New Central Hands-on-Lab

Wendell Williams – Channel SE NYC, NJ & Eastern PA

Evolution of Central

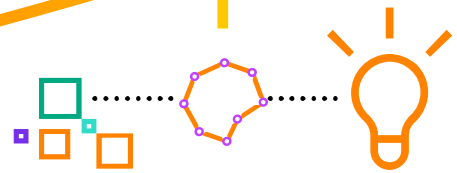
2014
Mobile-first

200+ sensors
10K+ clients

2020
The Intelligent Edge

300K+ devices
10M+ clients

2025
Secured, AI-Powered Experiences



4.6M+
devices
1.6B+ clients

Acquisitions RASA niara cape silverpeak axis athonet

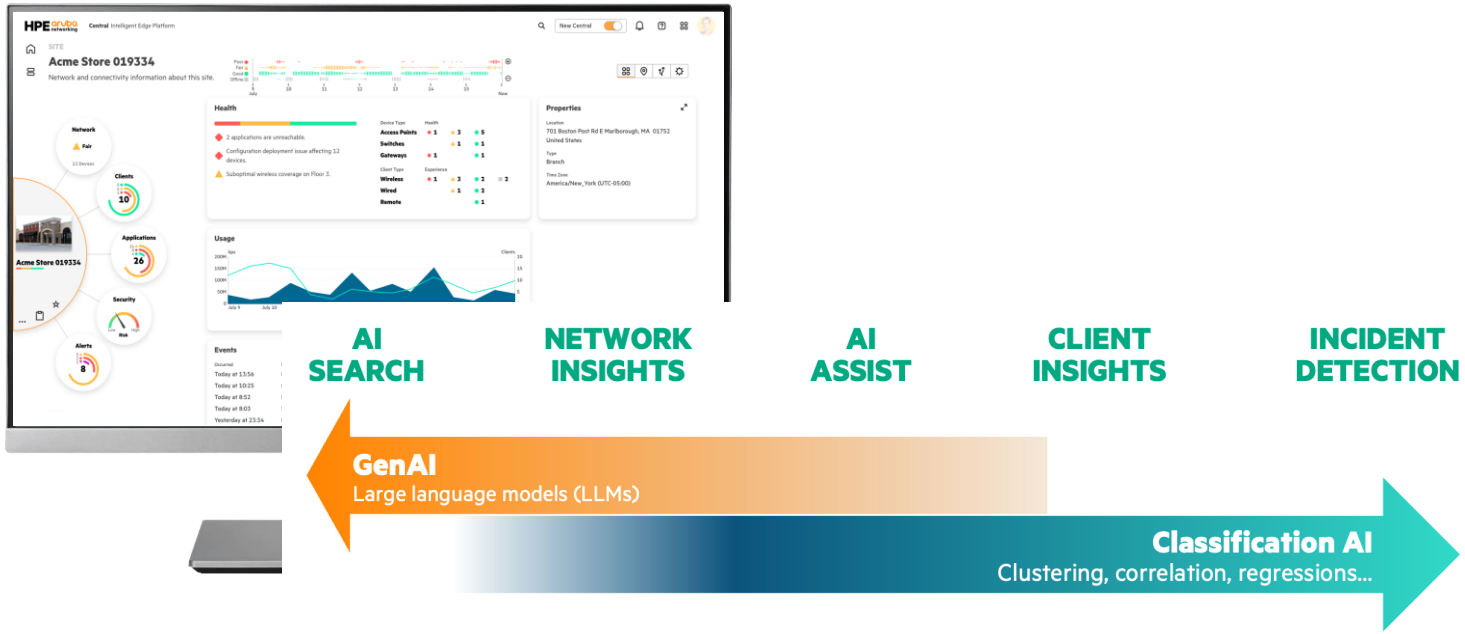
18X Gartner® Magic Quadrant™

New Central: Learns from the Industry's Largest Data Lake

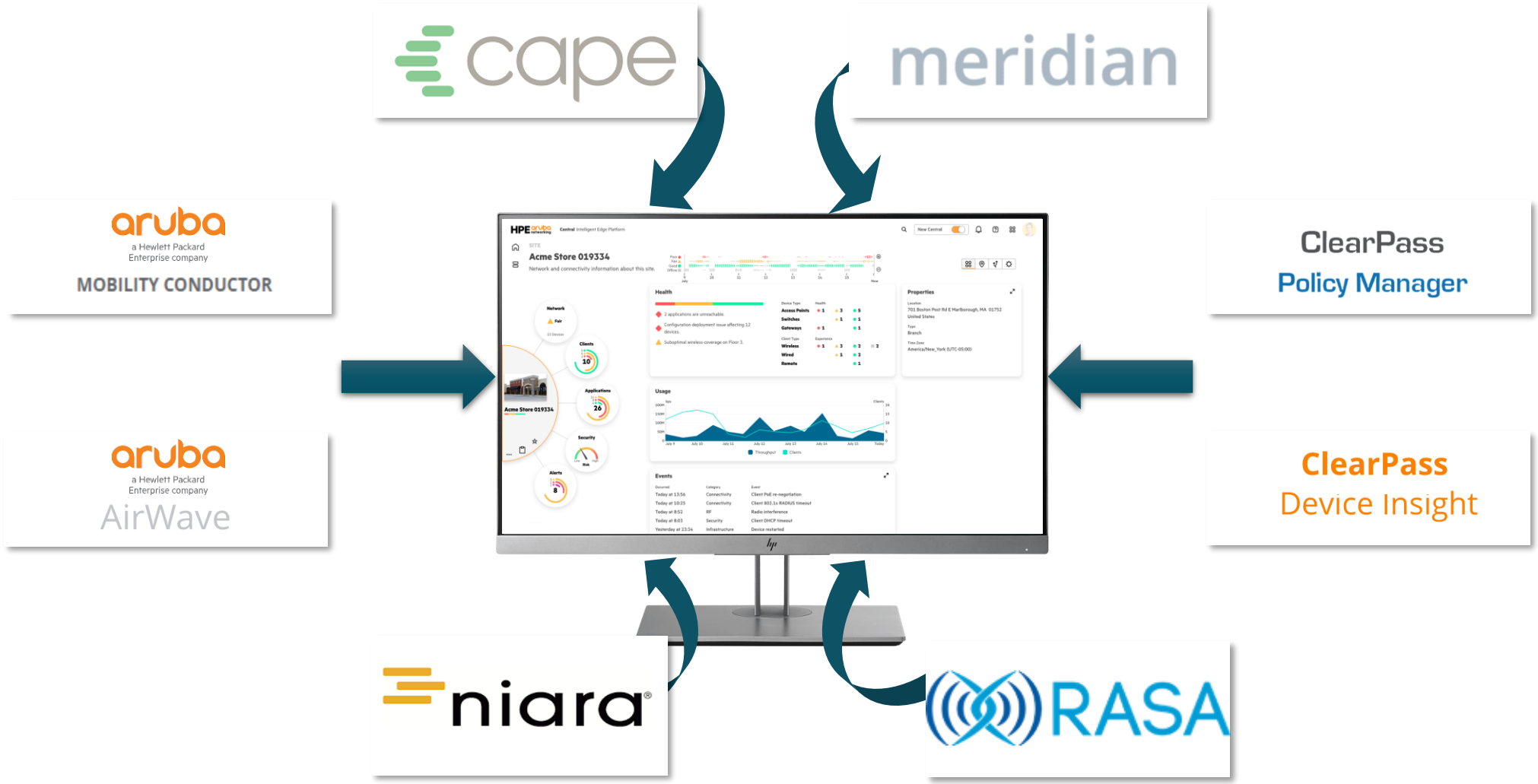
5M+
Devices

2B+
Clients

30+
Industry Verticals

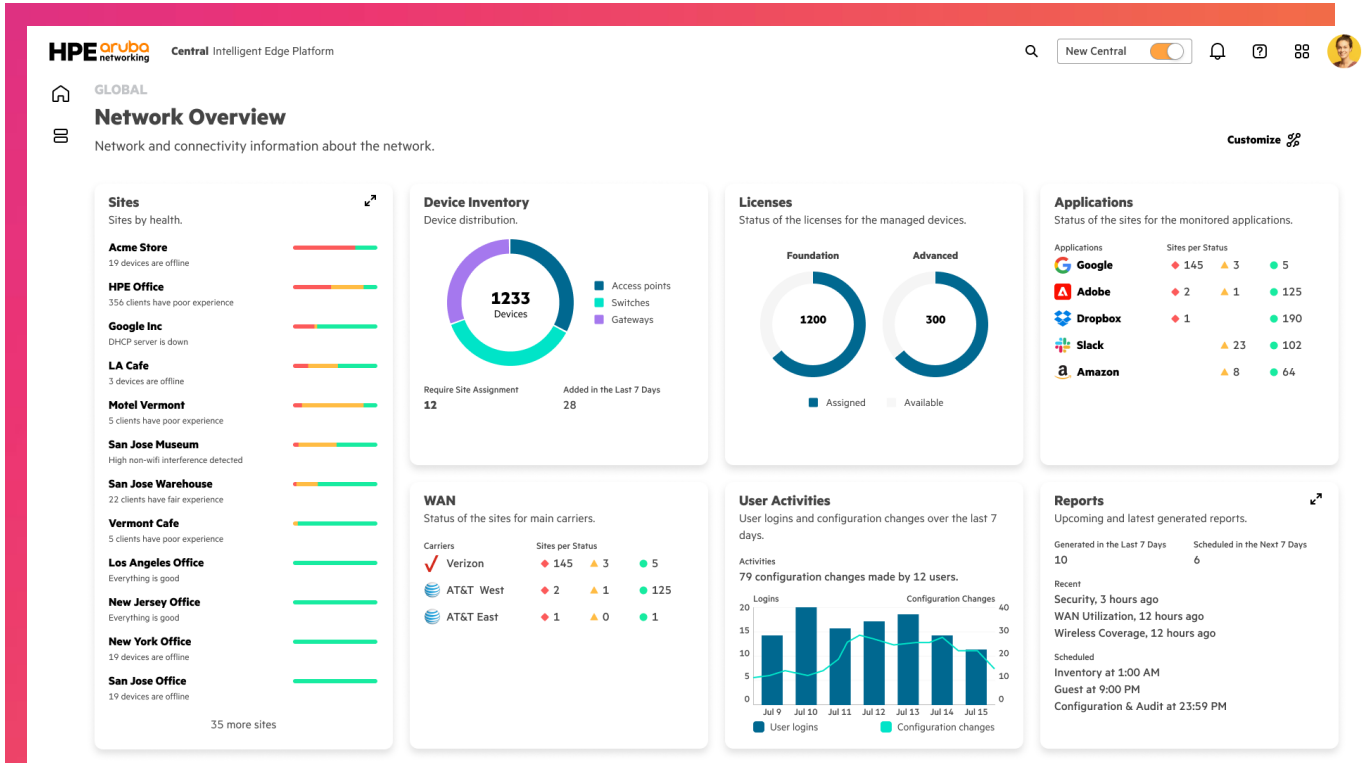


New Central: The Best From the Past and the Future



Network operations Center dashboard

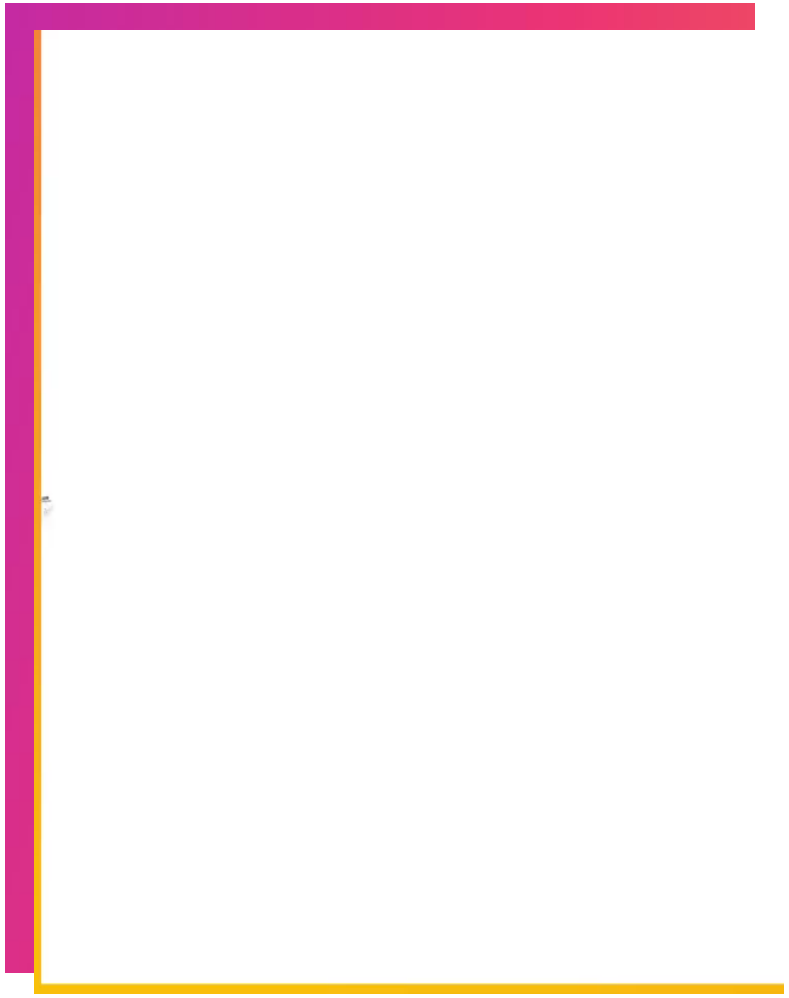
