

The background is a vibrant, abstract composition of numerous colorful rays and shapes radiating from a central point. The colors include dark blue, light blue, green, yellow, orange, and red. Some shapes are solid, while others have white circular cutouts. The overall effect is dynamic and energetic.

TURN IT UP

CISCO *Live!*

#CiscoLive



The bridge to possible

Cisco DNA Assurance

Innovations and Real-Life examples

Nigel van der Burg, Platform Specialist Enterprise Networking
BRKEMT-2011

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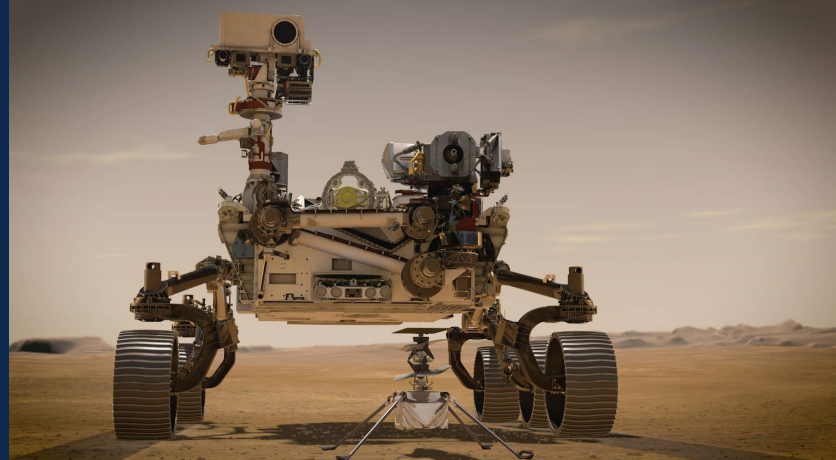




Agenda

- What will you get out of this session?
- Where are we today?
- Wireless Assurance Innovations
- Wired Assurance Innovations
- Conclusion and Take Away

“If NASA can convince us there is life on Mars, I can convince you to try something new in Cisco DNA Assurance.”



My mission statement:

Encourage you to use at least **1** new Cisco DNA Assurance feature.

Where are we
today?



Cisco DNA Center



Cisco DNA Center

Command and control center for intent-based networking

- Complete network management system
- Automation for provisioning
- Analytics for assurance
- Platform for extensibility & integration

Cisco DNA Assurance

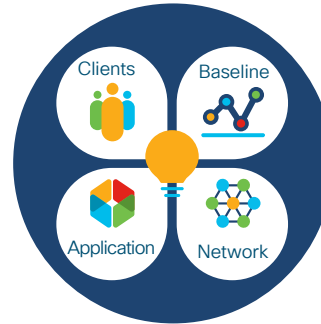
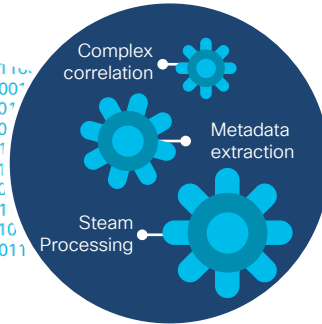
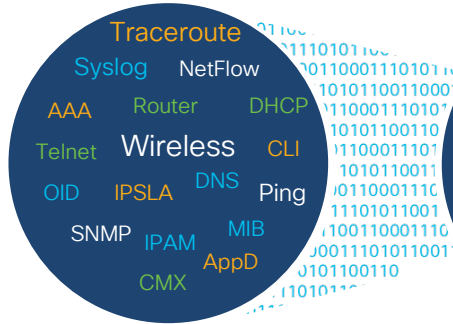
Telemetry and data sources

