OVERVIEW

Mist built the first AI-driven networking platform, designed specifically for the digital era. Now, with this Mist Learning platform, you can think centrally and act locally through a combination of cloud-based intelligence and enterprise-grade Access Points and Juniper Enterprise Switches. Revolutionary machine learning technology simplifies wireless and wired operations and delivers a more agile cloud services platform for today’s digital world.

The Mist platform is built on a modern microservices cloud architecture, which enables elastic scale to meet your changing wired and wireless access LAN infrastructure market requirements, focusing on operational simplicity, 100% API-based programmability, and customer engagement through location-based services.

There are currently two Mist Cloud Subscription Services categories, enterprise networking and location, available for your Mist APs and Juniper switches. This SaaS model enables you to select your services based on your growing business requirements, decoupling the costs from the hardware platform, and allows flexibility, ability to add/remove services, as your business needs change. Each cloud subscription includes software updates, upgrades, cloud management, for the licensed indoor access points and Juniper EX Series Switches.

The Mist services are 100% programmable with all functions (provisioning, monitoring, alerts) available through open APIs that enables you to integrate with your IT applications to automate your network and line of business operations.

The following table summarizes the key benefits or features of each service.

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<thead>
<tr>
<th>Wi-Fi Assurance</th>
<th>Wired Assurance</th>
<th>Virtual Network Assistant</th>
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<tr>
<td>For IT and NOC Teams</td>
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<td>For IT Helpdesk</td>
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<tr>
<td>• Data science driven predictable and measurable Wi-Fi</td>
<td>• Wired Service Level Expectations (SLE) to measure wired user experience metrics, including IoT endpoints, for pre/post-connection and performance.</td>
<td>• AI-powered Natural Language Processing (NLP interface offers real-time trouble-shooting and reactive insights)</td>
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<td>• Service Level Expectations (SLE) – Site and AP granularity</td>
<td>• Proactive anomaly detection that translates root cause to automated actions for remediating wired issues.</td>
<td>• Marvis Actions offers proactive insights and self-driving network capabilities via AI</td>
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<td>• Network rewind and dynamic packet capture</td>
<td>• Virtual Network Assistant (VNA) Services now includes insights and predictive data into the wired domain.</td>
<td>• Anomaly Detection proactively identifies and alerts administrators when service levels or events deviate from the baseline</td>
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<td>• User insights</td>
<td>• Self-driving Network capabilities of translating root cause to automated actions is now extended to Juniper EX Series Ethernet Switches.</td>
<td>• Per Client Service Level Expectation offers instrumental client level visibility</td>
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<td>• Device and App fingerprinting</td>
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<td>• Provides health statistics for multi-vendor wired switching infrastructure (e.g., firmware mismatch, missing VLANs, PoE compliance and more)</td>
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<td>• WxLAN Policy Fabric for role based access</td>
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<td>• AI-Driven radio resource management</td>
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<td>• Active &amp; passive Wi-Fi location based analytics</td>
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<tr>
<td>• 100% API based platform for provisioning, configuration, monitoring</td>
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1 This feature requires customers to purchase a separate Marvis Virtual Network Assistant Service.  
2 Juniper Networks EX Series - Access & Aggregation Switches
Set, monitor and enforce service levels. Setup and track service level thresholds for key wireless criteria (pre- and post-connection metrics), such as time to connect, capacity, coverage, and throughput. At any given time, you can see how your network is performing against Service Level Expectations (SLE), with deep visibility, including location context into impacted users, applications, and devices.

Comprehensive network performance and SLE dashboard analytics. In addition to proactively correlating events and providing remediation recommendations, the platform also provides a daily and weekly trend of the SLE metrics. These reports provide unprecedented visibility over the last week for longer term trend analysis into anomalies seen at the AP, device, application or OS. The current set of available SLEs are: Time to Connect, Successful Connects, Throughput, Roaming, Coverage, Capacity, AP Uptime, WAN.

Simple root cause analysis and remediation. Mist dynamically collects information from all endpoints (over 150 state changes are captured for each client device and access point every few seconds), and correlates it for quick wireless, wired, and device problem identification. Predictive recommendations and automated workflows let you quickly remediate problems or prevent them entirely. This root cause analysis feature can be further enhanced with the Virtual Network Assistant Service added capabilities.

Network rewind and dynamic packet capture. The Wi-Fi Assurance Service automatically detects and starts capturing packets when an anomaly is detected. With this record, you are able to rewind back in time to see what was going on exactly when the event occurred, while eliminating hours or days spent with guess work or reproducing issues to capture the data.

Client Profiling. Mist profiles clients for device types, operating systems, applications, location, and user role. This enables the Mist WxLAN to auto detect printers, Apple TV’s and other IoT devices. This enables automatic detection and categorization of endpoints for security and audit reasons, without requiring any manual database management.

