



NBASE-T Campus Network Market Update



Webinar Speakers



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Agenda



●	NBASE-T Overview	Peter Jones
●	Dell'Oro Group Overview	Tam Dell'Oro
●	Update on NBASE-T WLAN	Tam Dell'Oro/Ritesh Patel
●	Update on NBASE-T Campus Switch	Sameh Boujelbene
●	Wrap-up & Discussion	Dell'Oro Group/Peter Jones

NBASE-T Alliance

- NBASE-T Alliance (www.nbaset.org/)
 - Vendor alliance for 2.5G/5G BASE-T
- Who are we?
 - Member companies representing all areas of network infrastructure including components, silicon, systems, cabling, testing equipment
- What are we doing?
 - Educate the market about multiple NBASE-T applications, enable widespread deployment, facilitate interoperability and build the market



Promoters



Contributors



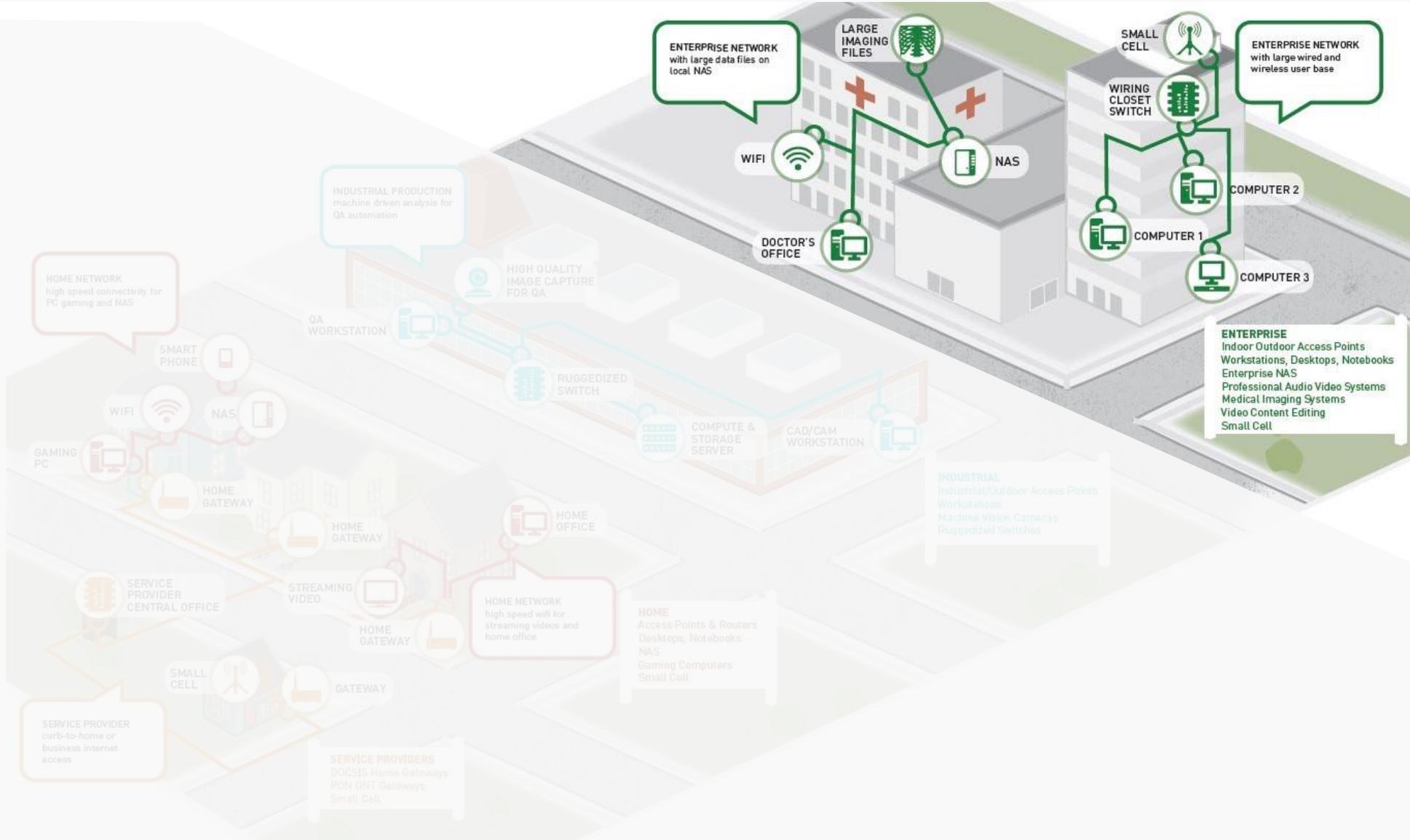
Adopters



Liaisons



NBASE-T Application Areas



Enterprise:

- Switch
- Wireless AP
- Desktop
- Storage
- Small Cell

Industrial:

- Switch
- Wireless AP
- Workstation
- Storage
- Compute
- Machine Vision

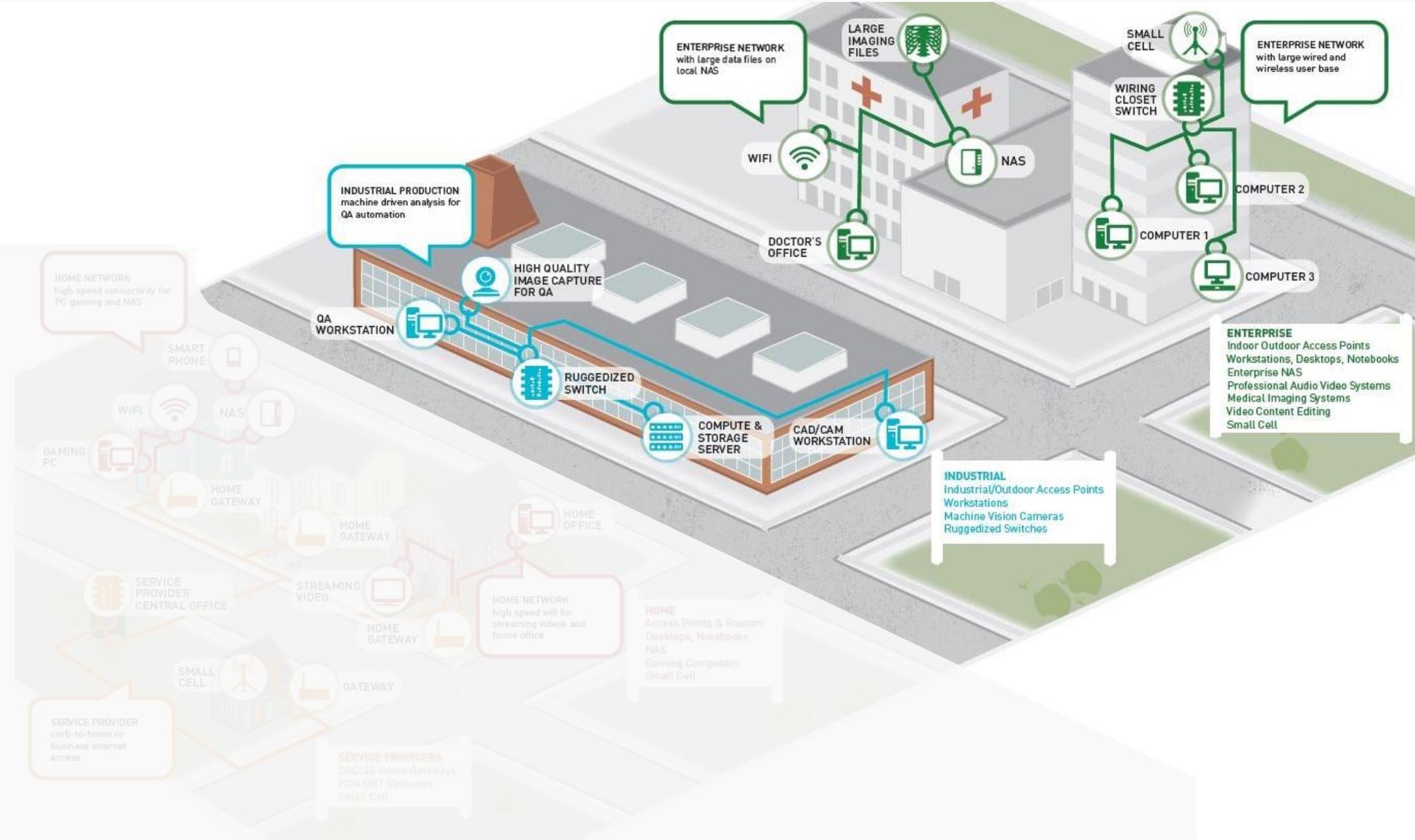
Home:

