



Mist AP41 Access Point

Best-in-class Access, Insight, Operations and Services

Mist has built a wireless platform from the ground up to deliver smart wireless services for the smart device era. With advanced features like machine learning, analytics, event correlation, dynamic packet capture and high accuracy location services, Mist provides a user-first approach to wireless that simplifies operations and delivers a superior experience for wireless users.

The Mist platform consists of the following components, purpose-built to give unprecedent insight into wireless user behavior for simpler operations and amazing mobile experiences:

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

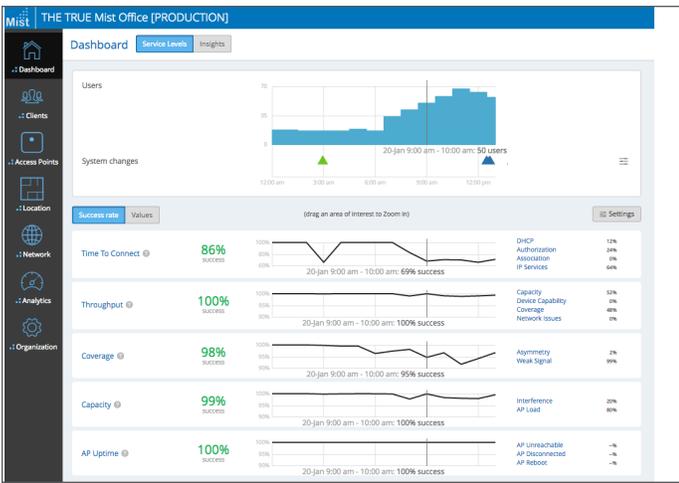
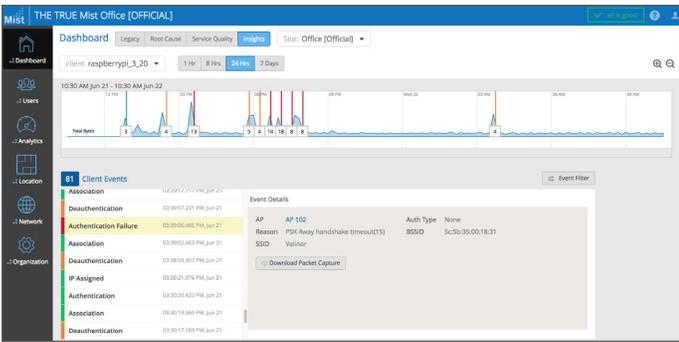
By combining the AP41 with the Mist cloud platform, Mist enables the following strategic wireless services:

- **Business Critical Wi-Fi Assurance** – Mist brings automation to wireless management, replacing reactive networking troubleshooting tasks with a new paradigm for smart automated wireless operations. This minimizes network operations costs while enabling IT departments to focus less on connectivity and more on value-added mobility services.

- **Enterprise-Grade BLE Location Services** – The same Mist platform used for business critical WiFi can also be used to deliver high accuracy location services using enterprise grade BLE. Mist customers can bring value to their business with advanced wireless location services like push advertising, wayfinding/navigation, asset tracking, and analytics.

The AP41's specific role in the above services includes:

- **Best-in-class wireless access** – The AP41 delivers high performance wireless access with three 802.11ac Wave 2 radios and an integrated 16-element vBLE antenna array controlled from the Mist Cloud. The AP41 supports up to 1,730 Mbps throughput in the 5GHz band and up to 800 Mbps in the 2.4GHz band.
- **Collect data for insight and action** – The AP41 has a dedicated dual-band radio that is used to collect the data needed for Mist's patent-pending Proactive Analytics and Correlation Engine (PACE), which leverages machine learning to analyze user experience, correlate problems and automatically detect the root causes of problems. In addition, these metrics are used to monitor service level expectations and provide proactive recommendations to ensure problems don't occur (or are fixed as quickly as possible when they do happen).