Powerful *command center* view to direct operator attention



- Unified view of the network for quick assessment of site health, application experience, device inventory, and more
- Optimizing the ***to-do* list** of a network operator
- Blended indicators highlight issues requiring **immediate attention**

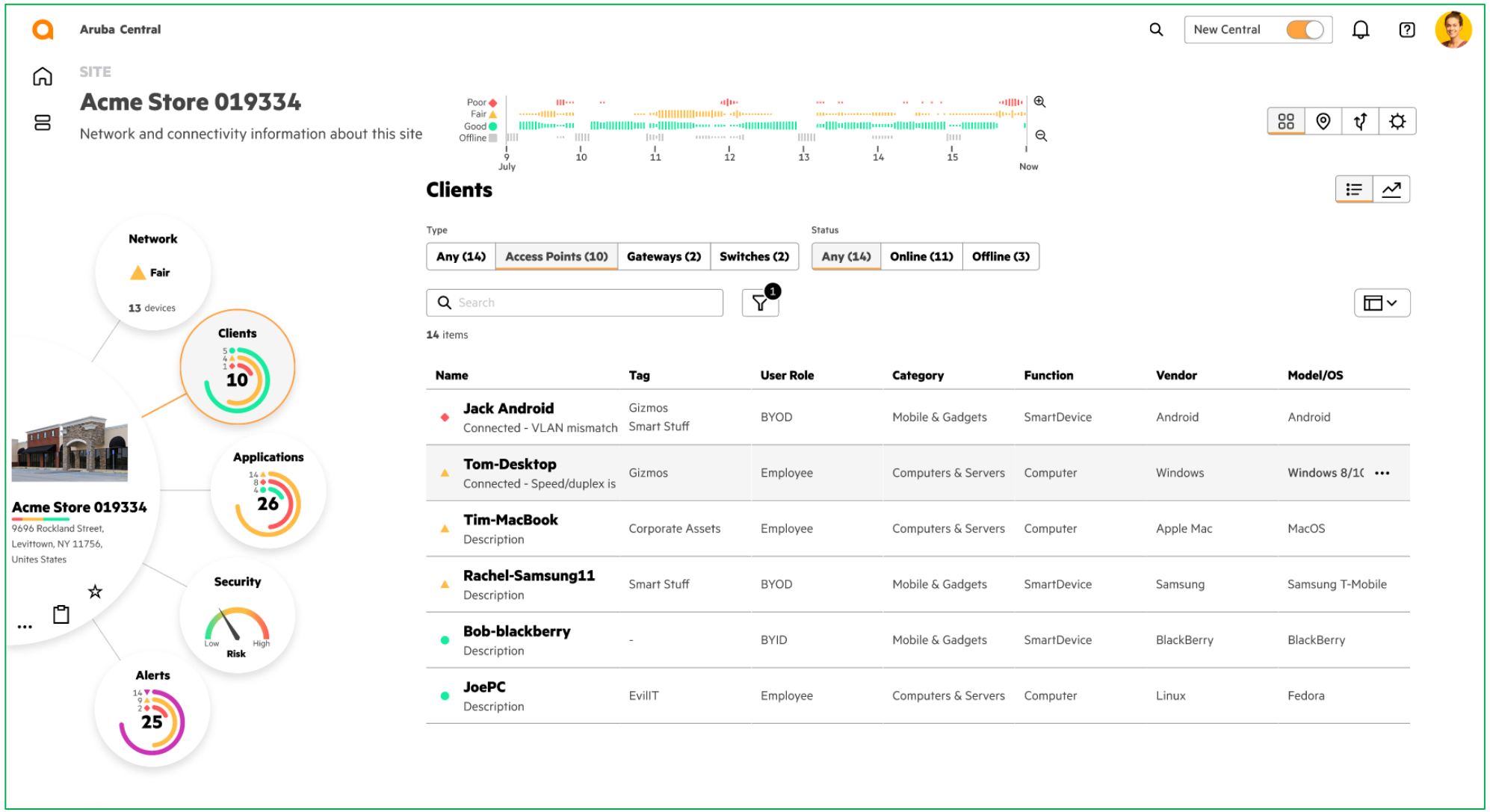
Entity-centric *Solar System* view

Reduce navigation clicks and minimize manual correlation

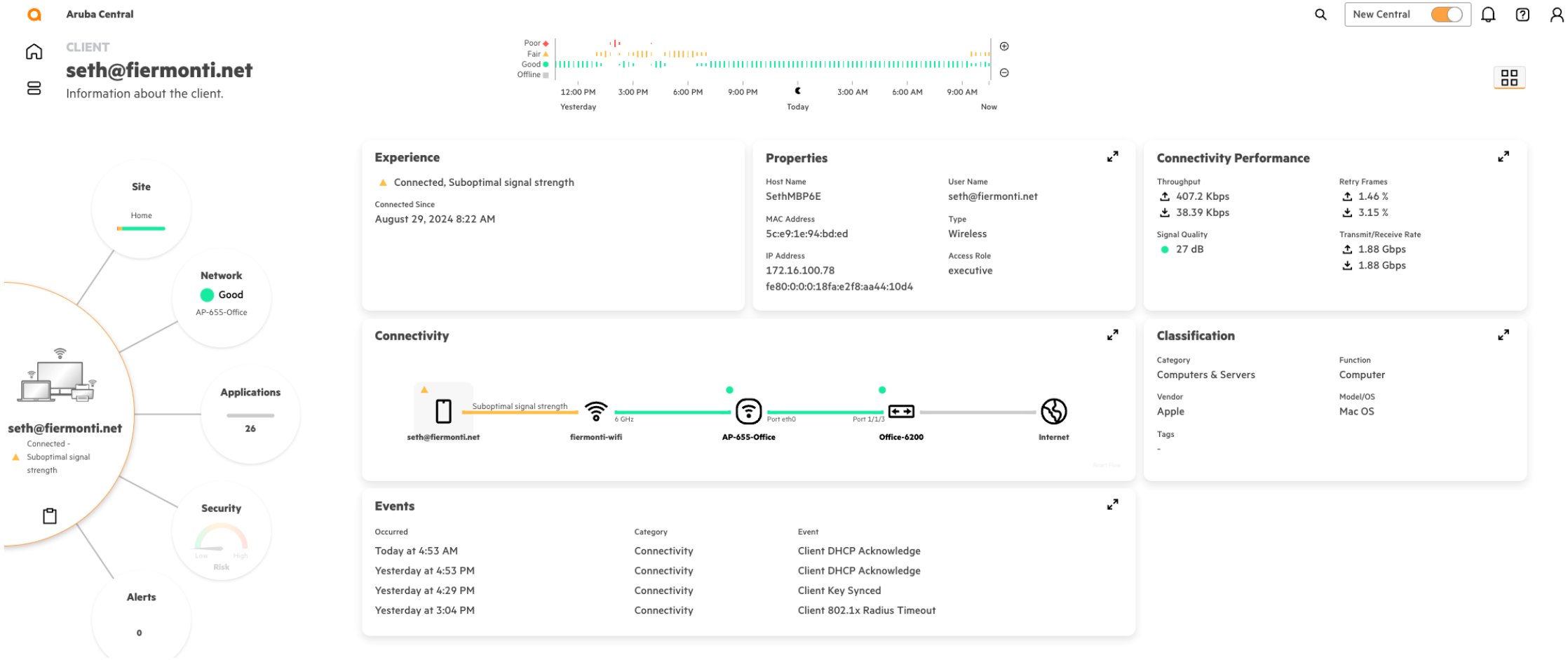


- Promotes **quicker discovery** without navigating across several screens and tables
- **Proactive summarization** with *blended* indicators
- Seamless switching between site, network devices, clients, applications, etc.
- Access to unified network device and client lists

