Novinky a monitoring v riešení Cisco Meraki

Milan Rášo
Systems Engineer
30.11.2021

Agenda

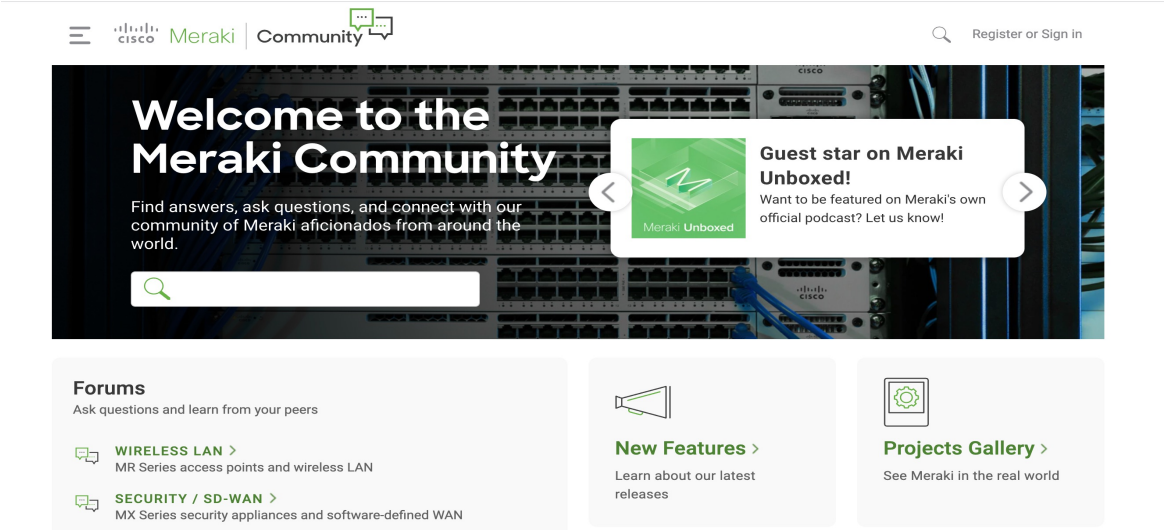
- Úvod
- Meraki Update – čo je nové?
- Meraki Health – Ako dobre poznáte svoju sieť?
- Demo
- Meraki Insight – Wan a SaaS monitoring

SLIDO Q&A

Event Code: 258758
https://app.sli.do/event/gcxmaeto

Kde hladať informácie?

- https://community.meraki.com/t5/Feature-Announcements/bg-p/new-features



Cisco Techclub webináre On-line každých 14 dní

Najbližší webinar:

- Novinky IoT portfolia v roce 2021
  - Projdeme si novinky ve směrovačích řad IR1100, IR1800, IR8100 a IR8300.
  - Cisco CyberVision
  - Cisco IoT Gateway řad IG20 a 30

https://www.cisco.com/c/m/en_emear/training-events/webinars/tech-club-webinars/index.html

Meraki Update

SLIDO Q&A

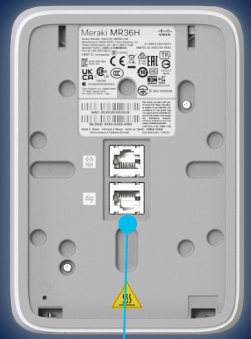
Event Code: 258758
https://app.sli.do/event/gcxmaeto

New Wi-FI 6 Hospitality AP

Feature highlights

- Ultra fast **Wi-Fi 6** dual band, 2x2 2.4/5GHz
- **Streamlined** deployment using familiar industrial design from the MR30H
- **Flexible Access Layer** with 1 POE port, 2 LAN ports and 1 Pass through
- **At home guest experience** home guest experience with Wi-Fi Personal Network (WPN) support out of the box

Flexible mounting
accessories, including mounting plate, screws, and adhesives



Integrated Passthrough
New port for maximum flexibility and sleek install

LAN support
POE Port for in room IP phone support and 2 LAN ports

Smart Sensors

Meraki sensors (MT) family

Meraki MT10
Temperature & humidity sensor

Meraki MT11
Temperature probe sensor

Meraki MT12
Water leak sensor

Meraki MT20
Door open/close sensor

Five-year battery

Bluetooth® Low Energy

Five days of on-board data storage

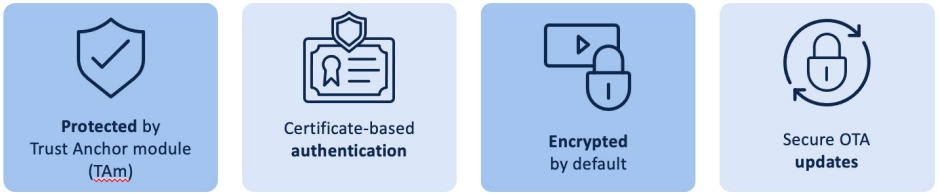
Proactive alerting

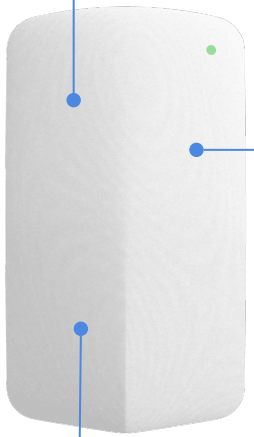
cisco Meraki

MT sensors are simple & intuitive to use

Feature highlights

- Flexible **alerting** keeps you informed of issues
- **Seamless connectivity** streamlines setup by automatically pairing with MR and MV gateways
- **Cloud management** eliminates the need for software and on-premises servers
- Easy integration and automation with **API access**
- **Secure conection**





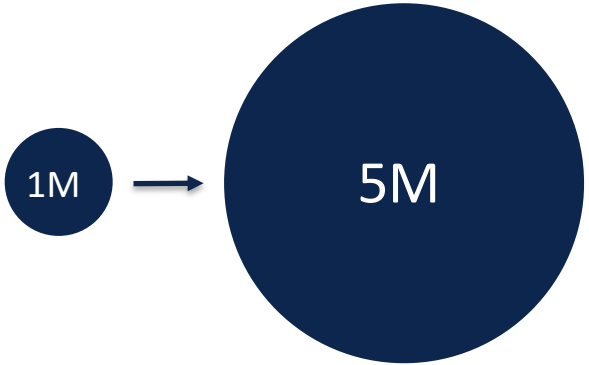
Bluetooth® Low Energy
Connectivity simplifies install.

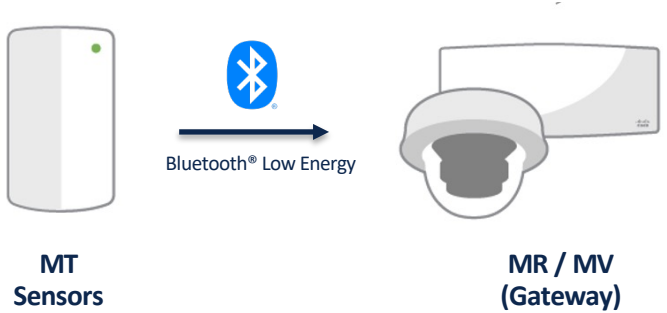
Onboard storage
Protects five days of data if connectivity is lost.

Five-year battery life
Reduces ongoing maintenance and increases deployment flexibility.

Now, MT sensors are even more accessible with the addition of Wi-Fi 5 AP Support

Gateways Available



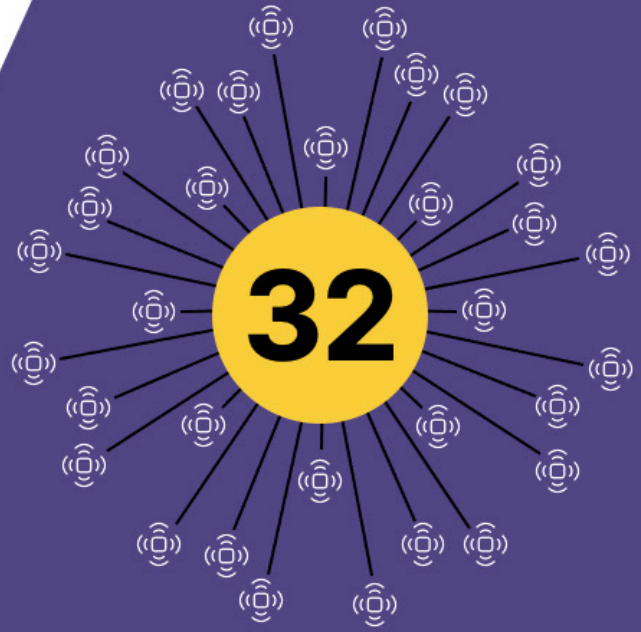


Firmware version MR 28.5+ and MV 4.14+

New support for the MR33, MR42, MR42E, MR52, MR53, MR53E, MR74 and MR84

Supporting more sensors

Before, we could only support
8 MTs per eligible gateway



Available today with firmware MR28.5+ or MV4.14+,
up to 32 MT sensors are supported per gateway

