



Carriers Want NETCONF/YANG

Layer 123 NFV World Congress

Dusseldorf, Germany | Wednesday 14-October 2015 | 9:00

Michael Howard

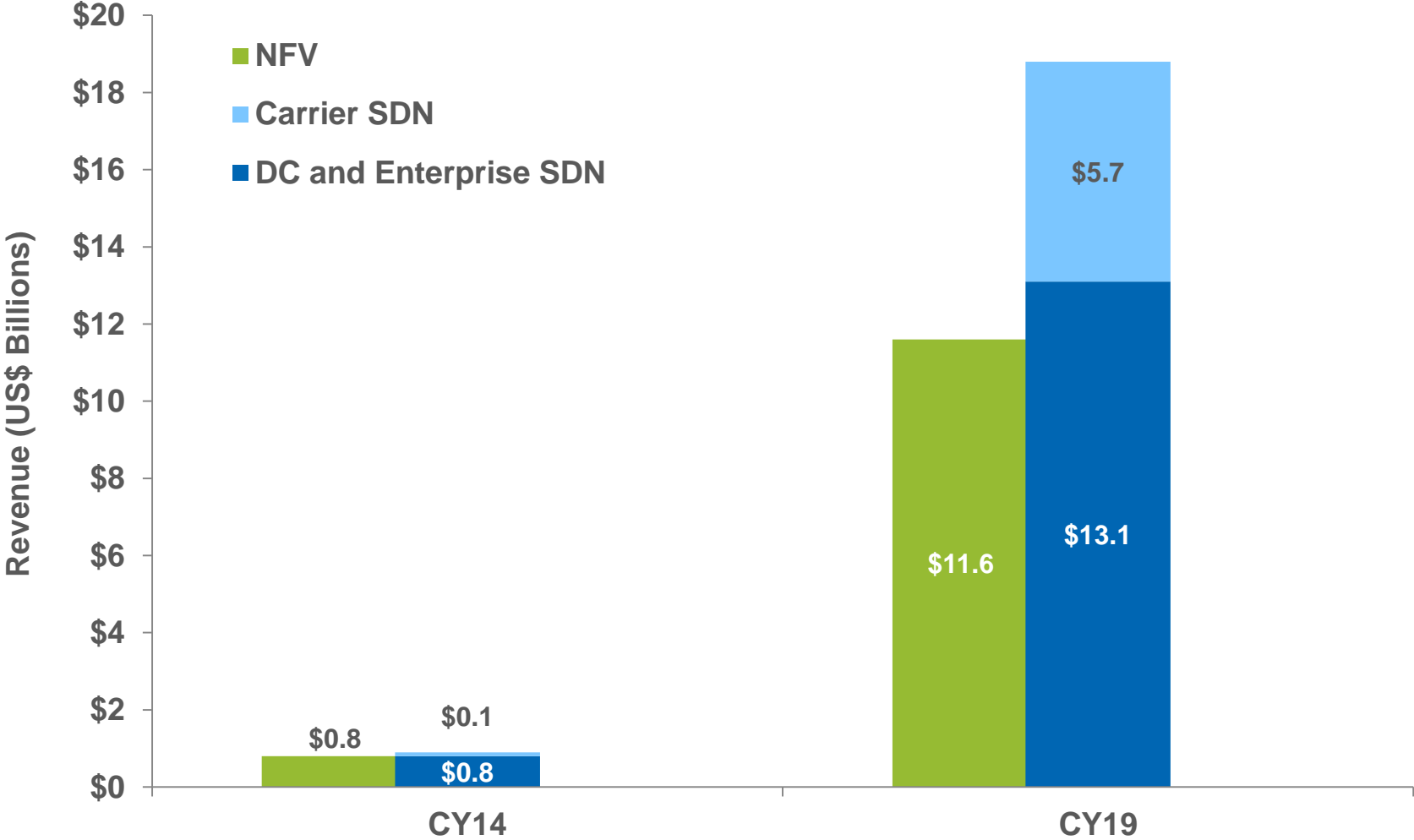
Senior Research Director, Carrier Networks



has
acquired



SDN & NFV: 3 Distinct Markets



2019 \$30B market—only \$6B is new; \$24B is existing or displaced

Majority of Revenue Is from Existing Segments

Carrier, DC and Enterprise LAN SDN Market			
Source	\$B	% of 2019 Market	Categories
New	\$4.7	25%	SDN: Orchestration and Controller, SDN Network Apps, Outsourced Services
Displaced	\$1.5	8%	SDN: Orchestration and Controller
Existing	\$12.6	67%	SDN: SDN Hardware
TOTAL	\$18.8	100%	Total Carrier, DC and Enterprise LANSDN

