

Juniper Mist™ Edge

Extending the power of the microservices cloud to the campus enables new applications at the network edge.

JUNIPER AI-DRIVEN ENTERPRISE

Juniper Mist has brought true innovation to the wireless space with the world's first AI-driven wireless LAN (WLAN).

Our AI-driven network makes Wi-Fi predictable, reliable, and measurable, offering unprecedented visibility into the user experience through customizable 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.

Juniper also brings enterprise-grade Wi-Fi, Bluetooth® Low Energy (BLE), and IoT together so businesses can increase the value of their wireless networks through personalized location services, such as wayfinding, proximity notifications, and asset location. With Mist's patented virtual BLE (vBLE) technology, no battery beacons or manual calibration are required.

All operations are managed via Juniper's open and programmable microservices cloud architecture driven by Mist AI™. This delivers maximum scalability and performance while also bringing DevOps agility to wireless networking and location services.

THE JUNIPER MIST CLOUD ARCHITECTURE

The Juniper Mist cloud relies on a microservices architecture to deliver unparalleled network scalability and resiliency. Our AI engine helps lower operational costs and delivers valuable network insights, using data science to analyze large amounts of rich metadata collected from Mist Access Points, Mist Edge appliances, and Juniper and third-party Ethernet switches.

JUNIPER ACCESS POINT FAMILY

The Juniper enterprise-grade access point family consists of:

- AP12, AP32, AP33, AP43, and AP63 Series, which support 802.11ax (Wi-Fi 6), Bluetooth LE, and IoT
- AP21, AP41, and AP61 Series, which support 802.11ac Wave 2, Bluetooth LE, and IoT
- BT11, which supports Bluetooth LE

These access points are all built on a real-time microservices platform and are managed by the Juniper Mist cloud.

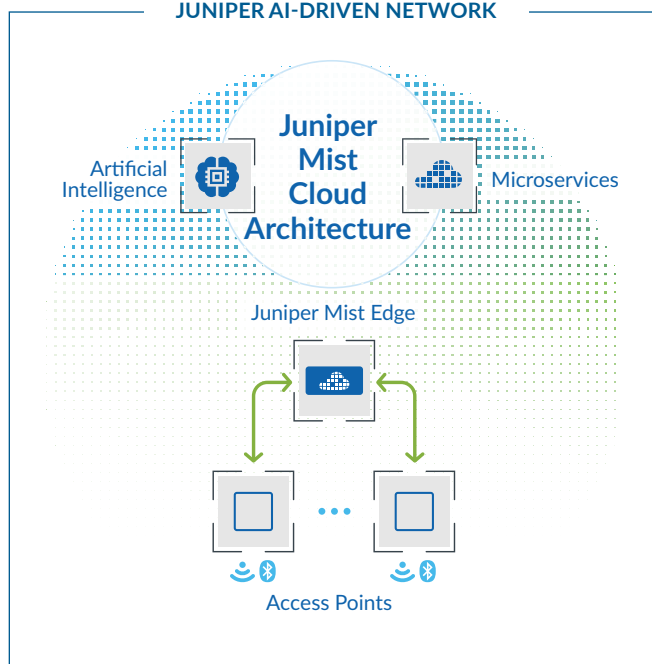
JUNIPER MIST EDGE

Some microservices require specific functions be handled on-premises, due to bandwidth, latency, or architecture requirements. Juniper Mist Edge extends select microservices to the customer premises while using the Juniper Mist cloud and its distributed software architecture for scalable and resilient operations, management, troubleshooting, and analytics. Now customers have the flexibility to deploy a hybrid architecture that extends processing and AI to the network edge.

The Juniper Mist Edge architecture offers several key benefits:

- Agility to develop and deploy new microservices rapidly
- Scalable platform to meet demands of small and large campuses
- Deployment and management simplicity, with zero-touch configuration and cloud management

JUNIPER AI-DRIVEN NETWORK



Juniper Mist Edge is deployed as a standalone appliance with multiple variants for different size deployments. A software-only virtual machine (VM) solution will be available in the near future for added design flexibility.

JUNIPER MIST EDGE APPLIANCE MODELS

Model	Max AP	Max Client	Max Throughput
ME-X1	500	5,000	2 Gbps
ME-X5	5,000	50,000	20 Gbps
ME-X5-M	5,000	50,000	40 Gbps
ME-X10	10,000	100,000	40 Gbps

TUNNELING MICROSERVICE

One of the microservices available on the Juniper Mist Edge platform is a tunneling service. It enables customers to make a seamless transition from their existing centralized data plane with legacy controller architectures to the modern microservices driven by the Mist AI cloud without affecting network design.

The access points use standards-based L2TPv3 technology to tunnel traffic to and from the Juniper Mist Edge for selected WLANs. This provides the network design flexibility to use a combination of distributed and centralized data planes, where needed, to meet customer requirements. A deployment with Juniper Mist Edge can support locally bridged and tunneled WLANs.

The service enables you to preserve the VLAN configuration at your edge switches while transitioning to a Mist microservices cloud architecture. You accomplish this by tunneling your traffic through a centralized cluster of Juniper Mist Edge devices while maintaining the ability to separate SSIDs and users onto different VLANs. The service also supports seamless mobility for devices running latency-sensitive applications, allowing them to maintain performance as they roam across the campus. A Juniper Mist Edge cluster will operate intelligently to deliver scalable and reliable performance by optimizing broadcast and multicast traffic delivery.

Configuration of the tunnels is also simplified through the power of the Juniper Mist cloud and its zero-touch provisioning capabilities.

There are several common use cases for the tunneling microservice:

- Seamless roaming for large campus networks through on-premises tunnel termination of traffic to/from access points
- Split tunneling for guest access and corporate traffic
- Dynamic traffic segmentation for IoT devices
- Extending VLANs to distributed branches and telecommuters to replace remote VPN technology

HIGH AVAILABILITY AND CLUSTERING

Juniper Mist Edge supports an elastically scalable cluster (with options for backup clusters) composed of an unlimited number of nodes within a cluster. The Juniper Mist Edge cluster design for the tunneling microservice is guided by the aggregate capacity considerations based on number of access points, number of clients, and throughput expectations.

SPECIFICATIONS

Interface	ME-X1: Dual-Port 1GbE (Data) and Dual-Port 1GbE
	ME-X5: Dual-Port 10GbE SFP+ (Data) and Dual-Port 1GbE
	ME-X5-M: Quad-Port 10GbE SFP+ (Data) and Dual-Port 10GbE SFP+
	ME-X10: Quad-Port 10GbE SFP+ (Data) and Dual-Port 10GbE SFP+
Power Supply	ME-X1: Single, Cabled Power Supply, 250W
	ME-X5: Dual, Hot-Plug, Redundant Power Supply (1+1), 750W
	ME-X5-M: Dual, Hot-Plug, Redundant Power Supply (1+1), 750W
	ME-X10: Dual, Hot-Plug, Redundant Power Supply (1+1), 750W
Dimensions	ME-X1: 17.1" (W) x 17.1" (D) x 1.75" (H)
	ME-X5: 18.98" (W) x 31.8" (D) x 1.69" (H)
	ME-X5-M: 18.98" (W) x 31.8" (D) x 1.69" (H)
	ME-X10: 18.98" (W) x 31.8" (D) x 1.69" (H)

To assess whether the Juniper Mist Edge is a fit for your AI-driven enterprise, please contact your local Juniper Mist partner or representative who can help you architect your next-generation network.