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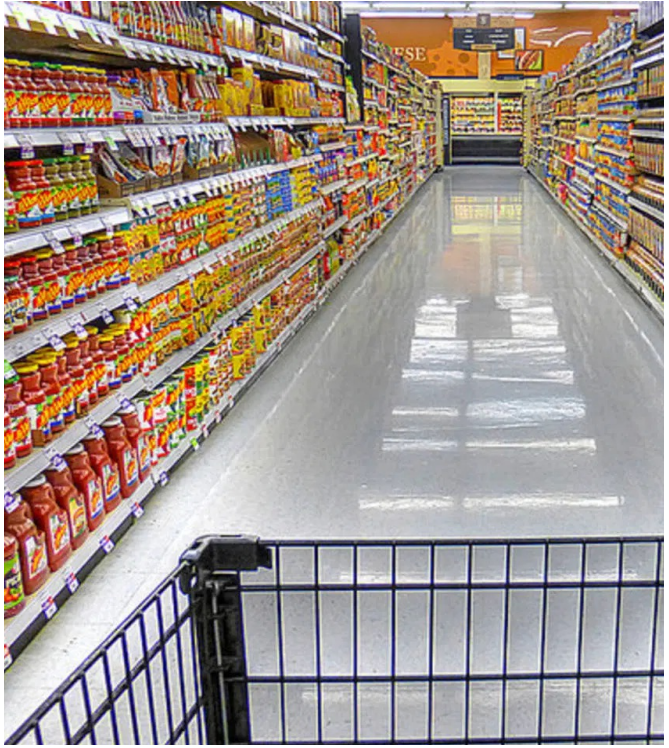

How do we get **even smarter?**

Air Quality Sensor

Protect health

Total Volatile Organic Compounds (TVOC) - Prchavé organické zlúčeniny

Estimated Carbon Dioxide (CO_2)

Particulate Matter 2.5 (PM2.5) – Vonkajšie tuhé častice

Smart Automation Button

Simplify processes

Automate business processes

Increase productivity

Create smart spaces

Enable safe environments

IP55 rated
for protection against rain and dust

What can you do with the smart automation button?

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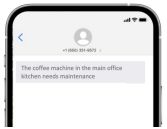
Meraki Integrations

Trigger MV snapshot

Toggle MR SSID on/off or MS network switch ports



Send push, SMS, email with custom message

ENGUIN · Aislelabs Insights

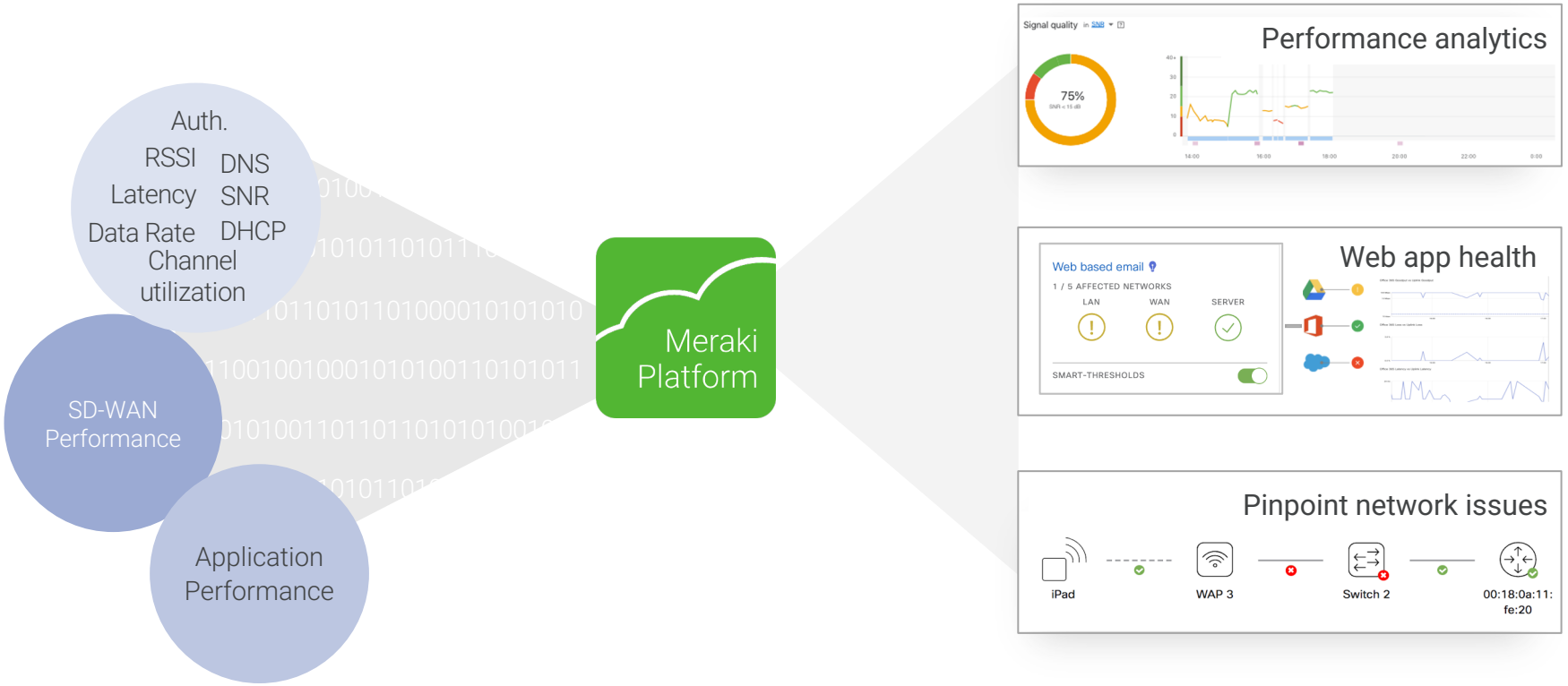
3rd Party Integrations

Trigger an API call integration with an ecosystem partner

Eg. Generate a ServiceNow ticket for equipment that is broken

Latest Meraki Health Updates

Meraki Health: Using data to simplify assurance and optimization across the network