Carrier NFV Market			
Source	\$B	% of 2019 Market	Categories
New	\$1.2	10%	NFV: NFV MANO, Outsourced Services
Displaced	\$1.8	16%	NFV: NFVI Hardware
Existing	\$8.6	74%	NFV: VNFs
TOTAL	\$11.6	100%	Total Carrier NFV

Carrier SDN and NFV Drivers and Barriers

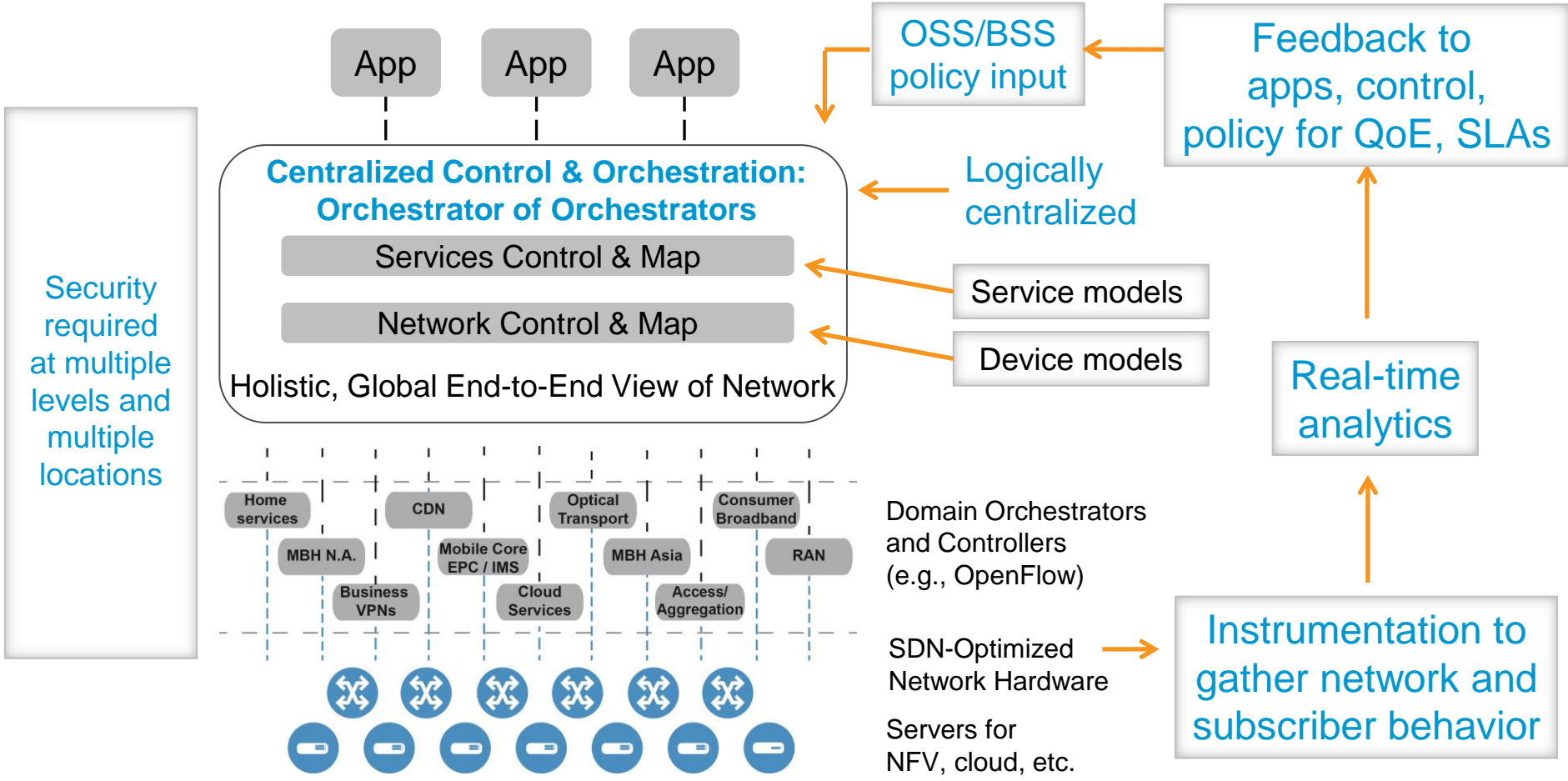
Two Primary Drivers

- 1** Service Agility for Quicker Time to Revenue
- 2** Global View Across Multi-domain, Multi-vendor Networks