Network telemetry
contextual data

Complex event
processing

Correlated
insights

Suggested
remediation



Everything as a sensor

Over 150 actionable insights

Clients | Applications | Wireless | Switching | Routing

Cisco DNA Center

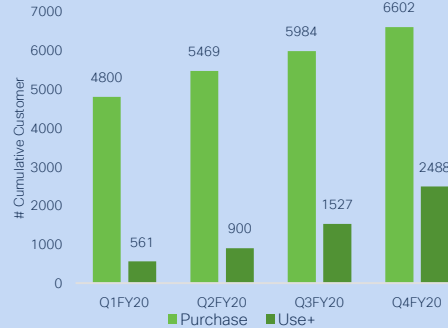
Adoption Momentum

DNA Center Appliances Active



7342

Unique Customers in USE



> 2500

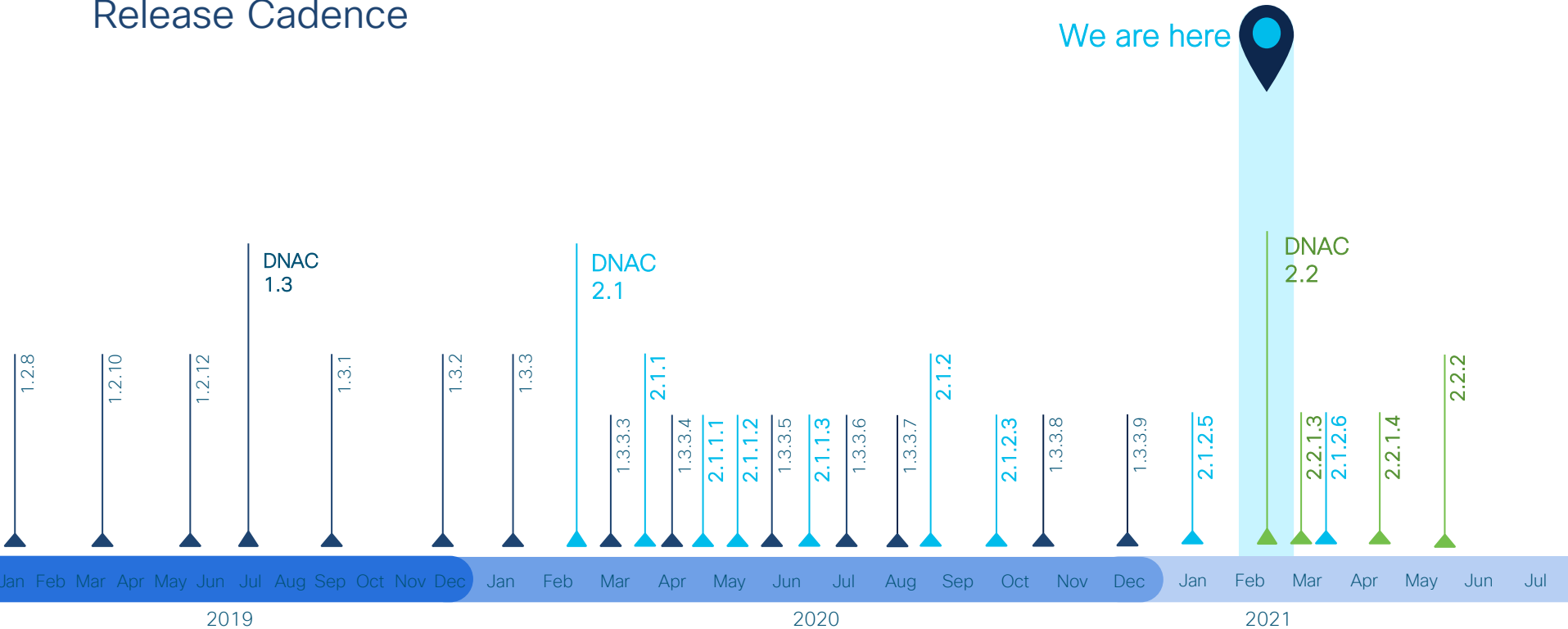
Managed Environments

Network Devices
2.6M

Network Clients
13.9M

Cisco DNA Center 2.2

Release Cadence



What's new in DNAC Assurance 2.1 & 2.2

Cisco DNA Assurance Features Highlights

Wireless Features

- Wi-Fi 6 readiness dashboard
- Cisco Wireless + Apple / Samsung innovations
- Custom Suggested Actions
- Long-term reports and new reports
- AI support for 9800 and 3 new MRE use cases

Wired Features

- Power-over-Ethernet (PoE) Analytics
- Wired Sensor (EFT 2.2.1)
- HA support for Assurance in cluster setup
- SNMPv3 support for Assurance

Cisco DNA Center 2.1.1 (Minimum Software)