Meraki platform: 23B touchpoints every week

The largest cloud platform in networking, architected for scale

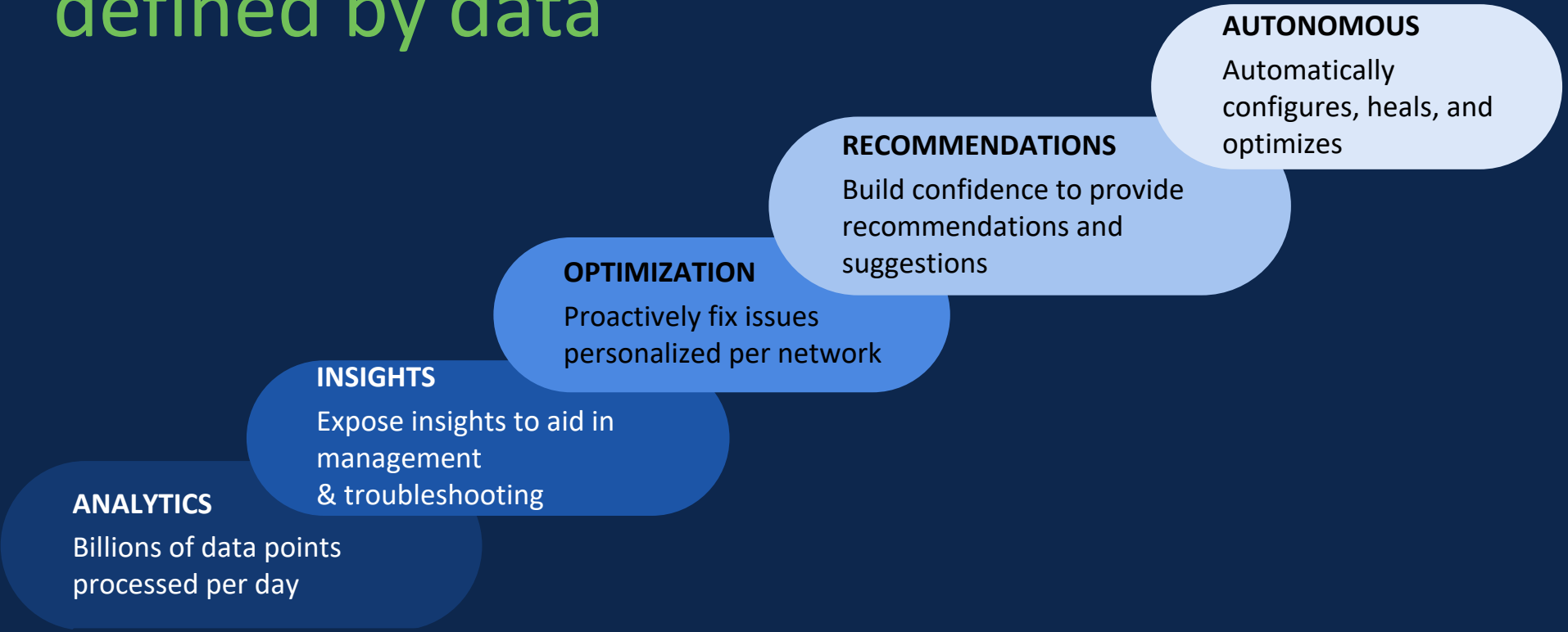
600,000+ customers

9.8+ million active Meraki devices

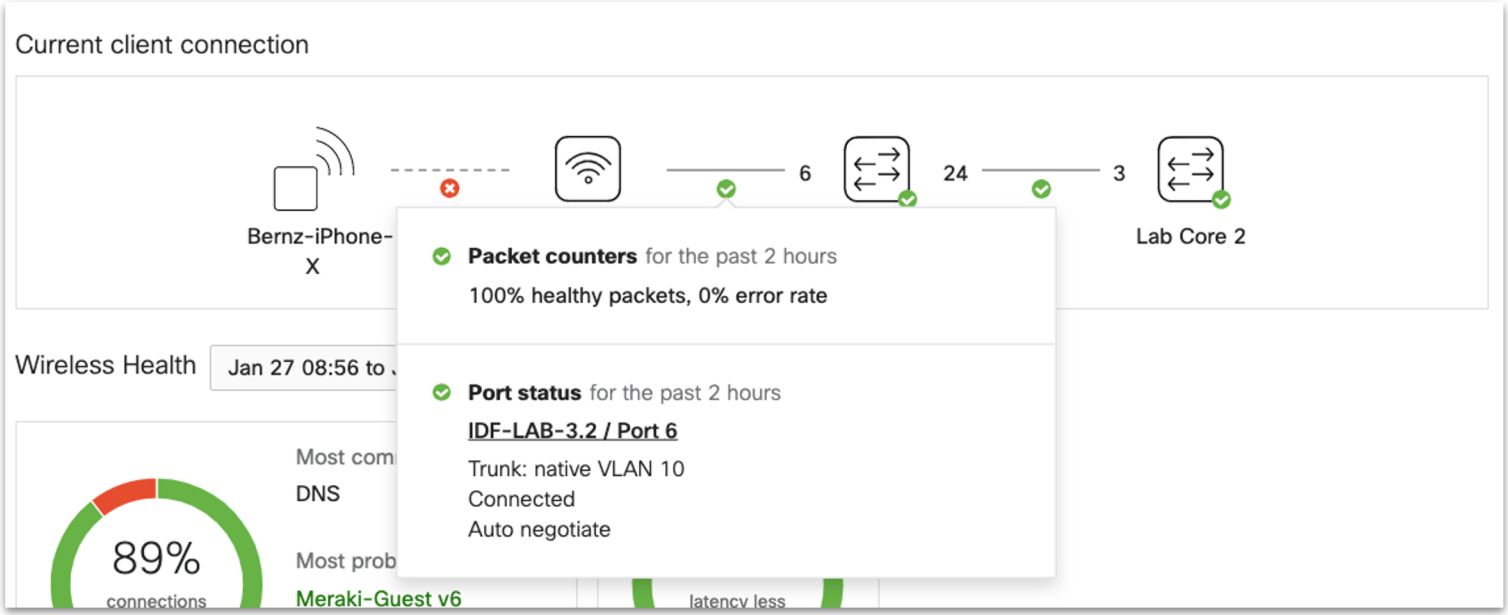
3.4+ million active networks

130+ million connected clients

Your network, defined by data

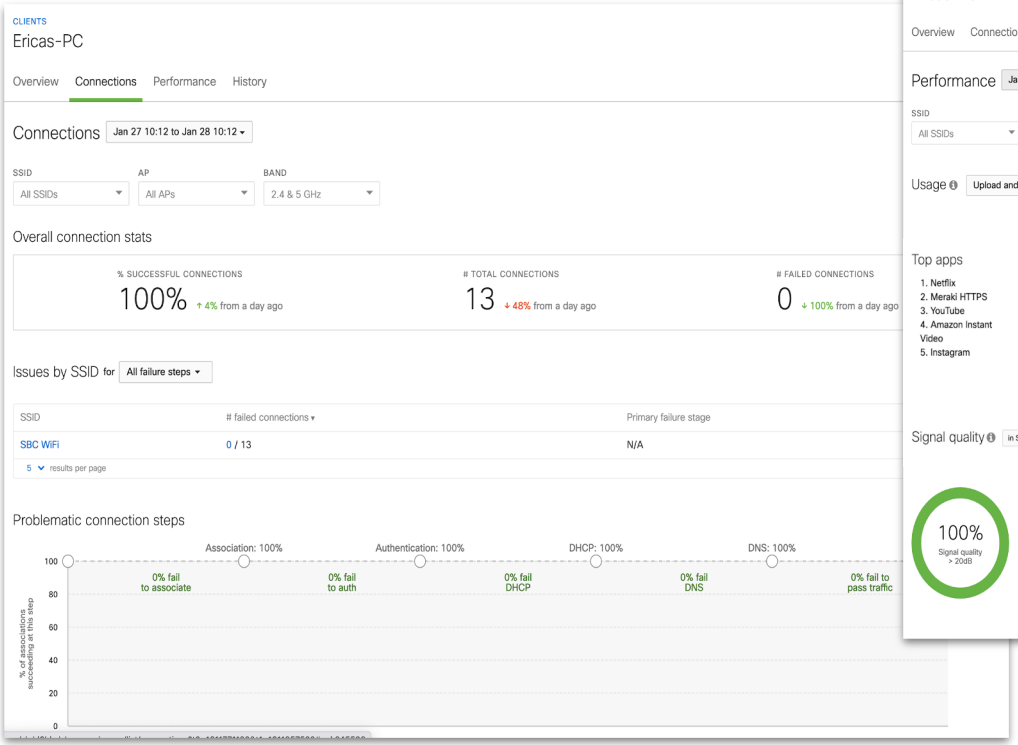


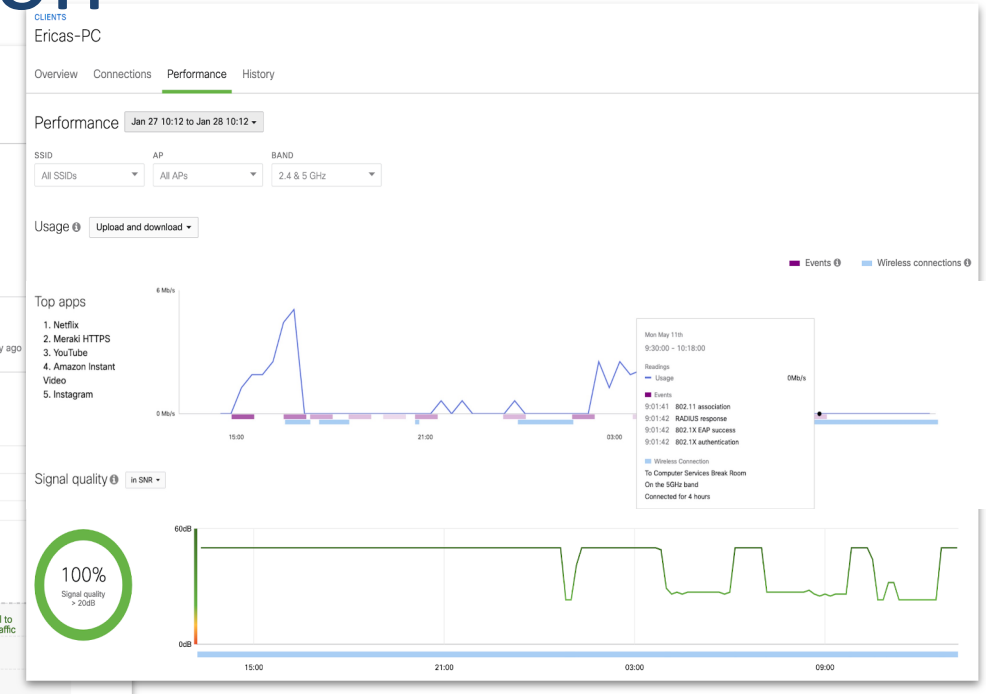
End to end Visibility



Higher click through rate translates to quicker resolution for issues