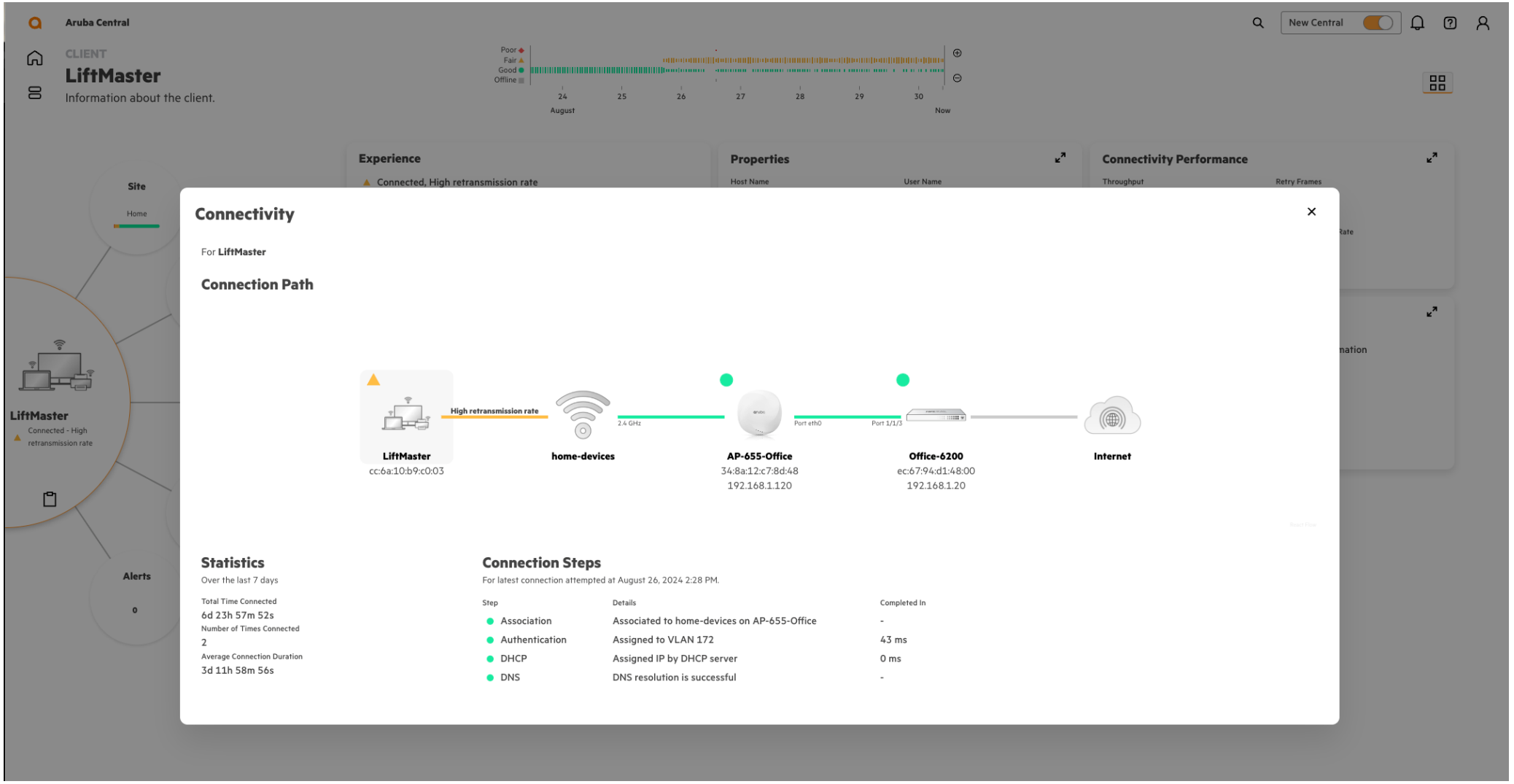
Easy to See Endpoint Client Status



One-Stop Experience Views

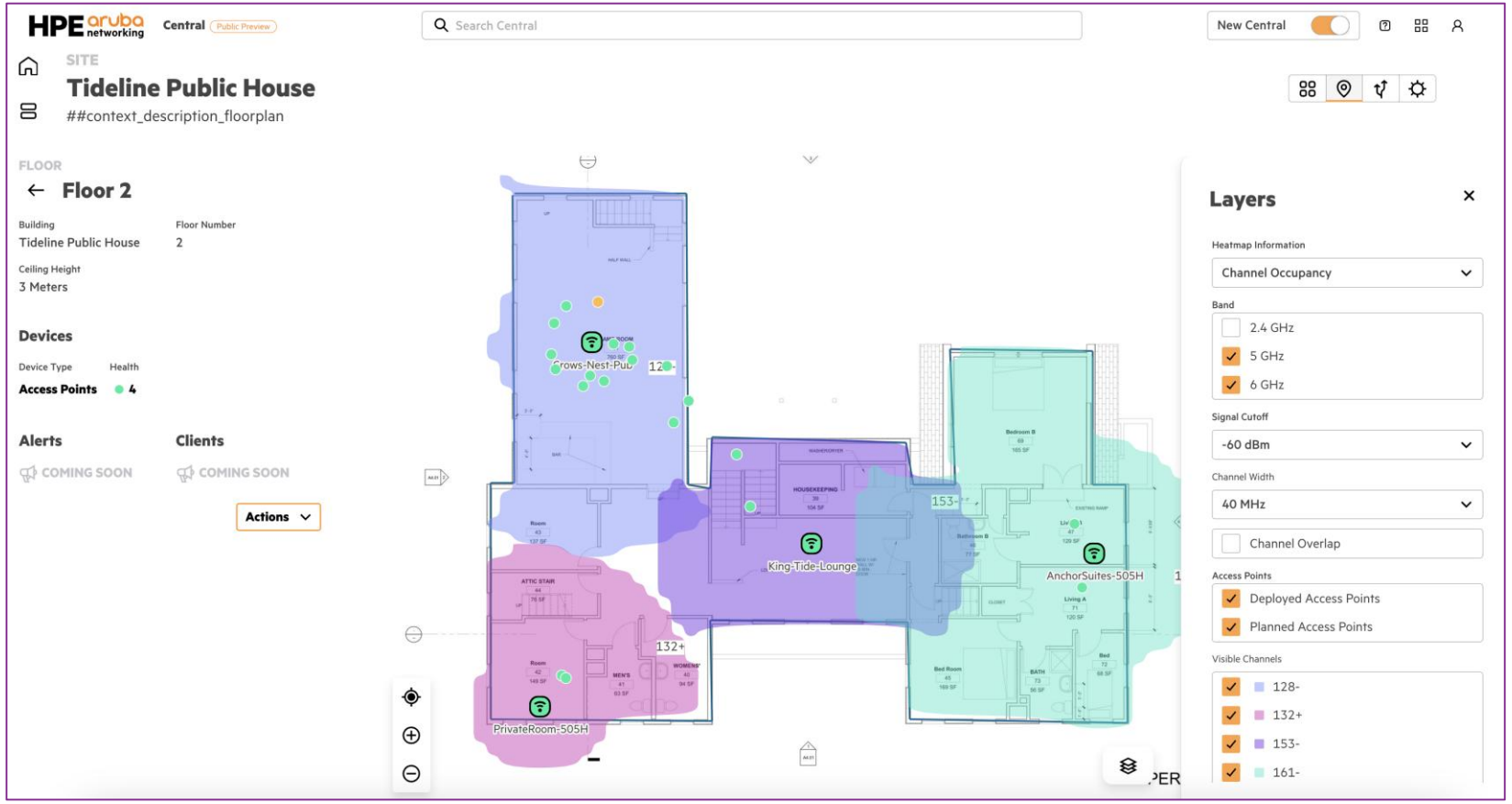


One-Stop Experience Views – deeper details



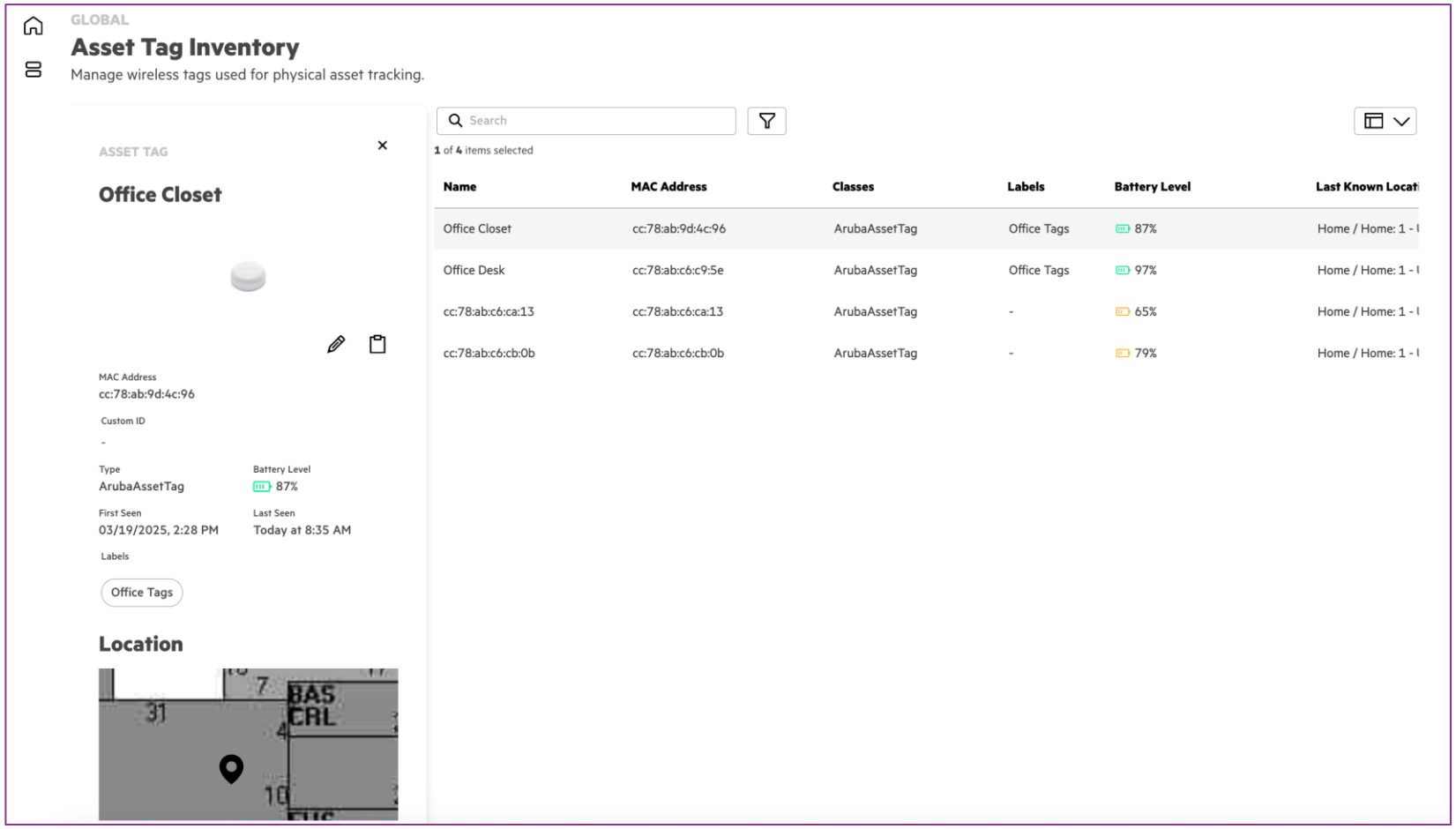
Enhanced Floorplan Manager

- **Auto Placement** of APs
- **Multiple Layers** – RF, Channel Occupancy, Overlap
- **Migrate from Classic Central**
- **Import** from Airwave, Ekahau, Hamina