- Switch
- Wireless AP
- Storage Server
- Home Gateway
- Streaming Media

Service Provider:

- Small Cell
- Home Gateway

NBASE-T Application Areas



Enterprise:

Switch
Wireless AP
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Industrial:

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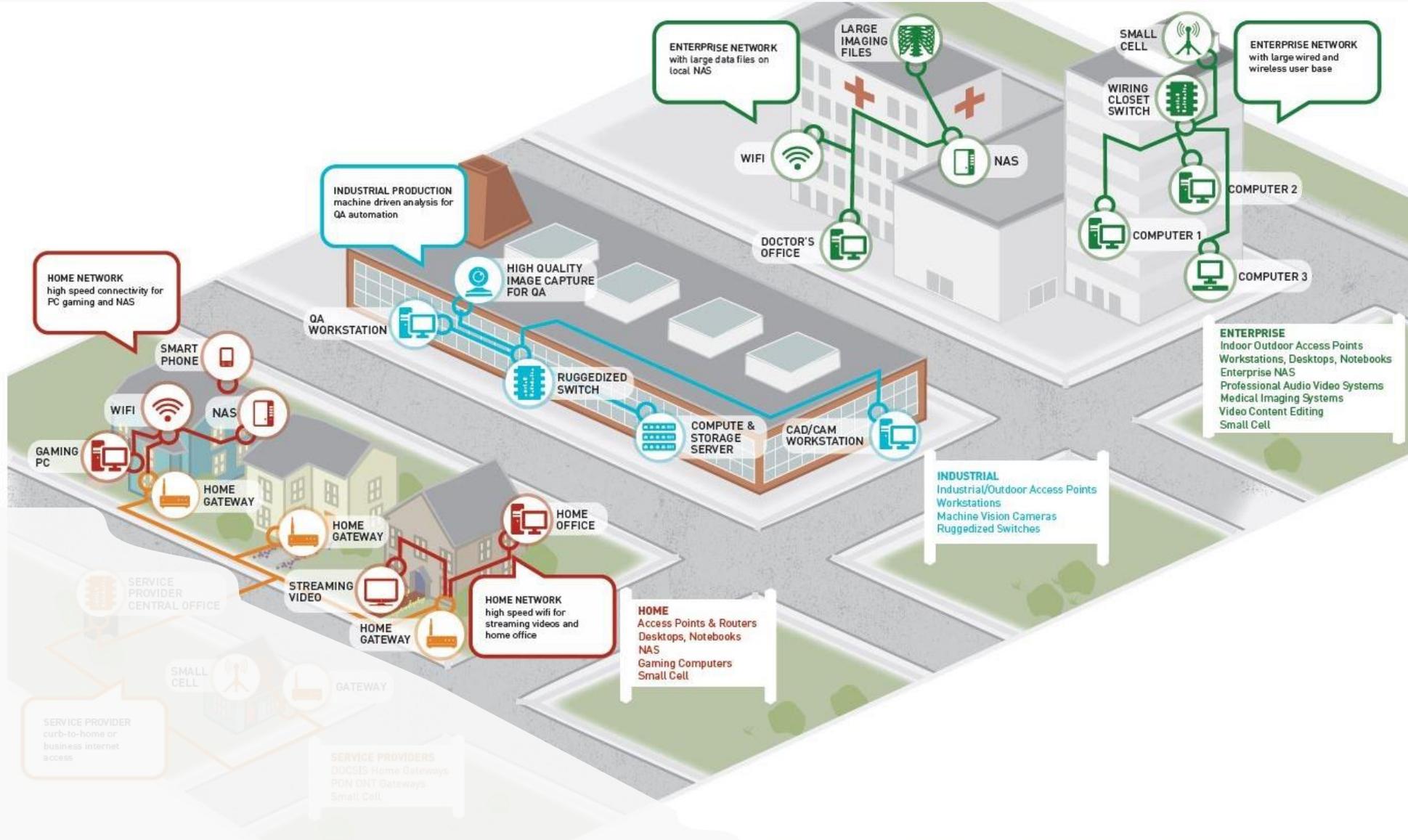
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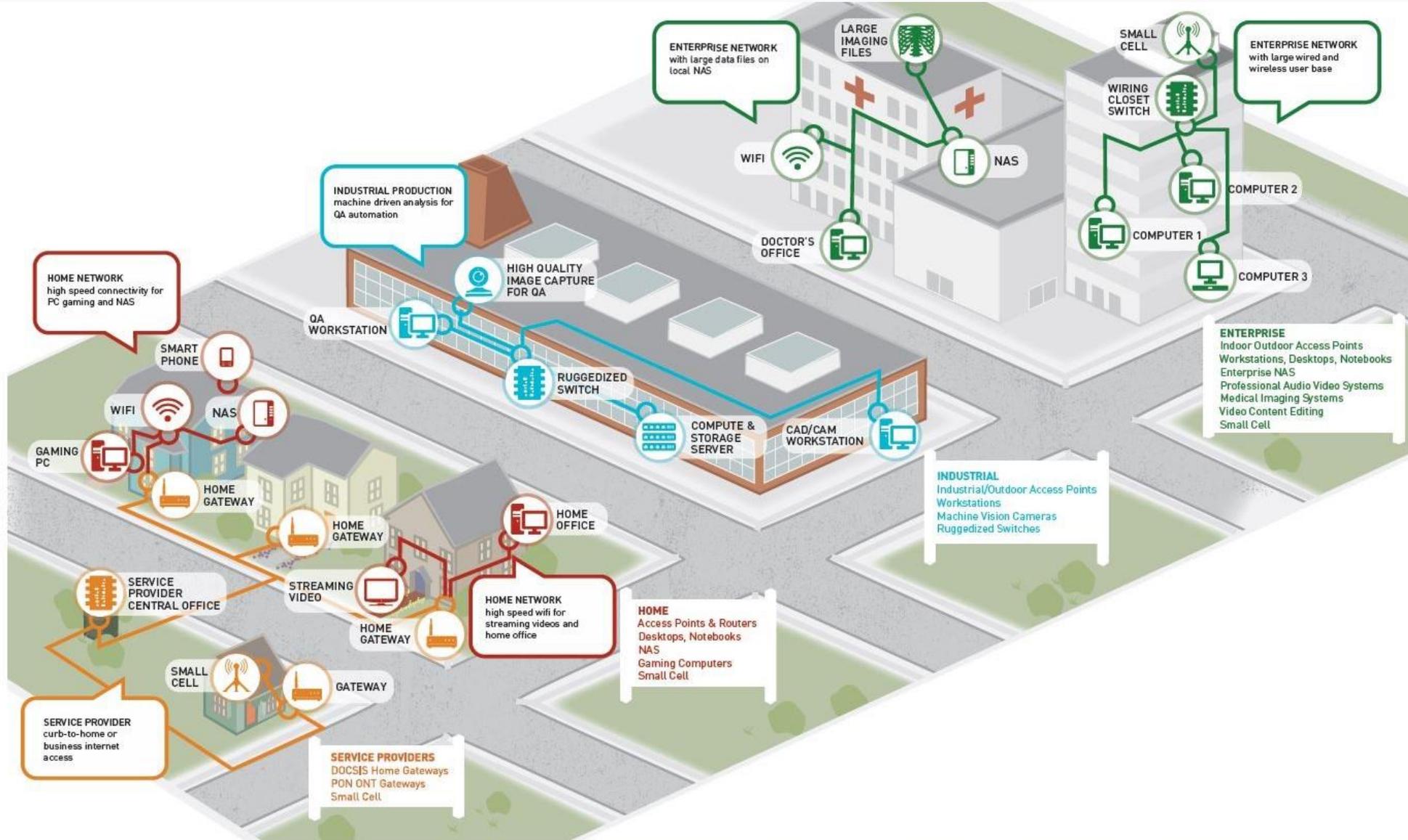
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Companies with NBASE-T Product