Historical Information

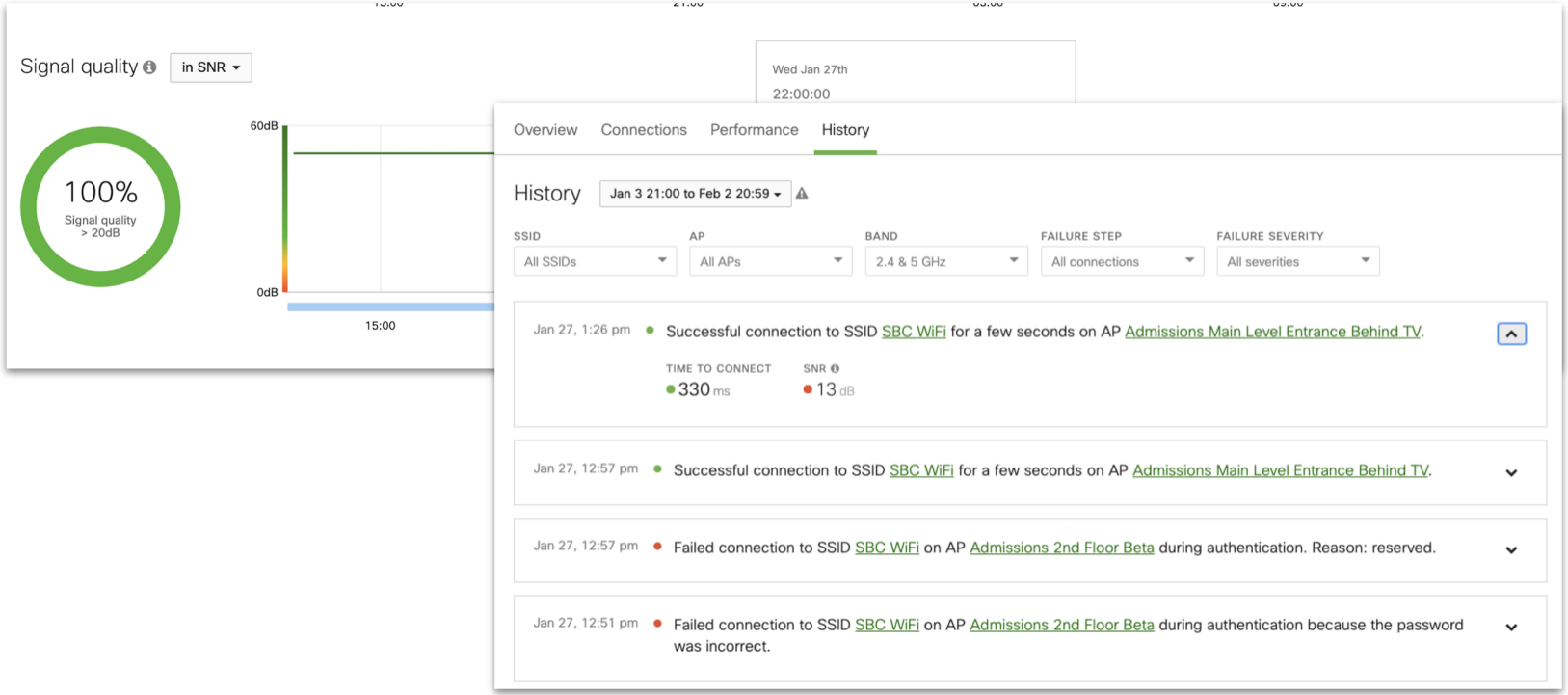




*Minimum MR27.1

80% engagement show customers frequently use historical information

Providing more context



Timeline is not just a new look event log but built from the ground up

Meraki Health
onboarding and performance metrics

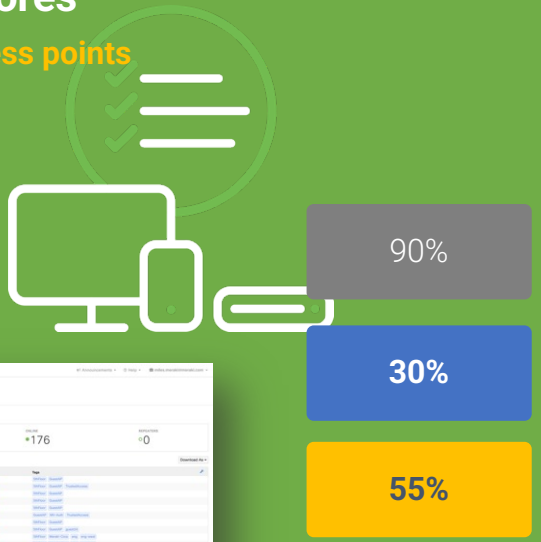
Onboarding metrics

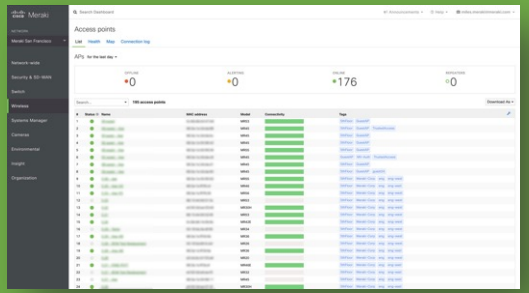
- Failure/success counts
- Performance metrics (SNR, data rates, etc.)