Asset Tag Inventory and Location

- **Aruba and 3rd Party** asset tags
- **Create** custom names and labels
- **View location on floorplans**
- **Last known location and battery levels**



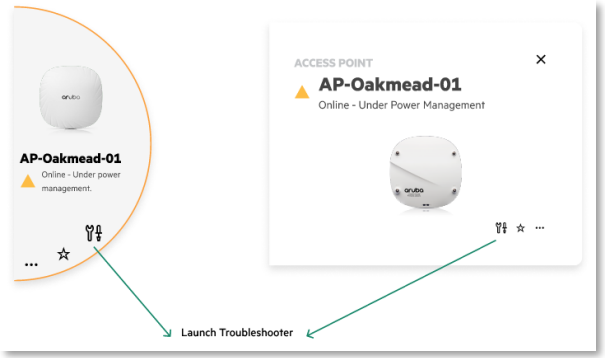
Troubleshooting Tools

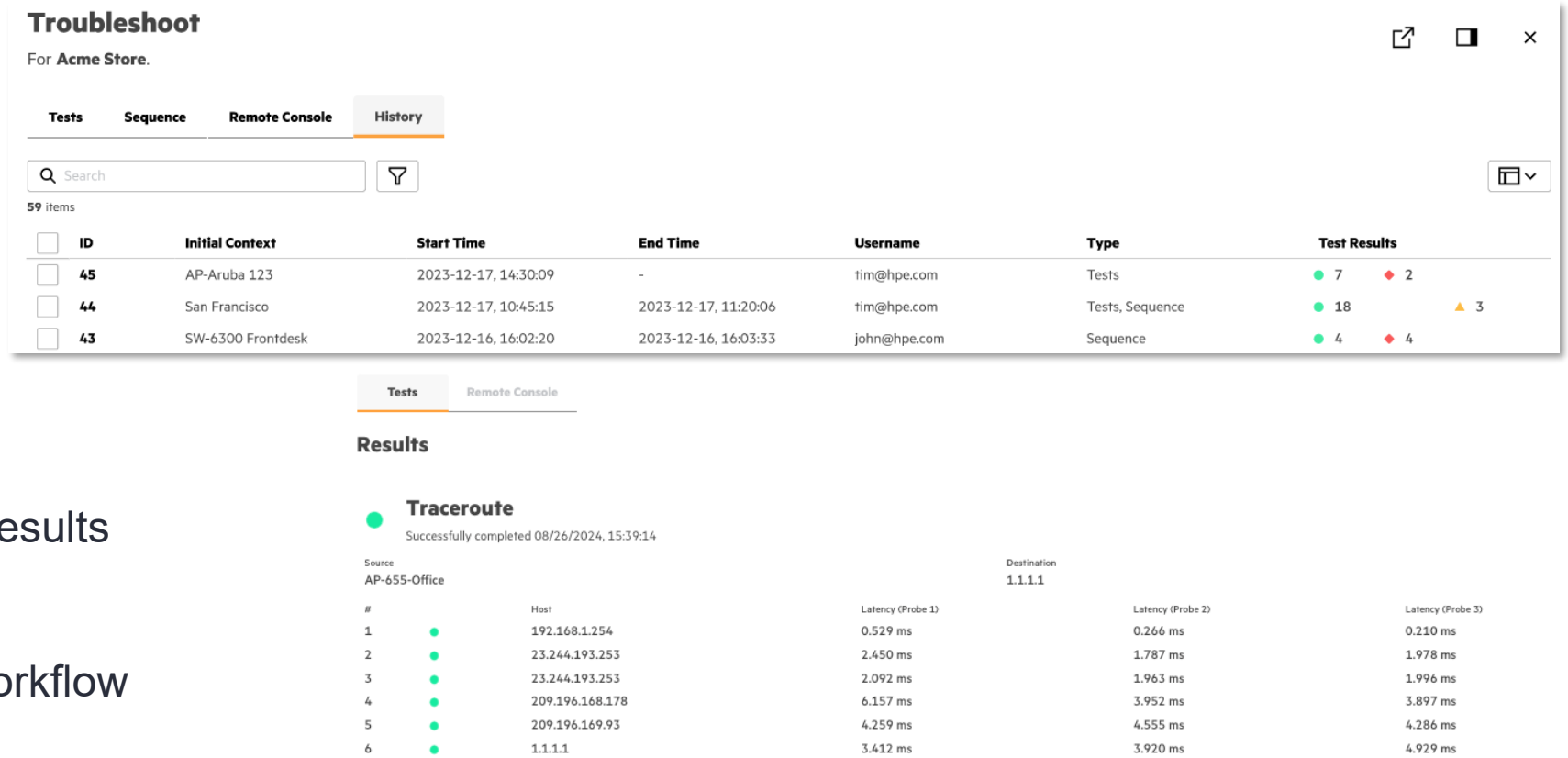
Framework

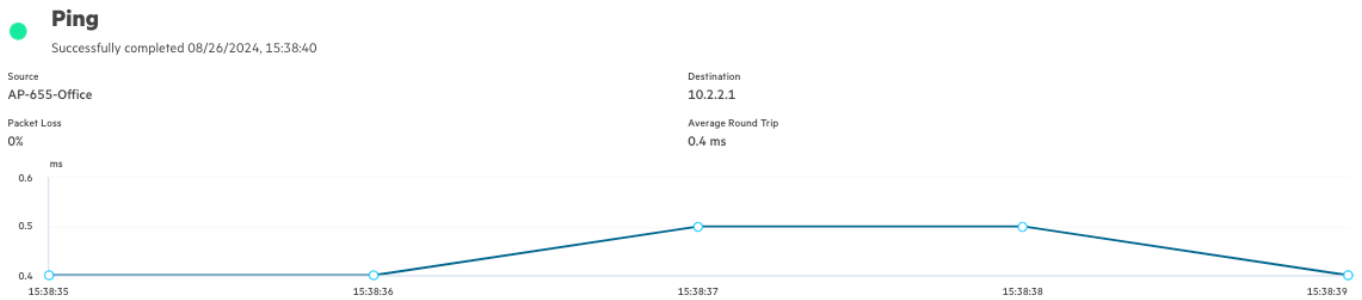
— Tests
— Sequence
— Remote console
— Commands
— History

