



The bridge to possible

7 Ways to Optimize User Experience using Catalyst Center

Wireless AIOps & Assurance

Karthik Iyer
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BRKEWN-2029

CISCO *Live!*

#CiscoLive

Cisco Webex App

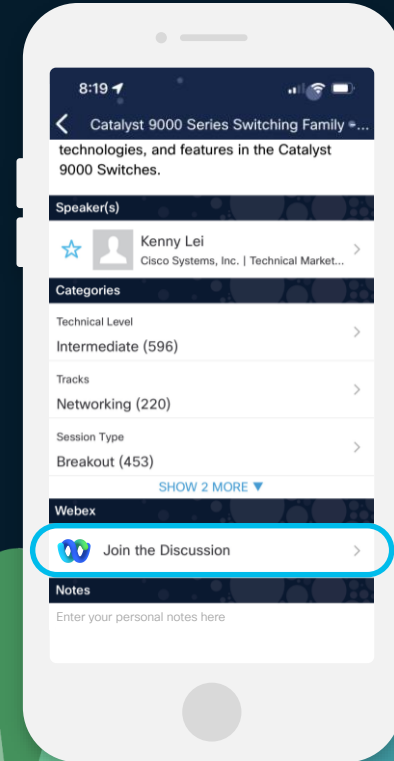
Questions?

Use Cisco Webex App to chat with the speaker after the session

How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 7, 2024.



Karthik Iyer

Technical Marketing Engineer– AI-Driven Wireless Solutions



Fields of Expertise

Wireless Assurance and Automation, Wi-Fi 6/6E APs



Personal Life

Indian, Silicon Valley Resident, San Jose State University Alumni



Hobbies

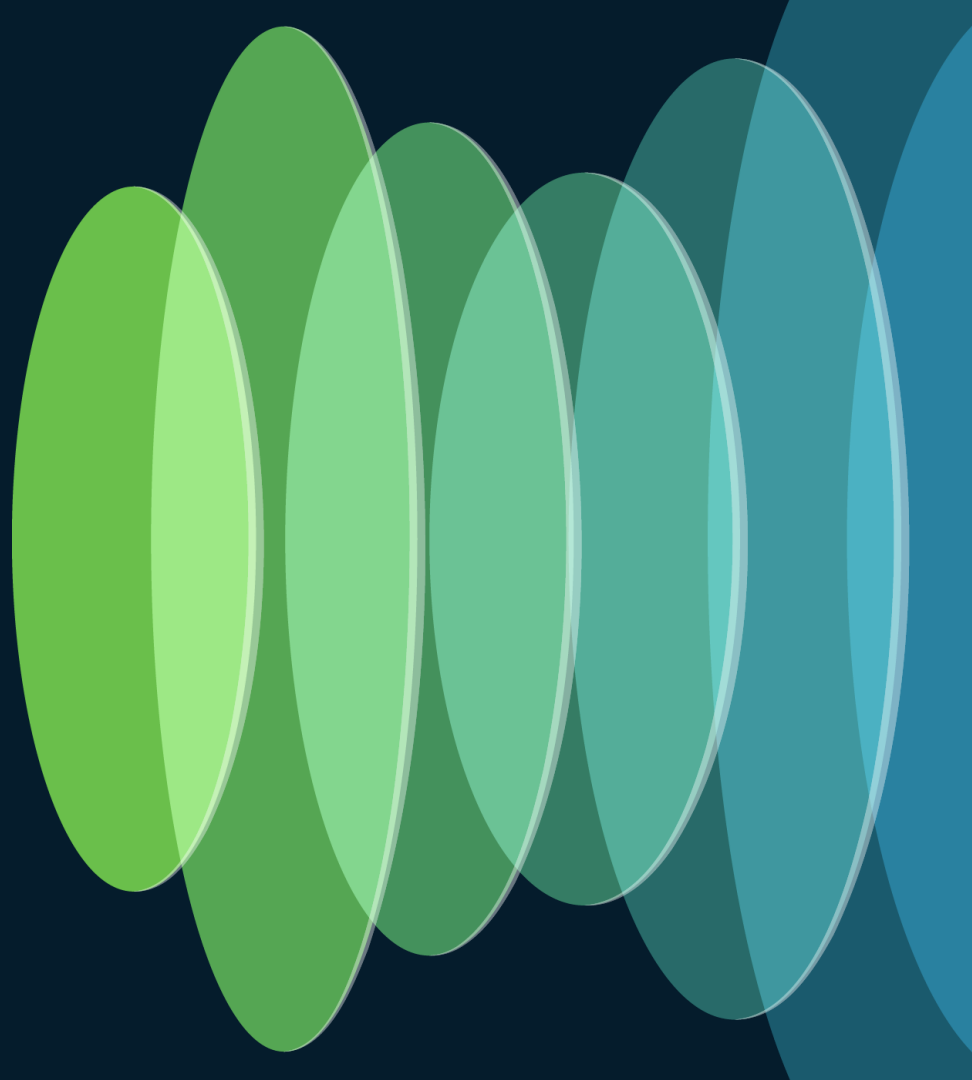
Motorcyclist, Formula 1 Enthusiast



Agenda

- **The Power of AIOps with Wireless Assurance**
 - What is AIOps?
 - 3D Maps
 - AnyLocate
 - AI-Enhanced RRM
- **Wireless Troubleshooting with AIOps**
 - AI Network Analytics
 - Site Analytics
 - ISE 360
 - Assurance dashboard
- **Simpler Wireless Management**
- **Conclusion**

What is AIOps?



AIOps – Artificial Intelligence for IT Operations

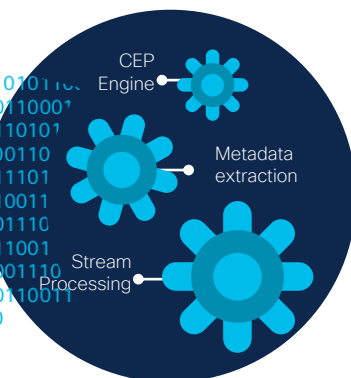
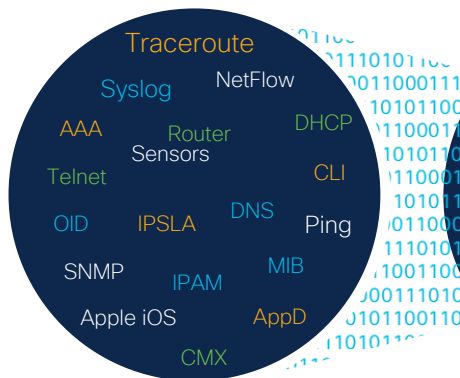
Transforms raw data into actionable insights

Raw Network
Telemetry

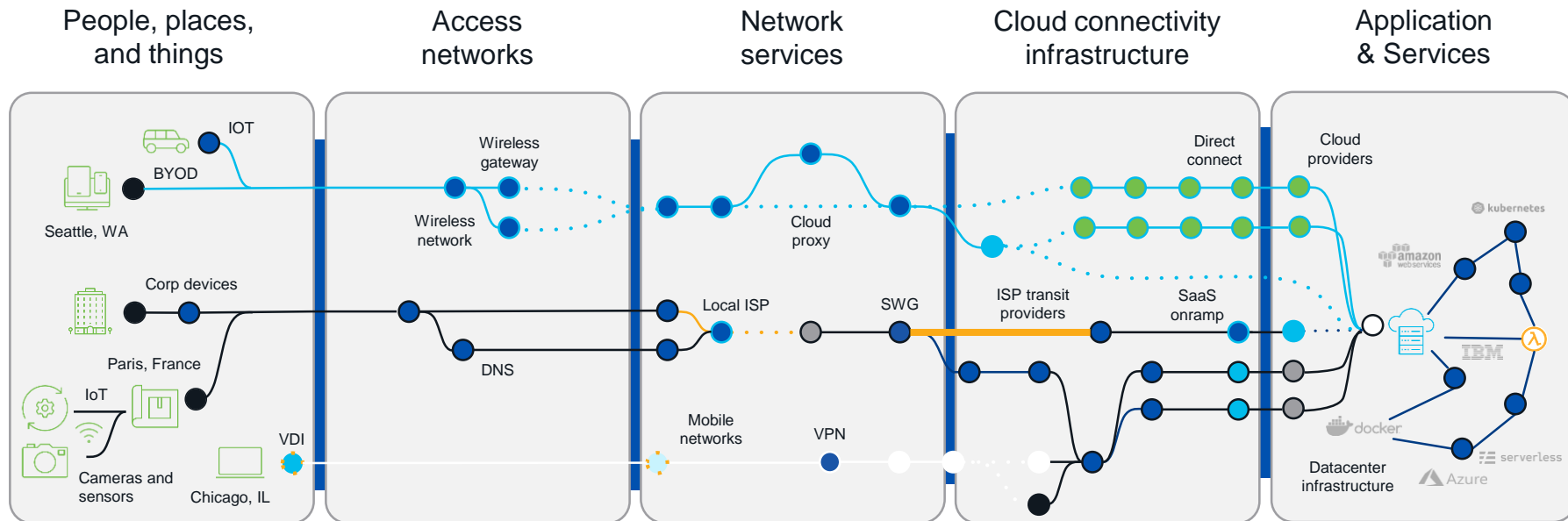
Data
Processing

Health Scores
and Insights

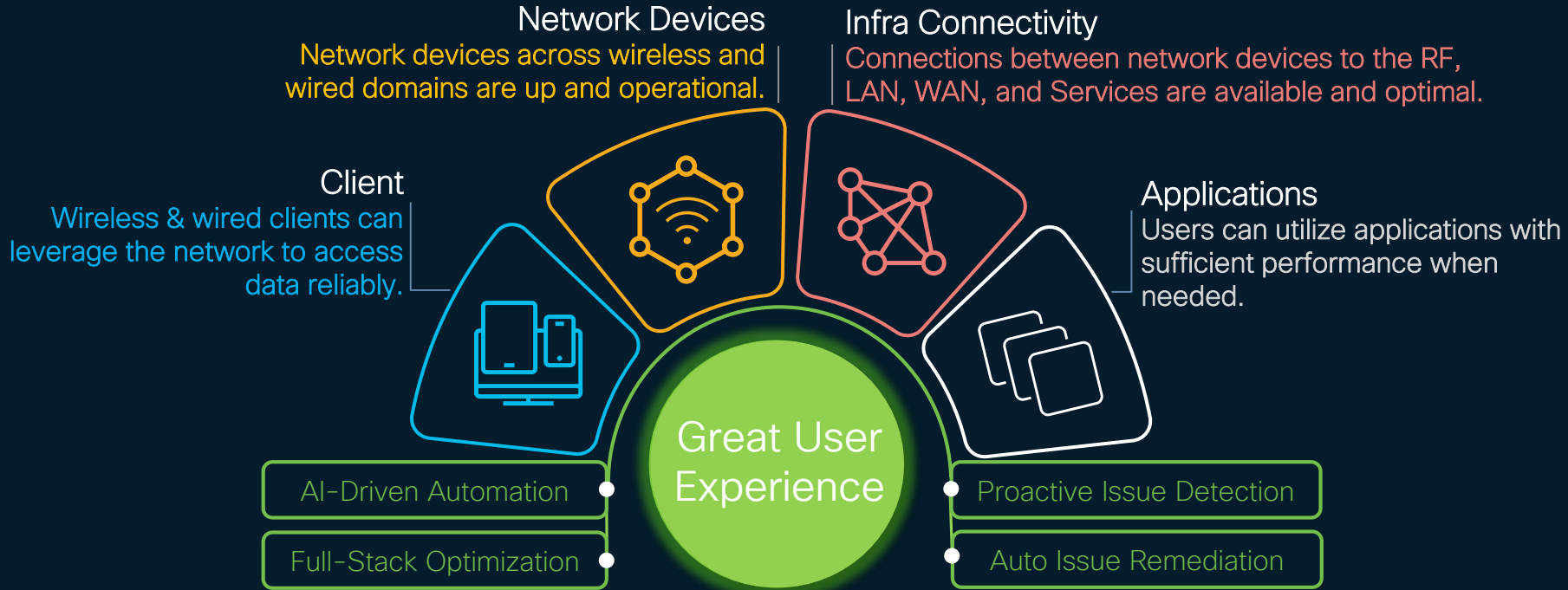
Optimize, Monitor
& Troubleshoot



Networks are More Complex Than You Think

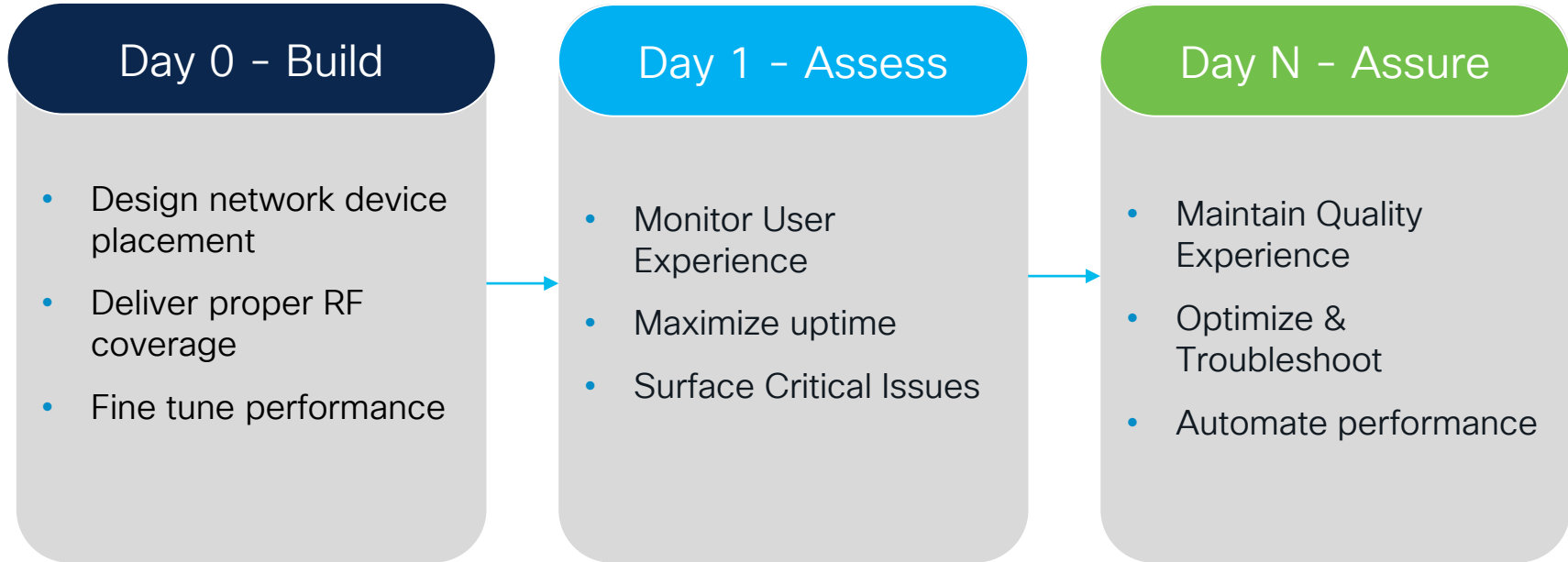


Cisco AIOps & Assurance Focus Areas and Vision



Cisco AIOps & Assurance enables great user experiences!

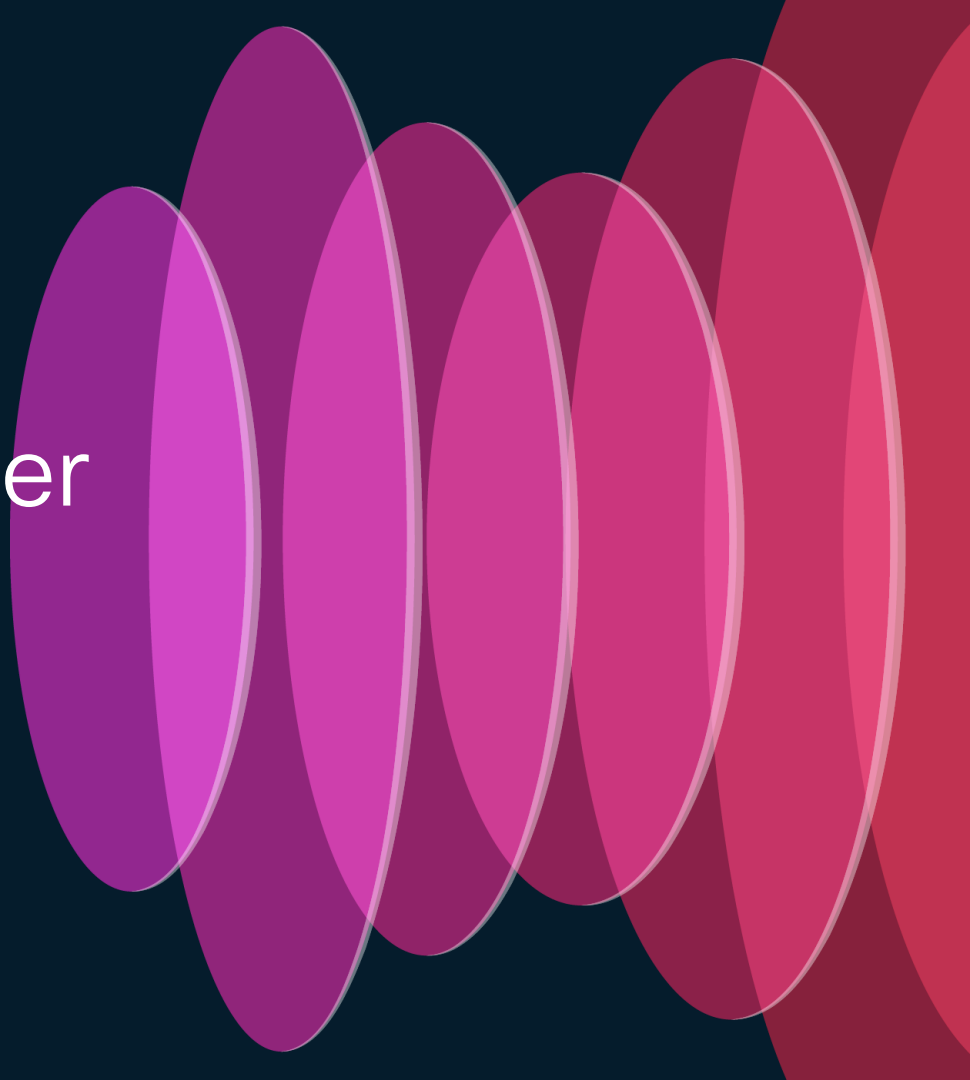
Simplify Network Management with AIOps & Assurance



Day 0

Wireless 3D Analyzer

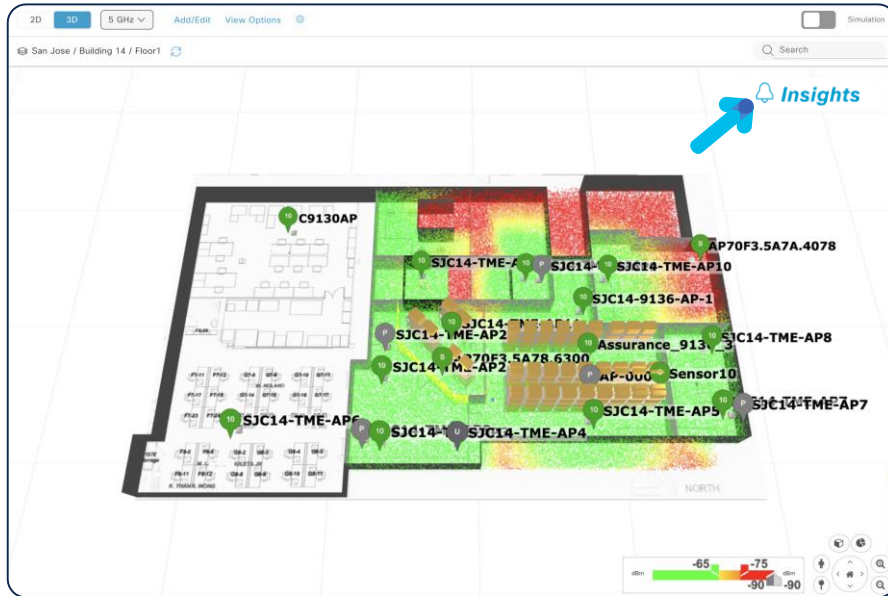
Advanced Insights and
Recommendations



Monitoring SLAs With Visual Insights

Visibility Into Areas of Coverage That Need Attention

- 1 Click on the  **Insights** icon to view SLAs that meet or miss the configured threshold.



