

Mist AP41 Access Point



Highest Performance Wi-Fi, Bluetooth® LE, and IoT

Mist built the first AI-driven wireless platform, designed specifically for the Smart Device Era. Mist's Learning Wireless LAN (WLAN) makes Wi-Fi predictable, reliable and measurable by providing unprecedented visibility into the user experience and by replacing time consuming manual IT tasks with proactive automation. In addition, Mist is the first vendor to bring Enterprise-grade Wi-Fi, Bluetooth® LE and IoT together to deliver personalized, location-based wireless services without requiring battery-powered beacons.

The Mist Learning WLAN consists of the following components:

Mist Marvis AI - Patent-pending machine learning algorithms adapt in real-time to optimize the wireless user experience. In addition, Marvis uses AI to proactively automate IT operations, provide real-time alerts, and predict problems before they arise.

Mist Cloud - All wireless deployment, setup, operations, and insight are handled via the Mist cloud, which was designed to provide unprecedented visibility and control at web scale. A microservices architecture provides maximum agility when rolling out new features/services.

Mist Access Points - The AP21, AP41 (detailed here), and AP61 are high performance, enterprise-grade Access Points for 802.11ac Wave 2 Gigabit Wi-Fi and Bluetooth® Low Energy. The Mist BT11 is an enterprise-grade Access Point exclusively for Bluetooth® Low Energy. To view other datasheets, go to www.mist.com/resources/datasheets/



	AP61	AP41	AP21	BT11
Deployment	Outdoor	Indoor	Indoor	Indoor
Wi-Fi	802.11ac Wave2 4x4:4	802.11ac Wave2 4x4:4	802.11ac Wave2 2x2:2	-
Wi-Fi Tri-Radio	✓	✓	✓	-
IoT Interface	-	✓	-	-
Antenna Options	Internal/External	Internal/External	Internal	Internal
Virtual Bluetooth® LE	✓	✓	✓	✓
Warranty	1 Year	Limited Lifetime	Limited Lifetime	Limited Lifetime



The Mist cloud, featuring a micro-services architecture, and powered by Marvis AI

Services available on the Mist Learning WLAN:

Wi-Fi Assurance Service	Virtual Network Assistant	BLE Engagement Service	BLE Asset Visibility Service
<ul style="list-style-type: none"> Predictable & Reliable Wi-Fi Proactive Operations Minimize Wi-Fi Costs 	<ul style="list-style-type: none"> Natural language queries, data mining, and feature ranking Simplified troubleshooting Proactive notifications 	<p>Push location-based information to mobile users, such as turn-by-turn directions and messages.</p>	<p>Immediately locate high value resources + analyze traffic patterns.</p>

Mist AP41 Features

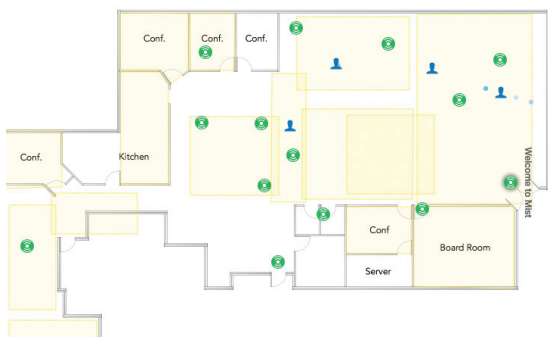
High performance Wi-Fi

The AP41 is a tri-radio 4x4 Access Point with maximum throughput of 1,730 Mbps in the 5GHz band and over 800 Mbps in the 2.4GHz band. The 3rd radio functions as a Network, Location, spectrum monitor and Security Sensor.

The AP41 supports internal and external antenna models.

High accuracy indoor location

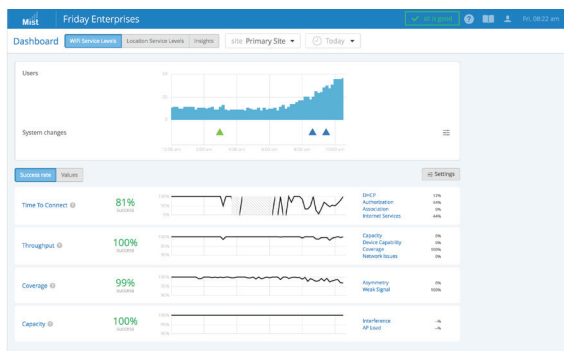
The AP41 has a 16-element Virtual Bluetooth® LE (vBLE) antenna array controlled from the Mist Cloud. Passive antennas enhance the power of a single transmitter and produce directional beams to accurately detect distance and location with 1 to 3 meter accuracy. With Mist's patented vBLE technology, you can deploy an unlimited amount of virtual beacons in your physical environment without requiring battery powered BLE beacons.



