

Hyperscale Azure SDN

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Microsoft Infrastructure & Software Investments



- Fifteen year history building Hyper Scale Infrastructure
- Global WAN spanning 6 continents and 75+ metros
- Azure customers enjoy the same scale and benefits
- SDN is in our DNA -- Microsoft is Software Company

Hyper-EarthScale



4400+
CONNECTIONS
TO 1695 NETWORKS



MILES OF FIBER
IN OUR DATA
CENTERS



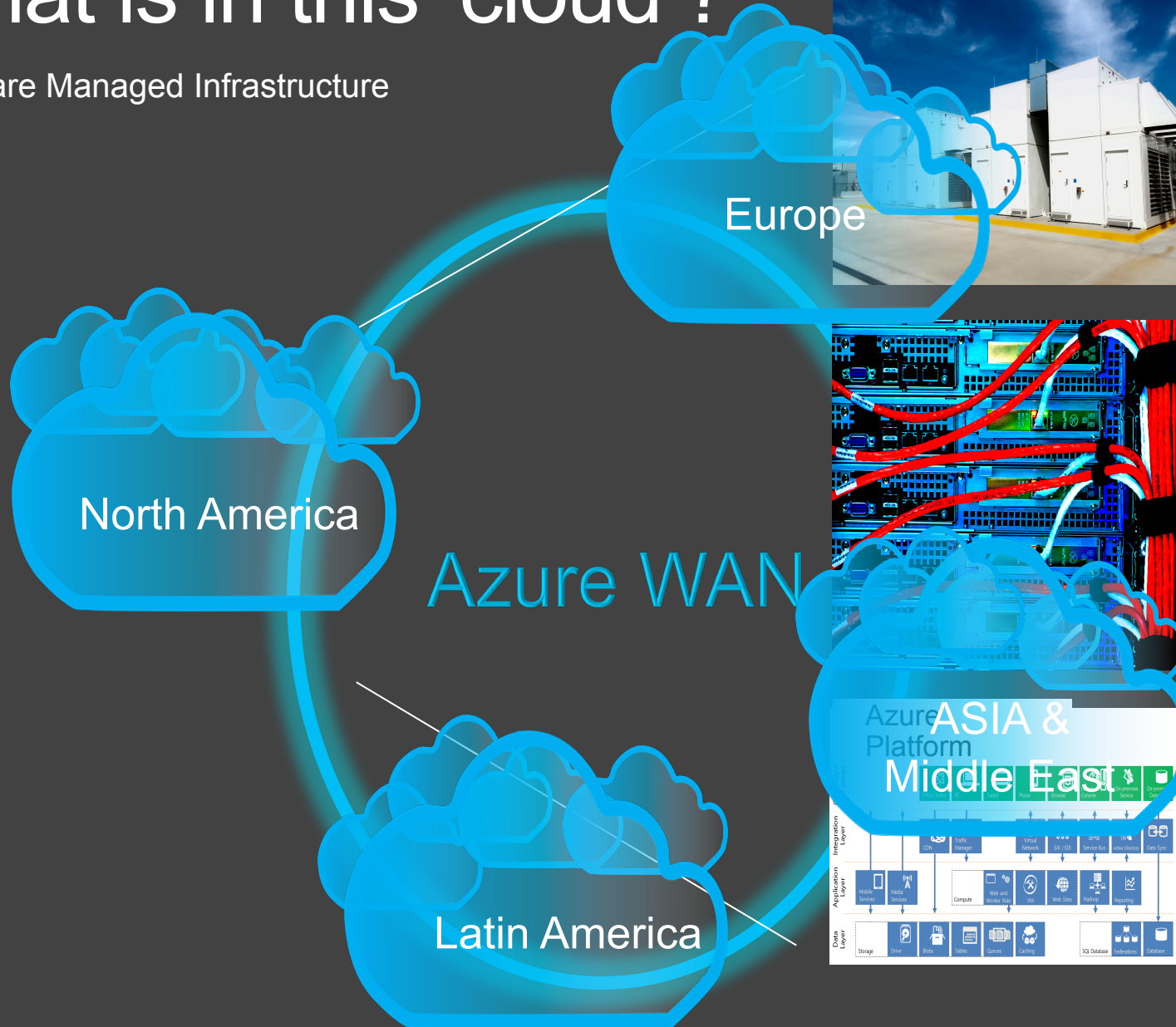
ROUTE MILES -
SUBSEA,
TERRESTRIAL &
METRO



MICROSOFT CLOUD
INVESTMENT

What is in this 'cloud'?

