June 1st, 2020

Aruba Technology update: Wi-Fi 6

Geeta Kulkarni

WLAN Competitive TME
HPE ARUBA

aruba
a Hewlett Packard
Enterprise company

AGENDA

- ➢ Trend and challenges
- ➢ Wi-Fi 6 Features
- ➢ Benefits of Wi-Fi 6
- ➢ Aruba's Wi-Fi 6 CERTIFIED Indoor AP portfolio
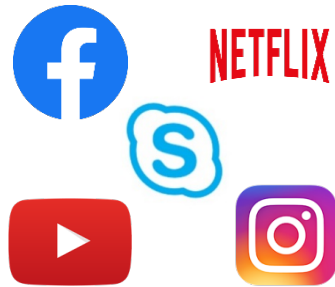- ➢ Advantages of AOS 8
- ➢ AOS 8 Customer Blogs

Trends and challenges

Need for Wi-Fi 6

GROWTH IN
DEVICES

DIVERSITY OF
APPLICATIONS

HOW CAN
WE **SOLVE**
THIS?
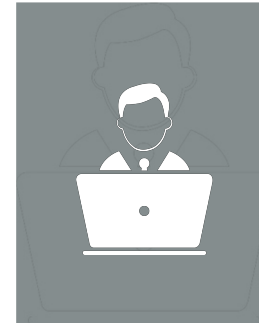
INCREASED
UPSTREAM TRAFFIC
DUE TO USER
UPLOADS
AND **GROWING** USER
EXPECTATIONS

IOT
CONNECTIVITY

Wi-Fi 6 Features

ENHANCEMENTS IN Wi-Fi 6

802.11ax or High-Efficiency Wireless

8x8 MU-MIMO DL/UL
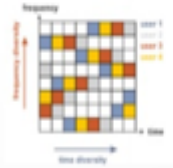
OFDMA DL/UL

1024 QAM

2.4 GHz 5 GHz

Increased Efficiency

Increased Performance

ENHANCEMENTS IN Wi-Fi 6

802.11ax or High-Efficiency Wireless

Target Wake Time (TWT)

Better power saving mechanism

BSS color

Better media access mechanism
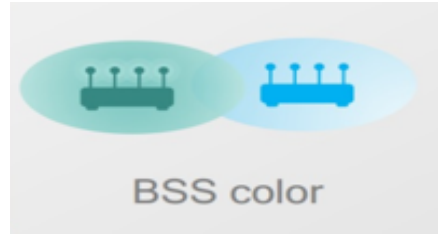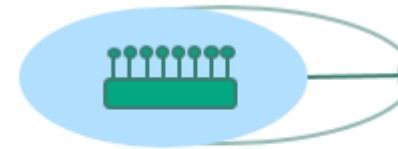
Extended Range for outdoor with longer GI

