

Orange
Cyberdefense
Live 2022

Ahead of the storm in healthcare

Technology partner of the day:

JUNIPER
NETWORKS





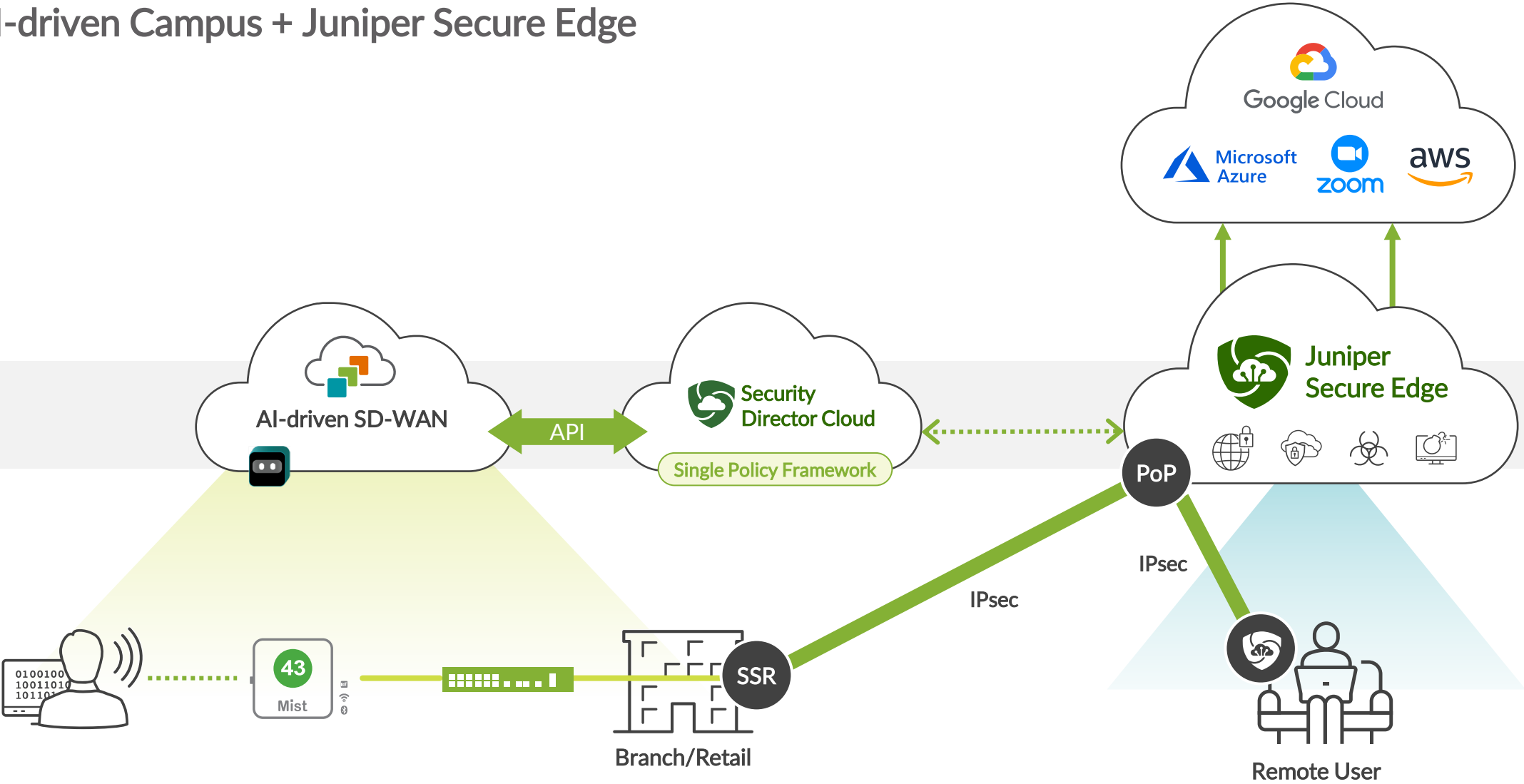
CLIENT-TO-CLOUD, USER EXPERIENCE FIRST

Alain Levens
Consulting Engineer AIDE

JUNIPER
NETWORKS | Driven by
Experience™

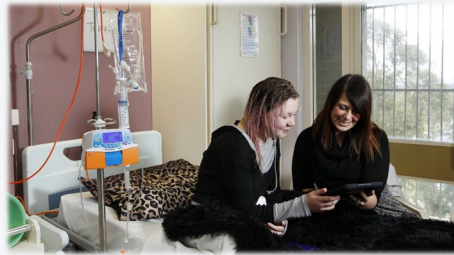
Client-to-cloud Insight and security

AI-driven Campus + Juniper Secure Edge



It starts with user experience - Devices used in Healthcare

Diversity in devices – *Hospital processes & Staff Wi-Fi / Patient & Guest access / Patient supporting devices*



Digital transformation starts with the network



Fastest rollout



Fewest tickets



Best business outcomes

Automated, no mistakes

- Compatible with Cisco brackets
- Zero touch provisioning
- Fewer templates, more flexibility
- Automated IoT onboarding

Better network operations

- Fewer tickets and less site visits
- Fastest Mean Time To Resolve (MTTR) and self healing
- AI Driven operations, proactive support and root-cause analysis
- Easy integration with 3rd parties

Platform for digital innovation

- Measure and metric user experience
- Digital customer/guest/staff engagement
- Integrated location services
- The right architecture for growth and agility

AI & Machine Learning for....



...with Operational Simplicity and Microservices Cloud

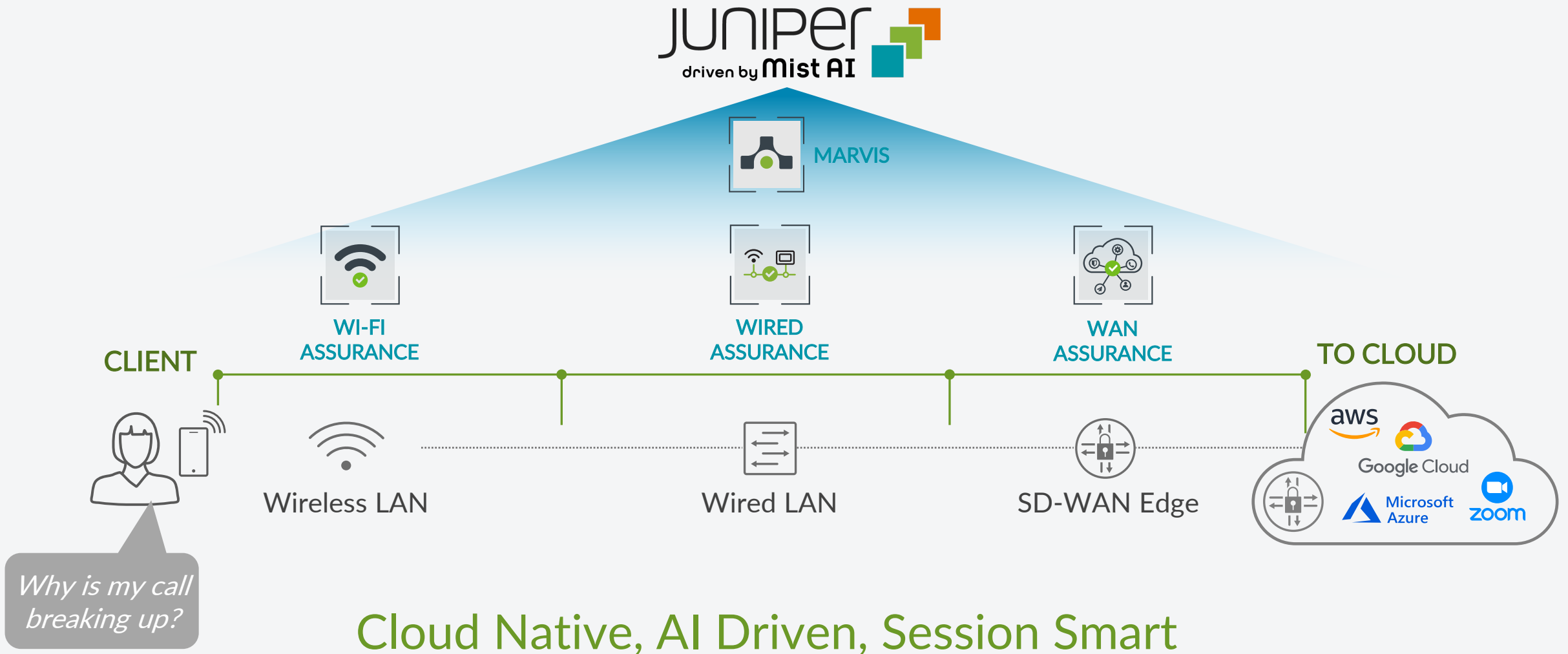
...Visibility and Measurable Results on User Experience