- 2 A banner appears with a list of insights. Clicking on **Click** adjusts the map for you to view insight details.



Customizing SLAs for Visual Insights

Tailor Visual Insights to Your Network Environment

Insight Configuration / Global Configuration

Global Configuration

Global configuration for all insights

2.4GHz

Noise Floor

-90

dB

5GHz

Noise Floor

-90

dB

6GHz

Noise Floor

-90

dB

Last Modified: Fri, 12 Mar 2021 16:59:53 GMT

Cancel

Save

Insight Configuration / SLA Compliance

SLA Compliance

Insight on SLA compliance percentage

☒ Enabled

2.4GHz

RSSI Target

-40

dBm

5GHz

RSSI Target

-40

dBm

6GHz

RSSI Target

-40

dBm

2.4GHz

SNR Target

10

dB

5GHz

SNR Target

10

dB

6GHz

SNR Target

10

dB

2.4GHz

Height

3.00

ft

5GHz

Height

3.00

ft

6GHz

Height

3.00

ft

2.4GHz

Coverage

85

%

5GHz

Coverage

85

%

6GHz

Coverage

85

%

Last Modified: Wed, 26 Jan 2022 20:37:37 GMT

Cancel

Save

Insight Configuration / Voice Coverage

Voice Coverage

Insight on percentage of voice coverage

☒ Enabled

2.4GHz

RSSI Target

-67

dBm

5GHz

RSSI Target

-67

dBm

6GHz

RSSI Target

-67

dBm

2.4GHz

SNR Target

25

dB

5GHz

SNR Target

25

dB

6GHz

SNR Target

25

dB

2.4GHz

Height

3.00

ft

5GHz

Height

3.00

ft

6GHz

Height

3.00

ft

2.4GHz

coverage

85

%

5GHz

coverage

85

%

6GHz

coverage

85

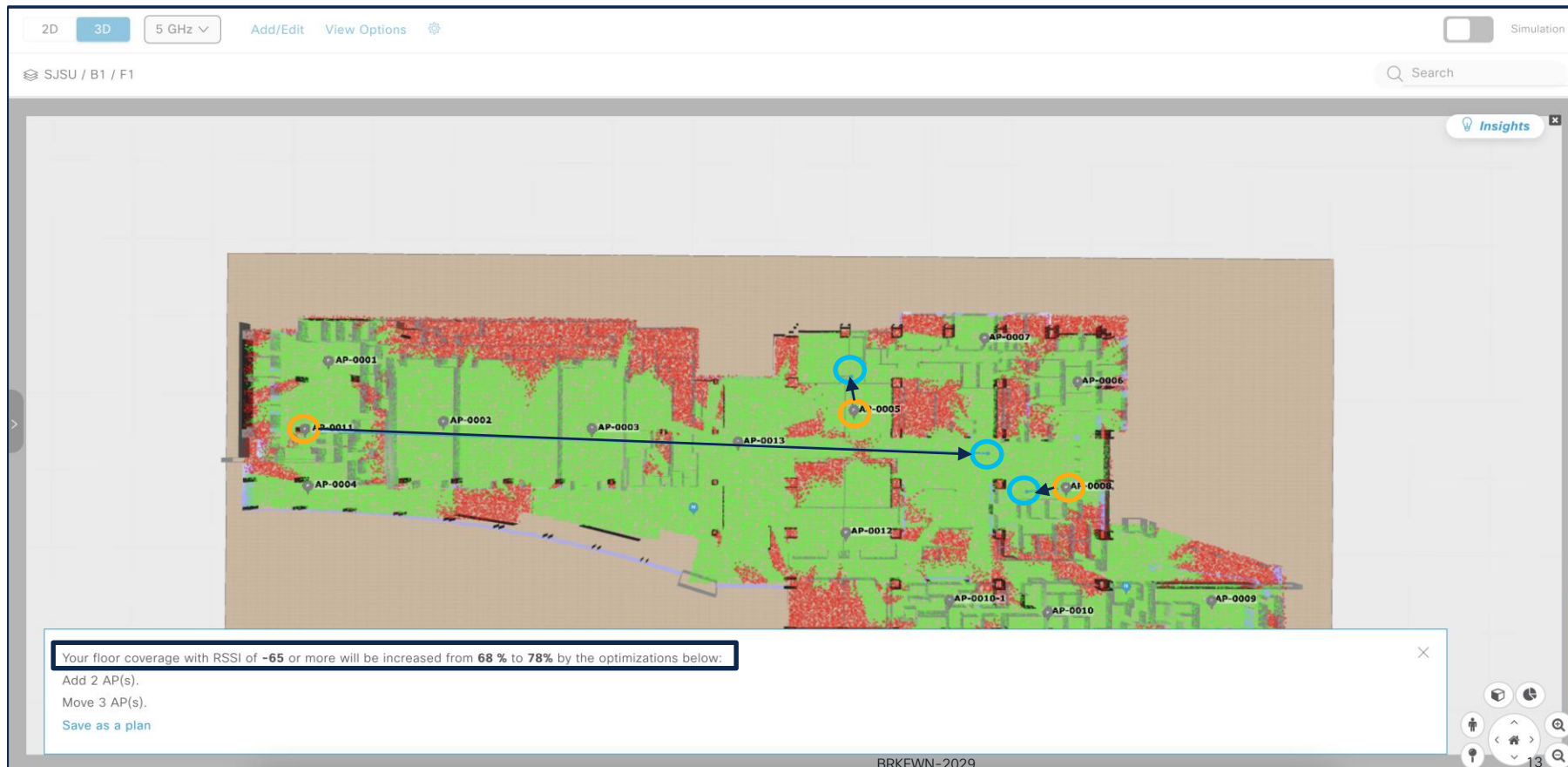
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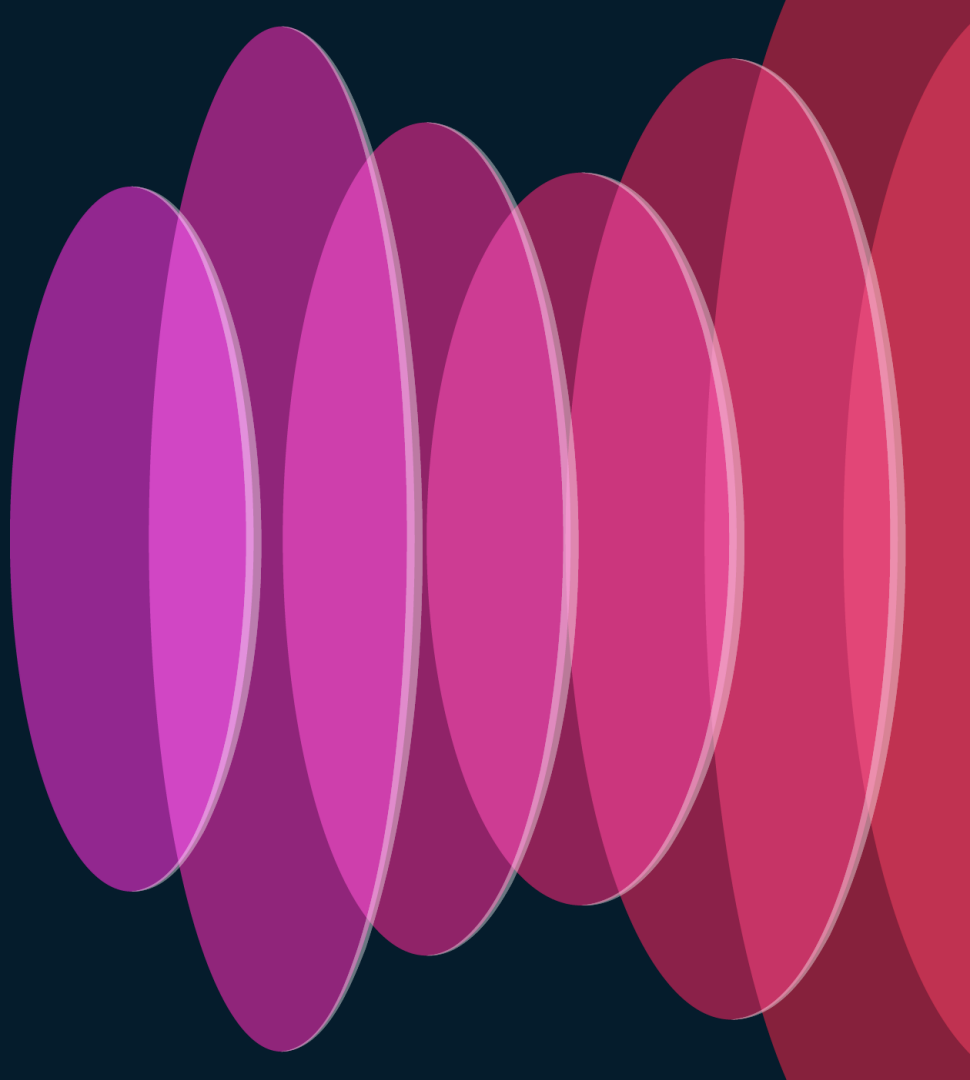
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Leverage RF Optimizer for AP Redeployment Suggestions starting from 2.3.3!



Day 0

Partner Integration





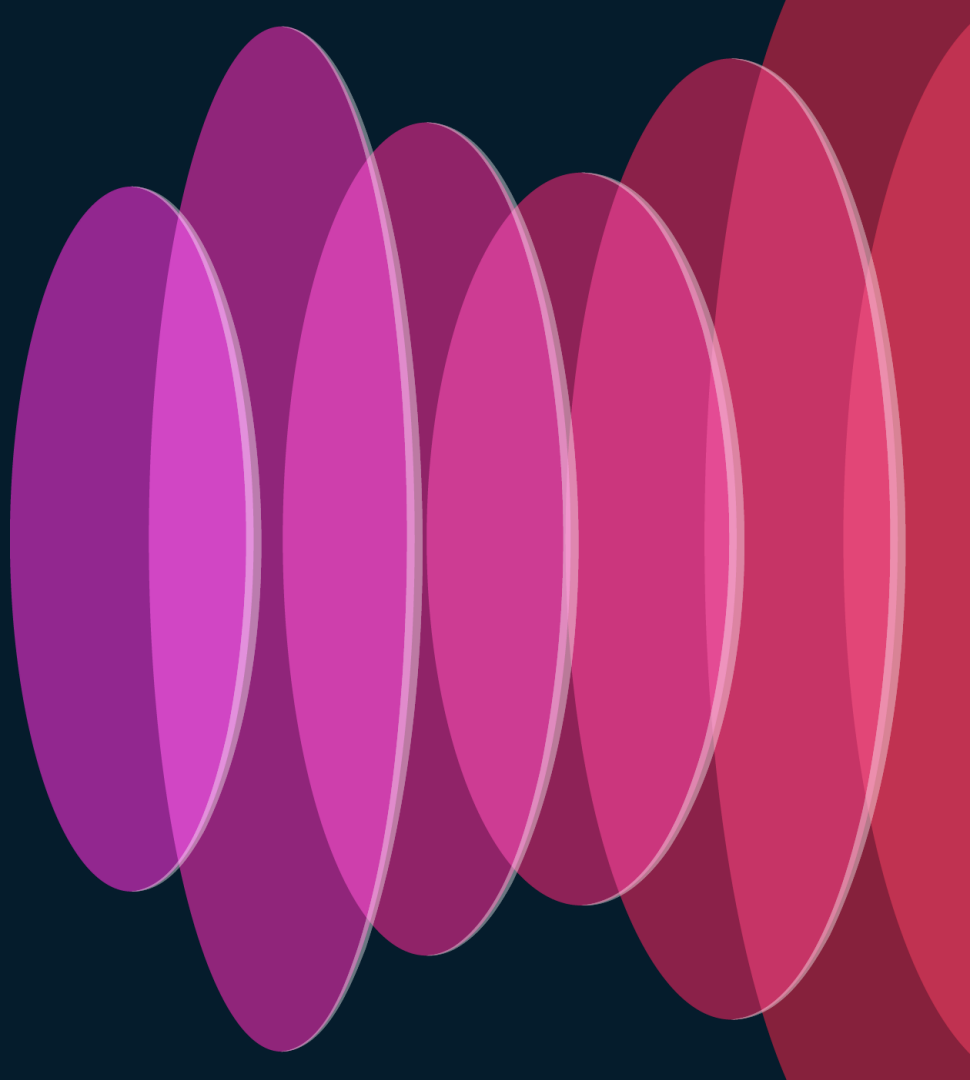
Hamina import Integration

- Export project file from Hamina dashboard
- Define the area and building
- Download hierarchy and project file
- Upload the sites and then the floor map to Catalyst Center



Day 0

AnyLocate



AnyLocate

Automatically determine AP location and place them on maps



Reduce deployment time, complexity, and cost



Improve client location services accuracy



Easier, more accurate troubleshooting

AnyLocate also enables new technologies for client location!

Supported on: CW9166, CW9164, C9136, C9130, C9120* with DNA-Advantage license

* AP-to-AP only

CISCO Live!

Demo in IF

Available on
Spaces now

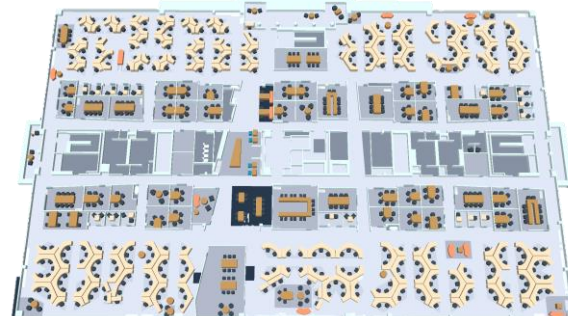
Catalyst Center
beta July 2024

How confident are
you in your AP map
placement?

How much of your
AP deployment
time is spent
tracking and
positioning APs?

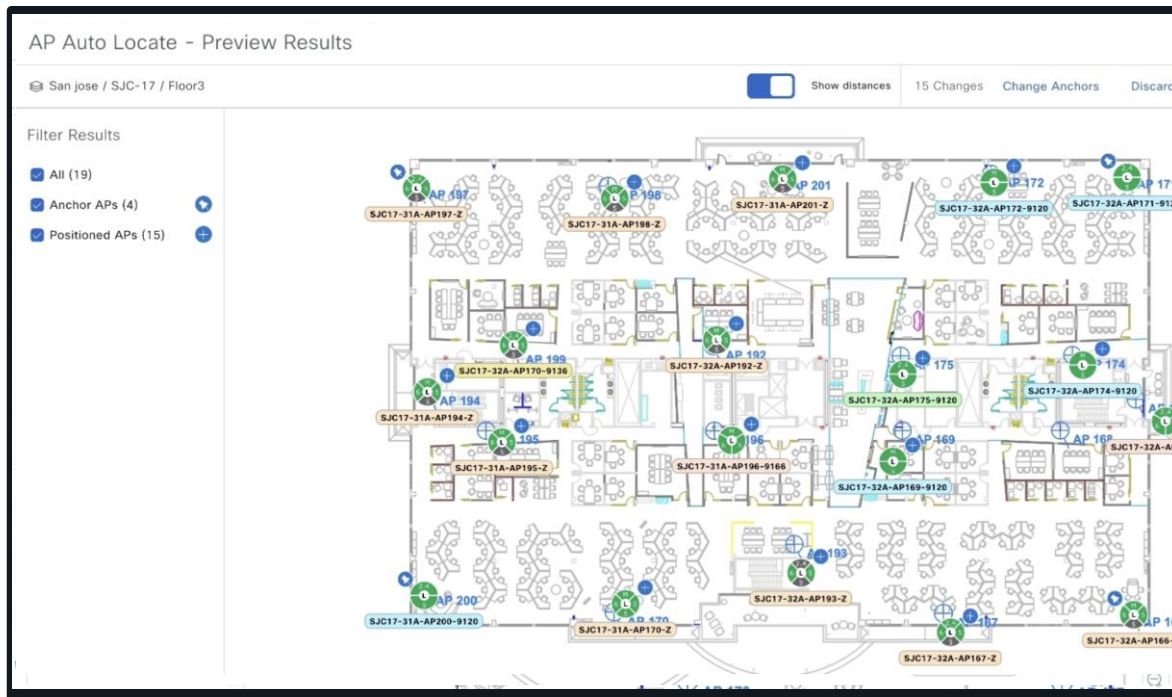
Have you ever
remodeled a space
and found the APs
were reinstalled in
the wrong
locations?

Have you ever
needed to locate
an AP and didn't
know where it was
mounted?