Visual and **CLI** options for test results

Multiple **Entry points** into the workflow



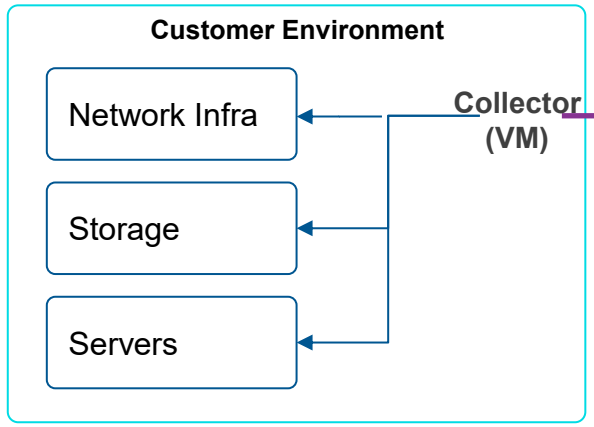


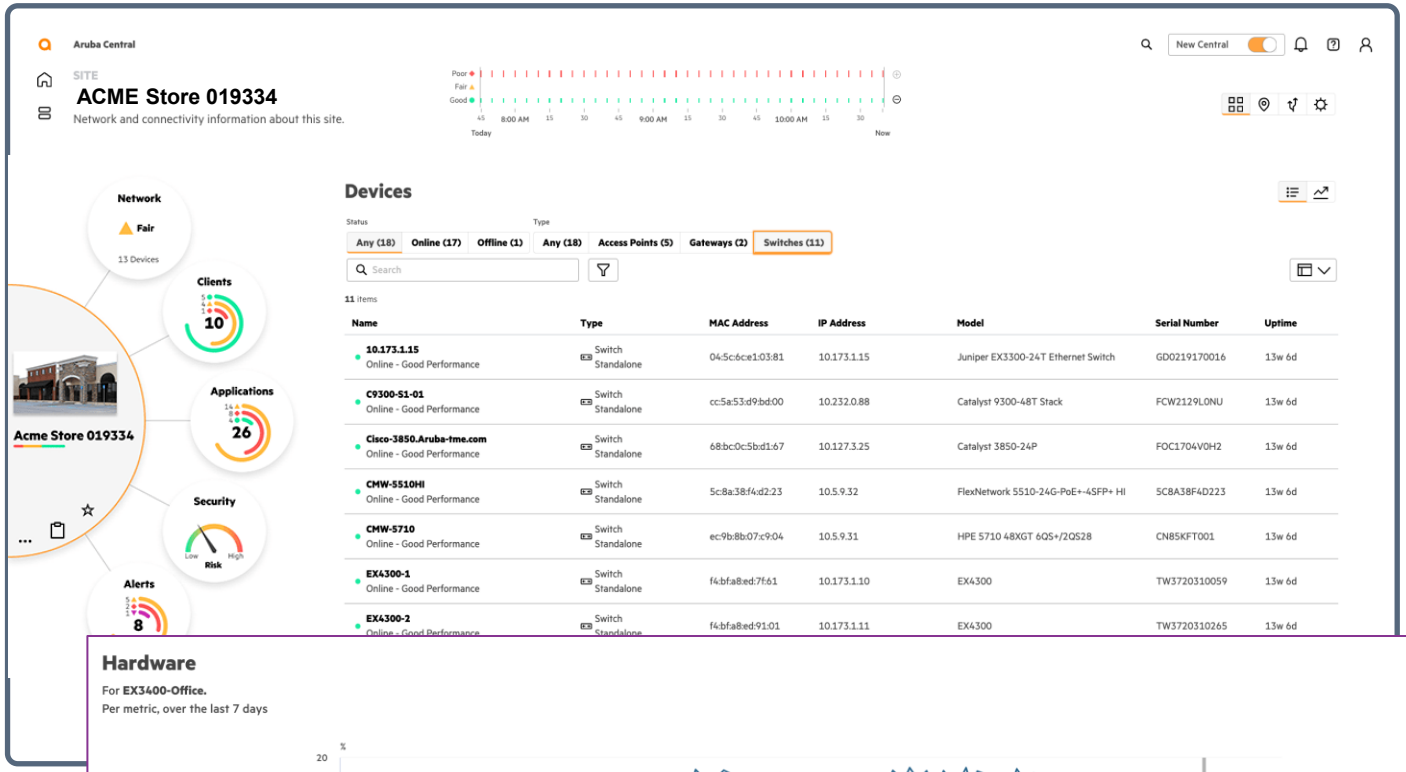


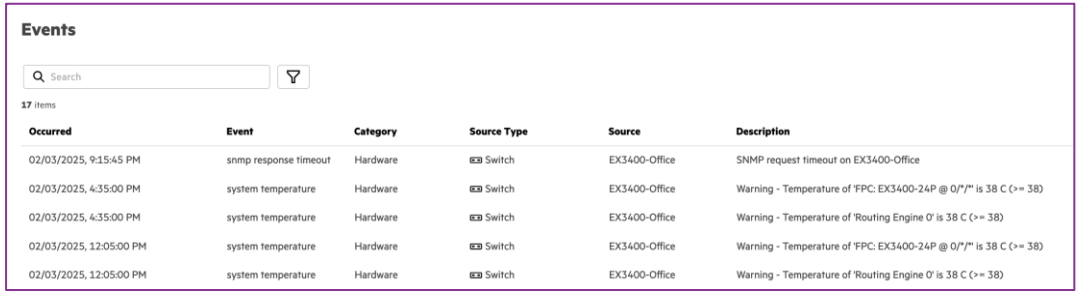
Third Party Observability with OpsRamp

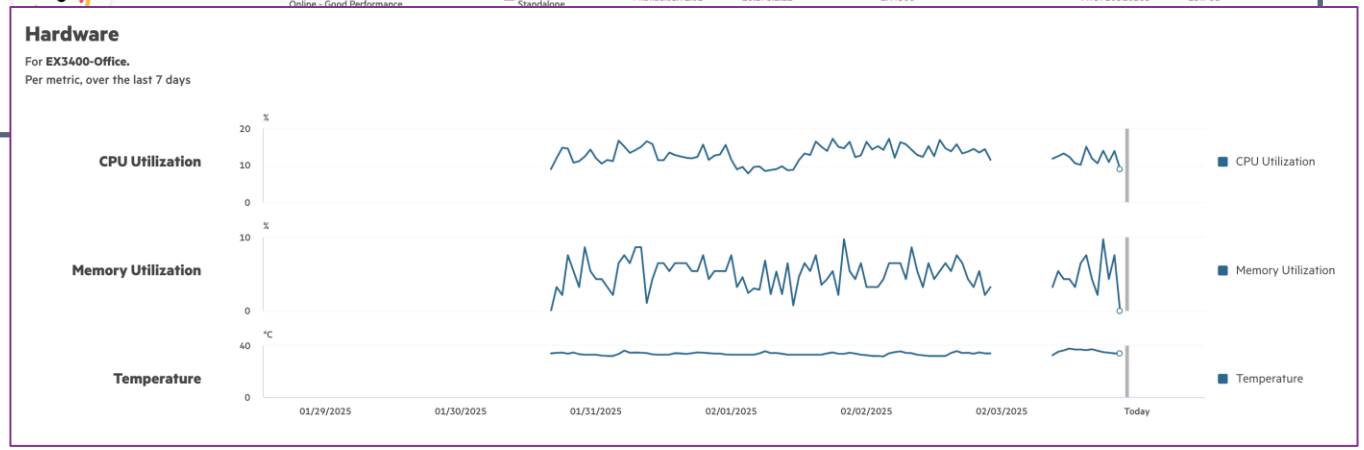
Currently supported third-party switches:

- Arista
- Cisco
- Extreme
- Juniper





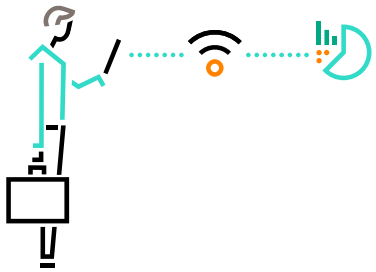




Bringing together Central and UXI

Enhanced application observability for end-to-end experience monitoring

Digital experience monitoring



Real user monitoring (RUM)

+

Synthetic transaction monitoring (STM)

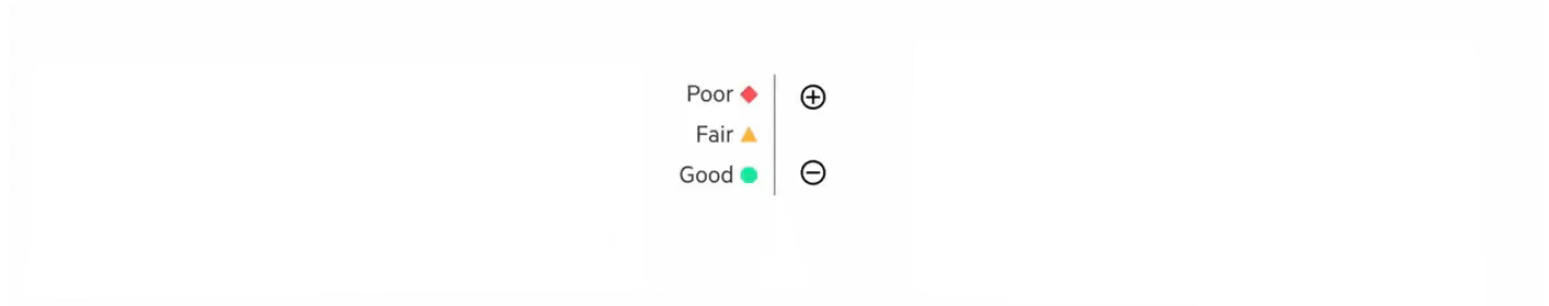
HPE GreenLake

New Central	User Experience Insight (UXI)
Deep packet inspection (DPI) on APs and gateways to monitor app experience	Application performance telemetry
Integration with Brightcloud for web content and reputation	**Proactive** monitoring with sensors
~3700 applications, including custom and web apps	Supports **multi-vendor environments**
	7000+ customers operating at scale

[1] Gartner Market Guide for Digital Experience Monitoring, Nov 2023

Industry-first network *Time Travel*

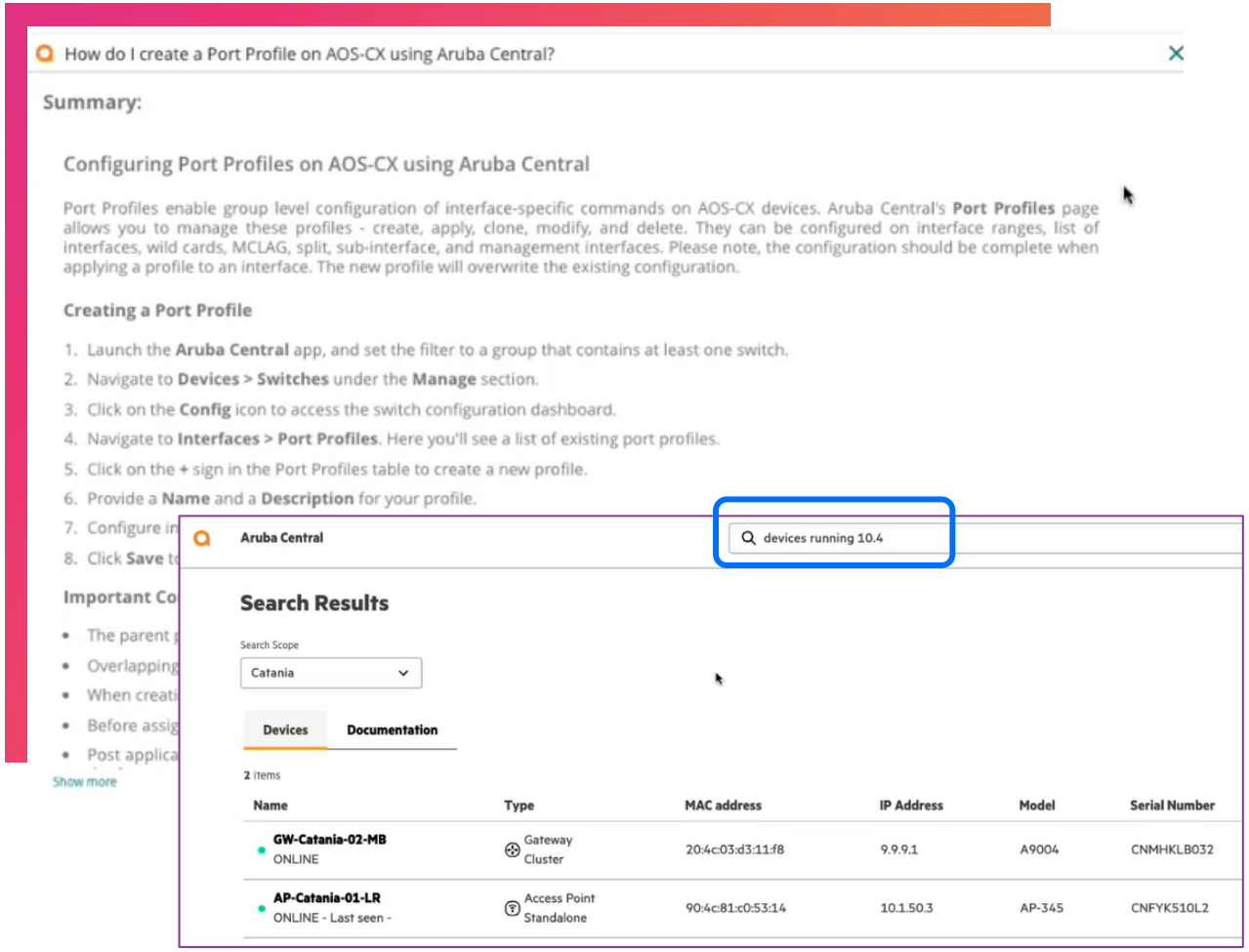
Helping IT teams answer *What changed? When? Why?*



- Holistic **point in time** network snapshot to troubleshoot difficult issues
- Deep correlation that goes beyond manual analysis of event logs and packet captures
- Move back in time for up to **seven days,** with granularity of **one minute**
- On selecting a timestamp, all dashboard views reflect what the network looked like at that point

Gen AI powered search

Enhanced with enterprise-grade LLMs for improved operator experience

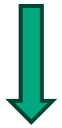


- Trained and tuned on **multiple proprietary LLMs**, purpose-built for networking
- Pre-conditioned with 3 million network questions for improved performance and accuracy
- **Sub-second summarization** of latest 30k pages of VRDs and tech pub documents
- **Uncompromised security** with no external API interfaces, and no PII/CII shared beyond customer instance

Agentic AI Enhances Search

Show me how to map a VLAN between AP and the Gateway

Summarize new features in AOS-10 release



Summarize new features in firmware AOS-10 release 10.7. 2.0

Thought for 11 seconds

New Features in AOS-10.7.2.0

AOS-10.7.2.0 introduces several new features and enhancements to improve network performance and management capabilities. Here's a summary of what's new in this release:

