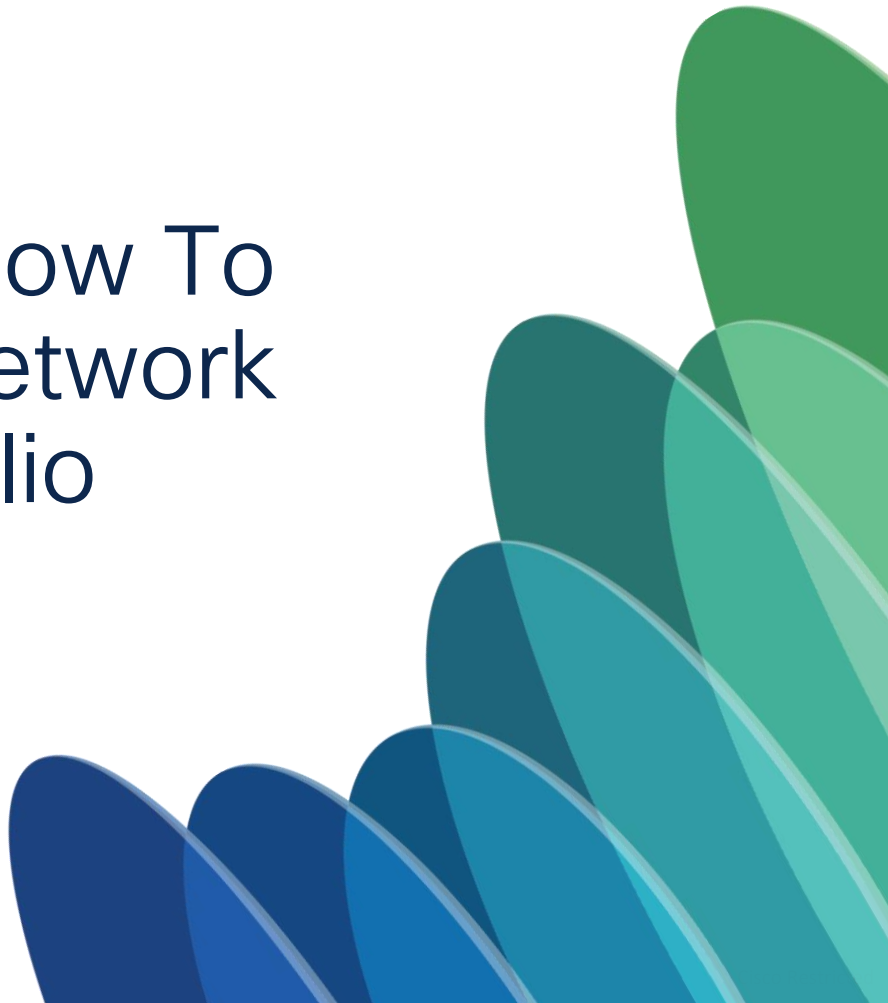




Wireless Wonders: How To Build Your Wi-Fi 7 Network with the Cisco Portfolio

Maren Kostede - Solutions Engineer
EMEA Networking Sales
BRKEWN-1722

CISCO *Live!*



Agenda

① Wi-Fi 7 & APs

② Platform Choices

③ Simplified Operation



④ Location Services

⑤ Secure!

⑥ Built in IoT

Webex App

Questions?

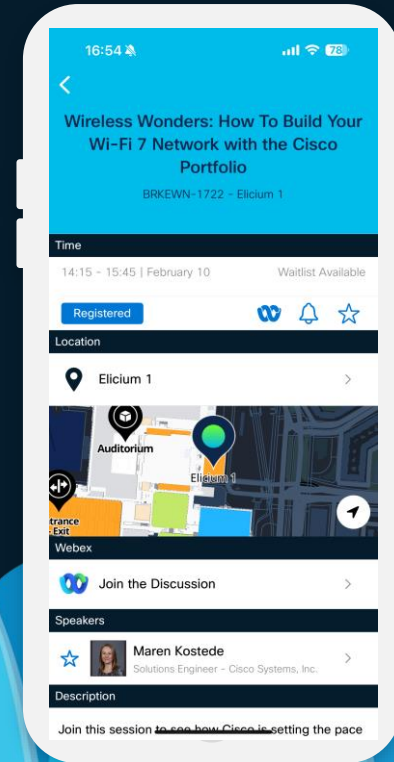
Use the Webex app to chat with the speaker after the session

How

- 1 Find this session in the Cisco Events 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 February 28, 2025.

CISCO *Live!*



Webex App

Questions?

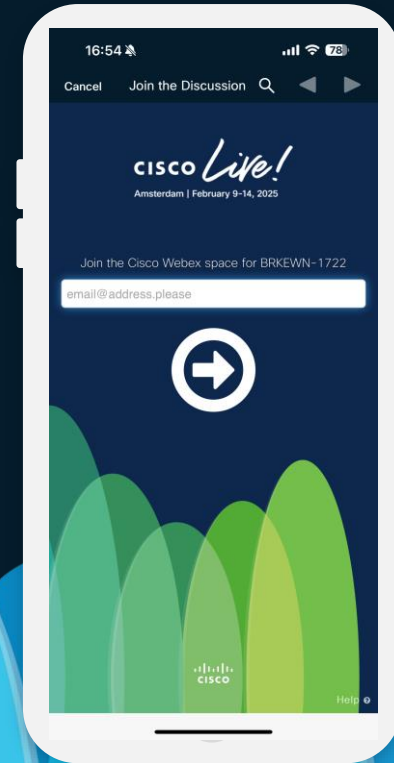
Use the Webex app to chat with the speaker after the session

How

- 1 Find this session in the Cisco Events 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 February 28, 2025.

CISCO *Live!*



... about Maren

- joined Cisco in 2005
- Systems Engineer/ Wireless Specialist for Northern Germany
- 2018 Technical Catalyst Wireless Sales lead for Cisco EMEAR
- 2024 Technical Lead Cisco Wireless & Platforms EMEA

- › Mom
- › Hamburg/ Germany
- › Traveling
- › Sailing

Since
2024 ©



Agenda

① Wi-Fi 7 & APs

② Platform Choices

③ Simplified Operation

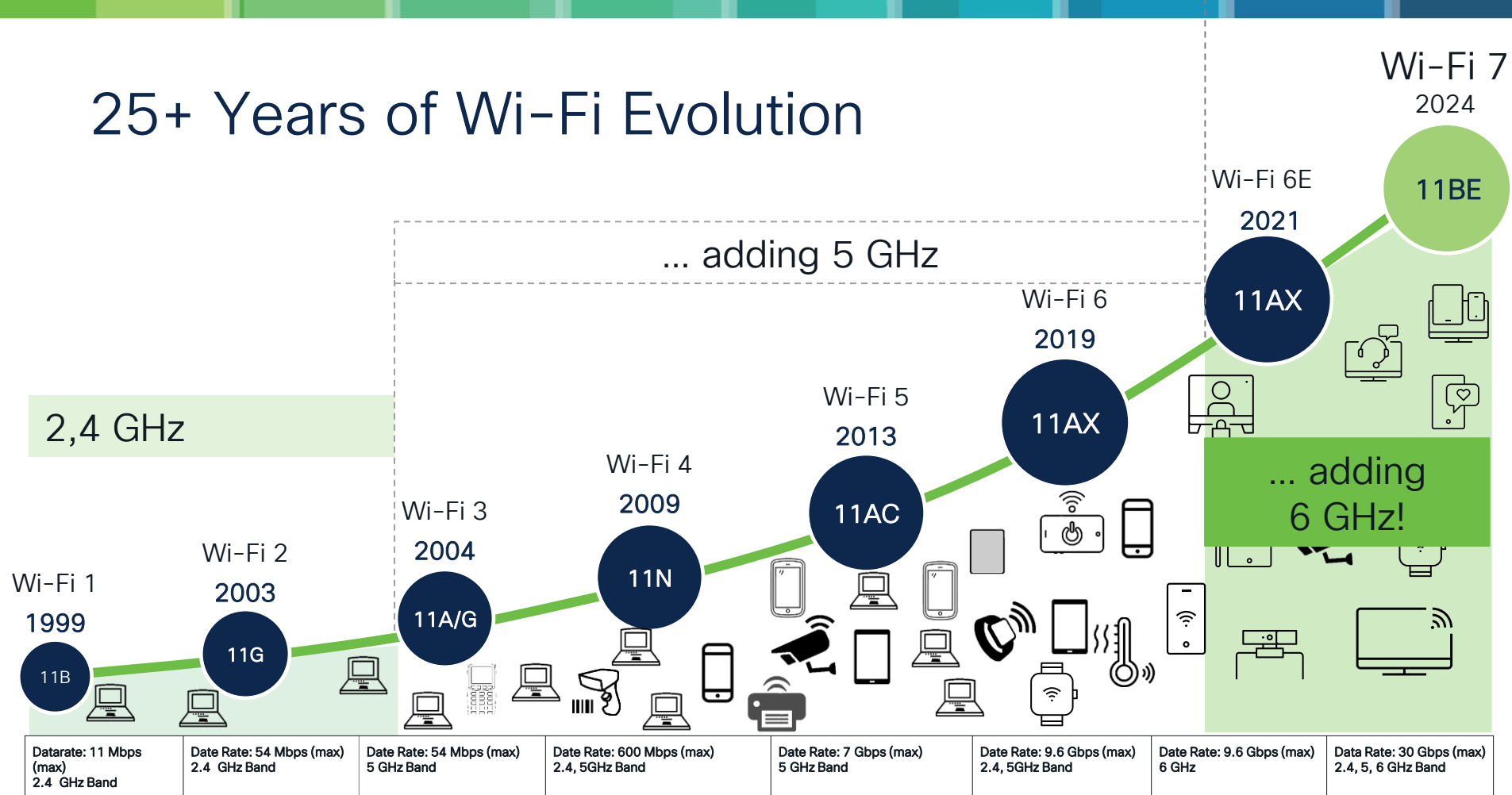


④ Location Services

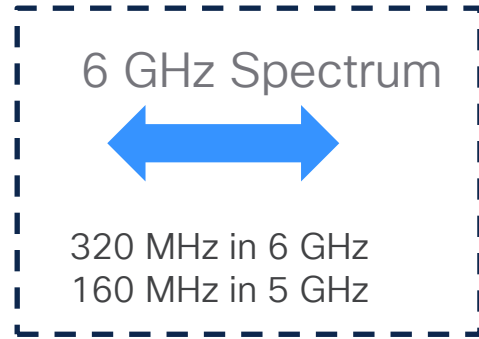
⑤ Secure!

⑥ Built in IoT

25+ Years of Wi-Fi Evolution



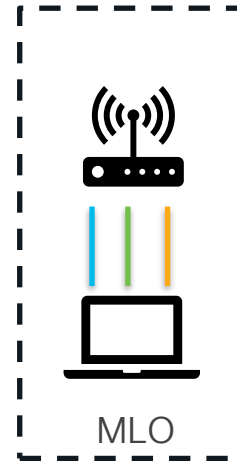
What is new in Wi-Fi 7 (IEEE 802.11be)?



4K QAM



Multi-RU



Compressed Block Ack



Preamble puncturing

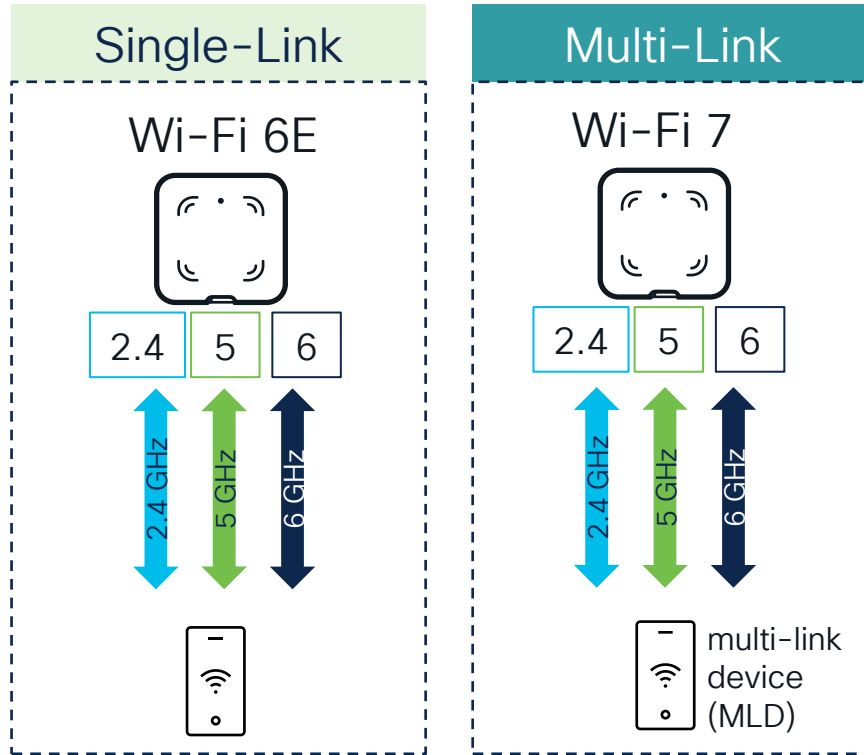
Mandatory in Wi-Fi 7. Optional in Wi-Fi 6

Min ch. width of 80



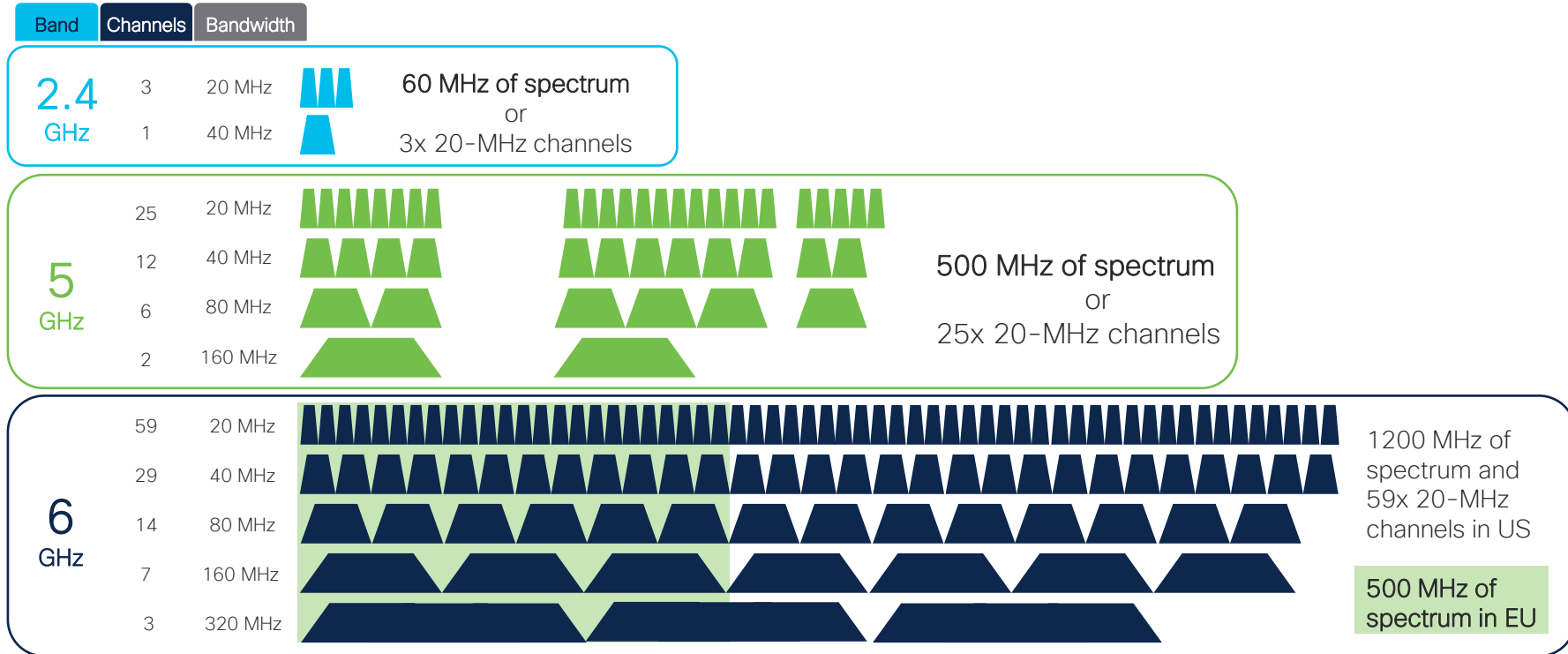
Triggered UL Access Optimization

Wi-Fi 7 Introduces Multi-Link Operations (MLO)



- **Single-Link:** Association and exchange of data in **one band only**.
- **Multi-Link:** Capable Wi-Fi 7 devices can **aggregate multiple bands**.
- Can **associate and simultaneously exchange traffic** on multiple links
- Wi-Fi 7 specifies several use cases for multi-link operation. Supported use case depend on AP and client capabilities

6 GHz Spectrum with Wi-Fi 6E & Wi-Fi 7 only!



6 GHz Spectrum: Extra Lanes for 6 GHz capable devices!

Congested 2.4 & 5 GHz Spectrum



- Limited re-usable channels
- Channels congestion
- Interference

6 GHz Spectrum



- Supported Wi-Fi 6E and Wi-Fi 7 clients only
- Wider Channels
- Clean RF

This results in faster speeds, lower latency, and better overall experience

Get secure today: Start using WPA3 Encryption



Educate yourself on the availability and ease of enabling it

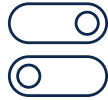
Mandatory for 6 GHz & all bands for MLO (Wi-Fi 7)

Use transition mode if you must

Cisco Wireless Wi-Fi 7



Global Use Access Point & Unified Hardware for efficient, smart, scalable operations



RF Excellence & Complete connectivity: BLE, IoT, location, ...



Sustainably built and power-savvy



A huge step forward in sustainability

- Best principles for circular design
- **Zero-plastic packaging**
- Configurable mounting bracket (Bracket-1, Bracket-2, **NONE**)
- Multi-Pack option available
- Clear visibility into energy use and footprint



One Cisco Wireless Access Point

Global Use AP, Unified Product, Single SKU



Cisco 9800 Controller &
Cisco Catalyst Center



Meraki **Management Mode**
MR Dashboard Stack



Join WLC 9800 or Meraki stack on Day 0
Management Mode Change from Day 1 to N

Cisco Wi-Fi 7 Access Point Portfolio



Cisco Wireless CW9178 Access Point



Hexa-Radio Architecture

1. 2.4 GHz Serving Radio 4x4:4SS
2. 5 GHz Serving Radio 4x4:4SS
3. 5 GHz Serving Radio 4x4:4SS*
4. 6 GHz Serving Radio 4x4:4SS
5. Tri-band scanning Radio
6. 2.4 GHz IoT Radio

* 5GHz - Single or Dual Radio

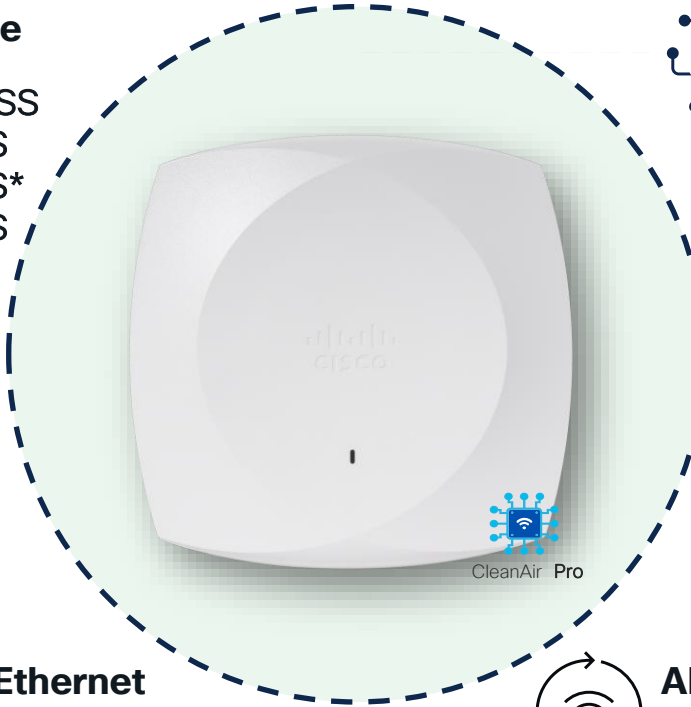


Omni-Directional Antenna



10 Gig Dual Ethernet PoE & Link Redundancy

cisco Live!



IoT Capabilities

- 2.4 GHz IoT/BLE, UWB
- Application Hosting Technology



Built-in UWB & GPS/GNSS



Built-in USB Port 9W of output power



AP Modes (Global Use AP) Meraki Dashboard, C9800 local & FlexConnect Site Survey, Monitor/Sniffer

Cisco Wireless CW9176I & D Access Point



Penta-Radio Architecture

1. 2.4 GHz Serving Radio 4x4:4SS*
2. 5 GHz Serving Radio 4x4:4SS
3. 6 GHz Serving Radio 4x4:4SS
4. Tri-band scanning Radio
5. 2.4 GHz IoT Radio

**XOR Radio - 2.4/5GHz*



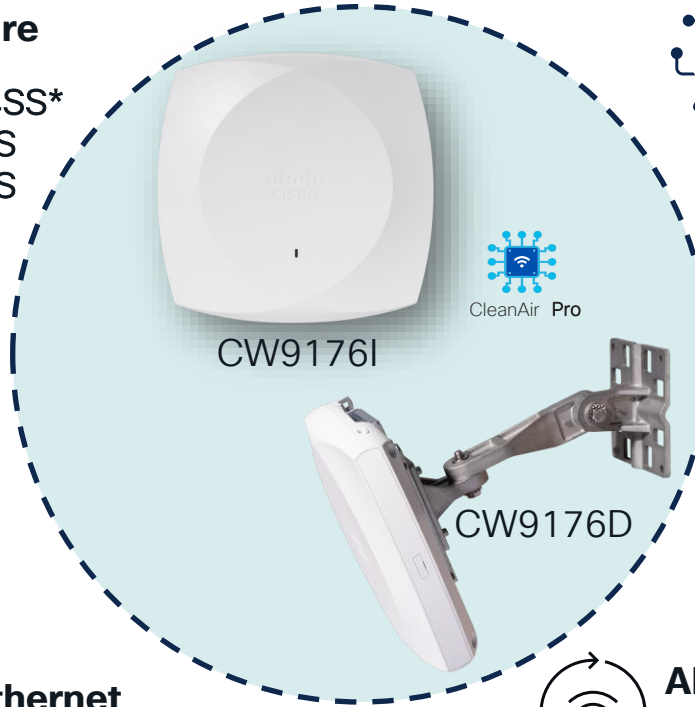
Omni



Directional



10 Gig Ethernet



IoT Capabilities

- 2.4 GHz IoT/BLE, UWB
- Application Hosting Technology



Built-in UWB & GPS/GNSS

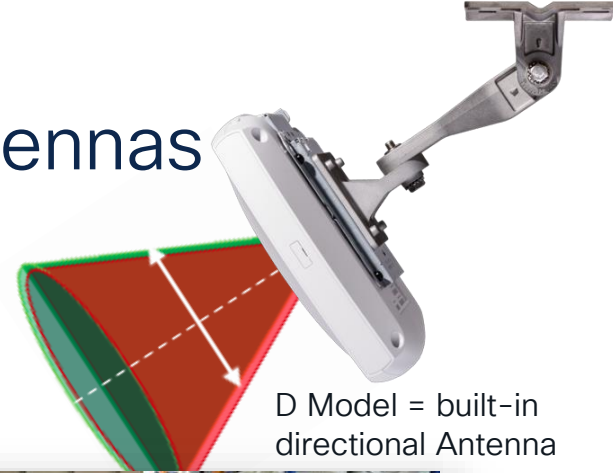
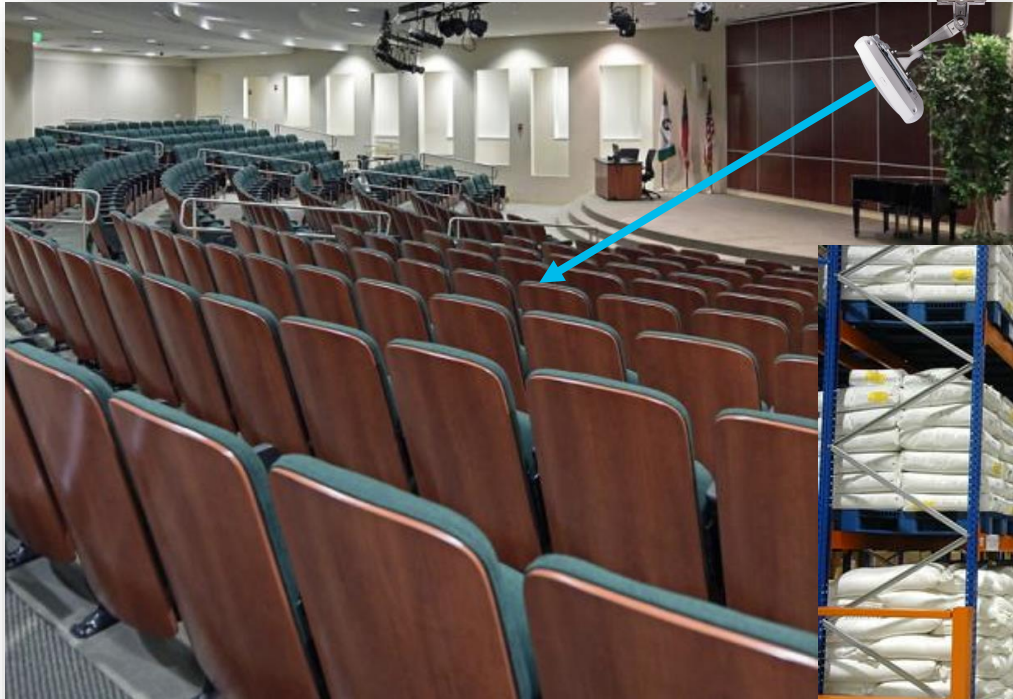