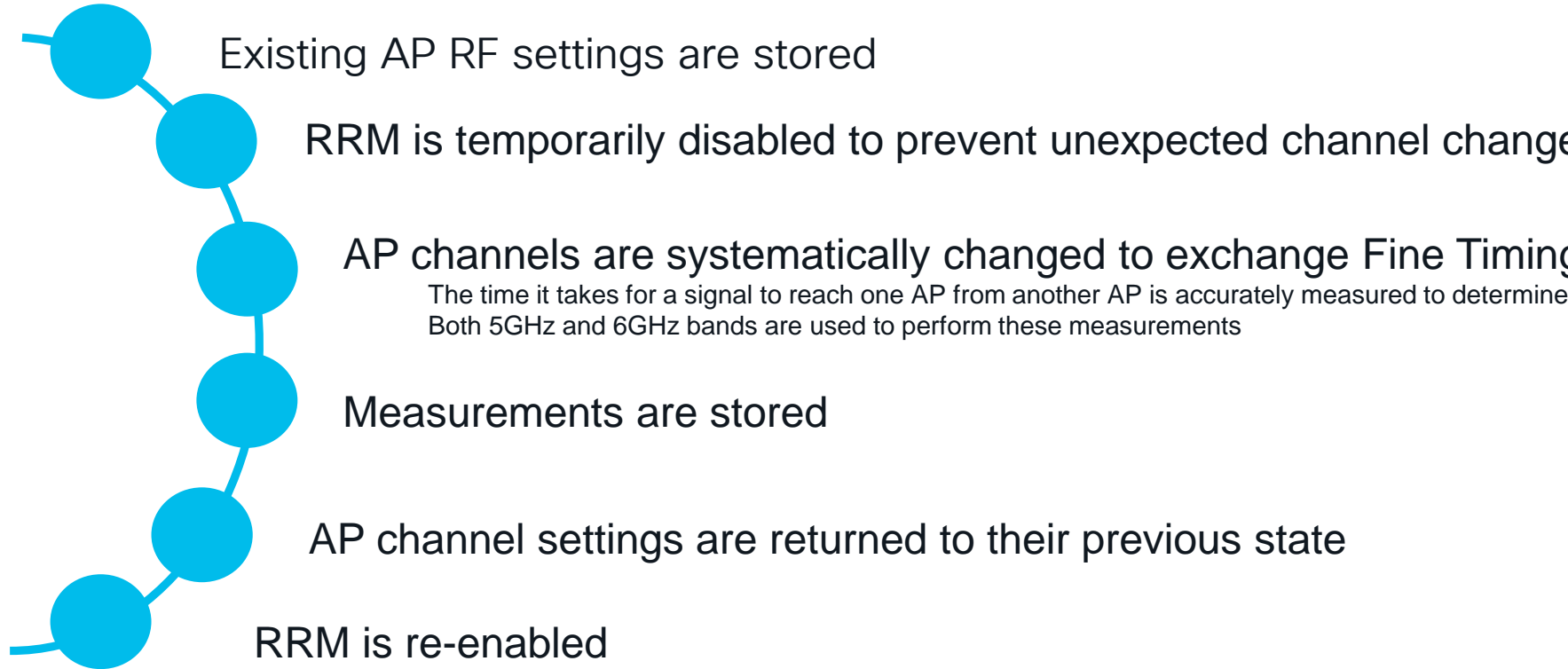


AP Auto Locate Demo

APs are Auto Located
on the Map



AP Auto Locate Ranging Process



Day 1

AI-Enhanced RRM



AI-Enhanced RRM Vision

Create unified architecture to enable AI-Driven RRM services for all Cisco's customers



Simplify Network
Programming



Client Assisted
RF Optimizations



Deployment
Agnostic RRM

What is radio resource management?

RRM is a Wireless Controller (WLC) feature that automatically optimizes wireless configurations to improve wireless performance.

Some examples

Flexible Radio
Assignment (FRA)

Transmit Power
Control (TPC)

Dynamic Channel
Assignment (DCA)

Dynamic Band
Selection (DBS)



RRM configuration on the Catalyst 9800 UI

Configuration > Radio Configurations > RRM

6 GHz Band 5 GHz Band 2.4 GHz Band FRA

General Coverage DCA TPC RF Grouping Spatial Reuse

Profile Threshold For Traps [Reset to Defaults](#)

Throughput (Bps)*

Noise/Interference/Rogue/CleanAir/SI Monitoring Channels ⓘ

Channel List

RRM Neighbor Discover Type

Monitor Intervals

Neighbor Packet Frequency (seconds)*

Reporting Interval (seconds)*

Neighbor Timeout factor*

For 6 GHz band, some parameters like Interference Percentage, Clients, Noise, Utilization Percentage and RRM Neighbor Discover Mode is configured in [default-rf-profile-6ghz](#)

Configuration > Radio Configurations > RRM

6 GHz Band 5 GHz Band 2.4 GHz Band FRA

General Coverage DCA TPC RF Grouping Spatial Reuse

Enable Coverage Hole Detection ☒

Data Packet Count*

Voice Packet Count*

Data Packet Percentage*

Voice Packet Percentage*

For 6 GHz band, few global coverage parameters like Data RSSI Threshold, Voice RSSI Threshold, Minimum Failed Client per AP and Percent Coverage Exception Level per AP is configured in [default-rf-profile-6ghz](#)

Configuration > Radio Configurations > RRM

6 GHz Band 5 GHz Band 2.4 GHz Band FRA

General Coverage DCA TPC RF Grouping Spatial Reuse

Dynamic Channel Assignment Algorithm

Channel Assignment Mode ☒ Automatic ☐ Off

Interval

Anchortime

Channel Assignment Leader c9800-40-TMEDNAC (10.70.0.15)

Last Auto Channel Assignment 474 second(s) ago

DCA Channel Sensitivity

AI RF Profile

Basic Settings

Radio Frequency Settings

☒ 2.4 GHz ☒ 5 GHz ☒ 6 GHz ⓘ

Busy Hours ⓘ

Start Time

9:00

End Time

17:00

Busy Hour Sensitivity ⓘ

☐ Low☒ Medium☐ High

Enable RF Settings

Flexible Radio Assignment ⓘ

Dynamic Channel Assignment ⓘ

Dynamic Bandwidth Selection ⓘ

Transmit Power Control ⓘ

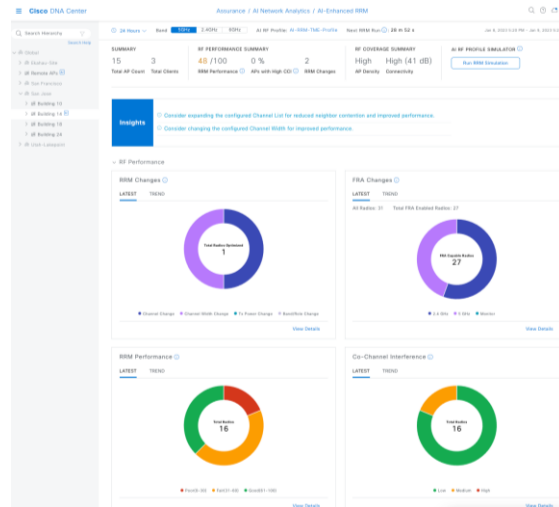
2.4 GHz

5 GHz

6 GHz



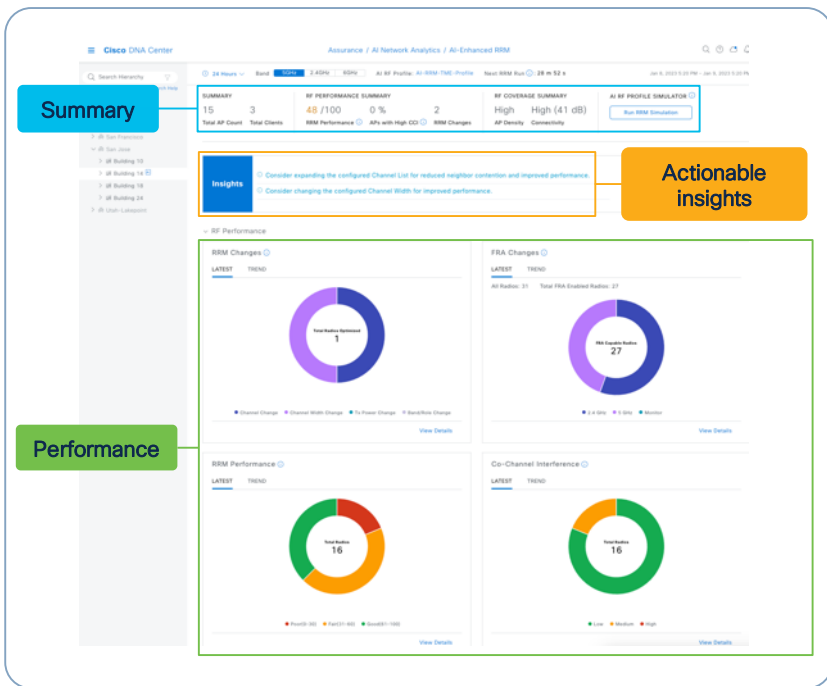
AI-Enhanced RRM control center



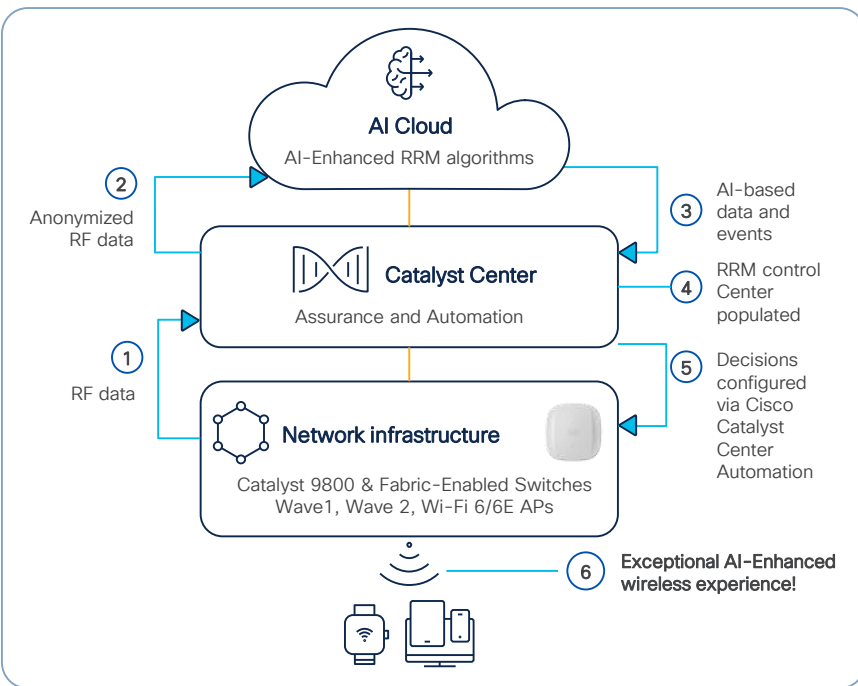
AI-Enhanced RRM is AI that Powers RF Optimization

Provides Users with Better Wi-Fi and Admins with a Better RF Management Experience!

Instantaneous visibility



Proactive optimizations



AI-Enhanced RRM key customer benefits

Better RF, better insights, reduced operational costs and time

AI-driven self-optimizing RF

Leverages machine learning to find patterns and optimize your RF before issues happen.



Measured Improvements in RF KPIs!

- CCI Reduction: Up to 40%
- SNR Downlink Gain: Up to 7 dB
- RRM Changes Reduction: Up to 75% at busy hours

Performance visibility

Provides per-building visibility into RF health using Wireless Config Analyzer algorithm.

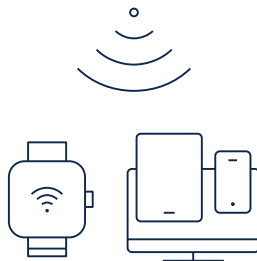


Actionable insights

AI-derived recommendations on RRM setting changes for a more optimal performance.

Complete historical context

Understand exactly what RRM changes occurred at a per-AP level, and how they benefit the network.

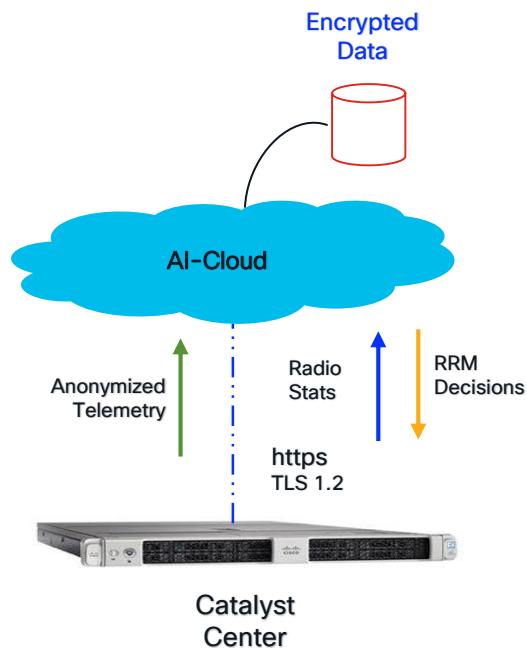


Simplified RRM configuration

Complicated traditional RRM configurations are simplified, with policy toggles and thresholds.

AI Cloud telemetry collection

Utilizing Raw Device Telemetry Exclusively



RF Stats	Radio Configs	Network Information
PHY Stats	Channel	WLC IP
MAC Stats	Power	Base Radio MAC
Client Count	Bandwidth	WLC MAC
RF Events (Interrupts)	Operational Mode	AP Ethernet MAC

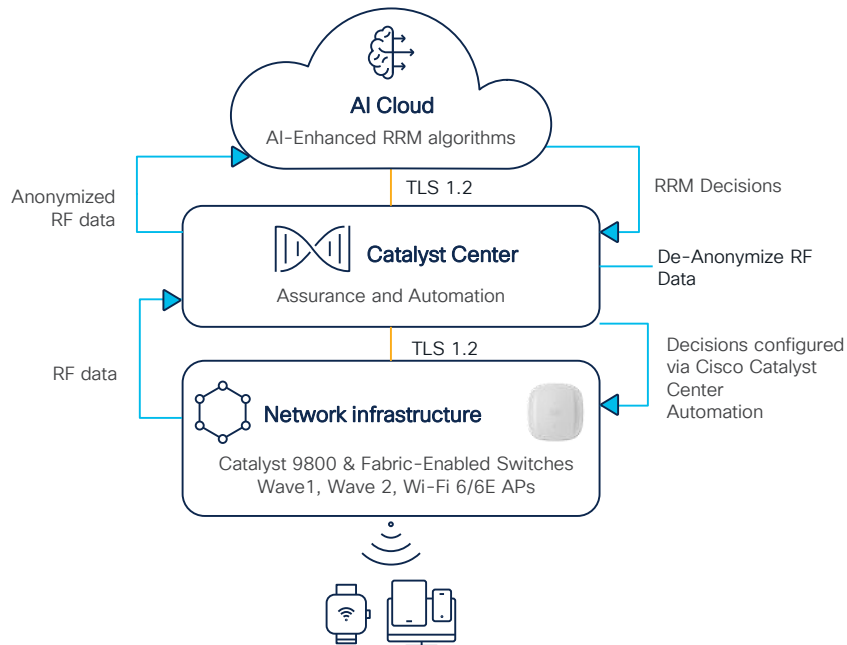
Protecting Your Data in the Cloud

with AI-Enhanced RRM Privacy Measures

Anonymized RF Data is encrypted with AES256 CTR and Base64 Encoding

Encryption Key is locally stored on Cisco Catalyst Center

All Data Stored in the AI Cloud is encrypted



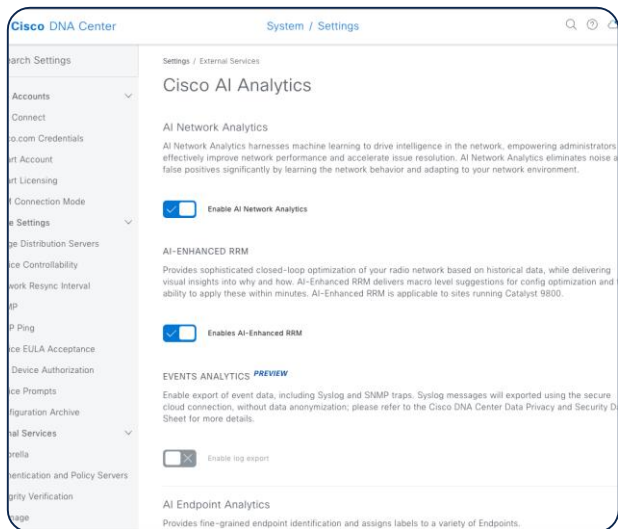
Refer to [Cisco Catalyst Center Privacy Data Sheet](#) for more information on Cisco Catalyst Center Data Privacy!

Enabling AI-Enhanced RRM for Provisioning-Enabled Deployments

Traditionally, this solutions requires customers to manage their Catalyst 9800 configurations through Catalyst Center's Network Settings

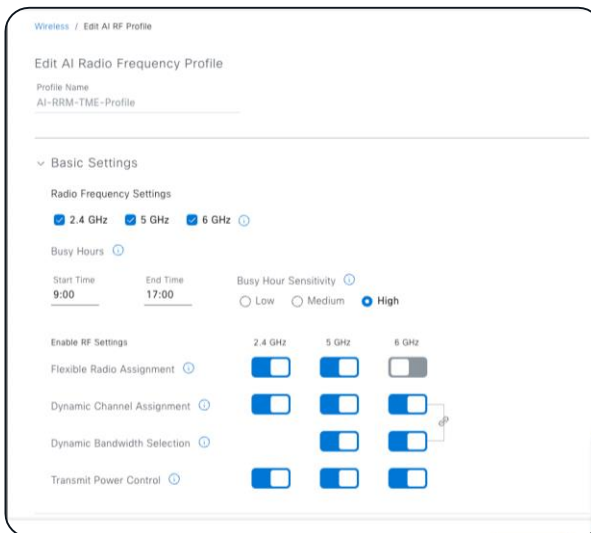
1

Give AI-Enhanced RRM Cloud Access in Settings.



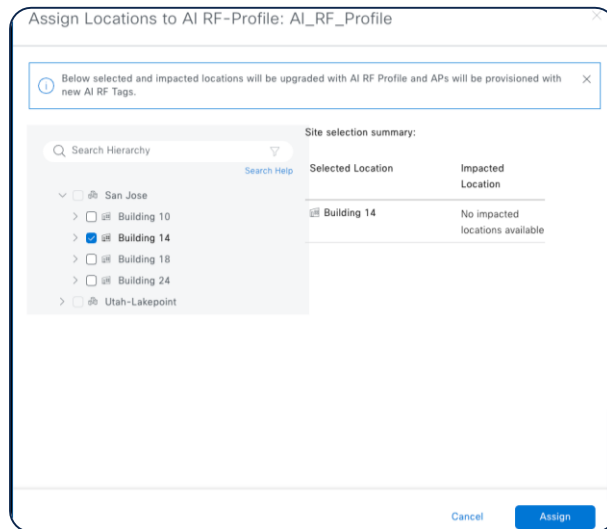
2

Create an AI RF Profile.