The AP41 works with the Mist cloud to provide high accuracy enterprise-grade Bluetooth® LE location services using virtual beacons

Unprecedented insight and action

A dedicated dual band radio collects data 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 cause of problems. 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).



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

Dynamic packet capture

The Mist platform automatically captures packets and streams them to the cloud when major issues are detected. This saves IT time and effort and eliminates the need for truck rolls with sniffers.

Client Events	47 Total	31 Good	7 Neutral	9 Bad	
Association	Scanner 2	12:25:56.827 AM, Jun 18			AP: Main, Server IP Address: 10.1.1.1
Fast BSS Assoc Failure	Scanner 2	12:25:48.458 AM, Jun 18			Reason: Failing DHCP DISCOVER from 5d:5d:25:10:10:d2 on wlan1 with Kd=1234567728: No DHCP Request seen from client in response to the Offer from the Server
IP Assigned	Scanner 2	12:25:47.318 AM, Jun 18			BSSID: 5d:5d:25:10:10:d2, SSID: Network 1, Subnet: 10.1.1.1/16, Transaction ID: 922349945
DNS OK	Scanner 2	12:25:45.023 AM, Jun 18			
Default Gateway ARP Success	Scanner 2	12:25:42.837 AM, Jun 18			
DHCP Stuck - Bind Failure	Scanner 2	12:25:39.947 AM, Jun 18			
Authorization	Scanner 2	12:25:39.207 AM, Jun 18			RSSI: -53
DNS OK	Scanner 2	12:25:38.104 AM, Jun 18			VLAN: 1
Fast Roaming 802.11R	Scanner 2	12:25:37.098 AM, Jun 18			Failure Count: 1
Reassociation	Scanner 2	12:25:36.098 AM, Jun 18			

Effortless, cloud-based setup and updates

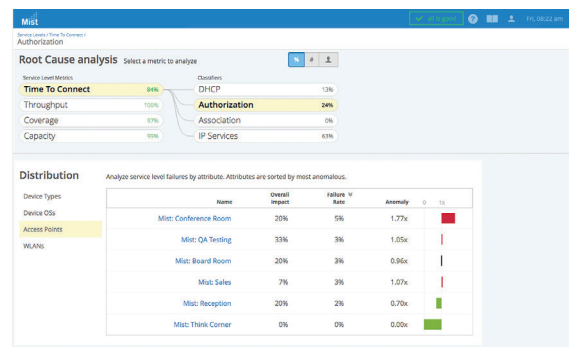
The AP41 automatically connects to the Mist cloud, downloads its configuration, and joins the appropriate network. Firmware updates are retrieved and installed automatically, ensuring that the network is always up to date with new features, bug fixes, and security updates.

Dynamic debugging

Constantly monitor services running on the AP41 and send alerts 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

The AP41's dual-band scanning mode continuously scans the airspace for threats and interference. This ensures optimal performance under what could otherwise be challenging RF conditions. The AP41's dual-band sensor continuously scans the airspace for threats and interference.



Mist AP41 Specifications

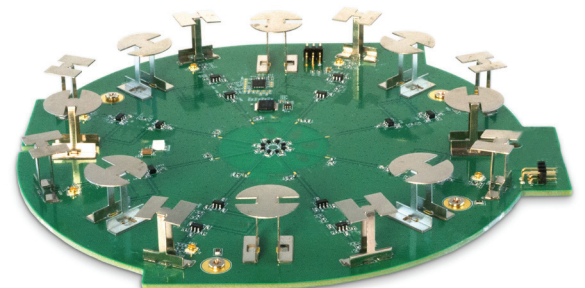
SPECIFICATIONS	AP41
Gigabit Wi-Fi	Wave 2
Combined Highest Supported Data Rates	2.5 Gbps
2.4Ghz	4x4:4 802.11b/g/n/ac up to 800 Mbps data rate. 802.11ac for VHT capable Proprietary clients..
5Ghz	4x4:4 802.11a/n/ac Wave 2 up to 1,700 Mbps data rate.
MIMO	Four spatial stream Single User (SU) MIMO for up 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 & ACCESSORIES	
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

ORDERING INFORMATION	
US/FCC Domain	AP41-US (Internal Antenna) AP41E-US (External Antenna)
Rest of the World	AP41-WW (Internal Antenna) AP41E-WW (External Antenna)



Mist AP41 Access Point



Mist Omni-Directional Bluetooth® Antenna Array