Aggregated Scores

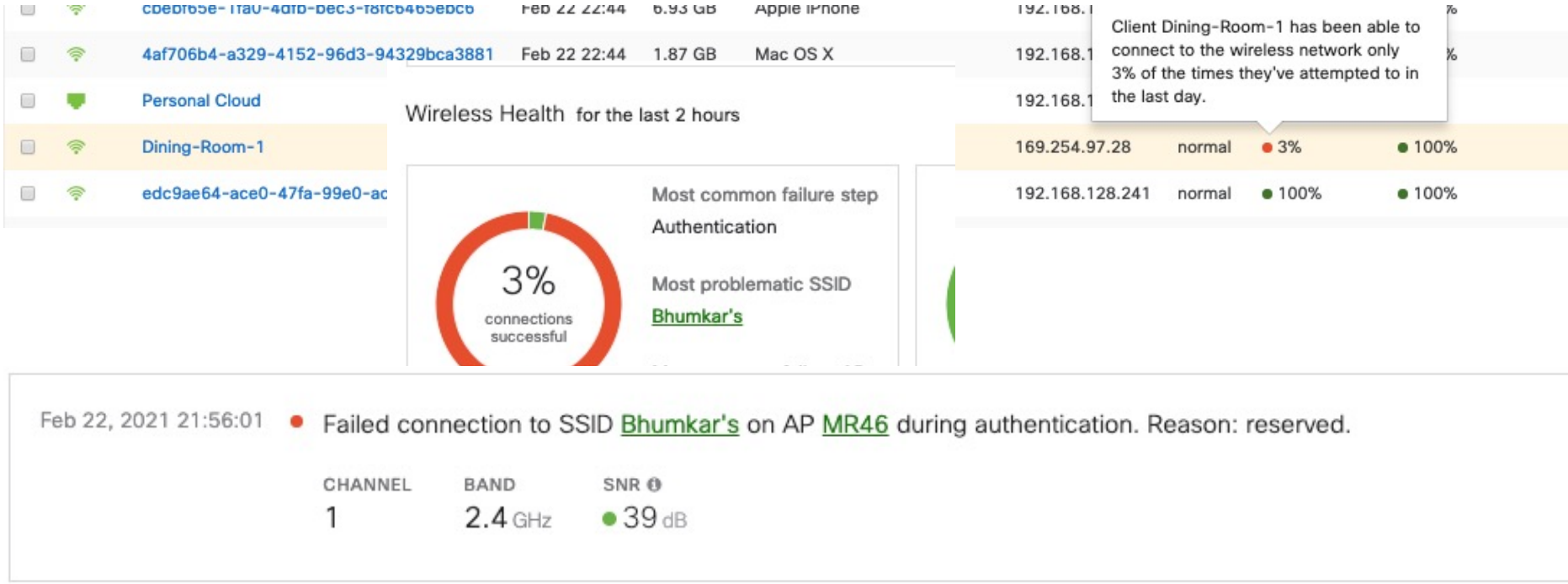
For **clients** and **access points**

- Onboarding
- Performance

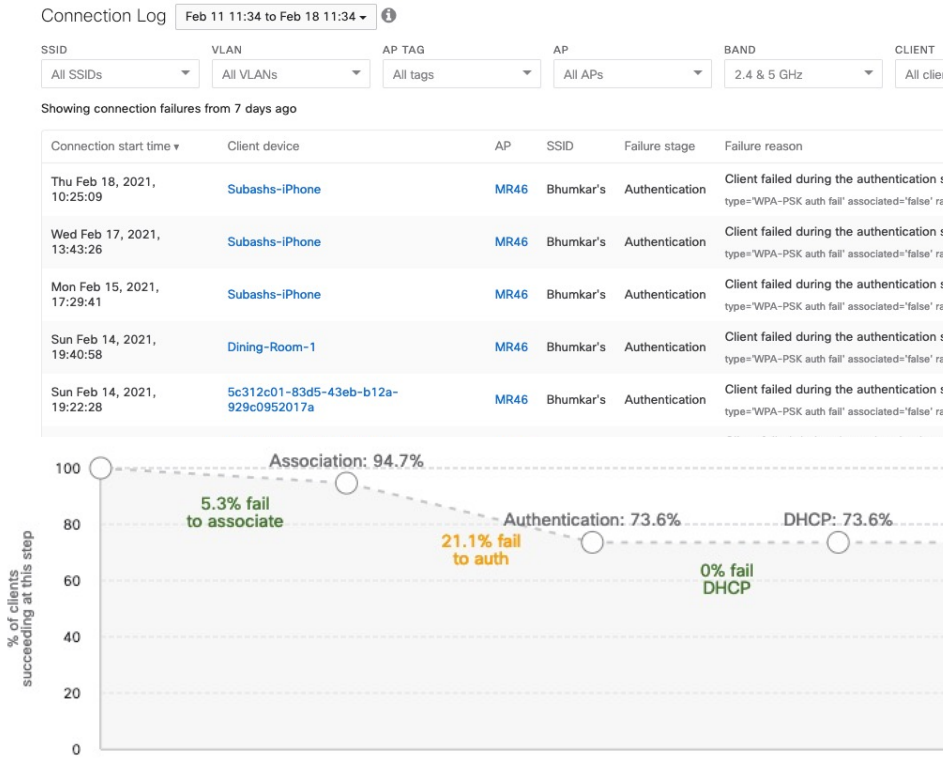




Quantify Health of clients/AP easily



WHAT IS THE EXPECTED BEHAVIOR?



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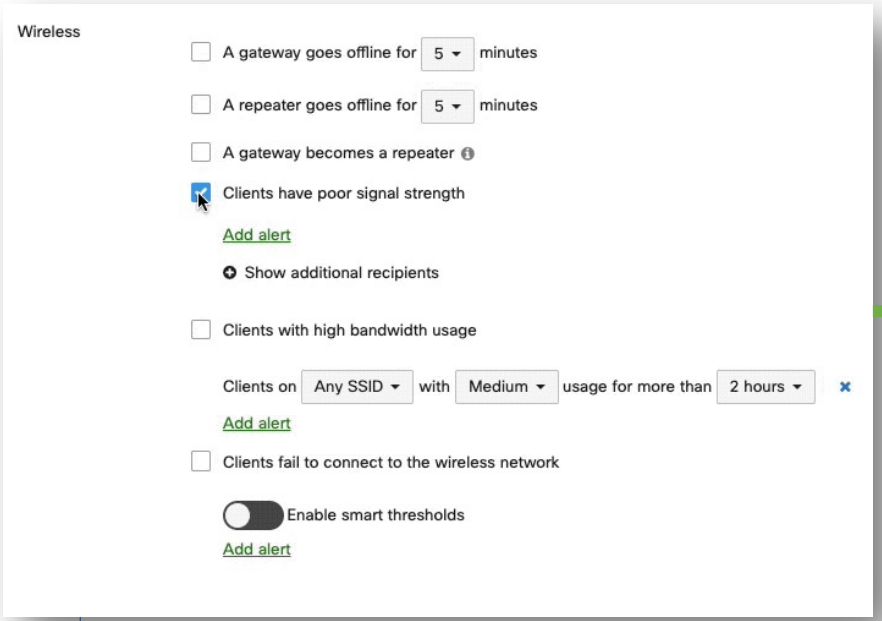
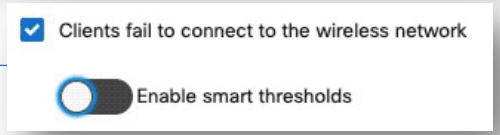
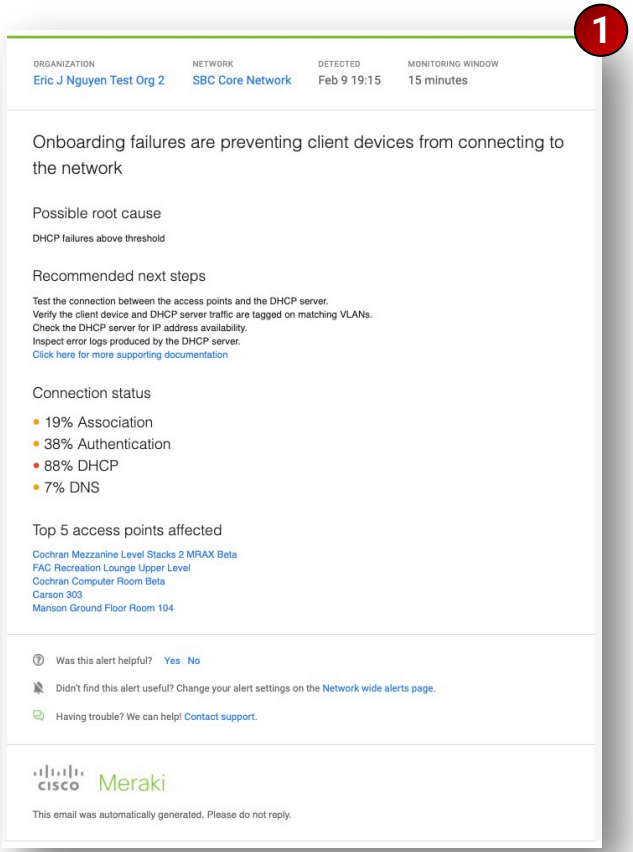
Understanding anomalies is key!!!

Differentiate between expected behavior vs anomalies with Smart Thresholds

Smart Alerts with **Machine Learning**



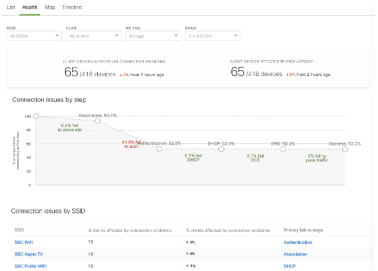




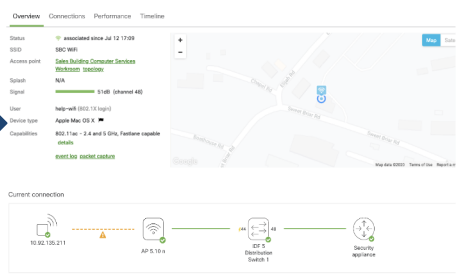
SOLVING COMPLEX ISSUES IN MINUTES!!

