JUNIPER AP34 ACCESS POINT

Product Overview

The AP34 is a tri-band device with 2 spatial streams for transmitting and receiving data over three client-serving radios, with a fourth sensor radio dedicated to monitoring.

Juniper AI-Driven Network

The Juniper AP34 integrates Mist AI for AX capabilities and omnidirectional Bluetooth antenna to automate network operation and boost Wi-Fi performance for devices on your network in the 6 GHz (Wi-Fi 6E) band. Juniper's AI solutions for 6E helps support optimized operator and user experiences with secure client-to-cloud automation, insight, and AI-driven actions.

The Juniper AI-Driven Enterprise makes Wi-Fi predictable, reliable, and measurable, offering unprecedented visibility into the user experience through the use of unique service-level expectation (SLE) metrics. Proactive, AI-driven automation and self-healing replace time-consuming manual tasks, lowering Wi-Fi operational costs and saving substantial time and money. The AP34 is ideal for areas where you need a high-performance, tri-band access point but don't require advanced location-based services. All operations are managed using the open and programmable microservices-based Juniper Mist™ cloud architecture. The system delivers maximum network scalability and performance while also bringing DevOps agility to WLANs and location services.

The Juniper Mist Cloud Architecture

Our cloud-native, AI-driven microservices architecture delivers unparalleled agility, scale, and resiliency to your network. It lowers OpEx and delivers unprecedented insights into network performance, behaviors, traffic patterns, and potential trouble spots by using data science to analyze large amounts of rich metadata collected by Juniper Access Points.

Juniper Access Point Family

The Juniper enterprise-grade access point family consists of:

- AP45 Series and AP34, which support Wi-Fi 6E, 802.11ax (Wi-Fi 6), and Bluetooth LE
- AP43, AP12, AP32, AP33, and AP63 Series, which support 802.11ax (Wi-Fi 6) and Bluetooth LE

These access points are all managed by the real-time microservices based in Juniper Mist cloud.

The table below compares the supported major functions of the Juniper Wi-Fi 6E and Wi-Fi 6 access points to help in selecting the most appropriate model(s).

	AP45	AP34	AP43	AP63	AP33	AP32	AP12
Deployment	Indoor	Indoor	Indoor	Outdoor	Indoor	Indoor	Indoor Wall Plate/Desk Mount
Wi-Fi Standard	Wi-Fi 6E 802.11ax (Wi-Fi 6) 4x4 : 4SS	Wi-Fi 6E 802.11ax (Wi-Fi 6) 2x2 : 2SS	802.11ax (Wi-Fi 6) 4x4 : 4SS	802.11ax (Wi-Fi 6) 4x4 : 4SS	802.11ax (Wi-Fi 6) 5GHz: 4x4 : 4SS 2.4GHz: 2x2 :2SS	802.11ax (Wi-Fi 6) 5GHz: 4x4 : 4SS 2.4GHz: 2x2 : 2SS	802.11ax (Wi-Fi 6) 2x2 : 2SS
Wi-Fi Radios	Dedicated fourth radio	Dedicated fourth radio	Dedicated third radio	Dedicated third radio	Dedicated third radio	Dedicated third radio	Dedicated third radio
Antenna Options	Internal/External	Internal	Internal/External	Internal/External	Internal	Internal/External	Internal
Virtual BLE	✓	–	✓	✓	✓	–	–
IoT Interface	–	–	✓	–	–	–	–
IoT Sensors	Temperature, Accelerometer	Temperature	Humidity, Pressure, Temperature	–	–	–	–
Warranty	Limited Lifetime	Limited Lifetime	Limited Lifetime	One Year	Limited Lifetime	Limited Lifetime	Limited Lifetime
Frequencies Supported	2.4GHz 5GHz 6GHz	2.4GHz 5GHz 6GHz	2.4GHz 5GHz	2.4GHz 5GHz	2.4GHz 5GHz	2.4GHz 5GHz	2.4GHz 5GHz