Long OFDM Symbol

Increase in data rate and range
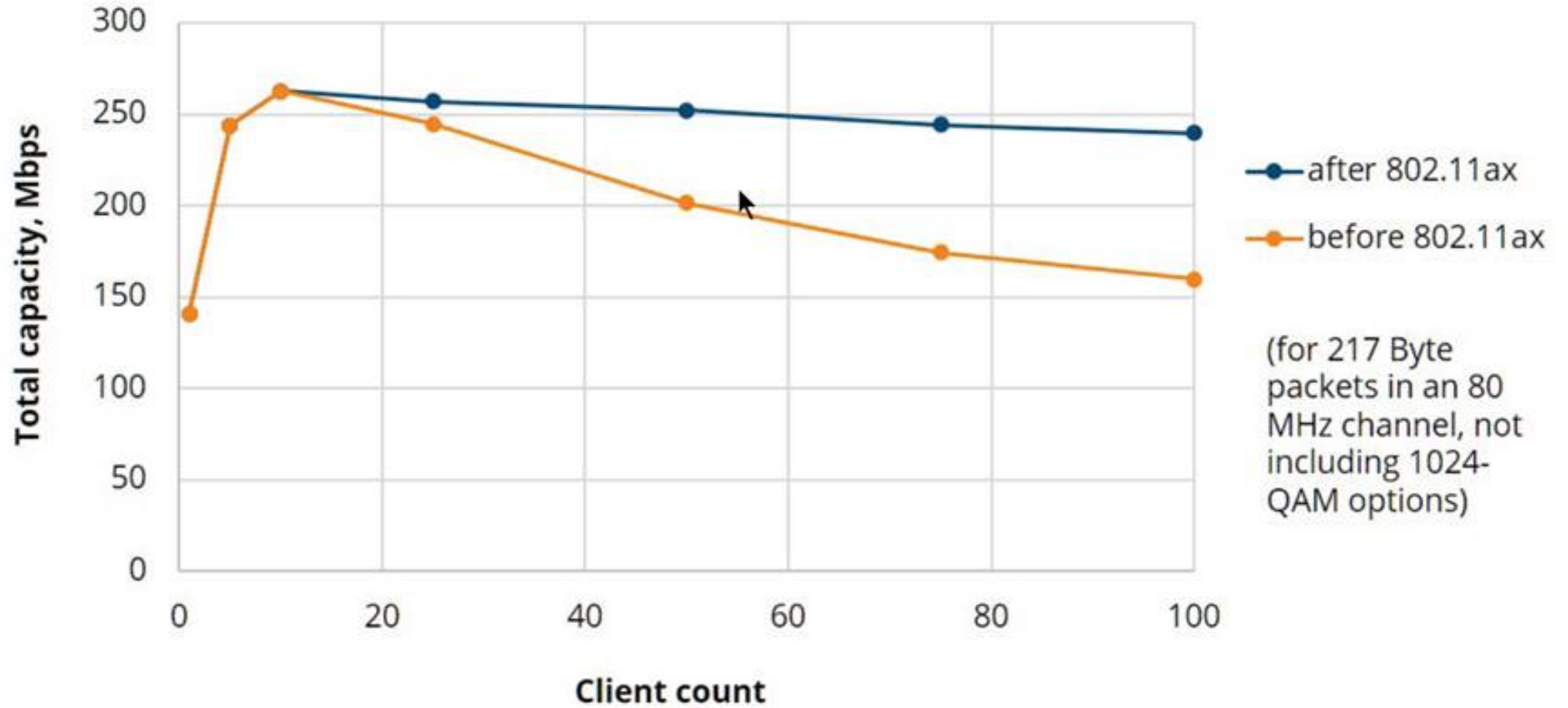
Benefits of Wi-Fi 6

BENEFITS OF Wi-Fi 6

802.11ax or High-Efficiency Wireless

Feature	Improvements over 802.11ac
New OFDM symbol	20% higher data rates over 802.11ac
OFDMA downlink & uplink	~ 3x system capacity for short packets or many clients
MU-MIMO downlink and uplink for up to 8 clients	~ 2x capacity over 802.11ac
Spatial re-use (BSS color)	~ 2x capacity over 802.11ac
High-order modulation 1024 QAM	25% over 802.11ac
Target Wait Time	~ 3-10x battery life
20 MHz – only client option	Lower cost chips
Special preamble for long links	~ 2x more range for a given data rate
Long guard interval option	Allows a 1km difference in multipath without self-interference (vs 250m)

Network (BSS) capacity vs number of clients

- after 802.11ax
- before 802.11ax

(for 217 Byte packets in an 80 MHz channel, not including 1024-QAM options)

Throughput Results AP-335 (Wi-Fi 5) vs AP-535 (Wi-Fi 6)