JUNIPER
driven by **Mist AI**

Ready and Available now!

AI-Driven Enterprise Solutions (AIDE)

User experience first - driven by Mist AI



AI-driven campus portfolio



AI-Driven Cloud Services

Virtual Network Assistant

Marvis

- AI-driven Problem Solver
- Conversational Assistant



Marvis Actions

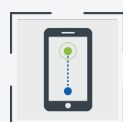
- Proactive Network Insights & Remediations
- All Encompassing Network Visibility



Wi-Fi Assurance



Premium Analytics



User Engagement



Asset Tracking



IoT Assurance



Wired Assurance



WAN Assurance

Wireless Infrastructure



Mist Edge



AP12



AP32



AP33



AP34



AP43



AP45



AP63 (outdoor)



BT11 (BLE)

Wired Infrastructure



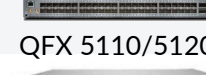
EX4600/4650



EX4300



EX4400



QFX 5110/5120



EX4100, EX4100-F



EX2300



EX3400

WAN Infrastructure

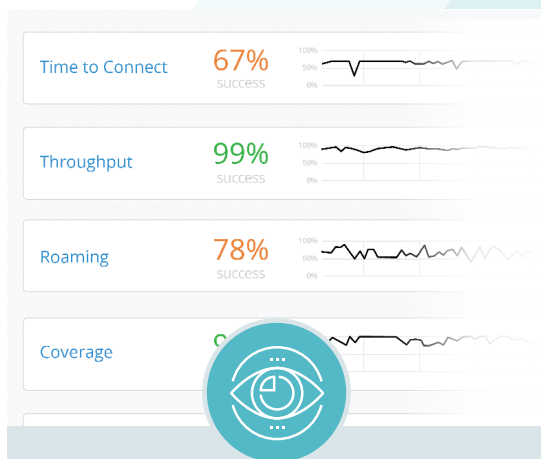


SRX



Session Smart Routers

Digital transformation starts with the network



Client Level
Visibility



AI-driven Operations
and Support



Microservices Cloud
for Agility



Digital Engagement
with Virtual BLE

UNDERPINNED BY A 100% OPEN API DRIVEN ARCHITECTURE

Delivered Across the Full Stack

Client level visibility for Wi-Fi, Wired, and WAN

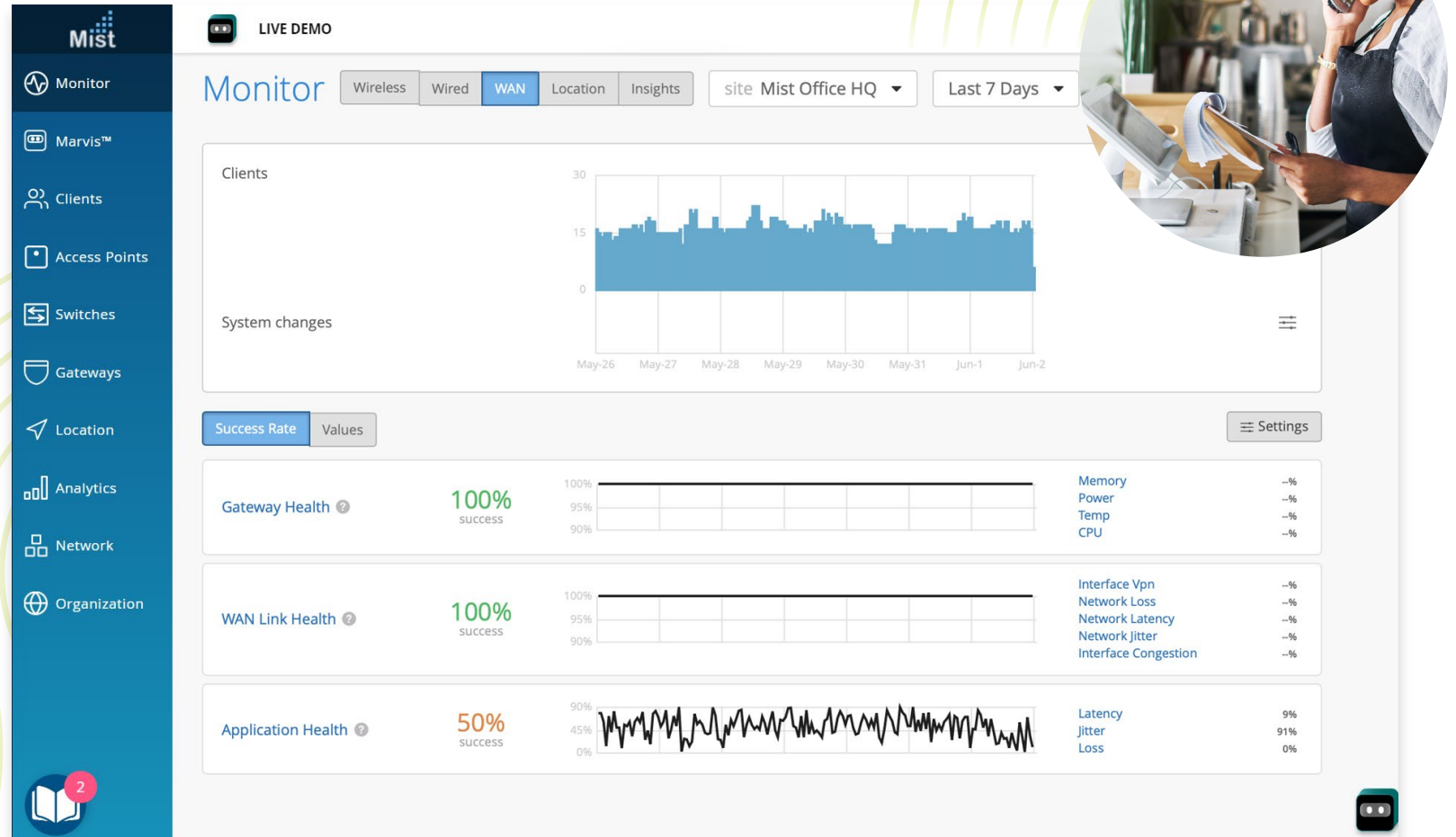
Automated operations make enterprise networks more predictable, reliable, and impactful