Built-in USB Port
9W of output power

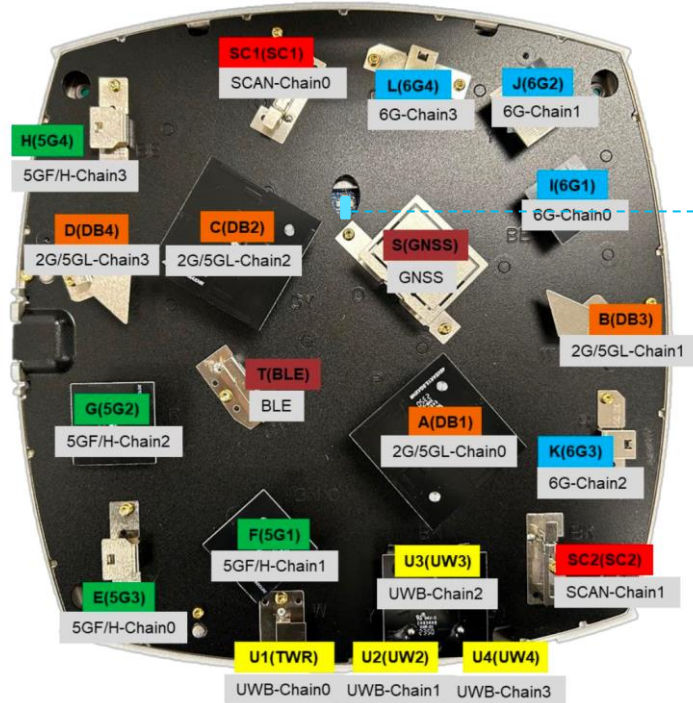


AP Modes (Global Use AP)
Meraki Dashboard, C9800 local &
FlexConnect Site Survey, Monitor/Sniffer

Use cases: Built-in directional Antennas

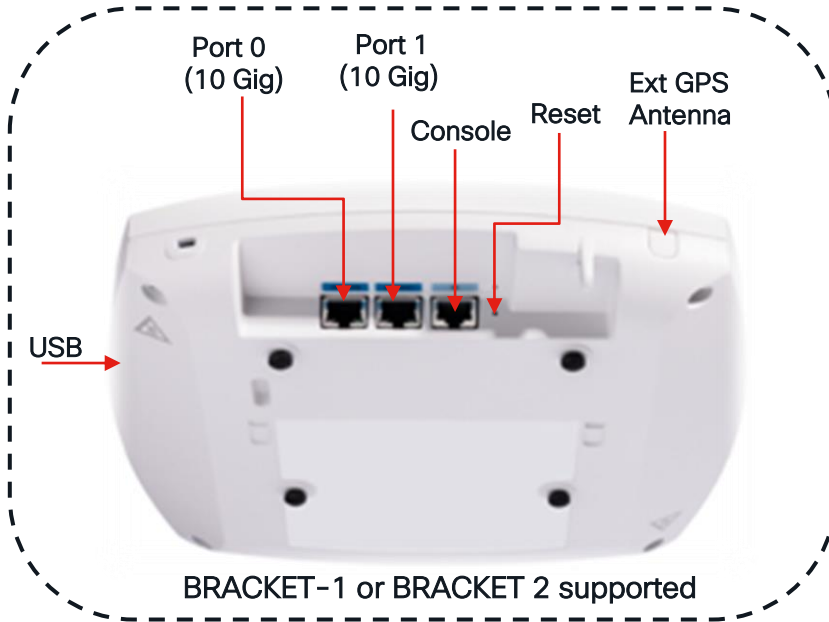


Cisco Wireless CW9176I – Antenna Placement

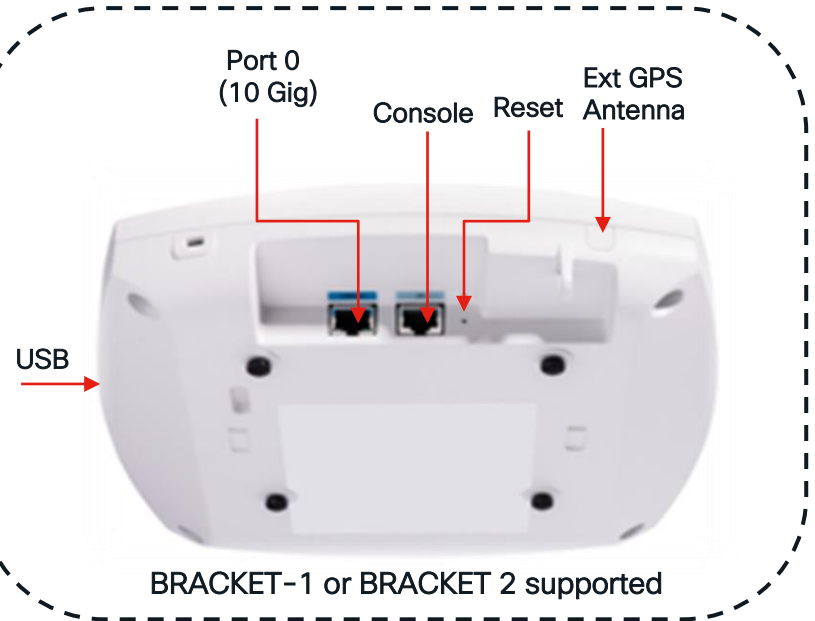


Cisco Wireless CW9178I/CW9176I/D Ports

CW9178I



CW9176I/D



External GPS/GNSS Antenna

- In case built-in Antenna has poor signal: Use optional external extension GPS/GNSS Antenna.
- Part #:
 - (Cable): CW-ANT-GPS1-M-00
 - (GPS Module): CW-ACC-GPS1
- Use Cases: Obtain Geo-location information for Global Use AP, AFC, AP Auto Locate



Two More ...



CW9172I & CW9172H
Launched @ CL EMEA'25

Cisco Wireless CW9172I & CW9172H

Penta-Radio Architecture

1. 2.4 GHz Serving Radio 2x2:2SS
2. 5 GHz Serving Radio 2x2:2SS*
3. 6 GHz Serving Radio 2x2:2SS
4. Tri-band scanning Radio
5. 2.4 GHz IoT Radio (BLE)

**XOR Radio – 4x4:4SS on 5GHz, 6GHz disabled*



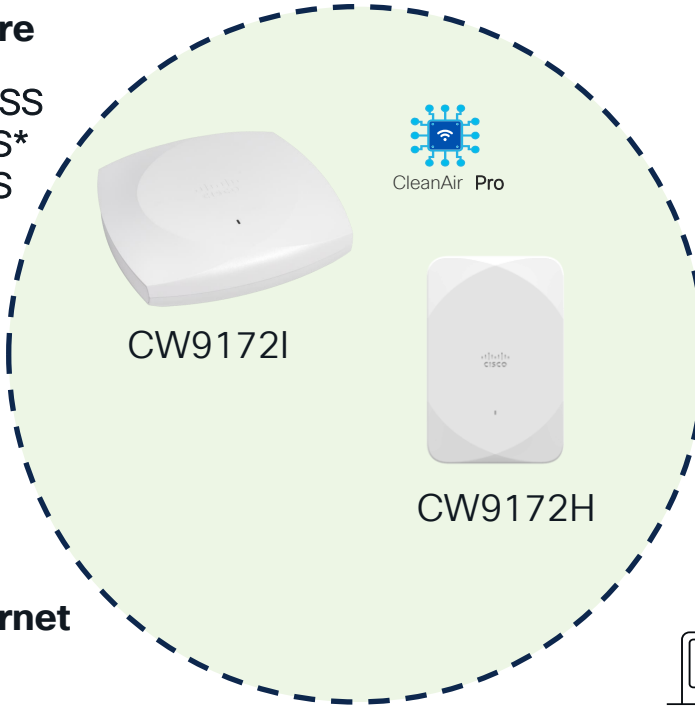
Omni



2.5 Gig Ethernet



AP Modes
Global Use AP



CW9172H: Wall Plate AP

- 3x 1Gbps LAN port (1x POE out)
- 1x Passthrough port



CW9172I: Built-in USB Port

4.5W of output power



CW9172I: DC Power Jack
(in addition to PoE)

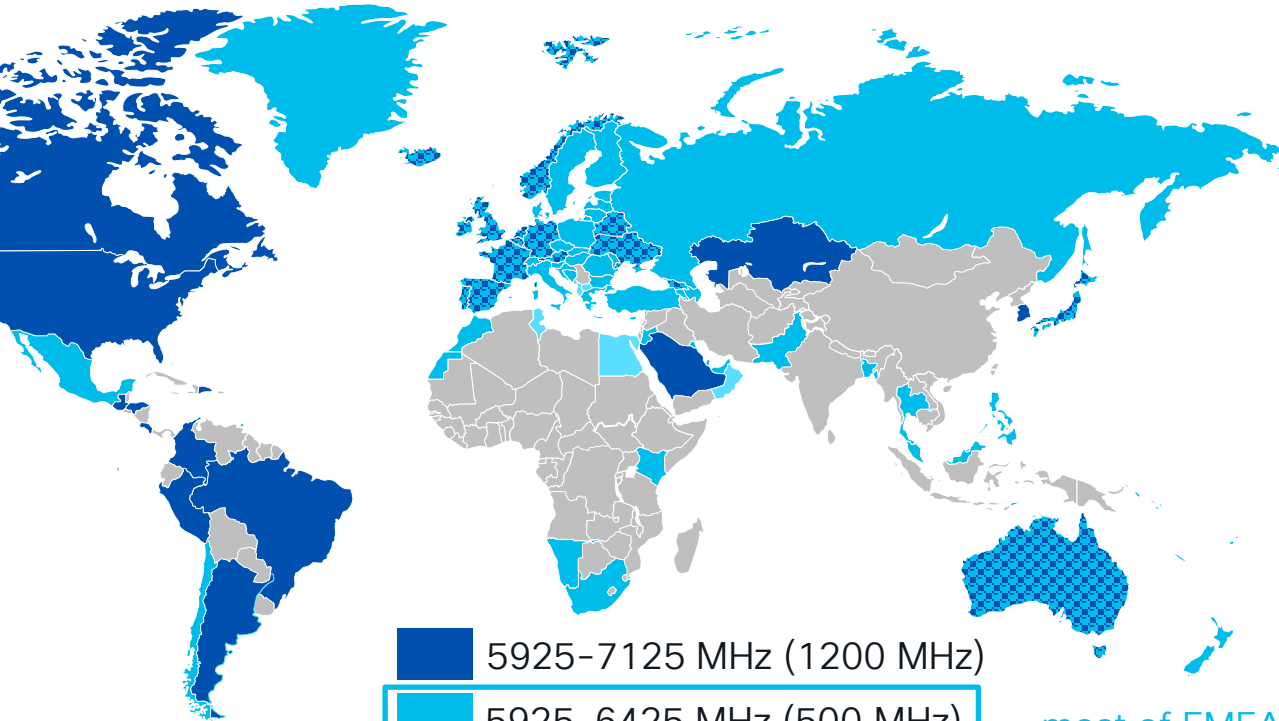
Visit Wi-Fi 7 @ Cisco Live Showcase

World of Solutions, Hall 1



All Wi-Fi 7
Access
Points for
display!

6 GHz Availability & Outdoor in EMEA



6GHz specific:

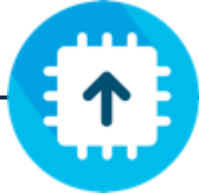
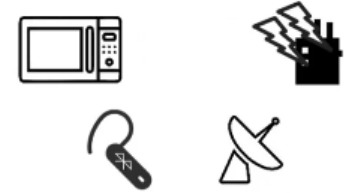
Not yet permitted by regulatory bodies in EMEA*:

- External Antennas
- Outdoor usage

*CEPT/ECC: <https://docdb.cept.org/download/1448>
<https://www.wi-fi.org/regulations-enabling-6-ghz-wi-fi>

Cisco CleanAir™ Pro

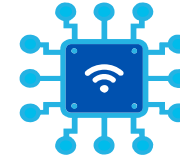
Detect and identify non-Wi-Fi Interferers



Cisco CleanAir™

RF-ASIC - SaGE Based Excellence

- Purpose built for 2.4 and 5 GHz
- Designed for many common consumer devices – in 2005



Cisco CleanAir™ Pro

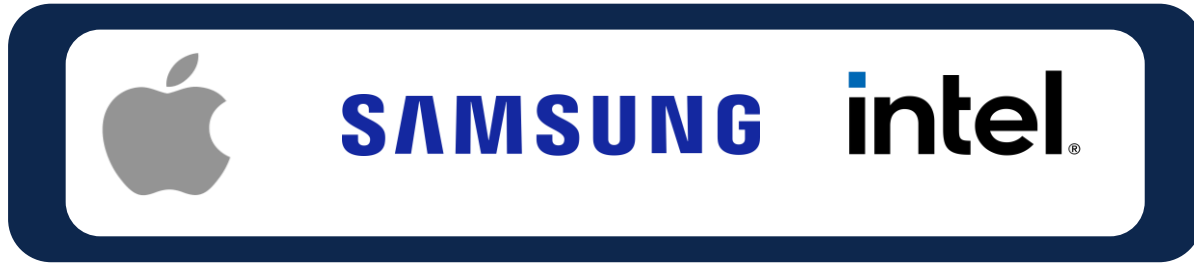
Follows Wi-Fi's evolution to 6 GHz

- Full 2.4, 5 and 6 GHz Band support
- AI/ML driven tri-band scanning Radio
- ML Based Interference Classification – On the AP

20 years of Cisco RF Excellence, continuing to evolve and innovate

Cisco Device Ecosystem Partners

Device Analytics – only available to Cisco Wireless Networks



 **iOS Analytics, Fastlane and Fastlane+**

Neighbor AP Table

BSSID	AP Name	Channel	BSSID (alt)	Location	Time	Disassociation Reason
88:95:46:02:04:8F	LAR-HP45P-0802-078M	149	-05	GlobalPorch.America@5500	May 8, 2022 9:58 PM	User triggered disassociation
88:95:46:02:04:8F	AP8881-0426-3002	149	-06	GlobalPorch.America@5500	May 8, 2022 9:53 PM	Client idle
88:95:46:02:04:8F	SG-RT-101_1	141	-06	GlobalPorch.America@5500	May 8, 2022 9:43 PM	Client idle

Disassociation Details

Neighbor AP Visual



SAMSUNG Analytics

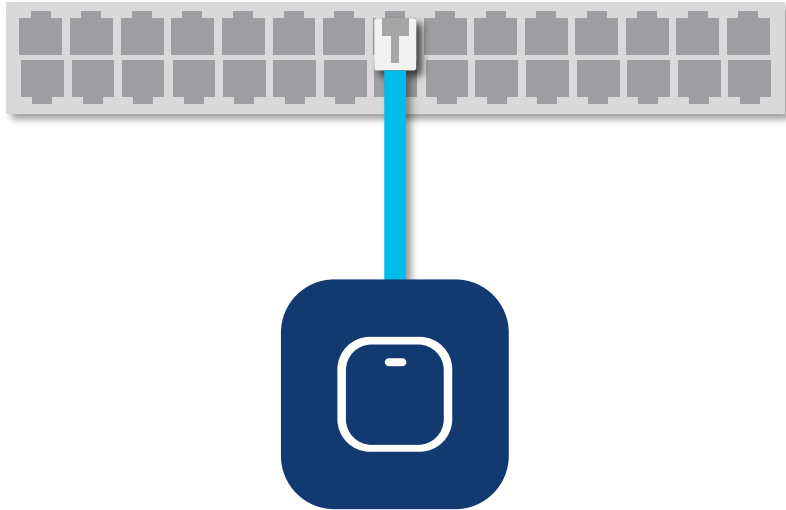
Event Viewer

Event	Time	Details
WPA-PSK Reauth	5:51:05:581 PM - 5:51:05:581 PM	
Client Sent Disassociation	5:47:30:581 PM	
Client Sent Disassociation	5:47:30:581 PM	10:45 Device Turned Off
Disassociation - Incomplete	5:43:30:581 PM - 5:43:30:581 PM	AP:AP4802 WLAN:WLAN@Corp@5500
Client Sent Disassociation	5:39:50:581 PM	AP:AP4802 WLAN:WLAN@Corp@5500
Client Sent Disassociation	5:39:50:581 PM	Airplane Mode Turned On
SNMP	5:39:50:581 PM - 5:39:50:581 PM	
Broadcast Relay	5:31:50:581 PM - 5:31:50:581 PM	

intel. Connectivity Analytics

- Issue reporting, roam and disassociate reasons
- Neighboring APs, BSSID, RSSI
- Enhanced device classification

AP Power Consumption



PoE Power Negotiation happens at boot time through CDP/LLDP

Power allocation is what you need to consider for power budget

Actual Power consumption is dependent on the AP operation

Recap: Power Over Ethernet Standards

Spec	Known as	Class	Min PSE Output Power	Min PD Input Power
Type 1 IEEE 802.3af	PoE	Class 1	4 W	3.84 W
		Class 2	7 W	6.49 W
		Class 3	15.4 W	12.95 W
Type 2 IEEE 802.3at	PoE +	Class 4	30 W	25.5 W
Type 3 IEEE 802.3bt*	PoE++, Cisco UPOE	Class 5	45 W	40 W
		Class 6	60 W	51 W
Type 4 IEEE 802.3bt	Cisco UPOE+	Class 7	75 W	62 W
		Class 8	90 W	71.3 W

Wi-Fi 7 Operates in this PoE range

*IEEE 802.3bt also specifies Class 4 which means 30 Watt, read switch capabilities carefully

Wi-Fi 7 AP Power Requirements (Simplified!*)



802.3at (30 Watt)
USB disabled¹



802.3at (30 Watt)
USB disabled, 2.5 Uplink,
2,4 GHz 2x2 only



802.3at (30 Watt)
USB disabled, 2.5 Uplink,
Quad-Radio: All radios 2x2 or
Tri-Radio: 5 GHz in 4x4



802.3bt (60 Watt)
Full Power

All APs will join with 802.3af (all Wi-Fi radios off)

* Check following detailed slides per AP!
¹ External USB GPS Module works at 30 Watt

CW9176I/D1 Power over Ethernet Requirements

Power Source	Number of Spatial Streams	2.4 GHz Radio	5 GHz Radio	6 GHz Radio	mGig Link Speed	USB	IoT/GPS/UWB/Scan Radio
802.3af (PoE)	NA	Disabled	Disabled	Disabled	1G	Disabled	Y
802.3at (PoE+)	10	2x2	4x4	4x4	2.5G*	Disabled	Y
802.3bt** (UPOE/PoE++)	12	4x4	4x4	4x4	10G	Y/9W	Y

FULL
POWER

Note:

1. *2.5G (instead of 1G) Ethernet speed with “802.3at” starting IOS-XE 17.15.3
2. **For full radio operation – AP needs more than 30W of power with Type 3 IEEE 802.3bt/ Class 6
3. CW-INJ-8, AIR-PWRINJ7, MA-INJ-6 are Cisco’s 802.3bt power injectors

PHY = Physical layer
 PoE = Power over Ethernet
 UPoE = Universal Power over Ethernet
 LB = Lower Band (UNII-1 & 2)
 FB = Full Band
 HB = Higher Band (UNII-2C &3)

CW9178I Power over Ethernet

Power source	Number of spatial streams	2.4-GHz radio (slot 0)	Primary 5-GHz radio (slot 1)	Secondary 5-GHz radio (slot 2)	6-GHz radio (slot 3)	mGig PHY 0 link speed	mGig PHY 1 link speed	USB	IoT/GPS/UWB Scan Radio
802.3af (PoE)	NA	Disabled	Disabled		Disabled	1G	Disabled	Disabled	Y
802.3at* (PoE+) (Quad Radio)	8**	2x2	2x2 (LB)	2x2(HB)	2x2	2.5G	2.5G	Disabled	Y
802.3at* (PoE+) (Tri Radio)	8**	2x2	4x4(FB)	Disabled	2x2	2.5G	2.5G	Disabled	Y
802.3bt (PoE++/UPOE)	16	4x4	4x4(LB)	4x4(HB)	4x4	10G	10G	Yes/9W	Y

FULL POWER

Note:

- *For full radio operation - AP needs more than 30W of power with Type 3 IEEE 802.3bt/ Class 6
- CW9178I can operate as a Tri-Radio with 5 GHz radio operating in 4x4 Full Band (or) operate as Quad-Radio with 5 GHz in Slot 1 as 4x4 Lower Band (UNII-1 &2) and Slot 2 as 4x4:4, Higher Band (UNII-2C &3)
- ** - Starting IOS-XE 17.15.3 release, 6 spatial streams support in IOS-XE 17.15.2, with 2x2:2 on 2.4/5/6 GHz radios
- CW-INJ-8, AIR-PWRINJ7, MA-INJ-6 are Cisco's 802.3bt power injectors

CW9172I Power over Ethernet

Power Source	Number of Spatial Streams	2.4 GHz Radio	5 GHz Radio	6 GHz Radio	mGig Link Speed	USB	IoT & Scan Radio
802.3af (PoE)	1	1x1	Disabled	Disabled	1G	Disabled	N
=< 30W 802.3at (PoE+)	6	2x2	2x2	2x2	2.5G	Disabled	Y
=< 30W 802.3at (PoE+)	6	2x2	4x4	Disabled	2.5G	Disabled	Y
> 30W 802.3bt Class 5 (UPOE) or DC Power	6	2x2	2x2	2x2	2.5G	Y/4.5W	FULL POWER Y
> 30W 802.3bt Class 5 (UPOE) or DC Power	6	2x2	4x4	Disabled	2.5G	Y/4.5W	Y

CW9172H Power over Ethernet

Power Source	Number of Spatial Streams	2.4 GHz Radio	5 GHz Radio	6 GHz Radio	mGig Link Speed	POE Out	IoT & Scan Radio
802.3af (PoE)	1	1x1	Disabled	Disabled	1G	Disabled	N
= < 30W 802.3at (PoE+)	6	2x2	2x2	2x2	2.5G	Disabled	Y
> 30W 802.3bt Class 5 (UPOE)	6	2x2	2x2	2x2	2.5G	Y/15.4W	Y

AP only needs more power is **PoE out** is a requirement!