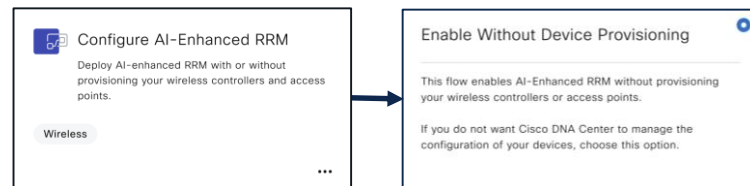
3

Assign AI RF Profile to a building, and **provision** your C9800 & APs.





What mitigates
these pain points?



New AI-Enhanced RRM Workflow
for Assurance Only Customers!

Benefits of the AI-Enhanced RRM Workflow

Easier to Enable, with the Same Power of AI!

Doesn't Require C9800 to be Provisioned on Catalyst Center!

- Taking away this requirement means that all Catalyst Center users with supported hardware can leverage the power of AI.
- Users can continue managing their network settings on their C9800 directly.

Greatly Simplified Workflow!

- Combined all steps to enable AI-Enhanced RRM to a single workflow within the Workflow page titled, "Configure AI-Enhanced RRM -> Enable Without Device Provisioning".
- Admins no longer need to jump to different areas on Catalyst Center to figure out how to enable AI-Enhanced RRM!

Power of AI Remains the Same

- While enabling AI-Enhanced RRM has gotten significantly easier, all the amazing customer benefits remain the same.
- There are no loss with regards to solution capability.

We've created a new enablement workflow that doesn't require admins to manage their network configurations on Catalyst Center!

1

Enable AI-Enhanced RRM cloud access in Settings

Cisco AI Analytics

AI Network Analytics

AI Network Analytics harnesses machine learning to drive intelligence in the network, empowering administrators to effectively improve network performance and accelerate issue resolution. AI Network Analytics eliminates noise and false positives significantly by learning the network behavior and adapting to your network environment.



Enable AI Network Analytics

AI-ENHANCED RRM

Provides sophisticated closed-loop optimization of your radio network based on historical data, while delivering visual insights into why and how. AI-Enhanced RRM delivers macro level suggestions for config optimization and the ability to apply these within minutes. AI-Enhanced RRM is applicable to sites running Catalyst 9800.



This feature can be enabled only if AI Network Analytics is enabled.

2

Select the newly designed workflow and deployment option!



Configure AI-Enhanced RRM

Deploy AI-enhanced RRM with or without provisioning your wireless controllers and access points.

Wireless

...



Enable Without Device Provisioning

This flow enables AI-Enhanced RRM without provisioning your wireless controllers or access points.

If you do not want Cisco DNA Center to manage the configuration of your devices, choose this option.

3

AI-Enhanced RRM is enabled without device provisioning!



AI-Enhanced RRM



Cisco Catalyst Center



Network infrastructure

Cisco Catalyst™ 9800 Series Controller

Wave 2, Wi-Fi 6/6E APs



Software and Hardware Support Matrix

for AI-Enhanced RRM's Workflow for Assurance-Only Deployments

Cisco IOS XE WLC Software	Cisco Catalyst Center Software and Licensing
17.9.3 or newer (17.12.1 recommended)	2.3.7.4 (Patch 2) with DNA Advantage License
Cisco Access Point Hardware	
Wave 1, Wave 2, Catalyst Wi-Fi 6 and 6E Access Points	
Cisco IOS XE WLC Hardware	
C9800-CL	
C9800-L	
C9800-40	
C9800-80	



**How do we efficiently
bring Auto RF towards
the RRM North Star
vision?**



X



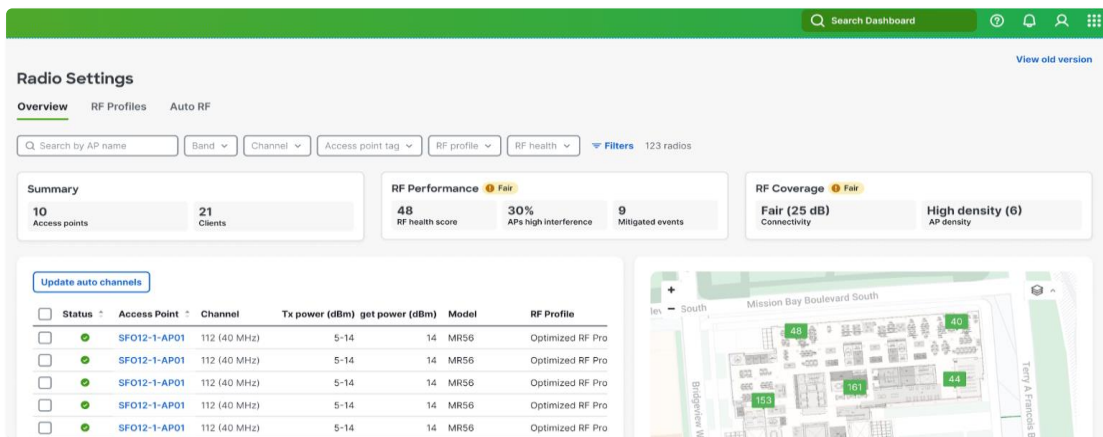
Integration with AI-Enhanced RRM

- Inherit advanced RRM features with less development cycles.
- Auto RF will be enterprise & high-density deployment ready

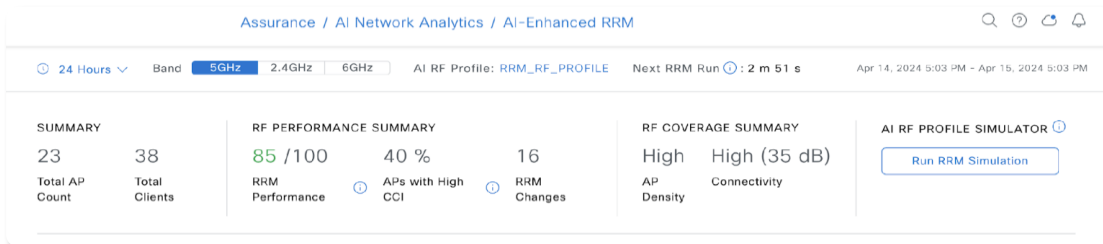
Unified AI-RRM

- Autonomous Wi-Fi for Zero-Touch Operation
- Closed-Loop AI Operations
- Unified AI Infrastructure,
- Unified Wi-Fi device Telemetry

Meraki Dashboard



Catalyst Center



AI-Enhanced RRM Will Significantly Improve Meraki's Wi-Fi!

Trend-Based RRM

Optimize RF with 2 weeks of data enabling more sophisticated & efficient RRM optimization!



Radio Settings

Overview

RF Profiles

AI-RRM

Trend-based RRM

☒ Enable

Trend-based RRM uses an AI engine to improve the performance of your network ⓘ

Flexible radio assignment

☐ Enable FRA

FRA optimizes the 2.4 GHz band by strategically disabling redundant radios to reduce interference ⓘ

AI channel planning

☒ Enable AI channel planning

Improved Channel Assignment by leveraging artificial intelligence to optimize channel planning capabilities ⓘ

Busy hour

☐ Enable busy hour

AI-RRM will minimize changes during the most active hours of the day ⓘ

Sensitivity ⓘ ☐ Low ☐ Medium ☒ High

☒ Auto schedule

Based on historical data of up to the last 6 weeks ⓘ

23:00 → 08:00 ⓘ

☐ Manual schedule



Flexible Radio Assignment

Place radios on the most optimal band/mode to minimize interference on 2.4 GHz at the touch of a button!

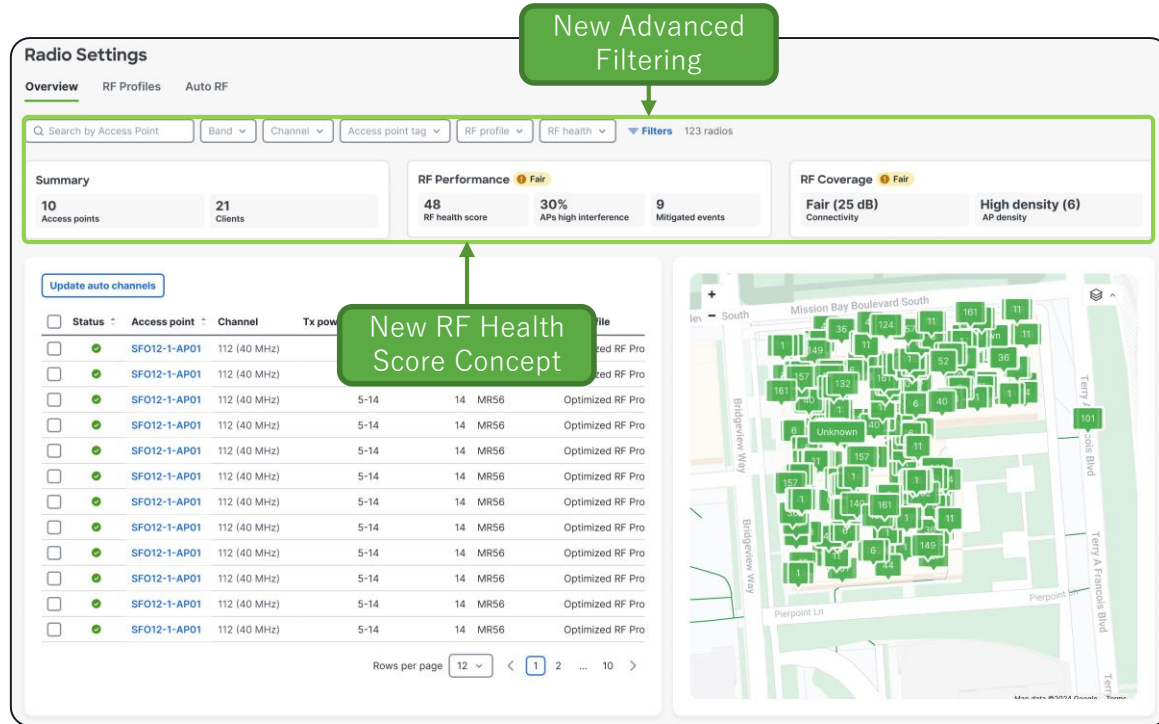
Enhanced Busy Hour

Optimizations are deferred until after the busy hour, using busy hour data, rather than just suppressed!

In Progress

RF Summary Bar in Radio Settings

- Understand RF Performance at-a-glance per network
- RF health score considers all critical RF metrics
- Mitigated events shows benefits of AI Channel Planning
- New discovery workflow with advanced filtering



Same AI engine with similar visibility as Catalyst Center's AI-RRM Control Center!

Day 1

AI Network Analytics

Meet Alex, a professional facing WiFi issues. Frustrated by poor connectivity, Alex seeks a solution. Join us as we explore the journey to resolve Alex's WiFi problems.



Image generated by AI

Alex tried to google how to fix the Wi-Fi and found a gazillion types of issues and solutions to fix the issue. What could it be?



Image generated by AI

AI-Enhanced RRM, AI Network Analytics, Machine Reasoning Engine

Artificial Intelligence makes Cisco Catalyst Center smarter



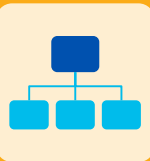
Optimize: Personalized Recommendations

AI discovers your network's "normal" with live telemetry and transforms it into insights and recommendations.



Predict: Proactive Insights

AI analyzes long-term historical trends to proactively provide you into areas of the network that require attention.



Self-Heal: Intelligent Remediation

Create actionable resolution options for IT to act on for quick RCA and a great wireless experience.

Unleash AI Network Analytics

to Prioritize, Optimize, and Remediate with AI

Available
from v2.1.2+ (2020+)

Predictive Analytics/Self-Heal
Anticipate and Prevent Failures



AI-Enhanced
RRM



Wireless Data Collection
Machine Reasoning Engine

Comparative Analytics
Compare KPIs Internally and to Peers



Peer
Comparison



Network
Comparison

Trends and Insights
Proactive exploration plus system generated insights



Event
Analytics



AP Performance
Advisories



Network
Insights



Network
Heatmaps

Personalized Anomaly Detection
Separate normal from abnormal and show RCA



AI-Driven
RCA



Site Analytics

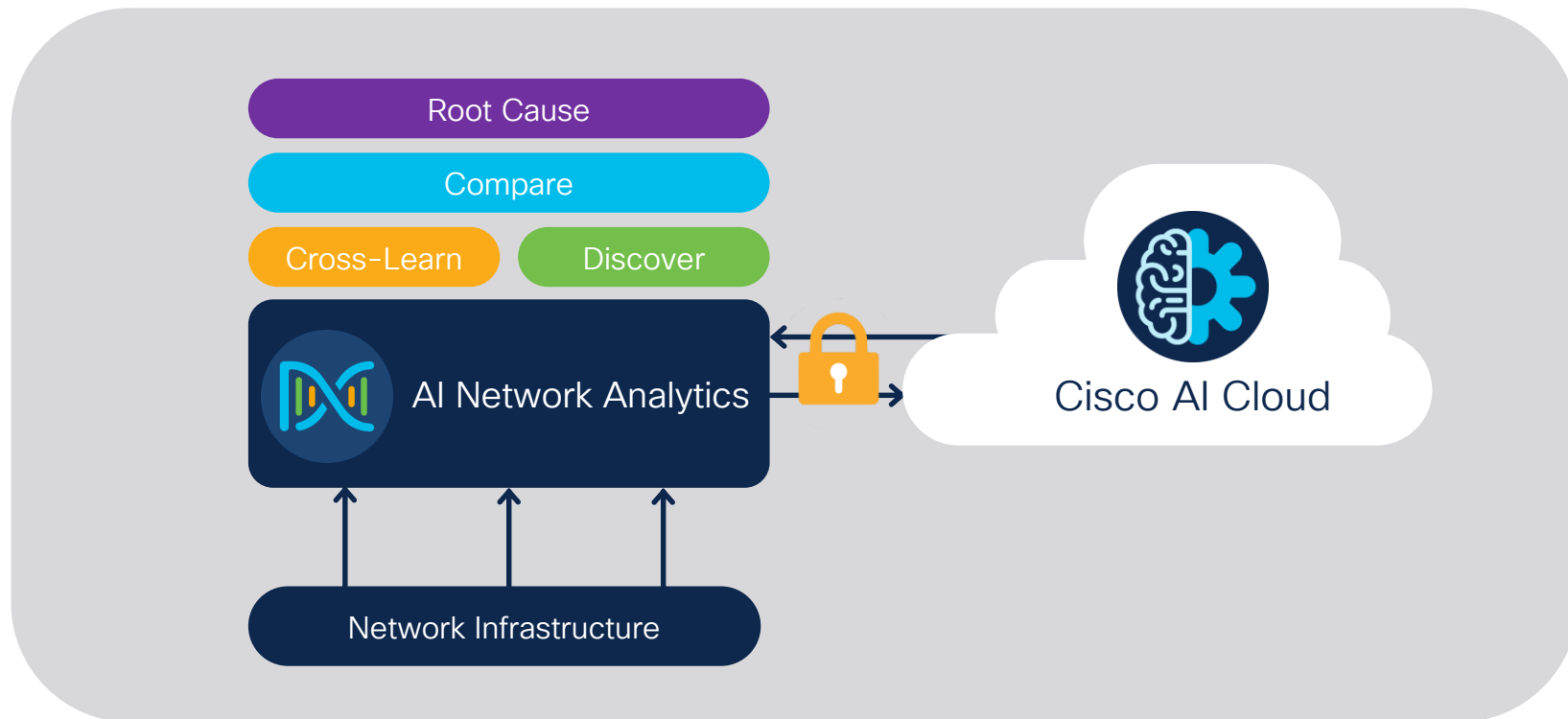
Dynamic Baselining
Define Normal for a Given Network



Baselines

Cisco AI Network Analytics Architecture

Proactively Discover and Root Cause Your Issues



AI-Driven Baseline Dashboard

Pinpoint buildings with clients that have onboarding issues

Available
V2.1.2 (2020)

Pain Points

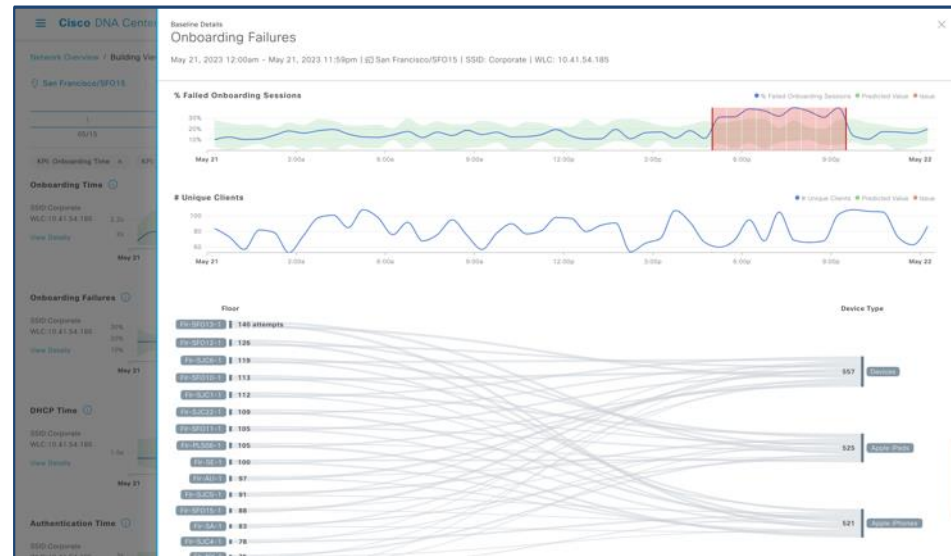
Wireless networks are dynamic and issues triggered with a static min/max threshold may result in false positives.

Feature Capability

Identifying client onboarding KPIs that deviate from the norm, and provides unique view to RCA the issues.

