

CISCO *Live!*



#CiscoLive



The bridge to possible

How Do Cisco Gamers Stay in the Game?

The Networking Advantage

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CSSGEN-2100

Cisco Webex App

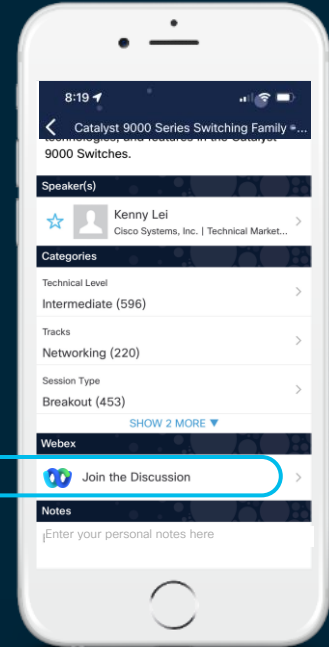
Questions?

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 17, 2022.



<https://ciscolive.ciscoevents.com/ciscolivebot/#CSSGEN-2100>



Agenda

- The Rise of Mobile Gaming
- How Can I Get an OP Connection?
- How Can I Outplay My ISP?
- Is This Lag or Just Brain Lag?
- How Is This Champ Balanced?
- Conclusion

Introduction to the Session

- The concepts of this session are:
 - Gaming as a metaphor
 - Application access as a competitive differentiator
 - Technology pace of change
 - Excited for the future!

Desync...

Posted by u/MattGold_ **Halo: MCC** 3 months ago

Desync got so bad you can now see OTHER PEOPLE'S desync

r/halo · Posted by u/Cve 15 days ago

So I guess desync is here to stay?

r/HuntShowdown · Posted by u/NaNiBy **The Beast Hunter** 1 month ago

r/HuntS

CRYPTEK
ISSUE?

Posted by u/ItsTinyTim **RSASS** 3 years ago

What is desync?

Question

Is it just client-side lag? Server side? A combination of both? Been playing for a year and i don't think i've experienced it. Is it just a fancy word for lag?

Posted by u/The_Chooski 4 months ago

Can someone explain how the desync is still this bad? I thought this was 'fixed'? Side note: I'm hardwired in and regularly sit between 10-15 ping.