Enterprise network managed out of Mist AI Cloud

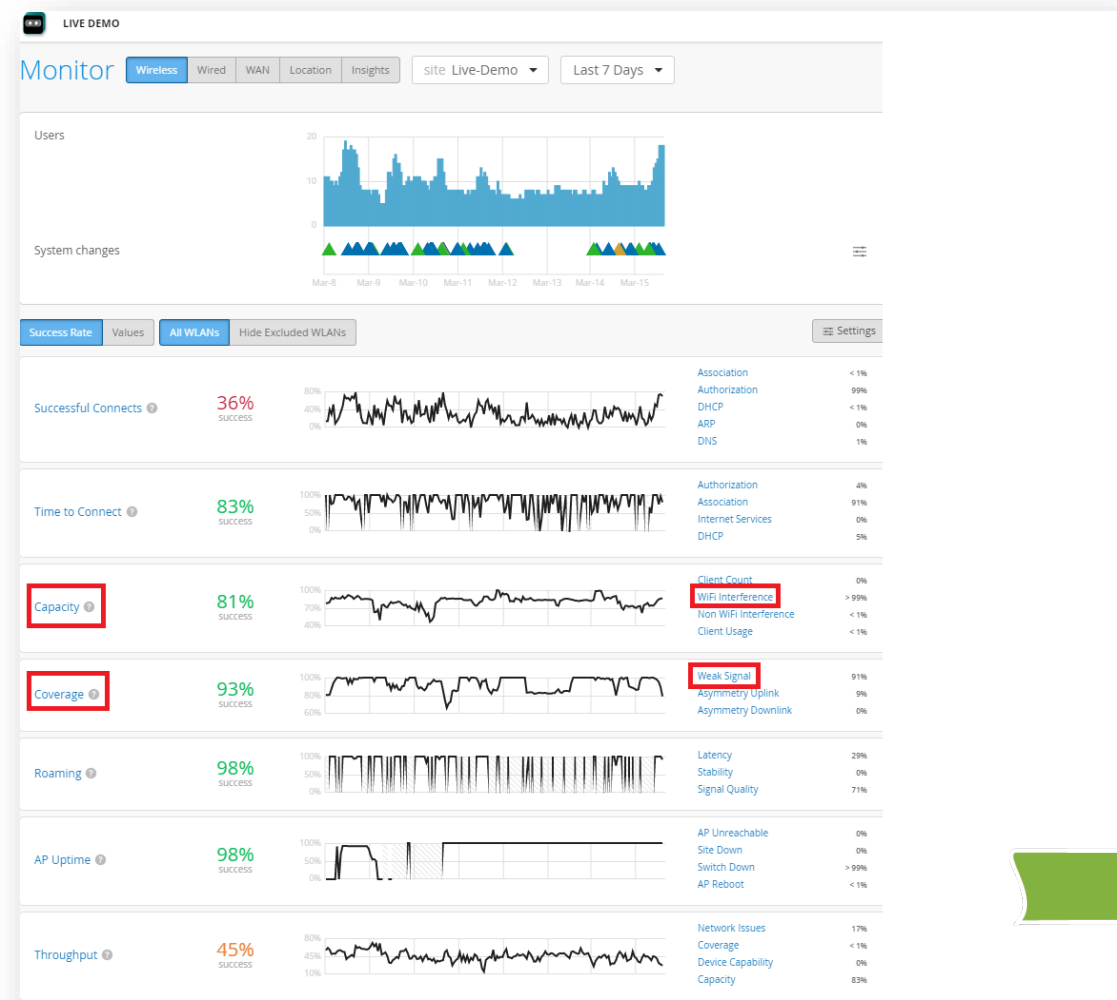
- ✓ Proactive optimization of wireless performance
- ✓ Dynamic packet capture for rapid IT troubleshooting
- ✓ Automatic root-cause identification
- ✓ Network automation via APIs

“People always like to blame the network when there is a problem. With Mist, we can see the Internet, Wi-Fi, AP coverage, and device activity. We can show that the performance issue is on the application or a server.” –

Fer Wijker, coordinator, infrastructure team, Koppert Biological Services



Capacity, Coverage, Roaming SLE Provide Feedback to RRM



1. Poor user experience due to capacity, coverage & roaming is captured via the SLEs
2. Serves as a feedback loop to RRM to assess impact of channel, power changes
3. RRM makes changes both nightly & during the day to provide the best user experience

The screenshot shows the 'Radio Events' table, which provides a detailed view of network events. The table includes columns for Date, AP, Radio, Band, Channel, Channel Width, Power, and Event. A large green arrow points from the 'Capacity' and 'Coverage' metrics in the dashboard to this table, indicating that these metrics are derived from the events listed here.

Date	AP	Radio	Band	Channel	Channel Width	Power	Event
02:42:21 PM, Mar 8	LD_Marvis	5 GHz	5 GHz → 5 GHz	64 → 60	20 → 20 MHz	11 → 11 dBm	Radar detected
04:25:41 PM, Mar 8	LD_JSW_AP	5 GHz	5 GHz → 5 GHz	136 → 52	20 → 20 MHz	10 → 10 dBm	Interference AP non wifi
06:06:07 PM, Mar 8	LD_MCB_AP	5 GHz	5 GHz → 5 GHz	36 → 60	20 → 20 MHz	10 → 10 dBm	Interference AP non wifi
07:05:08 PM, Mar 8	LD_Testbed_MD	5 GHz	5 GHz → 5 GHz	128 → 120	20 → 20 MHz	10 → 10 dBm	Interference AP non wifi
08:23:19 PM, Mar 8	LD_Testbed_MD	5 GHz	5 GHz → 5 GHz	120 → 108	20 → 20 MHz	10 → 10 dBm	Interference AP non wifi
08:45:51 PM, Mar 8	LD_Marvis	5 GHz	5 GHz → 5 GHz	60 → 64	20 → 20 MHz	11 → 11 dBm	Interference co-channel external
11:05:08 PM, Mar 8	LD_MCB_AP	5 GHz	5 GHz → 5 GHz	60 → 36	20 → 20 MHz	10 → 10 dBm	Interference AP non wifi
11:24:57 PM, Mar 8	LD_Marvis	5 GHz	5 GHz → 5 GHz	64 → 56	20 → 20 MHz	11 → 11 dBm	Interference co-channel external

