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The bridge to possible

# Wi-Fi 6E: Because Innovation is the Future, and the Future is Cisco Wireless

Marcela Montalvo, Technical Solutions Architect

PSOEWN-1008



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# Cisco Webex App

## Questions?

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

## How

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

Webex spaces will be moderated by the speaker until June 9, 2023.



<https://ciscolive.ciscoevents.com/ciscolivebot/#PSOEWN-1008>

# Agenda

- Introduction
- What is Wi-Fi 6E?
- Cisco Wi-Fi 6E solution
- Conclusion

# About the speaker

Marcela Montalvo

## Career at Cisco

- Joined Cisco in 2013
- TAC Engineer/Wireless Specialist Americas
- Technical Solutions Specialist – Americas
- 2021 Technical Solutions Architect, Cisco Spaces

## Likes

- Barranquilla, Colombia
- Mom
- Traveling
- Family

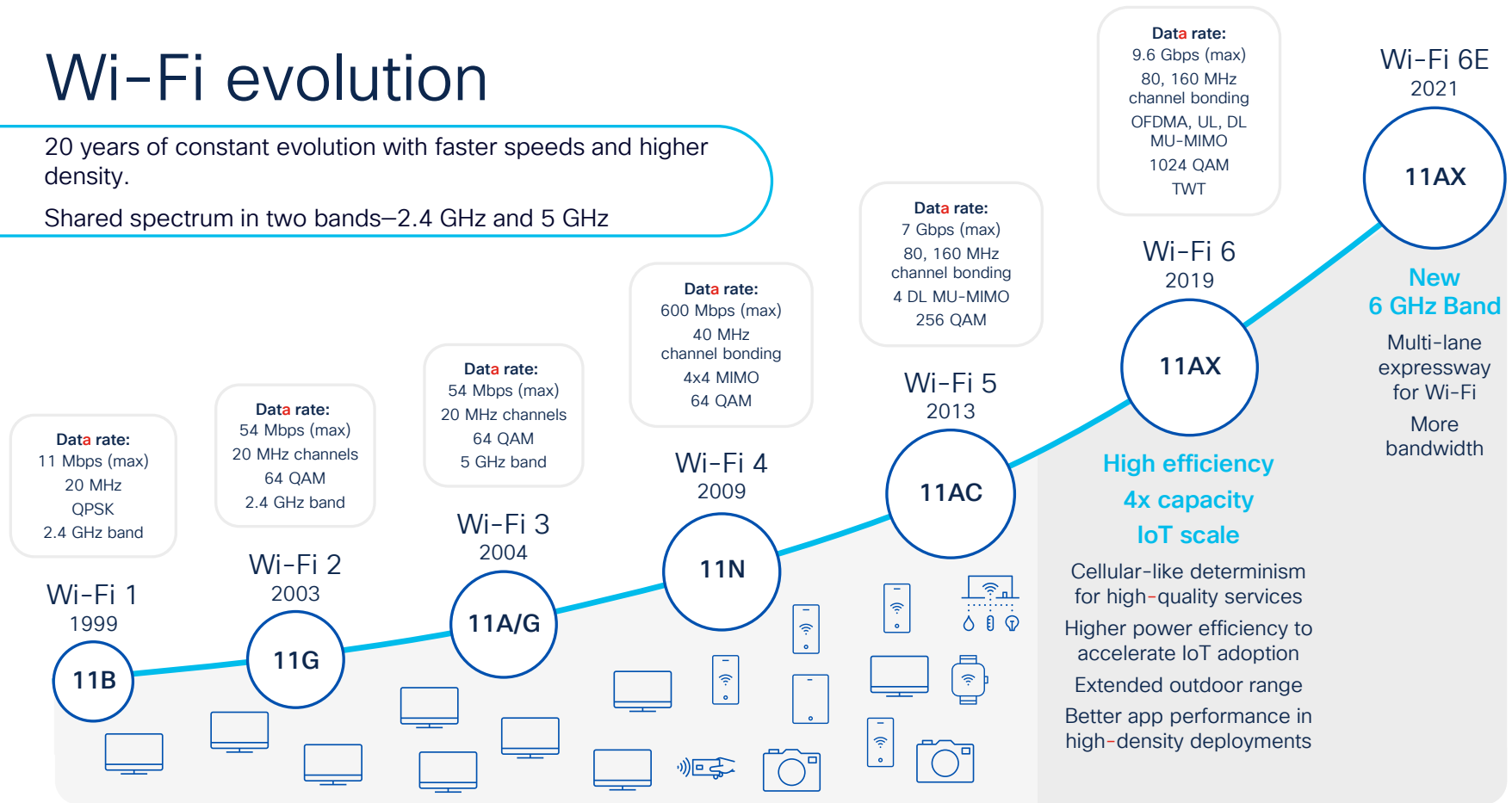


# What is Wi-Fi 6E?

# Wi-Fi evolution

20 years of constant evolution with faster speeds and higher density.

Shared spectrum in two bands—2.4 GHz and 5 GHz







Faster speeds. Lower latency.  
Better user experience.