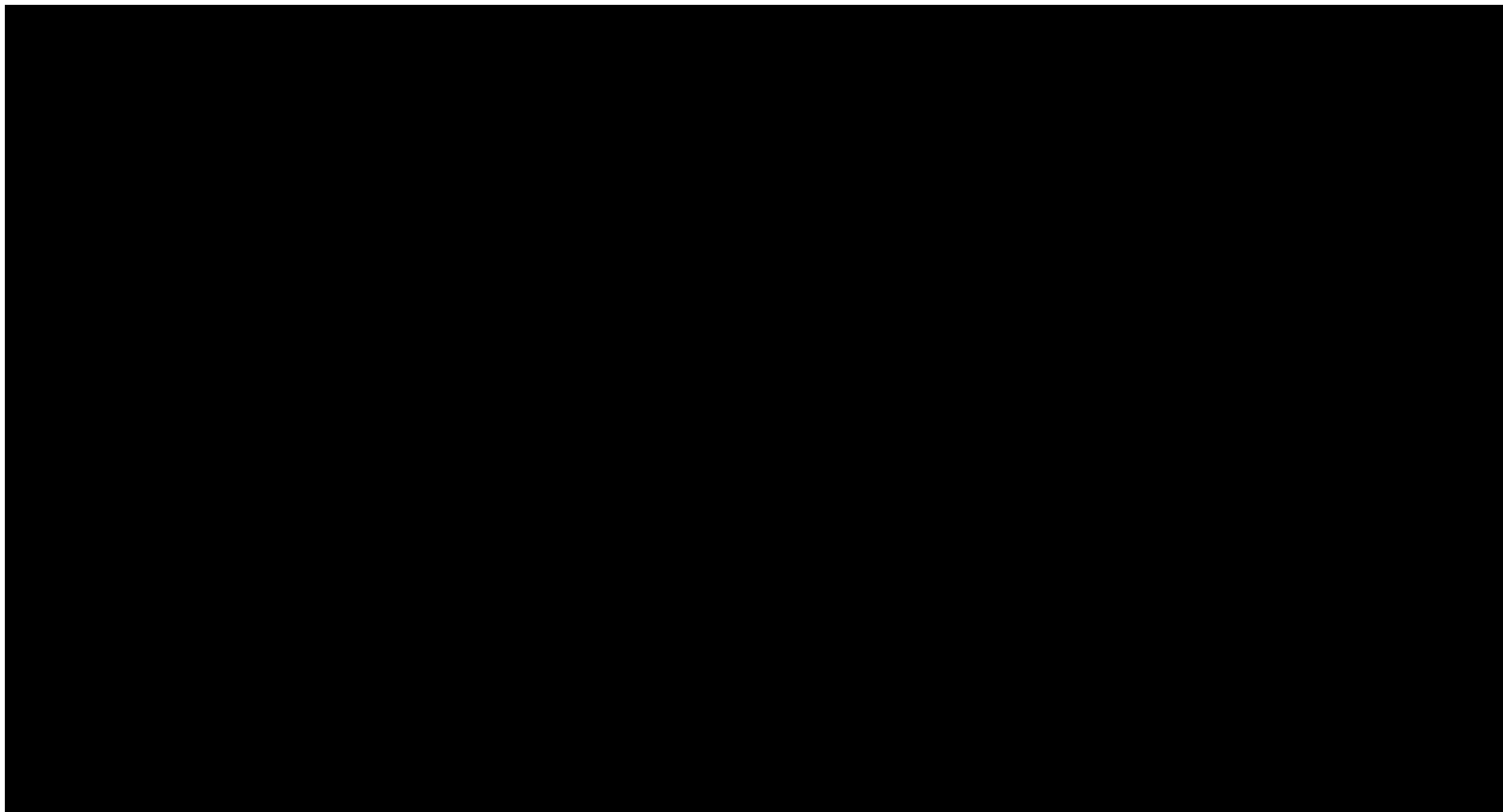
Customer Benefits

Users receive accurate alerts for significant deviations in onboarding issues, and providing a triaging view.



Intuitive View to Pinpoint the Source of Failure

AI-Driven Baseline Dashboard



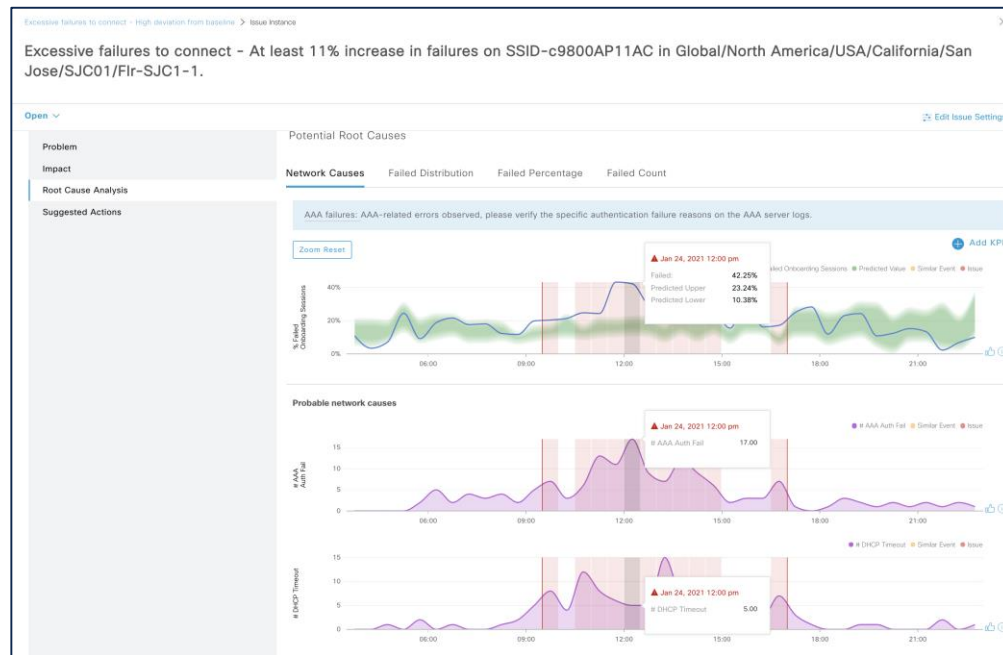
Cisco AI Network Analytics Feature Summary



AI Driven Issues

Discover and Root Cause network risks and anomalies from the AI-generated baselines

13 KPIs: Onboarding & Throughput



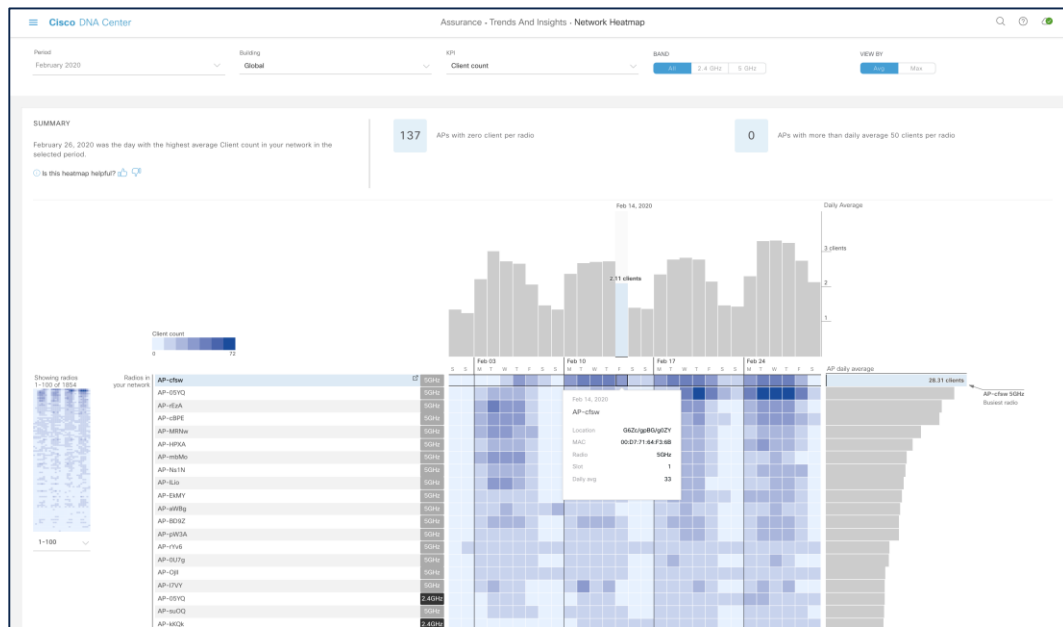
Cisco AI Network Analytics Feature Summary



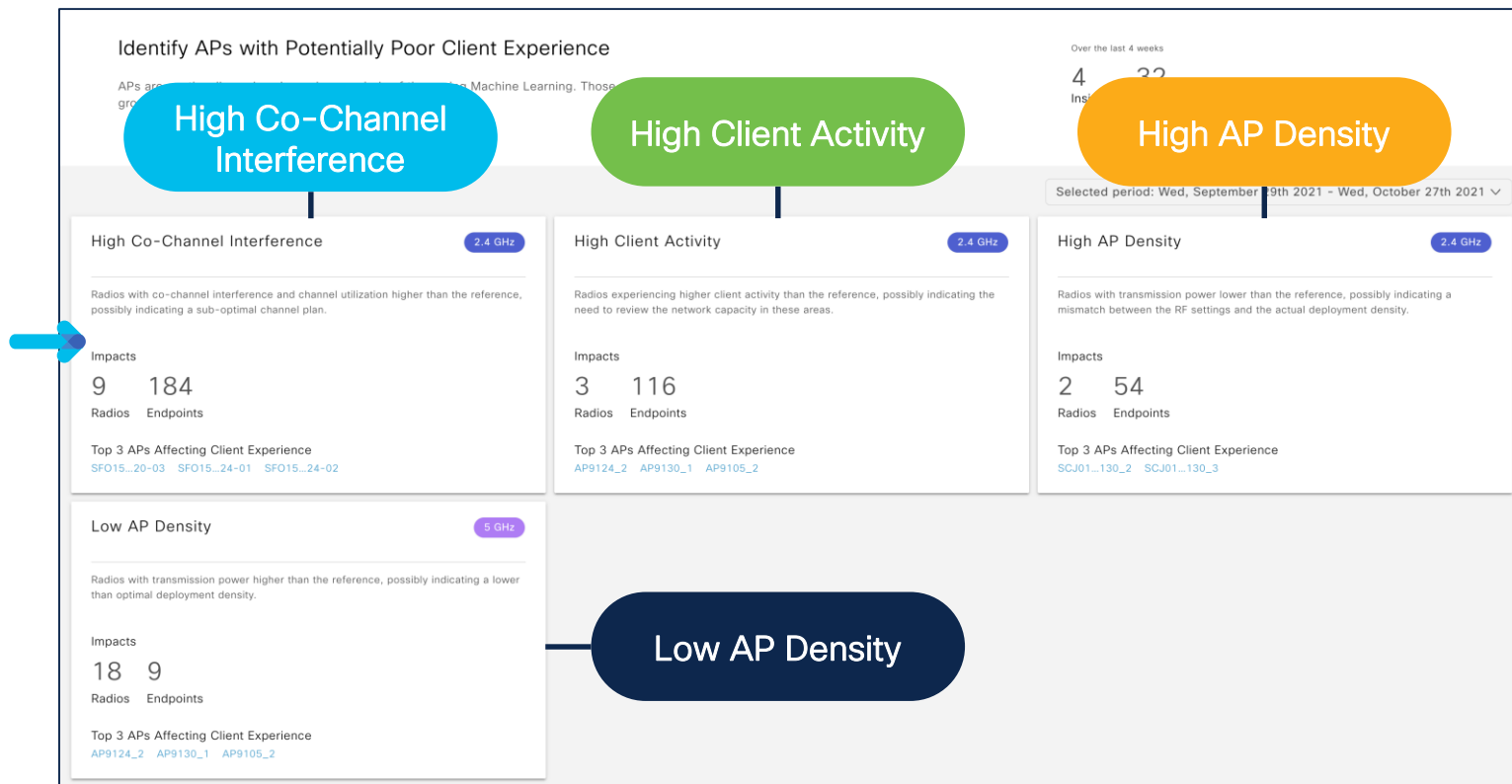
Network Heatmaps

Optimize AP Performance across the network through visual exploration of performance KPIs

17 KPIs: RF & Application

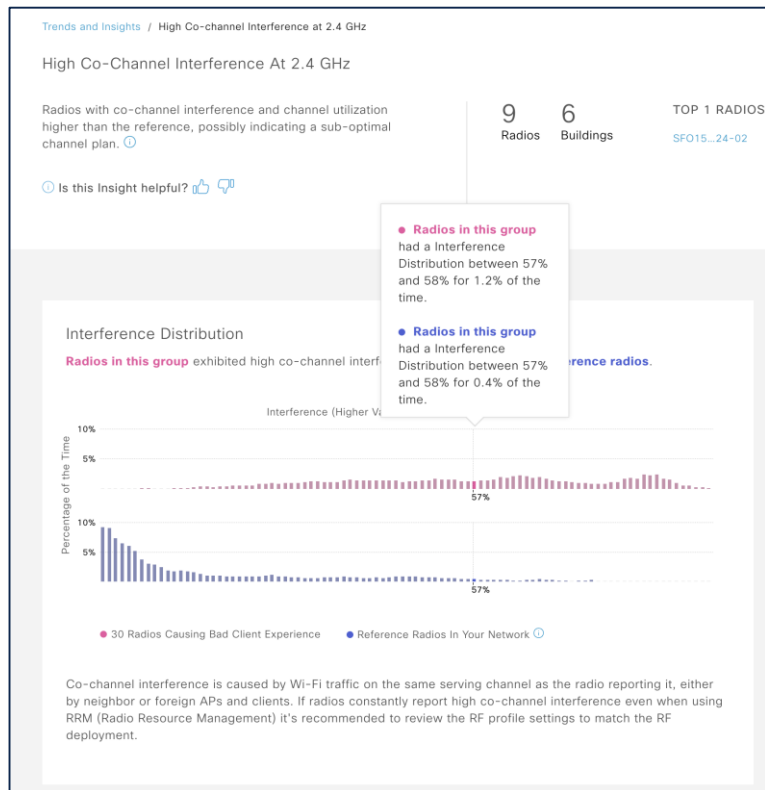


AI-Driven AP Performance Advisories



AP Performance Advisories

Leverage AI to Group APs Giving Poor Client Experience from 2.2.3 & 2.2.2.4



Pain Points

No view into groups of APs causing poor client experience due to similar reasons.

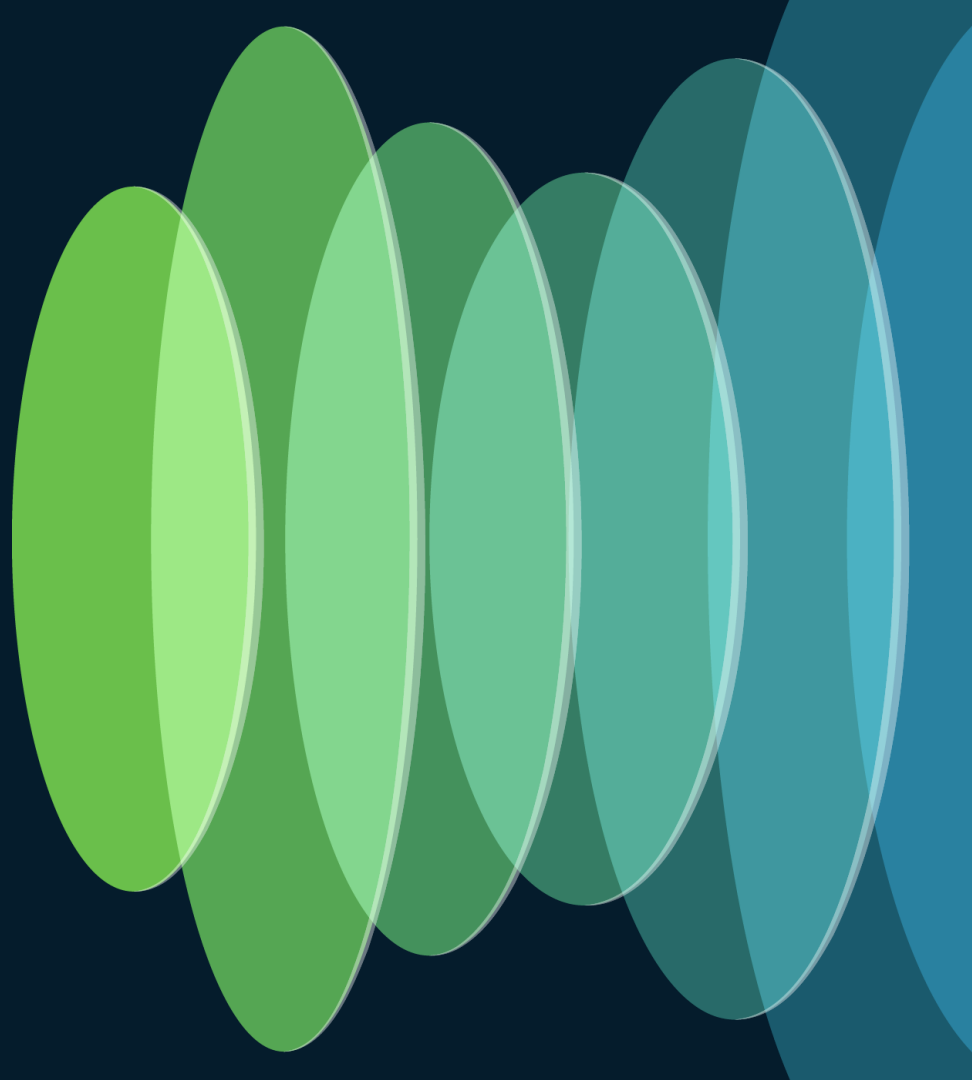
Feature Capability

Leverages AI to analyze 4 weeks of data to group APs and provides impact and root causes.

Customer Benefits

Identify poor performing groups of APs and mitigates potential risks more efficiently.