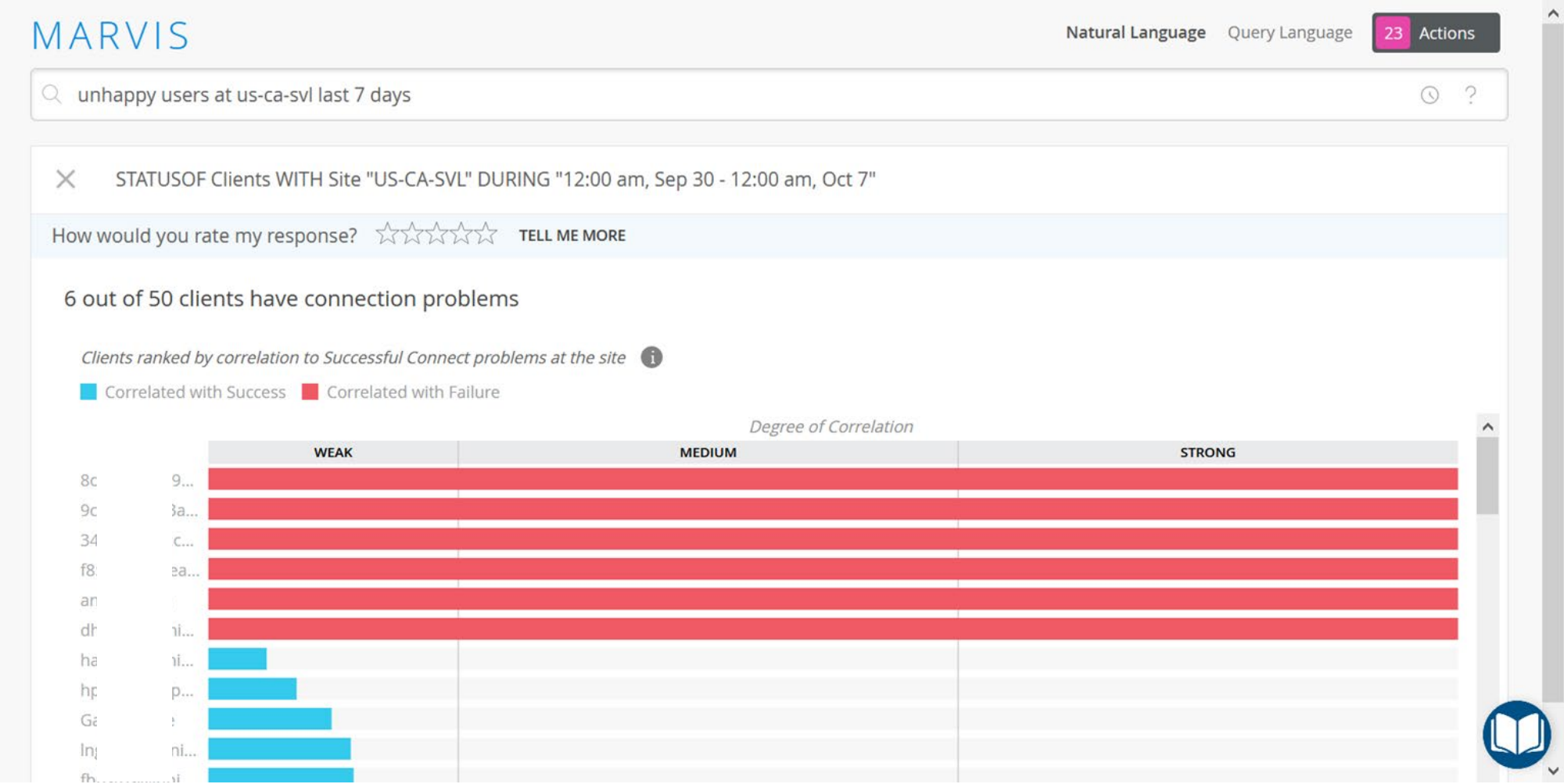
CUSTOMER EXPERIENCE ON REAL TIME SERVICE LEVELS – RADIUS

PINPOINT AND SUMMARIZE – AVOID ALARM FATIGUE



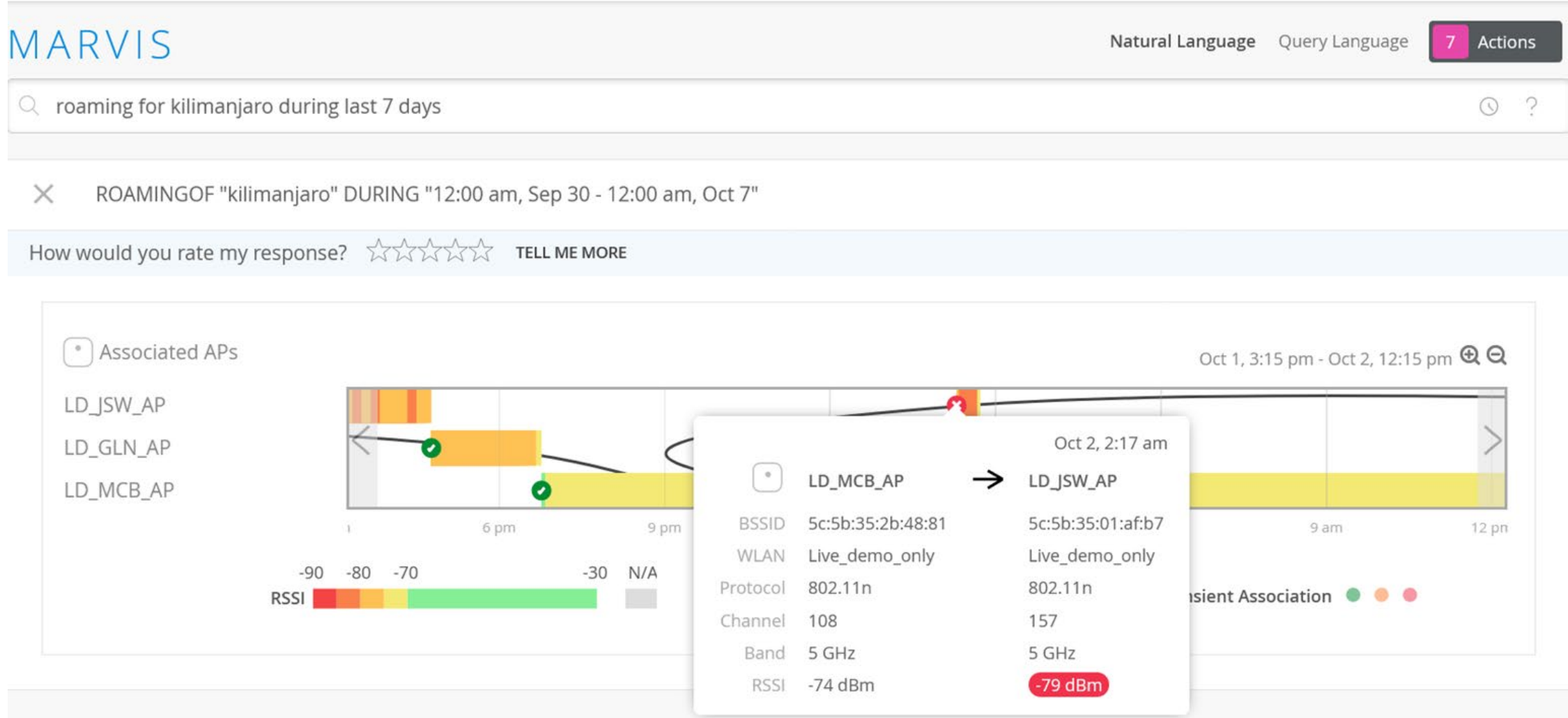
Unhappy Users - Connection Problems

Q: unhappy users at building1 last 7 days

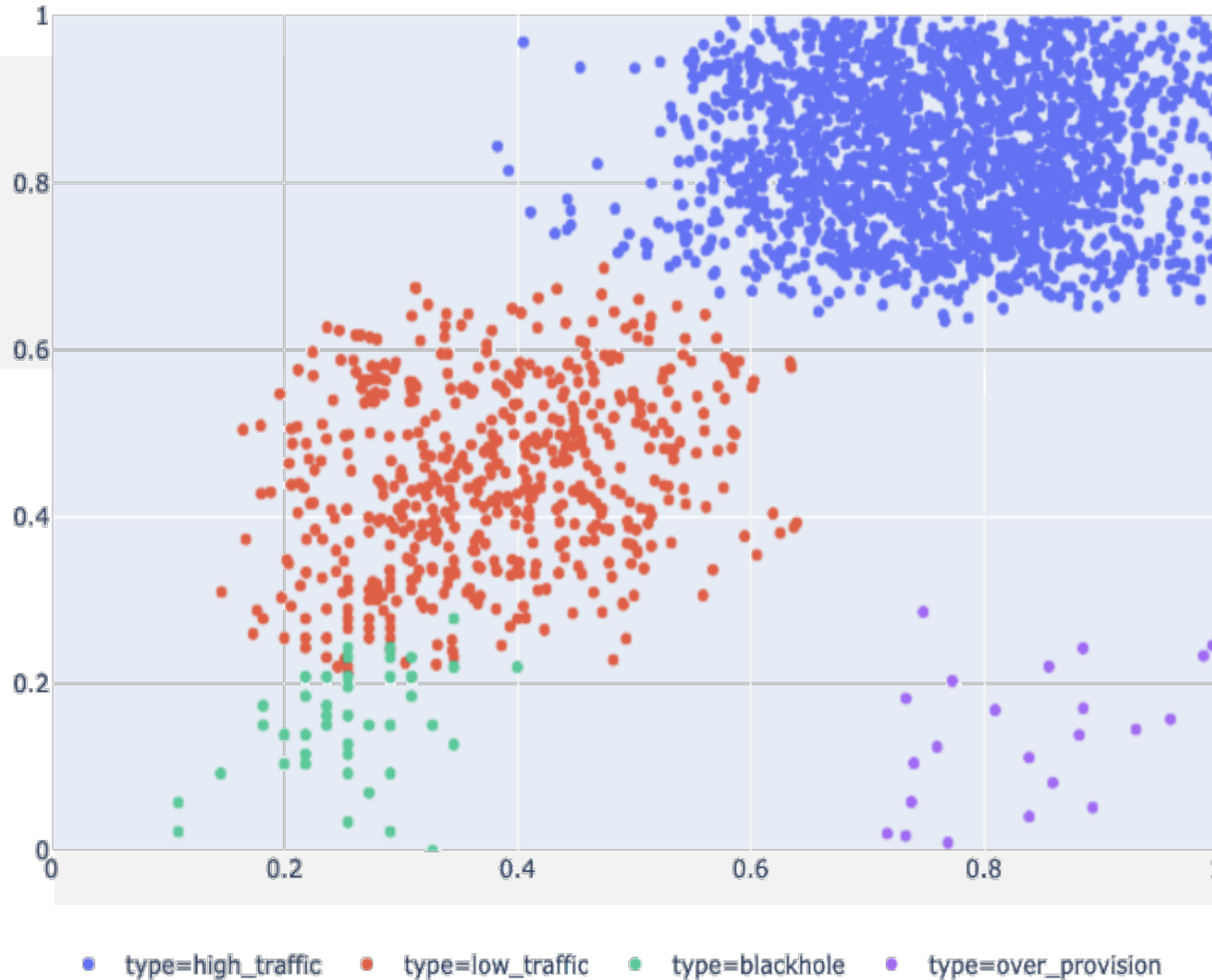


Client not making a good roaming decision

Q: roaming for kilimanjaro during last 7 days



Self-Driving: Missing VLAN Model



Detection

No Traffic != Missing

No Traffic: 33,680

Actual Missing: 607