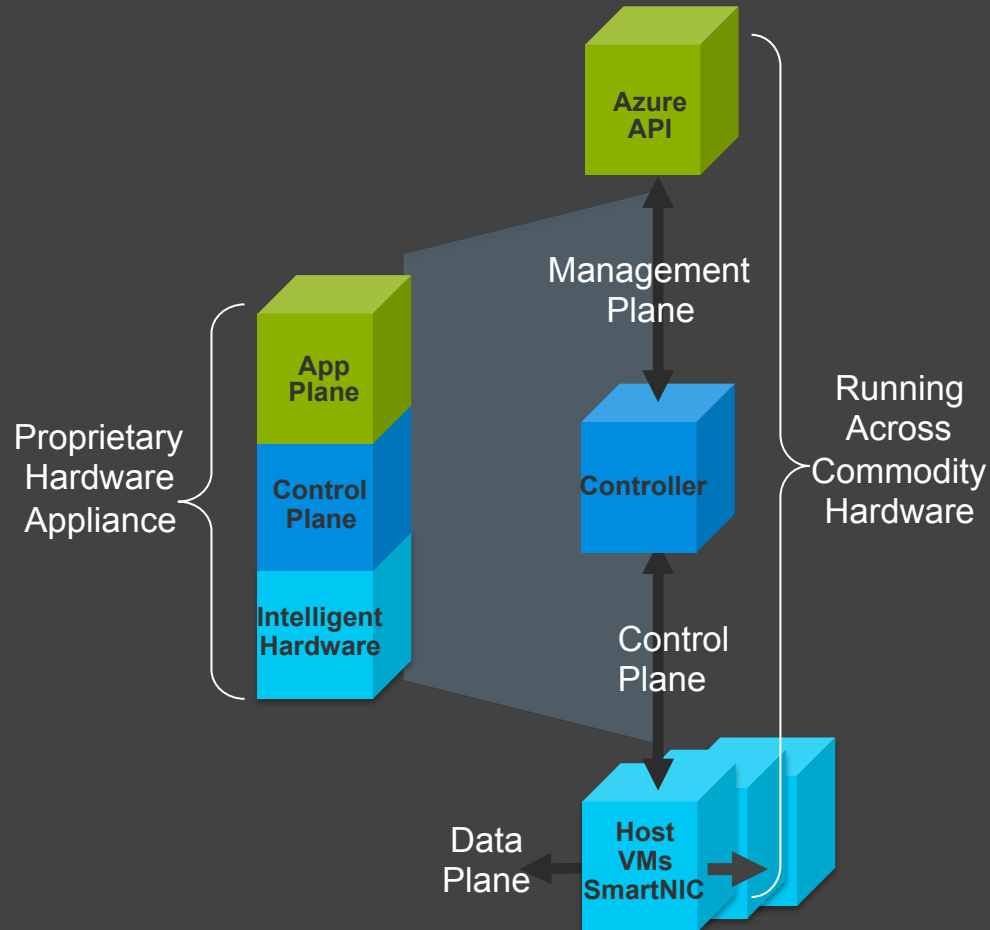
Software Managed Infrastructure



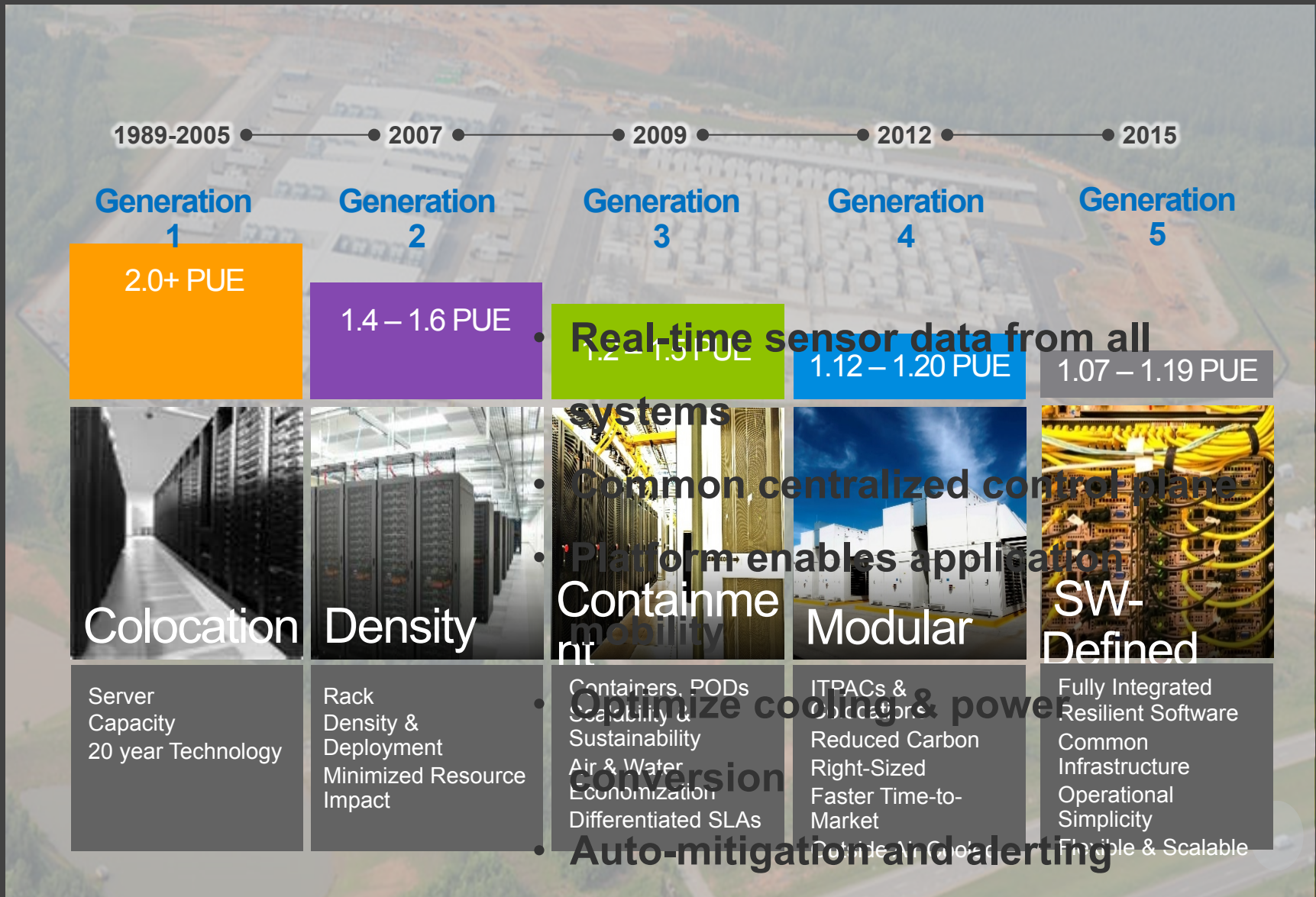
“Software-Defined” . . . (Network, Datacenter)

SDN puts the control/intelligence in our own hands

Abstract Planes -- Build & Deploy Independently -- APIs to Control and get Visibility -- Tell and Program