Enable seamless user workflow

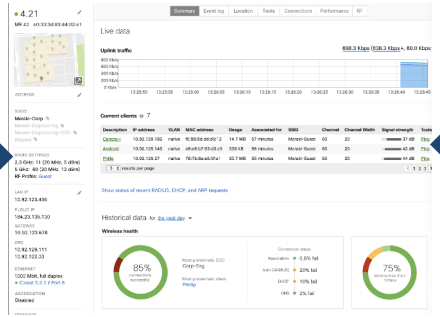
Network Health Page



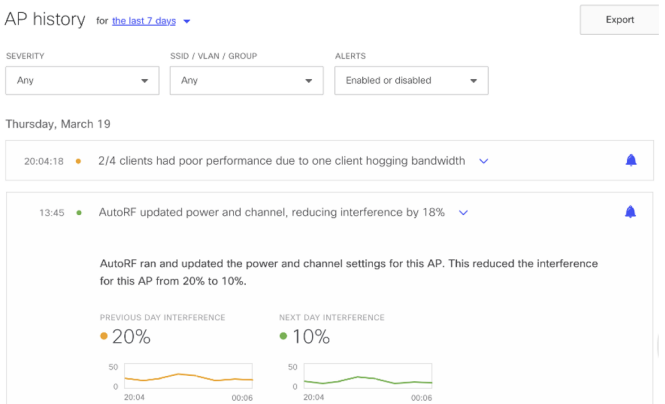
Client Page



Access Point Page

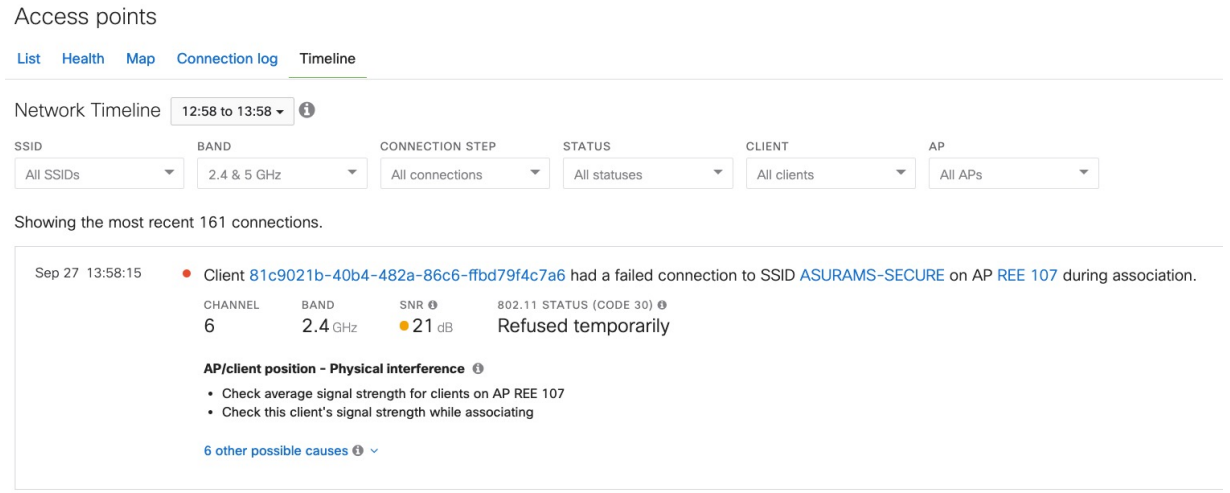


AP / Network Timeline + Enhancements



AP and Network Timeline

- Providing hierarchical view of the network along with any issues seen across all the wireless clients
- AP Timeline
- Network Timeline

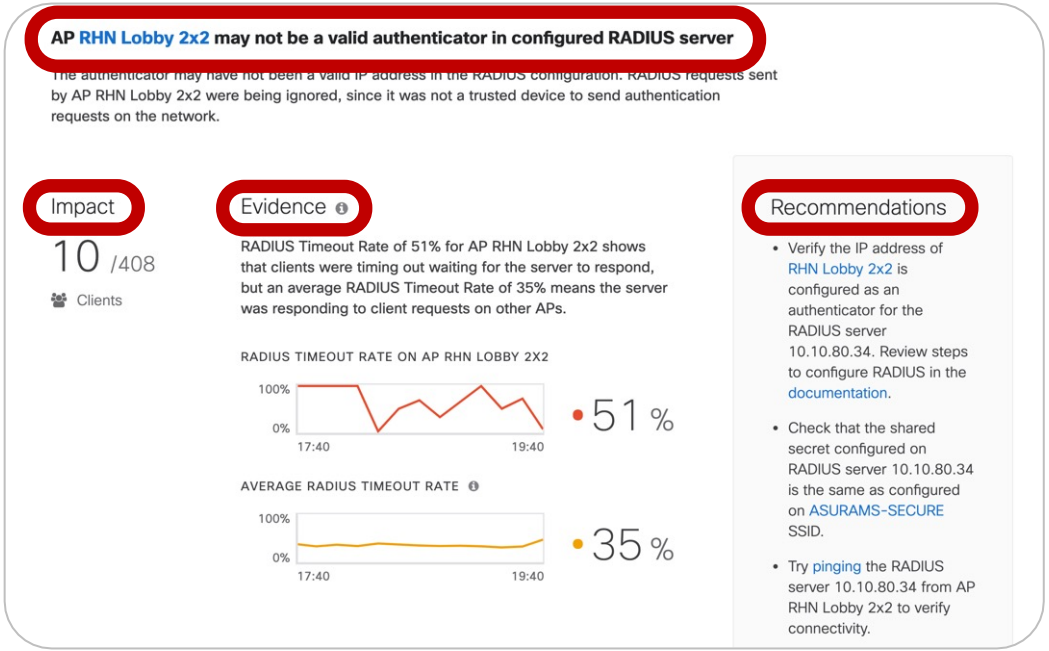


AUTOMATE NETOPS

Automated Root Cause Analysis

Impact, evidence, and data-driven recommendations to solve complex problems

- Fast, contextual identification of the **root cause of issues** across the network
- **Clear recommendations** to remediate detected problems
- **Natural-language description** of client connection behavior



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Server Root Cause Analysis RCAs – RADIUS server

- Client credentials are incorrect
- RADIUS server misconfigured
- RADIUS responding to some requests
- RADIUS server taking too long to respond
- AP not added to RADIUS server as authenticator
- Shared secret entered for RADIUS server incorrect

RADIUS server not responding

Aug 23
09:18:34

Roamed from AP RH3 Lobby 2x2 then had a failed connection to SSID ASURAMS-SECURE on AP RH3 RM100 30H during authentication because the auth server did not respond.

CHANNEL	BAND	SNR	VLAN ID	RADIUS SERVER	MERAKI REASON (CODE 100)
48	5 GHz	21 dB	5	10.10.80.34	RADIUS timeout

RADIUS server not responding

The configured RADIUS server 10.10.80.34 was not responding to valid RADIUS authentication requests on VLAN 5, causing client devices to fail authentication.

Impact

100 /2134

Clients

Evidence

RADIUS Response Rate of 31% for VLAN 5 shows the server was not responding to client authentication requests, but an average RADIUS Response Rate of 89% means the server was responding to clients on other VLANs.

RADIUS RESPONSE RATE ON VLAN 5

31 %

AVERAGE RADIUS RESPONSE RATE

89 %

Recommendations

- Check that VLAN 5 is tagged on ASURAMS-SECURE SSID.
- Check that the upstream switch port is configured to pass traffic with VLAN 5.
- Check if the RADIUS server 10.10.80.34 is blocked in the firewall rules for ASURAMS-SECURE SSID or any ACLs of an upstream device.
- Check the RADIUS server 10.10.80.34 is configured with the correct IP on ASURAMS-SECURE SSID. Review steps to configure RADIUS in the documentation.
- Try pinging the RADIUS server 10.10.80.34 from AP RH3 RM100 30H to verify connectivity.
- Verify the RADIUS server 10.10.80.34 functionality using the RADIUS test tool.
- Follow troubleshooting steps in the RADIUS issue resolution guide.

RADIUS server taking long to respond

Nov 13
16:54:01

● Failed connection to SSID ASURAMS-SECURE on AP JPL Police Booth AX2 during authentication.

CHANNEL	BAND	SNR	RADIUS SERVER	MERAKI REASON (CODE 103)
1	2.4 GHz	● 23 dB	10.10.80.34	EAPoL invalid MIC

RADIUS server taking long to respond

The configured RADIUS server 10.10.80.34 was taking a long time to respond to client authentication requests. This may cause issues with some client devices that may timeout and reattempt authentication.

Impact
1688
/1688
Clients

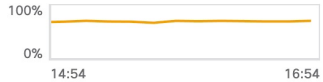
Evidence

RADIUS Response Time of 2.0s shows the server was taking longer than expected to respond to client authentication requests, but a RADIUS Response Rate of 68% means the server was responding to clients.

RADIUS RESPONSE TIME

● 2.0 s

RADIUS RESPONSE RATE



● 68 %

Recommendations

- Check CPU utilization on the RADIUS server 10.10.80.34.
- Check load on the RADIUS server 10.10.80.34, and if the amount of requests received is over the server processing limit.
- Check the network path from JPL Police Booth AX2 to the RADIUS server 10.10.80.34.
- Try pinging the RADIUS server 10.10.80.34 from AP JPL Police Booth AX2 to verify connectivity.
- Follow troubleshooting steps in the RADIUS issue resolution guide.

Was this helpful?

