



Debate Session II

Software defined cloud networking – the formless in pursuit of the ephemeral?

Introduced and Chaired by: Brad Casemore
Research Director, Datacenter Networks





Coming to Grips with SDN

April 2015

Brad Casemore, *Research Director, Datacenter Networks*

Cloud Services: At the Center of Growth

Everyone's doing it already

80%

of **US** companies
are at least
considering Public
or Private Cloud

Most plan to do a lot more

Cloud using enterprises
expect to increase their
Cloud spending by

34%

over the next 24 months

Driving most budget growth

Businesses
will spend

\$122B

on Public Cloud IT
services in 2018

Developers

90% of new commercial apps now developed specifically for cloud

Enterprise & Service Provider IT infrastructure spending to build/enable
cloud services are growing at **20%** per year, reaching **\$65B** in 2017

“Arms Dealers”

Service Providers

By 2020, more than **40%** of all servers will be in Service Providers'
data centers – up from 19% in 2014 (most of expansion from cloud)

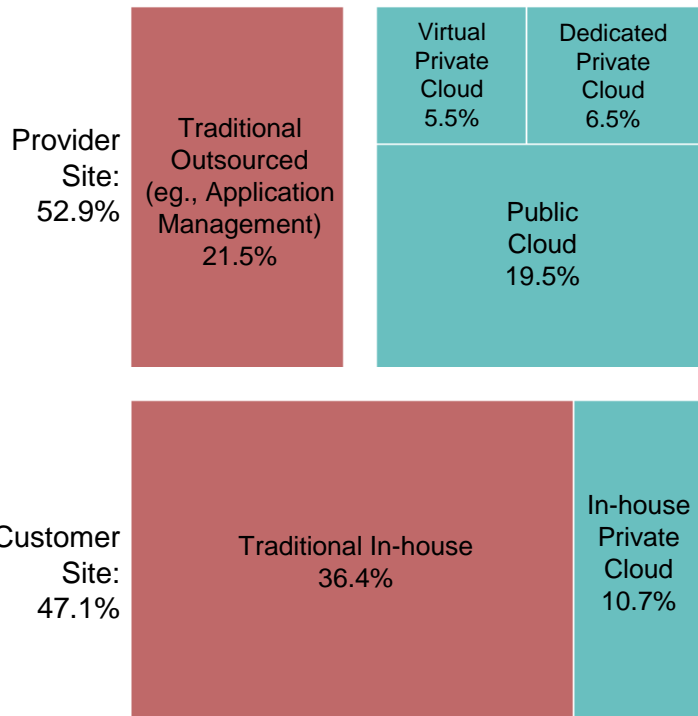
Insights: How Does Cloud Figure into Enterprise IT Sourcing Plans?



[Q3] Please estimate what percentage of your organization's total annual IT budget is allocated to each of the following procurement/management models.

Today

External Cloud: 31.4%

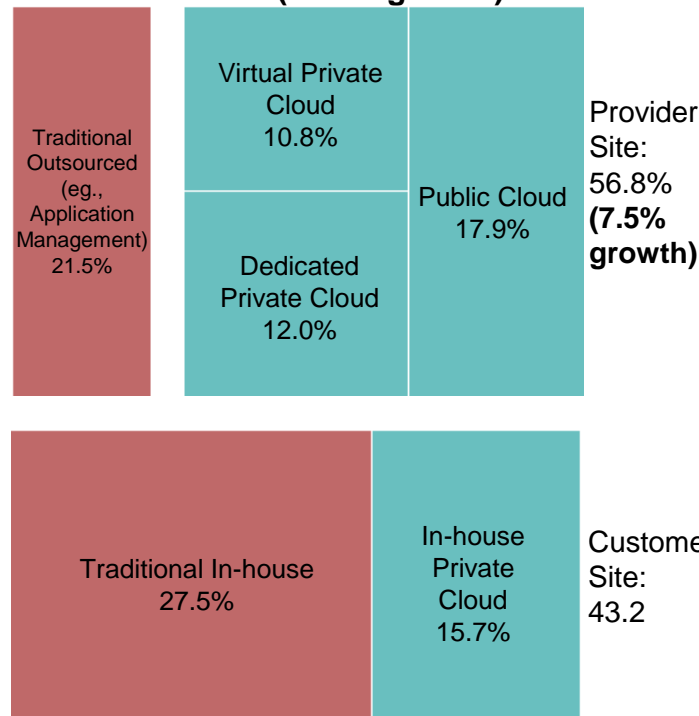


Non-cloud: 57.9%

Cloud: 42.1%

In 24 Months

External Cloud: 40.8%
(29.8% growth)