NBASE-T Products

NBASE-T Alliance Member Companies

Component

Aquantia
Aruba HPE
Bel Magnetic Solutions
Cisco
GLGNet
Intel
KinnexA
Marvell
NXP

System Level Product

Aquantia
Aruba HPE
Cisco
Microsemi
Netgear
Pleora Technologies
Tehuti Networks
Teledyne e2v

Test Equipment

AEM
Aukua Systems
Spirent
Tektronix
Xena Networks

Non-Member Companies

Component

Akitio
Dell
Gigabyte
Promise Technology
QNAP
Sonnet

System Level Product

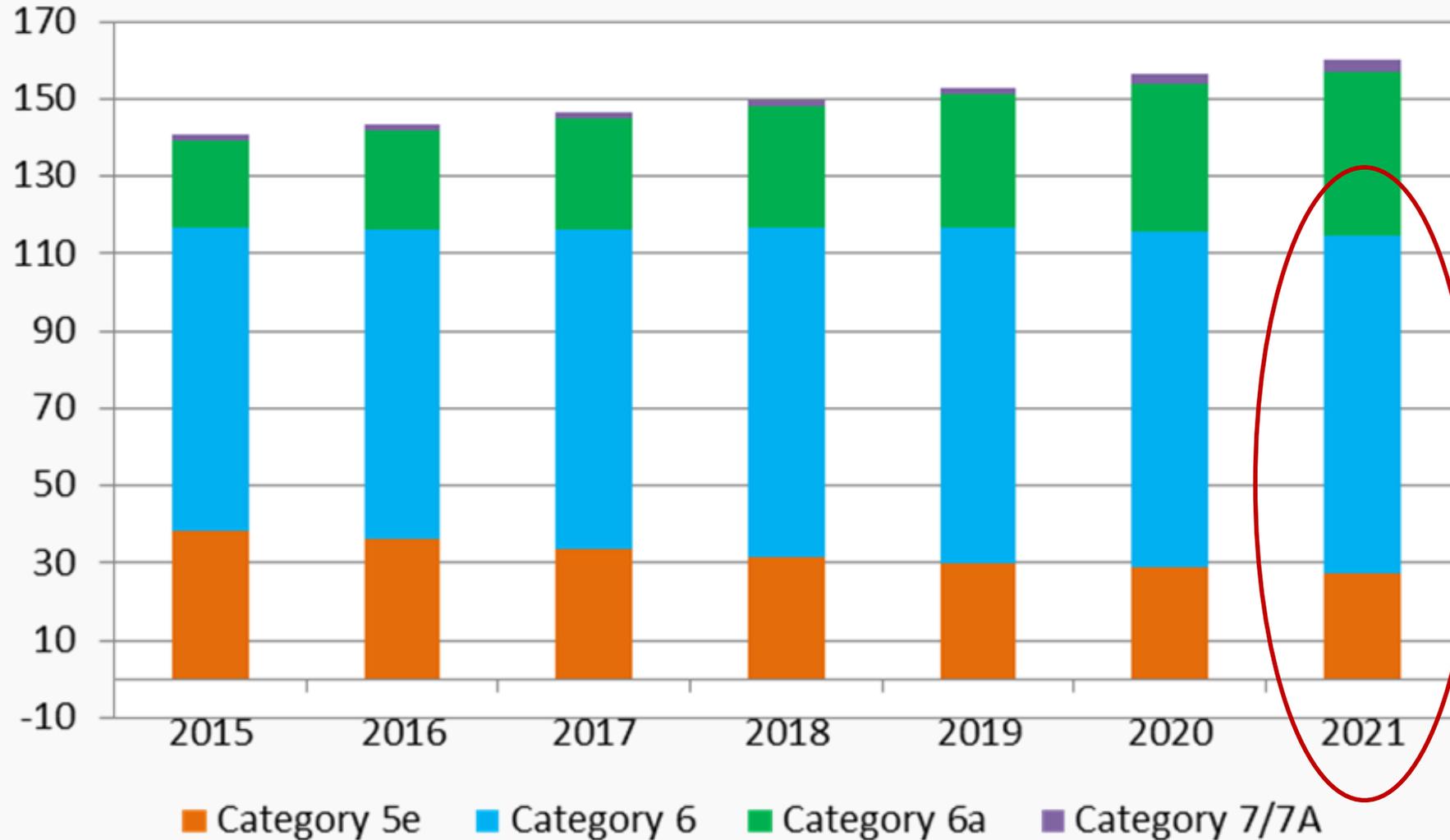
Accton
Apple
ASRock
ASUS
Brocade
Buffalo
Dell
Dell EMC
Lenovo
MSI
Promise Technology
Sonicwall
StarTech
Supermicro

<https://www.nbase-t.org/technology/nbase-t-products/>

NBASE-T Infrastructure



Global sales of copper cabling in LAN, million outlets/drops, 2015 – 2021





Value of NBASE-T Technology

Leverages more than 1.5+ billion Cat5e/Cat6 outlets, and more than 70 billion meters of Cat5e/Cat6 cables that make up greater than 90% of the current installed base

Enables network evolution by providing up to 10x faster speed without pulling cables or requiring building construction

Supports high-speed links to next generation WiFi access points and high-data rate client PC and workstation systems



Dell'Oro Group





Dell'Oro Group – The Trusted Source

- Worldwide Telecommunications, Networks and Cloud Data Center IT (www.delloro.com)
- Founded in 1995
- Headquartered in Silicon Valley, California
- What are we doing?
 - We provide Quarterly Reports and 5-year Forecast Reports with in-depth, objective research and analysis that enables our clients to make strategic business decisions with confidence and maintain their competitive edge
- Clients include companies in government, banking, cloud telecommunications service provider, equipment and component manufacturers, etc