Wireless Assurance AP Feature Matrix

Wireless Assurance Feature	WLC	11ac Wave 2 18XX/1540 Series	11ac Wave 2 2K/3K/1560 Series	11ac Wave 2 AP 4800	11ax (911x) 9115 Series	11ax (912x) 9120 Series	11ax (913x) 9130 Series
Wi-Fi 6 Analytics (Phase1)	AireOS	8.10 MR3	8.10 MR3	8.10 MR3	8.10 MR3	8.10 MR3	8.10 MR3
	IOS-XE	17.3.1	17.3.1	17.3.1	17.3.1	17.3.1	17.3.1
iCap - Anomaly PCAP, Scheduled PCAP, AP/Client Stats	AireOS	8.10	8.8 MR2	8.8 MR2	8.10	8.10	8.10 MR3
	IOS-XE	16.12.1s	16.12.1s	16.12.1s	16.12.1s	16.12.1s	17.3.1
iCap - Full Packet Capture	AireOS	N/A	N/A	8.8 MR2	N/A	N/A	8.10 MR3
	IOS-XE	N/A	N/A	16.12.1s	N/A	N/A	17.3.1
iCap - Spectrum Analysis	AireOS	N/A	8.8 MR2	8.8 MR2	N/A	8.10 MR2	8.10 MR3
	IOS-XE	N/A	16.12.1s	16.12.1s	N/A	17.2.1	17.3.1
Apple iOS Analytics	AireOS	8.5	8.5	8.8 MR2	8.10	8.10	8.10 MR1
	IOS-XE	16.12.1s	16.12.1s	16.12.1s	N/A	N/A	17.1.1
Samsung Analytics	AireOS	N/A	N/A	N/A	N/A	N/A	8.10 MR1
	IOS-XE	17.1.1x	17.1.1x	17.1.1x	17.1.1x	17.1.1x	17.1.1

Note:

- This matrix depicts the minimum support required for each of the features.
- Recommendation would be to move to 8.10MR3 for AireOS or 17.3.1 for IOS XE.

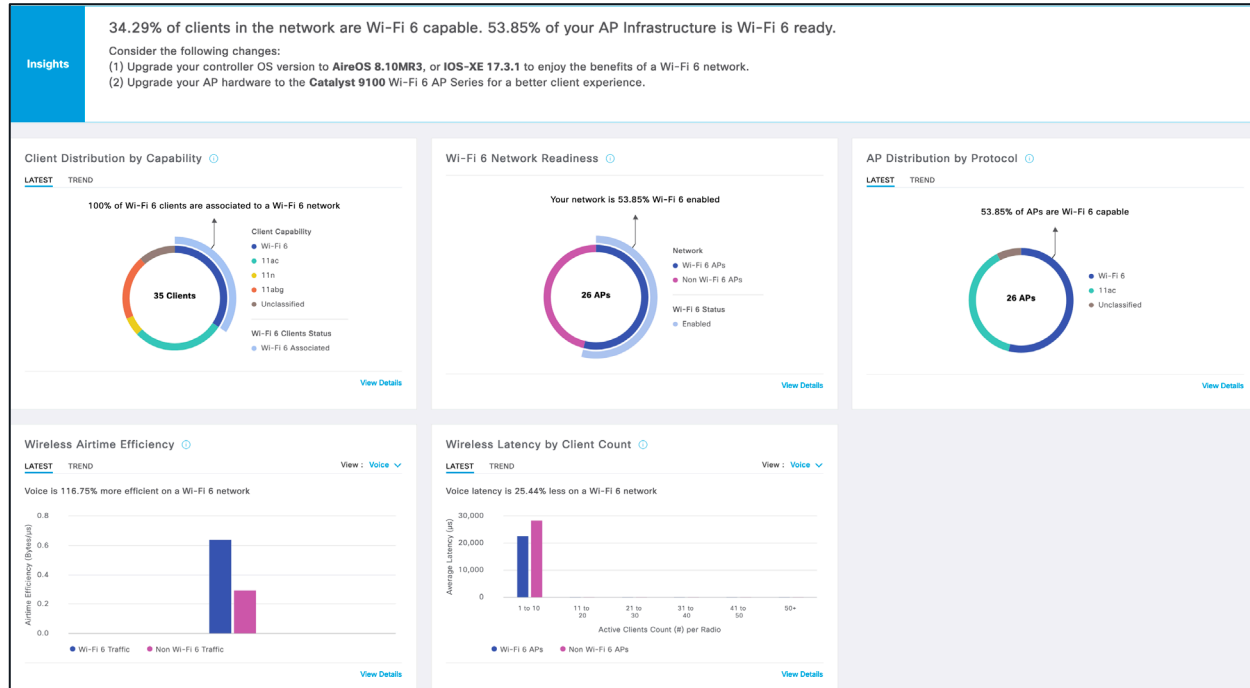
Wireless Assurance

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WiFi-6 Dashboard – Use Cases

- 1) Understanding the Wi-Fi 6 Readiness of Clients & Network Infrastructure.
- 2) Visualizing the benefits of an existing Wi-Fi 6 Network.