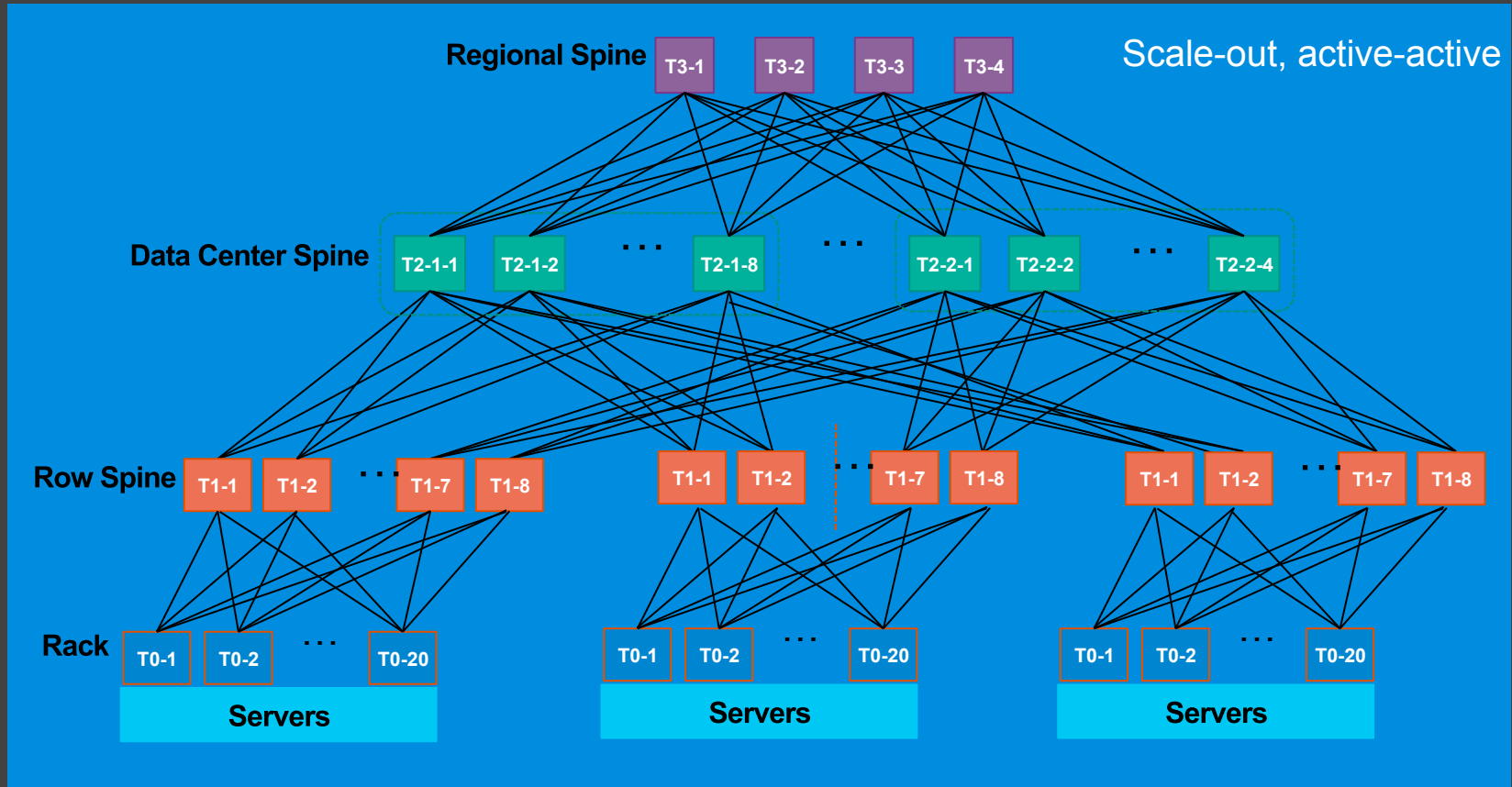


Hyperscale Azure Datacenters



Networking Inside the Datacenters

Clos topology - multi-path, highly redundant, simple, commodity parts

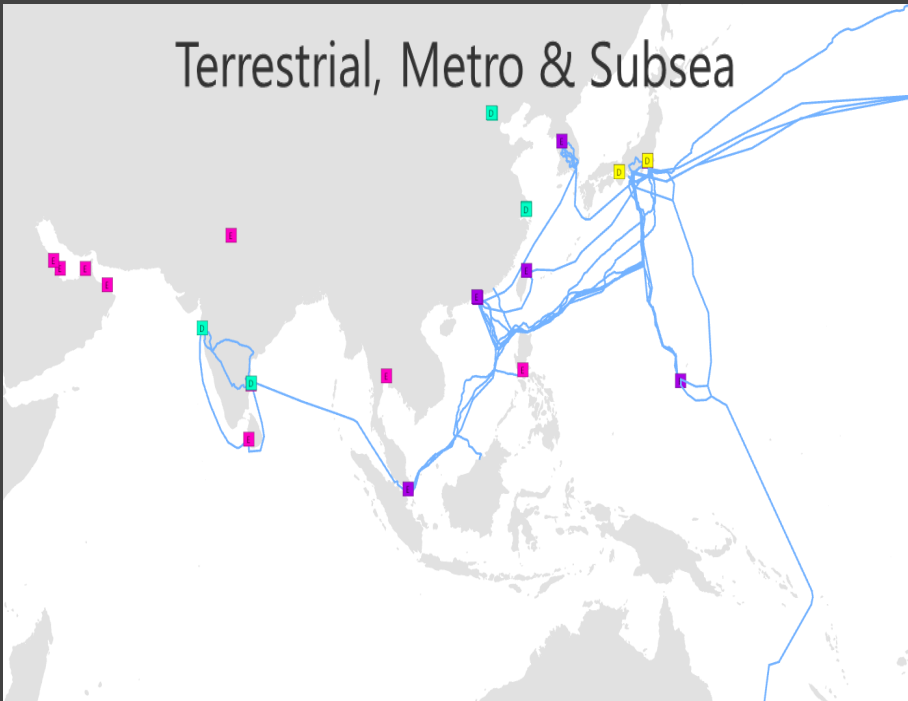