Machine Learning Tools:
K-Means Clustering, PCA

Diagnosis / Root Cause:
Identify type of each VLAN

Actions:

- Juniper Switch: self-driving option
- 3rd Party Switch: inform admin

Marvis | Virtual Network Assistant (VNA)

Marvis Actions

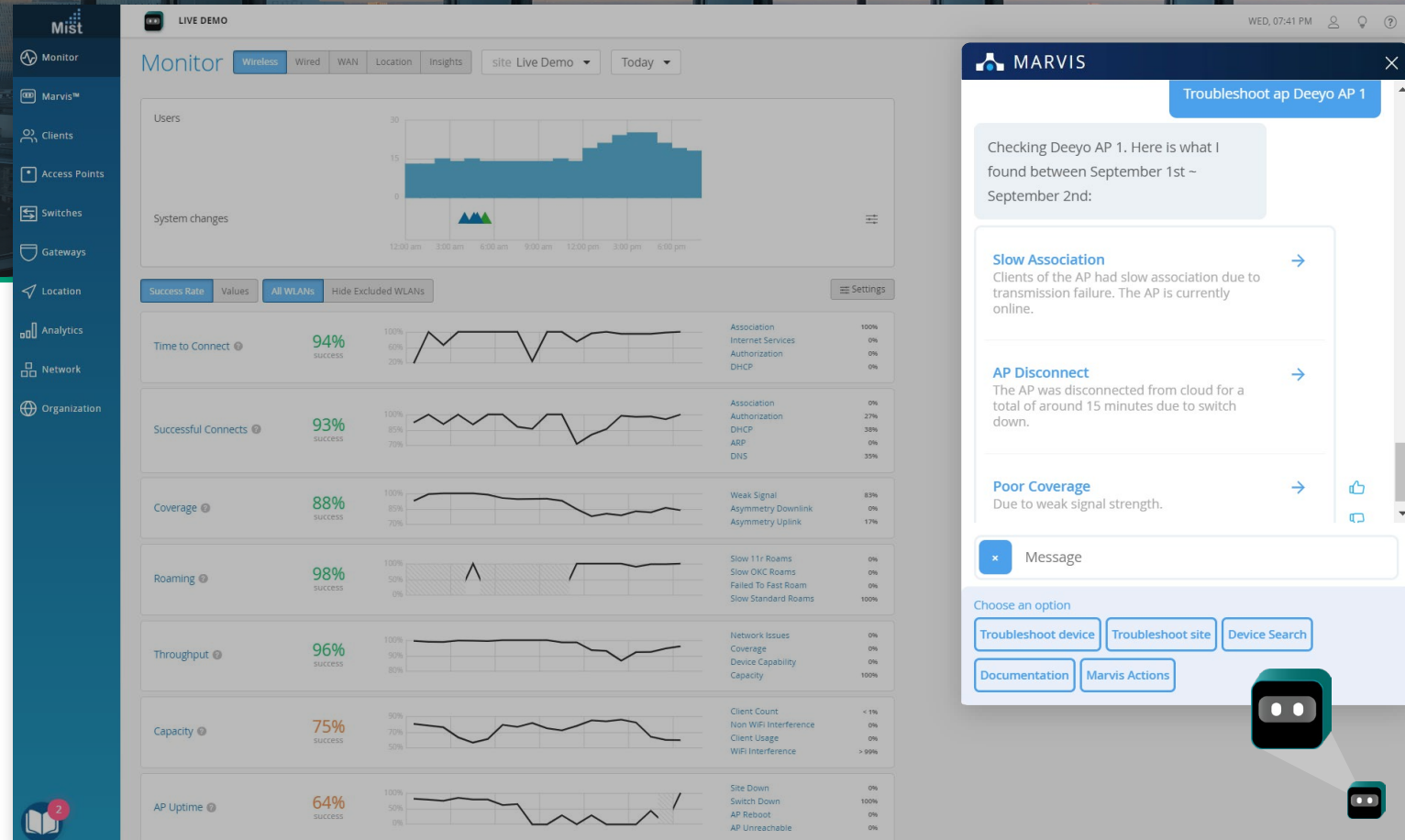
Conversational AI interface

Transforms how IT interacts with the full stack network

Streamlines operations and boosts experiences

Uses chat (NLP)

Provides deep understanding of issues



Location services using Virtual BLE (vBLE)