WiFi-6 Dashboard

Use Case 1) Client readiness

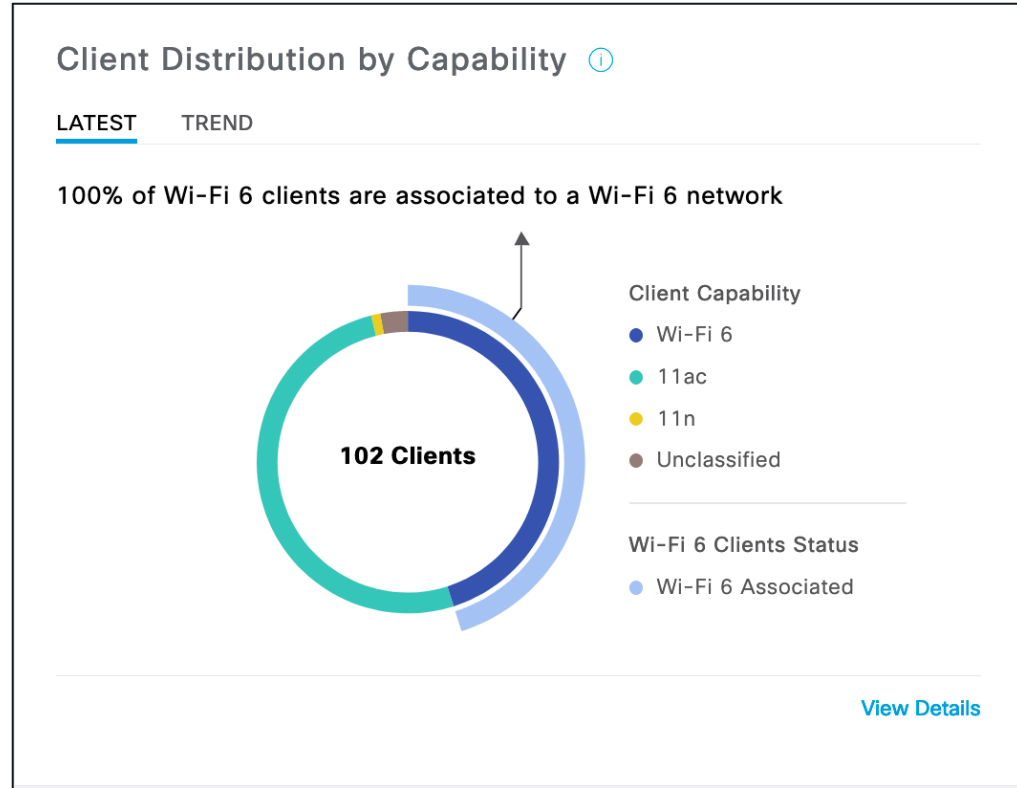
Are your Wi-Fi 6 capable clients using their potential?

Inner circle
wireless capability of clients joined to the network.

Outer circle
did a Wi-Fi 6 capable clients joined a Wi-Fi 6 network?

See it for yourself

Go to -> DNAC Homepage -> Assurance -> Wi-Fi 6 Dashboard



WiFi-6 Dashboard

Use Case 1) Network readiness

How ready is your network for Wi-Fi 6?

Inner circle

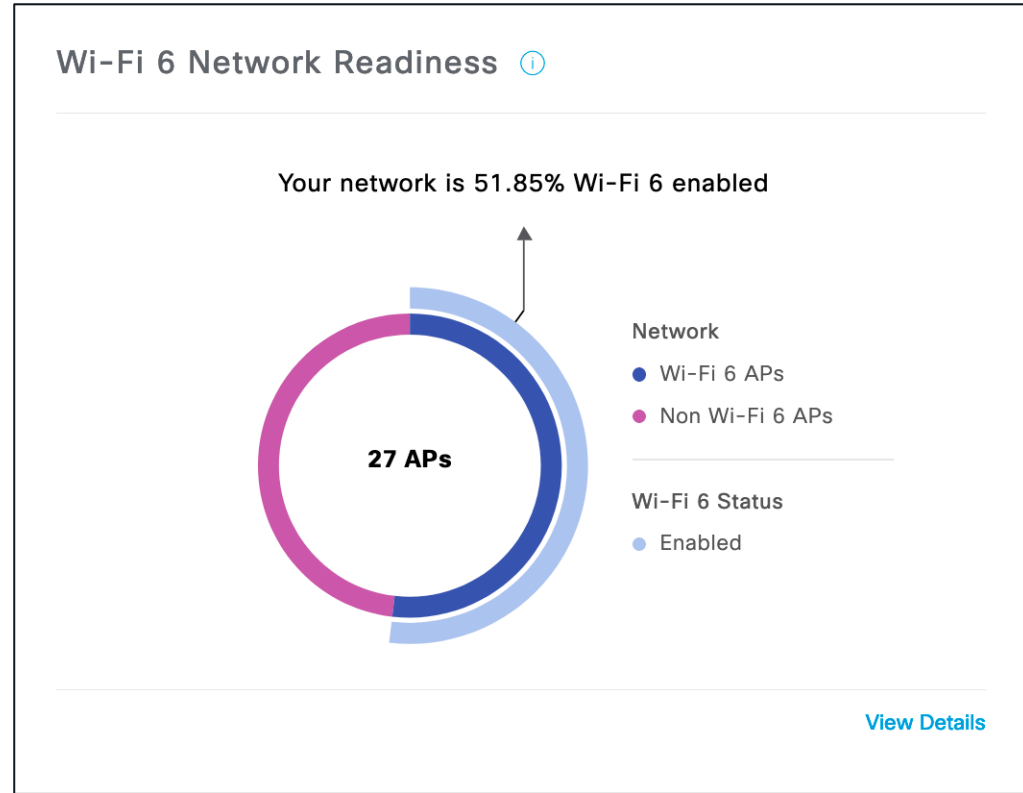
distinction between capable and non-capable Wi-Fi 6 AP's