Event Analytics



Event Analytics

Challenge/Pain Points

- As a network administrator I would like the events dashboard to be more interactive and provide comprehensive analytics and powerful visualisation of the network events. It should provide valuable insights into network performance, security, and troubleshooting

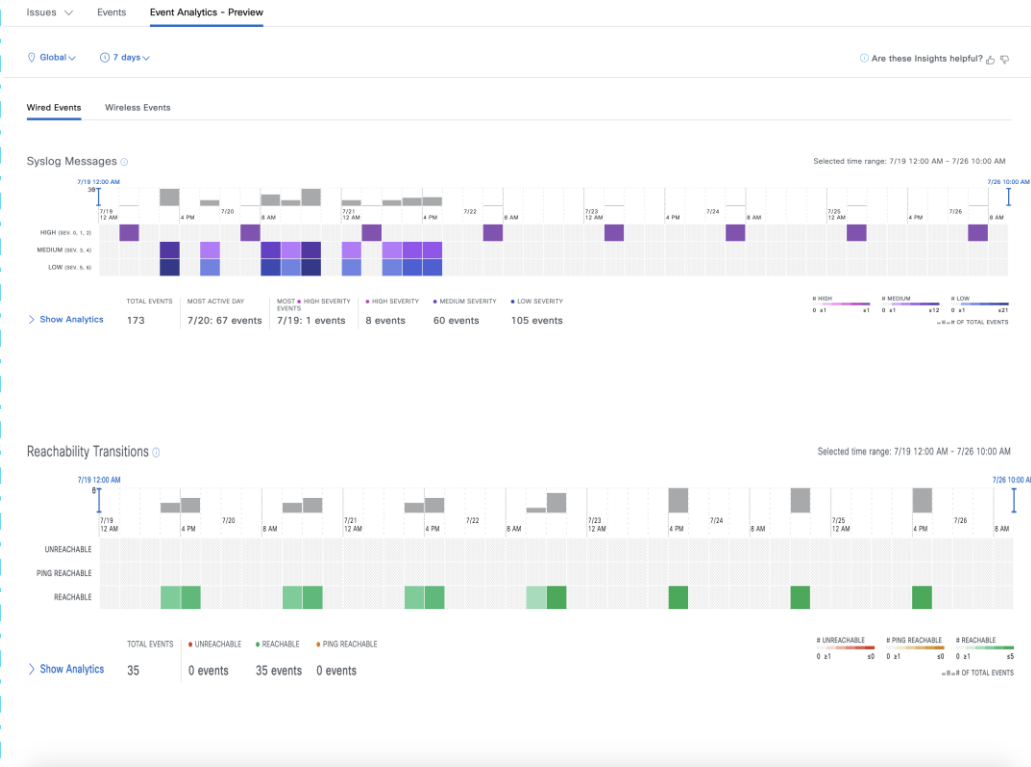
Feature Capability

- Event Analytics aggregates and processes event data, extracting relevant metrics and generating insightful analytics.
- It offers a user-friendly interface that allows users to explore data visually through intuitive graphs and charts to allow specific focus on areas of the network, time periods and event types of interest
- Type of events supported are Syslog and Reachability

Platform/Dependency

- Event Analytics needs to be enabled under AI Analytics
- Requires DNA Advantage License

Assurance -> Issues and Events -> Event Analytics - Preview



Event Analytics

Network event viewer & analytics platform for End-to-End Assurance

Single-pane-of-glass view across all network events facilitating observability & analytics

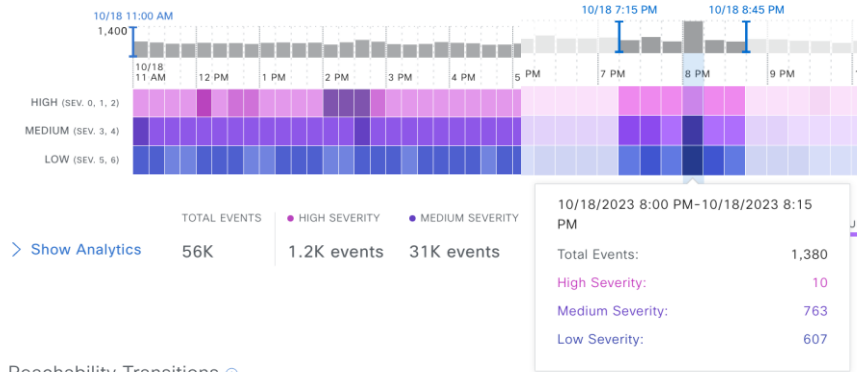
Realtime Analytics: Empower customer exploration & insight discovery

Effortlessly explore millions of events with intuitive synchronisation and correlation across event domains at different temporal scales

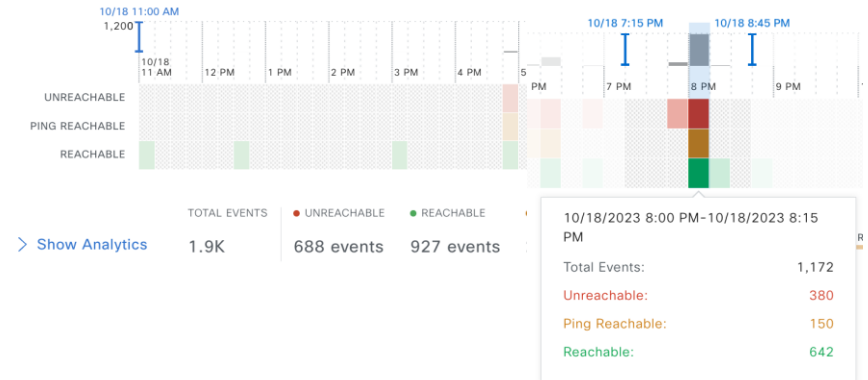
Event Analytics

- Intuitively navigate from millions of events to specific sites, devices or events of interest
- Correlate & compare trends & patterns across events & network domains
- Available in Catalyst Center 2.3.7.1 (phased rollout)

Syslog Messages

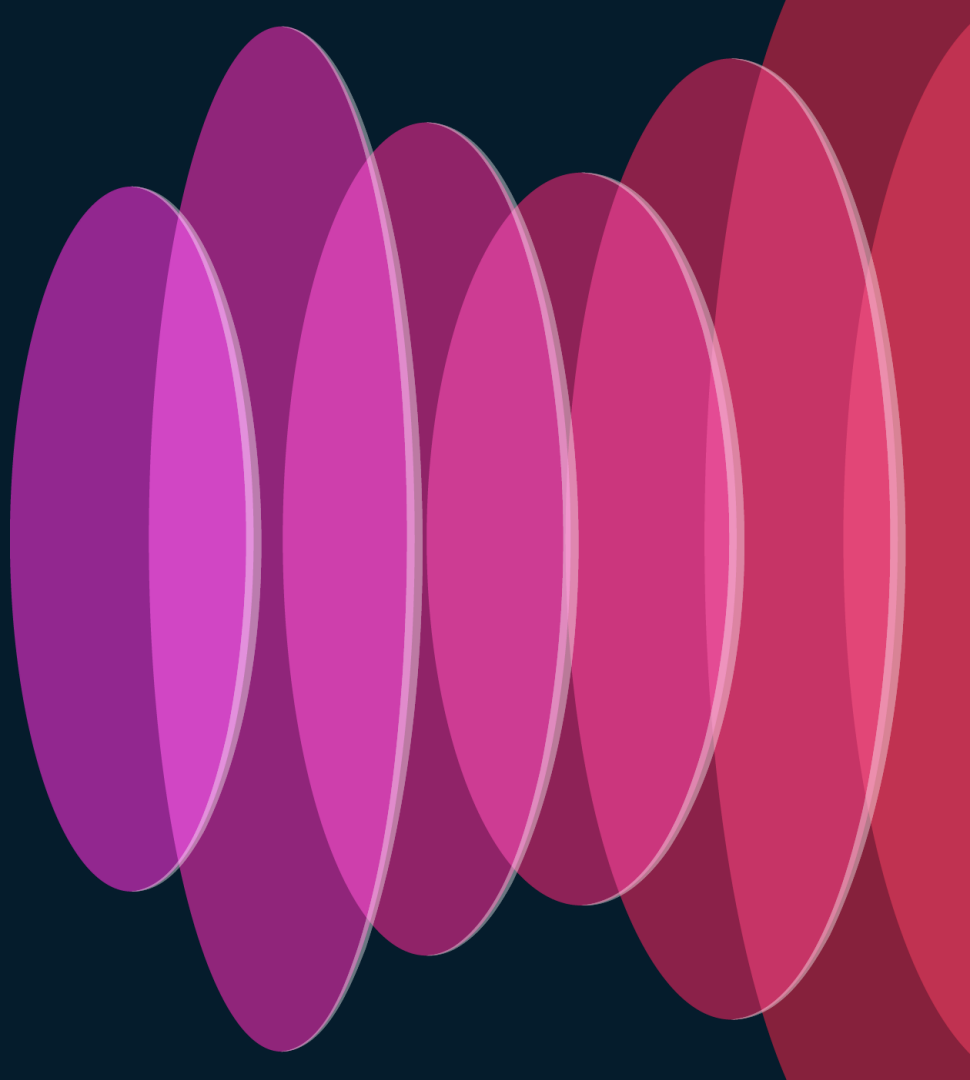


Reachability Transitions



Day 1

Site Analytics



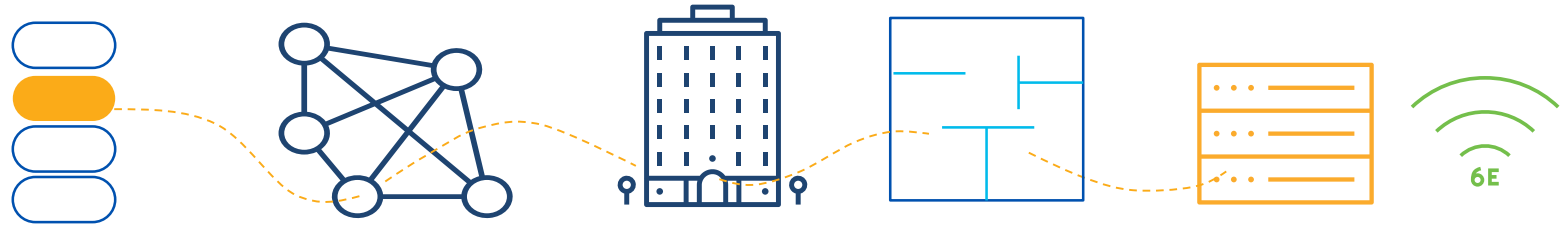
Use Case- Proactive Insights of the wireless environment



As a network admin, I would like to use various Assurance Capabilities in Catalyst Center to get proactive insight into the wireless network to understand how the network is performing

Focus on End User Experience with Site Analytics

Visualize Critical Wireless SLAs from global to Endpoint Level



Experience

Global

Building

Floor

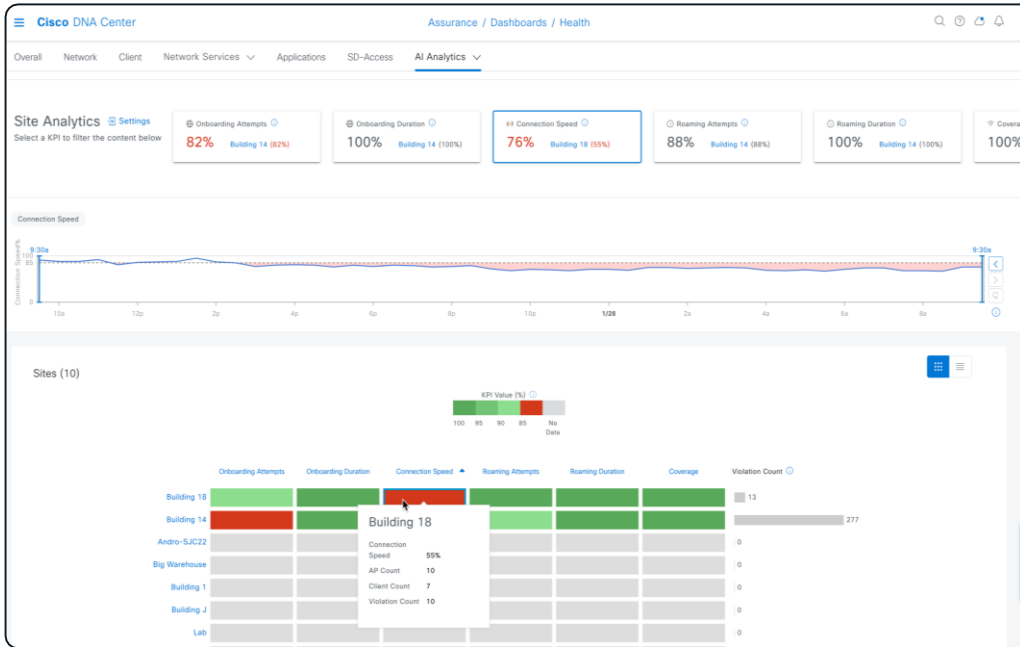
Device

SLAs Personalized to
your network

Critical SLAs such as onboarding speed, connection
speed, and coverage visualized at every level!

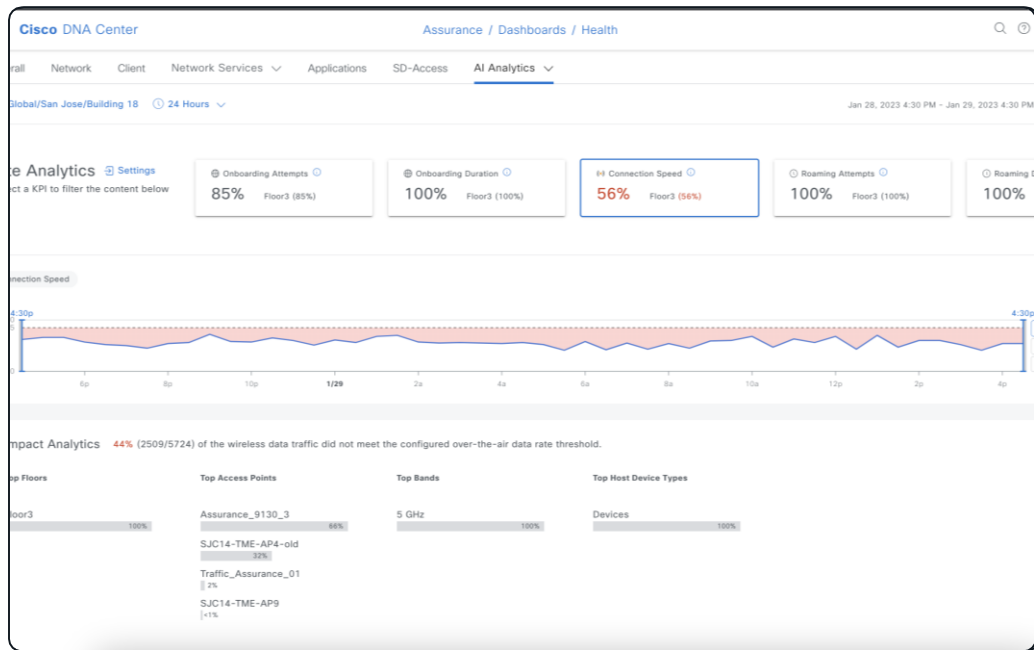
Isolate Problem Devices
Supporting Up to Wi-Fi 6 & 6E

Network experience from a Global to Endpoint level with Site Analytics



Global view of per-site Wireless experience via SLAs

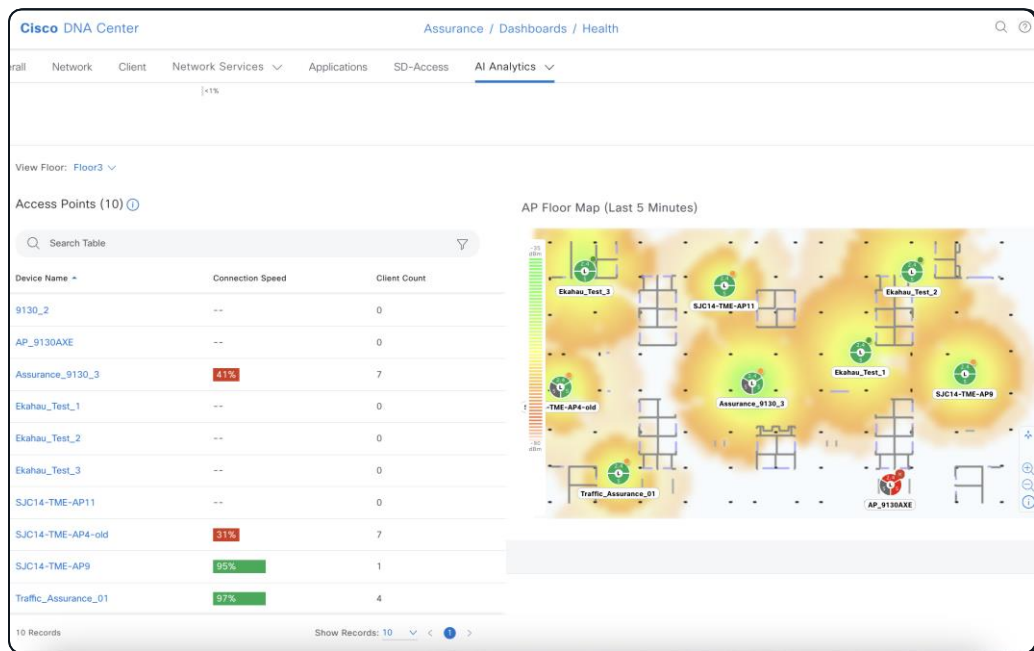
Network experience from a Global to Endpoint level with Site Analytics



Global view of per-site Wireless experience via SLAs

Building view of KPI trendline and Impact Analysis

Network experience from a Global to Endpoint level with Site Analytics



Global view of per-site Wireless experience via SLAs

Building view of KPI trendline and Impact Analysis

Floor view device level KPIs with heat map

In Progress
Target 2HCY24

Day N

ISE Failure Integration

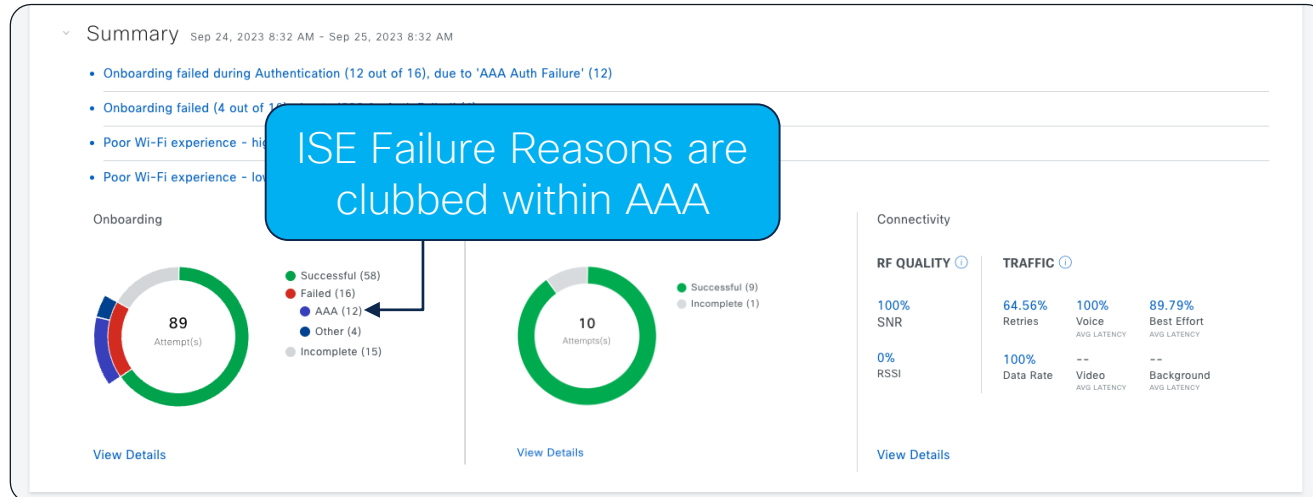
Triaging Authentication Issues Made Easy!