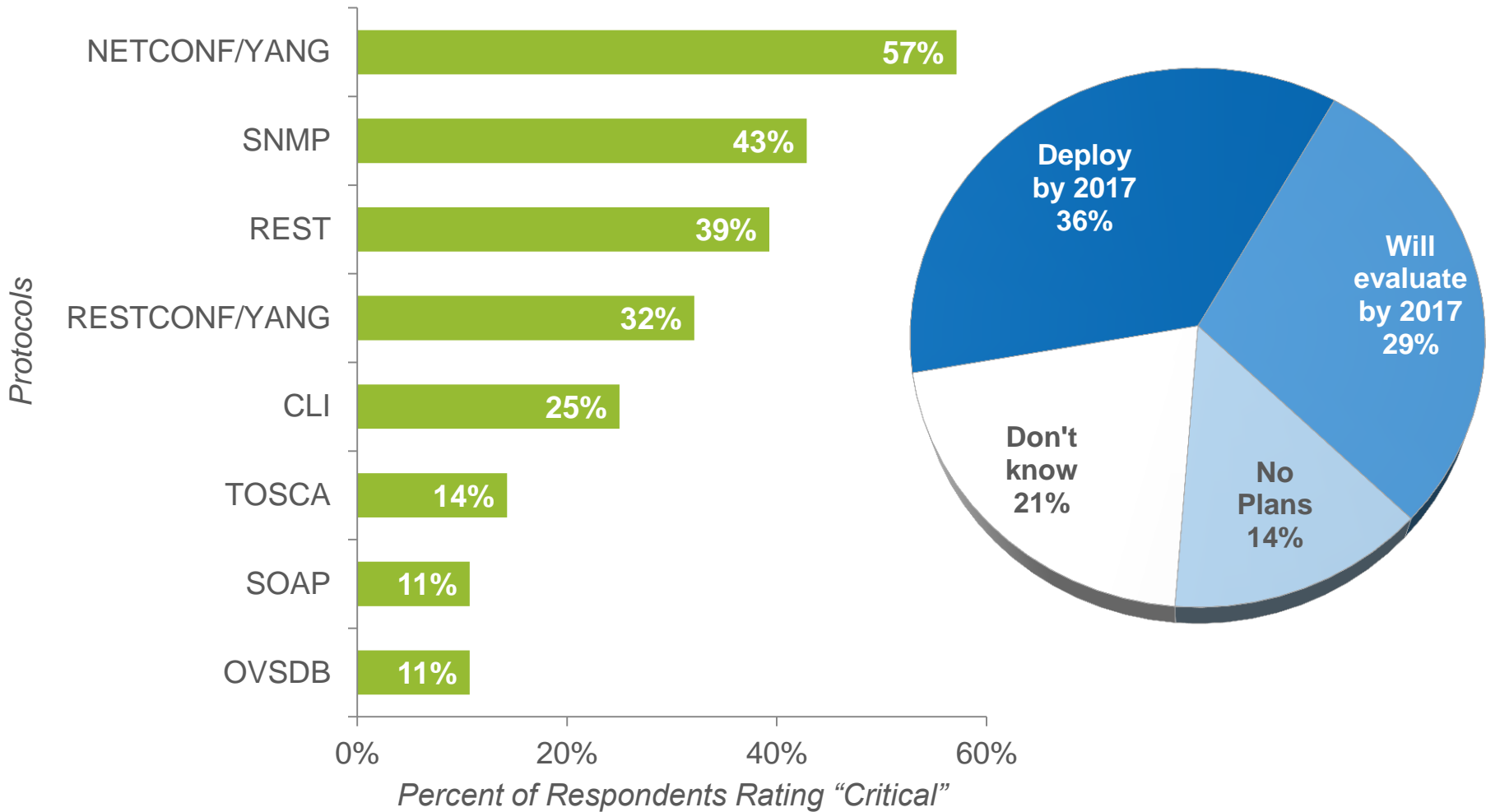
Two Primary Barriers

- 1** Software Not Carrier-Grade Yet
- 2** How to Interoperate Physical and Virtual in Existing Network