Azure Fiber Infrastructure

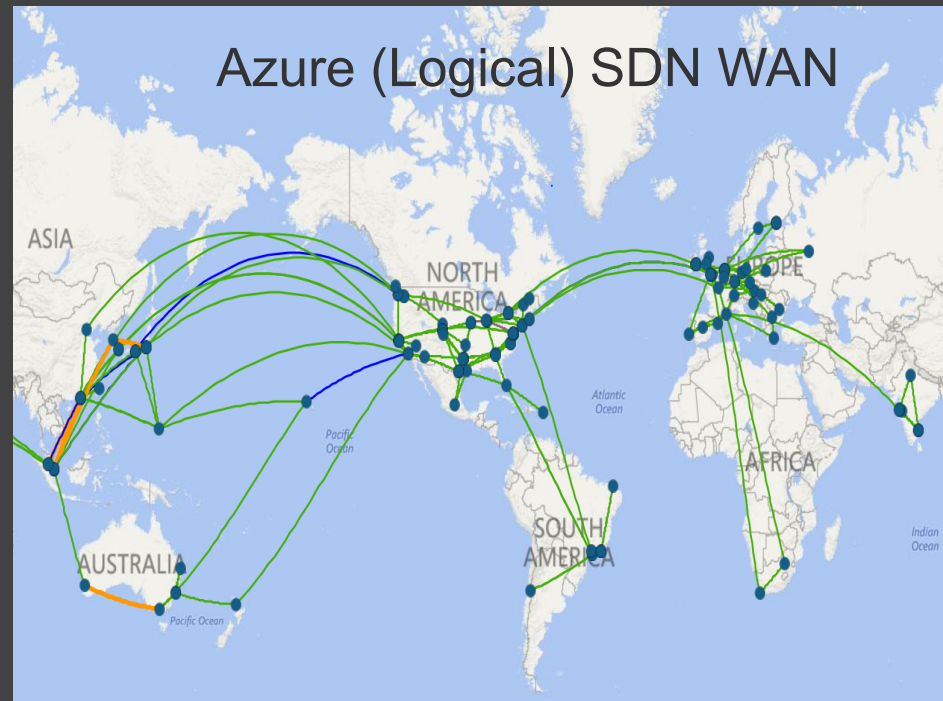
Subsea

- Microsoft owned / managed to control performance & cost
- Optimized to get *our* users closer to their Service
- Software Defined, Managed, enabling Self Healing