# 6 GHz solves the “Wi-Fi traffic jam”

2.4 and 5 GHz are congested,  
and must support old clients



6 GHz is twice as wide as  
5 GHz and only allows new, fast clients



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

# Yes, for real!

## Before Wi-Fi 6E



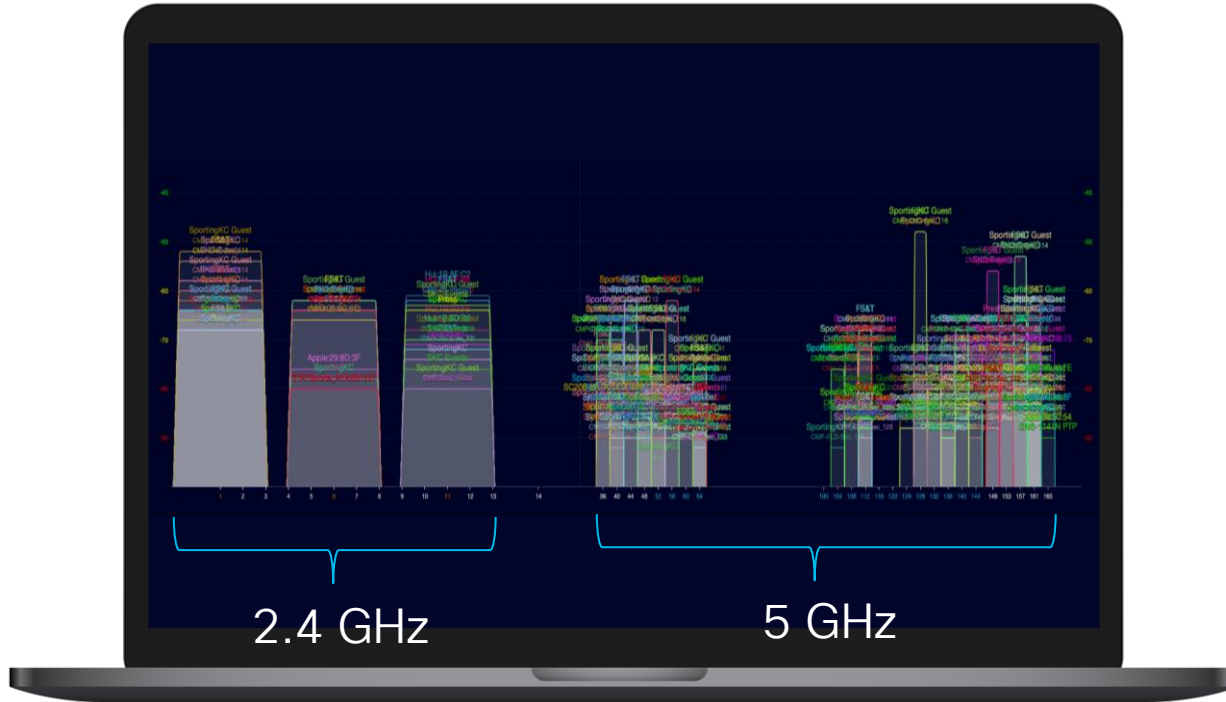
Limited reusable channels  
Channels congestion  
Interference