New Features

- **Split Image Firmware Upgrade**
  - Introduced for select AP models
  - Consists of a base image and an extension image
  - For more information, refer to Managing Firmware Upgrades documentation

Enhancements

- **DHCP Reservation Limit**
  - Increased from 64 to 256 for devices running AOS-10.7.2.0 or higher
  - Note: Devices running lower AOS-10 versions might experience issues with the increased reservation value
- **Enhanced show tech-support CLI Command**
  - Now includes AP information and associated configuration details
  - Added multiple debug commands for better troubleshooting including:
    - Zigbee radio and client tables
    - IoT USB device information

Show me how to @map a VLAN between AP and the Gateway

Thought for 11 seconds

Mapping VLANs Between Aruba APs and Gateways

When configuring Aruba networks, properly mapping VLANs between Access Points (APs) and Gateways is essential for ensuring proper traffic flow and network segmentation. Here's how to establish this mapping:

AP VLAN Configuration

1. **Create AP Groups**
   - First, create an AP group to support wireless service in your branches
   - AP groups allow you to apply consistent VLAN configurations across multiple APs
2. **Configure VLAN Trunk Settings**
   - For APs that will tunnel traffic to gateways, configure the port-access role to allow specific VLANs:

```
port-access role ARUBA-AP auth-mode device-mode
vlan trunk native 100
vlan trunk allowed 100,101,104-107
```

   - This example shows a configuration where VLAN 100 is the native VLAN, and VLANs 100, 101, and 104-107 are allowed on the trunk

Gateway VLAN Configuration

1. **Create VLANs on the Gateway**
   - Navigate to the Gateway configuration interface
   - Select the LAN tab and then VLANs
   - Create the necessary VLANs that will be mapped to the AP traffic

Enter a prompt here

Agentic AI: Create a custom workflow

How should I upgrade from AOS8 to AOS10

Migrating from AOS 8 to AOS 10 requires careful planning and execution due to significant architectural changes. This guide outlines the key considerations and steps for a successful migration.

Prerequisites

Before beginning the migration process, ensure the following prerequisites are met:

- **Controller Requirements**:
  - Associated gateway must be running AOS 8.10.0.12, 8.12.0.1, or later release
  - If using AOS 8.10 prior to 8.10.0.5, avoid using SCP for image transfer as it will result in incorrect permissions
  - If using AOS 8.10 prior to 8.10.0.11 with CPSec enabled, be aware that pre-validation operations may fail
- **Knowledge Requirements**:
  - Familiarity with AOS 10 architecture is essential for successful migration
  - Review recommended resources including:
    - HPE Aruba Networking Central Help
    - Architectural Overview of AOS 10
    - Validated Solution Guides for Campus WLAN architecture and deployment

Planning Considerations

Architectural Changes

- **Management Platform Change**: AOS 10 requires HPE Aruba Networking Central for operation and management of APs and Gateways
- **Configuration Recreation**: The entire AOS 8 configuration must be recreated in Central before upgrading devices to AOS 10

Testing Recommendation

- Test the migration process in a lab or controlled environment before implementing in production
- Ensure all steps are understood and work properly in a test environment

Migration Process

Step 1: Plan Your Configuration

- Create a detailed plan for AOS 10 configuration in Central before upgrading any devices
- Review each layer of your network against migration guidelines

Step 2: Upgrade Test AP First

1. Select a test AP for initial migration
2. Upgrade using the appropriate `ap convert` command
3. Verify successful conversion by checking LLDP neighbor information from the switch:
   - AOS 8 APs appear as "CAP"
   - AOS 10 APs display as "IAP"
4. Perform standard client testing procedures to ensure functionality

Step 3: Upgrade Remaining APs

After successful testing, proceed with upgrading the remaining APs using the same process with other `ap convert` command options (e.g., all-aps, ap-group)

Post-Migration Considerations

Authentication Updates

- Update NAD/RADIUS client IP lists on all RADIUS servers to ensure uninterrupted 802.1X WLAN client authentications
- Prepare for changes if using Internal Authentication Server or EAP-Offload

Troubleshooting

What are the specific commands to upgrade APs using the 'ap convert' command?

AOS8 to AOS10 AP Convert Command Syntax

The `ap convert` command is used to migrate controller-managed APs from AOS 8 to AOS 10. This command facilitates the conversion process and allows for management through Aruba Central.

Basic Command Structure

```
ap convert
  active {all-aps|specific-aps}
  add {ap-group|ap-name}
  cancel
  clear-all
  delete {ap-group|ap-name}
  pre-validate {all-aps|specific-aps}
```

Command Parameters

Parameter	Description
active {all-aps|specific-aps}	Convert active Campus AP or Remote AP to Instant APs managed by Aruba Central
add {ap-group|ap-name}	Add AP group or AP name to the list for AP conversion
cancel	Cancel conversion (APs currently downloading will continue)
clear-all	Remove all AP groups and AP names from the conversion list
delete {ap-group|ap-name}	Delete AP group or AP name from the conversion list
pre-validate {all-aps|specific-aps}	Pre-validate the Campus AP or Remote AP connection to Aruba Activate or Central

Command Examples

Adding APs to Conversion List

```
(host) [mynode] #ap convert add ap-group
```

Or for individual APs:

```
(host) [mynode] #ap convert add ap-name
```

Pre-validating APs

```
(host) [mynode] #ap convert pre-validate specific-aps
```

Checking Conversion Status

```
(host) [mynode] #show ap convert-status
```

Converting APs Using Different Methods

Using HTTP server:

```
(host) [mynode] #ap convert active specific-aps server http common.cloud.hpe.com path ccssvc/ccs-system-firmware-registry/IAP <img>
```

Using SCP server:

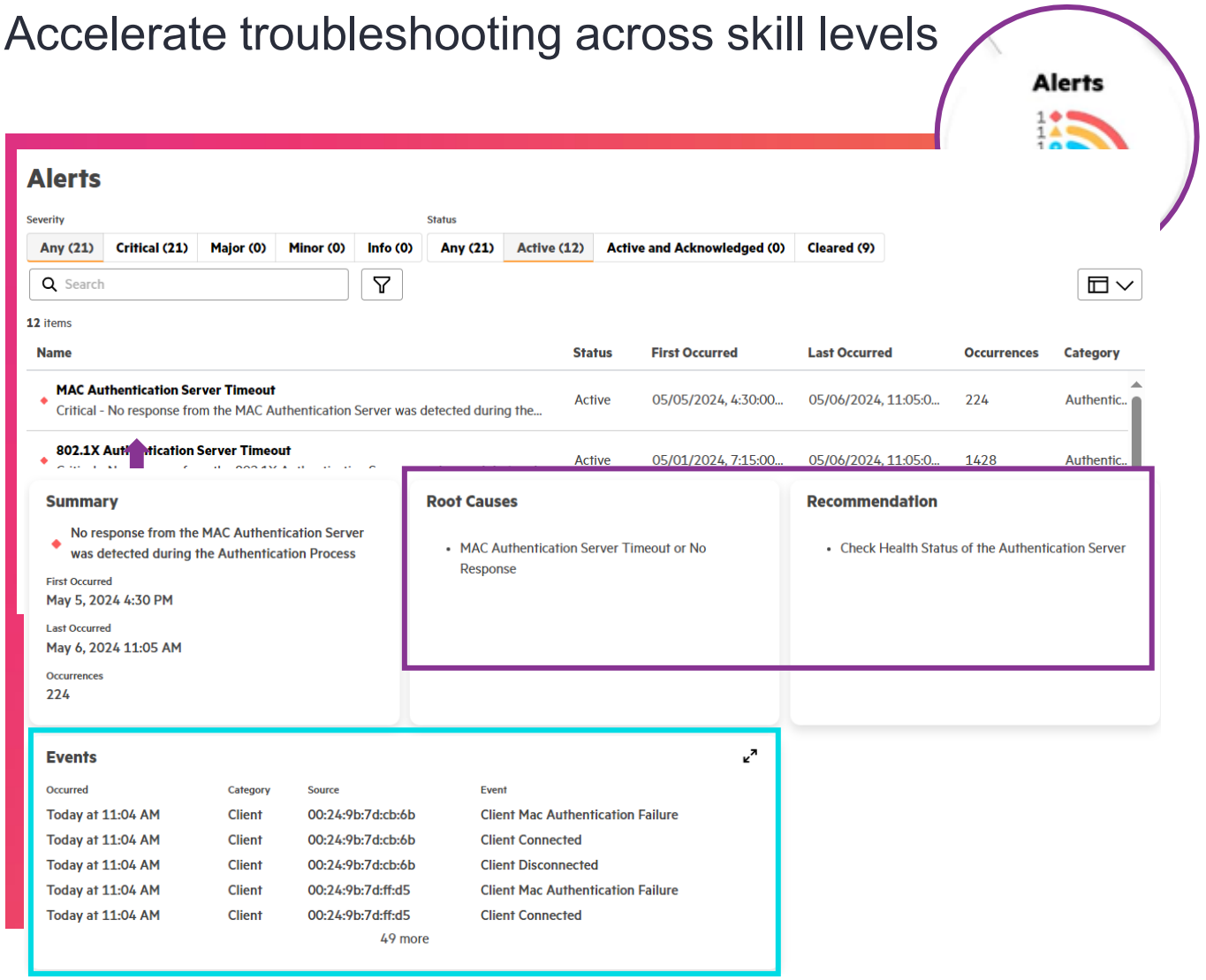
```
(host) [mynode] #ap convert active specific-aps server scp username   <img>
```

Using local flash:

```
(host) [mynode] #ap convert active specific-aps local-flash ImageFile.tar
```