ISE Failures Added to Client 360

Network Timeline

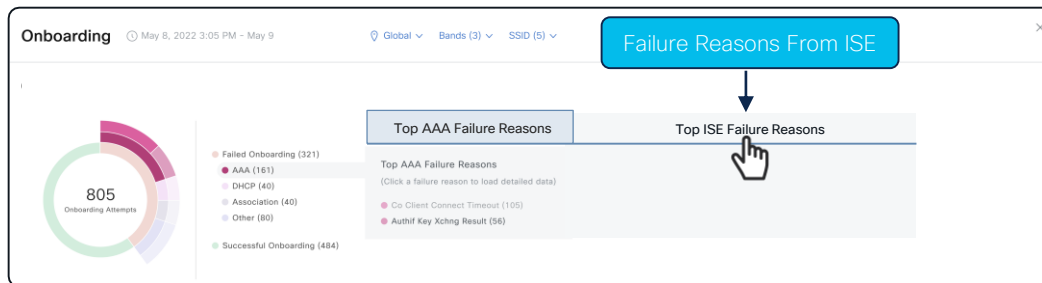


Summary Widget

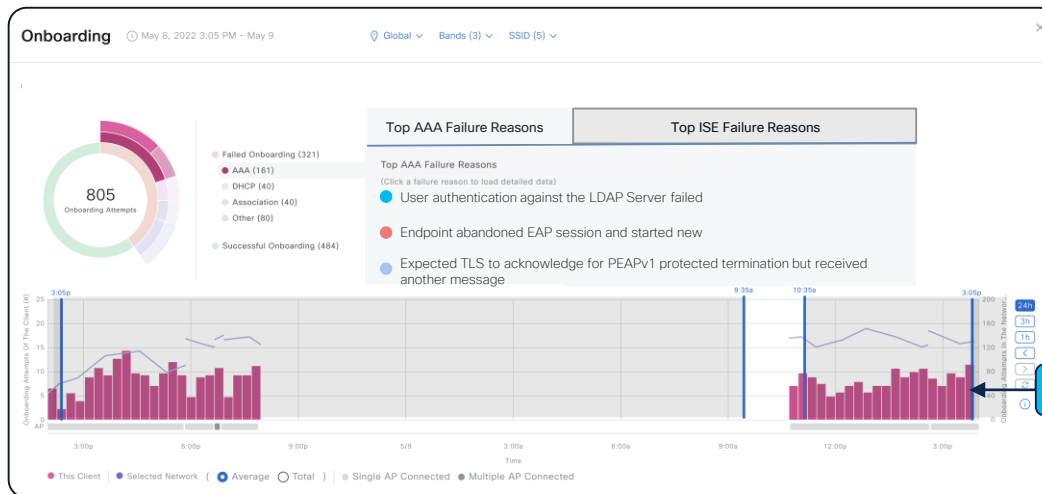


Detailed ISE Failures Summary Widget Integration

AAA Failures
(Sent from WLC)



ISE Failure
(Sent from ISE)



Showing Detailed ISE Failure Logs on Client 360's Event Viewer

ISE Integration in Event Viewer

Event Viewer

Go to Global Event Viewer

Export Full Screen

Search Table

Event	Time	Details
Sep 25, 2023		
> ISE (1)	2:50:44.775 PM - 2:50:44.775 PM	User authentication against the LDAP Server failed
> DHCP (1)	2:42:01.902 PM	AP:Traffic_Assurance_01 WLAN:live-legacy
> DHCP (1)	2:42:01.753 PM	AP:Traffic_Assurance_01 WLAN:live-legacy
> Onboarding (8)	2:41:59.585 PM - 2:42:01.753 PM	AP:Traffic_Assurance_01 WLAN:live-legacy

336 records Show Records: 25 1 - 25

ISE Event Logs Feb 10th, 2024 2:50:44 PM X

User authentication against the LDAP Server failed

Copy

- 11001 Received RADIUS Access-Request
- 11017 RADIUS created a new session
- 15049 Evaluating Policy Group
- 15008 Evaluating Service Selection Policy
- 11507 Extracted EAP-Response/Identity
- 12500 Prepared EAP-Request proposing EAP-TLS with challenge
- 12625 Valid EAP-Key-Name attribute received

Scrollable

New Security Section in Device Info

Device Info Connectivity RF iOS Analytics

Information

Device Type	iPad Pro (11 inch) (2nd gen)
Operating System	iOS 16.4.1
User Name	--
Host Name	--
MAC Address	AA-A1:6A:E5:C4:EC
IPv4 Address	10.14.70.109
IPv6 Address	fe80::1402:6477:a0e0:2684
Status	Connected
Hardware Manufacturer	Apple
Endpoint Type	--
VLAN ID	70

Connection Information

Band	5 GHz
Spatial Streams	2
APSD	Disabled

All Security Parameters Are Imported from ISE

Security

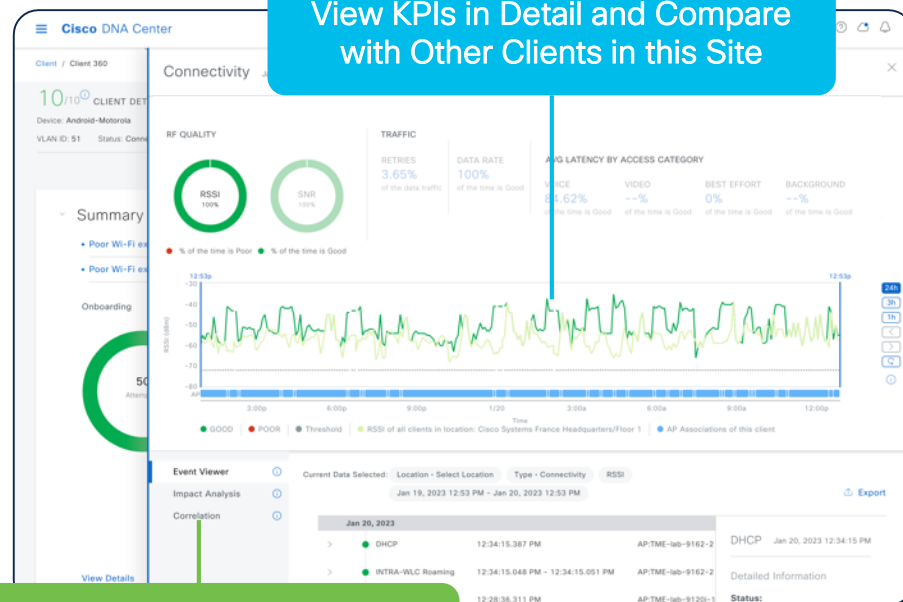
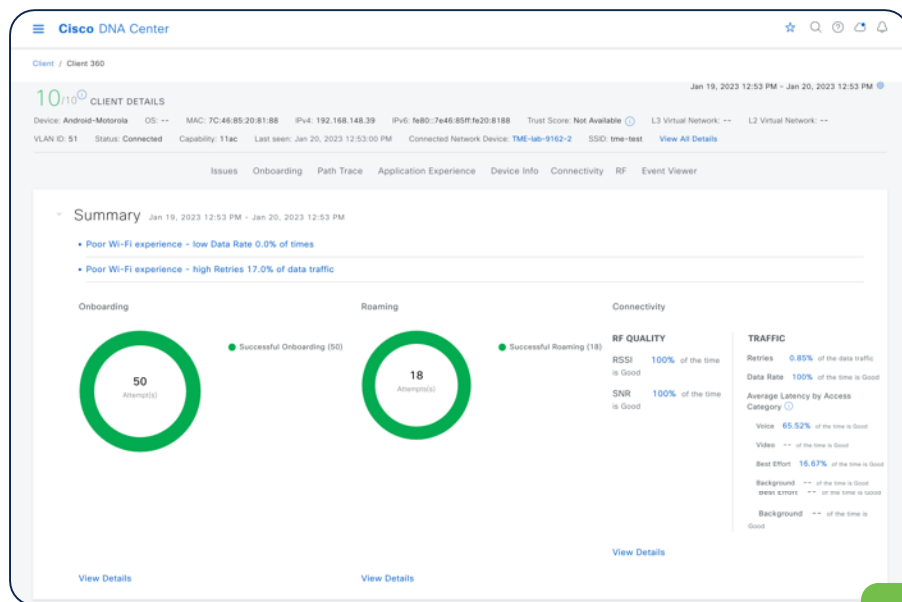
- Authenticating ISE/PSN
- Authorized Profile Name
- Security Group
- Posture Status
- Windows AD Domain
- Security Policy Type
- Encryption Cipher

Reactive Troubleshooting of wireless client connectivity/latency issues



Enhanced Troubleshooting on the Client 360!

Critical KPIs that Define Wireless Experience from v2.3.6



Correlate KPIs with Onboarding Events and Other KPIs

Client 360- Latency per Client data

Challenge/Pain Points

- When Client reports Connectivity or Slowness issue, as a Network admin I should be able to view and understand overall experience of that client for a given time range and check its Latency across access categories and correlate if this issue is because of any problem in Network Devices or Network Services.

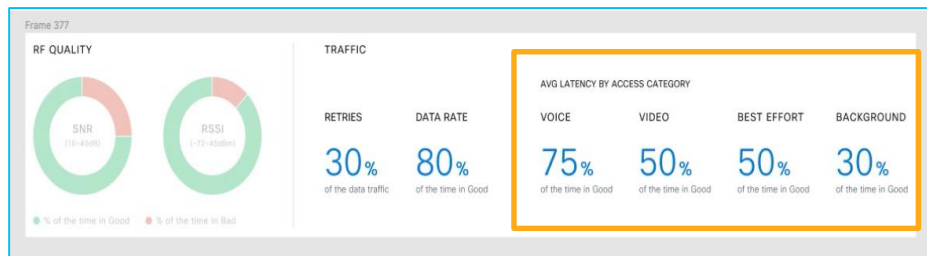
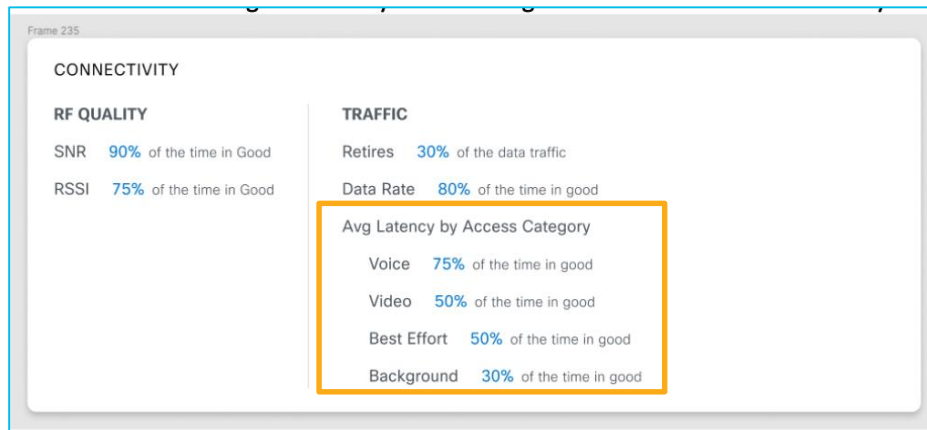
Feature Capability

- New Client latency Stats added to Client360 page under overall Summary. This will help customer to debug and correlate the Client connectivity and slowness issue.
- Trendline to view the latency per client by category and band
- Client Latency stats comes every 5mins from AP to Controller and Catalyst Center receives the data using "ClientRfStats" event

Platform/Dependency

- Supported on IOS XE starting from 17.11
- Requires DNA Advantage License

Assurance -> Dashboard -> Health -> Client



SSID Monitoring on C9800

Challenge/Pain Points

- As a network administrator, I want to see assurance data only for specific critical SSID's like corporate SSID's and Catalyst Center should filter out data for non-critical SSID's.

Feature Capability

- New capabilities added to WLC to send WSA data per SSID and update Catalyst Center with all clients present on WLC
- Ability from Catalyst Center Assurance settings to Disable/Enable SSID filtering

Platform/Dependency

- Supported on IOS XE starting from 17.11

Assurance -> Settings -> SSID Monitoring Settings

The screenshot shows the 'SSID Monitoring' settings page in Cisco DNA Center. The breadcrumb trail is 'Assurance / Settings / SSID Monitoring Settings'. The page title is 'SSID Monitoring'. Below the title, there is explanatory text about the feature and its impact. At the bottom, there is a table with one record for the SSID 'TME_live_psk', which has 61 clients and is currently 'Enabled'. The 'Action' column for this record has a 'Disable' button highlighted with an orange box. The table has columns for 'Network Name (SSID)', 'Client Count', 'DNAC Monitoring Status', 'Action', 'Controller Config Status', and 'Last Modified'.

By default, Cisco DNA Assurance monitors all SSIDs. However, you can enable or disable SSID monitoring of specific SSIDs without impacting the SSID configuration or wireless connection to these SSIDs.

What is impacted: When an SSID isn't monitored, Cisco DNA Assurance doesn't collect its client data. So, detailed data and charts for these clients aren't available on the Client 360 page. Also, other data like client health, client-specific issues, and intelligent capture isn't available for these clients. In addition, the dashlets on the Client Health page don't include data from clients on unmonitored SSIDs.

What is NOT impacted: There's no impact on SSID functionality on the APs. Wireless clients continue to connect to these SSIDs and all other SSIDs, as configured. Clients on monitored SSIDs continue to have detailed data available on their Client 360 pages.

To see the scheduled actions, check the [Activity Page](#).

Search Table

Network Name (SSID)	Client Count	DNAC Monitoring Status	Action	Controller Config Status	Last Modified
TME_live_psk	61	Enabled	<button>Disable</button>	--	--

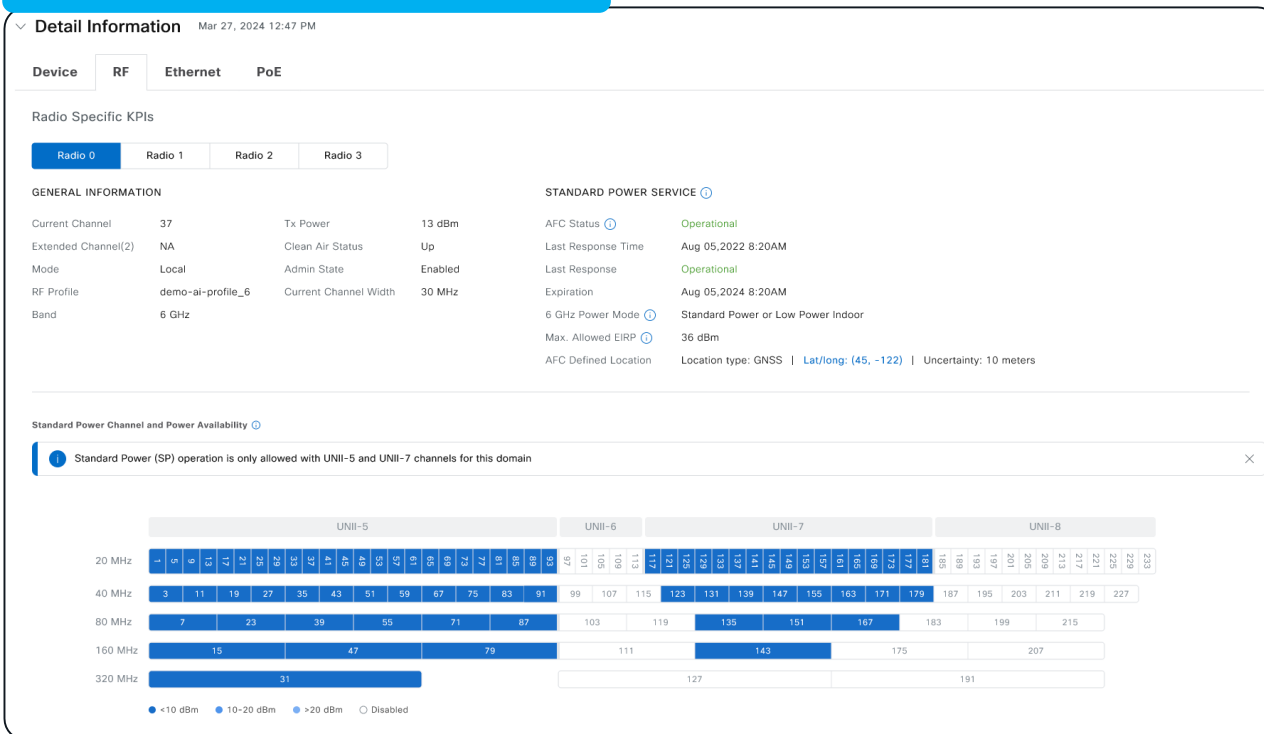
1 Records

Show Records: 10

AFC Assurance for Catalyst Center

Integrated with AP 360, WLC 360, and Network Health pages

AP 360 – Standard Power Service



AP and Client Tools

Challenge/Pain Points

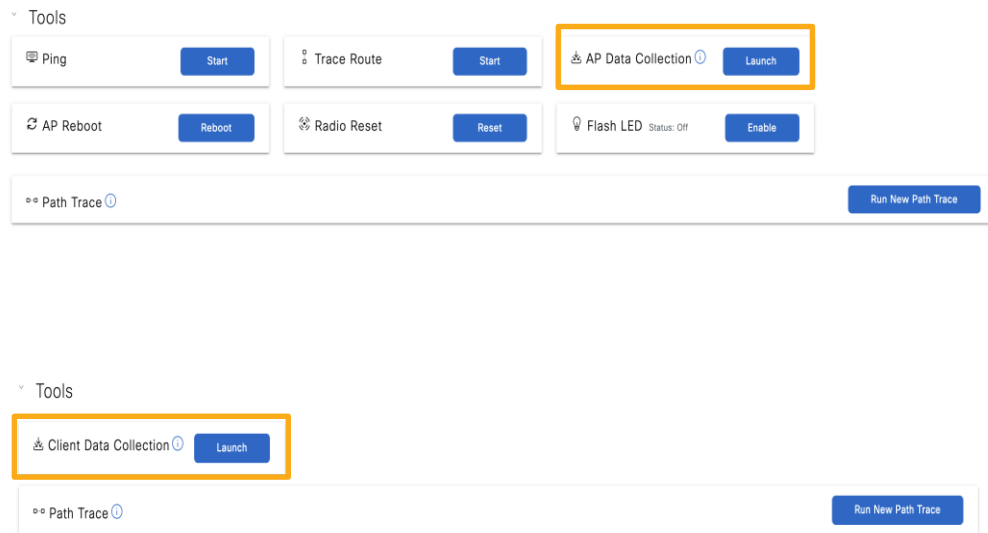
- For Wireless AP and Wireless Client Data Collection, we manually need to go to Tools > Network Reasoner, which is a disconnect in flow if I am on the Client or AP 360 page