## Wi-Fi 6E

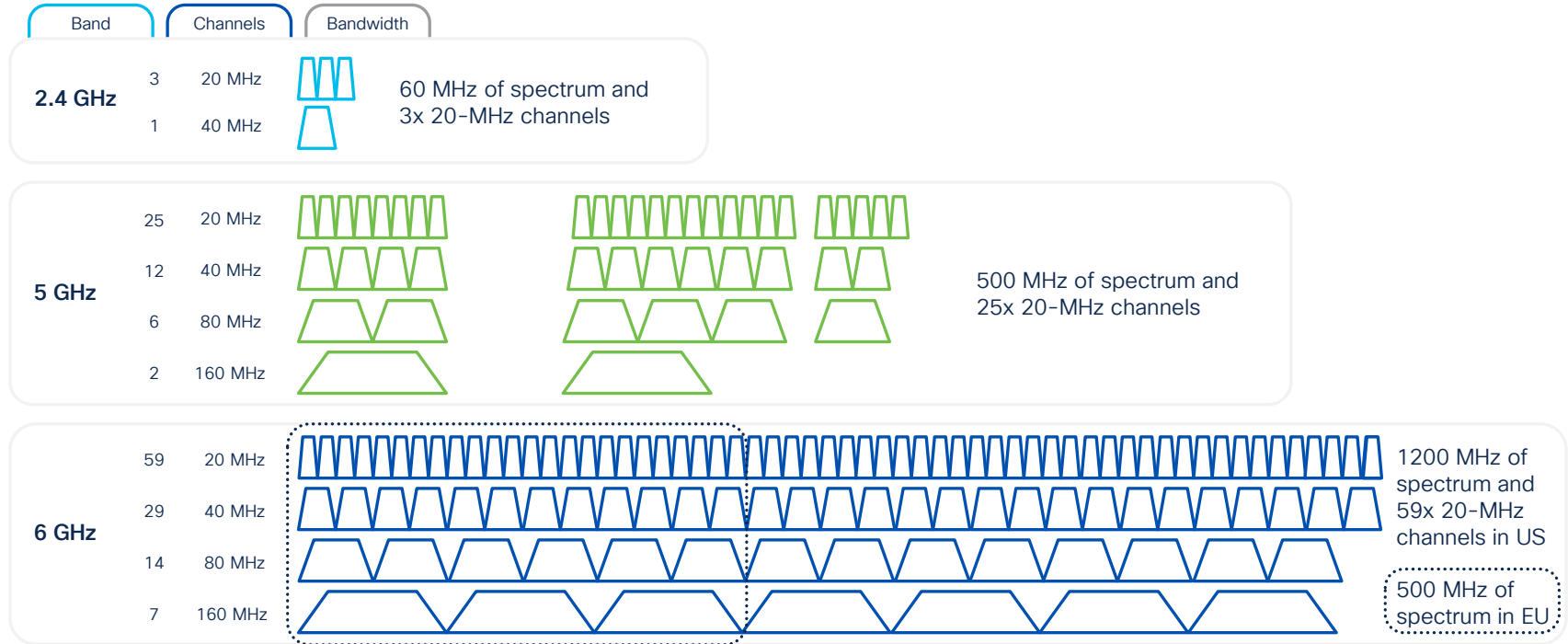


More spectrum  
Wider channels  
Clean RF

# Not just theory



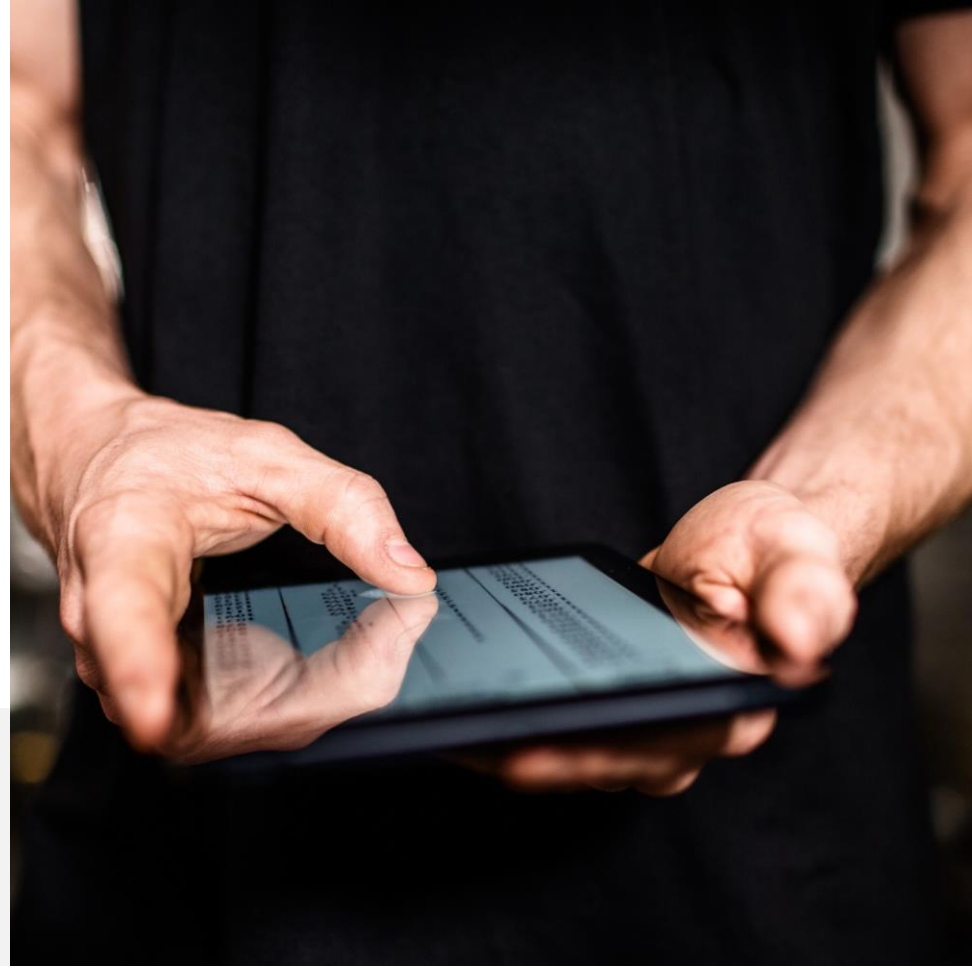
# 6 GHz is the biggest Wi-Fi spectrum expansion ever



# Secured by Wi-Fi Protected Access 3



Wi-Fi Protected Access 3 (WPA3) is mandatory with 6E, and includes Simultaneous Authentication of Equals (SAE), Protected Management Frames (PMF), and 192-bit keys





# Enhanced experience through Wi-Fi 6E

## Education



AR/VR/XR  
learning, e-learning,  
digital education

## Public venues



High-resolution video,  
cellular offload,  
Wi-Fi calling, new  
audience experiences

## Hybrid workspaces



Digital collaboration  
(video conference,  
digital white boards,  
etc.), teleworking