Server Root Cause Analysis RCAs– DHCP server

- DHCP server not responding
- DHCP server response with high latency
- DHCP server responding with NAK

Server Root Cause Analysis RCAs– DNS server

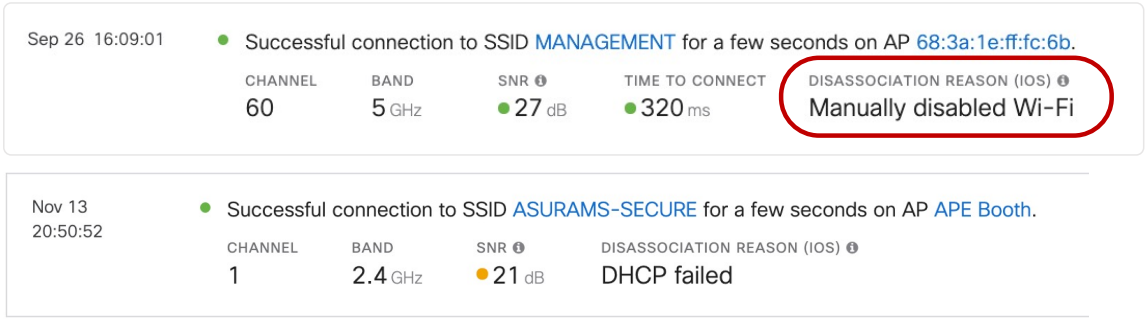
- DNS server not responding
- DNS server not reachable
- DNS server has high latency for address resolution

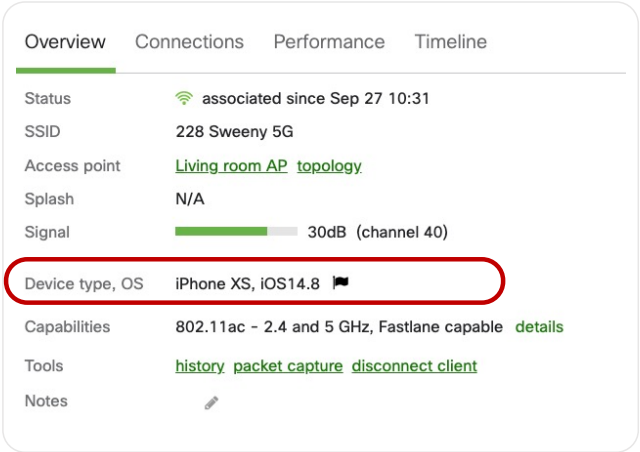
ADAPT TO NEW WORKLOADS

Apple + Cisco Partnership

Pinpoint wireless connection problems and isolate to device + OS

- **Exclusive** Apple + Cisco partnership
- Device-level details that **pinpoint connection problems** and keep hybrid workplaces running smoothly
- **Continually learning** from tens of millions of connections and improving performance across Meraki networks





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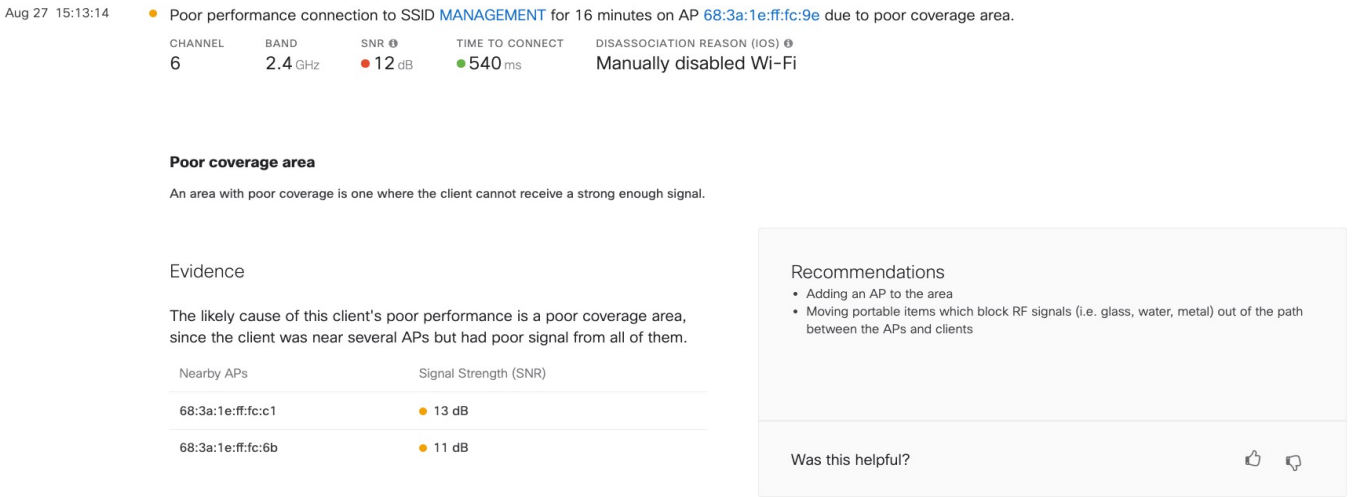
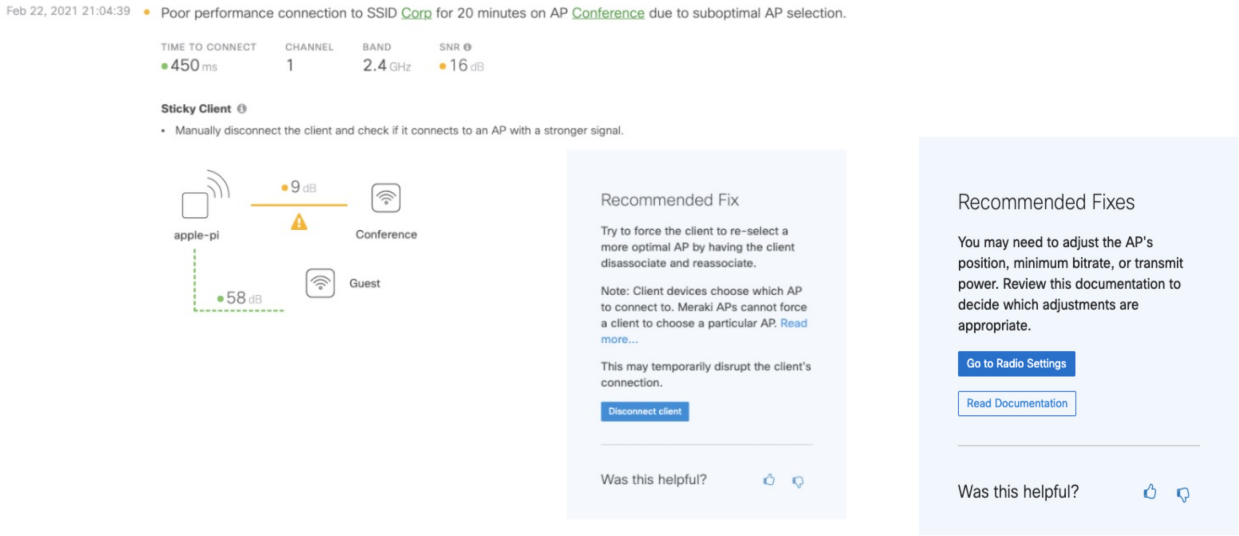
Coverage hole detection

- One of the most difficult RF issues to identify and resolve in any wireless network
- Coverage hole detection



Sticky Client Detection

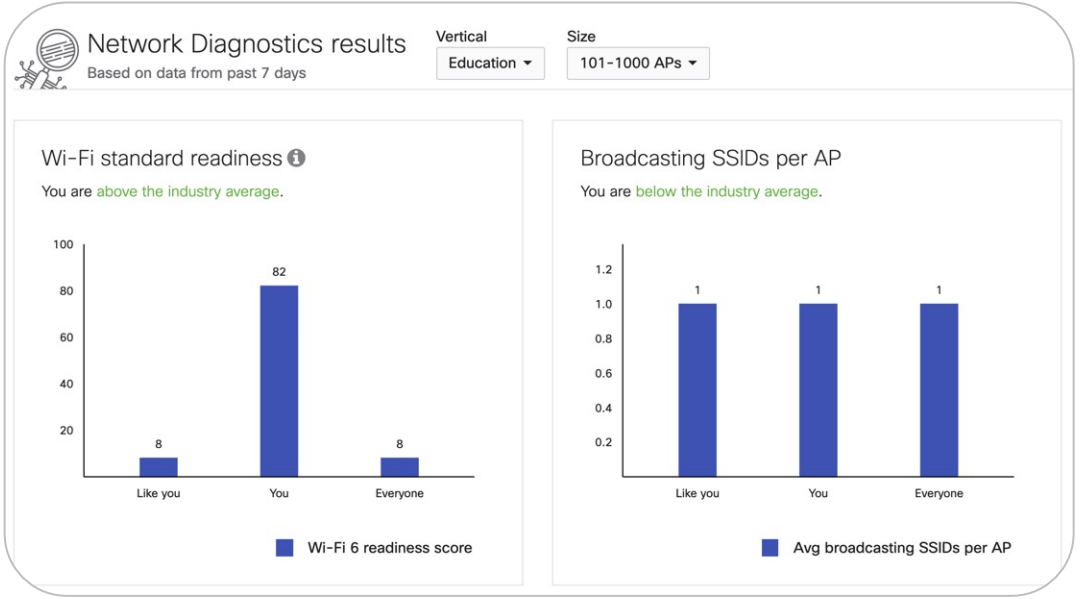
- Sticky Client detection allows to identify a specific client having poor performance because the client is not roaming
- These are more difficult to identify in a real world scenario as these are transient issues.