Outer circle

Is a Wi-Fi 6 capable AP also enabled for Wi-Fi 6?

See it for yourself

Go to -> DNAC Homepage -> Assurance -> Wi-Fi 6 Dashboard



WiFi-6 Dashboard

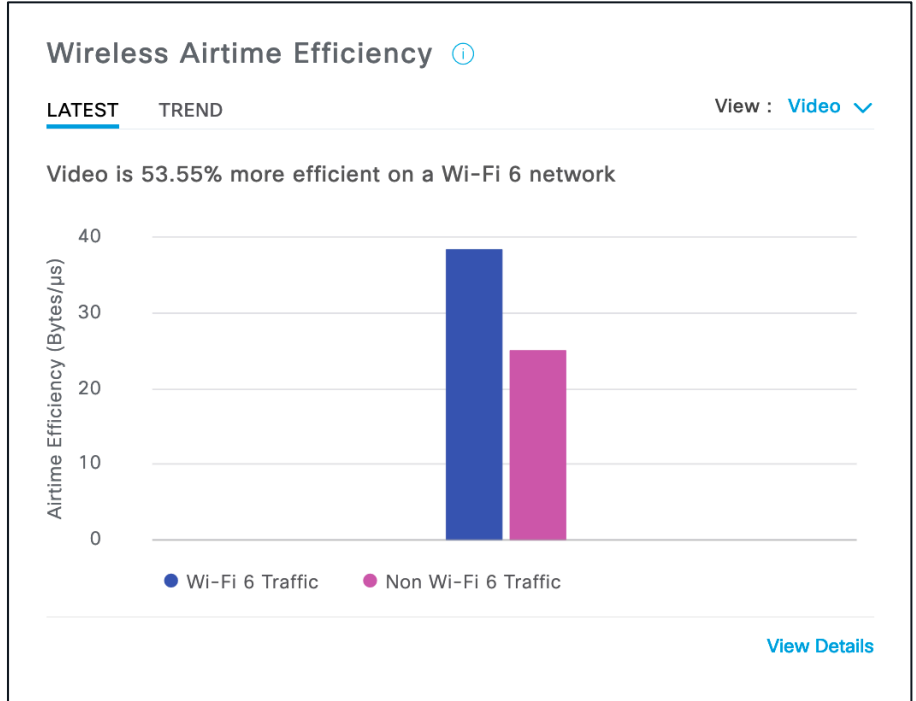
Use Case 2) Visualizing Wi-Fi 6 benefits vs. Older standards

Shows the airtime or latency efficiency of Wi-Fi 6 traffic of Voice, Video, Best Effort and Background versus non Wi-Fi 6 traffic.

Wi-Fi 6 Traffic is between Wi-Fi 6 capable client + AP.
Non Wi-Fi 6 Traffic is between a non-WiFi 6 client and/or AP.