## Healthcare



Telemedicine, robotics,  
smart IoT devices  
and wearables,  
asset tracking

## Manufacturing



Automated and  
digitized operations  
and supply  
chain, robots

Capacity/bandwidth

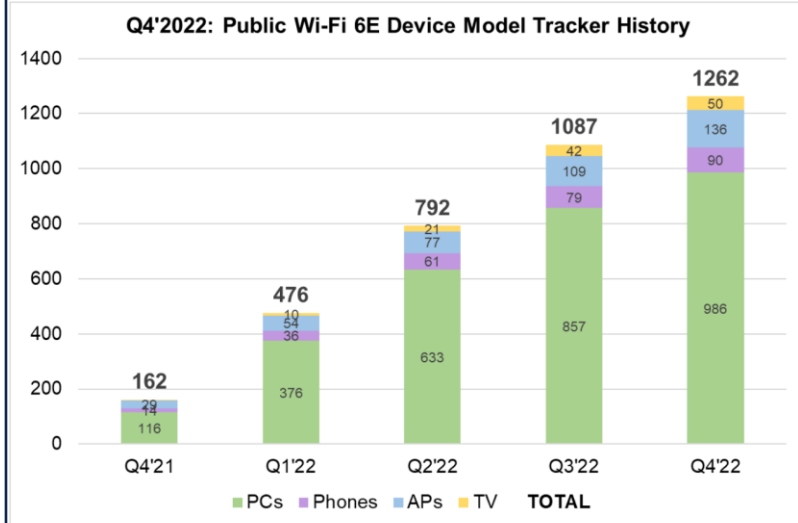
High density

Performance

Low latency

# Wi-Fi 6E client device ecosystem

January 31, 2023 | BREAKING NEWS | by Claus Hetting, Wi-Fi NOW CEO & Chairman



Above: Wi-Fi 6E device tracking summary is public information compiled by Intel from vendor websites, press release announcements, and third-party device reviews. Intel provides this assessment for informational purposes only, cannot guarantee its accuracy, and it is subject to change without notice.

Source: [Wi-Fi Now, January 2023](#)



Apple



Samsung



Chrome



Xiaomi



Google



Zebra

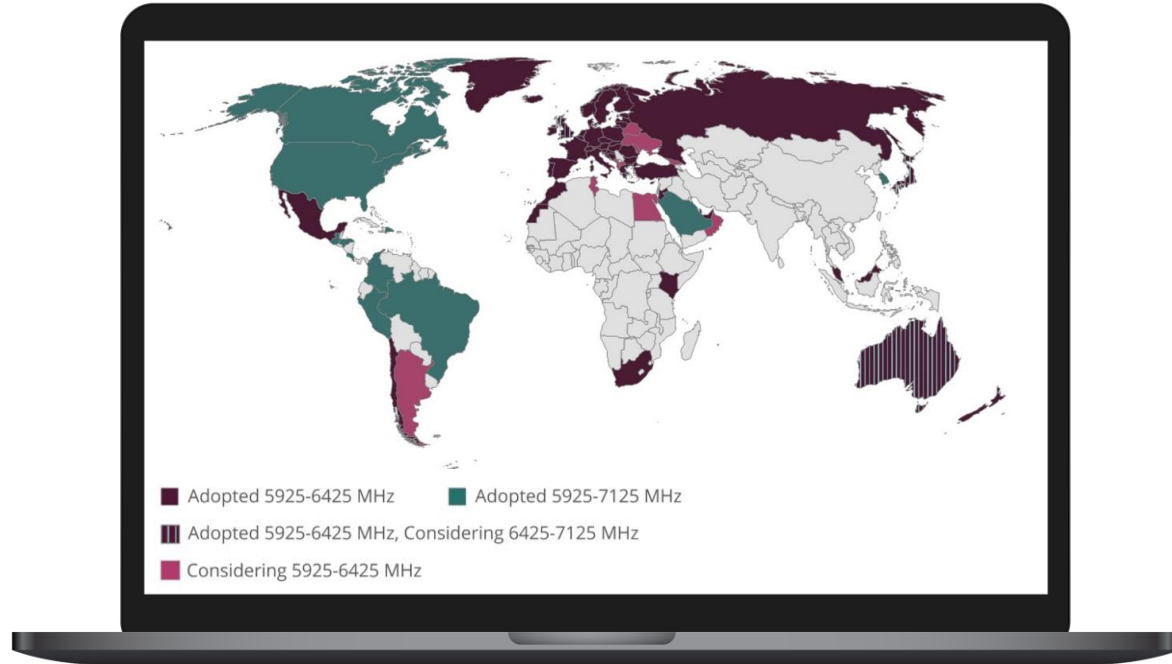


Wi-Fi 6E chipsets



Laptop (Intel)

# Global availability of 6 GHz band for Wi-Fi



[wi-fi.org/countries-enabling-wi-fi-6e](https://www.wi-fi.org/countries-enabling-wi-fi-6e)