PLAN FOR THE FUTURE*

Recommended optimizations based on networks like yours

- **Automatically generates** comparisons to similar networks
- **Tailored recommendations** to improve network health and performance
- Keep your networks ahead of the curve, **based on real-world data**



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Meraki Insight

MI is critical for Meraki SD-WAN

Web App Health

"WHY ARE USERS EXPERIENCING SLOWNESS IN CRITICAL WEB TRAFFIC?"

HOW: Passive Monitoring of HTTP/S

WAN Health

"WHY CAN'T BRANCHES CONNECT TO THE INTERNET?"

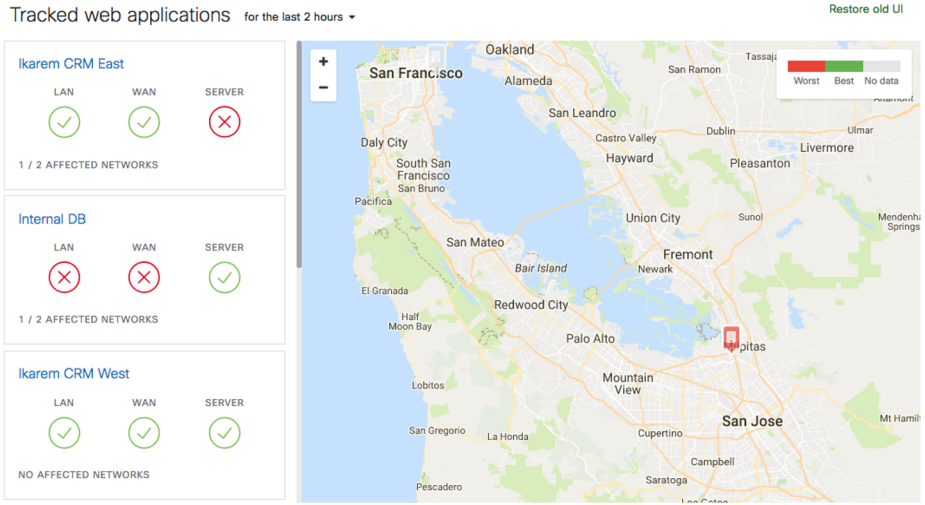
HOW: Active Monitoring of ICMP

Meraki Insight: Web App Health

SaaS Applications Performance Management

- Solves: "HELP, MY GMAIL IS SLOW!"

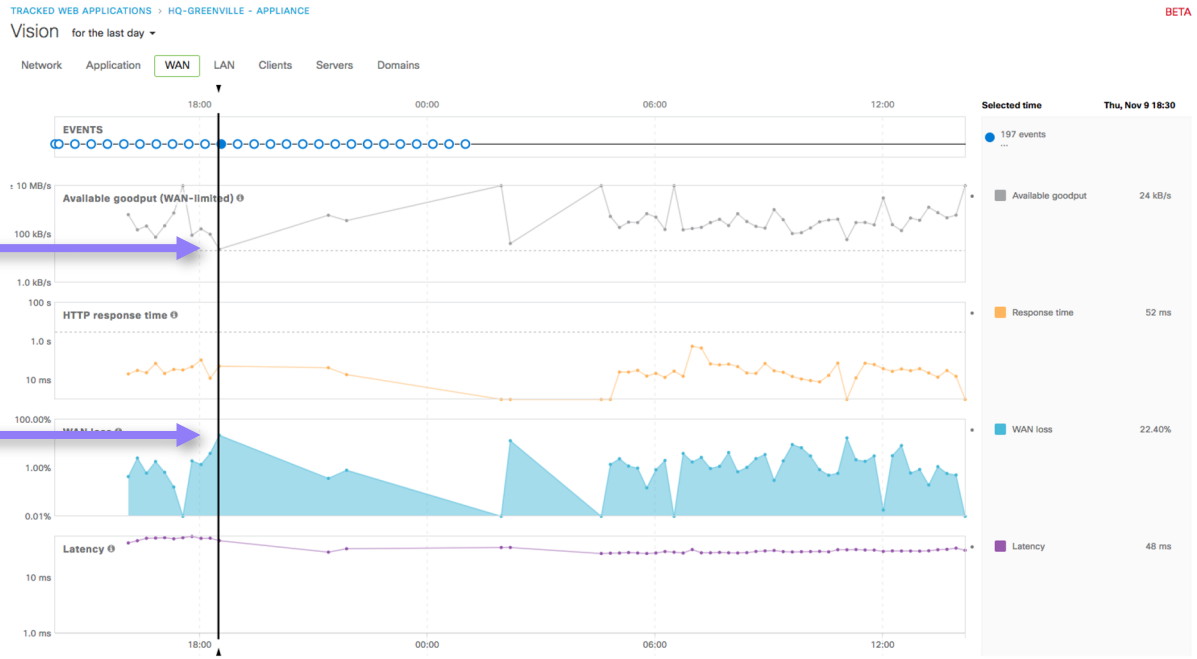
- **Troubleshoot end-to-end performance of web applications, without deploying any hardware**



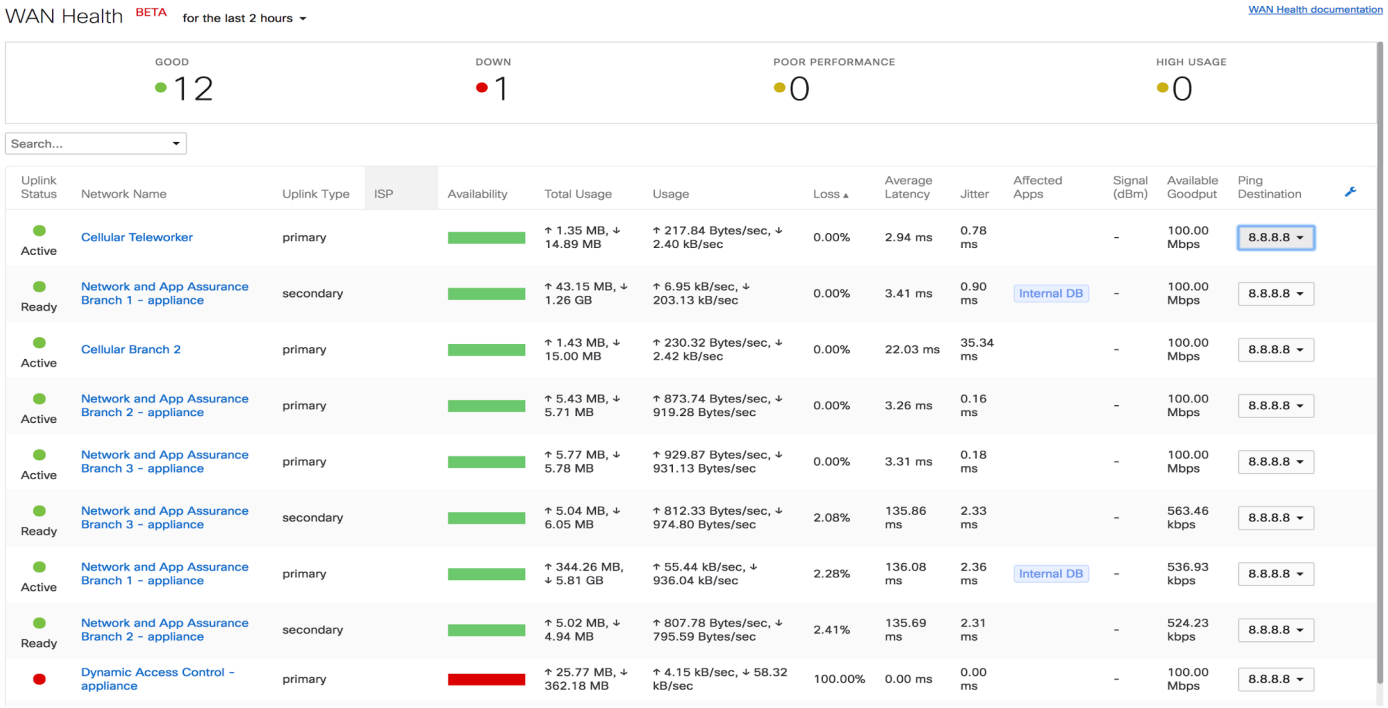
Reduce troubleshooting time from hours to minutes

Faster time to resolution

Diagnostics show that WAN loss (ISP) is the culprit for application quality degradation



Meraki Insight: WAN Health



What is it?

- Branch ISP connectivity (to 8.8.8.8 or custom destination)
- Ping/ICMP (active)

For Whom?

- Retail/ distributed branch
- Multiple sites

Meraki Health

Thanks!

cisco Meraki