Non-cloud: 43.6%

Cloud: 56.4% (34% growth)

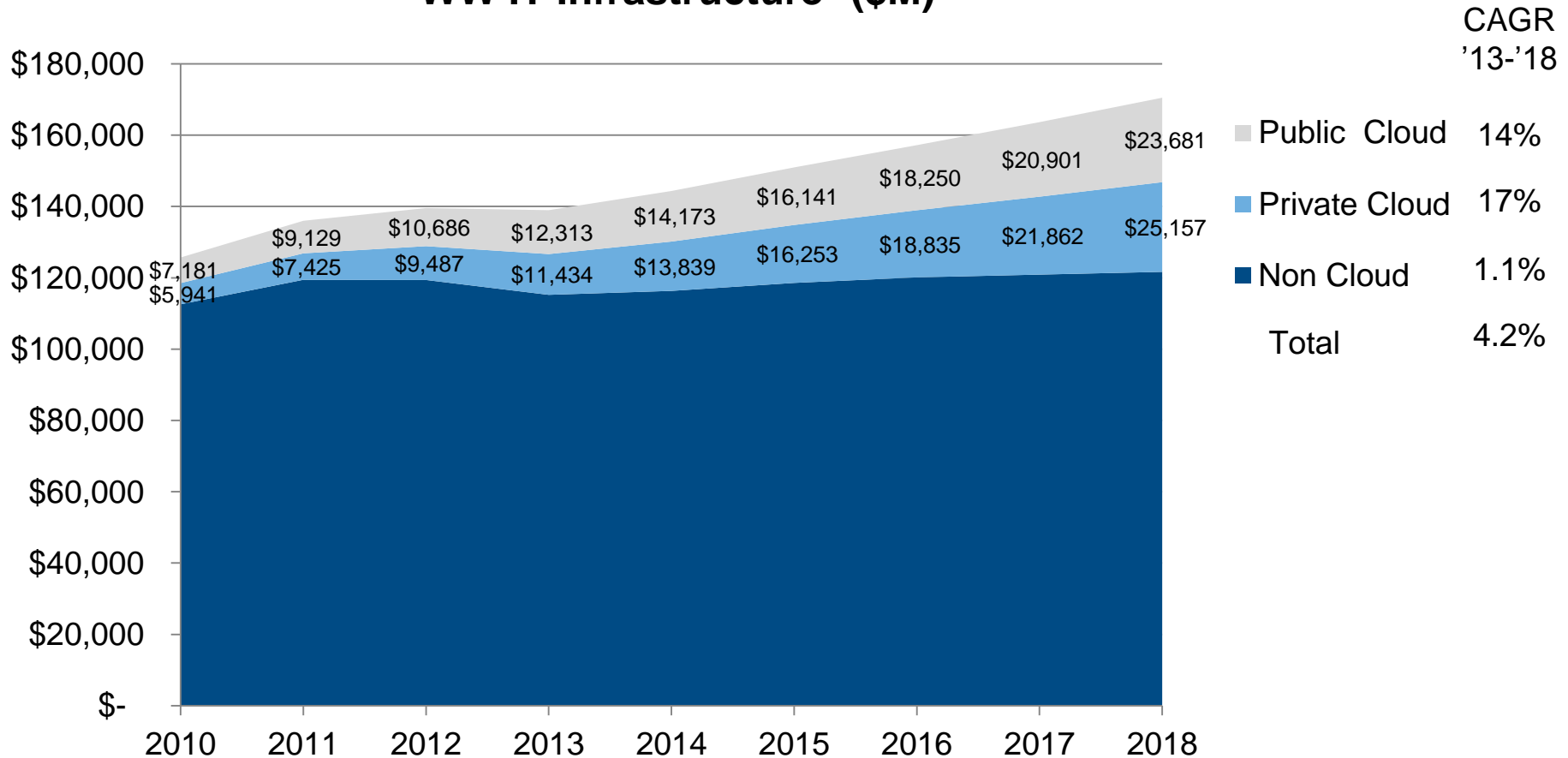
- Public cloud is **transformative** and challenges all our notions about how IT is bought, staffed, operated, and capitalized
- Private cloud is **evolutionary** for the vast majority of enterprises, and the likely on-ramp to cloud for the next 24 months
- Hybrid approaches to IT delivery are already a standard, but cross-platform management is the next frontier