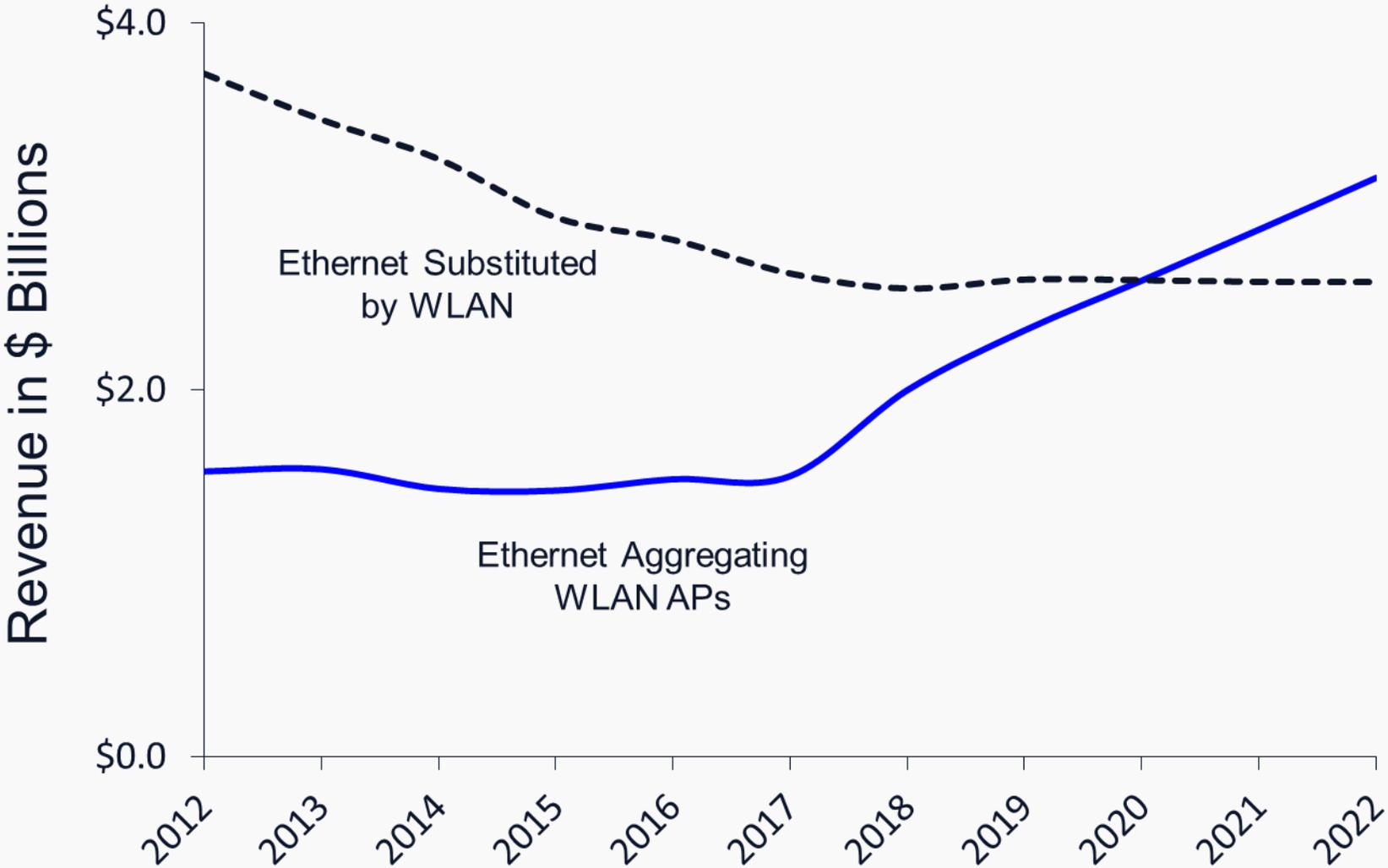


NBASE-T Wireless LAN Update



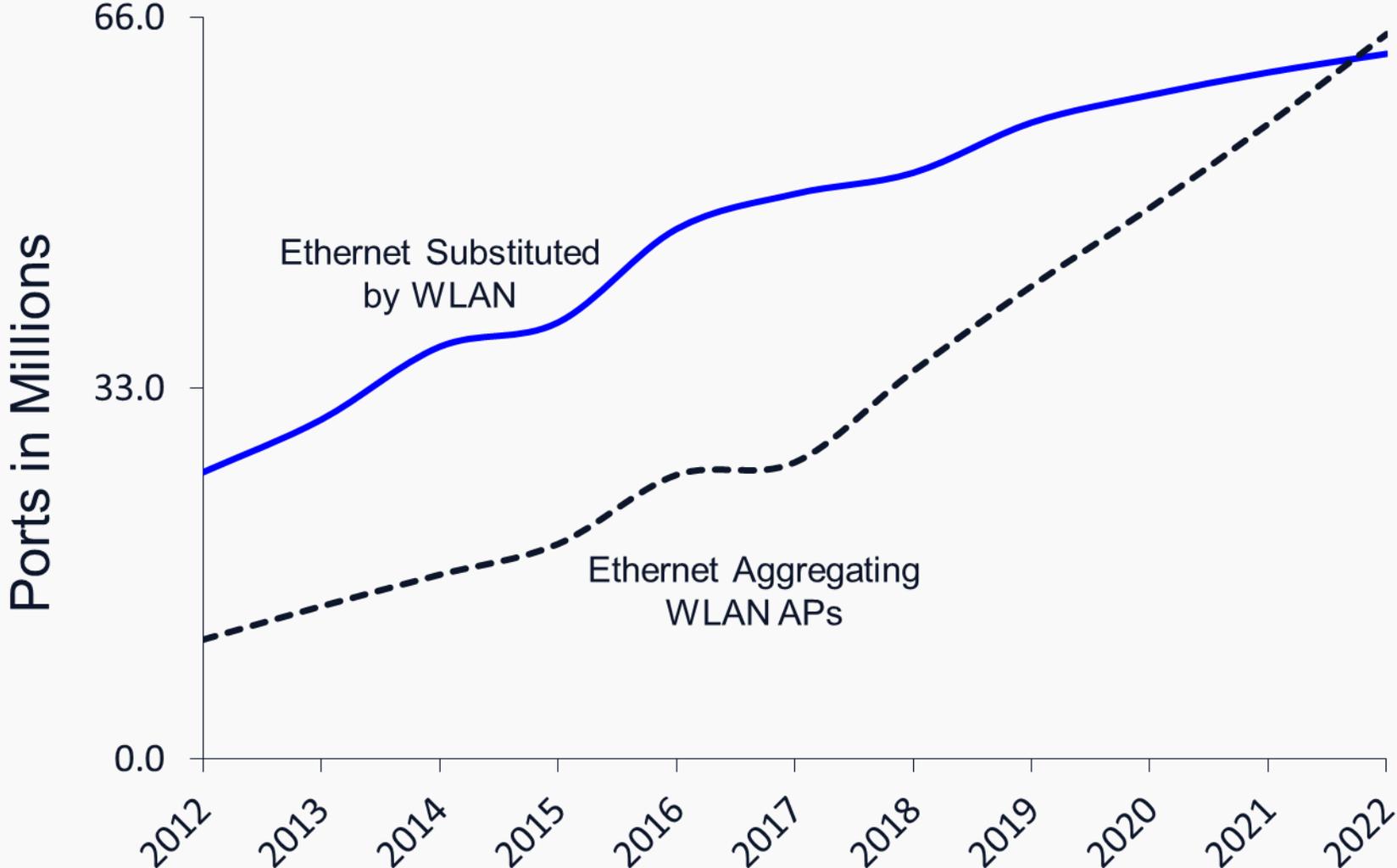


WLAN's Impact on Ethernet Switch Revenue (Campus Networks Report)