Wi-Fi 7 Software Dependencies



CW9176I/D1



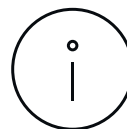
CW9178I



CW9172I

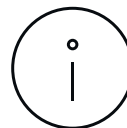


CW9172H



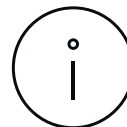
CW9176I/D & CW 9178I

- Software: IOS XE 17.15.2 or later
- Meraki: 31.1.5 or greater
- Catalyst Center: 2.3.7.x
- Prime Infrastructure: no support



CW9172I:

- Software: IOS XE 17.15.2b or later
- Meraki: 31.1.5 or greater
- Catalyst Center: Summer 2025
- Prime Infrastructure: no support

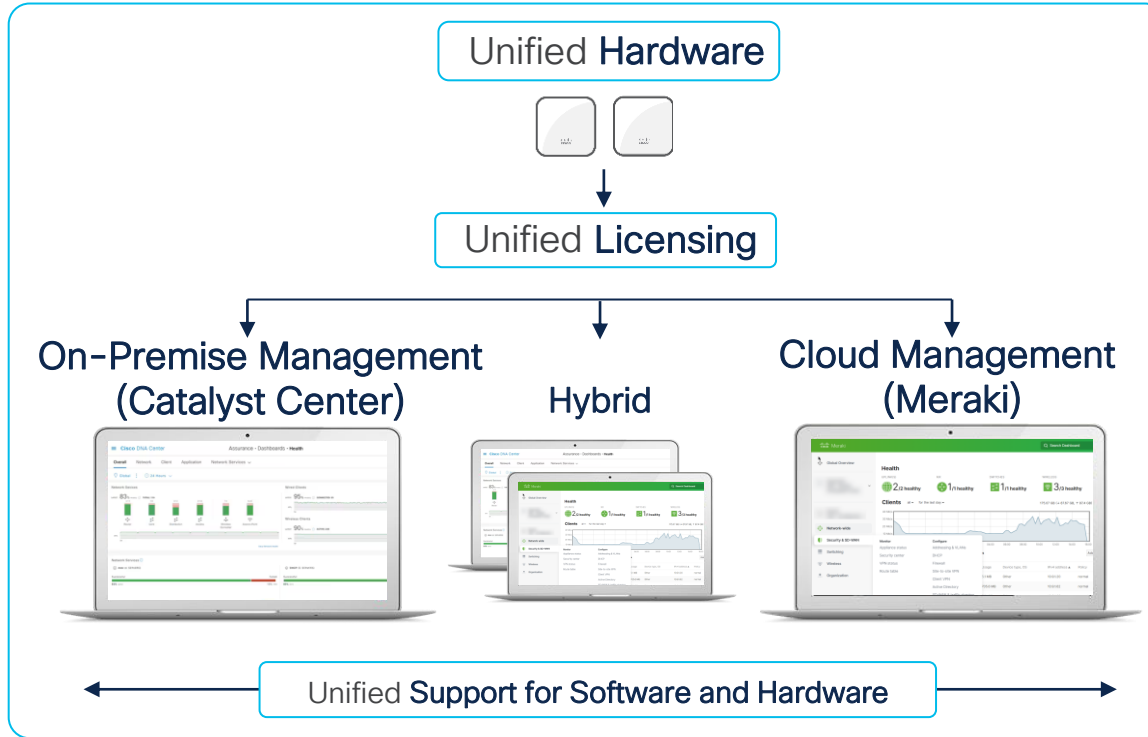


CW9172H:

- Software: IOS XE 17.17.x or later
- Meraki: 31.1.5 or greater
- Catalyst Center: Summer 2025
- Prime Infrastructure: no support

Same brackets as always*. 9172H compatible with Meraki or Catalyst brackets

Wi-Fi 7 Unified Hardware, License & Global Use AP



- Cisco Access Point! → no more separate Meraki/Catalyst APs
 - only one SKU* per AP model!
- **Global Use** → no more -E, -A, -ROW, etc.
- **One License:** Flexible to use either Platform to operate
- Software Upgrades and TAC support included

*Stock Keeping Unit

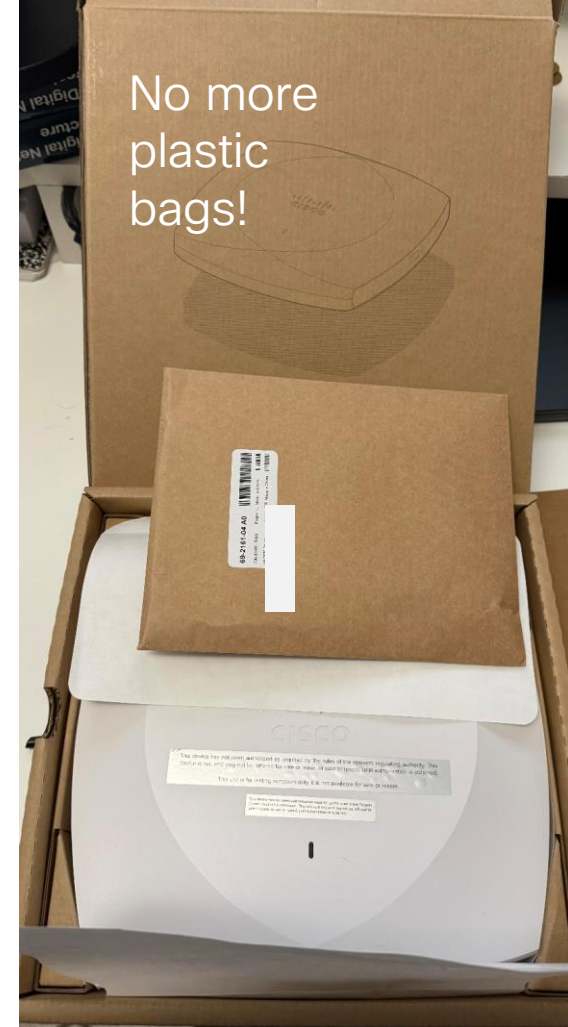
Day Zero: Key questions

1

How to decide on the mode of operation?
Cloud or WLC (Meraki or C9800)?

2

What regulatory domain/country setting?



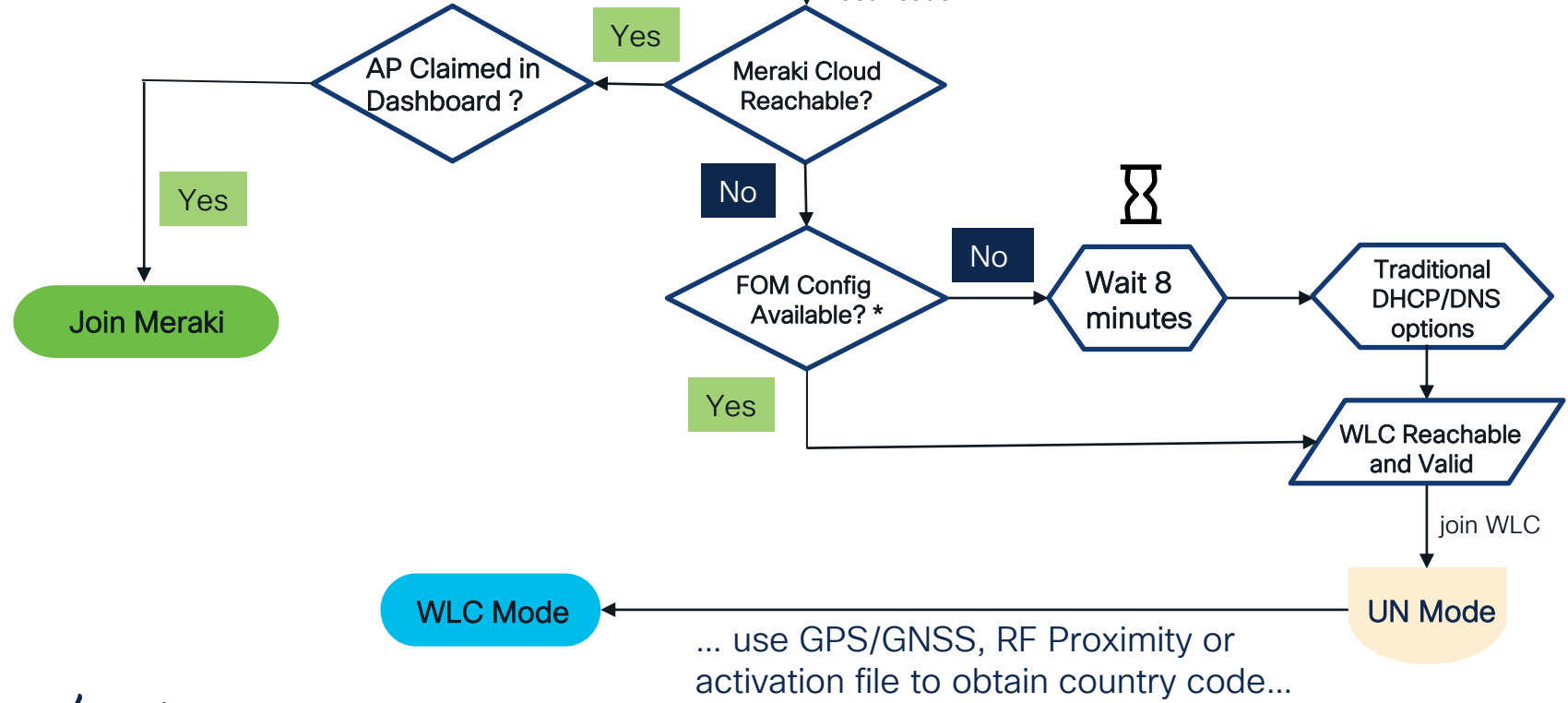
Wi-Fi 7 Day 0 Workflow

Note: *FOM – Fast offline migration (New DHCP/DNS Option Settings)



Out of box AP (No config)

Power On Boot Loader



From “UN Mode” to YOUR Regulatory Domain...

UN Mode means: 2,4 GHz only (== legal anywhere In the world)

1. Meraki mode:
Geo-IP location and network-wide setting (same behavior as today)

2. GPS/GNSS
Obtain the geolocation through the integrated GPS/GNSS Antenna.

3. Proximity based discovery –
Learn from the nearby APs connected to the same WLC through RF NDP messages (2,4GHz!)

4. Activation File (RAF) from Meraki Dashboard, that can be installed on WLC. The entire process can be automated via API and scripting.

Simple migration between Cloud and On-Premise

Country Code settings will be kept during migration



CW9800



Meraki Dashboard

Done from C9800 WLC



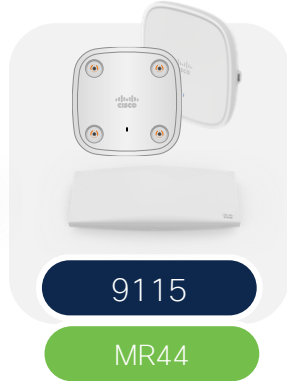
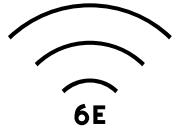
Meraki Dashboard



CW9800

Done from Meraki Dashboard*

Not to forget: Cisco Wi-Fi 6/6E portfolio



Management mode can be changed

Cisco Outdoor Access Points



MR78/76/86

- 802.11AX, MU-MIMO, OFDMA
- MR76/78: 2x2 MR86: 4x4
- Integrated Scanning Radio
- Cloud based RF Optimization
- MR76/78: 1G MR86: 2.5G
MR76/78: .3af MR86: .3at



C9124

- 3 Models:
 - C9124AXI, (Built-in Antenna)
 - C9124AXD (Built-in directional)
 - C9124AXE (External Antennas)
- 802.11AX, MU-MIMO, OFDMA
- 4x4 + 4x4:4 (2.4 & 5 GHz)
- Cisco RF ASIC (CleanAir)
- 1x 2.5G mGig/SFP/1Gbe PoE-Out
- PoE-In 802.3af/at/bt/UPOE
- DC power input (24 to 56 VDC)

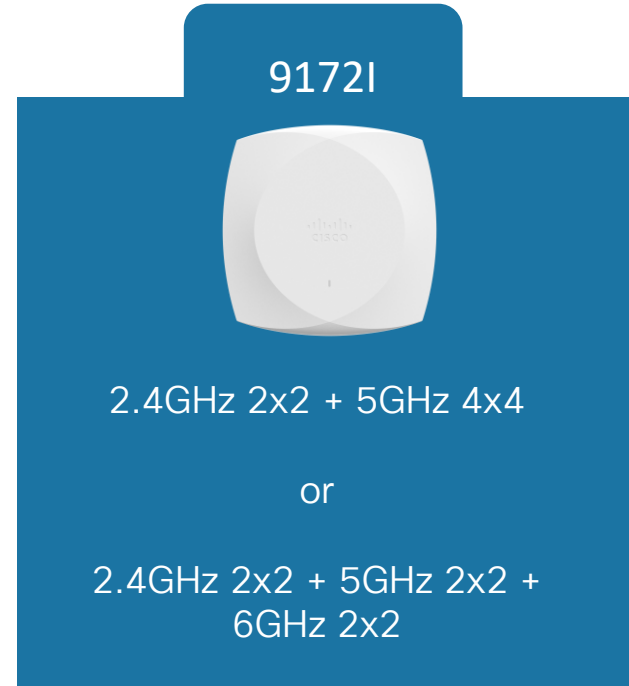


CW9163E

- 802.11AX, MU-MIMO, OFDMA
- 2x2(2.4GHz) + 2x2(5GHz) + 2x2(6GHz)
- **Outdoor 6GHz: usability subject to local country RF regulations**
- Tri-band Scan Radio (CleanAir Pro)
- 1x 2.5G mGig
- Built-in GPS module
- PoE-In 802.3af/at

Entry to Wi-Fi 7: CW9172I Upgrade Path

Future-ready connectivity for Meraki and Cisco Catalyst customers



Wi-Fi 7 Wall Plate: Upgrade Path to CW9172H

Future-ready connectivity for Meraki and Cisco Catalyst customers

Wi-Fi 6



MR36H
2x2(2.4+5 GHz)



C9105AXW
2x2(2.4+5 GHz)

9172H



2.4GHz 2x2 + 5GHz 2x2 +
6GHz 2x2



The worldwide network of companies that brings you Wi-Fi®

Wi-Fi 7 OS and Client Support

Check Wi-Fi Alliance product finder for the latest Wi-Fi 7 certified products.

<https://www.wi-fi.org/>



Support available in Windows 11



iPhone 16, Pro Plus, Pro, and Pro Max



Support available in Android 13 or greater

CISCO Live!

SHOW NAVIGATION

Product Finder

Filtered Results

Clear all filters

Keyword Search

ADD

Brand

Categories

- Building
- Computers & Accessories
- Gaming, Media & Music
- Phones
- Routers
- Smart Home
- Tablets, Ereaders & Cameras
- Televisions & Set Top Boxes
- Other

Subcategories

Featured Capabilities

- Passpoint®
- Wi-Fi CERTIFIED 7™

Agenda

① Wi-Fi 7 & APs

② Platform Choices

③ Simplified Operation



④ Location Services

⑤ Secure!

⑥ Built in IoT

What Platform? Your Network, Your Choice!

On-prem

"We have a large investment of Catalyst infrastructure"

and/or

"We have complex networking needs (e.g., SD-Access)"



Catalyst Center

Hybrid

"We have refreshed or plan to refresh to the latest Catalyst hardware and looking into Cloud"

and/or

"We want Catalyst core and Meraki edge devices"



Meraki

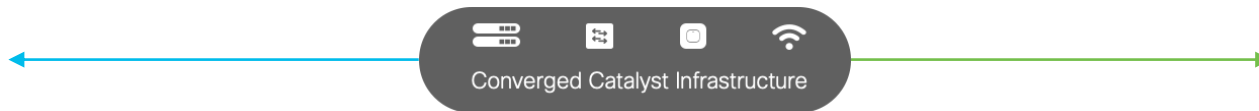
Cloud

"We are planning to refresh our entire Catalyst infrastructure and want a SaaS/ cloud-first solution"

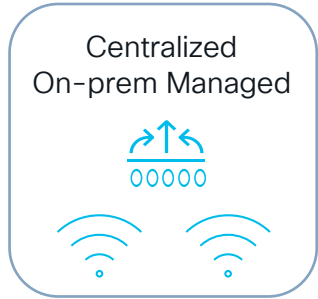
Options:
*Meraki fullstack
Catalyst migration (9300,
CW91xx)*



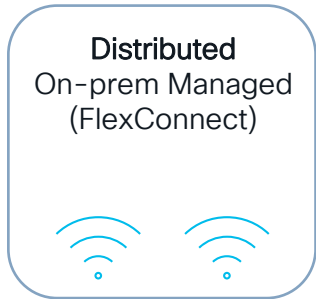
Meraki



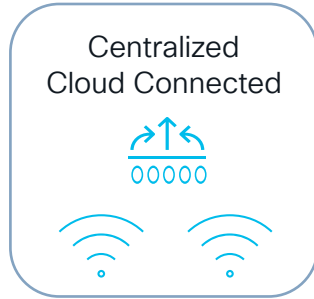
Cisco Wireless Deployment Options



Campus network (On-prem)



Branch Offices (On-prem)





Campus network (Hybrid)



Branch & Small Campus Offices (Cloud)



Campus network (Cloud)

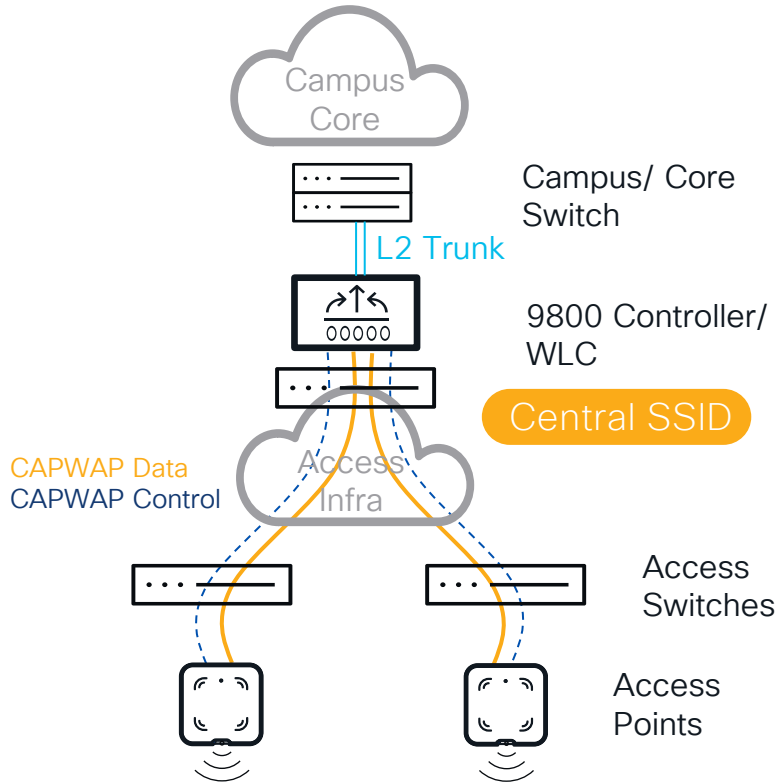
-  Catalyst APs (W1/W2)
Catalyst 916x
Catalyst 917x
-  9800 Wireless Controller

-  Meraki MR
Catalyst 916x
Catalyst 917x
-  Future Product

* Future Solution

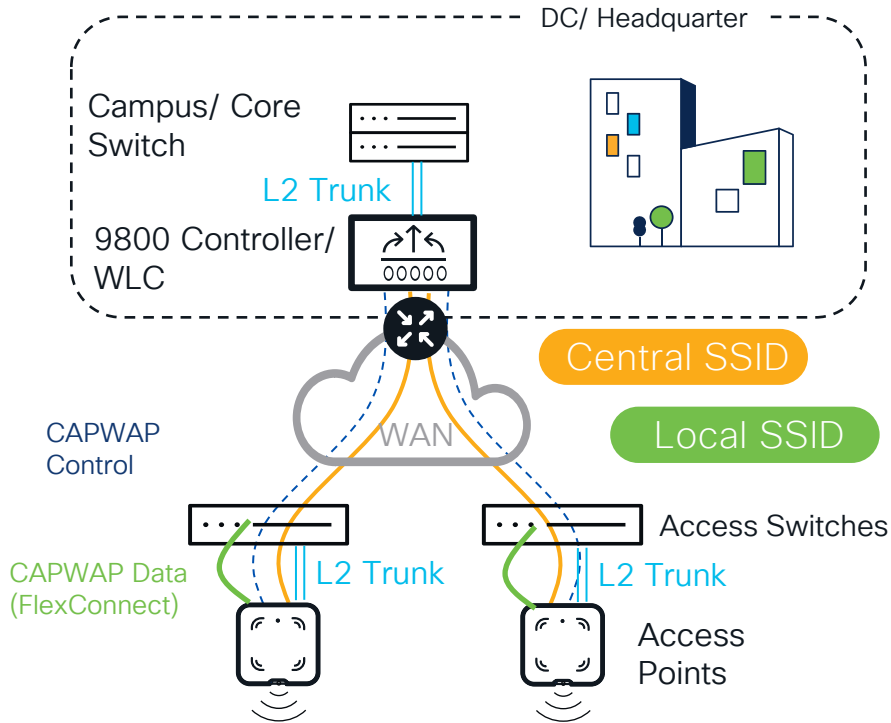


On-Prem: Central Deployment Mode



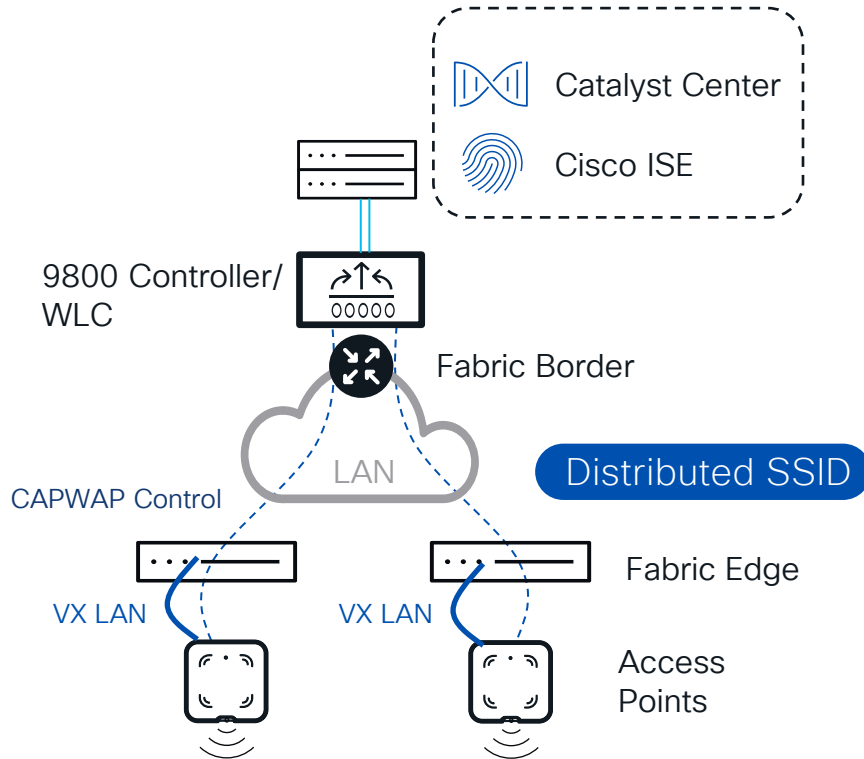
- Simple IP Addressing and mobility
 - All wireless client traffic is switched at the WLC
 - Client IP addressing & VLAN(s) defined on WLC
 - Client Layer 3 roaming across all APs
- Client traffic bridged at WLC in a L2 trunk
 - Easily apply security & QoS policies for wireless users
- Simplified Overlay Design
 - Traffic is tunnelled (using CAPWAP Protocol) from AP to WLC
 - Latency < 20ms between AP and WLC
 - Can be deployed on top of any wired infrastructure

On-Prem: Distributed Deployment (FlexConnect)



- Distributed Enterprise design choice
- Roaming limited to APs in a FlexConnect domain
- WAN Failure Survivability in Branch Offices
 - FlexConnect AP will go to “Standalone Mode”- no impact on locally switched SSIDs
- Design Parameters
 - Per SSID: Client traffic is distributed at AP in L2 trunk or centralized via CAPWAP
 - 100 APs per FlexConnect domain/branch
 - Latency < 300ms between AP and WLC
 - Can be deployed on top of any wired infrastructure

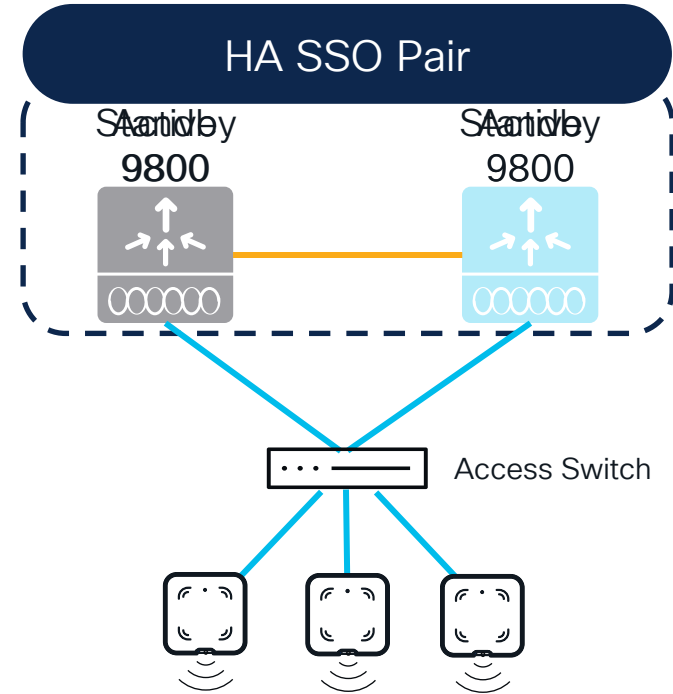
On-Prem: Software Defined Access



- SD-Access:
 - Wired-Wireless automation for design and deployment
 - Macro-Micro Segmentation for enhanced security (Common policies for Wired-Wireless) using Cisco ISE
- Single touchpoint for deployment & management with Cisco Catalyst Center
- Design
 - Cat9k Switch Infrastructure required
 - Latency < 20ms between AP and WLC

Consider Controller High Availability!

