JUNIPER-MIST DELIVERS A FULL-ACCESS SOLUTION BUILT ON ARTIFICIAL INTELLIGENCE

An automated solution for unified wired and wireless networks powered by network insights and machine learning

Challenges

- *No visibility into issues adversely affecting users and devices*
- *Limited metrics across wired and wireless domains*
- *Manual configuration and management processes causing inefficiencies*
- *Lack of accountability when disparate solutions are deployed across the IT stack*

Solution

Juniper's AI-Driven Enterprise delivers an integrated solution that enables seamless access at the edge, offering a complete wired and wireless portfolio of enterprise-grade network and security infrastructure that ensures a best-in-class user experience.

Benefits

- *Visibility into the user's wired and wireless experience empowers IT*
- *AI-driven actions for proactive recommendations*
- *API-based automation saves time and money*
- *Operational efficiencies through automation enable rapid fault isolation and troubleshooting.*

A paradox exists in the business world: while IT's strategic importance is growing, budgets are shrinking, challenging companies to do more with less. As a result, IT organizations are seeking solutions that allow them to move from reactive to proactive, from network-centric to user-centric, and from manual to automated in order to mitigate downtime and reduce the need for human intervention.

Mist Systems, a Juniper Networks company, automates several key elements of the IT stack, creating a powerful, cohesive solution that ensures a superior end-user experience—from the wireless edge, across the wired LAN, to the WAN. The AI-driven platform delivers end-to-end visibility, simplicity, and exceptional performance to streamline IT operations.

The Challenge

While wired and wireless networks are more business-critical than ever, they are also harder than ever to operate given the sheer number of mobile devices and Internet of Things (IoT) resources—not to mention the extensive variety of hardware, operating systems, and applications currently in use. Traditional architectures—highly manual and network-centric—lack the scale, flexibility, and end-to-end visibility required to support today's users and the IT departments that manage them.

The Juniper Networks-Mist Solution

Mist Systems is leading the transition in AI for IT™, delivering a seamless, end-to-end solution for the modern enterprise: one that offers deep insights into the wired and wireless network while supporting traditional architectures.

Juniper-Mist delivers an elastic, simplified architecture with distributed intelligence that optimizes performance, security, resilience, and management for dense, heavily utilized networks hosting large numbers of mobile devices. With the AI-driven Mist cloud, users experience consistent levels of performance, security, and reliability when accessing resources, whether they connect via a wired or wireless network. Users can work from anywhere and on any device; the intelligent network delivers a consistent experience to all users whether they are at corporate headquarters, in a branch or a remote office, at home, or on the road.
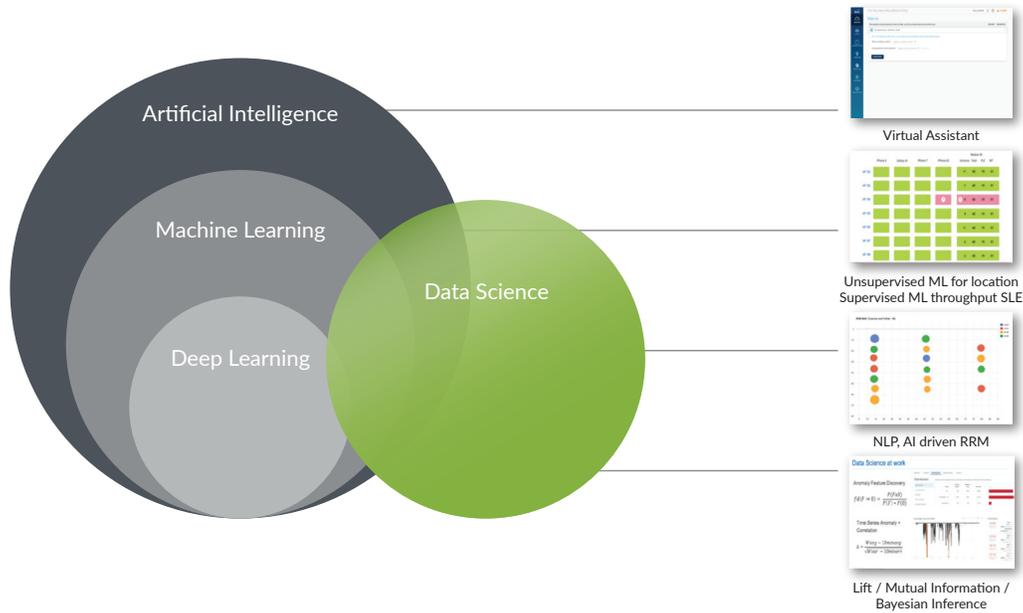
Figure 1: Mist advanced AI solution components

Features and Benefits

The best-of-breed, full-access AI-Driven Enterprise solution delivers:

- Predictable, reliable, and measurable network access with visibility into the user experience
- Consistent network segmentation and security across both wired and wireless infrastructure
- Operational simplicity with automation that saves time and money while eliminating manual errors
- High-value, location-based services such as advertisements, wayfinding, messaging, and asset location

Solution Components

Mist built the first AI-driven wireless LAN (WLAN) designed specifically for the smart device era. The Mist Learning WLAN makes networking predictable, reliable, and measurable by providing unprecedented visibility into the user experience and replacing time-consuming manual IT tasks with proactive automation. Mist was also the first vendor to merge enterprise-grade Wi-Fi, Bluetooth Low Energy (BLE), and IoT to deliver personalized, location-based wireless services without requiring battery-powered beacons. All operations are managed via Mist's modern cloud architecture for maximum scalability, agility, and performance (see Figure 2).