AI-Driven Radio Resource Management. Unlike other solutions, Mist uses data science and cumulative SLE performance to learn and better radio settings to assure performance, while also instantaneously adapting to intermittent outside interference. The AI-driven RRM will take coverage and capacity anomalies based on client experience (SLE metrics) and proactively feed this into the RRM decisions, so that the RF planning continues to improve and adapt in changing environments that often occur in today’s digital workplace.

WxLAN Policy creation and enforcement. Mist delivers operational simplicity by allowing you to create policies for role, device type, and user-based access on the network with an inline policy engine - WxLAN. Global labels created for physical and logical resources (users, WLAN, AP, IP addresses, IP subnets, applications) enable policies to be enforced at the edge on the Access Points.

Guest Portal. Mist enables customers to create custom guest portals that can optionally include: terms of service, email/text login or even social media login to help boost customer engagement.

Personal WLAN. Create your own personal wireless network (with personalized preshared key) through a self-serve portal, for a secure network for usage. This can be used to secure IoT and guest traffic as well as provide a scalable solution for multi-tenant networks.

With the Wi-Fi Assurance Service, the Mist AI-driven WLAN solution is the platinum standard for any digital deployment, helping you deliver a dynamic user experience while simplifying management, planning, and troubleshooting for your IT team. This service includes the complete wireless, security, guest access, and network management functions with a single subscription.
Mist’s machine learning, which powers Wi-Fi Assurance Service, is now powering Mist’s Wired Assurance Service across Juniper Networks EX Series Ethernet Switches. As part of the industry’s first and only self-driving access network powered by AI, Mist Wired Assurance Service brings automated operations and service levels to Juniper enterprise switching customers via the Mist cloud.

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**Proactive Anomaly Detection.** Deliver proactive anomaly detection and translates root cause to automated actions for remediating wired issues. Like in Wi-Fi assurance, you simplify and automate key root cause issues and avoid the legacy, painful manual experiences.

Deliver rich telemetry data to the Mist Cloud platform, powering AI and data science.

Supporting the following Juniper Systems EX Ethernet Series Switches:
- EX2300-C/EX2300-C
- EX2300 Multigigabit
- EX3400
- EX4300
- EX4300 Multigigabit
- EX4600
- EX4650

**Switch insights.** Get switch insights from GPU to temperature and power supply on/off information. Receive performance series data from bytes to memory utilization along with real-time status data on number of Mist APs and wireless endpoints connected.
Virtual Network Assistant (VNA) is an AI-driven network assistance service. Via Natural Language Processing (NLP) or Marvis Actions, everyday troubleshooting and network performance analysis for network administrators and help desk staff are simplified or reported for prioritized tasks.

Get insights and troubleshoot by asking Marvis questions. With Marvis’ NLP interface, troubleshooting is accelerated by eliminating the need to pull up multiple dashboards or issue numerous CLI that are warranted from today’s competing solutions. And getting insights into how the network or endpoints are performing is simplified, helping you better understand your environment. Simply ask the system how many endpoints of a certain type/OS are connected, giving you insights into your employee and guest BYOD devices to help in support or development planning. VNA, which can possibly answer network health questions faster than a person, is like having a virtual network expert on your team who combs through the data and logs to determine root causes of issues.

Marvis Actions. It brings Marvis AI-engine’s transformational concept of the self-driving network to IT teams. It identifies the root cause of issues across the IT domains (WLAN, LAN, WAN and Security) and automatically resolves most issues. Additionally, it recommends actions (akin to driver-assist mode) for those connected systems outside of the Mist domain while offering a real-time network health dashboard that reports issues from configuration to troubleshooting.

Anomaly Detection. VNA adds anomaly detection to the Mist SLE dashboard so that administrators can rapidly identify services impacting events and, then quickly identify and resolve the root cause of issues. With our API driven interface, detected anomalies can even trigger external events such as creation of a help desk ticket, without manual intervention.

Per Client Service Level Expectations. Complementing Mist’s two assurance services, VNA provides continuous behavioral analytics and network traffic analysis to each client using machine learning. Having the ability to track clients and their trends gives IT deeper insights for troubleshooting and planning. More importantly, Mist’s open API framework can trigger automated workflows so you can rapidly solve (or avoid) wired, wireless and device problems.

Root Cause Analysis. Access to a root cause analysis summary tab that leverages Marvis AI insights to identify the causes and scope of impact for issues that have occurred. This simplifies helpdesk operations.

Wired Switch Health. Delivers health statistics for multivendor switches including:
- Switch Firmware Compliance
- Switches – AP Affinity
- Power Compliance
- Inactive Wired VLANS
- Switch outage blast radius to mobile users

Note: the VNA service requires that you also subscribe to either the Wi-Fi Assurance or Wired Assurance base licenses.