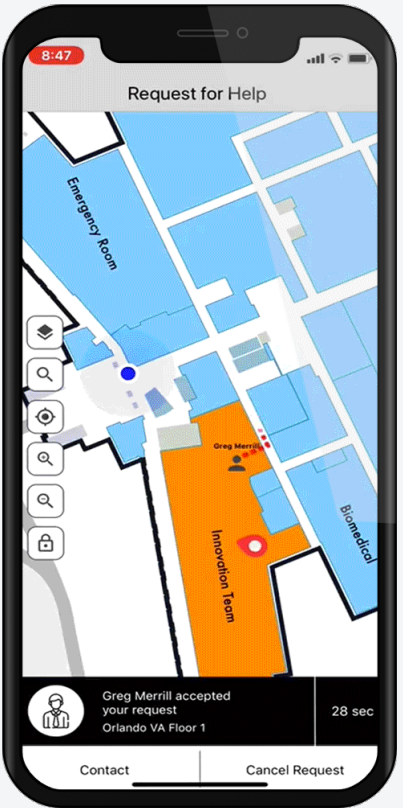
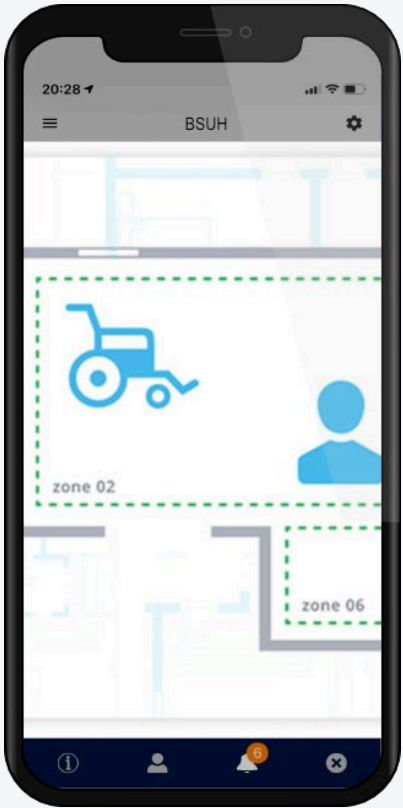


Using technology to make a difference

Use cases like “Finding items” can be quickly, accurately (1-3m) and cost-effectively introduced. Efficiently find people (patients or staff) or items like wheelchairs, infusion pumps or beds. The implementation of wandering detection/prevention can be realized without an overlay network.



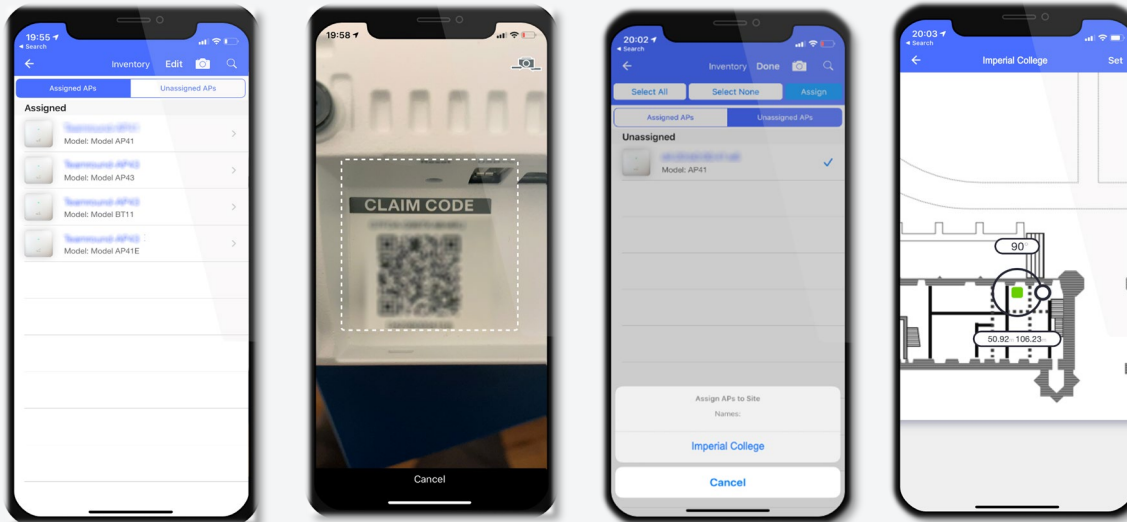
“A nurse spends around 20 minutes per shift searching for equipment, causing around \$500,000 loss in non-productive work. Numbers are increasing with nurse shortages.”



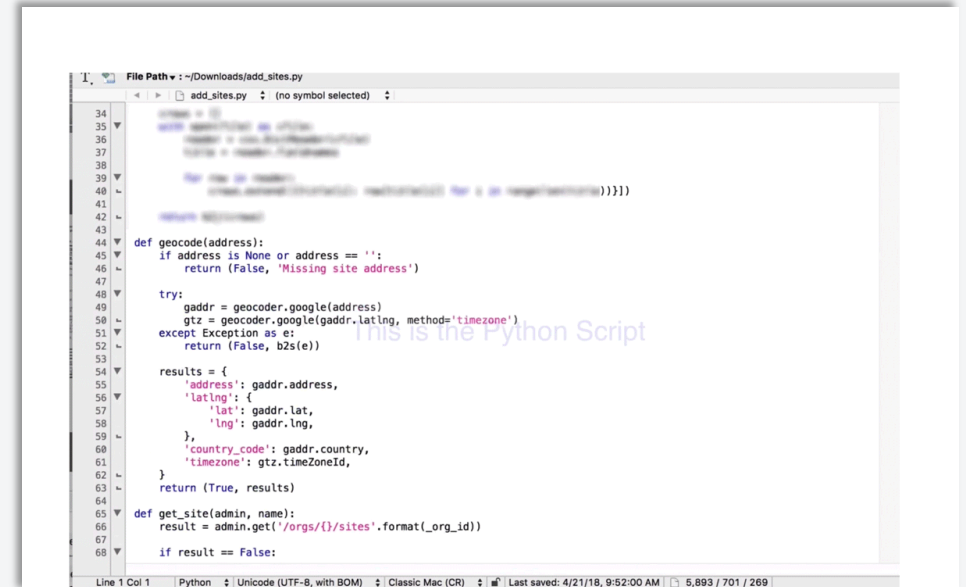
100% Open API driven architecture

100% Open API based – *Easy deployment*

Use API's for **automation, implementation and configuration**. The Mist AI app used in installer mode provide the ability to **add photo's of the placement of the AP** to the management tool, provides ability for the installer to **place the AP on the map** and makes it possible to **change the name** to be in synch with the label on the AP.



Deployment using device inventory, claiming of a device using the QR code, record and assign the device and locate a device on the map.