# Cisco Wi-Fi 6E solution

Catalyst Wi-Fi 6E

One family of  
access points



# New Wi-Fi 6E access points

One product, two management modes



DNA mode

C9800 and Cisco DNA  
Center stack



 Meraki

Meraki mode

MR dashboard stack

# Industry's best, broadest, and most energy-efficient Wi-Fi 6/6E portfolio



↔ Management mode can be changed



# Introducing the CW9166D1 Series



Wi-Fi 6E Internal Directional Antenna AP

# Cisco's complete Wi-Fi 6E and Wi-Fi 6 wireless stack



Cisco Catalyst™ 9800 Series Wireless Controllers



Cisco Catalyst 9100 access points



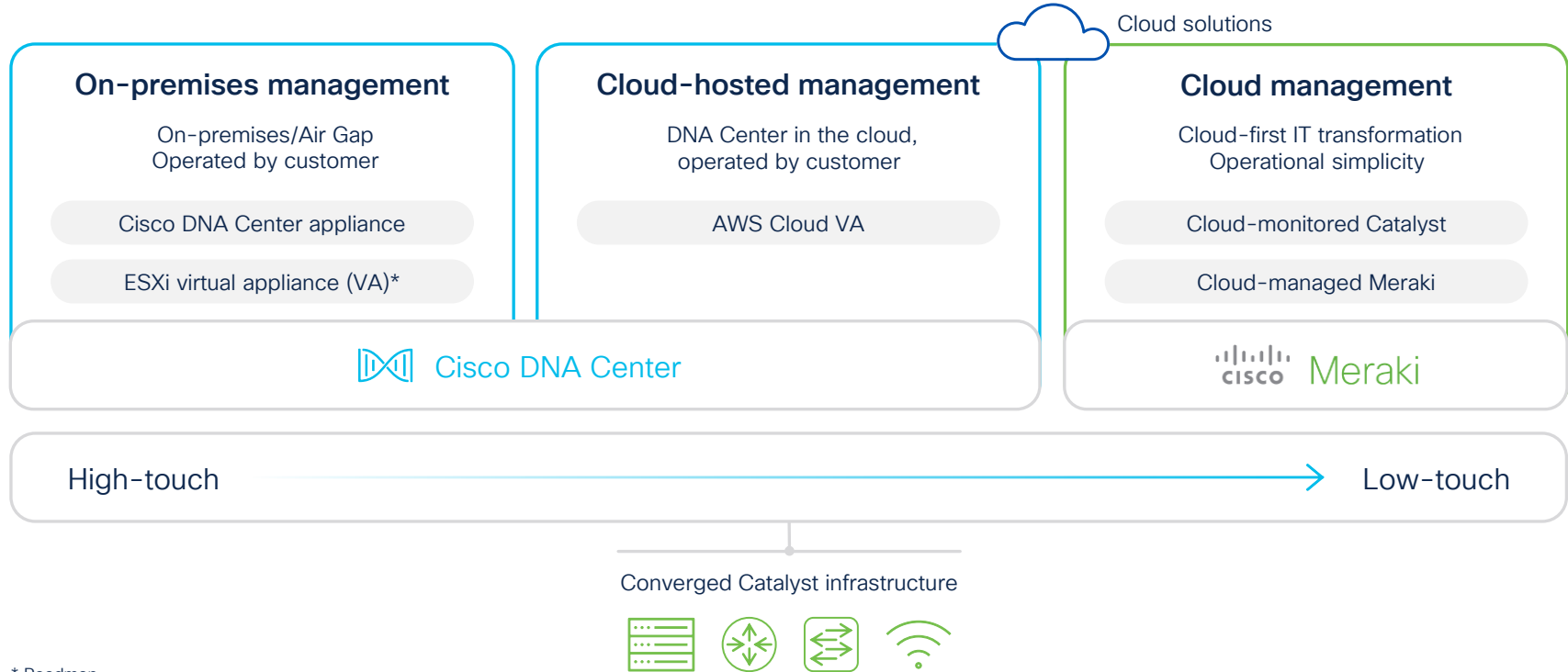
Managed by Cisco DNA Center  
Translate business intent into network policy  
and capture actionable insights