The Mist Cloud combines AI automation with microservices agility to:

- Deliver feature velocity with seamless upgrades that take minutes instead of months.
- Provide full programmability via open APIs for proactive automation and easy integration with third-party or in-house applications.
- Adapt in real time to changes in user, device, and application behavior for predictable, reliable Wi-Fi and accurate location services.
- Monitor network trends in real time and send alerts when service levels degrade.
- Make recommendations for troubleshooting and proactive configuration changes.

Cloud services include:

- **Wi-Fi Assurance:** Includes user service levels, automated event correlation for troubleshooting, dynamic packet capture, policy configuration, guest WLAN access, and more.
- **Wired Assurance:** Leverages rich Junos® switch telemetry to enable simpler operations, shorter mean time to repair (MTTR), and better visibility into end-user experiences for your connected devices, including access points, servers, and IoT endpoints.
- **Premium Analytics:** Provides network visibility and insights into network and business operations while overcoming complex challenges associated with the influx of big data from the multitude of network and client end points, driving a digital transformation.
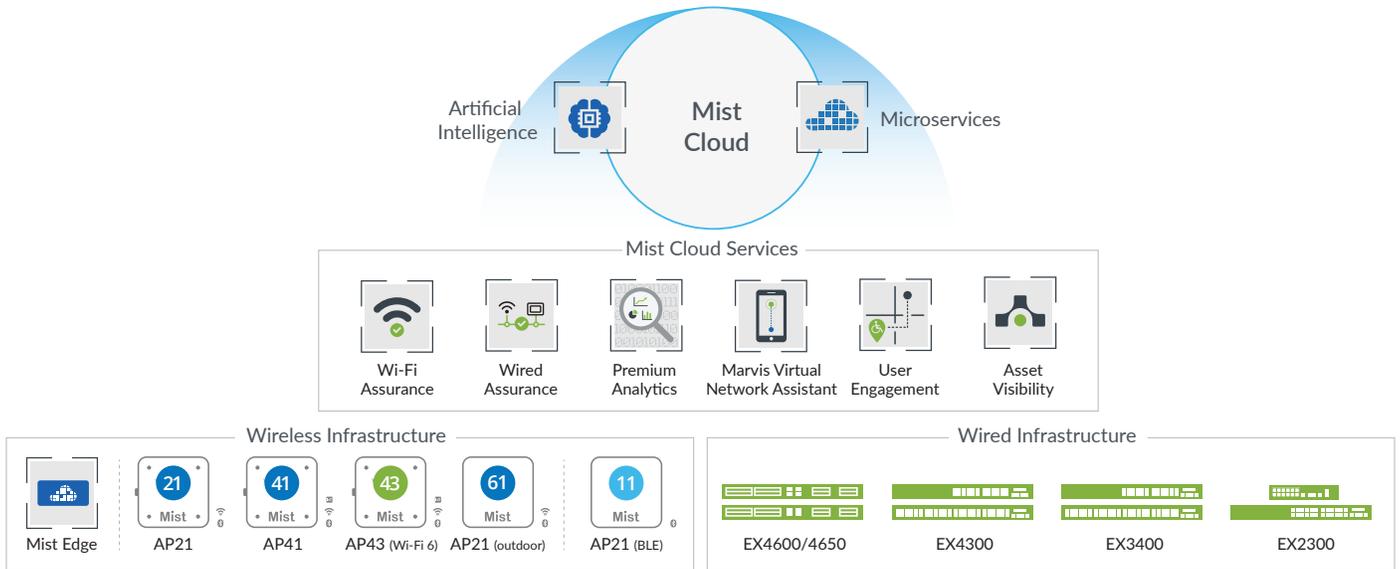
Figure 2: The AI-driven access solution

- **Marvis Virtual Network Assistant:** The AI engine that simplifies troubleshooting and streamlines the helpdesk with natural language queries and self-driving actions to automatically remediate issues. Marvis is one step towards the Self-Driving Network, turning insights into actions and fundamentally transforming IT operations from reactive troubleshooting to proactive remediation.

- **Mobile User Engagement:** Pushes location-based information such as turn-by-turn directions and proximity notifications to mobile users.

- **Asset Location:** Finds high-value resources such as shipping pallets, wheelchairs, security personnel, and the like.

The Wired and Wireless Infrastructure consists of:

- Mist Access Points deployed on premises for Wi-Fi, BLE, and/or IoT access

- Cloud-grade switching with Juniper Networks® EX Series Ethernet Switches

- Enterprise-grade security with Juniper Networks SRX Series Services Gateways with unified threat management, next-generation firewall services, and dynamic threat intelligence

Summary—Automating the IT Stack

Juniper-Mist automates several key elements of the IT stack, creating a powerful, cohesive solution that ensures a superior end-user experience—from the wireless edge, across the wired LAN, to the WAN. The AI-driven access solution delivers end-to-end visibility, simplicity, and exceptional performance to streamline IT operations.

Today's enterprise networks support a large number of Wi-Fi-connected users and devices, as well as applications deployed in public, private, and hybrid clouds. Users demand the same seamless network experience no matter how they are connected or where their applications reside.

Organizations are also looking to deploy location-based services to enhance the user experience and monetize value-added services. The joint Juniper-Mist solution combines network intelligence with artificial intelligence and deep-learning insights to deliver a remarkable user experience, enabling IT organizations to deploy value-added services through automation.

Next Steps

To learn more about the joint Juniper-Mist solution, please contact your Juniper Networks representative or visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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