The AP41 collects data for the Mist cloud to use for Proactive Analytics and Event Correlation, as well as enforcing Service Level Expectations

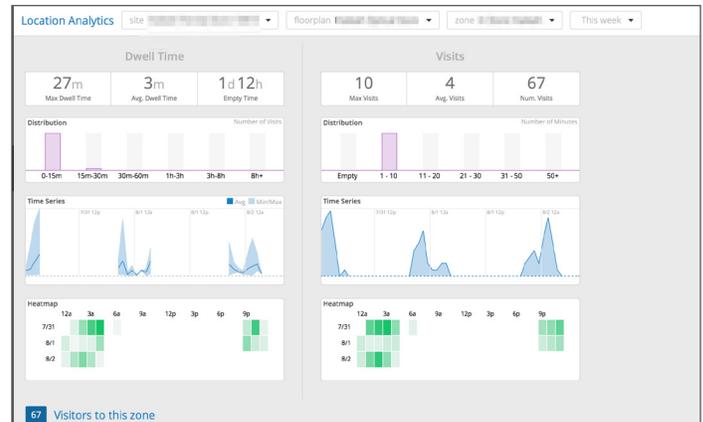
Similarly, the AP41 is essential for dynamic Packet Capture (dPCAP), whereby the Mist platform begins automatically capturing packets (and streaming them to the cloud) whenever issues are detected with user connections, performance or application experiences. This saves IT time and effort as there's no need to send an IT team member to the user's physical location to capture traces.

- **Industry-first location services** – 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).

The AP41 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).

Additional features of the AP41 include:

- **Effortless, cloud-based setup and updates** – The AP41 automatically connects to the Mist cloud, downloads its configuration, and joins the appropriate network. Firmware updates are retrieved and installed automatically, ensuring that the network is always up to date with new features, bug fixes, and the latest security updates.
- **Dynamic debugging** – Dynamic debugging constantly monitors services running on the AP41 and alerts IT whenever a service behaves abnormally. Dynamic debugging relieves IT of having to worry about an AP going offline or any services running on becoming unavailable.
- **Automatic RF optimization constantly scans for threats** – The AP41's dedicated dual-band radio continuously scans the airspace for threats and interference. This ensures optimal performance under what could otherwise be challenging RF conditions.
- **Ready for IoT** – Mist AP41 is the first WiFi Access Point in the industry to include a port for Internet of Things (IoT). This IoT port can be used to stream IoT sensor data to the cloud, and control any analog IoT devices from the cloud. Mist AP41 enables real time visibility and monitoring of traditional analog devices by monitoring the analog signal level on the IoT port.



The AP41 provides high accuracy enterprise-grade BLE location services using virtual beacons

AP41 Specifications

Appendix A: Mist Systems AP41 Technical Specifications

Features	Description
Gigabit Wi-Fi	Wave 2
Combined Highest supported data rates	2.5Gbps
2.4Ghz	4x4:4 802.11b/g/n/ac up to 800 Mbps data rate. 802.11ac for VHT capable Proprietary clients.
5Ghz	4x4:4 802.11a/n/ac Wave 2. upto 1700 Mbps data rate.
MIMO	Four spatial stream Single User (SU) MIMO for up to 1,733 Mbps wireless data rate to individual 4x4 VHT80 .
	Four spatial stream Multi User (MU) MIMO for up to 1,733 Mbps wireless data rate to up to three MU-MIMO capable client devices simultaneously
Dedicated Third Radio	2.4 GHz & 5 GHz dual-band WIDS/WIPS, spectrum analysis, & location analytics radio
Bluetooth	16 Directional Antennae + 1 Omni Antenna Bluetooth Array
Beam Forming	Transmit Beamforming and Maximal Ratio Combining
Power options	802.3at PoE 12V/3A DC power supply
Powering adaptor	100-240VAC, 50-60 Hz, input All regions (output): 12V/3A DC output
Dimensions	215mm x 215mm x 52mm (8.46in x 8.46in x 2.05in)
Weight	1.6 kg (3.53 lbs)
Operating temperature	Internal antenna 0° to 40° C External antenna -20° to 50° 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 1 – 10/100/1000BASE-T auto-sensing RJ-45 1 – 10/100/1000BASE-T auto-sensing RJ-45 USB2.0 IoT terminal block 12VDC
Indicators	Multi-color status LED
Compliance standards	UL 609501 CAN/CSAC22.2 No. 609501 UL 2043 FCC Part 15.247, 15.407, 15.107, and 15.109 RSS247 ICES003 (Canada)

I/O ports and Kensington lock

Features	Descriptions
Reset	Reset to the factory default settings
USB	USB2.0 support interface
12VDC	Support for the 12VDC power supply recommended by Mist
IoT	8-pin interface for digital input, digital output, analog input, and ground
Module	10/100/1000 BaseT RJ45 interface
Eth1	10/100/1000 BaseT RJ45 interface
Eth0+PoE	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