- Redundancy helps in maintaining network uptime by providing a backup controller that can take over in case the primary controller fails.
- “HA SSO” is the best choice:
 - Pair of 9800 appear as a single WLC
 - All configuration synced → stateful switchover
 - Clients and APs do not disconnect



AP failover within sub seconds!

On-Prem Platform: Cisco Catalyst Center



End-to-end secure networking

Defend attack surfaces through advanced AI-enhanced endpoint analytics and SD-Access



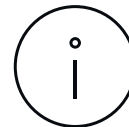
Digital experience assurance

Automating the process to detect, identify, and resolve network issues that could disrupt business outcomes



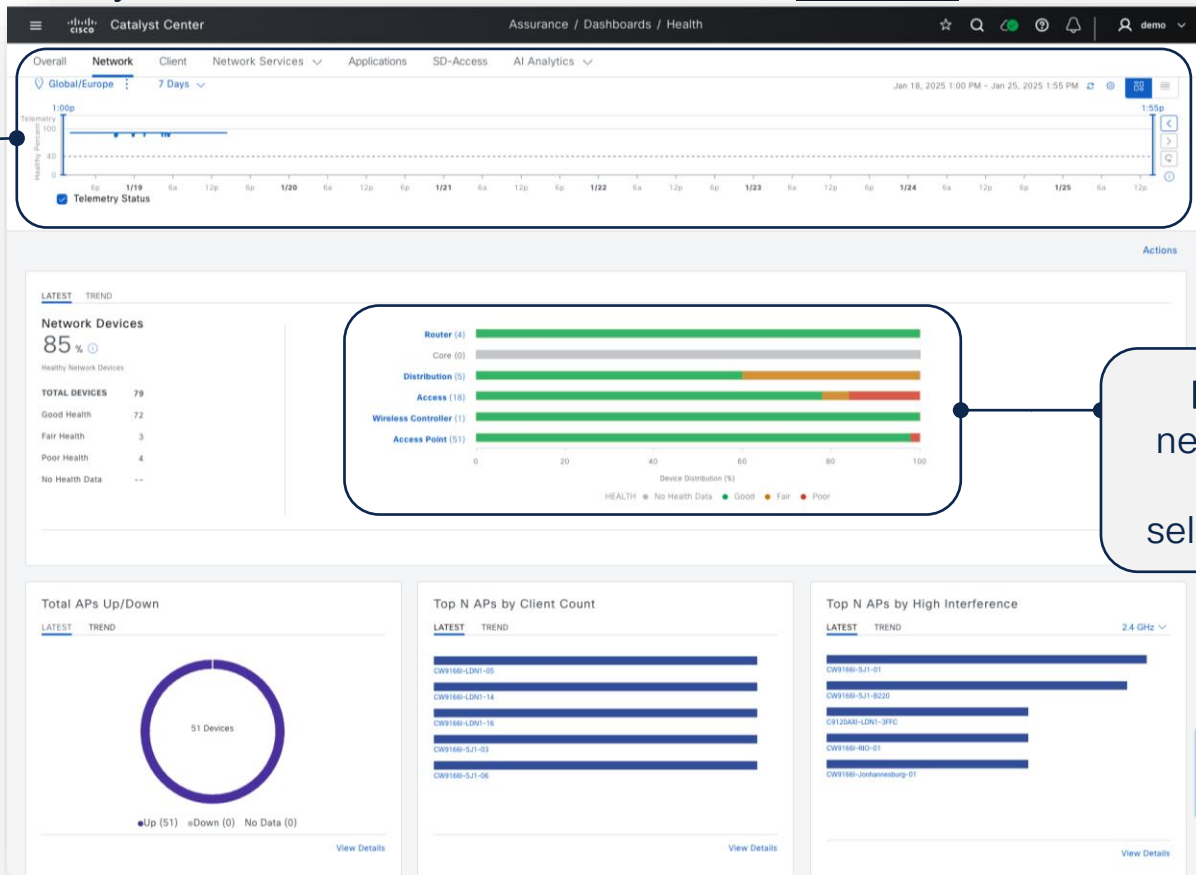
Simplify AI-native operations

Simplify sophisticated network operations and scale at the speed of business



Software 2.3.7.x: **Cisco DNA Center** is re-named to **Catalyst Center**. The capability and functionality remains the same.

Catalyst Center > Assurance > Health > Network



Network Details for selected Location and time period

Devices in your network and Health condition over selected time period

Catalyst Center > Assurance > Health > Device 360

Network / Device 360

AP CW91661-LDN1-02 [View Device Details](#)

7 Days

Download Run OTA Capture Intelligent Capture

Telemetry Health

4/10 DEVICE DETAILS

Connected to WLC: LDN1-CR800-01 PseudoCo.com Model: CW91661-E Software: 17.12.1.5 Management IP: 10.10.13.21 Location: Global / Europe / England / London 1 / 1st Floor Mode: Local Uptime: 1 year, 119 days, 11 hours, 27 minutes Capability: Wi-Fi 6E Operational Status: Up IEEE Class: IEEE4 Negotiated Power Level: 60.0W PoE Status: ON Power Save Mode Capability: Supported [View All Details](#)

Issues (2) Jan 25, 2025 2:15 PM

P3 Utilization The 2.4 GHz radio 0 on AP 'CW91661-LDN1-02' is experiencing high utilization. Jan 25, 2025 2:22 PM

P3 Utilization The 5 GHz radio 1 on AP 'CW91661-LDN1-02' is experiencing high utilization. Jan 25, 2025 2:22 PM

2 Record(s)

Show Records: 10

Resolved Issues Ignore

Tools

Ping Start Trace Route Start AP Data Collection Launch

AP Reboot Reboot Radio Reset Reset Flash LED Status: Off Enable

** Path Trace

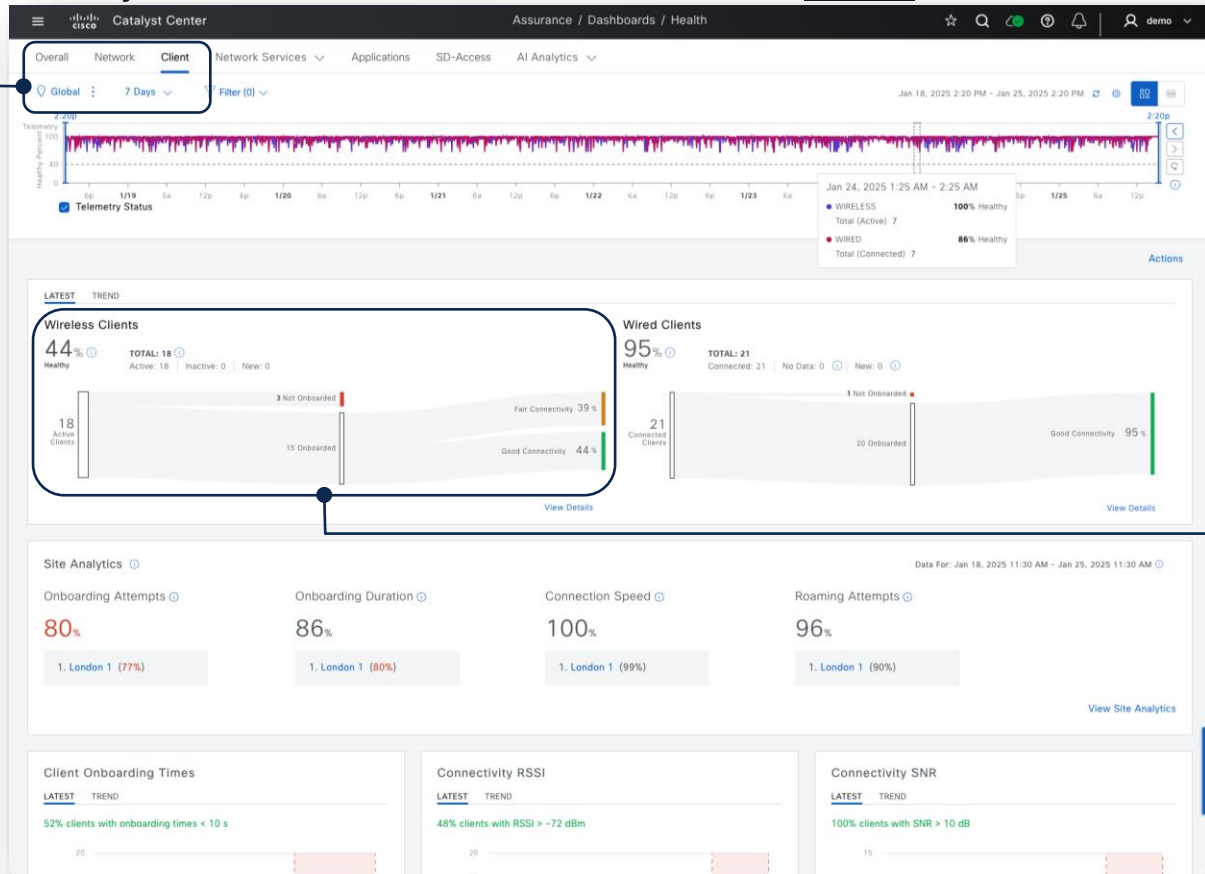
Run New Path Trace

Select any device for “Device 360” Details!
Example: AP CW9166

Run OTA Traffic capture from GUI!

Easy tool access such as Ping, Traceroute, Collect Data, ...

Catalyst Center > Assurance > Health > Client



Client Details for selected Location and time period

Wireless Client Connectivity Details

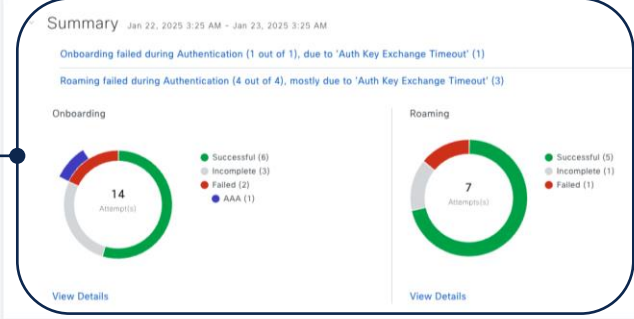
Catalyst Center > Assurance > Health > Client 360



WebEx and MSTeams Meeting Quality Analytics

Client 360 Details for a specific Client Device over selected 7 day period

Onboarding & Roaming Details



Catalyst Center > Design > Network Hierarchy

The screenshot displays the Cisco Catalyst Center interface for Network Hierarchy design. The top navigation bar includes the Cisco logo, 'Catalyst Center', and the current view 'Design / Network Hierarchy'. On the left, a search bar is labeled 'Search Hierarchy' and 'Search Help'. Below it is a hierarchical tree view showing the following structure:

- Global
 - Asia
 - Europe
 - England
 - London 1
 - 1st Floor
 - 2nd Floor
 - Ground Floor
 - London 2
 - North America
 - Oceania
 - South Africa
 - South America

The main area features a world map with several site locations marked by blue pins and labels: Calgary 1, Mexico City 1, RIO 1, Johannesburg 1, Bangalore 1, and Sydney 1. Two blue circles with the number '2' are placed on the map in North America. The top right of the map area has a search bar 'Search for a building' and a menu icon. The bottom right corner of the map area includes zoom controls.

Catalyst Center > Design > Network Hierarchy

The screenshot displays the Cisco Catalyst Center interface for Network Hierarchy design. The main window shows a floor plan of a building with a heatmap overlay. The heatmap is color-coded, with green indicating good signal strength and yellow/orange indicating weaker signal strength. Several access points are positioned on the floor plan, each labeled with a unique ID such as CW9166-LDN1-09 through CW9166-LDN1-18. The interface includes a left-hand navigation pane with a search hierarchy, a top navigation bar with options like 'Add Site', 'Import', and 'Export', and a right-hand 'View Options' panel. The 'View Options' panel includes settings for 'Map' (Show Grid, Map Opacity %), 'Operational RSSI' (RSSI Cut Off (dBm), Heatmap Opacity %), 'Heatmap Color Scheme' (Legacy, Natural, Monochrome), and 'Heatmap Style' (Contour, Gradient). There are also toggle switches for 'Access Points (10)', 'Planned Access Points (0)', 'Switches', 'Sensors (0)', 'Overlay Objects', 'Clients (0)', and 'Interferers (0)'. A callout box at the bottom of the screenshot contains the text: 'Upload Maps and position Access Points per Building, Floor...'

Catalyst Center > Design > Network Hierarchy

The screenshot displays the Cisco Catalyst Center interface for Network Hierarchy design. The main view shows a floor plan with several access points (APs) labeled CW9166I-LDN1-09 through CW9166I-LDN1-18. A callout box provides details for AP CW9166I-LDN1-16.

Information Rx Neighbors Clients Interferers

CW9166I-LDN1-16 10/10

MAC Address e4:38:7e:46:66:q6

Model CW9166I-E

Mode FlexConnect

Issues Count 0

Radio	Mode
Radio 0	Client Servicing 2.4 GHz
Radio 1	Client Servicing 5 GHz
Radio 2	XOR (6GHz)

Select AP for details..
(Radio, Rx Neighbors, Status, Channel and more)

View Options

- Map
 - Show Grid
 - Map Opacity % 80
 - Heatmap Type
 - Operational RSSI
 - RSSI Cut Off (dBm) -75
 - Heatmap Opacity % 80
 - Heatmap Color Scheme: Legacy, Natural, Monochrome
 - Heatmap Shape: Contour, Gradient
- > Access Points (10)
- > Planned Access Points (0)
- > Switches
- > Sensors (0)
- > Overlay Objects
- > Clients (0)
- > Interferers (0)

Cisco Catalyst Center operational evolution

Scaling to meet your enterprise needs

Catalyst Center



Cisco UCS® Server
Software pre-installed



Catalyst Center physical appliance

up to 25,000 Access Points



x86-based server
Software supplied by Cisco \$0
+
ESXi license



ESXi virtual appliance

up to 4,000 Access Points



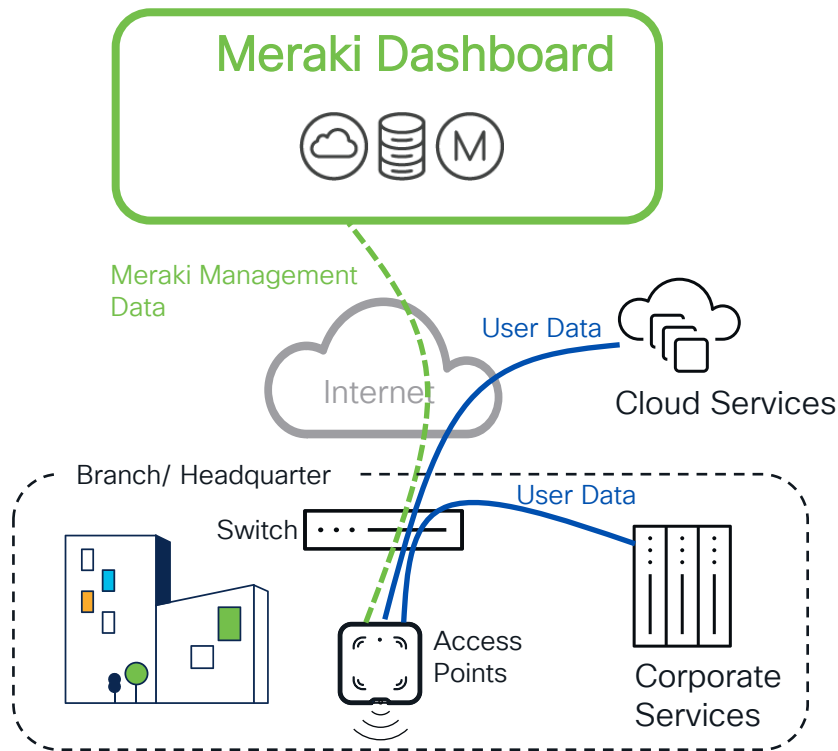
Software supplied by Cisco \$0
+
AWS subscription



AWS virtual appliance

up to 4,000 Access Points

Meraki Cloud: Distributed Deployment



- **Simplified Operations:**

- Intuitive browser-based UI (Dashboard)
- Self-configuring PnP deployments
- Seamless firmware updates

- **Data Transfer & Privacy (EU GDPR*):**

- **Management data** transferred using encrypted TLS tunnel (AES-256, port 443)
- **User data** (network traffic, web browsing, internal applications, etc.) flows directly to the destination - LAN or WAN.
- 1 kbps per device

* More info: <https://meraki.cisco.com/trust/>

Meraki Dashboard > Network-wide > Map & Floor Plans

Map & Floor Plans

Address, zip code, etc. Go

301-399

Mission Bay Boulevard South

Bridgeway Way

Terry A Francis Blvd

Pierpoint Ln

Search for a floor plan

1st Floor

1st Floor - Cameras

2nd Floor

3rd Floor

4th Floor

Device status: GOOD ALERTING OFFLINE DORMANT

Map data ©2022 Google

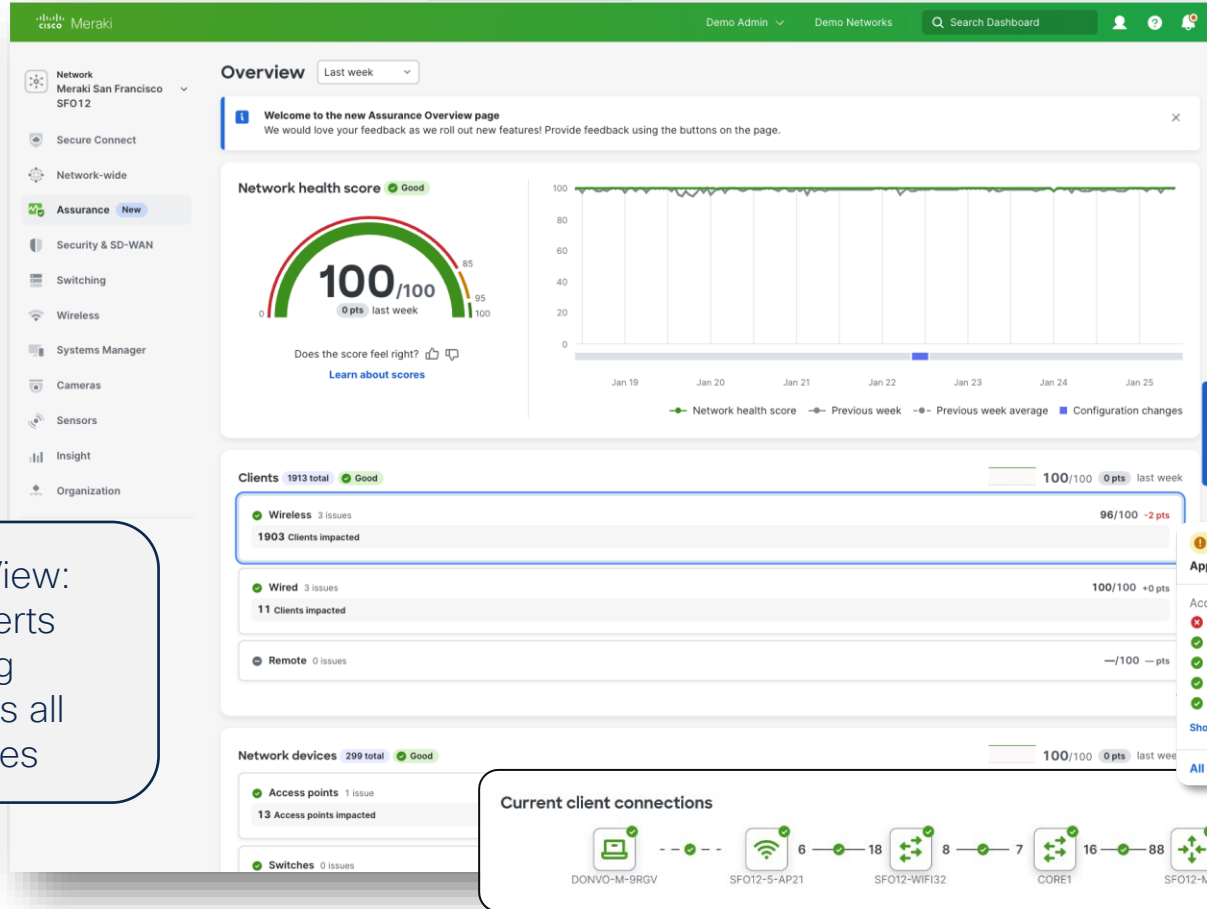
Access Point
(showing number of
Clients from previous day)

Upload Maps and position
Devices per Building, Floor...

