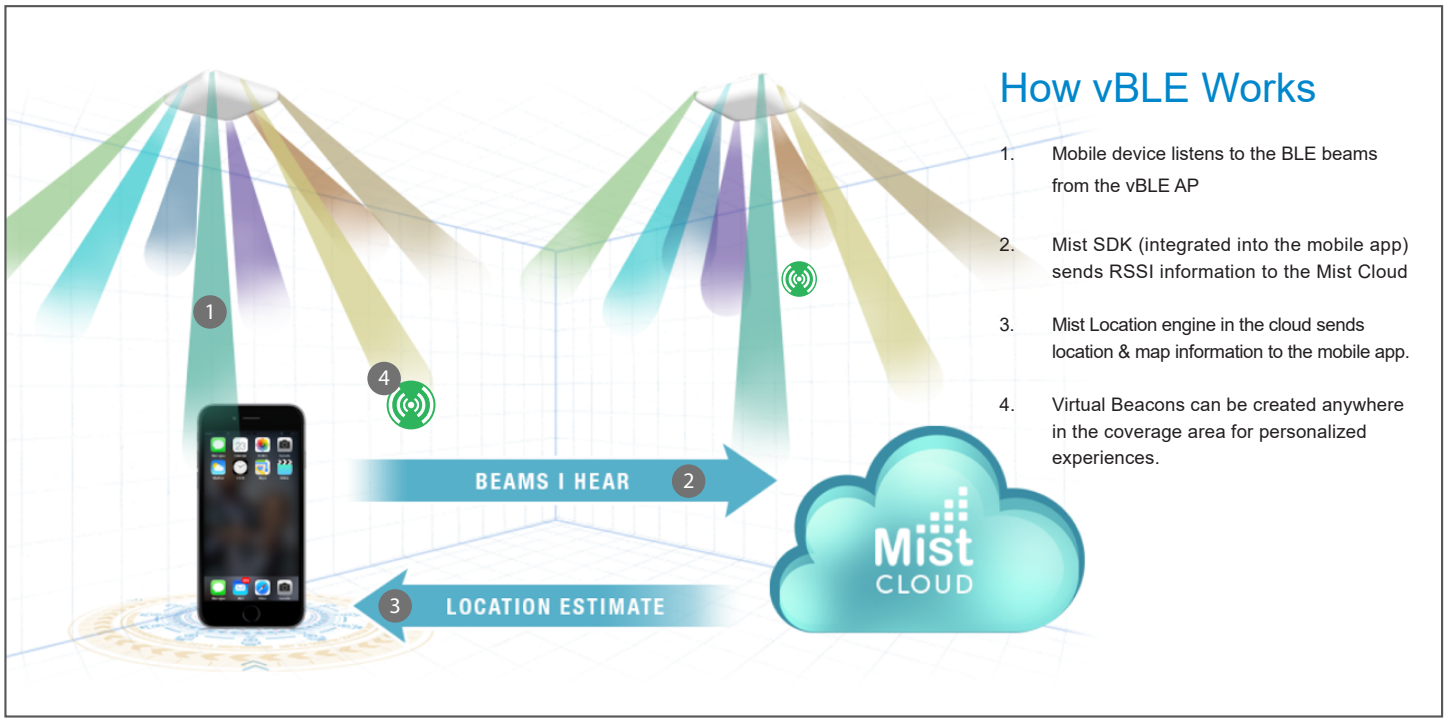
For example, the Mist platform constantly observes Received Signal Strength Indication (RSSI) metrics from mobile devices and updates RF models for individual hardware platforms (e.g. iPhone, iPad, and Android).

Machine learning also addresses problems that can't be handled with pre-defined rules, such as temporal RF issues caused by changes to a physical environment (e.g adding new furniture or people to a room.)



*Machine learning ensures a consistent experience across all mobile users and devices*

**Open APIs for easy integration –** Mist offers a mobile SDK for iOS and Android with three types of APIS (vBLE beacon, indoor location, and zone analytics) for seamless integration with complementary products.




## How vBLE Works

1. Mobile device listens to the BLE beams from the vBLE AP
2. Mist SDK (integrated into the mobile app) sends RSSI information to the Mist Cloud
3. Mist Location engine in the cloud sends location & map information to the mobile app.
4. Virtual Beacons can be created anywhere in the coverage area for personalized experiences.

## BT11 Specifications

The Mist BT11 has 16 steerable directional antennae and 1 omni-directional element array. Mist BT11 supports daisy chaining of up to 4 Access Points when connected to 802.3at power. The Mist BT11 supports beaconing in Apple iBeacon, Google Eddystone and AltBeacon advertising formats.

**Additional features of the BT11 include:**

| Features | Description |
|---|---|
| Power options | 802.3af or 802.3at PoE |
| Dimensions | 203mm x 203mm x 40mm (7.99in x 7.99in x 1.57in) |
| Weight | 0.636 kg (1.4 lbs) |
| Operating temperature | Internal antenna 0° to 40° C |
| Operating humidity | 10% to 90% maximum relative humidity, non-condensing |
| Operating altitude | 3,048m (10,000 ft) |
| Electromagnetic emissions | FCC Part 15 Class B |
| I/O | 1 - 10/100/1000BASE-T auto-sensing RJ-45 with PoE In<br>1 – 10/100/1000BASE-T auto-sensing RJ-45 with 48Vdc PoE Out |
| RF | 2.4GHz BLE with Dynamic Antenna Array |
| Indicators | Multi-color status LED |
| Compliance standards | UL 60950-1<br>CAN/CSA-C22.2 No. 60950-1<br>FCC Part 15.247, 15.407, 15.107, and 15.109<br>RSS-247<br>ICES-003 (Canada) |

**I/O ports and Kensington lock**

| Features | Descriptions |
|---|---|
| Reset | Reset to the factory default settings |
| Eth1+PoE Out | 10/100/1000 BaseT RJ45 interface that can output 48V PoE |
| Eth0+PoE In | 10/100/1000 BaseT RJ45 interface that supports 802.3at PoE PD |

## About Mist

Mist built the first wireless platform for the Smart Device era. By taking a user-first approach to networking, the Mist Intelligent Wireless Cloud (IWC) eliminates the operational burdens of legacy wireless architectures by replacing human interaction with machine learning and proactive automation. In addition, Mist takes unique advantage of user location and behavior to deliver a superior experience for wireless users.

The Mist team consists of leading experts in wireless, machine learning, and cloud, who are responsible for building the largest and most advanced networks in the world. Founded in June 2014, the company is based in Cupertino, CA. For more information, visit mist.com

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