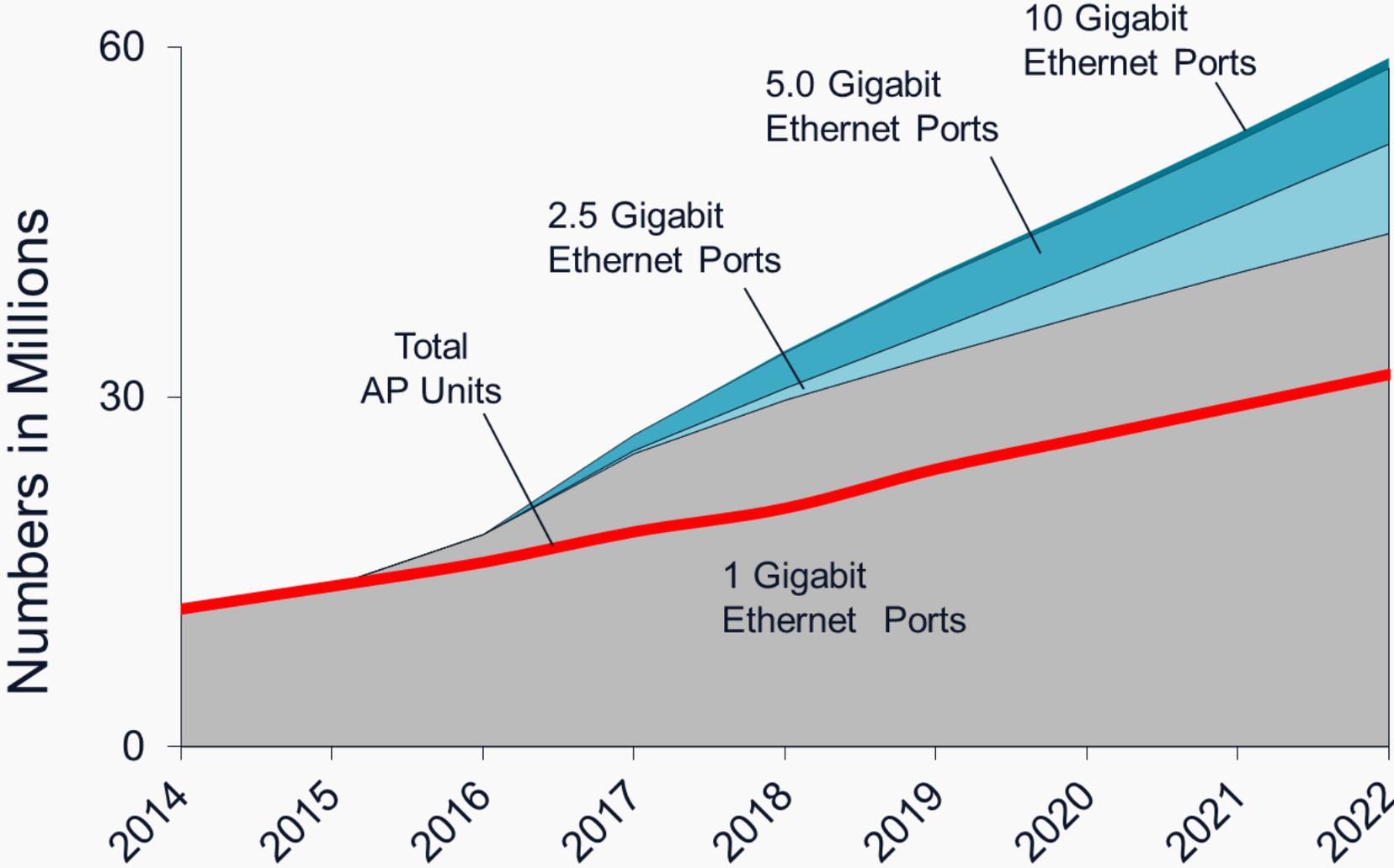


WLAN's Impact on Ethernet Switch Ports (Campus Networks Report)



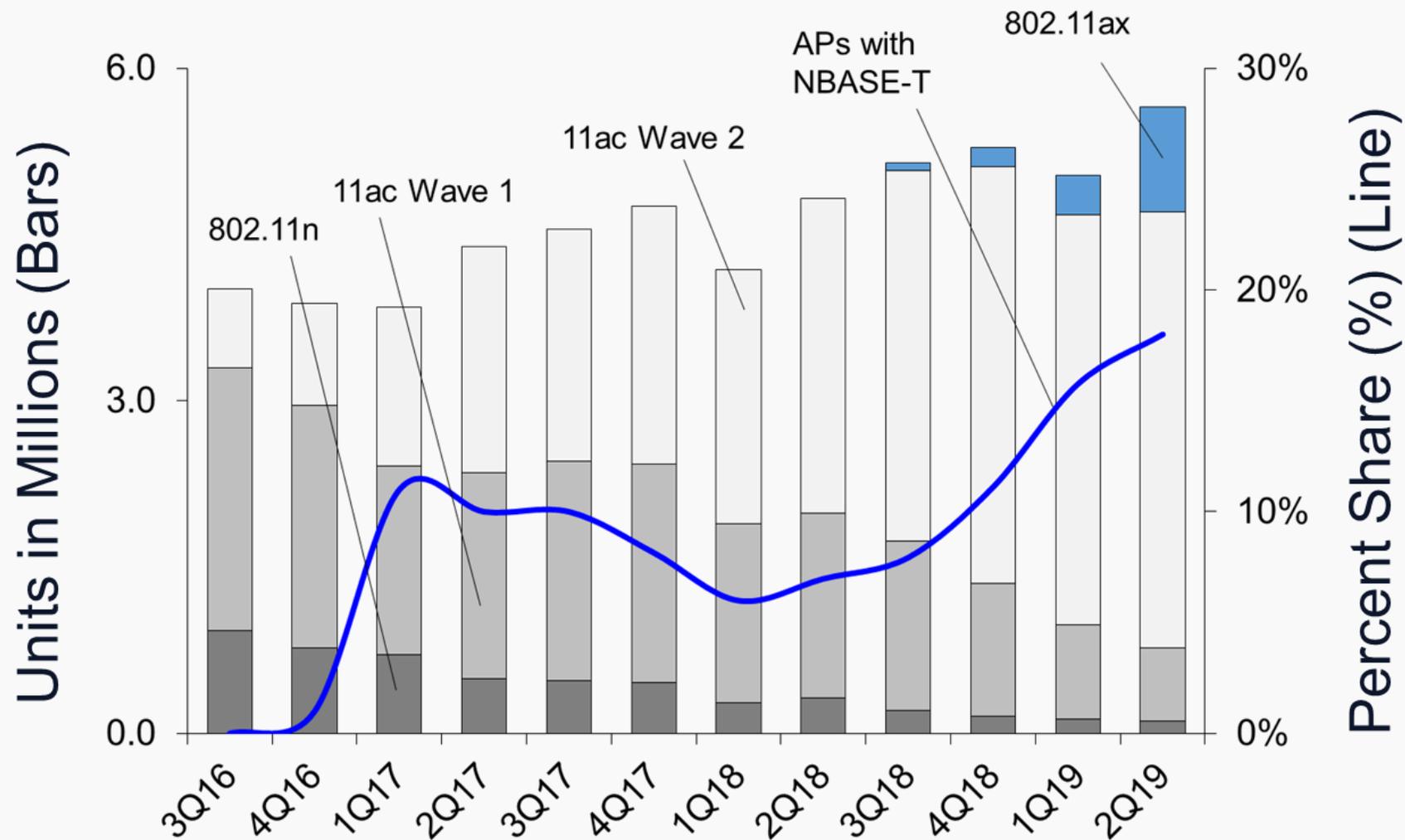


Enterprise Access Points and Ethernet Interface Port Shipments





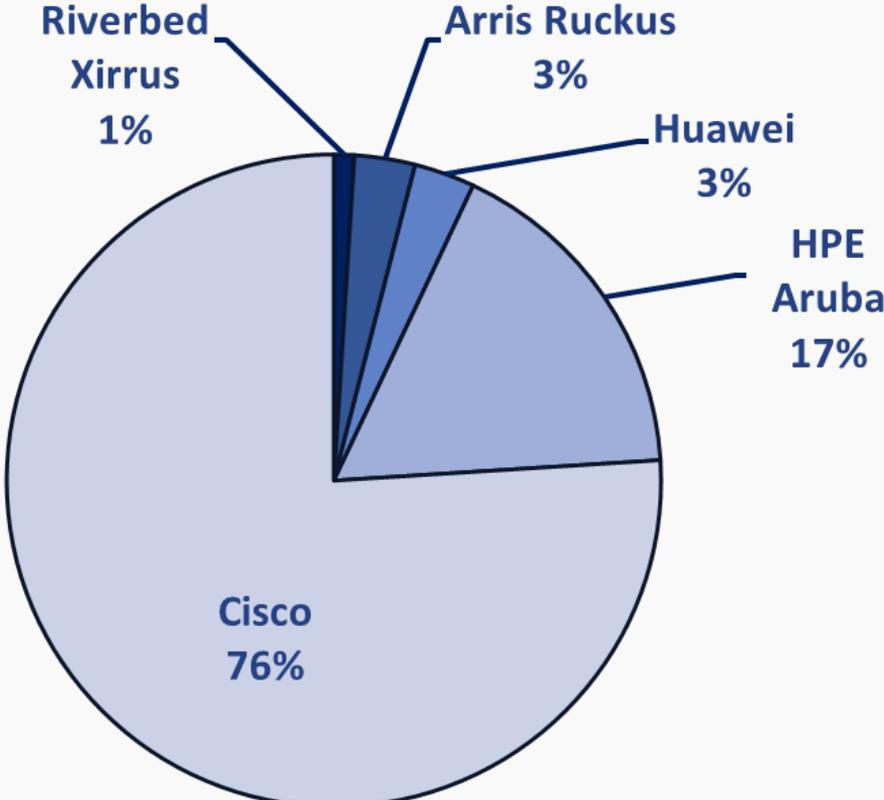
Worldwide Enterprise Indoor Access Points