Digitized by Cisco Spaces  
Digitize people, spaces, and things

## Full-stack network intelligence

# Your IT operation model, your way

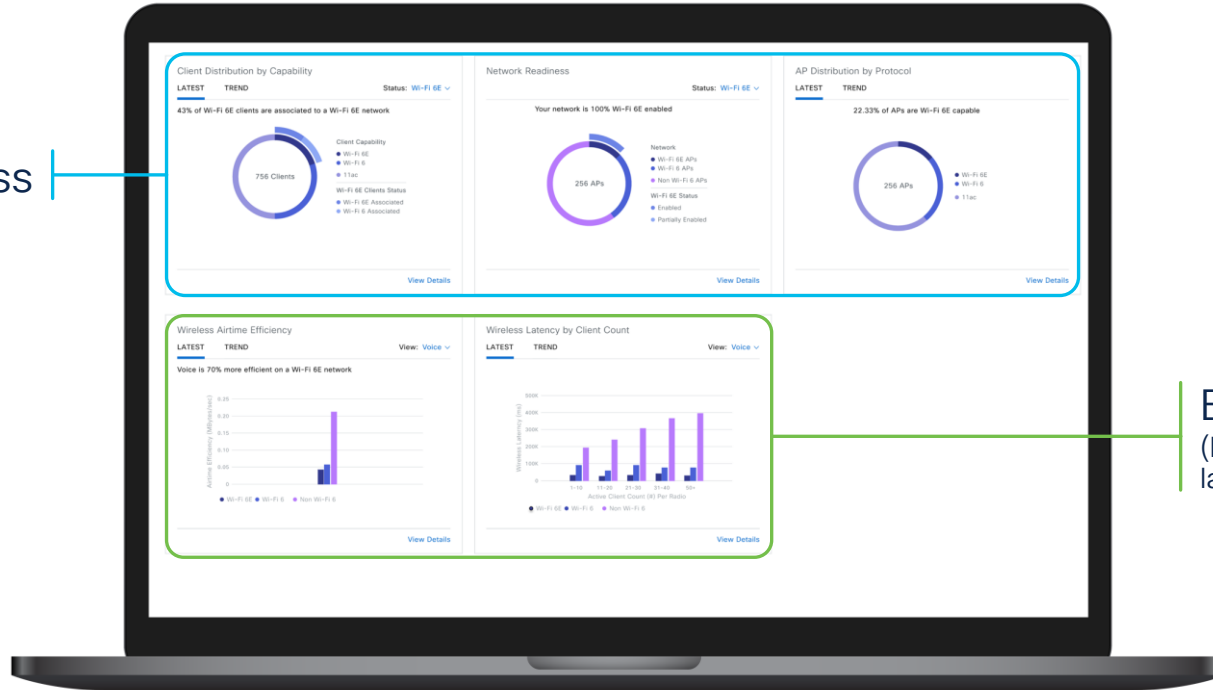


\* Roadmap

# Cisco DNA Center: Wi-Fi 6E/6 Dashboard

## Readiness and benefits of 6 GHz

Readiness



Benefits  
(less airtime / low  
latency equals **good**)

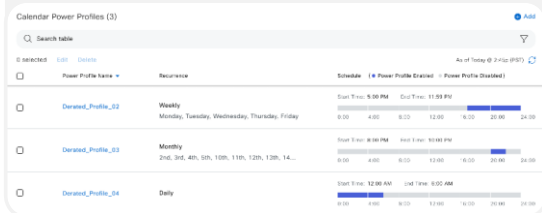
# Catalyst and Cisco DNA Center Power Optimizations feature suite



## AP power save mode

Lower AP power usage

Switch off for off-peak hours  
Lower the power consumption during off-peak



IOS-XE 17.8\*\*



## AP power distribution

Control over how power is used

Reallocate AP power to different radios while operating on PoE+ (30W)  
Example: Disable 2.4G radio → use power for 6G radio

| Sequence | Interface | Interface ID     | Parameter | Parameter Value |
|----------|-----------|------------------|-----------|-----------------|
| 0        | Ethernet  | GigabitEthernet0 | Speed     | 5000 Mbps       |
| 1        | Radio     | 6 GHz            | State     | Disabled        |
| 2        | USB       | USB 0            | State     | Disabled        |

IOS-XE 17.10\*\*



## AP power saving insight

Power, money, and emissions savings on Cisco DNA Center\*

Power savings and feature enables trends on the PoE dashboard  
Trends at global, site, and AP level views



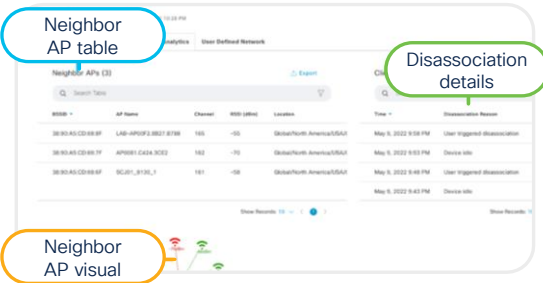
DNA Center integration is on the roadmap  
(Assurance PoE Visibility, visibility of \$ and CO<sub>2</sub>)

\*\*Supported on Catalyst APs: 9115, 9120, 9130, 9136, 9166, 9164, 9162

# Cisco device ecosystem partners

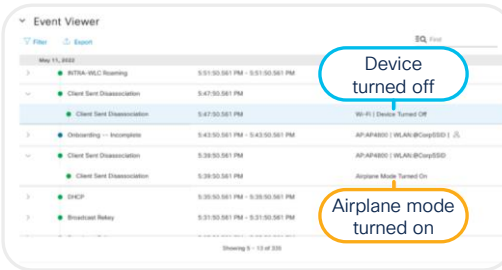


## iOS analytics, Fastlane and Fastlane+



# SAMSUNG

## Analytics



intel

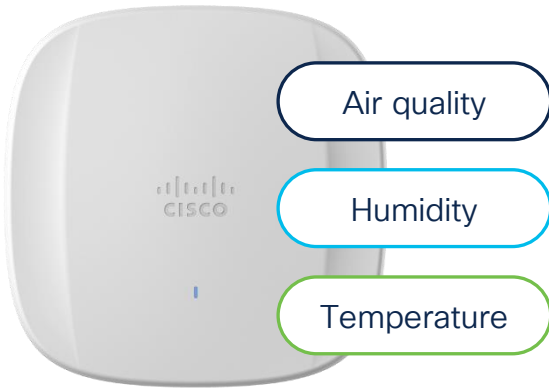
## Connectivity analytics

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

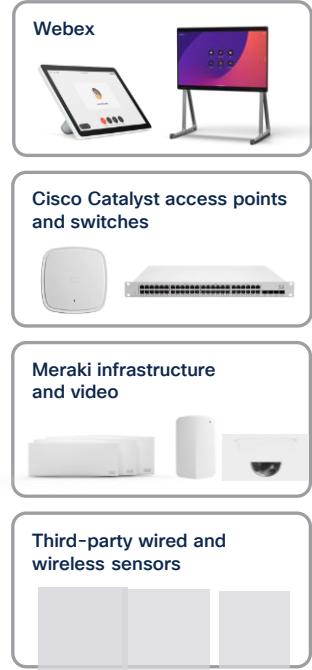
Client-side benefits only available to Cisco wireless networks