Terrestrial, Metro & Subsea

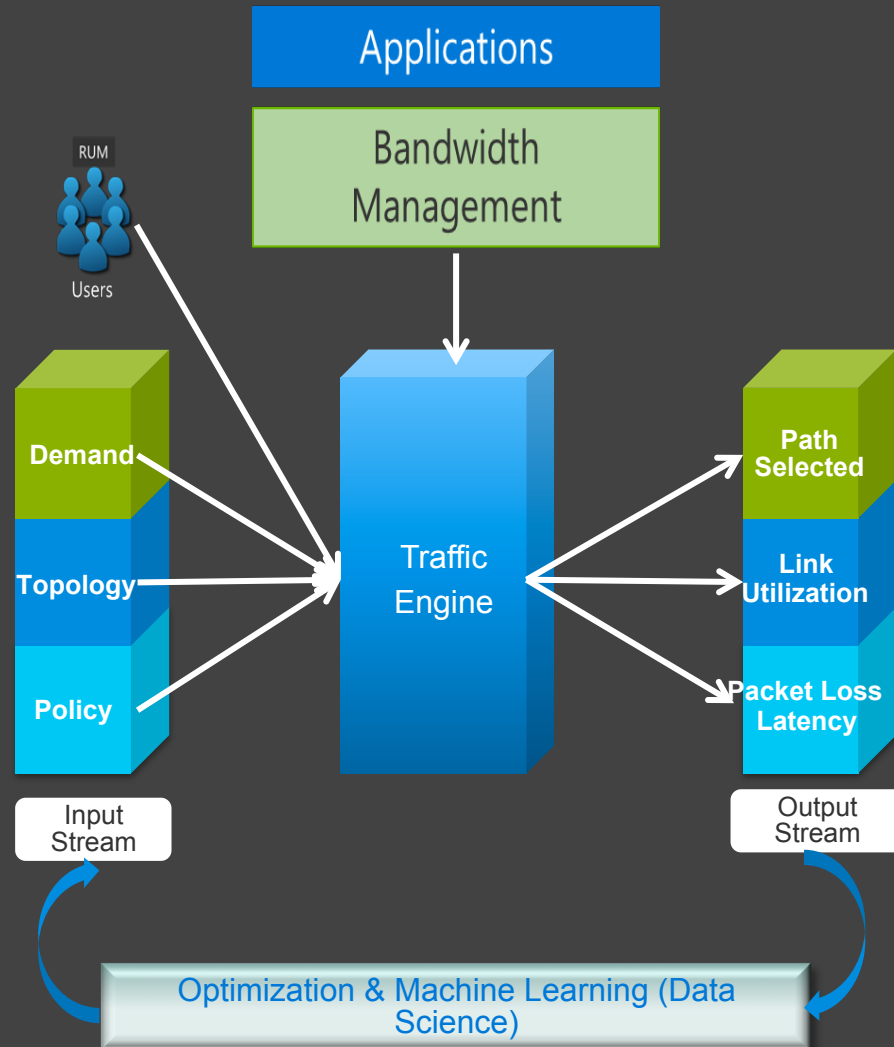


Azure (Logical) SDN WAN



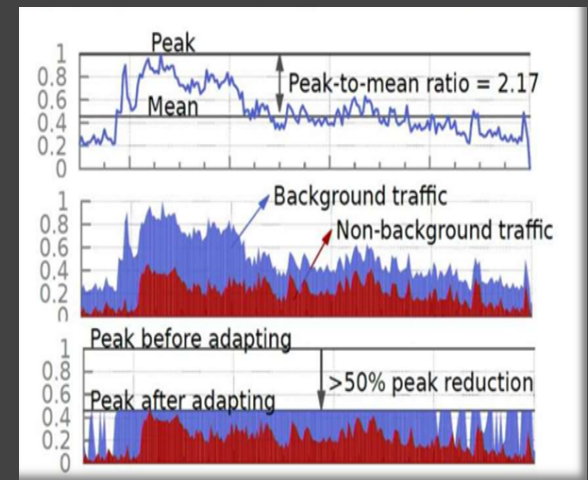
Software Defined WAN