Services Available for the Juniper AP34

Wi-Fi Cloud Services

Juniper Mist Wi-Fi Assurance

For IT and NOC Teams

- Predictable and Measurable Wi-Fi
- Service-Level Expectations (SLEs) Support
- WxLAN Policy Fabric for Role-Based Access
- Customizable Guest Wi-Fi Portal
- Radio Resource Management (RRM) Driven by AI

Marvis Virtual Assistant

For IT Helpdesk Teams

- AI-Powered Virtual Network Assistant
- Natural Language Processing Interface
- Anomaly Detection
- Client SLE Visibility and Enforcement
- Data Science-Driven Root-Cause Analysis

Bluetooth Cloud Services

Juniper Mist Mobile Engagement

For Digital Experience Teams

- Accurate (1-3m) Turn-by-Turn Navigation
- Sensor Fusion with Dead Reckoning
- Unsupervised Machine Learning
- Virtual Beacons with Custom Notifications
- Mobile SDK for iOS and Android

Juniper Mist Asset Visibility

For Process and Resource Improvement Teams

- Identification of Assets by Name and Location Visibility
- Zonal/Room Accuracy for Third-Party Tags
- Historical Analytics for Asset Tags
- Telemetry for Asset Tags (temperature, motion, and other data)
- APIs for Viewing Assets and Analytics

Analytics Cloud Services

Juniper Mist Premium Analytics

For Network Teams

- Baseline Analytics Features Come Included with Wi-Fi Assurance, Mobile Engagement, and Asset Visibility Subscriptions
- End-to-End Network Visibility
- Orchestrated Networking and Application Performance Queries
- Simplified Network Transparency

For Business Teams

- Baseline Analytics Features Come Included with Wi-Fi Assurance, Mobile Engagement, and Asset Visibility Subscriptions
- Customer Segmentation and Reporting Based on Visitor Telemetry
- Customized* Dwell and Third-Party Reporting for Traffic and Trend Analysis
- Correlation of Customer-Guest Traffic and Trend Analysis
- Correlated Customer-Guest Traffic and Trend Analysis

Access Point Features

High Performance Wi-Fi

The AP34 is comprised of tri-band, quad-radio 2x2 802.11ax with maximum data rates of 2400 Mbps in the 6GHz band, 1200 Mbps in the 5GHz band, and 575 Mbps in the 2.4GHz band. The fourth radio functions as a network, location, and security sensor, a synthetic test client radio, as well as a spectrum monitor. With 802.11ax Orthogonal Frequency Division Multiple Access (OFDMA), Multi-User Multiple Input Multiple Output (MU-MIMO), and BSS Coloring technologies, the AP34 offers performance at unprecedented levels to support new bandwidth-hungry applications and soaring device densities.

AI for AX

With the features 802.11ax (Wi-Fi 6) offers to boost performance and efficiency, configuring and operating an access point has grown far more complex. Juniper automates and optimizes these features with AI for AX capabilities to optimize BSS Coloring, improve data transmission scheduling within OFDMA and MU-MIMO, and assign clients to the best radio to boost the overall performance of the network.

Greater Spectral Efficiency

OFDMA improves spectral efficiency so that an increasing density of devices can be supported on the network. Density has become an issue with the rapid growth of IoT devices, which often utilize smaller data packets than mobile devices and hence increase the burden and contention on the network. Additionally, BSS Coloring improves the coexistence of overlapping BSSs and allows spatial reuse within a given channel by reducing packet collisions.

Automatic RF Optimization

Radio Resource Management automates dynamic channel and power assignment, taking Wi-Fi and external sources of interference into account with a dedicated sensor radio. The AI engine continuously monitors coverage and capacity SLE metrics to learn and optimize the RF environment. A learning algorithm uses hysteresis on a 24-hour window to conduct a sitewide rebalancing for optimal channel and power assignment.

Unprecedented Insight and Action

A dedicated, dual-band third radio collects data for Juniper's patent- pending Proactive Analytics and Correlation Engine (PACE), which uses machine learning to analyze user experiences, correlate problems, and automatically detect their root causes. These metrics are used to monitor SLEs and provide proactive recommendations to ensure problems don't occur (or are fixed as quickly as possible when they do). This radio also functions as a synthetic test client to proactively detect and mitigate network anomalies.