- MARKER VALUE
- Device type
 - Device name
 - Current clients
 - Clients for past day
 - Usage for past day
- Done editing markers

- MARKERS TO DISPLAY
- Switch
 - Access point
 - Camera
 - Sensor
 - WAN appliance

Meraki Dashboard > Assurance



New Assurance View:

- Centralized alerts and monitoring
- Visibility across all network devices

Meraki Dashboard > Assurance > Clients

Network: Meraki San Francisco SFO12

Secure Connect
Network-wide
Assurance **New**
Security & SD-WAN
Switching
Wireless
Systems Manager
Cameras
Sensors
Insight
Organization
Find in Menu

Clients

Uplinks 2 total
All Online

WAN appliances 2 total
All Online

Switches 3
Alerting

Access points 153 total
152 Online

Usage and clients **Filters**

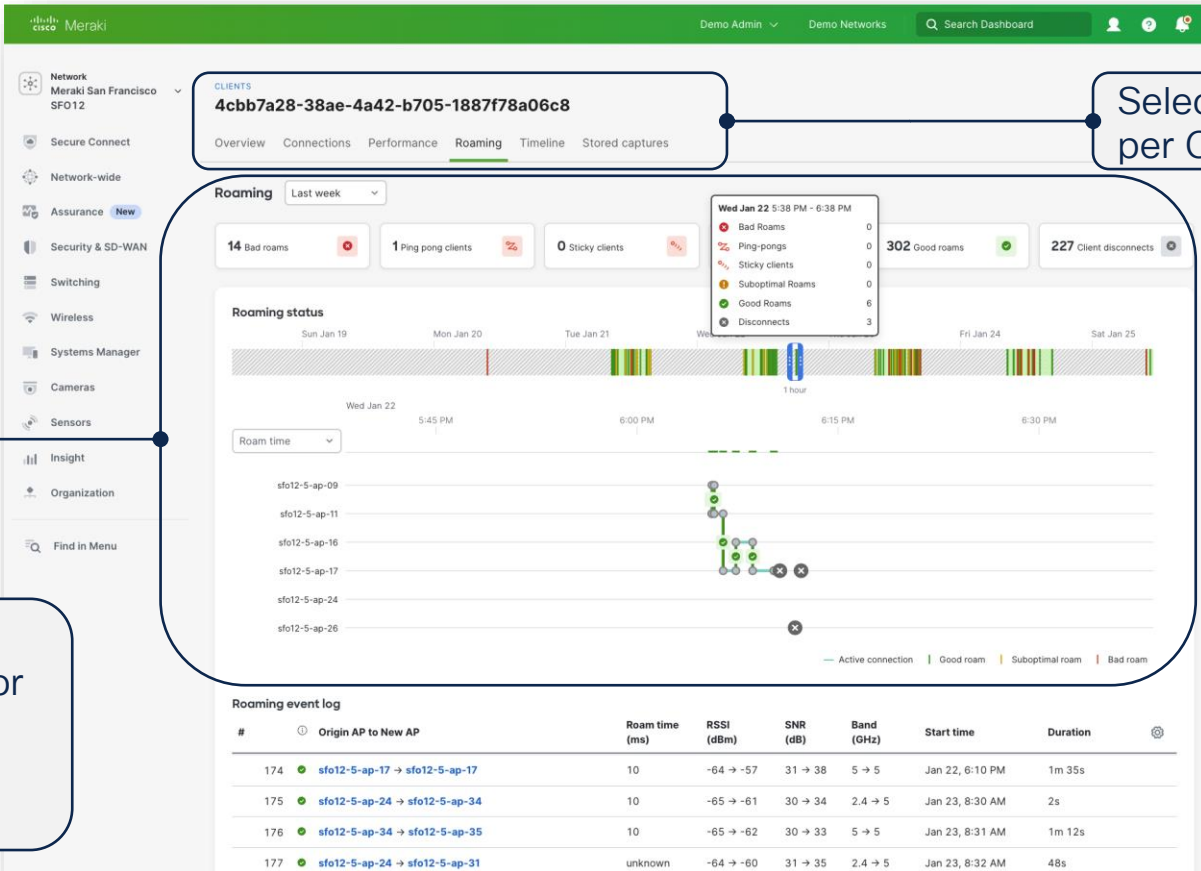
Usage 9.57 TB (↓4.11 TB, ↑5.46 TB)
Matched criteria 142.7 GB (↓111.47 GB, ↑31.23 GB)

Search for clients: 1 Status, type, OS Connected to VLAN Policy 349 results [Reset all](#) [Download](#)

<input type="checkbox"/>	Status	Description	Client type, OS	IP4 address	Manufacturer	Connected to
<input type="checkbox"/>	Wireless	SEP9088556A85F5	Cisco Systems	10.92.134.67	Cisco Systems	sfo12-4-ap-012
<input type="checkbox"/>	Wireless	SEP5451DECA4220	Cisco Systems	10.92.135.174	Cisco Systems	sfo12-5-ap-11
<input type="checkbox"/>	Wireless	android-648a5c3848e0d19c	Android	10.96.5.47	AMPAK Technology	sfo12-4-ap-010
<input type="checkbox"/>	Wireless	DESKTOP-DQMJQE	Windows 10	10.96.4.152	Intel	sfo12-5-ap-25
<input type="checkbox"/>	Wireless	android-d4c9f9615f64417f	Top Victory Electronics...	10.96.5.169	Top Victory Electronics...	sfo12-4-ap-010
<input type="checkbox"/>	Wireless	ET788c77D6A365	SHENZHEN BILIAN...	10.96.4.233	SHENZHEN BILIAN...	sfo12-4-ap-010
<input type="checkbox"/>	Wireless	CST-1	Intel	10.96.5.249	Intel	sfo12-5-ap-18
<input type="checkbox"/>	Wireless	MacBookPro	Other	10.92.132.114	Other	sfo12-5-ap-014
<input type="checkbox"/>	Wireless	bd5ce05c46d5619ef468a17a67e88c2	Intel	10.96.5.145	Intel	sfo12-5-ap-014
<input type="checkbox"/>	Wireless	7606ba50e9d228c2027167406794c7c9	Intel	10.92.133.102	Intel	sfo12-1-ap-04
<input type="checkbox"/>	Wireless	ee76e383ec109bd72f5300578ee013e5	Intel	10.96.4.186	Intel	sfo12-5-ap-03

Flexible client detail search...

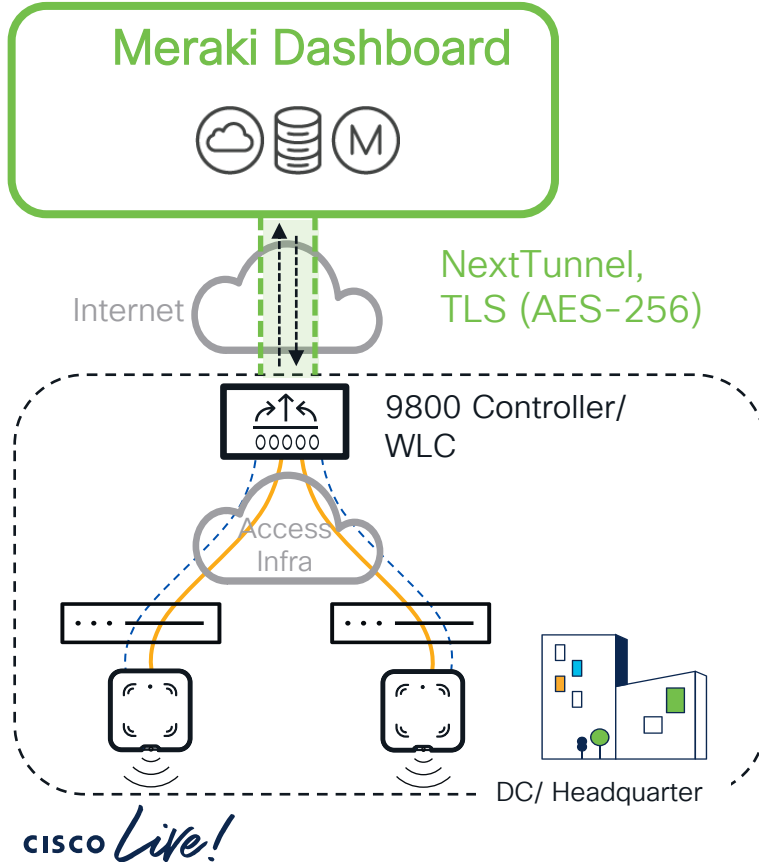
Meraki Dashboard > Assurance > Clients > "selected Client"



Selection of Details per Client

Obtain roaming behavior details for a specific client during selected hour...

Hybrid: Cloud Connected Wireless Controller



- Native Meraki Tunnel on 9800 Wireless Controllers
- Enables Catalyst customers to get to cloud now
 - leverage existing licensing
 - without new hardware purchase
 - Scale: maximum number of APs per WLC may be lower

Catalyst 9800 Connected to Meraki Dashboard

WLC9800 > Configuration > Services > Cloud Services

Configuration > Services > Cloud Services

Network Assurance DNA Spaces DNA Services **Meraki**

Meraki Connect **ENABLED** Refresh Apply

WLC Meraki Cloud

Meraki Registration Details

Chassis Number	Role	PID	Serial Number	Cloud ID	MAC Address	Registration Status	Error Detail
*2	Active	C9800-L-F-K9	FCL23	8 QZZZ -RMSK	f4bd.9f e0	Registered	

Click [here](#) to navigate to view the Meraki Registration Status of Access Points.
You will be redirected to the AP Configuration Page.
Please check the columns - Meraki Monitoring Capable, Cloud ID and Meraki Registration Status, to view the AP Registration details.

Connect to Meraki!

Requirements for Cloud Connected 9800:

- Software: IOS XE 17.12.3, 17.15.2 or later
- WLCs: all 9800 Models (C9800-CL in H1 CY2025)
- Access Points: All Catalyst Wi-Fi 5 Wave 2, 6, 6E supported (Wi-Fi 7 in H1 CY2025)
- Max. AP Number per WLC:
 - 9800-L: 250
 - 9800-40: 1,300
 - 9800-80: 2,000

Meraki Dashboard > Organization > Monitor > Wireless LAN Controllers

The screenshot shows the Meraki Dashboard interface. The top navigation bar includes 'Meraki', 'Demo Admin', 'Demo Networks', and a search bar. The left sidebar contains navigation options: Network, Cloud Monitored, Wireless, Secure Connect, Network-wide, Assurance (New), Switching, Wireless, Insight, Organization, and Find in Menu. The main content area is divided into two sections. The top section, 'Map & Floor Plans', features a map of a location with streets like 'R. Arizona' and 'Av. das Nações Unidas'. A search bar for floor plans is present, along with a message: 'You don't have any floorplans. Add a new floor plan to upload a floor plan image and place it on the map.' The bottom section, 'Wireless LAN Controllers', is titled 'Local Control' and shows a 'Global Overview' for 'Maren Home'. It includes a 'Monitor' sidebar with options like Overview, Summary (New), Alerts, Change Log, Login Attempts, and 'Wireless LAN Controllers' (New, checked). The main content area displays a large blue information icon and a message: 'There are no wireless LAN controllers in this network. If you add some wireless LAN controllers, we can help you configure them.' Below this message is a button labeled '+ Add wireless LAN controller'. A 'Device status' legend at the bottom right shows categories: GOOD (green), ALERTING (orange), OFFLINE (red), and DORMANT (grey).

Add 9800 Wireless Controller to get:

- Simplified operations
- Single pane for Meraki and Catalyst
- Real-time health assurance

Organization > Monitor > Wireless LAN Controllers > Summary

The screenshot displays the Meraki dashboard interface for a specific Wireless LAN Controller. The breadcrumb navigation at the top reads "Organization > Monitor > Wireless LAN Controllers > Summary". The controller is identified as "CLOUD-MON-C9800-L-DEMO" and is in an "Online" state. The "Summary" tab is selected, showing a port key legend and live data for access points and clients. A callout box highlights the "Uplink info and details" section, which includes a map of the controller's location at Cisco Building 14, Levee Rd, and a list of network parameters such as LAN IP (10.14.1.2), Public IP (128.107.234.14), Gateway (10.14.1.1), and DNS (10.10.105.7).

Global Overview

- Organization: Cloud Monitoring TME Catalyst
- Network: C9800-L SSO
- Network-wide: Assurance (New), Switching, Wireless, Organization
- Find in Menu

Wireless LAN controllers

← Wireless LAN controllers

CLOUD-MON-C9800-L-DEMO Online Local Control

Summary | Ports | Redundancy | APs | Tools

Map: Cisco Building 14, Levee Rd, Levee Rd. Map data ©2025 Google

Port key

Enabled/Full speed	Authenticated via SecurePort
Reduced speed	Authenticated via SecurePort (PoE)
Disabled	Detected as uplink
Disconnected	Lower power
Error (Warning)	Pass-through
Error (Critical)	

Live Data

- Access Points** 4 total Online
- Clients** 3 total Online

Historical Data Last day

Connectivity

13:40 16:26 19:13 22:00 00:46 03:33 06:20 09:06 11:53

- View Uplink info and details about Cloud Connected 9800 Controller

Organization > Monitor > Wireless LAN Controllers > Summary

The screenshot shows the Meraki dashboard interface. The breadcrumb navigation at the top reads "Organization > Monitor > Wireless LAN Controllers > Summary". The main content area is titled "Wireless LAN controllers" and shows the selected controller as "CLOUD-MON-C9800-L-DEMO" with an "Online" status. Below this, there are tabs for "Summary", "Ports", "Redundancy", "APs", and "Tools", with "APs" currently selected. On the left, a sidebar contains navigation options: "Global Overview", "Organization" (Cloud Monitoring TME, Catalyst), "Network" (C9800-L SSO), "Network-wide", "Assurance" (New), "Switching", "Wireless", "Organization", and "Find in Menu". The main content is divided into three sections: a map showing the controller's location at "Cisco Building 14" near "Levee Rd", a metadata section with fields like "LAN IP", "Type", "Link aggregate", "Public IP", "Gateway", "DNS", "LAN IPv6", and "Serial number", and a table titled "Access points". The table has columns for "Status", "Name", "Network", "Connectivity (UTC-8)", and "Firmware version". It lists four access points, all with a green status icon and 100% connectivity. A callout box with a blue border and rounded corners points to the first row of the table, containing the text "Select AP for details...".

Status	Name	Network	Connectivity (UTC-8)	Firmware version
✓	POD-L-AP-9105-1	C9800-L SSO	100%	17.12.3
✓	POD-L-AP-9115-1	C9800-L SSO	100%	17.12.3
✓	POD-L-AP-9162-1	C9800-L SSO	100%	17.12.3
✓	POD-L-AP-9163-1	C9800-L SSO	100%	17.12.3

Select AP for details...

Organization > Monitor > Wireless LAN Controllers > “selected Access Point”

Global Overview

← Access points →

POD-L-AP-9105-1 Online Local Control

C9105AXI-B 14:84:73:70:db:e8

Summary Device Health Location Connections Performance

Live data [View old version](#)

Ports

Uplink

Current clients 1 connected

All currently associated clients, including clients who have not transferred data.

Description	IP Address	VLAN	MAC Address	Usage	Associated for	SSID
Samsung Galaxy S23	10.14.2.13	102	4a:56:a5:b9:bf:8c	40.8 MB	9 hours	Cloud Monitoring C9800-L Demo

Rows per page 1-1 of 1 < 1 >

Utilization on current channels

■ 802.11 Traffic ■ non-802.11 Interference

Channel 1 (2.4 GHz) **Moderate (53%)**

Channel 64 (5 GHz) **Acceptable (25%)**

Wireless LAN Controller

🔗 CLOUD-MON-C9800-L-DEMO

Wireless LAN Controller tags

Site tag: Cloud Monitoring C9800-L Demo

Policy tag: Cloud Monitoring C9800-L Demo

RF tag: default-rf-tag

SSIDs

Cloud Monitoring C9800-L Demo (broadcasting)

[BSSID details](#)

Access point mode

Local

Firmware

IOS XE 17.12.3

Serial number

Q2ZZ-UZBR-Y3

FJC27092ADR

View Summary
Details for selected
Access point

Organization > Monitor > Wireless LAN Controllers > “selected Access Point”

The screenshot displays the Meraki dashboard interface. On the left is a navigation sidebar with categories: Global Overview, Organization (Cloud Monitoring TME Catalyst), Network (C9800-L SSO), Network-wide, Assurance (New), Switching, and Wireless (selected). Below the sidebar is a search bar labeled 'Find in Menu'. The main content area shows the configuration for 'POD-L-AP-9105-1'. At the top, there are tabs for Summary, Device Health, Location (selected), Connections, and Performance. Below these are sub-tabs for AP location, Map, Photo, and Topology. The 'Map' sub-tab is active, showing a map of the area around Cisco Building 17. A callout box highlights the specific AP on the map, labeled 'POD-L-AP-9105-1 C9105'. The left sidebar contains detailed configuration information for the AP, including site tags, policy tags, RF tags, AP mode (Local), SSIDs, radio settings, and IP addresses.

Global Overview

Organization
Cloud Monitoring TME
Catalyst

Network
C9800-L SSO

Network-wide

Assurance **New**

Switching

Wireless

Organization

Find in Menu

Search Dashboard

Summary Device Health **Location** Connections Performance

AP location Map Photo Topology

Building 14 -Floor 1

POD-L-AP-9105-1
C9105

WIRELESS LAN CONTROLLER TAGS
Site tag: Cloud Monitoring C9800-L Demo
Policy tag: Cloud Monitoring C9800-L Demo
RF tag: default-rt-tag

AP MODE
Local

SSIDS
Cloud Monitoring C9800-L Demo
[BSSID Details](#)

RADIO SETTINGS
2.4 GHz: 1 (20 MHz; 2 dBm)
5 GHz: 64 (40 MHz; 2 dBm)

LAN IP
10.141.34 (via DHCP)

PUBLIC IP
10.14.1.34

GATEWAY
10.14.1.1

LAN IPV6
Not configured

View Location on Map and Topology

Monitored AP on Map: “POD-L-AP-9105-1”

Organization > Monitor > Wireless LAN Controllers > “selected Access Point”

View Location on Map and Topology

AP location | Map | Photo | Topology

POD-L-AP-9105-1
C9105AXI-B 14:84:73:70:db:e8
Local Control

Summary | Device Health | **Location** | Connections | Performance

ADDRESS: Building 14 -Floor 1

POD-L-AP-9105-1
C9105AXI-B 14:84:73:70:db:e8
Local Control

Summary | Device Health | **Location** | Connections | Performance

AP location | Map | Photo | **Topology**

6 online 0 alerting 0 offline 0 dormant
 Label all devices.

1 Wireless LAN Controller

POD-L-AP-9105-1

POD-L-AP-9115-1

POD-L-AP-9162-1

POD-L-AP-9163-1

CLOUD-MON-C9300-DEMO-CORE-1

WIRELESS LAN CONTROLLER TAGS
Site tag: Cloud Monitoring C9800-L Demo
Policy tag: Cloud Monitoring C9800-L Demo
RF tag: default-rf-tag

AP MODE
Local

SSIDS
Cloud Monitoring C9800-L Demo
[BSSID Details](#)

RADIO SETTINGS
2.4 GHz: 1 (20 MHz; 2 dBm)
5 GHz: 64 (40 MHz; 2 dBm)

LAN IP
10.141.134(via DHCP)

PUBLIC IP
10.141.134

GATEWAY
10.14.1.1

LAN IPV6
Not configured

Organization > Monitor > Wireless LAN Controllers > Tools

The screenshot shows the Meraki dashboard interface. On the left is a navigation sidebar with categories like Global Overview, Organization, Network, Network-wide, Assurance, Switching, Wireless, and Organization. The main content area is titled 'Wireless LAN controllers' and shows a specific controller 'CLOUD-MON-C9800-L-DEMO' with an 'Online' status and 'Local Control' mode. Below this is a map showing the controller's location at 'Cisco Building 14'. To the right of the map is a 'Terminal Console' window. This window has tabs for 'Summary', 'Ports', 'Redundancy', 'APs', and 'Tools'. The 'Terminal Console' section includes a description: 'Opens a troubleshooting console to this device, similar to an IOS-XE CLI window.' Below the description are 'Close Terminal' and 'Detach' buttons. An information icon indicates that the terminal allows limited access to read-only IOS-XE commands, such as 'show'. The terminal window itself displays the following text:

```
Welcome to Meraki Troubleshooting Console..

Note: You can enter "show ?" anytime to get the list of currently supported commands and short cuts

CLOUD-MON-C9800-L-DEMO#show run
Building configuration...

Current configuration : 15593 bytes
!
! Last configuration change at 11:33:43 UTC Wed Jan 15 2025
! NVRAM config last updated at 09:14:07 UTC Wed Jan 8 2025 by meraki-user
!
version 17.12
service timestamps debug datetime msec
service timestamps log datetime msec
```

Terminal Console:

- Cloud CLI access for 9800 Controllers
- Configuration control remains on the controller

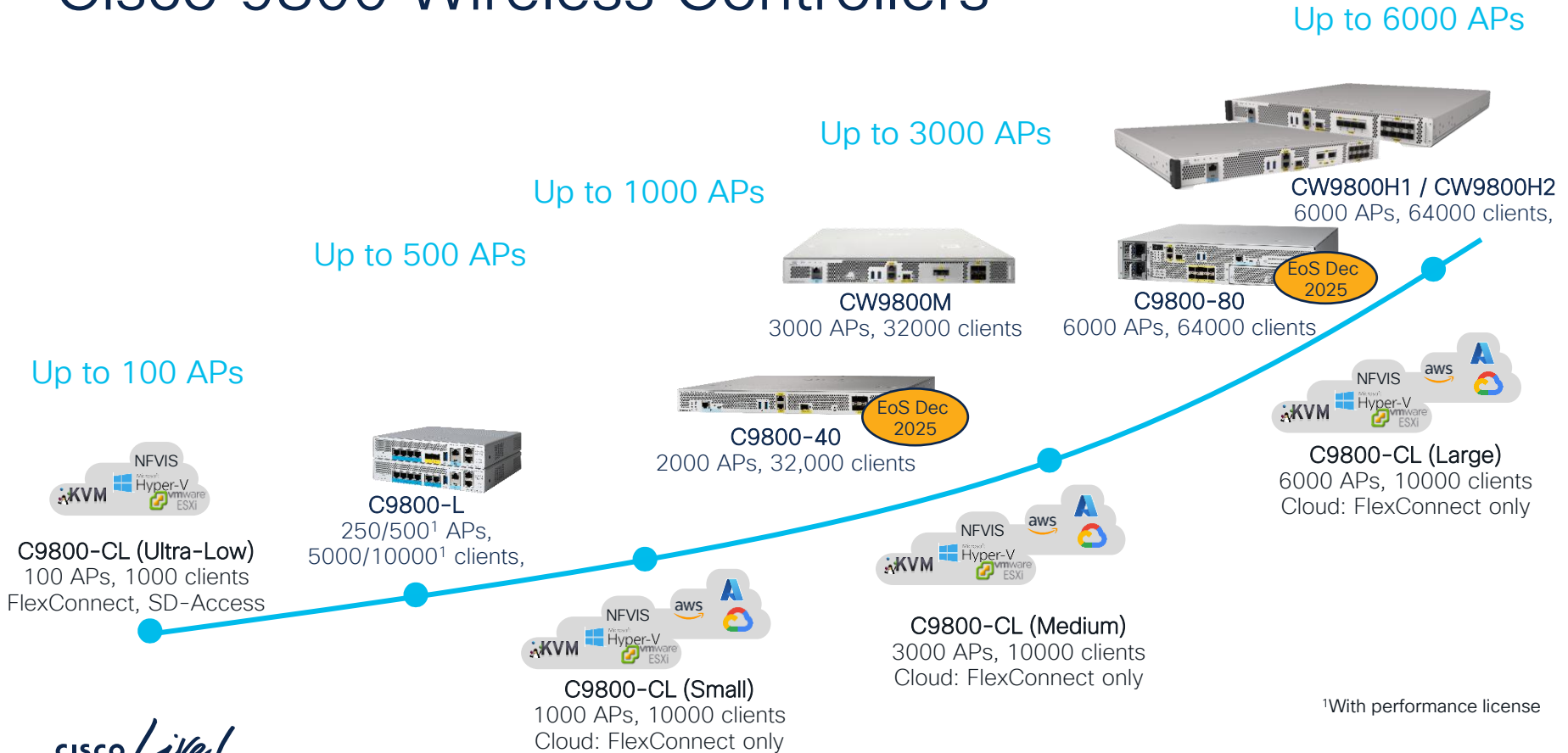
Example: "show run"

Meraki Dashboard High Availability



- 99.99% uptime service level agreement
- 24x7 automated failure detection & Real-time replication between data centers
- No Wireless/Network downtime if Meraki Dashboard is not reachable

Cisco 9800 Wireless Controllers

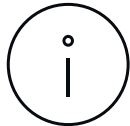


New Cisco Wireless 9800 Controllers



Improved Energy Efficiency!

- CW9800 Series Feature List is on par with previous Gen WLC 9800
- Familiar WebUI and config structure



CW9800 H1/H2 & M:

- Software: IOS XE 17.14.1 or later
- Catalyst Center: 2.3.7.x
- ISE: 3.1+
- Prime Infrastructure: no support

CW9800H1



The only difference between H1/H2:
CW9800H1 = 4x 25G
CW9800H2 = 2x 40G

8x 1G/10G ports



8x 1G/10G

CW9800H2



CW9800M = 2x 25G

4x 1G/10G ports

CW9800M

Flexible uplinks: 1G, 10G, M & H1 25G H2: 40G

Agenda

① Wi-Fi 7 & APs

② Platform Choices

③ Simplified Operation



④ Location Services

⑤ Secure!

⑥ Built in IoT

Simplified Operations

- AI-RRM

- AI Networking Assistant

- AP Auto Locate

How to provide great coverage and limit Co-Channel interference?