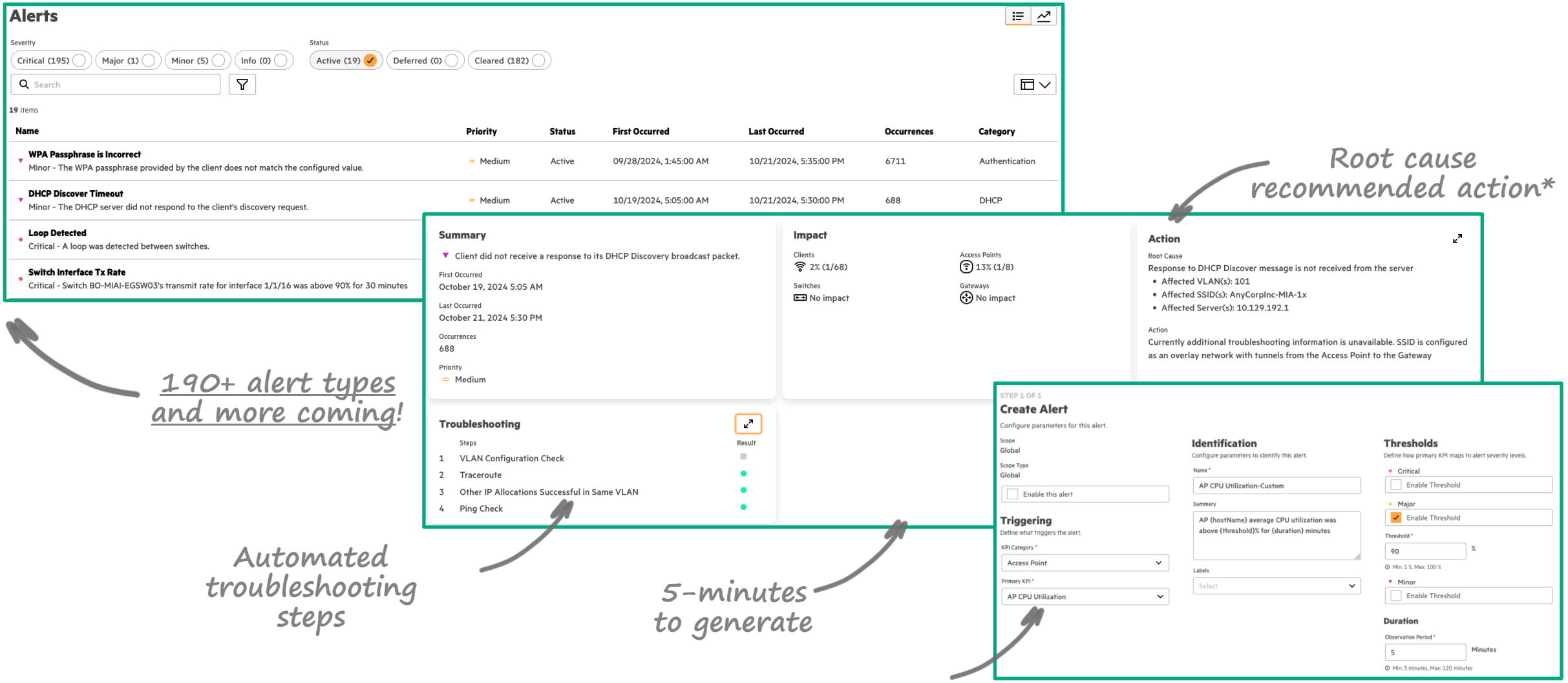
AI-driven assurance and alerts

Accelerate troubleshooting across skill levels



- **Event-to-insight in <5 minutes** with near real-time alerts, speeding up MTTR
- **Full-stack correlation** with precise root-cause, recommendation and impact
- Reduced alert fatigue with consolidated list of triggered events
- Assurance indicators for device health and client experience for quick diagnosis

New Central Alerts Overview



Root cause recommended action*

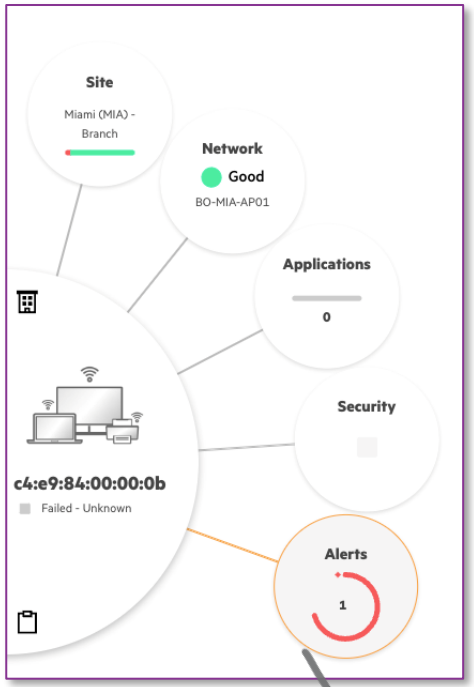
190+ alert types and more coming!

Automated troubleshooting steps

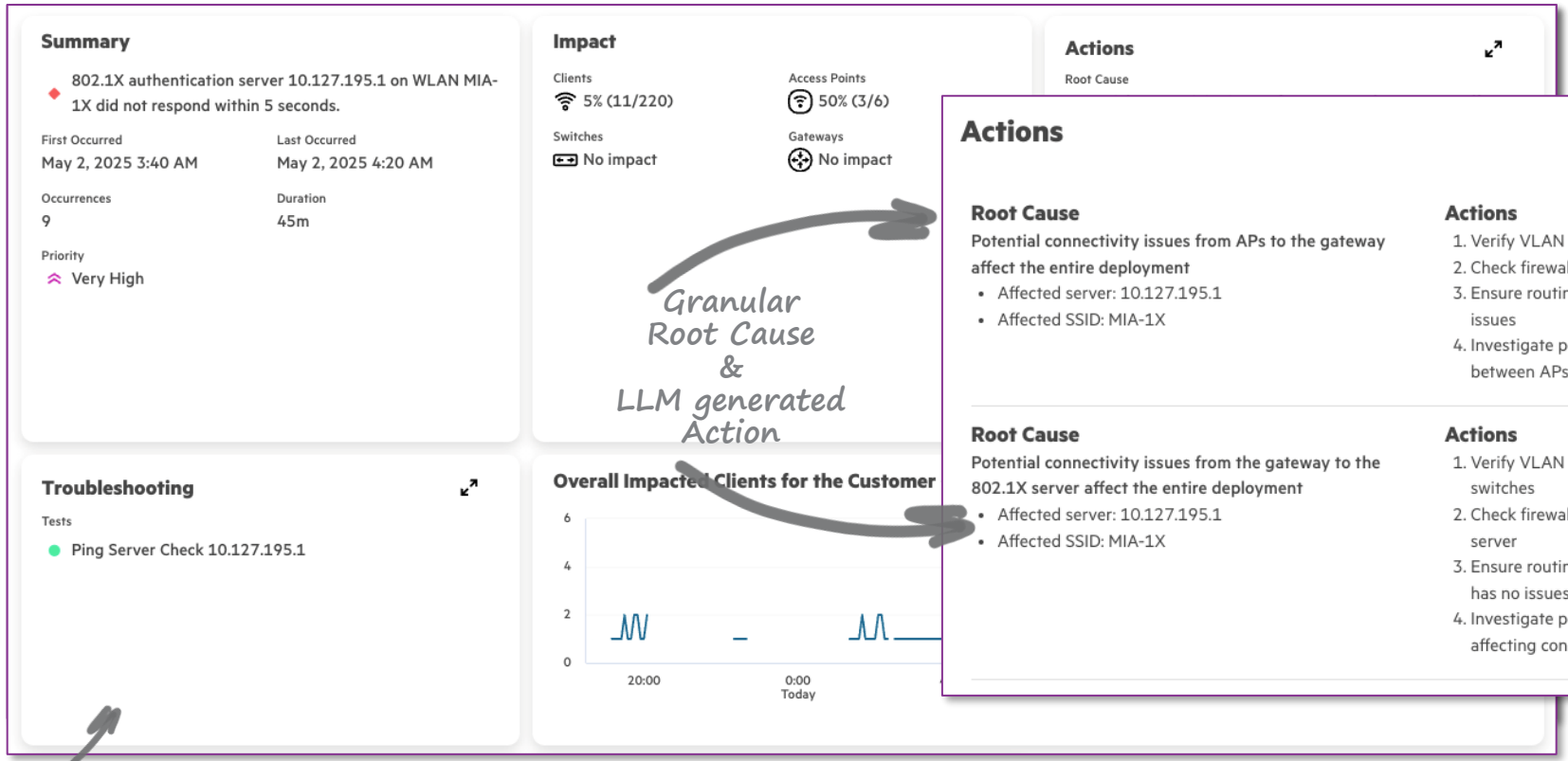
5-minutes to generate

Custom alerts on any KPI

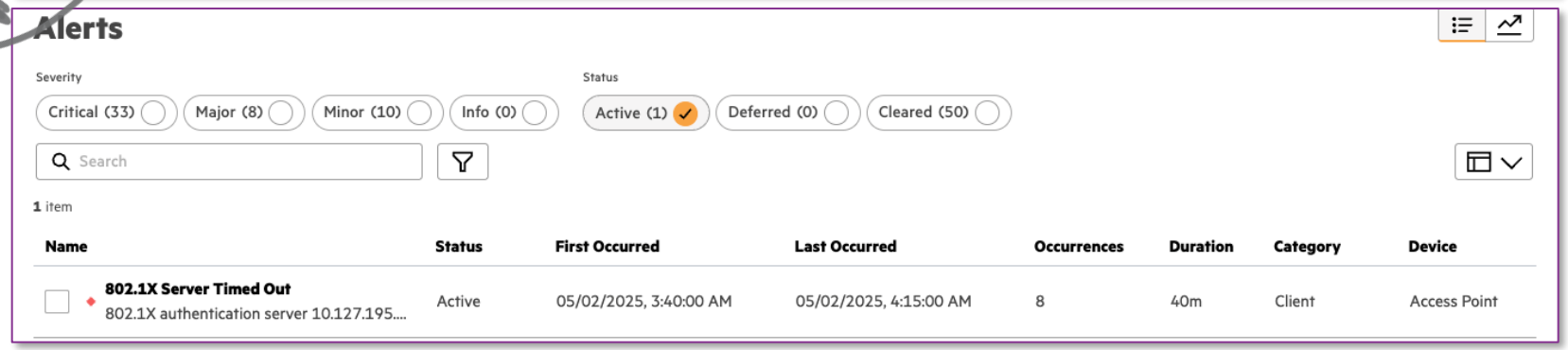
New Central Alerts - enables faster troubleshooting