SDWAN - Session Smart Routing – No IPSEC tunnel

Breakthrough economics

Tunnel-less architecture enables *75% reduction in headend infra cost & 30-50% reduction in bandwidth costs. White-box and server infrastructure re-use*

Scale, speed and reach

Free from tunnel-based limitations and automated for warp speed deployments. *Scale rapidly to up to 10,000+ edges. Deploy new services in minutes at scale. Optimize applications low bandwidth links*

Network as agile as the Cloud

Session-based fine-grained routing and application-aware boundary-free fabric extends client to cloud. *Cloud application are deployed faster with greater resilience to network issues*

Optimized for user experience

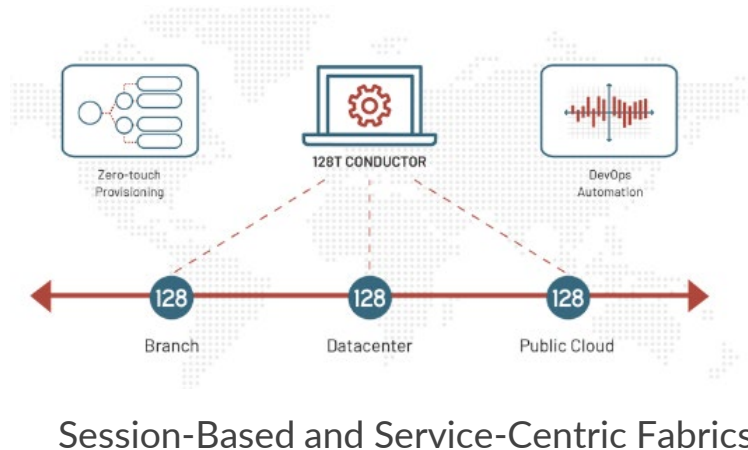
Session-based visibility and fine grain application-aware routing is unprecedented. *Up to 60% reduction in quality killing latency. Enables hitless Zoom and Voice calls. Greater tunnel-free service availability*

Zero-trust security baked in

Only zero-trust fabric that simplifies access control, segmentation and directionality with Secure Vector Routing. *Major reduction is the risk of network security breach. SASE based policy and routing built-in.*

Session visibility and application insights

Superior richness and granularity of service and session insights. *Reduce support costs and MTTR by 30-40%. Continuous optimization of network performance and user experience.*

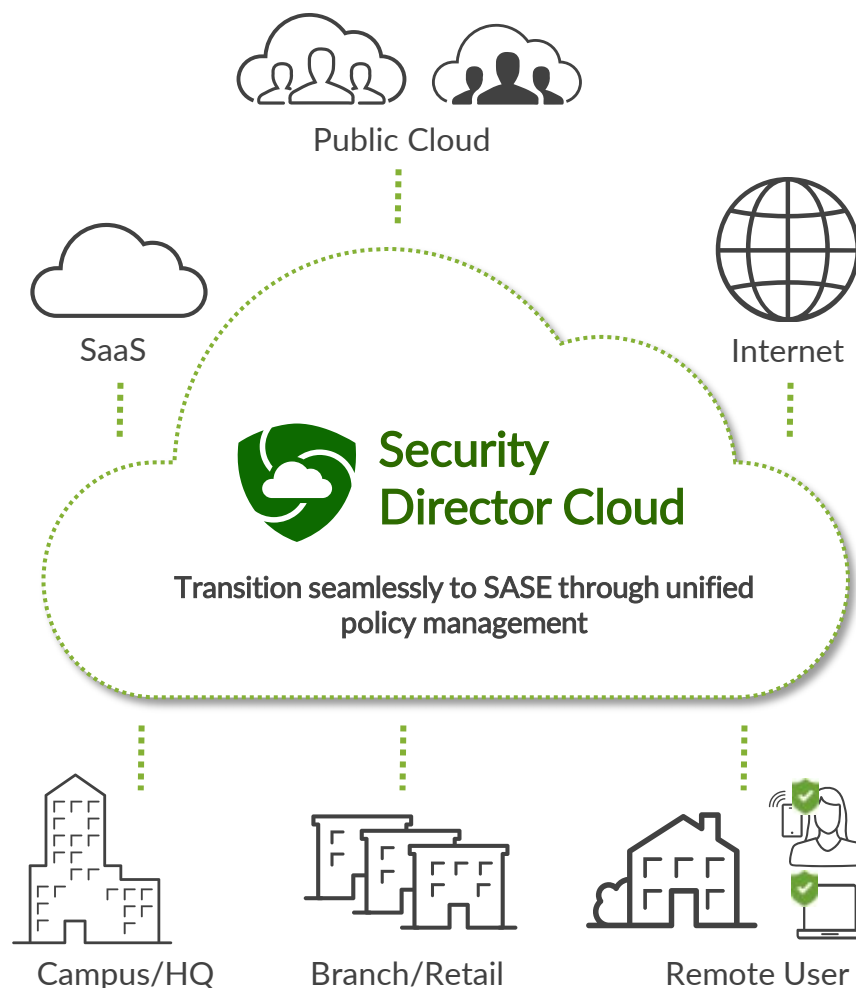


JUNIPER Connected Security **client to cloud**

Connecting users & protecting access from anywhere

“[Juniper] provides great firewall security and protects the network and assets from viruses, suspicious attacks and threats. The firewall is also capable of handling both small and large networks without impacting performance.

– Gartner Peer Insights, June 2021
Security Admin at services.org



Single-stack software



Firewall-as-a-Service, CASB & SWG



Protect web & SaaS applications



ZTNA & IoT security



High-performance next-gen firewall



Traffic behavior, DNS & zero-day security

Juniper Connected Security PORTFOLIO



Security Director Cloud 

Management, Analytics & Orchestration

 Secure Analytics

 Intrusion Detection & Prevention

 AppSecure

 Advanced Threat Protection

 DNS Security

Security Applications








 IoT Security

 SWG, CASB & DLP








 SecIntel

 Corero DDoS Mitigation



Data Center

 cSRX vSRX SRX4000 Series SRX5000 Series FW QFX Switches Cloud Workload Protection Apstra










Public Cloud

 Azure IBM Cloud ORACLE CLOUD amazon web services vSRX cSRX Cloud Workload Protection






Remote Workforce

 Secure Edge Secure Connect VPN

Campus & Branch

 SRX1500 NFX Series SRX300 Series EX Switches SSR AI-Driven SD-WAN vSRX Mist APs Mist Cloud