See it for yourself

Go to -> DNAC Homepage -> Assurance -> Wi-Fi 6 Dashboard



Demo Wi-Fi 6 Readiness

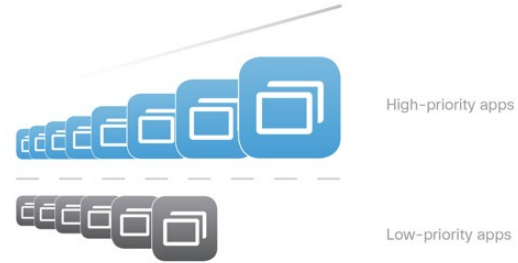
Cisco Wireless & Apple devices

Optimized Wi-Fi Connectivity



Enhanced roaming on iOS devices

Prioritized Business applications



Business data gets priority and speed even if network is congested



iOS and Cisco devices recognize each other and enable special capabilities

Cisco Wireless & Apple devices

AireOS 8.3, 8.3 MR1
iOS 10.0+

Phase 1

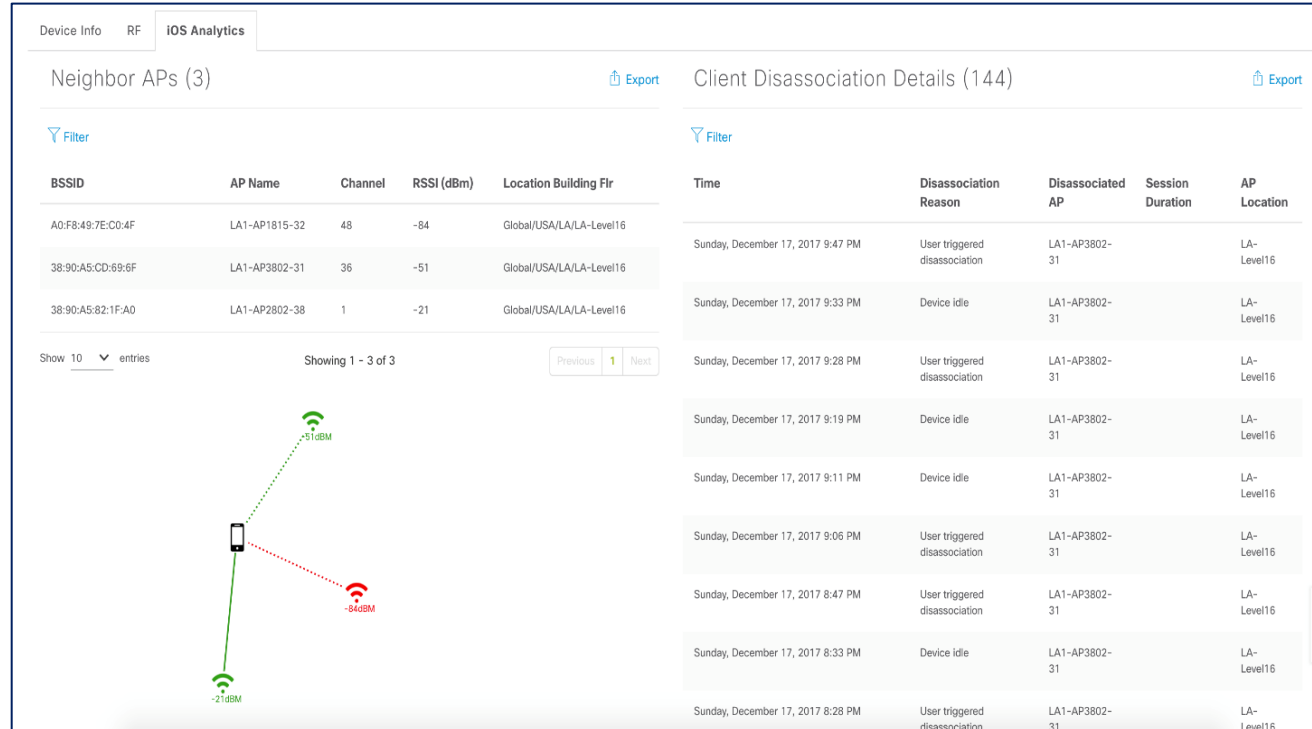
Roaming Optimizations

- **Adaptive 802.11r:** Fast Transition is enabled automatically for iOS 10 clients
- **Auto 802.11k/v:** 11k/v are enabled by default and optimized to provide 'best next AP'

Cisco Wireless & Apple devices

iOS Analytics in DNA Assurance

- Detailed Client device profile information – device model, OS details
- Insights into the clients view of the network
- Provide clarity into the reliability of connectivity – client disassociation details