r/halo · Posted by u/New_Reserve_9938 8 days ago

thanks desync

The Rise of Mobile Gaming

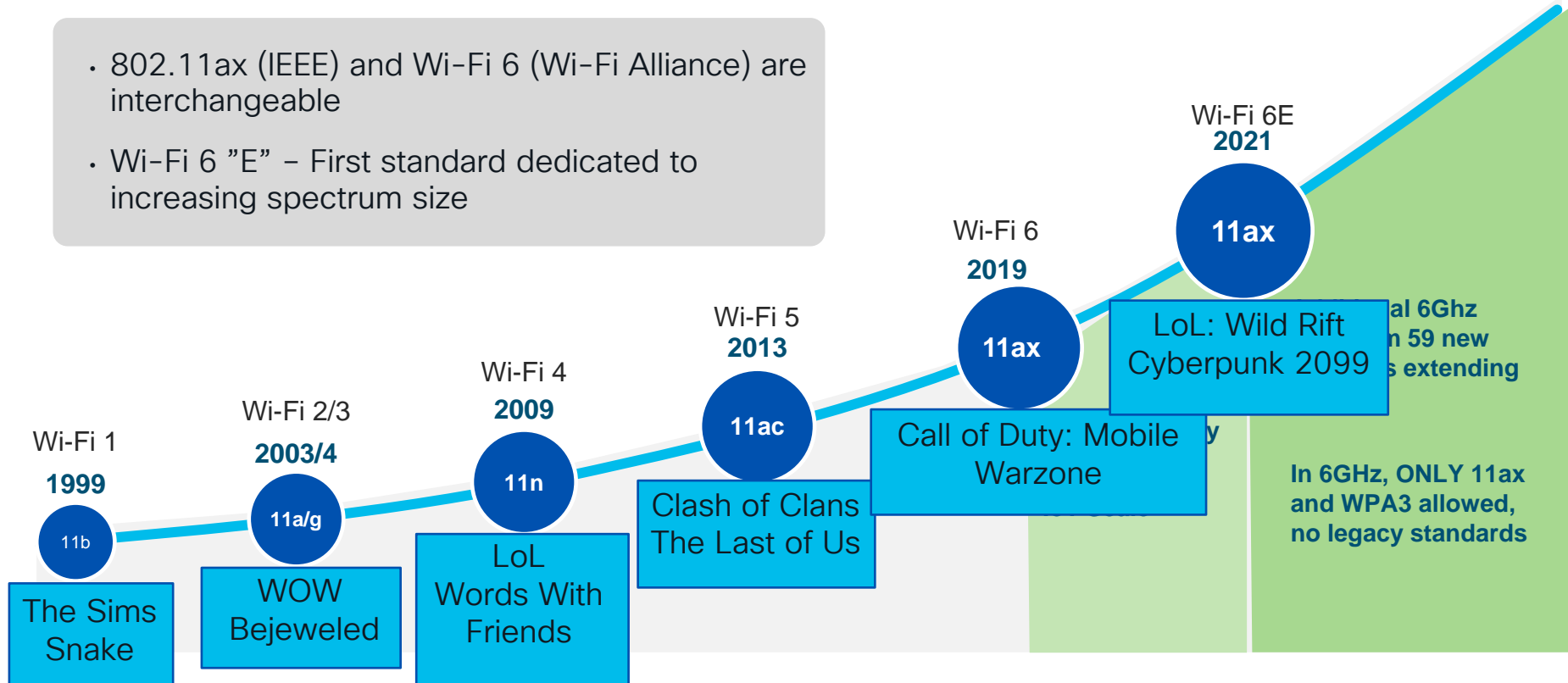
A Brief History of Gaming...



A Long Time Ago
In a Network Not So Far Away

How do I get an OP connection?

- 802.11ax (IEEE) and Wi-Fi 6 (Wi-Fi Alliance) are interchangeable
- Wi-Fi 6 "E" – First standard dedicated to increasing spectrum size



Why is everyone talking about 6E?

Wi-Fi 6 (5GHz)	Wi-Fi 6E (6GHz)
25x 20 MHz *	59x 20 MHz
12x 40 MHz *	29x 40 MHz
6x 80 MHz *	14x 80 MHz
2x 160 MHz *	7x 160 MHz

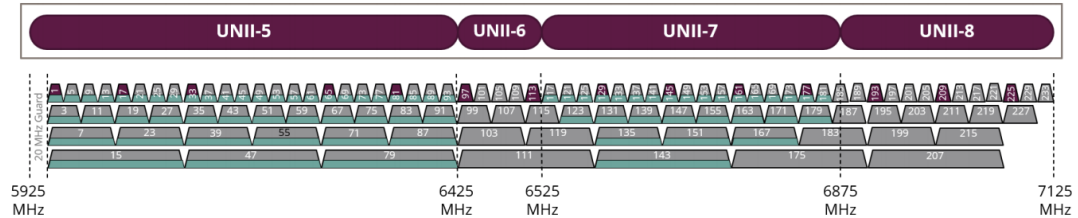
* DFS required

- More spectrum
- Wider channels
- Less interference



- High throughput / capacity
- Extremely low latency
- More reliable Wi-Fi

3x more spectrum!



Why the 6GHz band is important



802.11b/a/g (Wi-Fi 1,2,3)



802.11n (Wi-Fi 4)



802.11ax (Wi-Fi 6)



802.11ac (Wi-Fi 5)



Wi-Fi 6E

How Can I Outplay My ISP?