Networking Analogy to 3rd Platform

- First Period (1980 to 1995) -- ARPANET, Circuits, Hubs, SNA, Ethernet, Token Ring, Routers – Mainframes and Minicomputers
- Second Period (1995-2010) -- Switching, Multiprotocol Routing, LAN-WAN, TCP/IP – PC/client server, with predominance of north-south traffic
- Third Period (2010-?) -- The SDN/DDI Era, DevOps/NetOps, Hybrid Cloud, 3rd Platform Apps
 - For virtual workloads and workflows, big data, hyperscale web, VMs, containers – east-west traffic predominates, focus on automation, programmability, orchestration

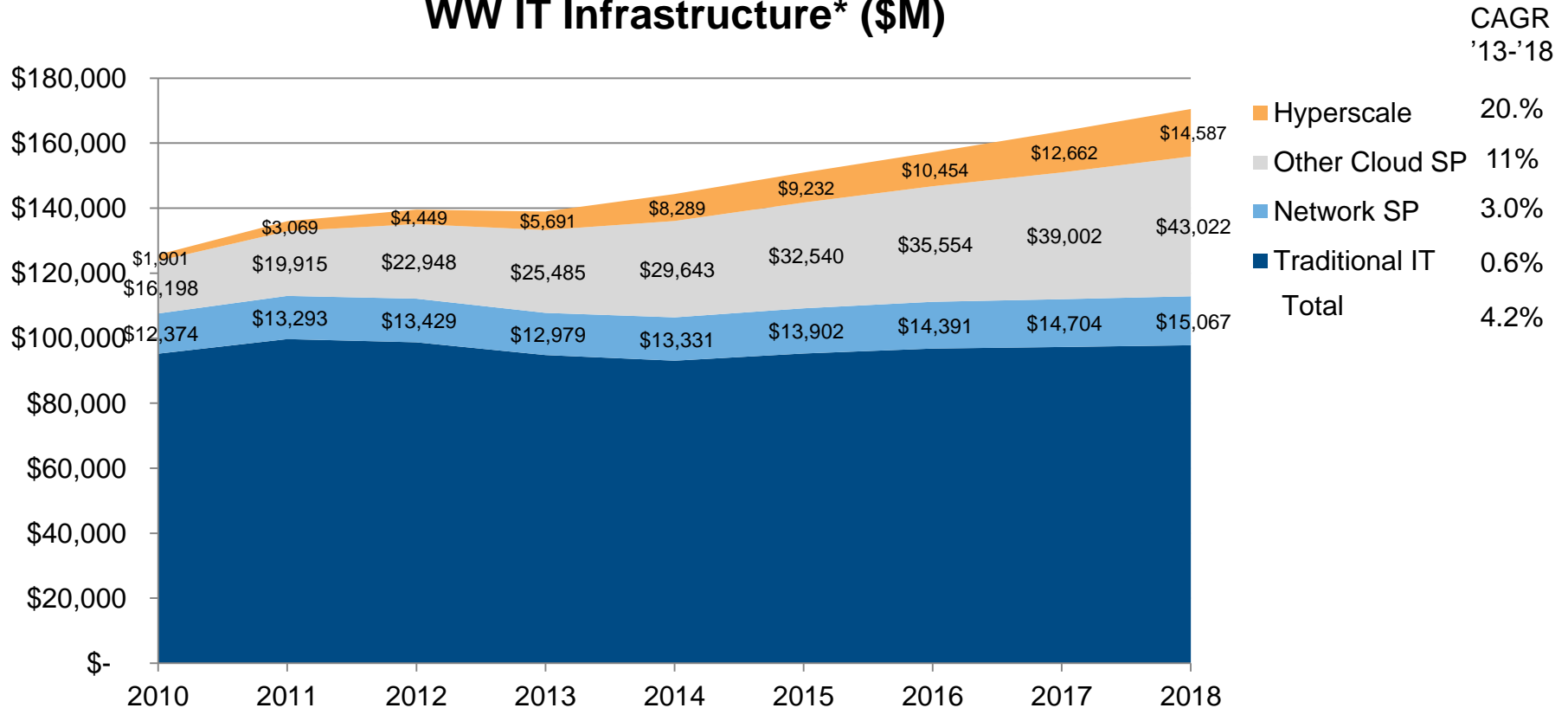
WW IT Infrastructure Opportunity

WW IT Infrastructure* (\$M)



