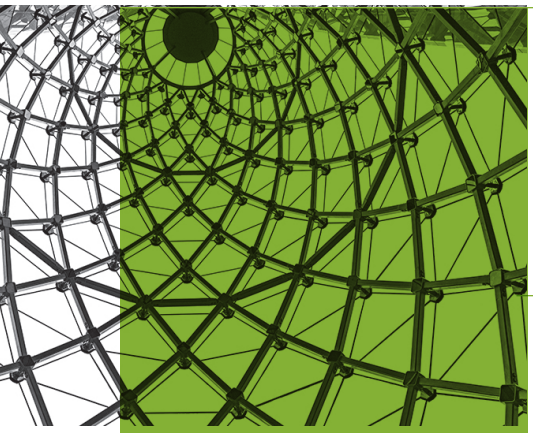

JUNIPER MIST™ WIRED ASSURANCE FOR FEDERAL GOVERNMENT

Product Overview

Juniper Mist™ Wired Assurance brings the power of Mist AI to switching. It's a different approach to network management, focusing on user and device experiences rather than network uptime. Wired Assurance delivers unparalleled user experiences for campus switching with simpler operations, shorter mean time to repair, and better visibility into connected devices.

Product Description

Juniper Mist Wired Assurance is a cloud service that brings automated operations and service levels to federal agency and department campus switches, IoT devices, access points, servers, printers, and other equipment. It simplifies every aspect of wired switching, from Day 0 for seamless onboarding and auto-provisioning through Day 2 and beyond for operations and management. Juniper EX and Juniper QFX Series Ethernet Switches provide rich streaming telemetry through the Junos® operating system, which enables insights into what the switch is experiencing and how it is doing.

Marvis Virtual Network Assistant (VNA) complements Wired Assurance by using Mist AI to simplify and troubleshoot network operations with self-driving actions that automatically remediate issues. Marvis enables teams to shift from reactive troubleshooting to proactive remediation by turning insights into automated actions as part of the Self-Driving Network™.

Juniper Mist cloud services are 100% programmable, using open APIs for full automation and/or integration with your IT applications.

Day 0/Day 1: Single-Click Activation and Autoprovisioning of EX Switches

One-Step, Simplified Onboarding. With true plug-and-play capabilities, the wired switches can be onboarded by the cloud with a single activation code. Network admins can get visibility into switch metrics and service levels for wired devices within a few minutes.

Existing ("brownfield") EX deployments can take advantage of Wired Assurance as well, once adopted to the cloud.

Configurations Models. Enable consistent configurations via global templates through the cloud with the flexibility to configure specific switch and site attributes. Dynamic port profiles for colorless ports add another dimension of plug-and-play, where the Juniper Mist cloud can automatically detect the type of device plugged into the switch and apply the relevant port profiles. This helps to drive consistency and commonality across a number of sites, while streamlining bulk deployment rollouts.