5G and Network Resiliency

- Key for gaming
 - 5g timeline – standards and deployments
 - how to use 5g for gaming as a backup connection

Why 5G matters



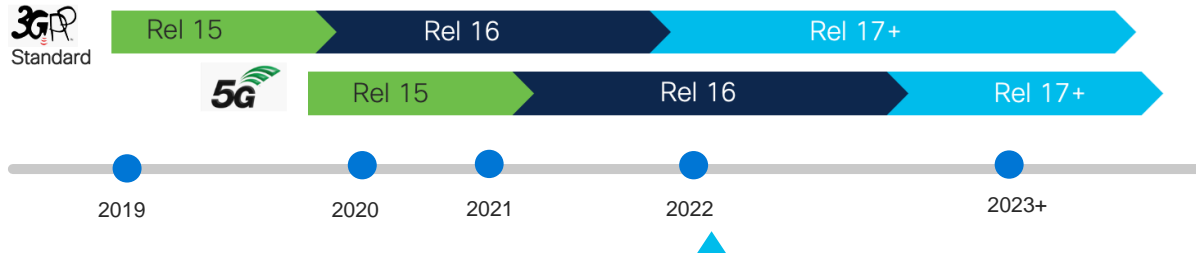
10% to **35%**
Reach/Availability



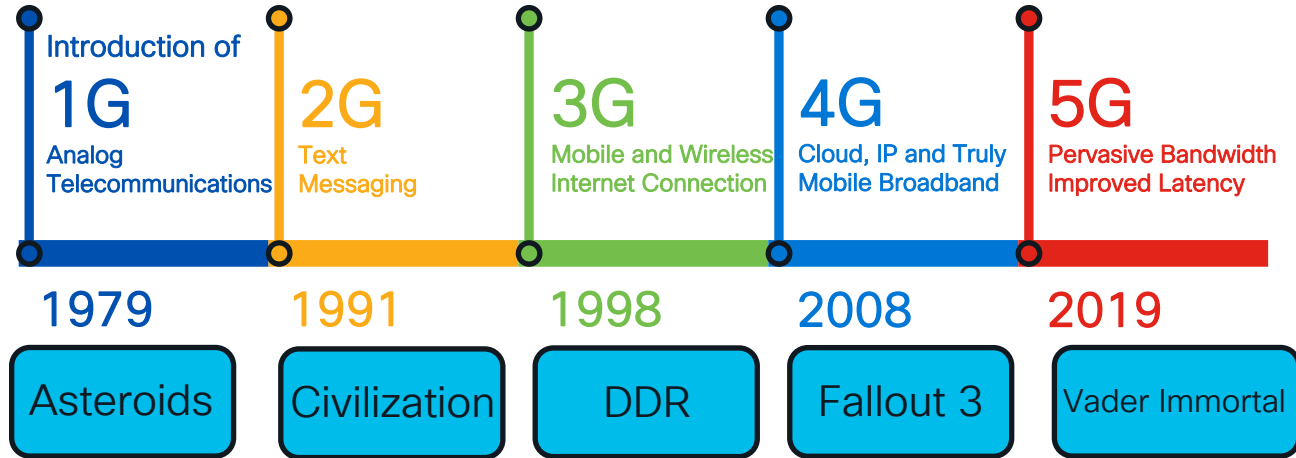
100Mbps – 2Gbps
With Carrier Aggregation



1/10 Latency of 4G
For Low latency Apps



5G Evolution



Is This Lag or Just Brain Lag?

Get your prescription from the network doctor

Doctor! What's my prognosis?!?!



Posted by u/[deleted] 9 years ago

1.2k

NA Down?



Edit: LE FRONTPAGE

Posted by u/TheHopesedge 3 months ago

Server went down?

Discussion & Info

r seems to have gone down for me and friends

Posted by u/catspace32 1 year ago

Are the servers down?

General

I'm getting game server connection failed for the past 5

Posted by u/TheEnigmaBlade 8 years ago

Servers down? Discuss here.

Ziggs

Edit: Servers are up and the show's over, [time to go home](#).