WW IT Infrastructure Segmentation

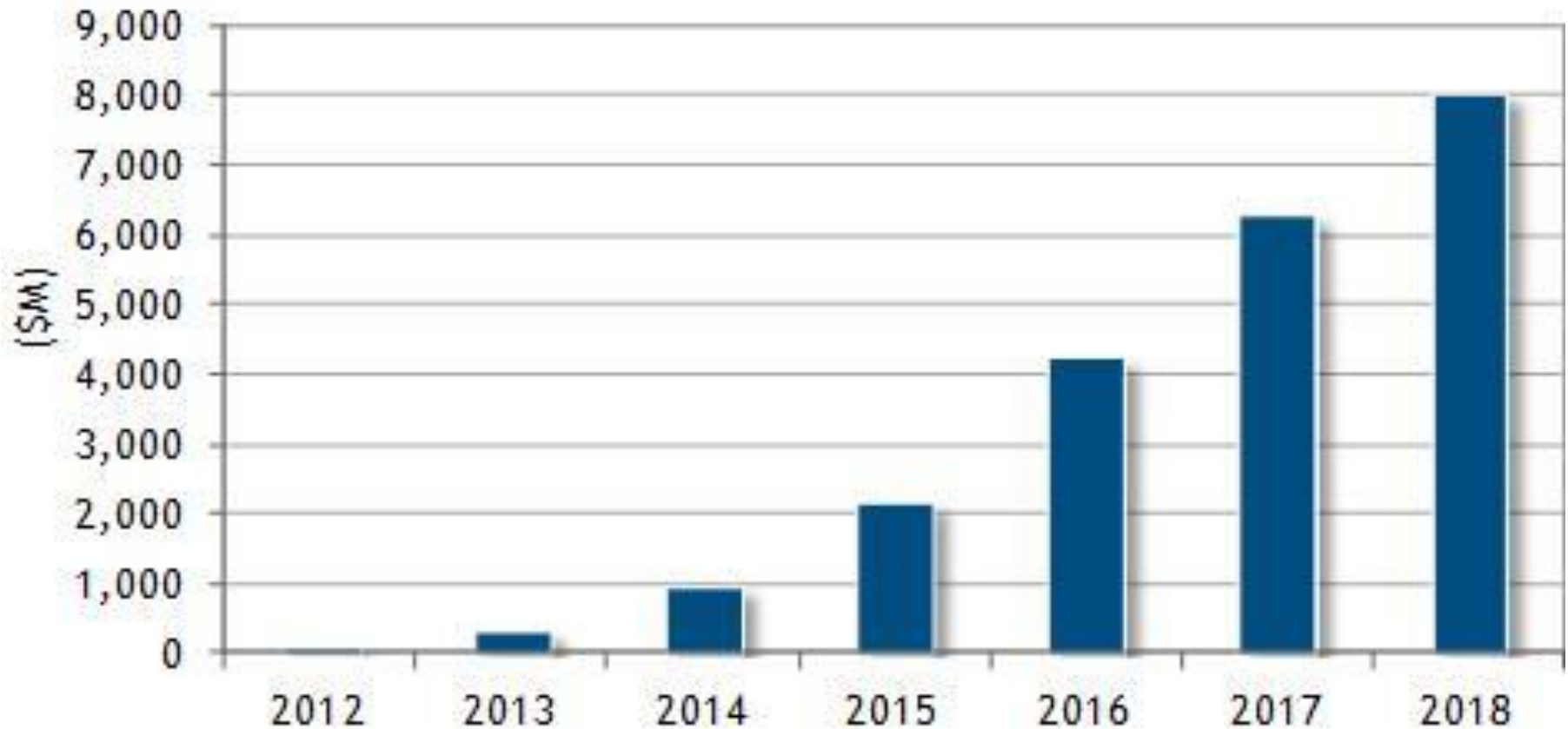
WW IT Infrastructure* (\$M)