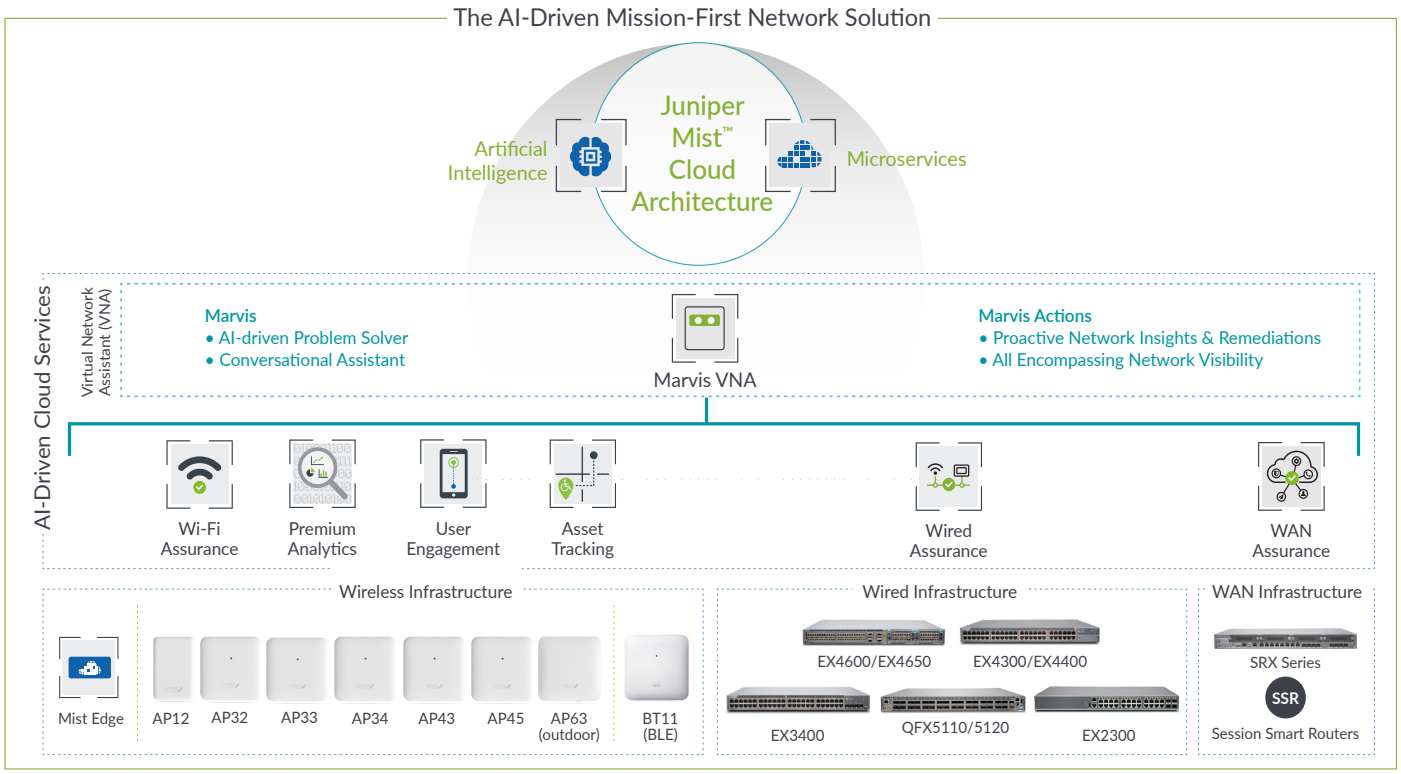

Figure 1: AI-Driven Mission-First Network portfolio overview

AI-Driven Campus Fabric with Juniper Mist Cloud. Wired Assurance brings cloud management and Mist AI to campus fabric. It sets a new standard, moving away from traditional network management towards AI-driven operations, while delivering better experiences to connected devices.

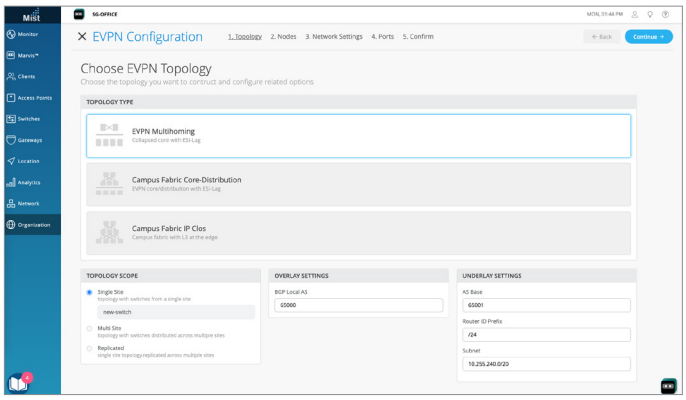

Figure 2: EVPN multihoming configuration via Juniper Mist cloud

Device, Port, and Interface Profiles. Port profiles provide a convenient way to manually or automatically provision switch interfaces. For the static provisioning of color ports, users can manually assign profiles to specific port ranges and odd/even ports. Dynamic port profiles allow users to simply plug the client device into any port. Port profiles and policies that have been configured by users can be automatically applied to wired devices (access point, corporate device, IoT device, and others.) based on LLDP, RADIUS name, or manufacturer OUI attributes.

Open APIs for Third-Party Integrations. Proactively monitor the network with the power of 100% programmable APIs for fully automated activation, onboarding, and configuration. Juniper Mist APIs are open and seamlessly integrate with third-party systems like ServiceNow and Splunk, which support APIs for automated ticketing, troubleshooting, and more.