Meraki Dashboard

NETWORK

P-Town House of Horrors

Network-wide

Switch

Wireless

Organization

Search Dashboard

Announcements Help

New in Dashboard: MT sensors have been added to map and floor plans and 8 other features. [Read more.](#)

Meraki has recently updated our list of subprocessors. See the [Meraki subprocessors page](#) to learn more.

Health

SWITCHES

1/1 healthy

WIRELESS

2/2 healthy

Clients

all for the last day

48.24 GB (↓ 24.03 GB, ↑ 24.2 GB)

Applications

More


Policy Search... 23 client devices

Add client

Download As

Status	Description	Last seen	Usage	Device type, OS	Policy	IPv4 address
🟢	ZHAVEN-M-F2DD	Jun 9 13:23	24.04 GB	Other	normal	
🟢	Sonos-347E5C1F55A4	Jun 9 13:23	2.5 MB	Linksys router	normal	
🟢	HPE8DBD103C4C6	Jun 9 13:23	382 KB	HP Printer	normal	
🟢	Sonos-949F3EA6A04E	Jun 9 13:22	1.8 MB	Linksys router	normal	
🟢	eb3e0296-0126-422c-96fd-1cd5bdf8e2bc	Jun 9 13:23	8.27 GB	Mac OS X 10.14	normal	
🟢	Zacks-iPhone	Jun 9 12:25	629 KB	Other	normal	
🟢	Sonos-F0F6C1296940	Jun 9 13:23	350.7 MB	Linksys router	normal	
🟢	Sonos-347E5C968898	Jun 9 13:20	4.0 MB	Linksys router	normal	

Meraki Dashboard



NETWORK

P-Town House of Horrors

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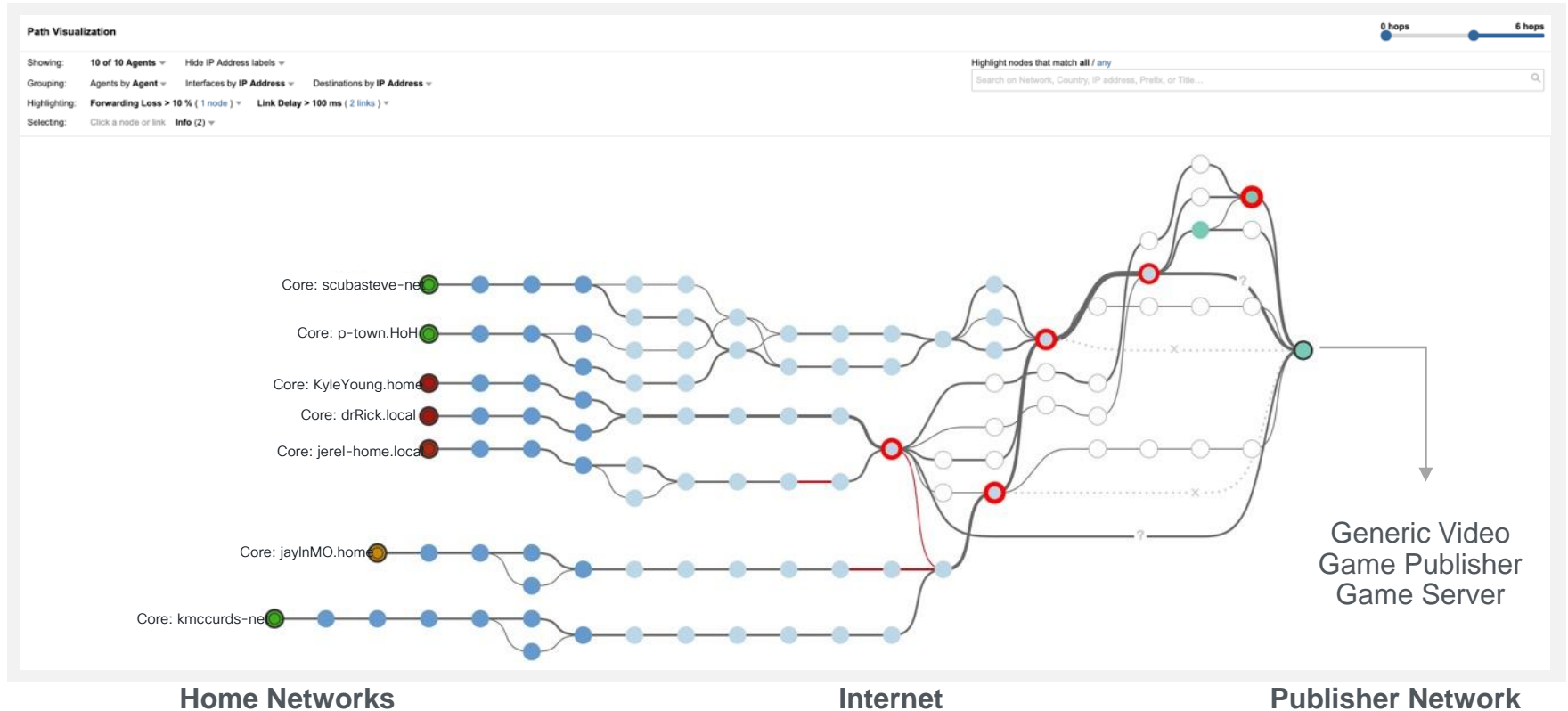
Meraki has recently updated our list of subprocessors. See the [Meraki subprocessors page](#) to learn more.