Carrier Network Architecture ~2020

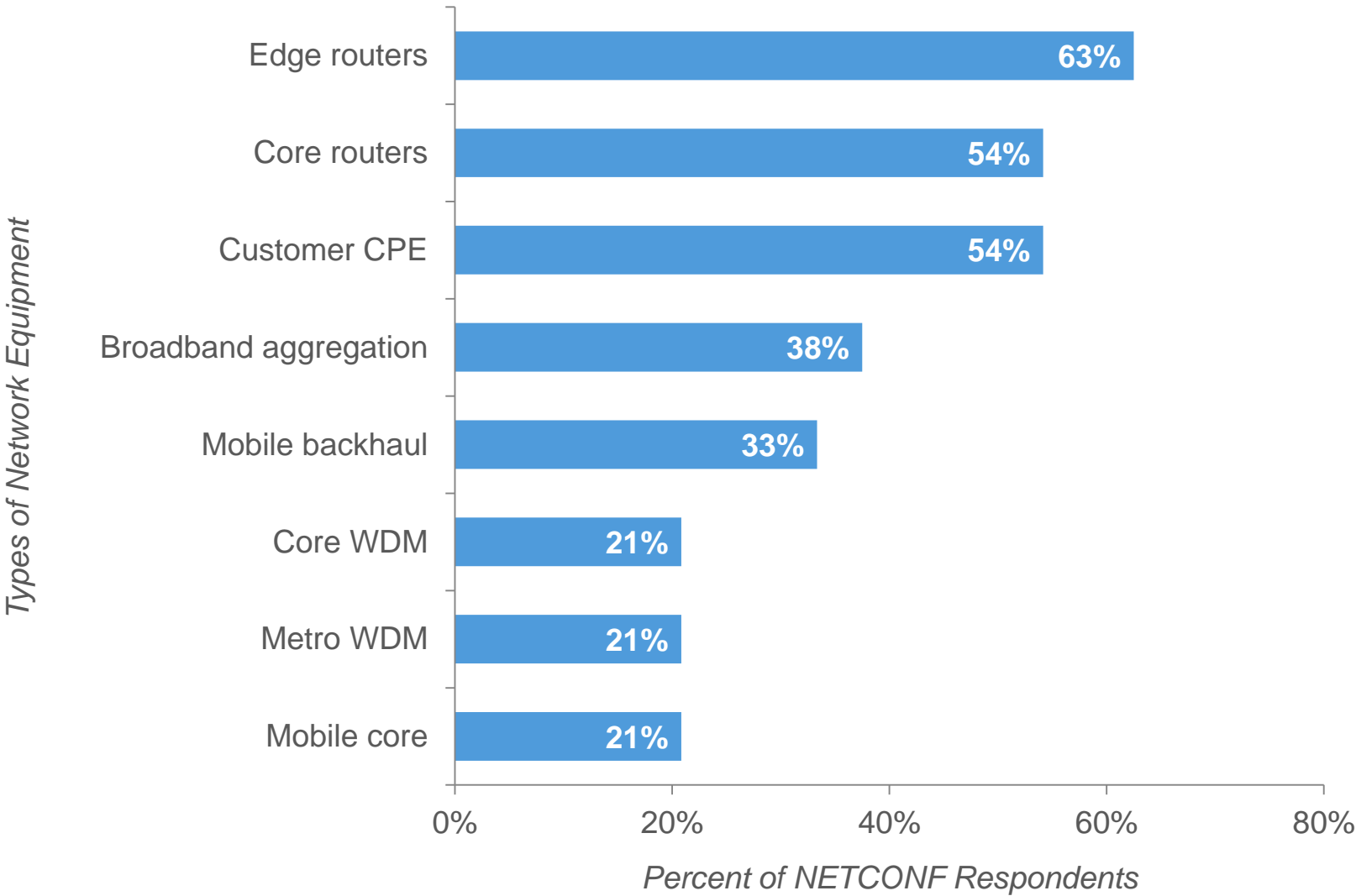


Operators Want NETCONF/YANG



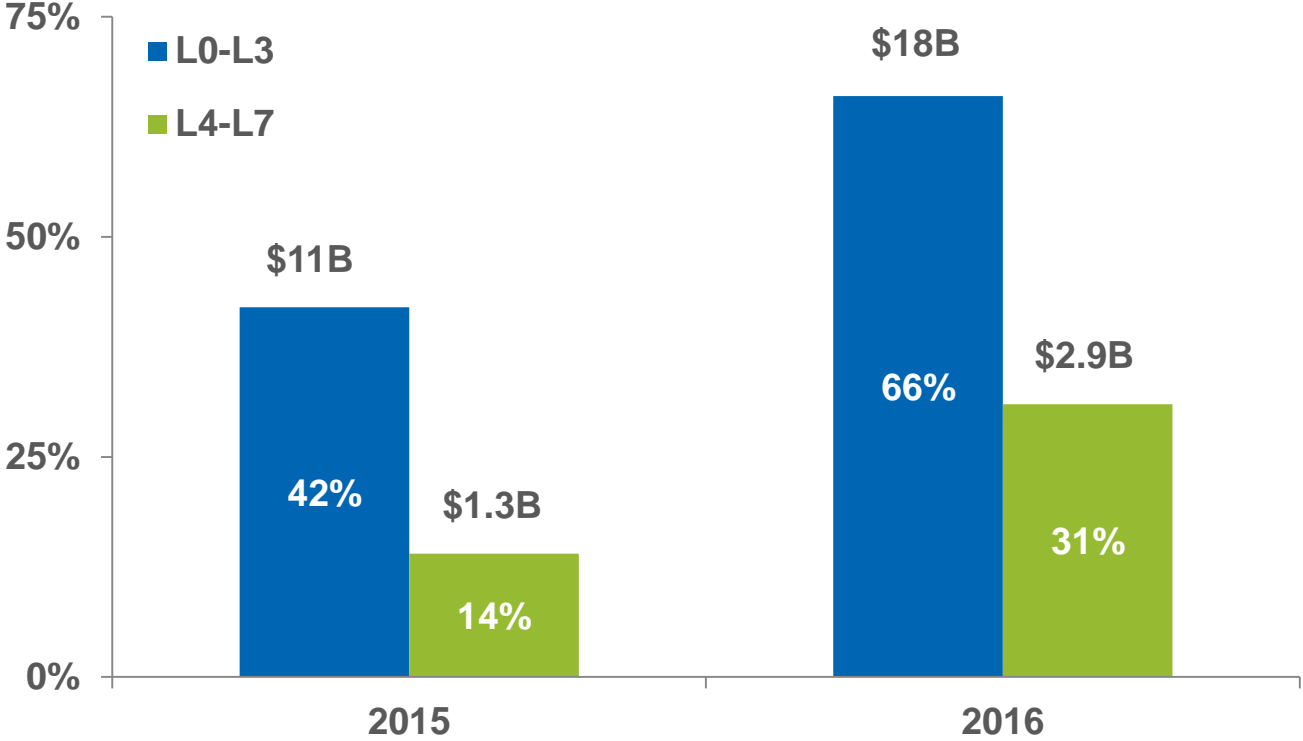
2015 survey of carriers that control 49% of worldwide telecom capex

Routers, CPE Top NETCONF/YANG Targets



2015 survey of carriers that control 49% of worldwide telecom capex

Vendors Delivering / Planning NETCONF/YANG

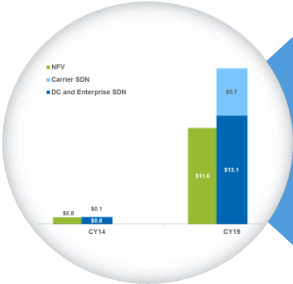


- ▶ Manufacturers say that 66% of their L0-3 products sold in 2016 will offer NETCONF/YANG config tools
 - Edge/core routers, carrier Ethernet switches, WDM gear
- ▶ L4-7 products will adopt more slowly

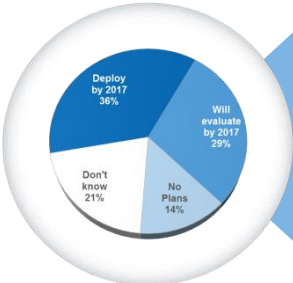
Conclusions

1 Service Agility for Quicker Time to Revenue

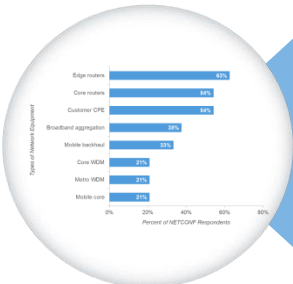
Service agility drives carrier NFV investments – it's about automation



Carrier NFV/SDN is \$30 billion market in 2019; \$6 billion is new



Carrier want NETCONF/YANG, RESTCONF coming



NETCONF/YANG coming for routers, carrier Ethernet switches, optical transport

Thank you



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