# Cisco Spaces

Expand your Wi-Fi 6E solution using BLE and Webex and third-party solutions to create safer and smarter workspaces



Catalyst 9136/9166 APs,  
use with Cisco Spaces





# IoT radio use cases



## Asset tracking

Deploy BLE sensors to track real-time location of high-value devices at an increased accuracy

Leverage one simple platform to understand how assets are being used and where processes could be more efficient



## Environmental monitoring

Real-time monitoring from IoT devices that measure environmental factors, such as humidity, CO<sub>2</sub> levels, air quality, temperature, etc.

Create alerts and reports based on the data recorded from the sensors



## Workspace optimization

Gain insight on workspaces from BLE devices to enhance visitor and employee experience for venues and workplaces

Transform workspaces to increase efficiency and utilization

# Takeaways



# It is all about the experience!

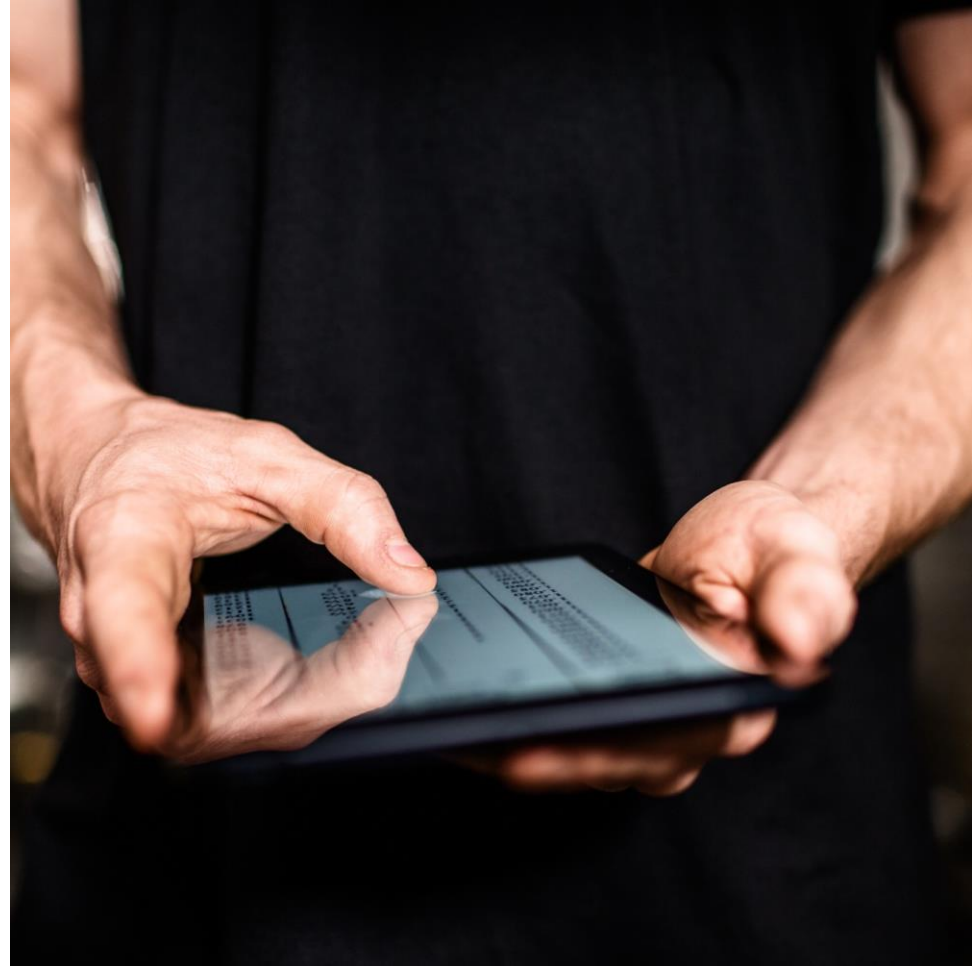


## New technology trends equals new requirements

- With more IoT devices, M2M communication equals high-density and critical communication
- SLA-bound applications, video, and delay-sensitive apps equals the need for less latency, minimal jitter
- VR/AR and high-resolution video equals more throughput



## Additional spectrum, wider channels, security upgrade, clean RF





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## How we can help

### Cisco SD-WAN, SD-Access, Wifi Services

#### Strategy and Solution Discovery

Discover and document business and technical requirements / drive automation and technology transformation roadmaps

#### Optimization and Monitoring

Unleash the full power of WAN, Campus and IOT solutions through advanced network management

#### Assessment

Assess the readiness of your WAN and Campus for hybrid-work strategies

#### Knowledge Transfer

Receive consulting support to drive your automation and DevOps priorities

#### Design, Implement, Migrate

Accelerate success throughout your network lifecycle with automation, micro-segmentation, and security