Cisco Wireless & Apple devices

iOS device support

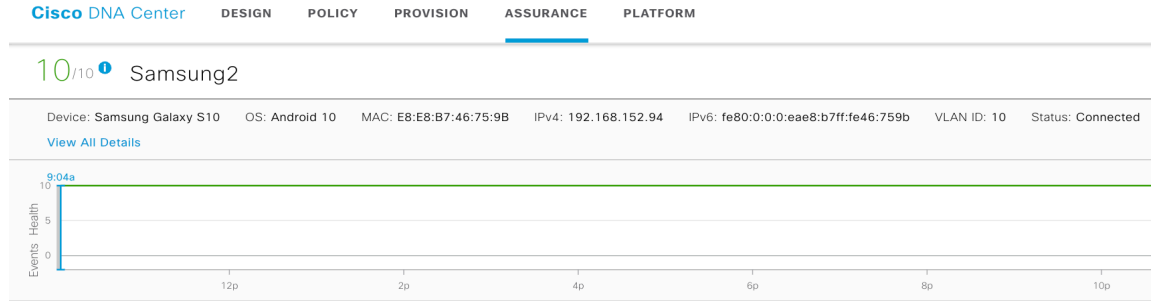
Device Type	iPhone	iPad
Device Hardware	iPhone 7 Internal Name: iPhone9,1 and iPhone9,3	iPad (9.7-inch) 6 th Gen or later Internal Name: iPad7,5 and iPad7,6
	iPhone 7 Plus Internal Name: iPhone9,2 and iPhone9,4	iPad (9.7-inch) 5 th Gen Internal Name: iPad6,11 and iPad6,12
	Or Newer	iPad Pro (12.9-inch, 2 nd gen) Internal Name: iPad7,1 and iPad7,2
		iPad Pro (10.5-inch) Internal Name: iPad7,3 and iPad7,4
Apple iOS Software	11.0 and higher	11.0 and higher
Cisco AireOS Software	8.5+	8.5+
Access Point Support	802.11n/ac APs	802.11n/ac APs

1st Gen, iPad Pro 2015/2016 model (iPad6,3/6,4/6,7/6.8) is not supported

Cisco Wireless & Samsung devices

Enhanced client insights

- Detailed Client device profile information – device model, OS details



- Provide clarity into the reliability of connectivity – client disassociation details

Event Viewer

Filter

Find

Mar 6, 2020			
>	● Authenticating	AP:C9120.D244 WLC:C9800_1 WLAN:@CorpSSID_98	1:06:10.612 PM - 1:06:10.613 PM
>	● Authenticating	AP:C9120.D244 WLC:C9800_1 WLAN:@CorpSSID_98	12:36:10.174 PM - 12:36:10.175 PM
>	● Onboarding	AP:C9120.D244 WLC:C9800_1 WLAN:@CorpSSID_98	12:06:09.502 PM - 12:06:09.706 PM
▼	● Client Sent Disassociation	Due to EAP Failure - TLS Certificate Error WLC:C9800_1 WLAN:@CorpSSID_98	12:06:04.699 PM
	● Client Sent Disassociation	EAP Failure - TLS Certificate Error	12:06:04.699 PM
>	● Authenticating	WLC:C9800_1 WLAN:@CorpSSID_98	11:35:32.180 AM - 11:35:32.181 AM

Customize Suggested Actions

Create your own issue remediation playbook

- Standardize issue troubleshooting
- Create and run custom suggested actions/playbooks for specific issues
- Use playbook for service desk or first point of issue/ticket handling
- Check out BRKEMT-2013 for API connection

The screenshot shows the 'Custom Playbook' configuration page in Cisco DNA Center. The breadcrumb trail is 'Issues Settings > AP Down > Custom Playbook'. The page title is 'Custom Playbook'. Under 'Custom Playbook Name', the value 'Custom1' is entered. The 'Device Role' is 'Access Point'. Under 'Device Series', several checkboxes are selected: 'All Access Point Series', 'Catalyst 9130AXI Series', '1815I Series Unified Series', '2800E Series Unified Series', '3800I Series Unified Series', and '4800 Series Unified Series'. The 'Suggested Actions' section contains two entries: 'Action 1' and 'Action 2'. Each entry has a 'Add Text and CLI' button. At the bottom right, there are 'Cancel' and 'Save' buttons.

Cisco DNA Center Assurance · Manage · Issues Settings

Issues Settings > AP Down > Custom Playbook

Custom Playbook

Custom Playbook Name
Custom1

Device Role: Access Point

Device Series: ☒ All Access Point Series ☒ Catalyst 9130AXI Series ☒ 1815I Series Unified Series ☒ 2800E Series Unified Series ☒ 3800I Series Unified Series ☒ 4800 Series Unified Series

Suggested Actions

⋮ Action 1 [Add Text and CLI](#)

⋮ Action 2 [Add Text and CLI](#)

[Cancel](#) [Save](#)

Cisco DNA Assurance Wireless innovations

Wrap-up

- Get insight in Wi-Fi 6 **readiness** of your **network** and **clients**
- **Observe** Wi-Fi 6 **benefits** of your voice, video, and other traffic
- Cisco and Apple & Samsung partnership enhance wireless experience
- Use custom *suggested actions* for **standardized** issue playbooks

Got a favorite feature in mind...?