Group policies

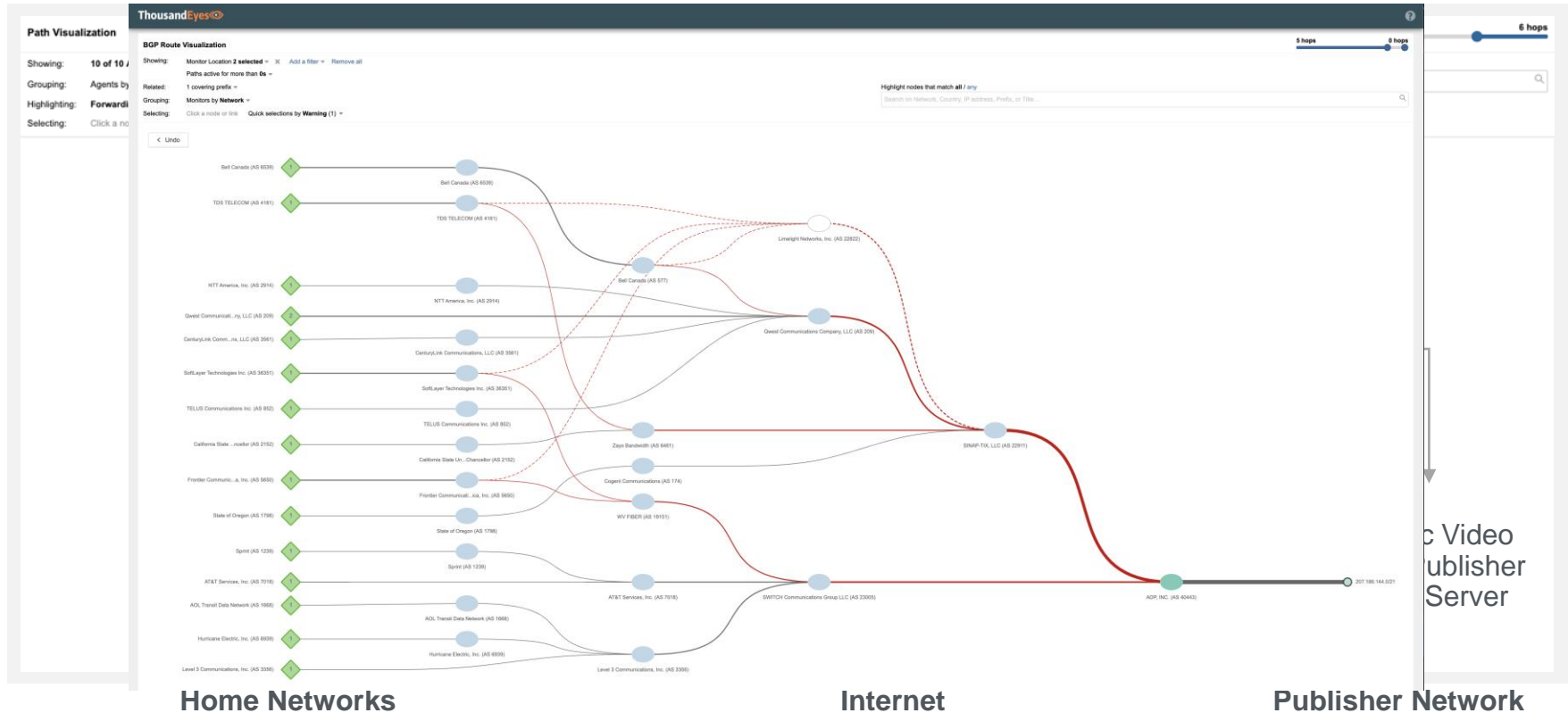
Name	Affecting	Bandwidth	VLAN ⓘ	Splash ⓘ	Bonjour	Traffic	Actions
Bypass Splash	3 clients	Default	Default	Bypass	Default	Default	Clone ✕
To the moooon	2 clients	Default	Default	Bypass	Default	2 rules applied	Clone ✕
Stop stealing my packets	0 clients	1.00 Mb/s up, down	Default	Default	Default	Default	Clone ✕