Day 2 and Beyond: AI-Driven Operations

Wired Service Level Expectations (SLEs). Get operational visibility into the wired experience with SLEs for Juniper EX and QFX Switches. Enforce throughput, successful connects, and switch health with pre- and post-connection performance metrics. Pre-connection shows the number and time of successful connects and authentication, while post-connection measures throughput and detects STP loops, interface errors and congestion—all in one dashboard. SLEs help to measure and manage networks for simplified troubleshooting and proactive anomaly detection.

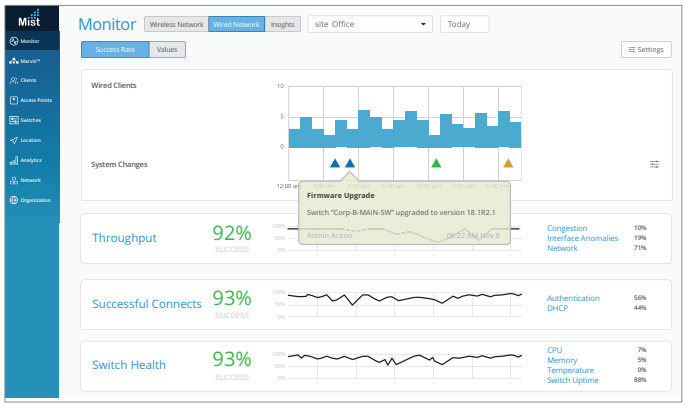

Figure 3: Juniper Mist Wired Assurance service-level expectations

AI-Driven Switch Insights. Know exactly how Juniper EX and QFX Switches are performing with detailed device-level switch metrics and insights such as CPU, memory utilization, and virtual chassis status, You can also see metrics down to the port level, including bytes transferred, traffic utilization, and power draw. You'll receive performance series data and real-time status data for connected endpoints. Wired Assurance also logs and correlates switch events, like configuration changes, firmware updates, and system alerts. When admins hover over switch ports on the management interface, status details pop up about wired clients, access points, and connectivity, such as connected speed, PoE status, and throughput.

Figure 4: Switch health metrics

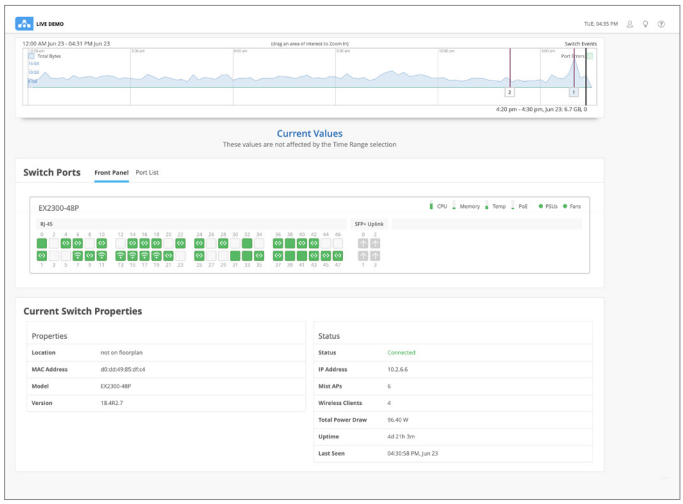

Figure 5: Switch level insights

Wired Client Health Metrics. See an inventory of switches and wired devices in a list, topology, or location view. Wired Assurance ensures optimal network operations with key health metrics, such as switch firmware compliance, switch AP affinity, PoE compliance, and missing VLANs. These metrics are available for multivendor environments across third-party wired switches with a Juniper access point and Marvis license. The addition of BPDU Guard and MAC limit hit error identification enhances the ease of administrating port security at scale.