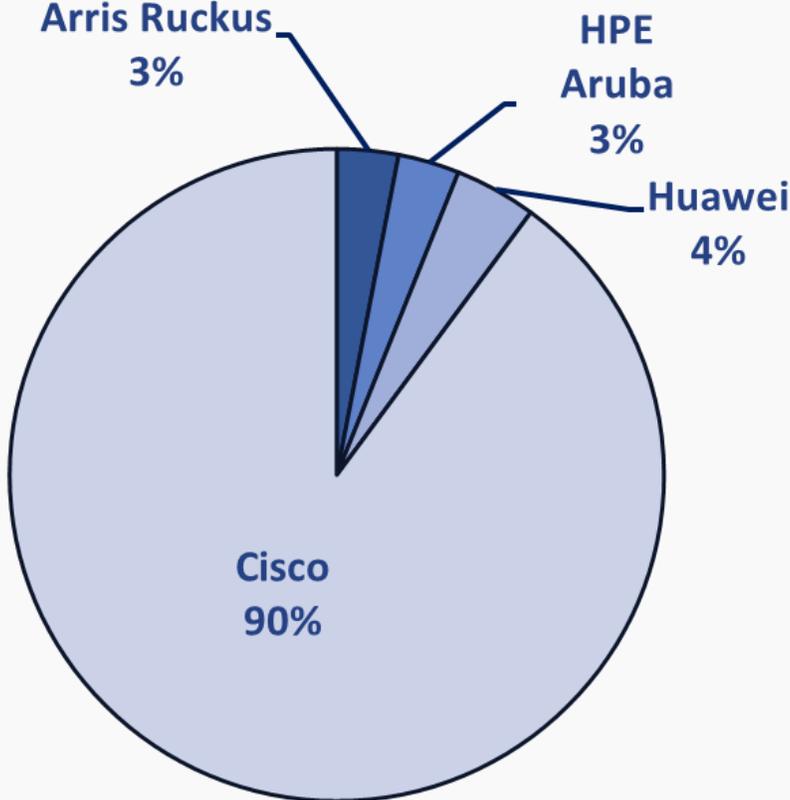


1H18 Worldwide Enterprise NBASE-T Market Share (Select Vendors)

Indoor Access Points



Ethernet Switch Ports*



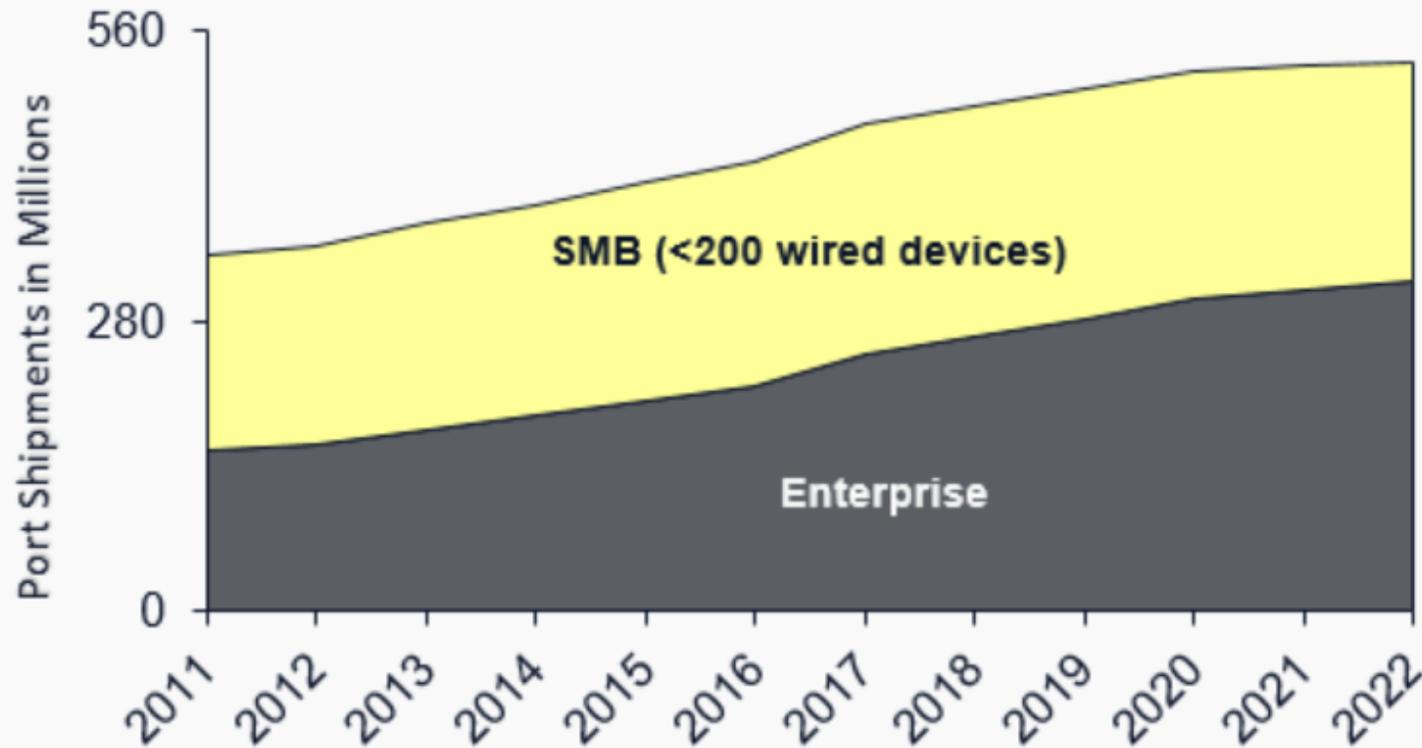
* Other switch vendors shipping include Dell, Extreme, H3C, Juniper, Netgear, Ruijie, and others, but volumes are miniscule



NBASE-T Campus Switch Update



Campus Switch Port Shipments (Enterprise+SMB)