[Add a group](#)

How does ThousandEyes help?



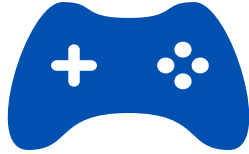
How does ThousandEyes help?



How Is This Champ Balanced?

- Having a good network is the differentiator
- Cisco ET&I and MAQY
- What are we excited about for the future of our home networks and corporate networks?

Mobile Application Challenges



Real-time experience

Gaming & collaboration need real-time connectivity

Relate quality of service (QoS) to quality of experience (QoE)



Challenges

Visibility of experience, not technology metrics

Deliver experience across device, application, and network

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MAQY Components



Agents

Run with app & server stack

Full end-to-end network visibility





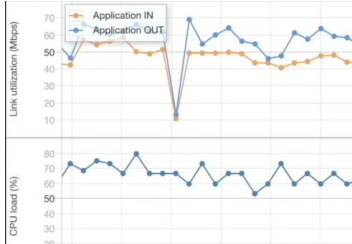
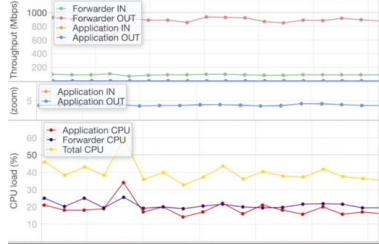
Transport layer

App-specific priority handling

Multipath

Transparent loss recovery

MAQY: Before and After

	Without MAQY	With MAQY
Video quality	 <p>Lost frames and blurry video from network instability</p>	 <p>Higher resolution & reduced loss create smooth play</p>
Network & CPU	<p>0.5 Mbps/user</p> <p>65% CPU / 100 users</p> 	<p>0.1 Mbps/user</p> <p>35% CPU / 10x users</p> 

Measuring QoE Improvements



Quality of Experience

Physics (teleporting, collision)