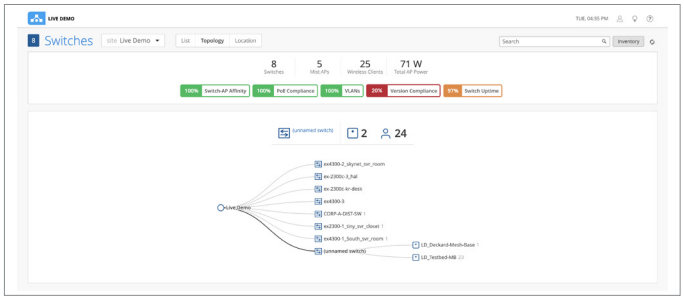

Figure 6: Wired Assurance topology view

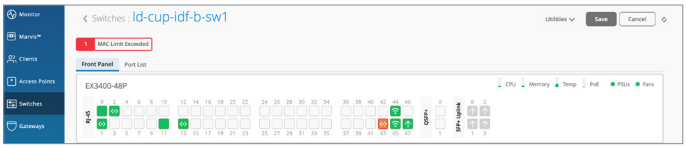

Figure 7: Wired Assurance MAC limit exceeded warning

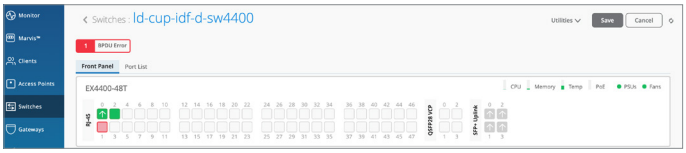

Figure 8: Wired Assurance BPDU Guard error

Marvis Virtual Network Assistant. Marvis complements Wired Assurance and takes operations towards The Self-Driving Network™ with simplified troubleshooting and performance analysis for helpdesk staff and network administrators. Simply ask a question in natural language and get actionable insights. Marvis brings proactive anomaly detection into the SLE dashboard so users know when there are deviations from established baselines. And with Marvis Actions, users get proactive recommendations for wired issues such as missing VLANs, bad cables, port negotiation mismatches, persistently failing clients, and detection of L2 loops.

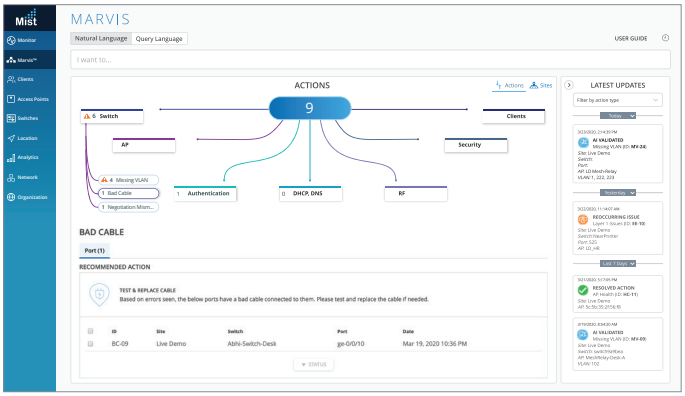

Figure 9: Marvis Actions for wired switches

Network Insights. Wired Assurance includes a base analytics capability for analyzing up to 30 days of data, which simplifies the process of extracting network insights from data and analytics across your agency or department. Review your network throughput peaks to properly align your support resources. If you want to extend these capabilities to third-party network elements, consume up to one year of data, and gain the option of generating customized reports, Juniper Mist Premium Analytics is available as an additional service.

Juniper EX and QFX Switches. The EX and QFX Switches are high-performance, cloud-ready access and aggregation/core layer switches designed for enterprise branch, campus, and data center deployments. As the infrastructure foundation for the network of the next decade, the feature-rich EX and QFX Switches deliver simple and secure connectivity at scale driven by Mist AI. The following EX and QFX Switches running Junos 18.2 and beyond are supported with Wired Assurance:

- EX2300, EX2300-C, EX2300-MP
- EX3400
- EX4300, EX4300-MP
- EX4400, EX4400-MP
- EX4600
- EX4650
- QFX5110
- QFX5120

Next Steps

Juniper has extensive experience working with federal agencies and supporting their specialized network and security requirements. We offer IC/DoD-certified solutions for missions that demand unfailing network performance.

Juniper Federal Services are designed to provide an enhanced, secure, end-to-end U.S.-based customer support experience, including Advanced Care Service, Advanced Care Plus Service, Premium Care Service, Flexible Services Credit, and High Security Return Materials Authorization and Non-Return Service.

Contact your federal account manager for more information.

To learn more about Juniper solutions for federal, visit www.juniper.net/us/en/solutions/federal-government.html.

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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