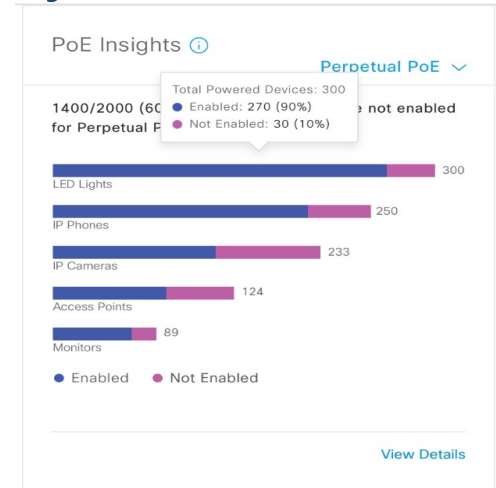
Wired Assurance

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Power-over-Ethernet (PoE) Analytics

- Insight in PoE issues
- Dashlets showing summary PoE information
- Detailed per port PoE information on Switch 360 view



See it for yourself

Go to DNAC Homepage -> Assurance -> Network

Or go to Assurance -> Network -> Switch 360 -> PoE

☰ Cisco DNA Center

Assurance · Dashboards · Health · Device 360

Network > Device 360

Device Info Interfaces Fabric PoE

POWER SUMMARY

As of Feb 19, 2021 5:35 PM

Power Budget	2500W
Used Power	2150.0W
Remaining Power	350W
Power Usage	86%

Demo PoE Analytics

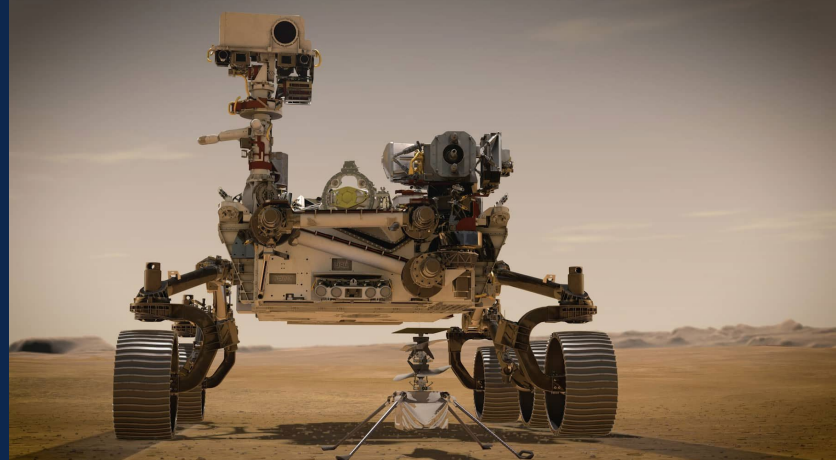
Wired Sensors on Catalyst 9000 (EFT)

- Install sensor software embedded on Cat9K
- Acts as a client

The screenshot displays the Cisco DNA Center Assurance Manage Sensors interface. The top navigation bar includes the Cisco DNA Center logo, the path Assurance > Manage > Sensors, and utility icons for search, help, and status. The left sidebar shows a hierarchy starting with 'Global' and listing locations: Irvine, Los Angeles, Milpitas, and San Jose. The main content area is titled 'Sensor List' and has tabs for 'Wireless' and 'Wired', with 'Wired' being the active tab. A summary bar indicates 'Total: 2' sensors, with 'Running: 1 (50%)', 'Idle: 1 (50%)', and 'Unreachable: 0 (0%)'. Below this is a search bar and a table of sensors. The table has columns for selection, sensor name, status, switch, location, MAB MAC address, SCEP profile, and last seen. Two sensors are listed: one in 'Idle' state and one in 'Running' state, both associated with switch AD1-C9300 and location Global/Milpitas/SJC23.

	Sensor	Status	Switch	Location	MAB MAC Address	SCEP Profile	Last Seen
<input type="checkbox"/>	WCS-52:54:dd:9e:cd:12	Idle	AD1-C9300	Global/Milpitas/SJC23	--	None	Jan 20, 2021 5:03 pm
<input type="checkbox"/>	WCS-52:54:dd:be:c3:57	Running	AD1-C9300	Global/Milpitas/SJC23	52:54:aa:f0:9f:a7	None	Jan 20, 2021 5:03 pm

“If NASA can convince us there is life on Mars, I can convince you to try something new in Cisco DNA Assurance.”



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Continue your education



Demos in the Cisco campus



Meet the engineer 1:1 meetings



Walk-in labs



Related sessions





The bridge to possible

Thank you

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