Shooting precision & accuracy


Fluidity of gameplay



Financial

Reduction in compute & hosting costs

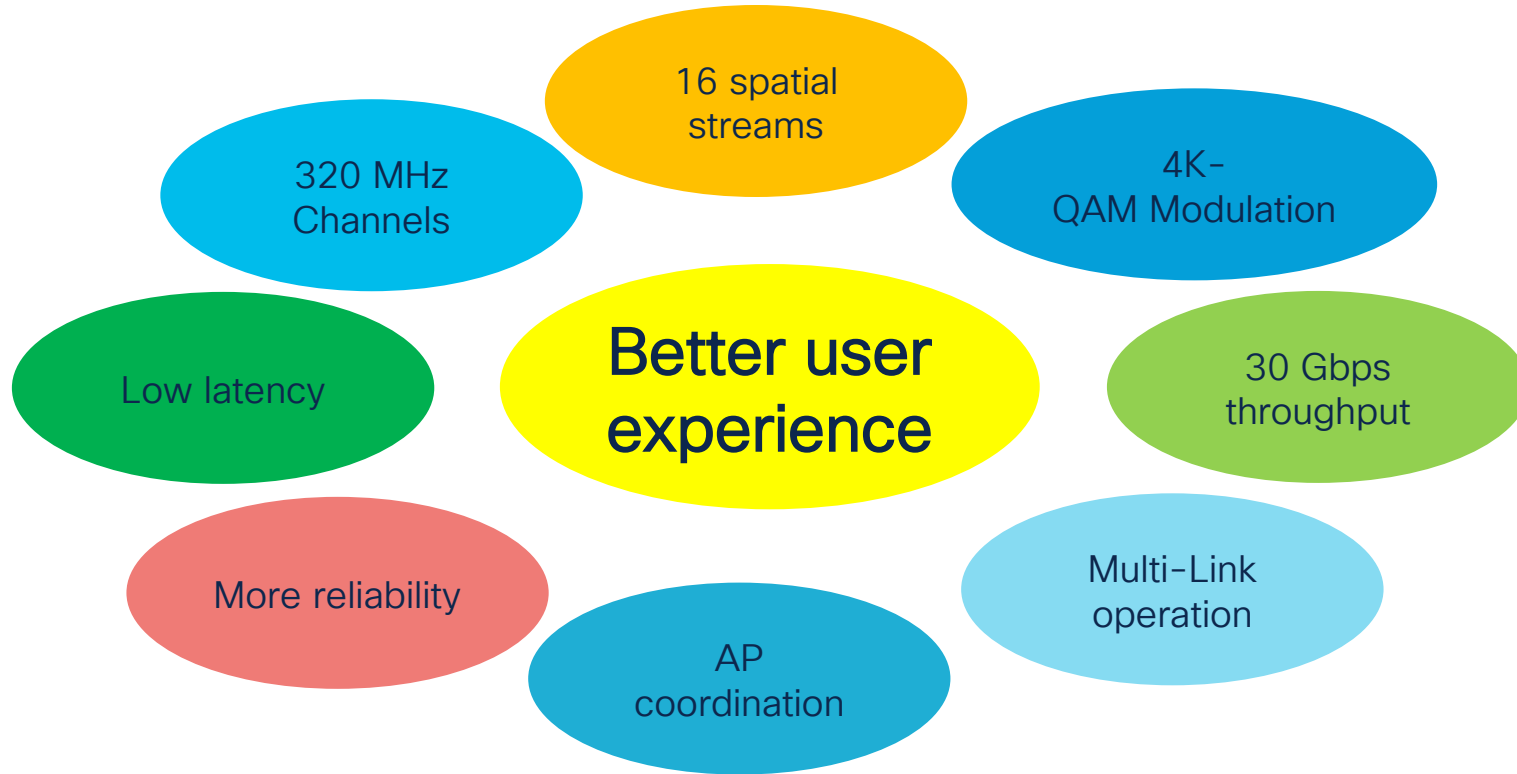
Better retention / NPS scores for app developers