5G Networks & Cloud Metro

 SRX5000 Series vSRX MX Series Routers Cloud Workload Protection Paragon

Security - #1 In Every Test For The Past Three Years

Independently Validated Security Efficacy

NetSecOPEN
2022

99.8%

effectiveness against exploits

Cyber Ratings

AAA Rating

2021 Next-Gen Firewall



99.5%

against client and server-side exploits



ICSA Labs
Advanced Threat Defense

Q2 2022

Q1 2022

Q4 2021

Q3 2021

Q2 2021

Q1 2021

Q4 2020

100%

malware block rate

<0.5%

false positives

Outperforming
“leading” vendors

- Fortinet
- Palo Alto Networks
- Zscaler
- Checkpoint
- Cisco

Cyber Ratings

AAA Rating

2022 Cloud Network Firewall



100%

Exploit
block rate

0

False
positives

Intelligence Feeds and AI

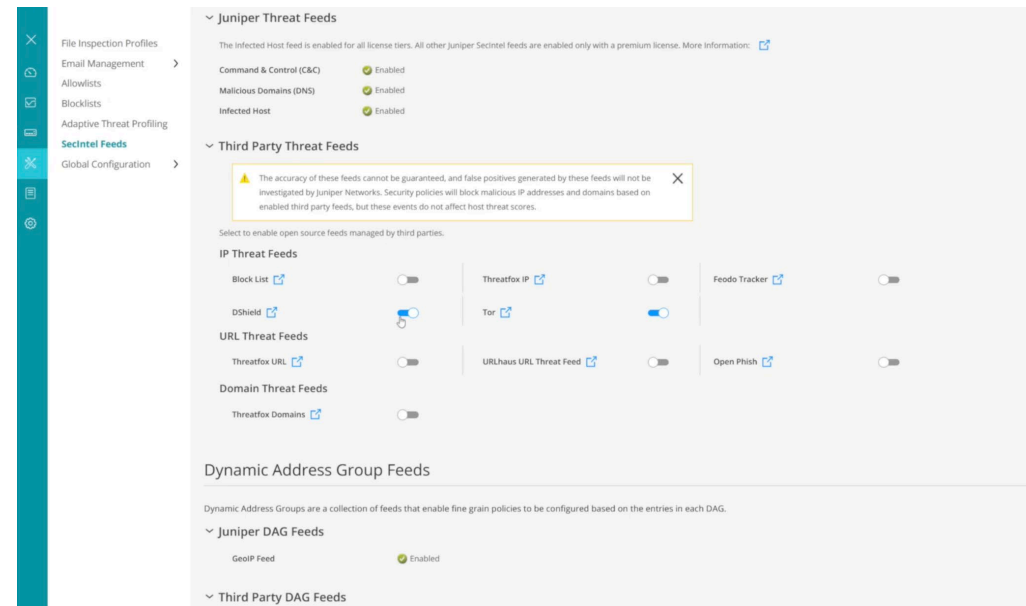
- C&C IP/RL, Domain Feeds, Attacker IP/Geo IP
- Dynamic Address Feed from CDN based Services
- Custom Feeds

React to Existing and New Threats
with AI & ML

Reducing Strain on SOC teams

- ✓ AI driven risk profiling
- ✓ Statistical and behavioral based ML
- ✓ Zero-day threat mitigation

- Adaptive threat profiling - based on user behavior including IOT-devices.
- Selective decryption ;
analyze user behavior without decrypting



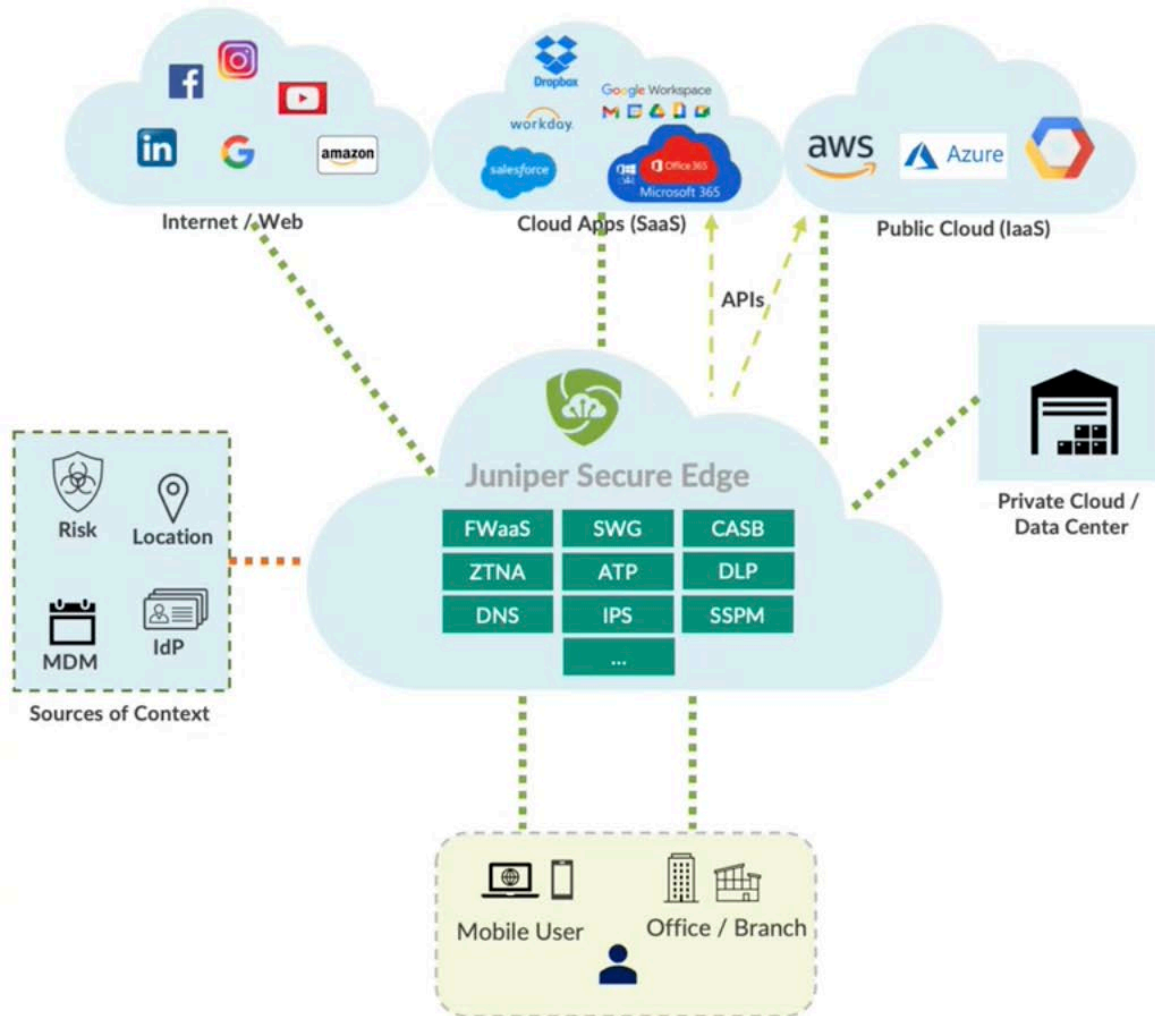
Protection Against The Growing Numbers of Attacks

Security Intelligence

- ✓ Juniper Threat Labs working for you
- ✓ SecIntel & Third-party feeds
- ✓ Continually updated and curated

Juniper Secure Edge Overview

Cloud Delivered Security



Visibility

- **Security Director Cloud** for full visibility across on prem and cloud
- Sanctioned & unsanctioned cloud apps, SaaS posture, ...



Access Control

- Inline and out-of-band enforcement
- Unified policy across
 - Environments: on prem (SRX), cloud (Secure Edge, ATP)
 - Services: FWaaS, SWG, IPS, etc.



Threat Prevention

- Fully integrated with ATP Cloud
 - Threat feeds
 - DNS security, sandboxing, Encrypted Traffic Insights



Data Protection

- For data in motion and at rest
 - Content filtering
 - DLP
 - Cloud data discovery

Experience is the Driving Force...



Enhanced Patient Engagement

- Provide easy step-by-step navigation
- Streamline check-in process
- Deliver concierge-like services
- Engage and deliver personalized touch



Improved Clinician Workflows

- Utilize resources more effectively
- Track location of critical assets
- Receive priority service levels
- Improve engagement opportunities



Enriched IT Operations

- Receive fewer support tickets
- Decrease time to resolution
- Eliminate physical beacons & BLE surveys
- Boost visibility, accuracy and performance

Simplify the Client-to-Cloud Experience






Full Client-to-Cloud Experience
with continuous security, common config,
common policy & complete visibility



AI-driven SD-WAN



Marvis Virtual Assistant

-  Full-stack branch operations
-  Advanced AI & ML
-  Session Smart networking
-  Zero Trust
-  Segmentation





Juniper
Secure Edge

- | | |
|-------|---|
| FWaaS |  Application Control |
| SWG |  Identity & Access Control |
| CASB |  Intrusion Prevention |
| DLP |  Antimalware |
| ZNTA |  Threat Intelligence |
| |  Secure Web Access |

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The sky is blue with scattered white clouds. A semi-transparent green rectangular overlay covers the central portion of the image, serving as a background for the text.

Thank you

JUNIPER[®]
NETWORKS

Driven by
Experience™