Changing Dynamics of Datacenter Networking

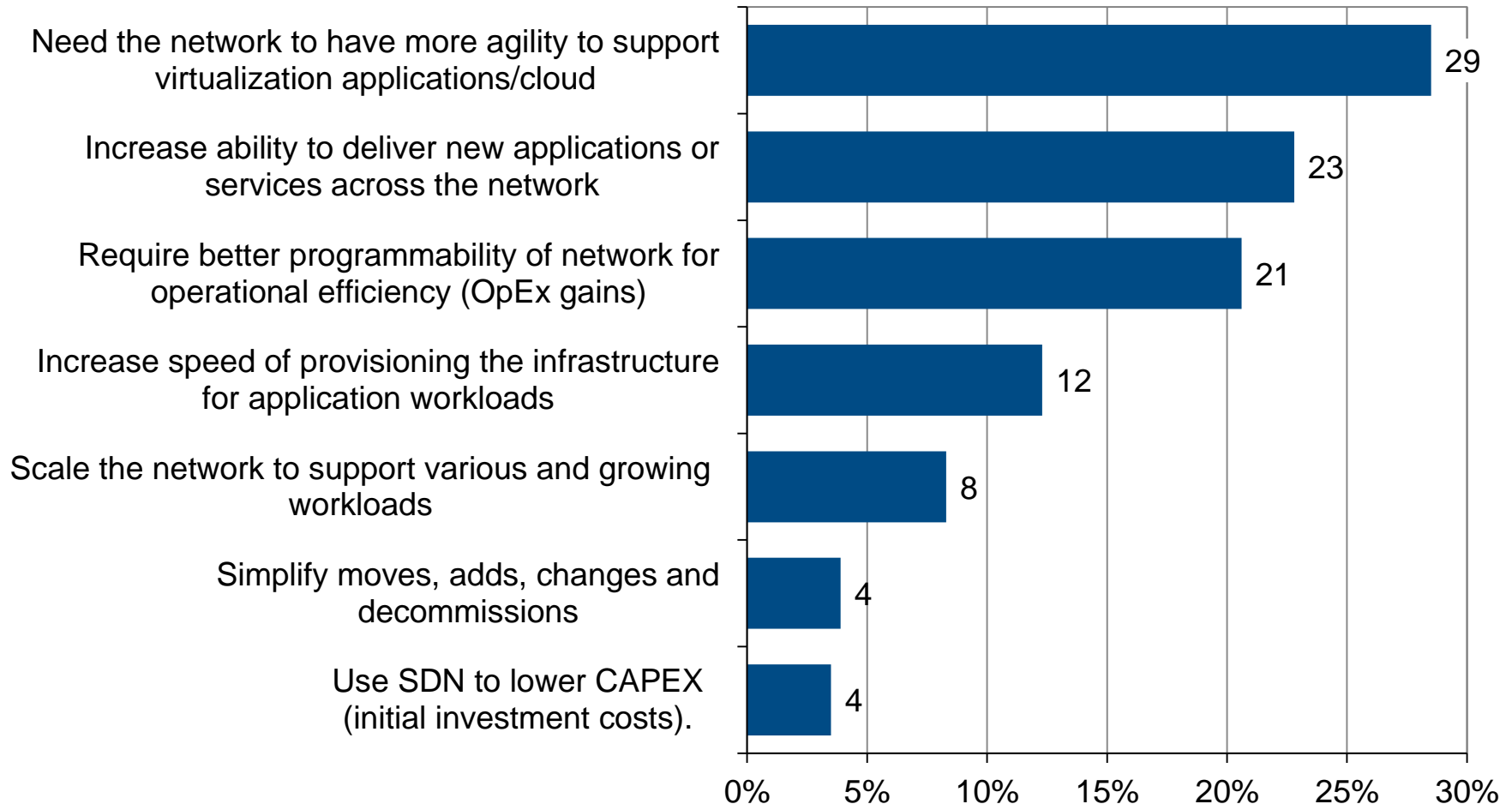
- Traditional Networking – Distributed control plane, incremental technological innovations and enhancements, including fabric architectures, new protocols.
- Software Defined Networking (SDN)
 - Overlay-based network virtualization
 - OpenFlow controllers and switches
 - SDN leveraging existing and emerging industry-standard protocols (BGP, ECMP, XMPP, etc.) and APIs (northbound and southbound)

SDN Market To Reach \$8B in 2018



What's Driving Today's SDN Deployments?

Q. Which of the following factors is the primary motivation for considering or implementing SDN?





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Nand Mulchandi, Vice President



Chris Liou, VP, Network Strategy



NTT America

Nayan Naik, Office of the CTO



Dave Hawley, Global Product Manager



Eric Hutchinson, CEO