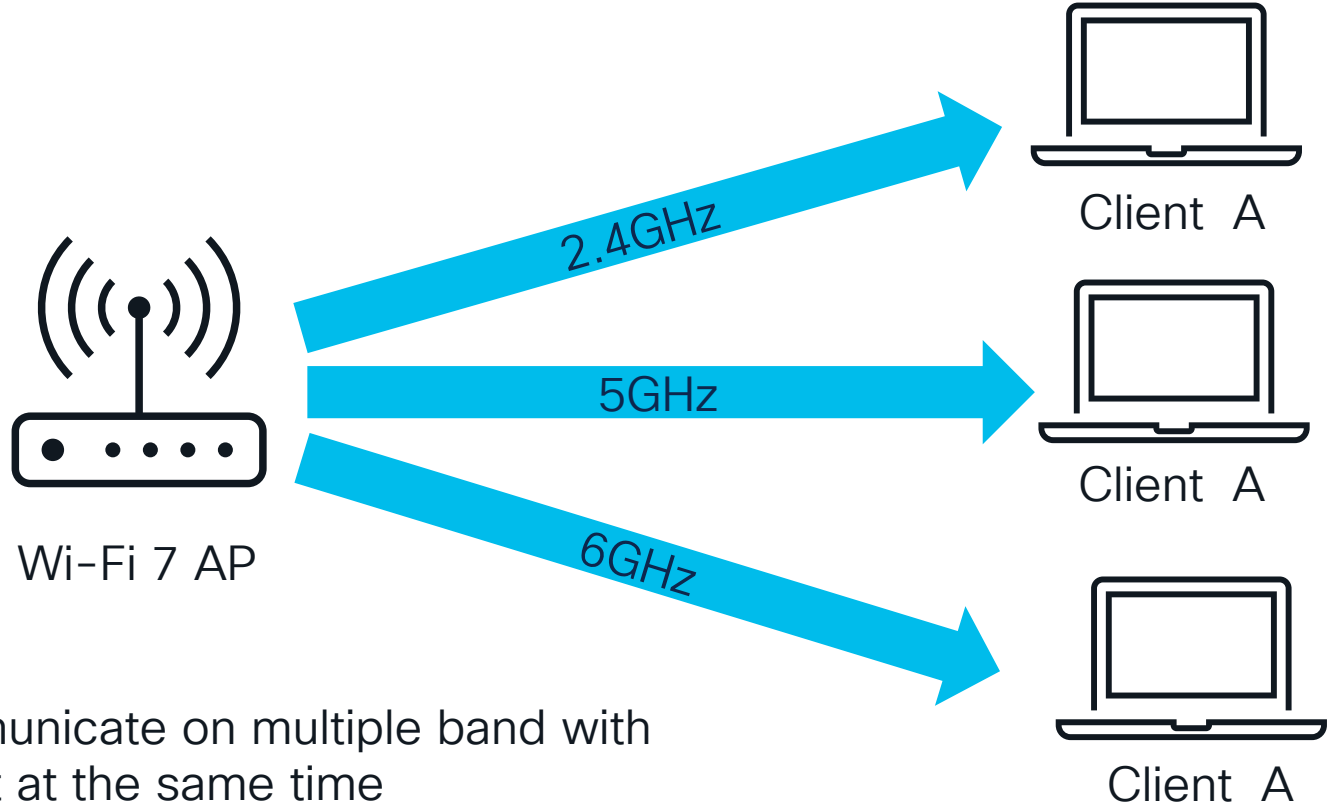
*“A 30 ms increase in latency results
in 5–10% of users churning”*

General Manager at a Video Game Studio

Wi-Fi 7: Wi-Fi 6E and so much more!



Wi-Fi 7: Works simultaneously on all bands



MultiLink

Ability to communicate on multiple band with the same client at the same time

How did we get to Wi-Fi 7?

2007

- Wi-Fi 4 (802.11n) ~0.6Gbps
- Use of multiple antennas for high speed

2013

- Wi-Fi 5 (802.11ac) ~3.5Gbps
- Aimed for moving large amount of data from wireless devices

2019-2022

- Wi-Fi 6/6E (802.11ax) ~9.6Gbps
- Improves co-ordination of data transfer between client devices and AP

~2024

- Wi-Fi 7 (802.11be) ~46Gbps
- Being developed for extremely high throughput over the wireless medium

Question & Answer

Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!
- Attendees will also earn 100 points in the Cisco Live Game for every survey completed.
- These points help you get on the leaderboard and increase your chances of winning daily and grand prizes.



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Thank you

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