Cisco Radio Resource Management (RRM)

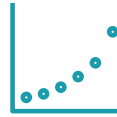
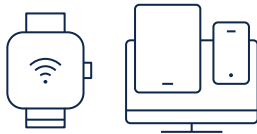


Meraki Auto RF



AI

AI-Enhanced RRM: Improves Wireless Reliability



Trend-Based RRM

Optimize RF with weeks of historical analysis



Flexible Radio Assignment

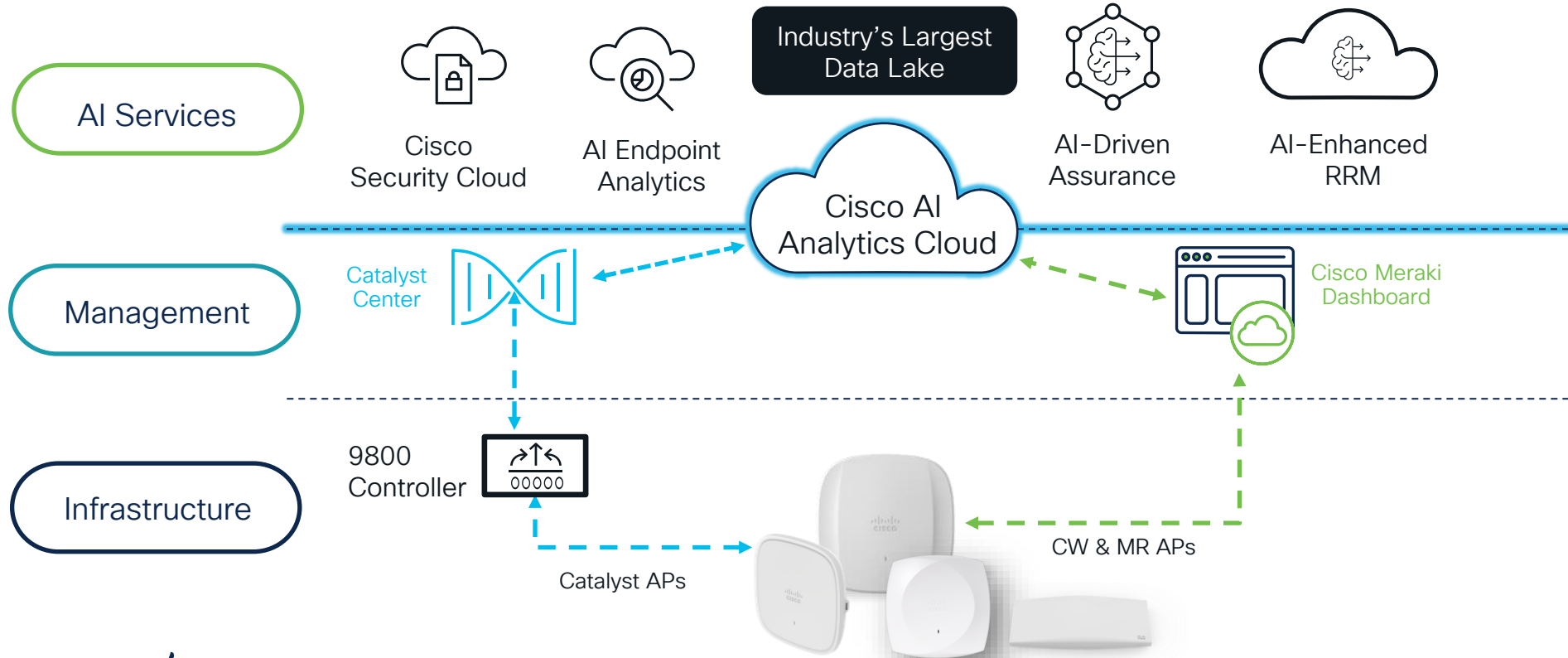
Optimize band selection to minimize 2.4 GHz interference



Busy Hour Aware

Minimize disruptive changes during the critical times of day

Unified Intelligence across Cisco Wireless



Meraki Dashboard > Wireless > Radio Settings > Overview

Radio settings

Overview | RF profiles | RRM

BAND: 6 | CHANNEL: All | ACCESS POINT TAG: All | ACCESS POINT MODEL: All | RF PROFILE: All | RF HEALTH SCORE: All | REGULATORY DOMAIN: FCC Edit

Summary

- 9 Active Radios
- 0 Clients
- 1 RRM Changes

RF Performance Good

- 100 RF Health
- 0% High CCI
- 0 Mitigations

RF Coverage Fair

- Very High (23) AP density
- Medium (23 dB) Connectivity

sfo12-2-ap-0 | 9 Radios | Refresh AFC | Update auto channels | Edit settings...

Status	Channel	Ch. Width (MHz)	Target power (dBm)	Transmit power (dBm)	RF Score	Model	Band	Antenna
●	101 (Auto)	80 (Auto)	8 - 30	9	98	CW9178i	6 GHz	
●	21 (Auto)	160 (Auto)	8 - 30	10	98	CW9178i	6 GHz	
●	37 (Auto)	160 (Auto)	8 - 30	12	99	CW9178i	6 GHz	
●	85 (Auto)	160 (Auto)	8 - 30	8	100	CW9178i	6 GHz	
●	133 (Auto)	80 (Auto)	8 - 30	11	100	CW9178i	6 GHz	
●	149 (Auto)	80 (Auto)	8 - 30	10	100	CW9178i	6 GHz	
●	5 (Auto)	160 (Auto)	8 - 30	9	100	CW9178i	6 GHz	
●	181 (Auto)	160 (Auto)	8 - 30	8	97	CW9178i	6 GHz	
●	117 (Auto)	80 (Auto)	8 - 30	12	99	CW9178i	6 GHz	

2nd Floor

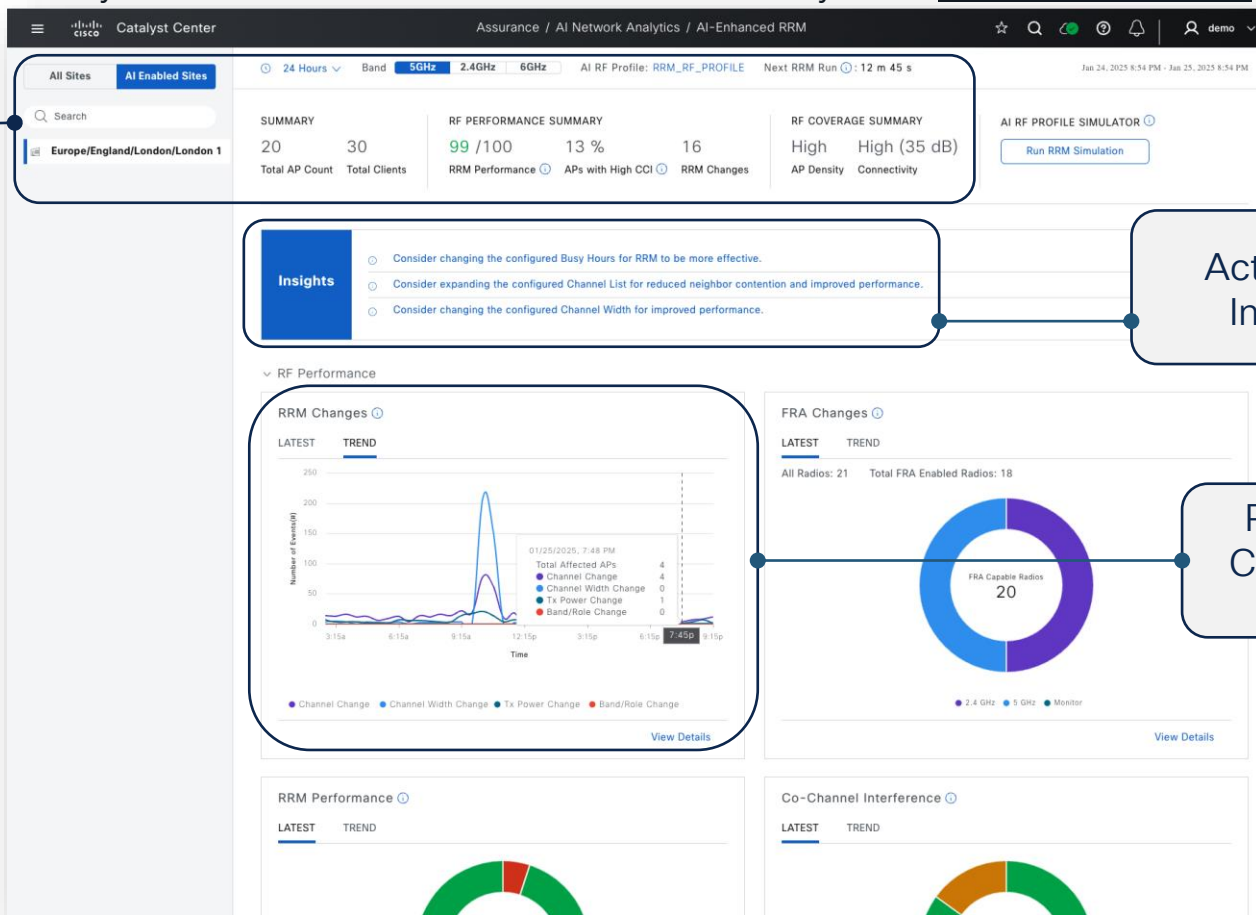
Per Floor View

RF Performance & Coverage according to selected parameters

Activation and Settings

CW9178 & 6GHz

Catalyst Center > Assurance > AI Network Analytics > AI-Enhanced RRM





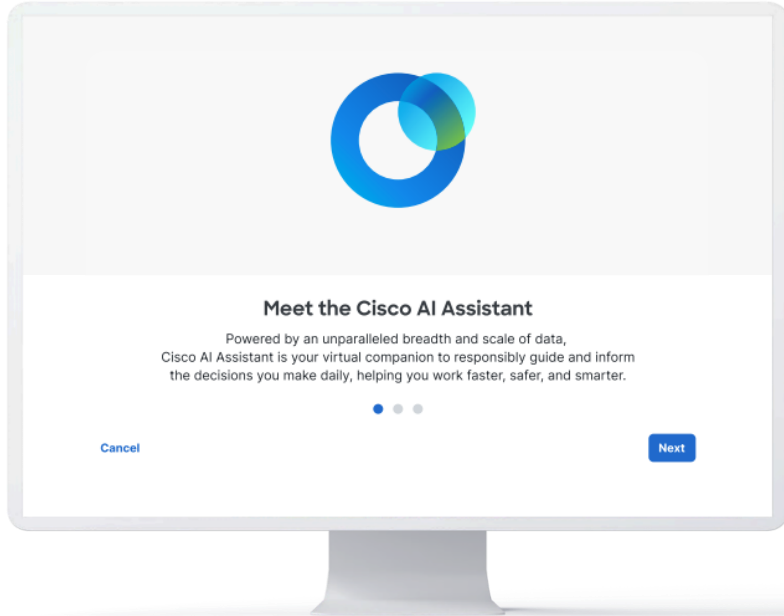
Simplified Operations

- AI-RRM

- AI Networking Assistant

- AP Auto Locate

Cisco AI Assistant: Unlock network intelligence



Empower IT Teams

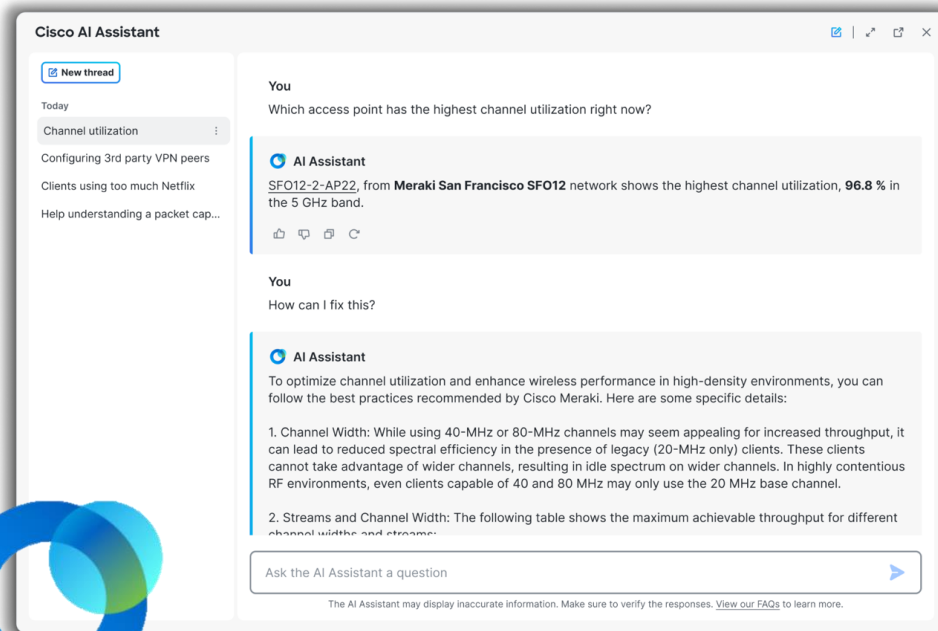


Reduce management costs

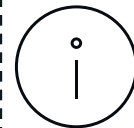


Optimize network performance and reliability

AI Assistant for Networking



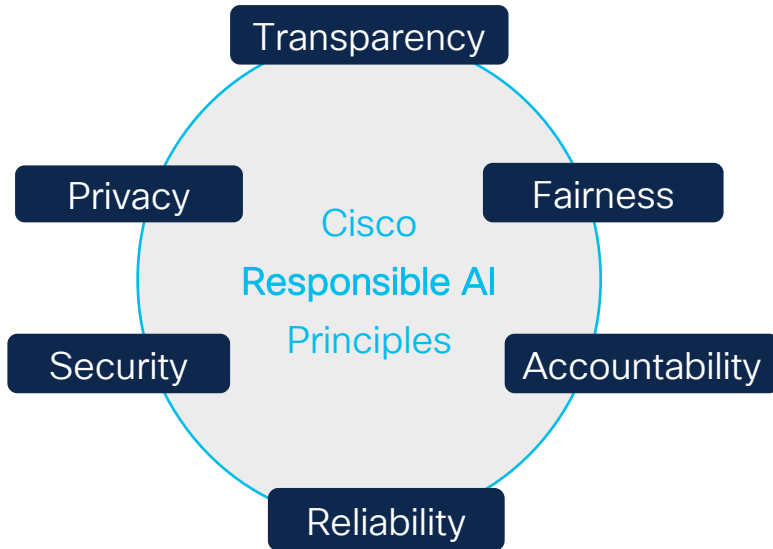
- ✓ Documentation Questions
- ✓ Network Visibility and Config
- ✓ Network Diagnostics
- ✓ Network Optimization



AI Assistant Availability:

- Meraki Dashboard: private Beta
- Catalyst Center: private Beta w/ 2.3.7.9

Preserving your trust with AI governance



- Queries Privacy
 - Each user and associated chat thread are kept separate
 - Users chat history is preserved but can be deleted at any given time
- LLM Training Model Privacy
 - Customers questions/responses are not used to train the model
 - Data is stored within Cisco boundary
 - Feedback per organization/user is evaluated to improve overall accuracy to response

Simplified Operations

- AI-RRM
- AI Networking Assistant

- AP Auto Locate

Let's talk about Access Points on Maps...



Do you have all your Access Points placed on maps?



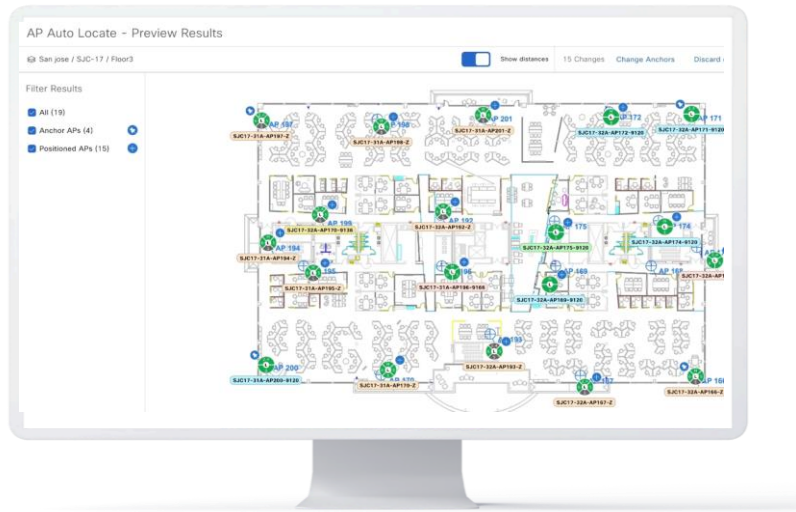
How much time does it take to place and maintain APs positioning?



How confident are you in your AP map placement?

Cisco introduces “AP Auto Locate” to fix your Map Problem!

Auto-position APs on maps!



Reduce IT admin workload with faster network deployments

AI

Quality input for AI-driven operations & assurance



Reduce troubleshooting effort caused by incorrect AP placement



Improve client location services accuracy

Catalyst Center > Design > Network Hierarchy

AMS / RAI / Exhibition Updated just now

0 m 100 m 200 m 300 m 400 m

100 m 200 m

Seaside Rooms A
Business Lounge
The Forum
Lunch and Celebration

35
-35

200 m 400 m

*IOS XE 17.18.1

Design / Network Hierarchy

2D 3D 5 GHz Add/Edit/Locate^{NEW} Data/Filters View Options More

Search Hierarchy Search Help

Global
CityHall
CLEMEA25
EMEA
AMS
RAI
Exhibition
BCN
BER
CZ
LNZ

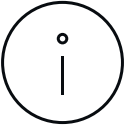
Add Access Points

Add selected

Filter 19 Selected All APs Auto Locate Capable APs

Name *	AP Ethernet MAC Address	Model	Controller	I
SJC17-31A-AP170-Z	c4:14:a2:6f:75:f0	CW9178I	10.32.12.134	
SJC17-31A-AP194-Z	c4:14:a2:6f:67:b0	CW9178I	10.32.12.134	
SJC17-31A-AP195-Z	c4:14:a2:6f:72:f0	CW9178I	10.32.12.134	
SJC17-31A-AP196-9166	cc:9c:3e:f7:de:b0	CW9166I-B	10.32.12.134	
SJC17-31A-AP197-Z	c4:14:a2:6f:67:80	CW9178I	10.32.12.134	
SJC17-31A-AP198-Z	c4:14:a2:6f:67:80	CW9178I	10.32.12.134	
SJC17-31A-AP199-9120	cc:9c:3e:f7:de:b0	CW9166I-B	10.32.12.134	

Select *Add/Edit/Locate* to place APs with “AP Auto Locate”

 AP Auto Locate, supported APs for Catalyst Center:

- CW9178, CW9176, CW9166, CW9164, CW9162*, C9136, C9130, C9120

Add APs to Map for Auto-Placement...

Catalyst Center > Design > Network Hierarchy > AP Auto Locate

The screenshot displays the Catalyst Center interface for AP Auto Locate. The main window shows a floor plan of the 1st floor of AMS / RAI. A list of APs is shown on the left, with their health scores and status. A legend at the bottom explains the status icons. A callout box highlights the requirement to select a minimum of 4 anchor APs.

AP Auto Locate - Anchor Selection

AMS / RAI / 1st Floor

1 Change Discard changes Run Auto Locate

Search Hierarchy Search Help

Global

- CityHall
- CLEMEA25
 - EMEA
 - AMS
 - RAI
 - 1st Floor
 - BCN
 - BER
 - CZ
 - LNZ
 - DL

Anchor Rank

Good	Fair	Poor	None
★★★★	★★★☆☆	★★☆☆☆	☆☆☆☆

Anchoring Best Practices

- AP9164.925C.9730 (Good)
- AP9164.925C.96A0 (Good)
- ap-cleu-ber1 (Fair)
- ap-cleu-ber2 (Fair)

LEGEND

AP Auto Locate	Devices	Health Score	AP Status	AP Mode	More
Anchor	Positioned	Verified Properly Positioned	Moved		
Swapped	Insufficient neighbors	Auto locate incapable			

Select a minimum of 4 Anchor APs...

Meraki Dashboard > Network-wide > Map & floor plans

Select "AP Auto Locate" ...

The screenshot shows the Meraki Dashboard interface. On the left is a navigation sidebar with options: Global Overview, Organization (Maren's DEMO), Network (C9800-80 SSO), Network-wide, Assurance (New), and Switching. The main area is titled 'Map & Floor Plans' and features a map of the San Francisco Bay Area. A callout box points to the 'AP Auto Locate' button, which is marked as 'NEW'. Another callout points to a search bar for floor plans. A third callout points to a modal window titled 'Assign APs to Building 14 Floor 1'. This modal contains a table of APs with columns for Status, Name, Floor plan, Model, Serial number, and MAC address. Three APs are listed, all with a green checkmark in the Status column. A fourth callout points to the 'Assign 5 APs' button at the bottom of the modal.

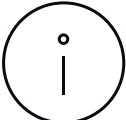
Minimum of 5 APs!
(GPS or manually placed based on their relative position)

Assign APs to Building 14 Floor 1

Please select APs from this list that you are certain they exist on your floor plan. This will help optimize our algorithm and help prevent unnecessary APs from being added to the map. Please note that in order to automatically place your APs, a minimum of 5 APs must be assigned to the floor.

Status	Name	Floor plan	Model	Serial number	MAC address
<input checked="" type="checkbox"/>	POD-80-AP-9162-1	Building 14 Floor 1	CW9162I	Q5AB-6XMD-BZSP	cc:9c:3e:f0:00:70
<input checked="" type="checkbox"/>	POD-80-AP-9164-1	Building 14 Floor 1	CW9164I	Q5AD-B8K9-356F	cc:9c:3e:f1:de:f0
<input checked="" type="checkbox"/>	POD-80-AP-9166I-1	Building 14 Floor 1	CW9166I	Q5AP-STT9-LDL3	68:49:92:70:55:e0

Cancel Assign 5 APs

 AP Auto Locate, supported APs for Meraki Dashboard:

- CW9178, CW9176, CW9166, CW9164, CW9162, MR57, MR56, MR36, MR36H, MR78

Meraki Dashboard > Network-wide > Map & floor plans

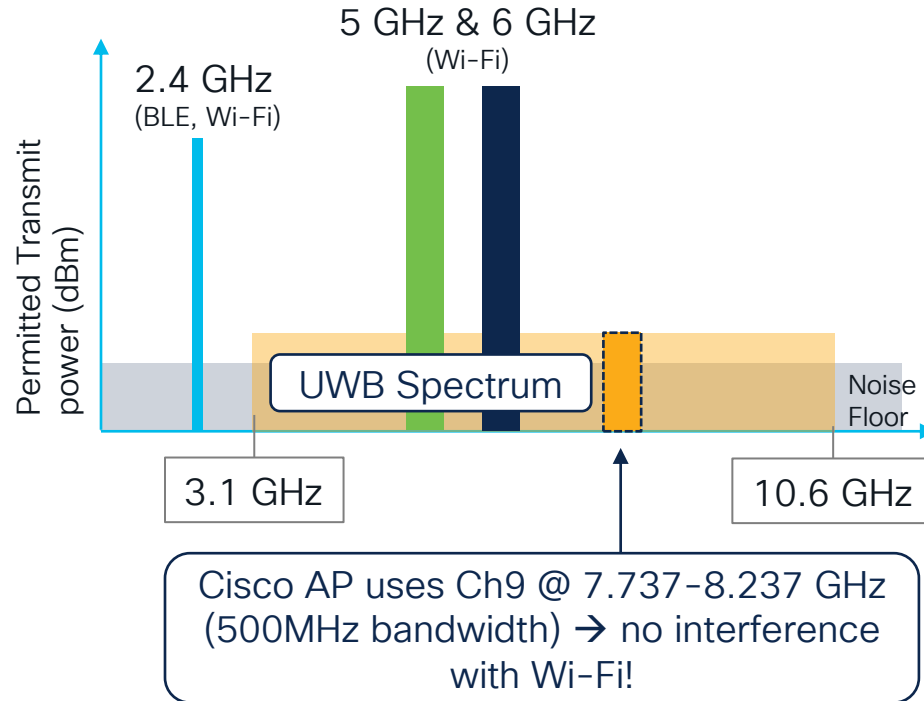
The screenshot displays the Meraki Dashboard interface for network SFO12. On the left is a navigation sidebar with categories like Network, Secure Connect, Network-wide, Assurance, Security & SD-WAN, Switching, Wireless, Systems Manager, Cameras, Sensors, Insight, Organization, and Admin. The main area shows a map of the San Francisco area with a floor plan overlay. Red squares indicate manually placed devices, while green squares indicate automatically placed devices. A search bar shows 75 results.