Improved IoT Battery Efficiency

By incorporating the 802.11ax target wake time (TWT) capability and Bluetooth 5.0, AP34 access points help extend the battery life of IoT devices, particularly as additional ones join the network.

Dynamic Debugging

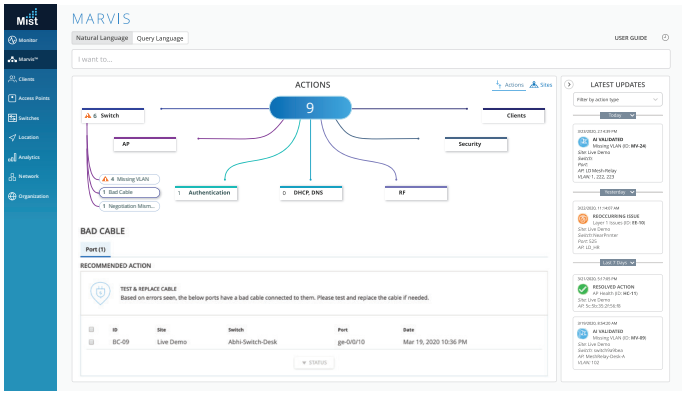
Constantly monitor services running on the AP34 and send alerts whenever a service behaves abnormally. Dynamic debugging relieves IT of having to worry about an AP going offline or any services running on it becoming unavailable.

Dynamic Packet Capture

The Juniper 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 to reproduce and capture data for troubleshooting.

Marvis Virtual Conversational Assistant

Marvis is a natural language processing (NLP)-based assistant with a Conversational Interface to understand user intent and goals, simplifying troubleshooting and the collection of network insights. It uses AI and data science to proactively identify issues, determine the root causes and scope of impact, and gain insights into your network and user experiences. It eliminates the need to manually hunt through endless dashboards and CLI commands.



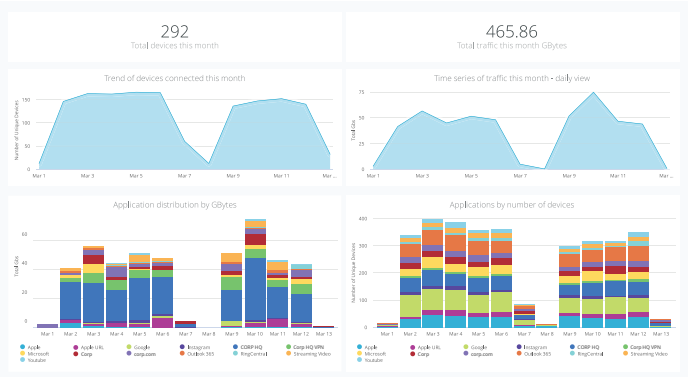
Effortless, Cloud-Based Setup and Updates

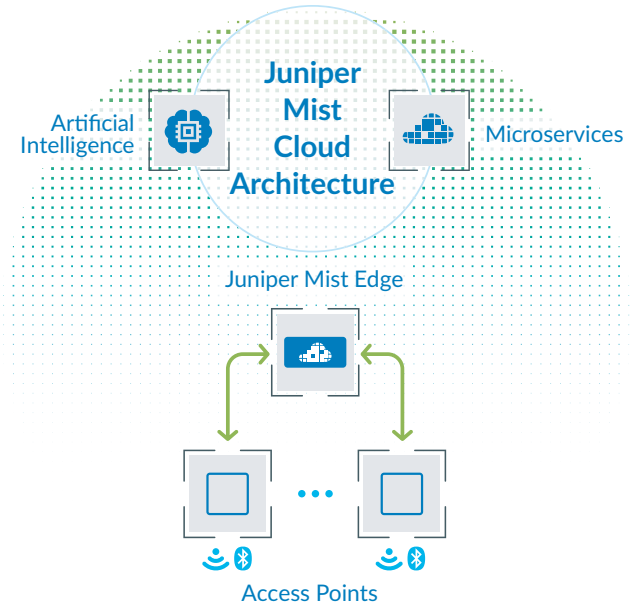
The AP34 automatically connects to the Juniper Mist cloud, downloads its configuration, and joins the appropriate network. Firmware updates are retrieved and installed automatically, ensuring that the network is always up to date with new features, bug fixes, and security updates.