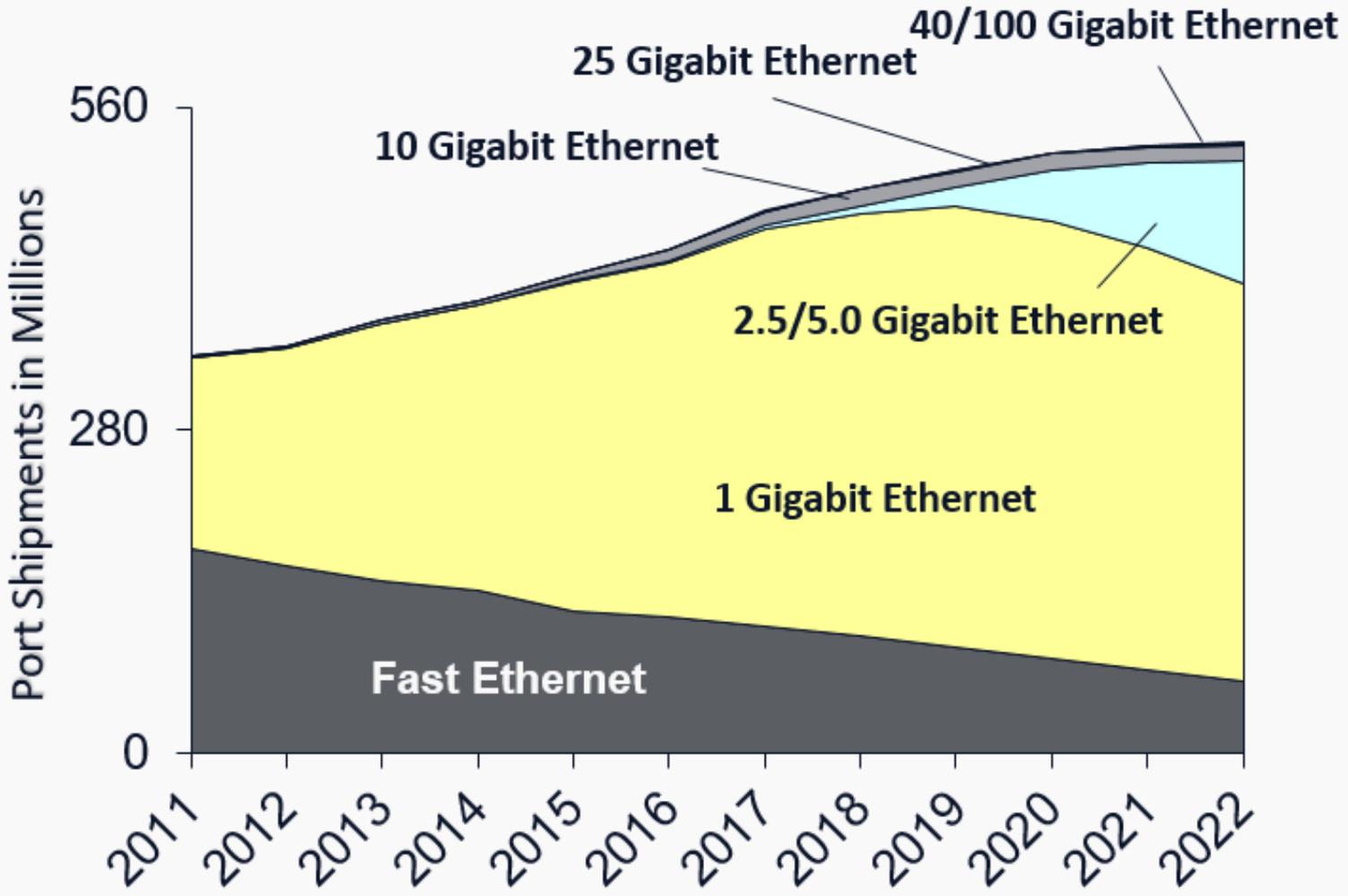


Campus Port Shipment Growth driven by:

- Major Refresh Cycle of an aging infrastructure
- IoT
- WLAN APs



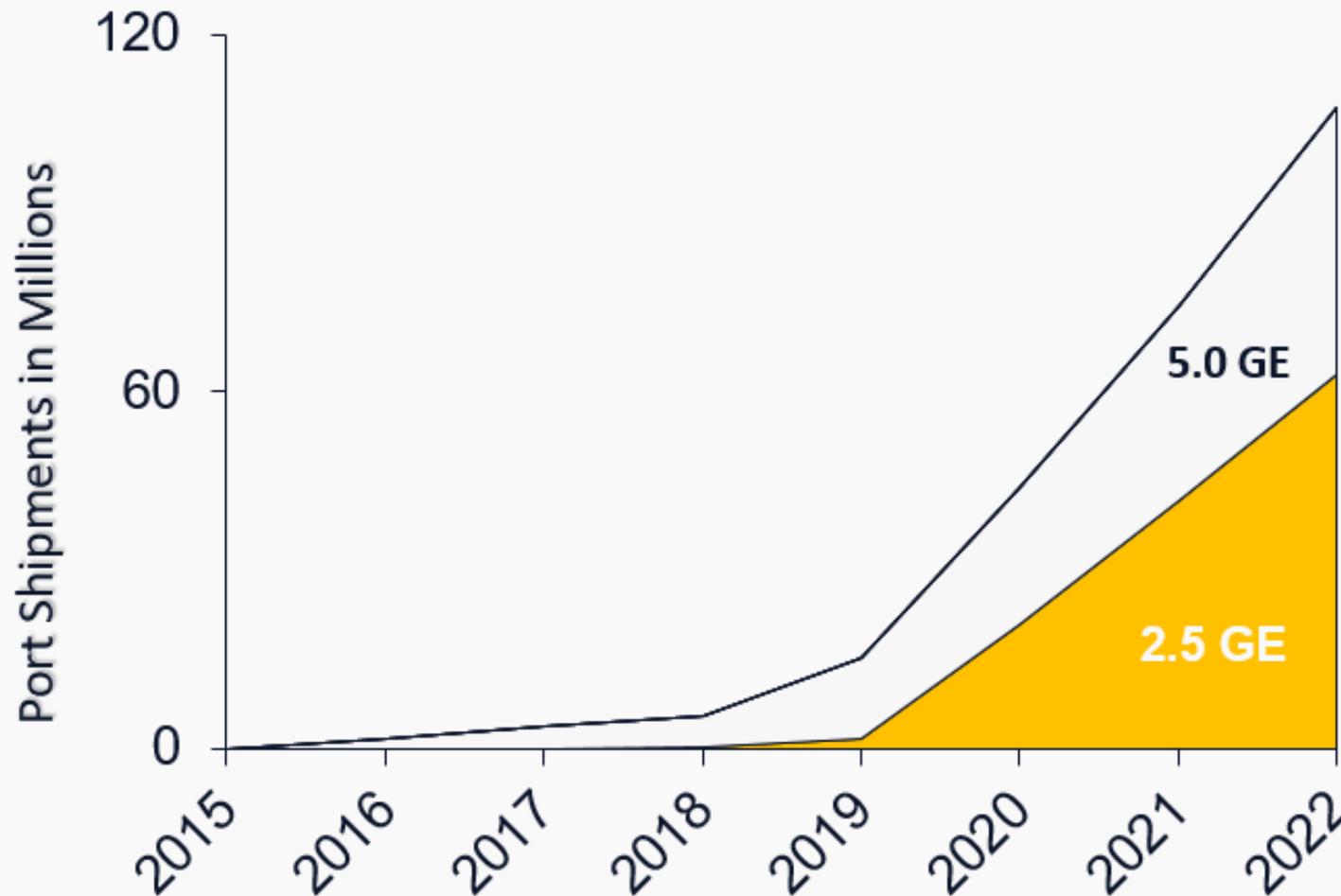
Campus Switch Port Shipments (Enterprise+SMB)



- NBase-T ports to comprise 20% of total Campus switching ports by 2022
- Applications:
 - ✓ WLAN APs
 - ✓ High-end workstations/devices
- Drivers of the ramp:
 - ✓ Pricing
 - ✓ 802.11 ax ramp