Name	Placement status	Lat long
SFO [device icons]	—	
SFO [device icons]	Manual placement	37.7705, -122.3867
SFO [device icons]	Manual placement	37.7704, -122.3875
SFO [device icons]	—	
SFO [device icons]	Auto-placement	37.7704, -122.3874
SFO [device icons]	—	
SFO [device icons]	Auto-placement	37.7704, -122.3873
SFO [device icons]	—	
SFO [device icons]	—	
SFO [device icons]	Auto-placement	37.7704, -122.3872

Red = Manual placement
Green = Automatic placement

Ultra Wide-Band (UWB)

Integrated with Access Points CW9176 & CW9178

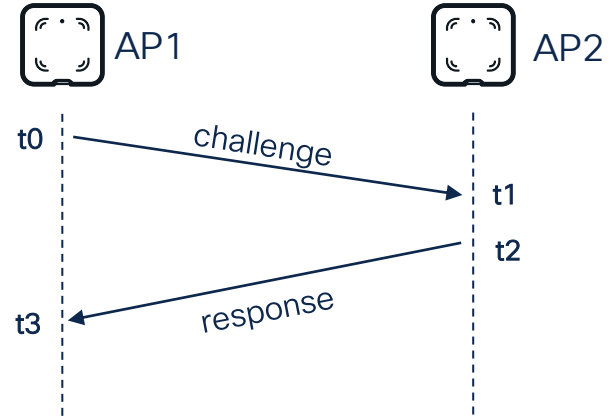


AP Auto Locate is using UWB

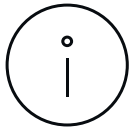
Integrated with Access point CW9176 & CW9178



- UWB enhances the accuracy of AP Auto Locate
- Combining information from UWB with Wi-Fi Fine Timing Measurement (FTM) on 5GHz and 6GHz.



Roundtrip time of challenge/response packets are used to calculate distance



AP Auto Locate with UWB support:

- Cisco Spaces: available
- Catalyst Center: 2.3.7.9
- Meraki: FTM now, UWB Beta H1 CY25

Agenda

① Wi-Fi 7 & APs

② Platform Choices

③ Simplified Operation

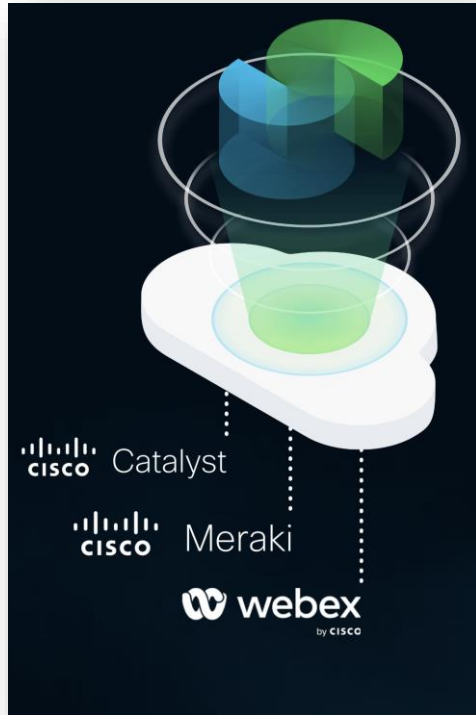


④ Location Services

⑤ Secure!

⑥ Built in IoT

What is Cisco Spaces?



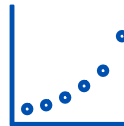
Leverages data and **location** information from **Wi-Fi**, BLE, UWB and IoT devices to improve operations and **drive business outcomes**



Cloud Platform. Cisco Native & Partner Apps, APIs, monitoring

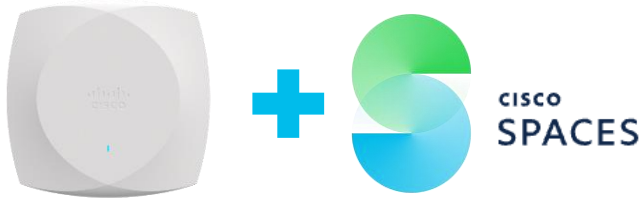


Secure & Compliant
(GDPR, PDPA, ISO 27001, SOC Type 1)



Designed to **Scale!** Proactive monitoring & support. **99.9%** uptime

Wi-Fi 7 Unified Licensing includes Cisco Spaces



UL - Essentials

Meraki
Enterprise

DNA-E

Spaces
Extend

UL - Advantage

Meraki
Advanced

DNA-A

Spaces
ACT



Cisco Spaces Deployment Options



Cloud to Cloud



- Cisco Spaces to connect to Meraki Dashboard
- Cisco Spaces to connect to 3rd Party cloud Services



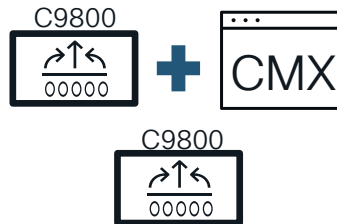
Cloud to On-Premise



- Catalyst Center is synced with Cisco Spaces
- WLC 9800 (via Connector VM) is synced with Cisco Spaces



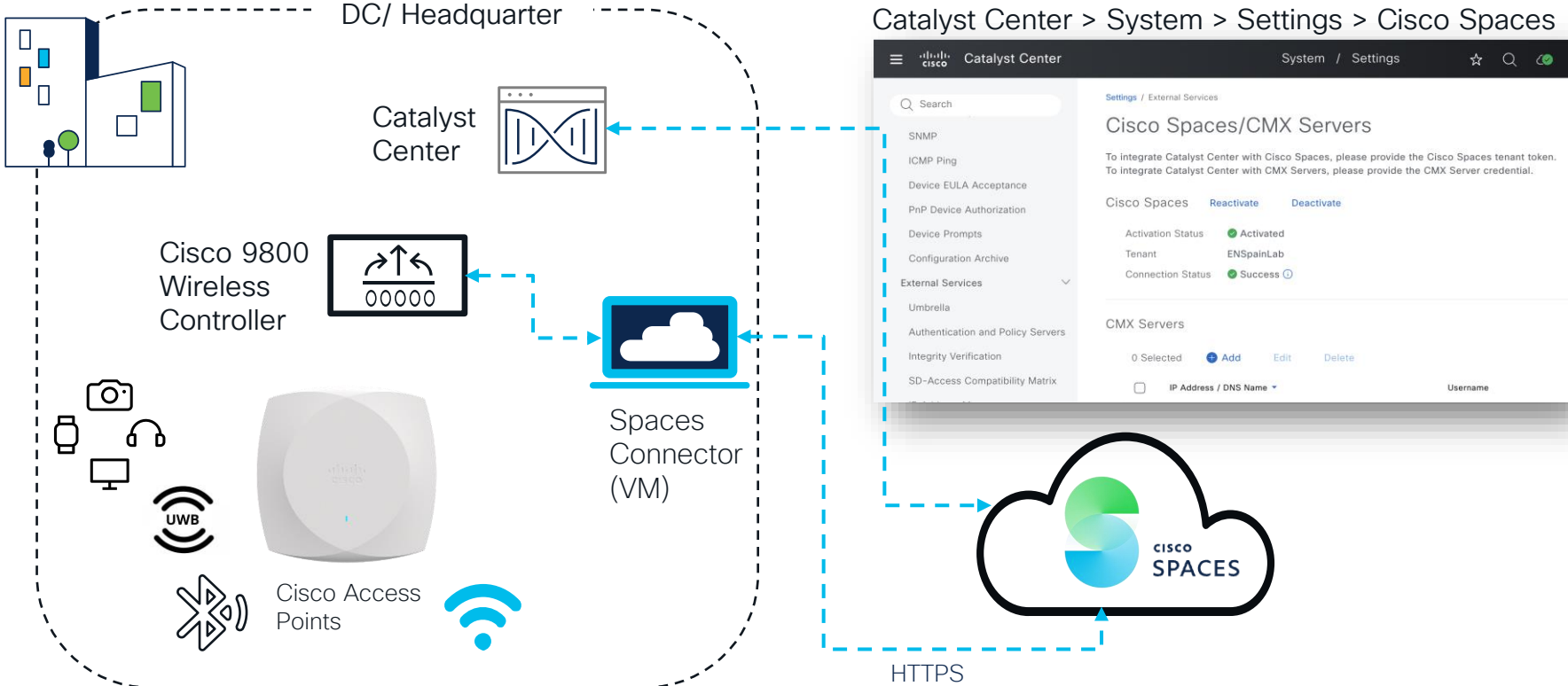
On-Premise



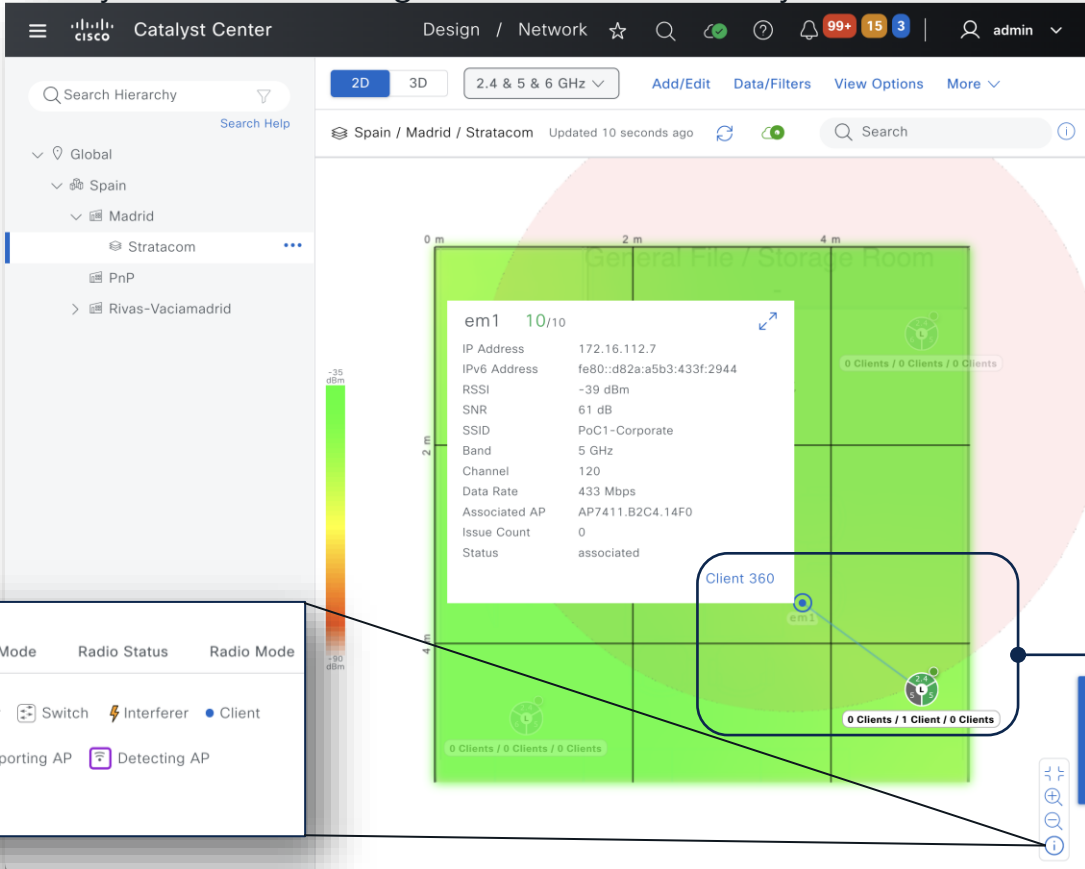
- Location Calculation embedded in CMX Appliance (Wi-Fi only)
- Location Module embedded in C9800 Wireless Controller (BLE only)

NEW

Add Cisco Spaces to Catalyst Center



Catalyst Center > Design > Network Hierarchy > “selected Building/Floor”



Locate client & details on map

Catalyst Center > Design > Network Hierarchy > “selected Building/Floor”

Catalyst Center Design / Network

Spain / Madrid / Stratacom Updated just now

Search Hierarchy

- Global
- Spain
 - Madrid
 - Stratacom
 - PnP
 - Rivas-Vaciamadrid

Cisco Spaces Connector Information

IP Address / DNS Name	10.4.10.28
Status	Up
Version	3.1.0.167
Last Heard	Feb 5, 2025 1:40:37 PM

- Planned Access Points (0)
- Switches (2)
- Sensors
- Overlay Objects
- Clients (1)
- Interferers (1)
 - Show Zone of Impact
- Map Properties

⚡ Interferer

● Client

Enable, view and search clients and interferers on the map

Catalyst Center > Design > Network Hierarchy > "selected Building/Floor"

The screenshot shows the Cisco Catalyst Center interface. On the left is a navigation pane with a search bar and a hierarchy tree: Global > Spain > Madrid > Stratacom > PnP > Rivas-Vaciamadrid. The main area displays a 2D floor plan with a heatmap overlay. A red circle highlights a specific area on the floor plan, with a callout box containing a Bluetooth icon and the text "BLUETOOTH". A larger callout box on the right provides details for the interferer: "Interferer 42:00:00:00:13:31".

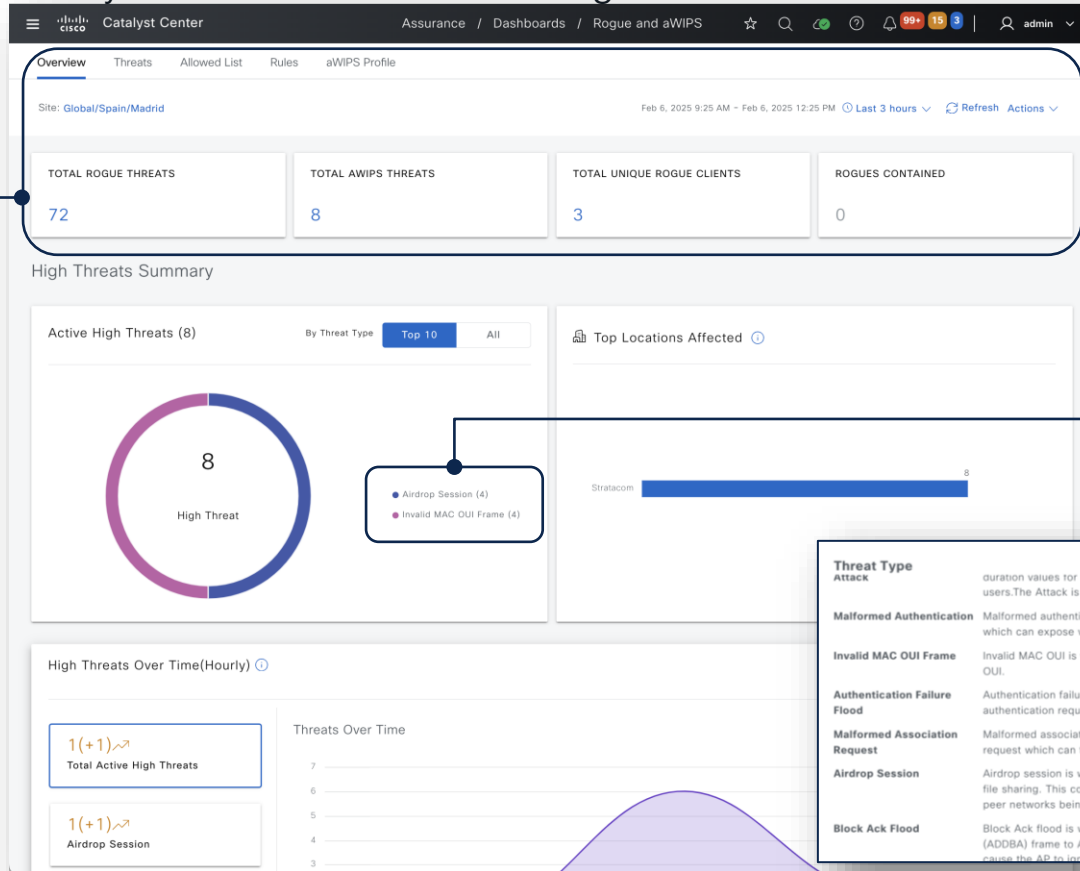
Type	BLUETOOTH
State	Active
Name	34:5d:a8:0b:3f:e0-4-0--4992
MAC Address	42:00:00:00:13:31
Reported By	DNA Spaces
Detecting AP(s)	34:5d:a8:0b:3f:e0
Duty Cycle	3
Affected Channels	1, 2, 3, 4, 5, 6, 7, 8
Zone of Impact	3.16 m
First Detected	Wed, 05 Feb 2025 12:50:08 GMT
Last Reported	Wed, 05 Feb 2025 12:50:19 GMT

Bluetooth interferer and zone of impact

CleanAir Pro

Interferer Details provided by Cisco CleanAir Pro

Catalyst Center > Assurance > Rogue and aWIPS



Built-in Rogue & aWIPS Dashboard in Catalyst Center!

Per site reporting and action dashboard

● Airdrop Session (4)
● Invalid MAC OUI Frame (4)

Identify 38 Threat types

Threat Type	Attack
Malformed Authentication	Malformed authentication is when an attacker sends malformed authentication frames which can expose vulnerabilities in some drivers.
Invalid MAC OUI Frame	Invalid MAC OUI is when a spoofed MAC address is used which does not have a valid OUI.
Authentication Failure Flood	Authentication failure flood is when a specific device tries to flood the AP with invalid authentication requests spoofed from a valid client leading to the disconnection.
Malformed Association Request	Malformed association request is when an attacker sends a malformed association request which can trigger bugs in AP leading to Denial of service.
Airdrop Session	Airdrop session is when Apple feature AirDrop is used to setup a peer-to-peer link for file sharing. This could potentially create a security risk due to unauthorized peer-to-peer networks being dynamically created in your WLAN environment.
Block Ack Flood	Block Ack flood is when an attacker transmits an invalid Add Block Acknowledgement (ADDBA) frame to AP while spoofing the valid client's MAC address. This process will cause the AP to ignore any valid traffic transmitted from the client until the invalid frame

Catalyst Center > Assurance > Rogue and aWIPS > Threats


The screenshot shows the Cisco Catalyst Center Assurance interface. The top navigation bar includes 'Catalyst Center', 'Assurance / Dashboards / Rogue', and user information 'admin'. The main content area is titled 'Threat 360: Mac E6: :04:5A:7E:95'. A table lists threat details:

Threat Level	Threat Type	Vendor	Count	Last Reported
High	Airdrop Session	UNKNOWN	1	Feb 5, 2025 12:56 PM

Below the table, the location is identified as 'Global/Spain/Madrid/Stratacom'. A map shows a red location pin labeled 'AP: 30F.DB70'. A table at the bottom lists the detection details:

Detecting AP	Detecting AP Site	Last Updated
AP1 430F.DB70	Global/Spain/Madrid/Stratacom	Feb 5, 2025 12:56 PM

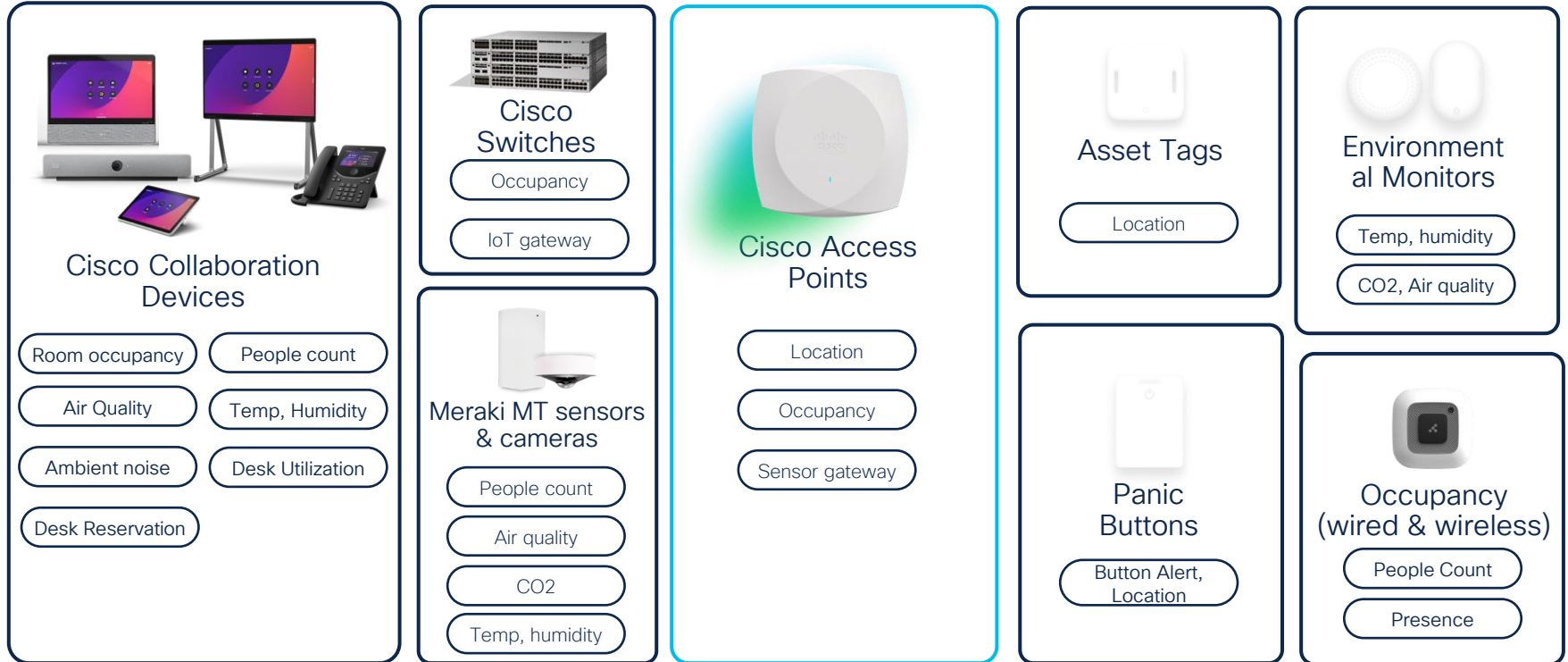
Selected Threat (Airdrop Session)

 Detecting AP

Location on Map!