Network Capacity vs Number of clients
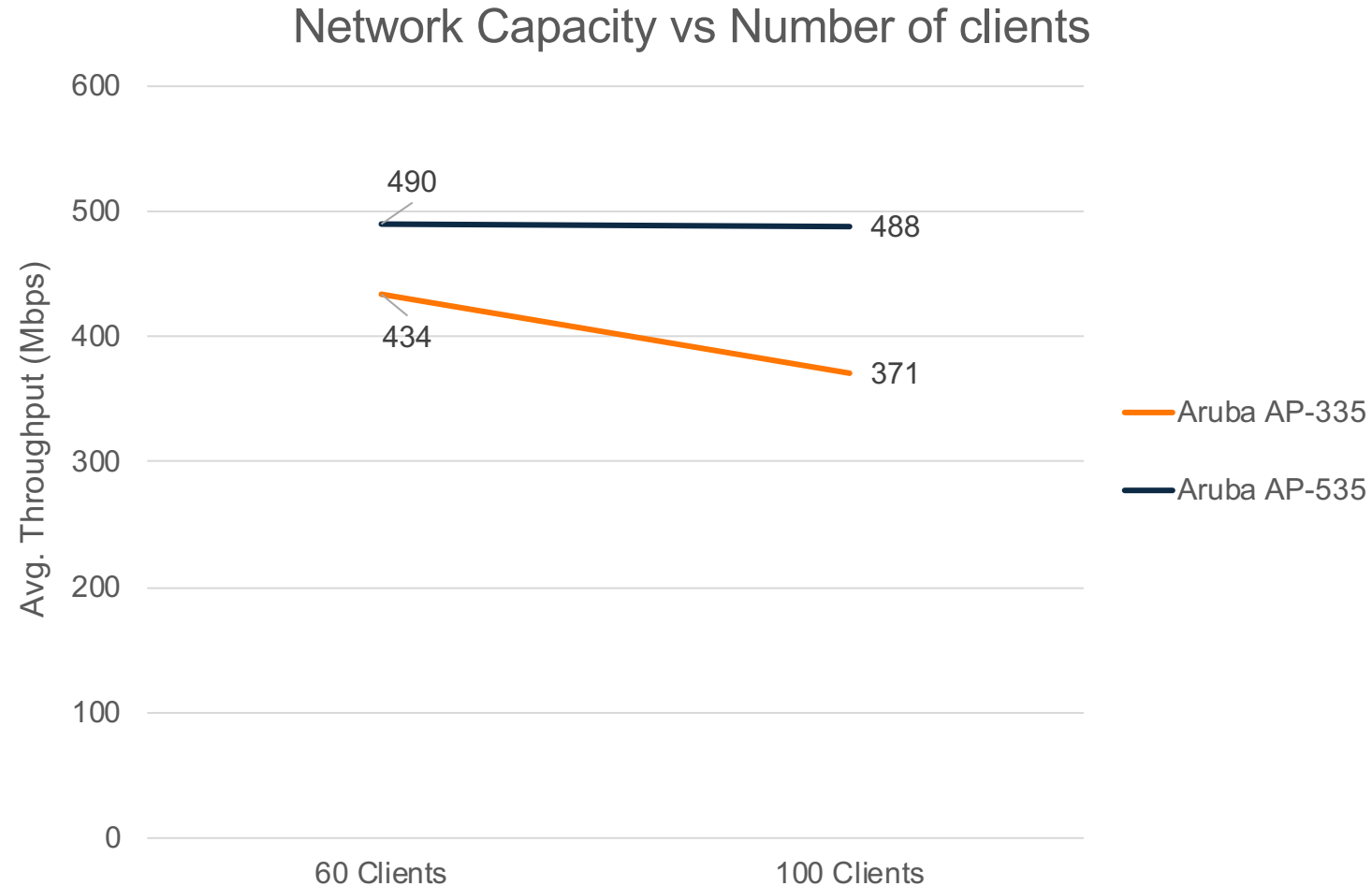
The above tests were performed using 11ac Clients with 1460 B TCP packet on 80 MHz wide SSID

ARUBA Wi-Fi 6 ALSO INCLUDES ADVANCED SECURITY CAPABILITIES

➢ **Wi-Fi CERTIFIED WPA3**

➢ **Wi-Fi CERTIFIED Enhanced Open**

➢ **Aruba Air Slice**

➢ **Aruba Policy Enforcement Firewall**

Wi-Fi 6 CERTIFIED COMPLETE INDOOR PORTFOLIO

High performance

Incredible efficiency

Enhanced protection

ARUBA 500 SERIES

ARUBA 510 SERIES

ARUBA 530 SERIES

ARUBA 550 SERIES

AI POWERED

SLA-GRADE ASSURANCE

CLOUD OR ON-PREMISES

Wi Fi 6 CERTIFIED

RELIABILITY

TRUST

INTEROPERABILITY

Advantages of AOS 8

➢ **Always-on network with no downtime**

➢ **More intelligence and automation**

➢ **Simplified operation**

➢ **Enhanced security**

Wi-Fi 6 and AOS 8 Customer Blogs

❖ https://blogs.arubanetworks.com/industries/james-cook-universitys-move-to-arubaos-8/

❖ https://www.arubanetworks.com/resources/palo-alto-unified-school-district/

❖ https://blogs.arubanetworks.com/industries/mastering-mobility-arubaos-8/

❖ https://blogs.arubanetworks.com/industries/does-your-k-12-district-really-need-Wi-Fi-6/?highlight=11ax%20Education

THANK YOU
Competitive TME Team
https://arubapedia.arubanetworks.com/arubapedia/index.php/Category:Competitive_-_WLAN