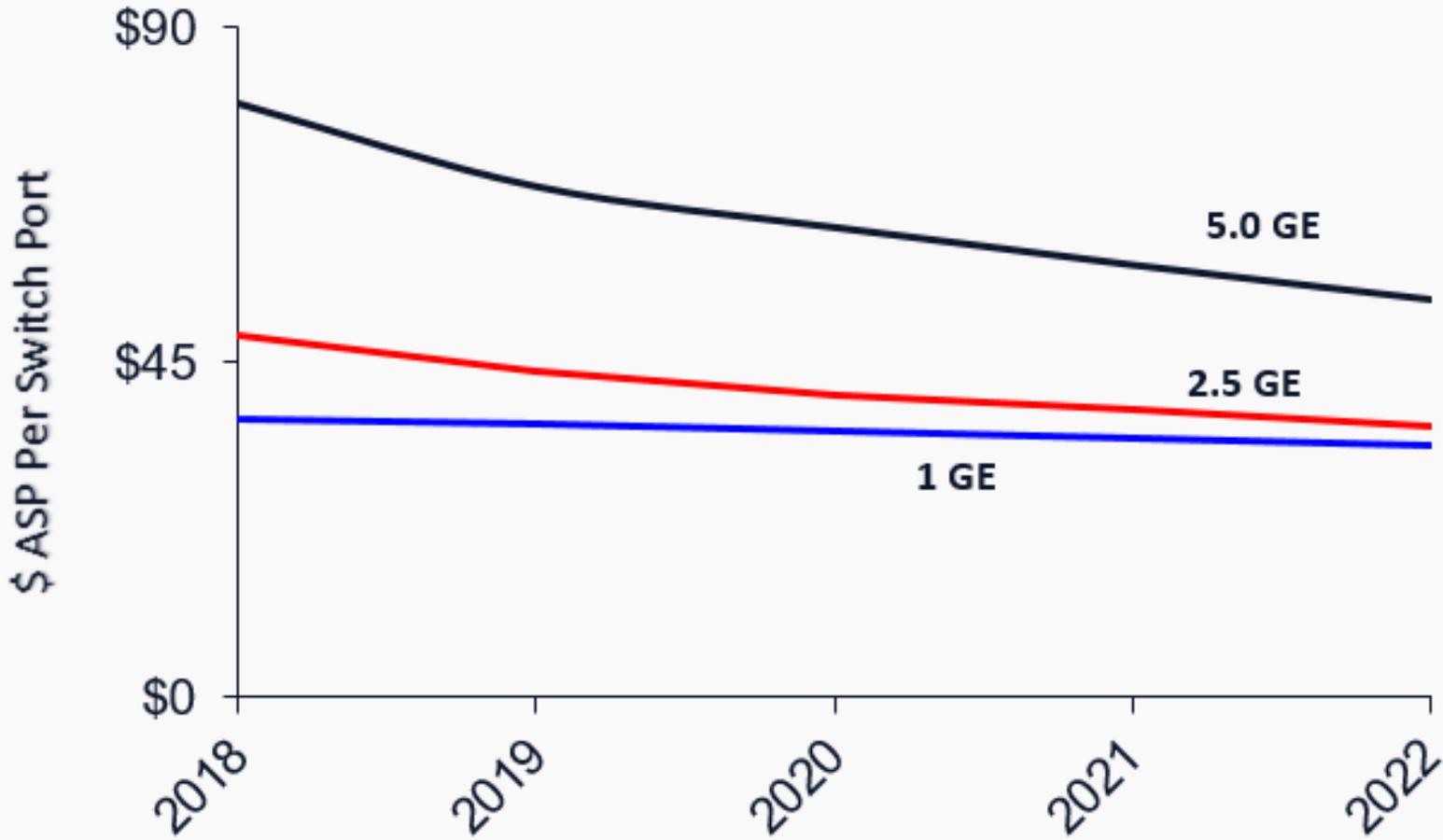
2.5/5.0 GE Switch Port Shipments Forecast



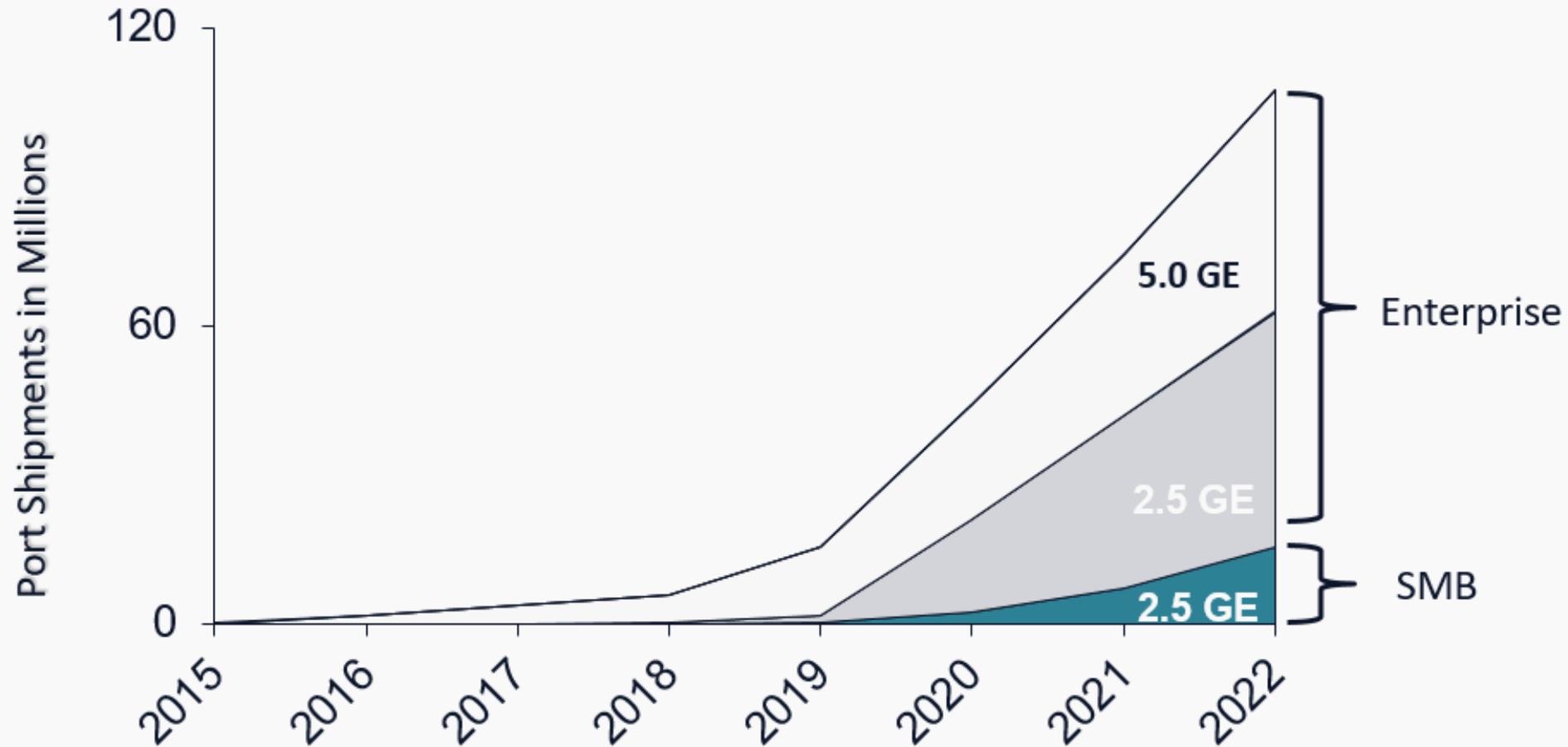
- 2.5 GE ramp expected to be faster than 5.0 GE
- 2.5 GE to eclipse 5.0 GE by 2020 driven by lower price premium
- 2.5 GE and 1 GE to eventually merge in silicon



2.5/5.0 GE Switch Pricing (Fixed Managed)



2.5/5.0 GE Switch Port Shipments Forecast (Enterprise vs. SMB)





Wrap-up & Discussion

Wrap-up & Discussion



APs add to, not subtract from, the Ethernet market

802.11ax drives NBASE-T to be fastest growing section of the market

2.5GE majority of NBASE-T sales by 2020

NBASE-T enables network transformation



Thank you!

Visit www.nbaset.org & www.delloro.com
for more information