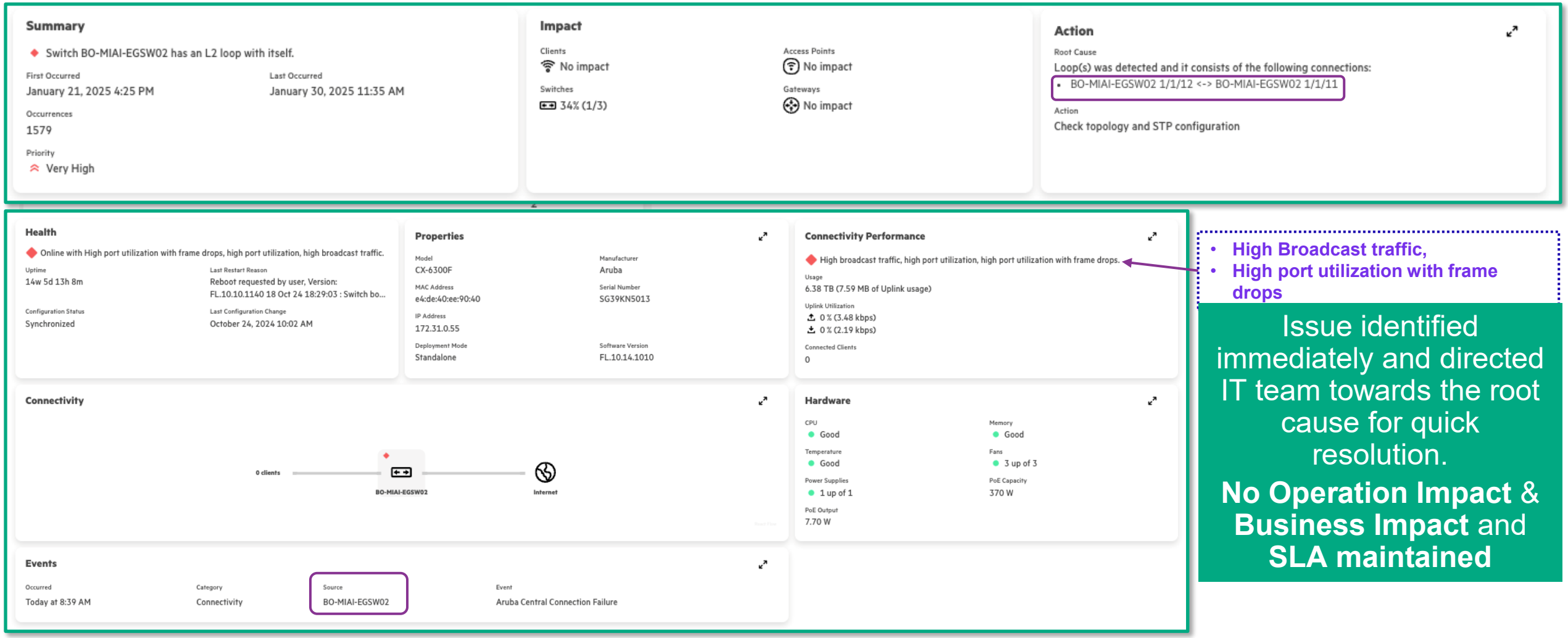
Automated Troubleshooting Steps*



Granular Root Cause & LLM generated Action



New Central Alerts – Loop Detection



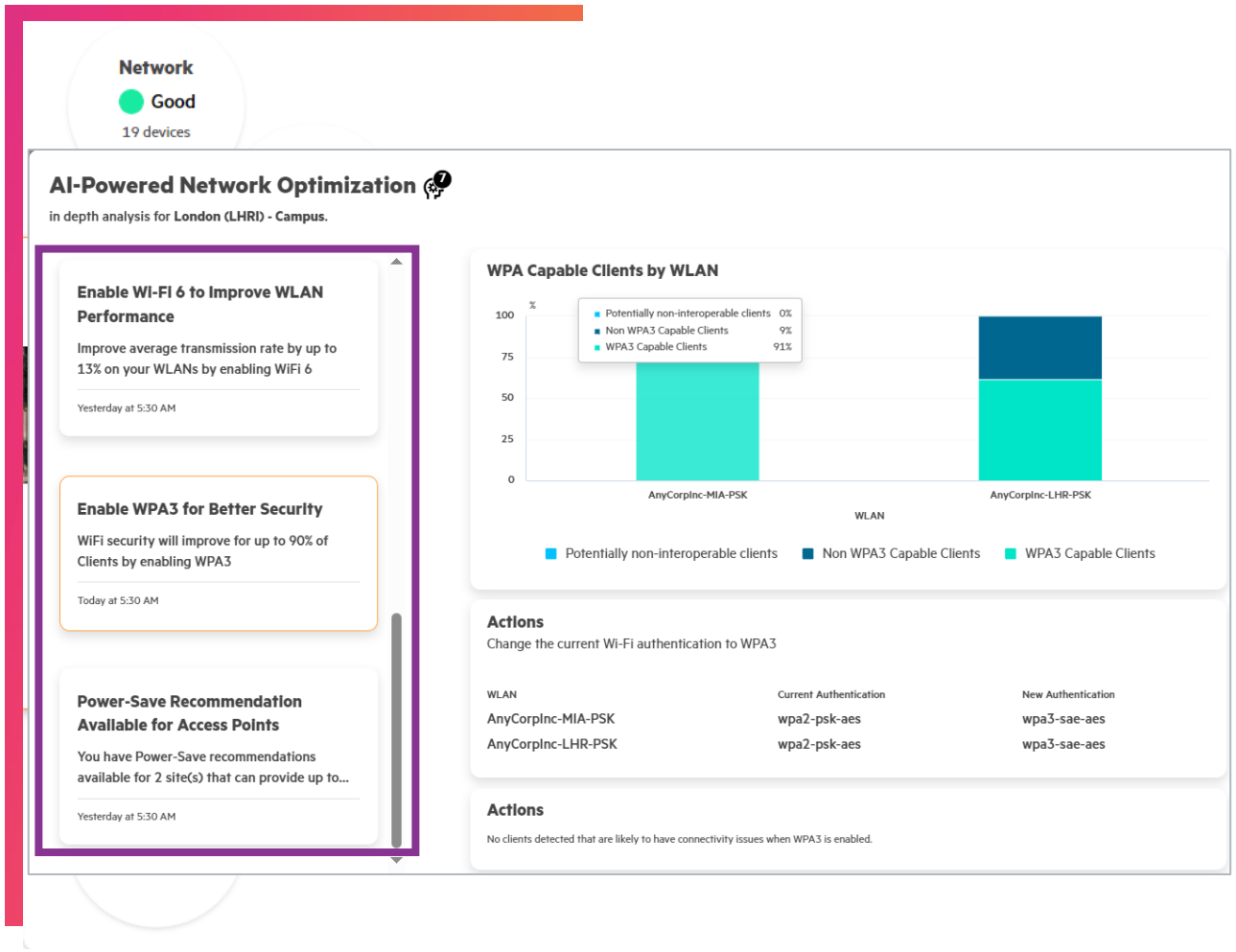
- **High Broadcast traffic,**
- **High port utilization with frame drops**

Issue identified immediately and directed IT team towards the root cause for quick resolution.

No Operation Impact & **Business Impact** and **SLA maintained**

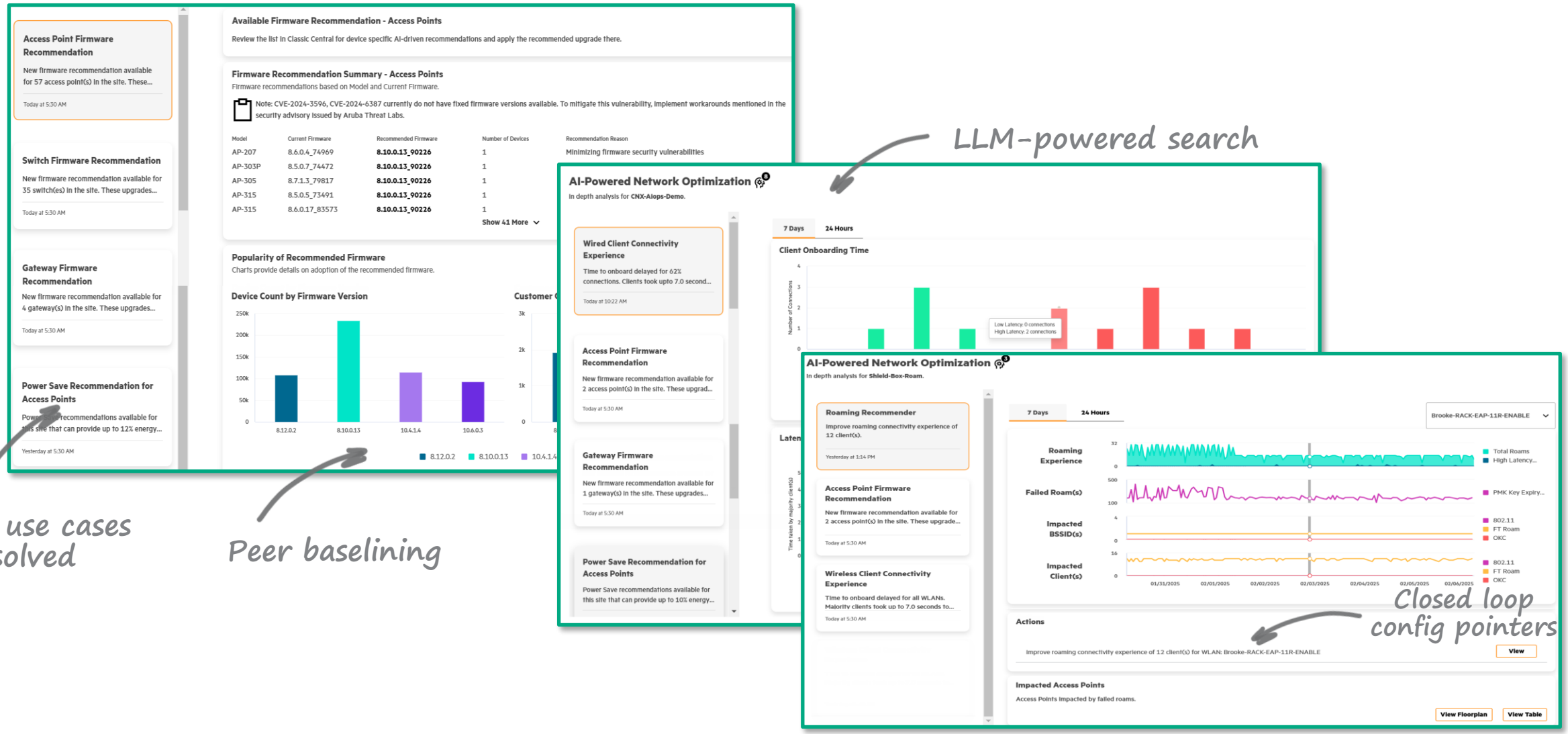
AI-powered recommendations

Free up valuable IT cycles and reduce risk with proactive optimization insights



- **Custom, actionable recommendations** at a global/per-site basis
- AI/ML models trained and re-trained **weekly** on **data from anonymized peer groups** with similar environments
- **Examples**
  - Firmware Recommendations
  - Enable Wi-Fi 6 to Improve Wi-Fi Experience
  - Enable WPA3 for Better Security
  - IoT Policy Optimization
  - Coverage Hole Detection
  - DFS
  - Roaming
  - Abnormal Data Upload/Download
  - Client Connection Times – wired and wireless
  - Save Power Using Green AP
  - Improve Wi-Fi Performance using 6GHz
  - Probe Threshold Recommendation
  - Application Performance

AI Insights at a Glance



New Central HOL

https://console.greenlake.hpe.com

Use SSO for login; onecon2025@arubademo.net/OneCon2025@

Lab guide link: https://www.dropbox.com/scl/fi/bq4lzx86hixep4a28yepg/New-Central-Troubleshooting-via-DXP-LabGuide-v1.4-CUSTOMER_.pdf?rlkey=o8iel5uecierezhdu416wwi07&st=6a2i7ghs&dl=0

Lab guide QR code