*Juniper Mist Premium Analytics service subscription is needed

Premium Analytics

Our Wireless Assurance, User Engagement, and Asset Visibility services include a base analytics capability for analyzing up to 30 days of data, which enables you to simplify the process of extracting network insights across your enterprise. If you require dynamic insights like motion paths* and other third-party* data and would like the option of customized reports, the Juniper Mist Premium Analytics service is available as an additional subscription.





Juniper Mist Edge

Juniper Mist Edge is an on-premises appliance that runs a tunnel termination service. Juniper APs offer a flexible data plane. Traffic can be broken out locally, or tunneled to Juniper Mist Edge. There are many use cases the Juniper Mist Edge solves, including seamless mobility in large campus environments, tunneling of guest traffic to a DMZ, IoT segmentation, and teleworker. Learn more about Juniper Mist Edge.

AP34

Specifications

Wi-Fi Standard	802.11ax (Wi-Fi 6), including support for OFDMA, 1024-QAM, MU-MIMO, Target Wake Time (TWT), Spatial Frequency Reuse (BSS Coloring). Backwards compatibility with 802.11a/b/g/n/ac
Combined Highest Supported Data Rates	2.4 GHz / 5 GHz: 1.8 Gbps +6 GHz: 4.2Gbps
2.4 GHz	2x2 : 2 802.11ax up to 575 Mbps data rate
5 GHz	2x2 : 2 802.11ax up to 1,200 Mbps data rate
6GHz	2x2 : 2 802.11ax up to 2,400 Mbps data rate
MIMO Operation	Two spatial stream SU-MIMO for up to 1200 Mbps wireless data rate to individual 4x4 HE160 Two spatial stream MU-MIMO for up to 1200 Mbps wireless data rate to up to four MU-MIMO capable client devices simultaneously
Dedicated Fourth Radio	2.4GHz, 5GHz, and 6GHz tri-band WIDS/WIPS, spectrum analysis, synthetic client and location analytics radio
Internal Antennas (AP34)	Two 2.4GHz omnidirectional antennas with 4 dBi peak gain Two 5GHz omnidirectional antennas with 6 dBi peak gain Two 6GHz omnidirectional antennas with 6 dBi peak gain *Subject to change
Bluetooth 5.1	Omni Bluetooth Antenna
Beam Forming	Transmit Beamforming and Maximal Ratio Combining
Power Options	802.3at PoE, 802.3bt PoE *Reduced functionality on 802.3at / 802.3bt Boot up mode on 802.3af
Dimensions	230mm x 230mm x 50mm
Shipping Box	289mm x 268mm x 191mm
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)
Trusted Platform Module (TPM)	Includes a TPM for infrastructure security

Ordering Information

US/FCC Domain	AP34-US (Internal Antenna)
Rest of the World	AP34-WW (Internal Antenna)

I/O and Indicators

IoT Sensors	Temperature
USB	USB 2.0 support interface, 900 mA output
Eth0	100/1000/2500/5000Base-T (802.3bz); RJ45; PoE PD
Reset	Reset to the factory default settings
Indicators	One multicolor status LED
Traffic Forwarding Options	Eth0, Juniper Mist Edge

Mounting Brackets

APBR-U*	Universal bracket
APBR-ADP-M16	16mm threaded rod (M16-2)
APBR-ADP-T58	3⁄8" Threaded Rod
APBR-ADP-CR9	9⁄16" T-Rail, Channel Rail
APBR-ADP-RT15	15⁄16" T-Rail
APBR-ADP-WS15	1-1/2" T-Rail
APBR-ADP-T12	1/2" threaded rod

*The AP package includes one Universal Bracket. APBR-U is available separately as an accessory.

About Juniper Networks

At Juniper Networks, we are dedicated to dramatically simplifying network operations and driving superior experiences for end users. Our solutions deliver industry-leading insight, automation, security and AI to drive real business results. We believe that powering connections will bring us closer together while empowering us all to solve the world's greatest challenges of well-being, sustainability and equality.

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