 Rogue AP

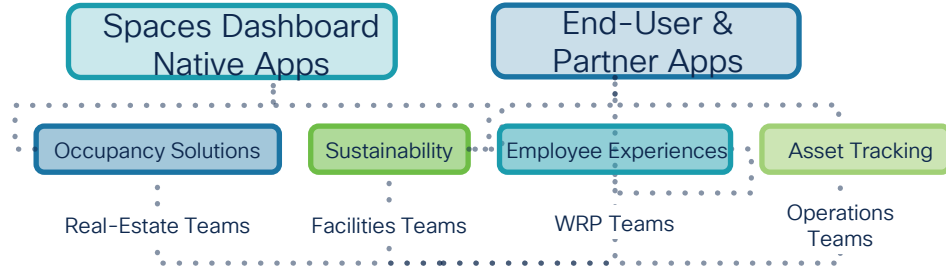
Cisco Spaces turns your Network into a Sensor



The Solution: How it all comes together

Business Outcomes

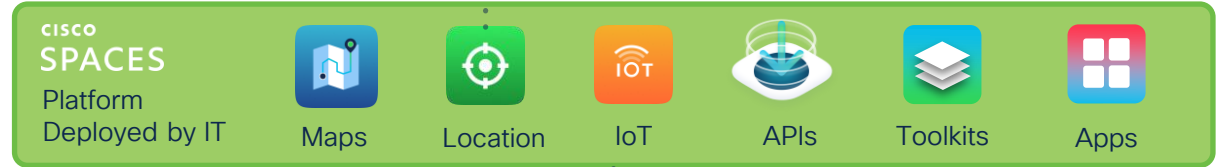
Native & Partner Apps



Software

Smart Spaces Stack

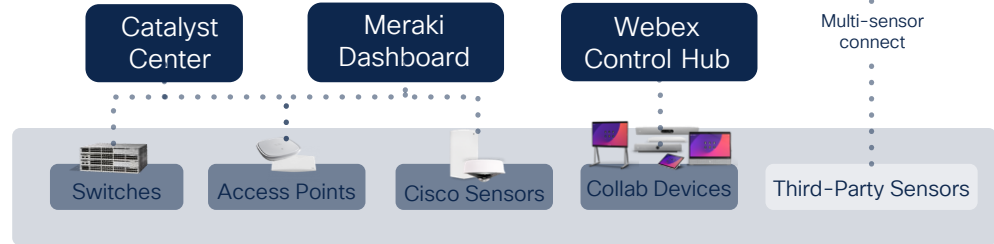
Powered by Cisco Spaces



Hardware

Cisco Hardware as the

Foundation



Cisco Spaces is Designed to address the needs of every industry



- Occupancy Analytics
- Enhance Employee Experience
- Indoor Navigation
- Sustainable Meeting Rooms
- Hot Desking



- Seamless Wi-Fi Onboarding
- Indoor Navigation
- Infant Monitoring & Patient Safety
- Asset tracking
- Panic Buttons for Staff Safety



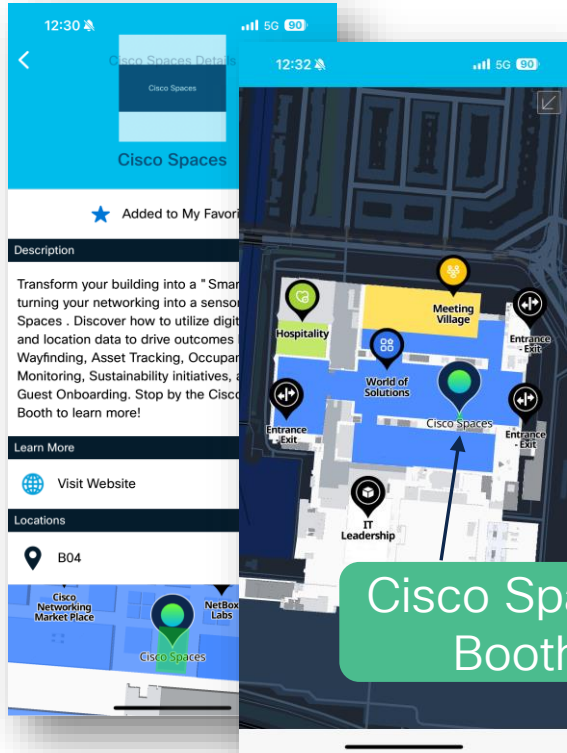
- Customer Acquisition & Loyalty
- Personalized Engagements
- Indoor Navigation
- Occupancy analytics
- Asset tracking



- Heavy Equipment & Asset Tracking
- Machine Condition Monitoring
- Employee Safety

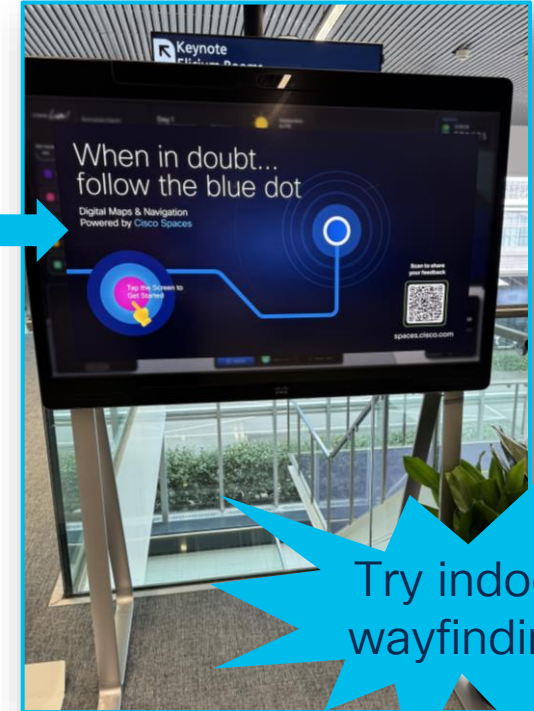
Visit Cisco Spaces Booth & try Wayfinding!

World of Solutions Hall 1, B04



Experience Cisco Spaces during Cisco Live:

- Indoor Wayfinding
- Asset Tracking
- Occupancy Monitoring
- Guest Onboarding
- Sustainability Initiatives



cisco Live!

Agenda

① Wi-Fi 7 & APs

② Platform Choices

③ Simplified Operation



④ Location Services

⑤ Secure!

⑥ Built in IoT

Cisco Identity Services Engine (ISE)

Cisco Identity Services Engine (ISE) is an industry leading, Network Access Control and Policy Enforcement platform, that lets you:

See

Users, endpoints and applications



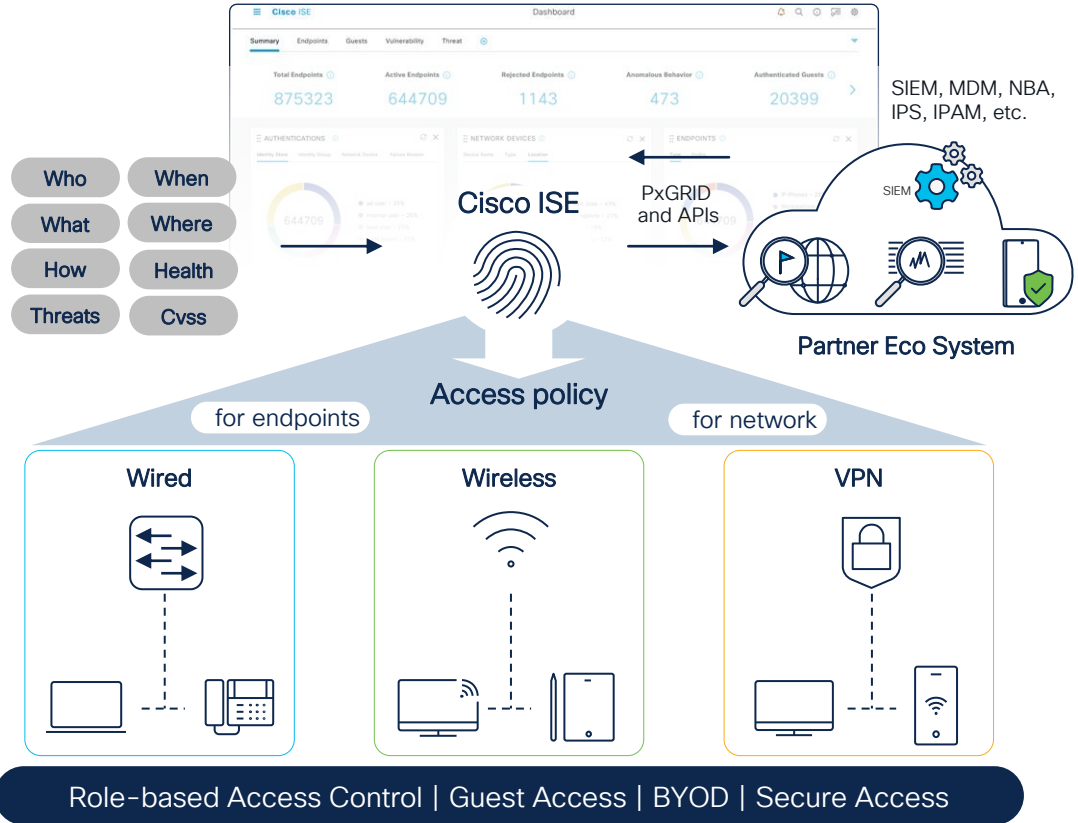
Secure

By controlling network access and segmentation

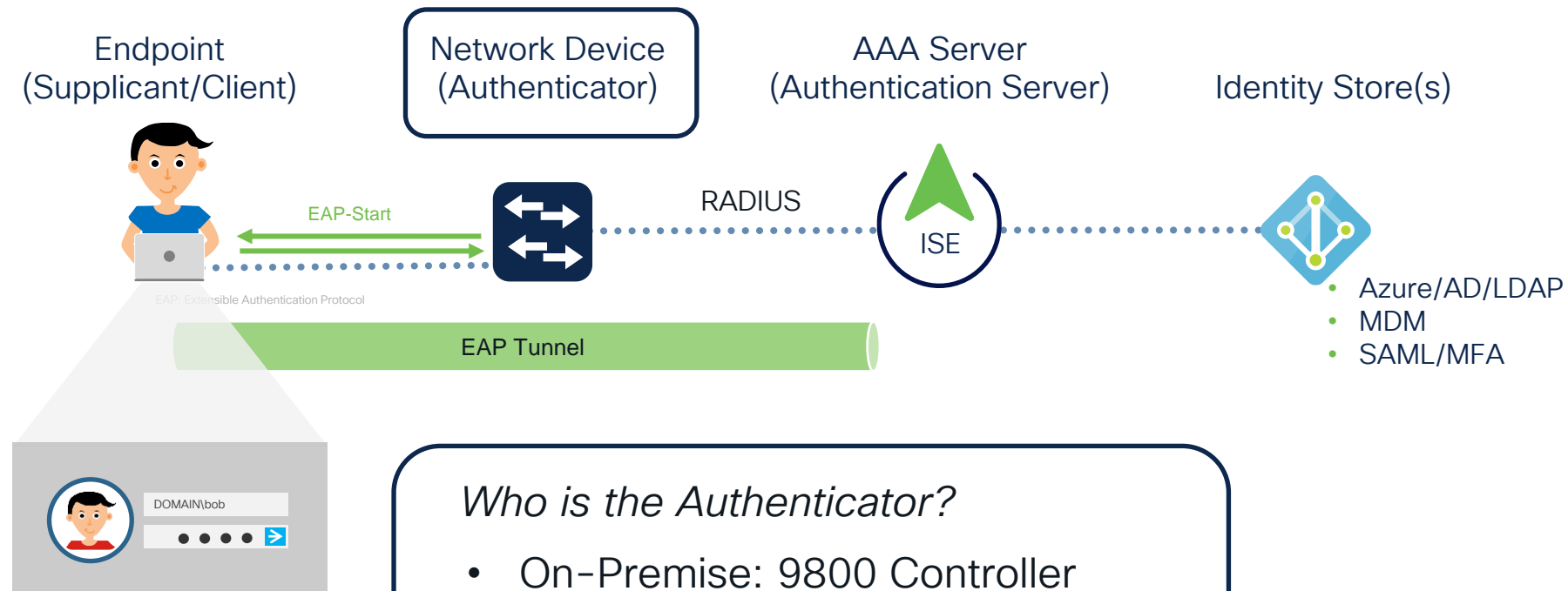


Share

Context with partners for enhanced operations



IEEE 802.1X Fundamentals



Who is the Authenticator?

- On-Premise: 9800 Controller
- FlexConnect: Access Point
- Meraki Dashboard: Access Point

ISE is the Centralized Policy manager for Access Control & Micro-Segmentation



Catalyst Center

Security Group Tag



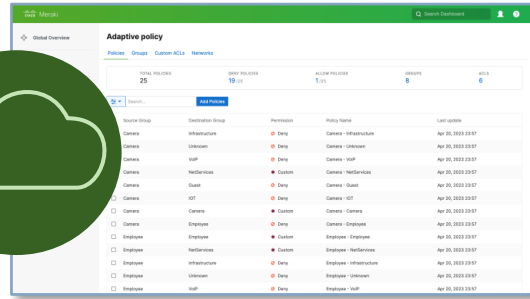
TrustSec



Adaptive Policy



Meraki Dashboard



ISE: Common Policy Engine across Network Domains!

Active Probes: DHCP | DNS | HTTP | RADIUS | NMAP | SNMP | AD

Device Sensor: CDP | LLDP | DHCP | HTTP | H323 | SIP | MDNS

Wi-Fi Analytics: Firmware, HW_Model, Manufacturer, OS_Version, Vendor OUI

pxGrid: CyberVision (for Industrial endpoints)

ISE gathers context from network devices and endpoints



INTEGRATIONS



Catalyst Center

- Group-based policy
- Group-based policy analytics
- SDA Fabric Networks (LISP/EVPN)
- AI Endpoint Analytics

pxGrid

COMMON

- AAA (Wired/Wireless)
- BYOD (Wireless)
- Guest Access (Wired/Wireless)
- Access Control (Wired/Wireless)
- Device Administration
- Context Exchange
- User defined network
- IoT Onboarding (Wired/Wireless)

Meraki connector



Meraki Dashboard

- Group-based policy
- Adaptive Policy
- Meraki Dashboard policy scale and flexibility upgrade

...and builds database of endpoints with their attributes

Device Type	Camera	IP-Phone	Laptop	Laptop
Manufacturer	Arlo	Cisco	Apple	Lenovo
Mode	Pro Wireless Cam	7980	MacBook Pro	Thinkpad 540
OS	Linux	IOS	macOS 13.0.1	Windows Enterprise

ISE classifies this data into Endpoint Profile

ISE is a **COMMON** Policy Engine providing **visibility** and **control** across your network domains

Catalyst Center > Policy > AI Endpoint Analytics

Overview | Endpoint Inventory | Trust Score | Profiling Rules | Hierarchy

Total Endpoints 28

Unknown	0 (0%)
Partially Profiled	28 (100%)
Fully Profiled	0 (0%)

Trust Score **PREVIEW** Manage sources

AI Proposals

Last Proposed: Jan 25, 2025 2:29 PM

Using crowdsourcing data, we were able to put together some rule proposals that could improve your profile outcomes:

2 New rule(s) for profiling endpoints that may be similar [Review](#)

View AI Endpoint Analytics Results...

Enable ISE & Catalyst Center integration

AI Endpoint Analytics / Configurations

Manage Configurations | Profile Rule Settings | **ISE Configuration** | Trust Analytics | Endpoint Purge Policy | Endpoint Subnet Inspection

ISE Configuration

Endpoint attributes forwarding from Cisco ISE

Enable endpoint attribute forwarding from Cisco ISE to Cisco AI Endpoint Analytics for increased visibility using Cisco ISE probes.

Enabled

Endpoint profile publishing to ISE

Allows publishing Cisco AI Endpoint Analytics profile data to Cisco ISE for authorizing endpoint access to network to and for endpoint control.

Enabled

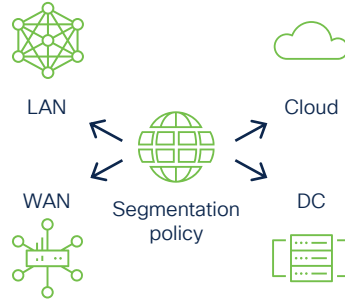
Cisco Differentiation to Build robust network



Visibility & Endpoint Identity

Advanced Profiling **across Catalyst Center, Meraki & ISE** for accurate endpoint classification

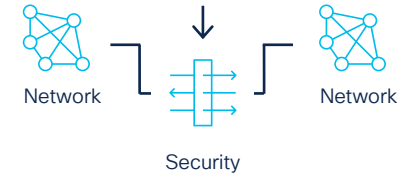
Wi-Fi Analytics: Catalyst 9800 share endpoint specific attributes to ISE, enabling for fast, accurate, and simple profiling of **Samsung, Apple, and Intel** devices



Segmentation & Policy Validation

End-end segmentation with **Common Policy**

Sharing context & KPI with Splunk for threat validation



Threat Containment

Policy-driven steering of high-risk traffic within fabric to Cisco firewalls for stateful inspection

Closed-loop Response with XDR for Threat Containment

Agenda

① Wi-Fi 7 & APs

② Platform Choices

③ Simplified Operation



④ Location Services

⑤ Secure!

⑥ Built in IoT

No single technology can meet all needs

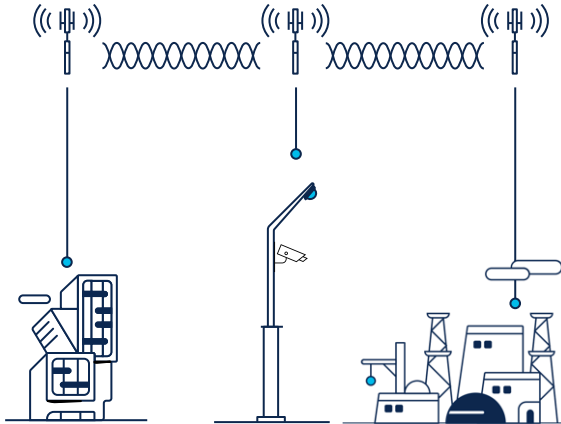


5G, URWB and Wi-Fi are complementary technologies

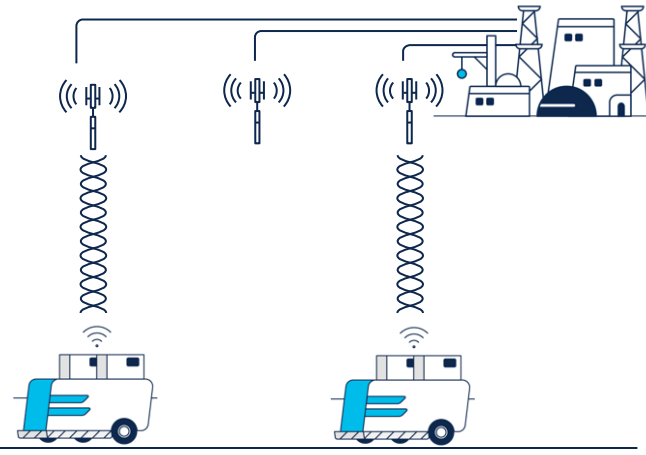
What is Cisco Ultra-Reliable Wireless Backhaul?

Reliable fiber-like wireless connectivity, anywhere

Connectivity where fiber isn't available or is too costly



Connectivity for moving assets



Ultra-reliable

Ultra-low latency
(<10 ms)

Zero loss
Seamless handoffs

Unlicensed
spectrum

Proven · Deploys like Wi-Fi · Full control of your network · Unlicensed spectrum

Examples of reliable wireless use cases

Cisco Ultra-Reliable Wireless Backhaul Use Cases



Physical security

Video/VoIP for emergency stations and security cameras



Theme parks

Dark rides, Wi-Fi



Rail and mass transit

Communications-Based Train Control (CBTC), onboard Wi-Fi, CCTV, VoIP, intercar, femtocells



Campus and education

CCTV, monitoring, security alerts, Wi-Fi backhaul



Manufacturing

Enhanced Autonomous Mobile Robot (AMR) and AGV connectivity for factory floors



Ports and terminals

Terminal Operating System (TOS) and automation to Rubber-Tired Gantry (RTG), Ship-To-Shore (STS), AGV, and tractors



Digital divide

Bridge the gap with unconnected areas



Airports

Vehicle control and dispatch, deicing, CCTV, VoIP



Mining

Fleet Management System (FMS), Autonomous Haulage System (AHS), Teleremote, Video surveillance



Warehousing and logistics

Wireless communications for AGV and Automated Storage and Retrieval (AS/RS) Systems



Power and water utilities

Sensor telemetry, remote monitoring



Oil and gas

Vehicle connectivity, pipeline telemetry, CCTV

Cisco IoT Access Points & Solution

Your network goes wherever you need it



- 50C



+75C



Shock / Vibration



Water



Dust



Industrial certifications
(e.g. EN50155)



Industrial protocols

Outdoor and industrial wireless access points

Wi-Fi 6/6E and URWB



Catalyst IW9167E Access Point

Tri-radio, 4x4
External antenna
IP67, EN50155
Modes: URWB, WGB and Wi-Fi 6/6E

Wi-Fi

URWB

WGB



Catalyst IW9167E-HZ Access Point

Tri-radio, 4x4
External antenna
IP67, EN50155, Class I Division 2
Modes: URWB, WGB and Wi-Fi 6/6E

Wi-Fi

URWB

WGB



Catalyst IW9167E-STA/STA2 Access Point

Tri-radio, 4x4
Built-in directional panel antenna
STA: 75° wide beam, STA2: 35° narrow beam
IP67
Modes: Wi-Fi 6/6E

Wi-Fi



Catalyst IW9167I Access Point

Tri-radio, 4x4
Internal omni-directional antenna
IP67
Wi-Fi 6/6E

Wi-Fi



Catalyst IW9165E Wireless Client and Access Point

Dual-radio, 2x2
External antenna
DIN rail compact form factor, IP30,
EN50155
Modes: URWB, WGB and Wi-Fi 6/6E

Wi-Fi

URWB

WGB



Catalyst IW9165D Access Point

Dual-radio, 2x2
External antenna
IP67
Modes: URWB and Wi-Fi 6/6E

Wi-Fi

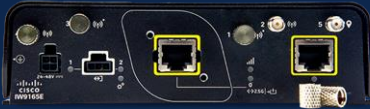
URWB

IW9165E Access Point & Wireless Client (WGB)

Wi-Fi

URWB

WGB



Catalyst IW9165E



Your wireless network, your choice
Wi-Fi 6/6E, Cisco URWB, Workgroup Bridge (WGB)



Cisco's first dedicated wireless client
Compact DIN rail form factor for easy integration into moving assets, flexible mount position



Industrial certifications & industrial protocol support
Rolling stock, EN50155



AGVs, forklifts, tractors, trucks, cranes and other moving assets in manufacturing, warehouses, ports, rail, roadways

Dual-radio
5 GHz, 5/6 GHz

2x2 MIMO
2 spatial streams

Multigigabit
RJ45 or SFP+

Heavy-duty design
IP67, -40 to +70C
EN50155
Optional M12 adapter

GNSS, BLE, GPIO
IoT radio, scanning radio

PoE+, UPOE or DC powered

Operate IoT Access Points with your Enterprise Network Stack

Wi-Fi mode

Catalyst IW9167 Series

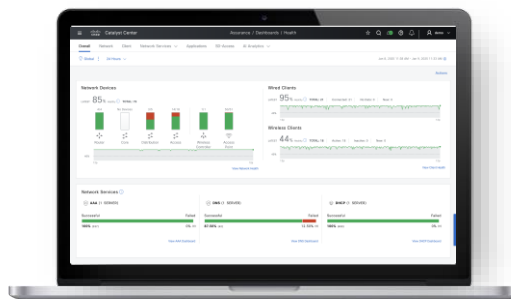


Catalyst IW9165 Series



Wi-Fi mode

Cisco Catalyst Center



Catalyst 9800 Series Wireless Controllers



Optimize resources, reduce spending, and enhance your organization's digital agility with a powerful management system that uses AI to connect, secure, and automate network operations.



Get started with Cisco secure Wi-Fi 7
and Spaces today!

Wondering if we can go deeper? Yes, we can!

Selected intermediate Wireless Sessions per topic during this Cisco Live

Wi-Fi 7 & APs

Tuesday, February 11 | 8:00 a.m.
BRKEWN-2107

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

Tuesday, February 11 | 2:30 p.m.
BRKEWN-2025

Wi-Fi 7 is Here - Are you Ready?

Platform Choices

Monday, February 10 | 4:15 p.m.
BRKEWN-2035

Design your Enterprise Wireless Network with Cisco Meraki

Tuesday, February 11 | 1:00 p.m.
BRKEWN-2094

Successfully Configuring Cisco Catalyst 9800 Series Wireless on Your First Shot

Tuesday, February 11 | 4:30 p.m.
BRKEWN-2339

Catalyst 9800 Configuration Best Practices

Simplified Operation

Monday, February 10 | 4:00 p.m.
BRKOPS-2402

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

Wednesday, February 12 | 5:15 p.m.
BRKEWN-2039

AI Wireless Assurance - when AI meets Cisco Meraki Wireless

Thursday, February 13 | 1:00 p.m.
BRKEWN-2667

Cisco Wireless Supercharged by Catalyst Center: The Ultimate Guide

Location Services

Wednesday, February 12 | 3:00 p.m.
BRKEWN-2718

4 Steps to Unlock Location Based Intelligence from your Wi-Fi Network with Cisco Spaces

Secure!

Thursday, February 13 | 8:45 a.m.
BRKEWN-2104

Understanding Wireless Security and the Implications for Secure Wireless Network Design

Thursday, February 13 | 5:15 p.m.
BRKEWN-2325

Secure Your Cisco Wireless Network with Identity Services Engine (ISE)

IoT

Tuesday, February 11 | 12:00 p.m.
BRKIOT-2365

Unified Wireless for Industries - from WIFI to Private 5G and Beyond

Thursday, February 13 | 10:30 a.m.
BRKIOT-2555

Industrial Wireless for Manufacturing - New Solution

Some session may be full or offer additional delivery times. Make sure to verify in the Cisco Live App and register!

Fill Out Your Session Surveys



Participants who fill out a minimum of 4 session surveys and the overall event survey will get a unique Cisco Live t-shirt.

(from 11:30 on Thursday, while supplies last)



All surveys can be taken in the Cisco Events mobile app or by logging in to the Session Catalog and clicking the 'Participant Dashboard'



Content Catalog

Continue your education

CISCO *Live!*

- Visit Wi-Fi 7 @ the Cisco Showcase in the World of Solutions (Hall 1)
- 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 ciscolive.com/on-demand. Sessions from this event will be available **from March 3**.



Contact me at: mkostede@cisco.com



Thank you

CISCO *Live!*

CISCO *Live!*

GO BEYOND

A series of overlapping, vertically-oriented ovals in various shades of blue, ranging from light to dark, positioned on the right side of the image.