#### Learning | Certifications

Empower your workforce with efficiency and innovation



Optimize your network



Use and adopt



Protect your business



Accelerate secure networking

**You don't have to do it alone.**

For more insight, visit the Cisco CX Booth (#3310) in the World of Solutions for Lightning Talks and Demos

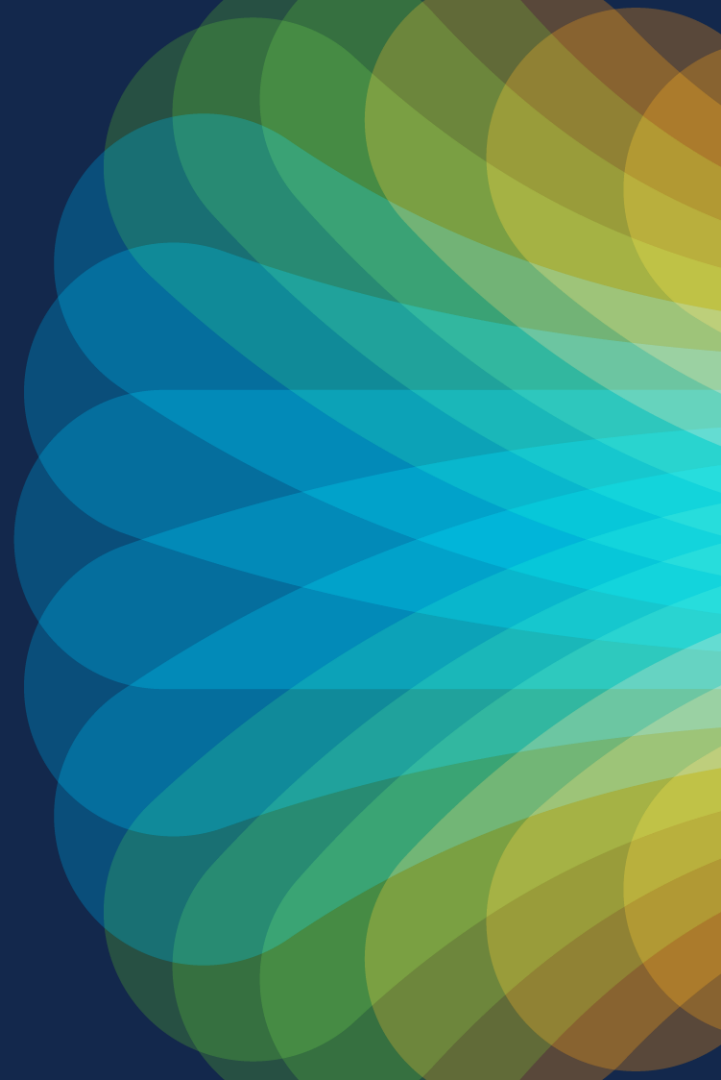


The bridge to possible

# Thank you

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# Fill out your session surveys!



Attendees who fill out a minimum of four session surveys and the overall event survey will get **Cisco Live-branded socks** (while supplies last)!



Attendees will also earn 100 points in the **Cisco Live Challenge** for every survey completed.



**These points** help you get on the leaderboard and increase your chances of winning daily and grand prizes

# Continue your education



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

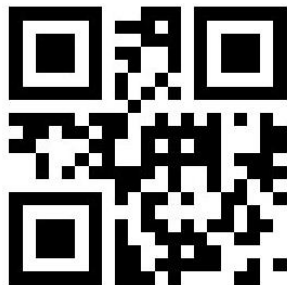


# Cisco Live Challenge

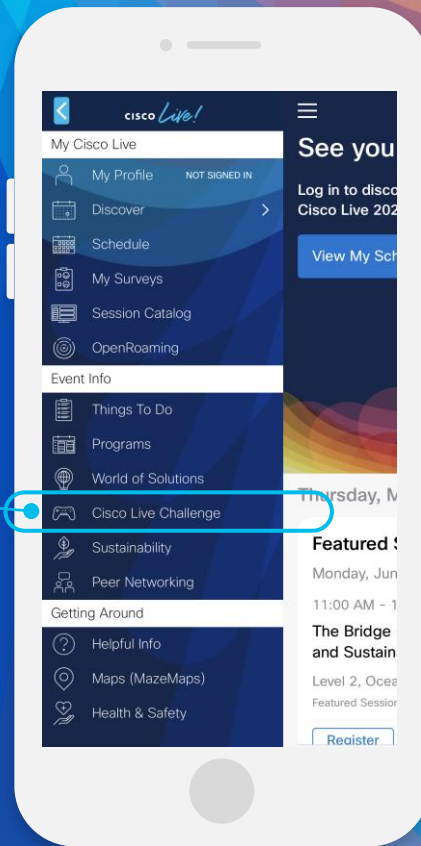
Gamify your Cisco Live experience!  
Get points for attending this session!

## How:

- 1 Open the Cisco Events App.
- 2 Click on 'Cisco Live Challenge' in the side menu.
- 3 Click on View Your Badges at the top.
- 4 Click the + at the bottom of the screen and scan the QR code:



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