Feature Capability

- Ability to launch into Wireless Client Data Collection Workflow on the Network Reasoner Page from the Tools section of Client 360
- Ability to launch into AP Data Collection Workflow on the Network Reasoner Page from the Tools section of AP 360

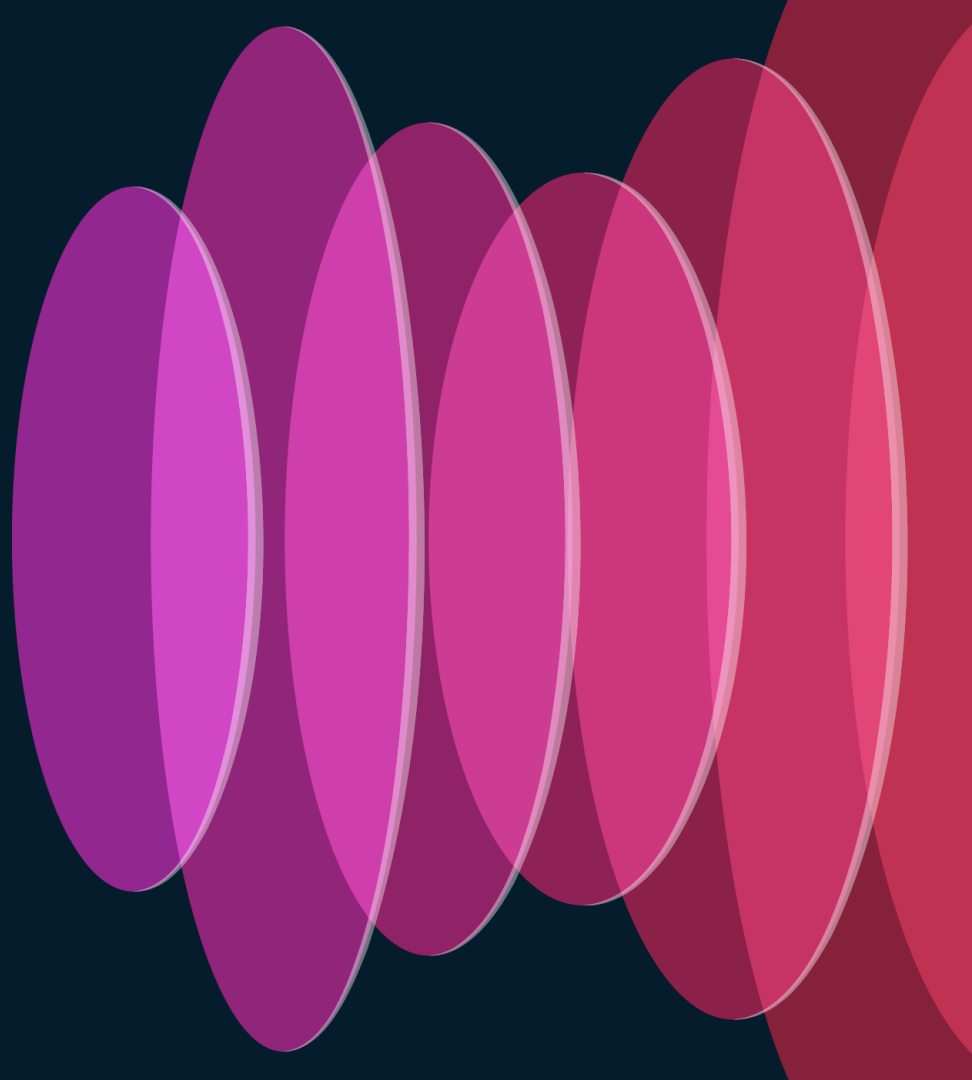
Platform/Dependency

- NA



Day N

OTA Sniffer



Introducing OTA Sniffer with Intelligent Capture



Capture All Packets on AP Supported Bands from 2.3.6!



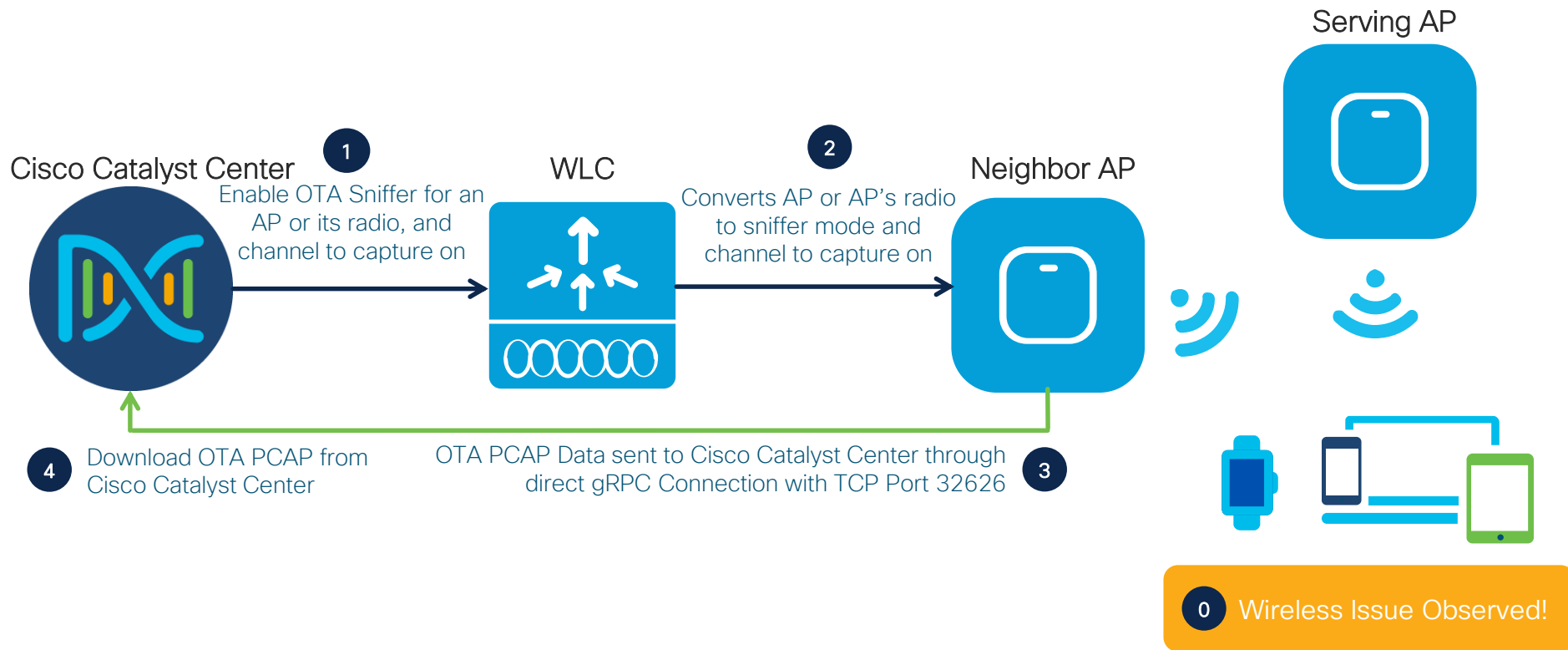
1

Perform OTA channel packet capture from anywhere in your wireless network remotely.

2

Diagnose wireless roaming, non-roaming, and any other issues at the channel level.

Intelligent Capture OTA Sniffer Topology



Next Level Serviceability with the OTA Sniffer Capture

Intelligent Capture can now capture ALL packets on a defined band from 2.3.6!

1

Start OTA PCAP on **Client** or **AP 360** and Select Up to 2 APs

Client Packet Capture

OTA Sniffer ⓘ

Select Neighboring Access Points

Select up to 2 APs for OTA Sniffer capture. An optimal AP (RSSI strength + radio type) neighboring AP-1 has been selected by default.

Global/ San Jose/ Building 4 Floor 1 ▾ Jul 18, 2022 06:40 PM ⓘ

Other APs are OTA Sniffer Candidates

Client

AP Client is Connected to

AP-1

Sniffer Type: Serving Radio
Supported Bands: 2.4/5 GHz
AP Model: 4800
RSSI to AP-1: N/A
Client Count Per Radio:
Radio 0 (2), Radio 1 (5)
Floor: 1

AP-2

Sniffer Type: Serving Radio
Supported Bands: 2.4/5/6 GHz
AP Model: 9136
RSSI to AP-1: +72 dBm
Client Count Per Radio:
Radio 0 (1), Radio 1 (3), Radio 2 (0)
Floor: 1

Cancel Next

2

Define Radio and Band to Capture and Start it!

Client Packet Capture

OTA Sniffer ⓘ

Select Radio, Band, Channel Width and Channel

AP-1

MAC Address: 00:00:5e:00:53:af

Select Sniffer Mode: ☒ Radio Mode ☐ AP Mode

Radio

1 (Client Count: 2) ▾

Single Radio Converts to Sniffer Mode

Band

Select a Band ▾

AP-2

MAC Address: 00:00:5e:00:53:af

Select Sniffer Mode: ☐ Radio Mode ☒ AP Mode

Radio

1 (Client Count: 2) ▾

Entire AP Converts to Sniffer Mode

Band

5 ▾

Channel Width

80 ▾

Channel

106 ▾

Back Run

3

Download the OTA PCAPs Directly on the Page!

Packet Captures

Data OTA Sniffer

PCAP Initiated On (Page / Name / MAC)	Sniffer AP (Name / MAC)	First Packet Time	Duration (hr:min)	Size	Download
AP 360 / AP-1 / 00:00:5e:00:53:af	AP-1 / 00:00:5e:00:53:af	Mar 1, 2022 11:11:11 PM	1:10:55	1 GB	Download
AP 360 / AP-1 / 00:00:5e:00:53:af	AP-2 / 00:00:5e:00:53:af	Mar 1, 2022 11:11:11 PM	1:10:55	1 GB	Download
Client 360 / Client-1 / 00:00:5e:00:54:cf	AP-1 / 00:00:5e:00:53:af	Mar 1, 2022 11:11:11 PM	1:10:55	1 GB	Download
AP 360 / AP-3 / 00:00:5e:00:53:af	AP-1 / 00:00:5e:00:53:af	Mar 1, 2022 11:11:11 PM	1:10:55	1 GB	Download

Download OTA PCAP!

Depicts if PCAP was initiated on Client ICAP or AP 360 page

Machine Reasoning Engine for Wireless Serviceability

With Client and AP Data Collection Catalyst Center v2.3.6

Use case:

Cisco Catalyst Center can grab AP and Client debug logs needed for troubleshooting via the Wireless Client and AP Data Collection MRE Workflows on the Network Reasoner page.

Key Benefits:



Significantly improves serviceability experience as logs are collected for you and made available directly on the MRE UI.

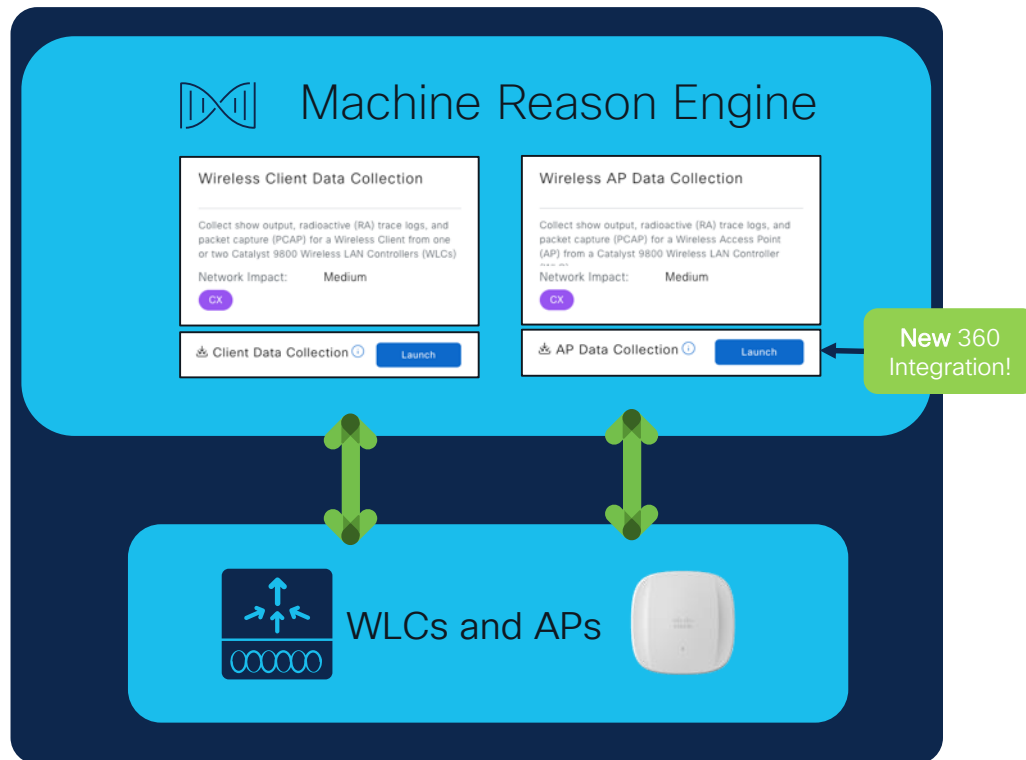


No need to manually SSH into WLC/APs, run CLI/Debug commands then copy paste logs into .txt files any longer.



Integration into Client and AP 360 page under tools from Cisco Catalyst Center v.2.3.7.

CISCO *Live!*



Unleash the True Potential of Your Wireless with Cisco Wireless AIOps!



Networking

Wireless Automation & Troubleshooting

Learn from experts on wireless topics such as automation and analytics for enterprise wireless networks, and best practice in troubleshooting wireless networks from speakers who are at the forefront of wireless innovation. You will understand our AI/ML strategy for Cisco Wireless.

START

Monday, June 3 | 8:00 a.m.

BRKEWN-2014

Meraki AI/ops & Assurance –
Optimizing Wireless User
Experience at Scale!

Monday, June 3 | 9:30 a.m.

BRKEWN-2029

7 Ways to Save your Wireless
OpEx using Catalyst Center AI/ops

Tuesday, June 4 | 10:30 a.m.

BRKEWN-2039

Let's Troubleshoot Your Wi-Fi
Using Cisco Meraki Wireless

Tuesday, June 4 | 1:00 p.m.

BRKEWN-3007

Demystifying the Role of Applied
AI in Your Cisco Wireless
Deployments

Tuesday, June 4 | 4:00 p.m.

BRKEWN-2097

Monitoring Cisco Catalyst Wireless
with the Meraki Dashboard

FINISH

Wednesday, June 5 | 2:30 p.m.

BRKEWN-1108

Design, Validate and Certify your
Wireless Streaming Telemetry
Deployment

Thursday, June 6 | 8:30 a.m.

BRKEWN-3628

Troubleshoot Catalyst 9800
Wireless Controllers

Thursday, June 6 | 10:30 a.m.

BRKEWN-3002

Make a Wireless Engineer's Life
Easy by Using Automation to
Troubleshoot and Analyze Logs

Thursday, June 6 | 1:00 p.m.

BRKEWN-2306

Wireless Network Automation and
Assurance with Cisco Catalyst
Center

Networking

Secure Wireless Design

Learn about design best practices for Cisco wireless solution, including many security optimizations. You will also learn about energy optimizations for Cisco Wireless deployments. Finally you will learn how to enable Smart Workspaces and locations based services that leverage your Cisco Wireless and BLE solution.

START

Monday, June 3 | 8:30 a.m.

BRKEWN-2054

Designing the Right Enterprise Wireless Architecture for Challenging Environments (On-Premises, Cloud, and Hybrid)

Monday, June 3 | 10:30 a.m.

BRKEWN-2035

Design your Enterprise Wireless Network with Cisco Meraki

Monday, June 3 | 11:00 a.m.

BRKENS-2834

IPv6-Enabled Wireless (Wi-Fi) Access: Design and Deployment Strategies

Tuesday, June 4 | 10:30 a.m.

BRKEWN-3004

Understanding Wireless Security and the Implications for Secure Wireless Network Design

Wednesday, June 5 | 10:30 a.m.

BRKEWN-2926

Tune Your Cisco Wi-Fi Designs for the Most Demanding Clients and Applications, Boosted with Applied AI

FINISH

Thursday, June 6 | 9:30 a.m.

BRKEWN-2658

Implement and Troubleshoot Cisco Spaces to Deliver Next-Generation Location-Based Solutions

Thursday, June 6 | 1:00 p.m.

BRKEWN-2037

OpenRoaming Under the Hood

Networking

Wi-Fi 6/6E

Learn from experts on wireless topics such as WiFi6 and WiFi6E standards enhancements. You will understand what you need to know about designing for 6GHz, migrating from AireOS to Catalyst 9800 or to Cloud management with Meraki, and what you need to know about 5G and WiFi6E coexistence.

START

Monday, June 3 | 1:00 p.m.

BRKEWN-2087

High-Density Wi-Fi Design, Deployment, and Optimization

Monday, June 3 | 3:00 p.m.

BRKEWN-2339

Catalyst 9800 Configuration Best Practices

Tuesday, June 4 | 1:00 p.m.

BRKEWN-2094

Successfully Configuring Catalyst 9800 Wireless Controllers on Your First Shot

Tuesday, June 4 | 2:30 p.m.

BRKEWN-1107

Cut the Cord: Design Principles to Deliver a Wireless-First Enterprise

Tuesday, June 4 | 3:00 p.m.

BRKEWN-2043

Saving Energy and Money with Your Cisco Wireless Network

FINISH

Tuesday, June 4 | 3:00 p.m.

BRKOPS-2402

Automate the Deployment of a Wireless Network with the Help of Cisco Catalyst Center

Wednesday, June 5 | 10:30 a.m.

BRKEWN-3413

Advanced RF Tuning for Wi-Fi 6E with Catalyst Wireless: Become an Expert While Getting a Little Help from AI

Wednesday, June 5 | 2:30 p.m.

BRKEWN-2024

Wi-Fi 6E Adoption and a Sneak Peek into the Future with Wi-Fi 7

Wednesday, June 5 | 4:00 p.m.

BRKEWN-1538

Internet of Things on the Next Generation Cisco Catalyst Wireless Wi-Fi 6E Access Points

Complete Your Session Evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to be entered in a drawing to **win 1 of 5 full conference passes** to Cisco Live 2025.



Earn 100 points per survey completed and compete on the Cisco Live Challenge leaderboard.



Level up and earn **exclusive prizes!**



Complete your surveys in the **Cisco Live mobile app**.

Continue your education

- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at www.CiscoLive.com/on-demand

Contact me at: karthiyy@cisco.com



The bridge to possible

Thank you

CISCO *Live!*

#CiscoLive