Highly efficient WAN supporting flexible sharing policies



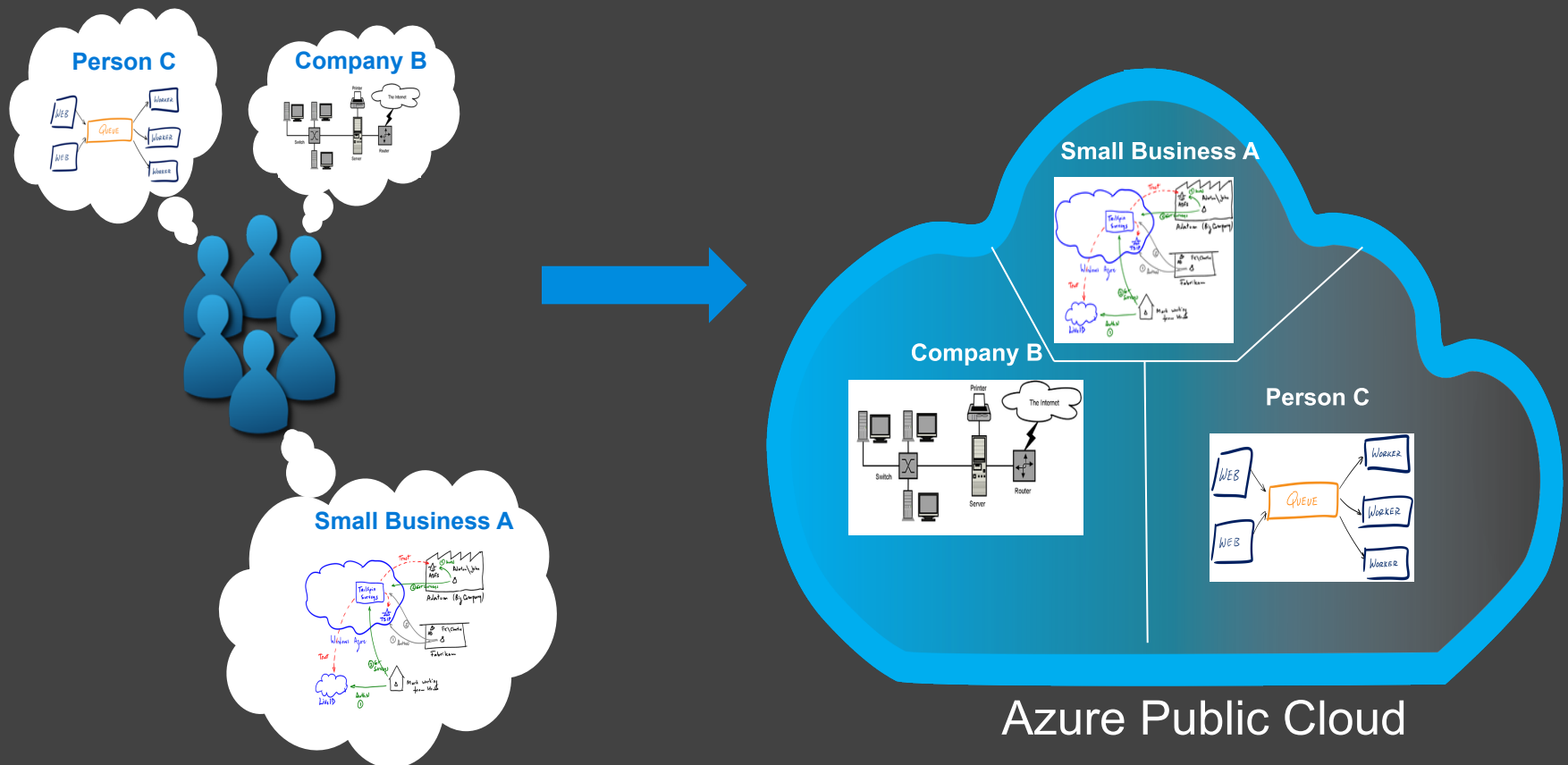
Key design elements

- Strict priority classes
- Distributed Policing
- Coordinated Management



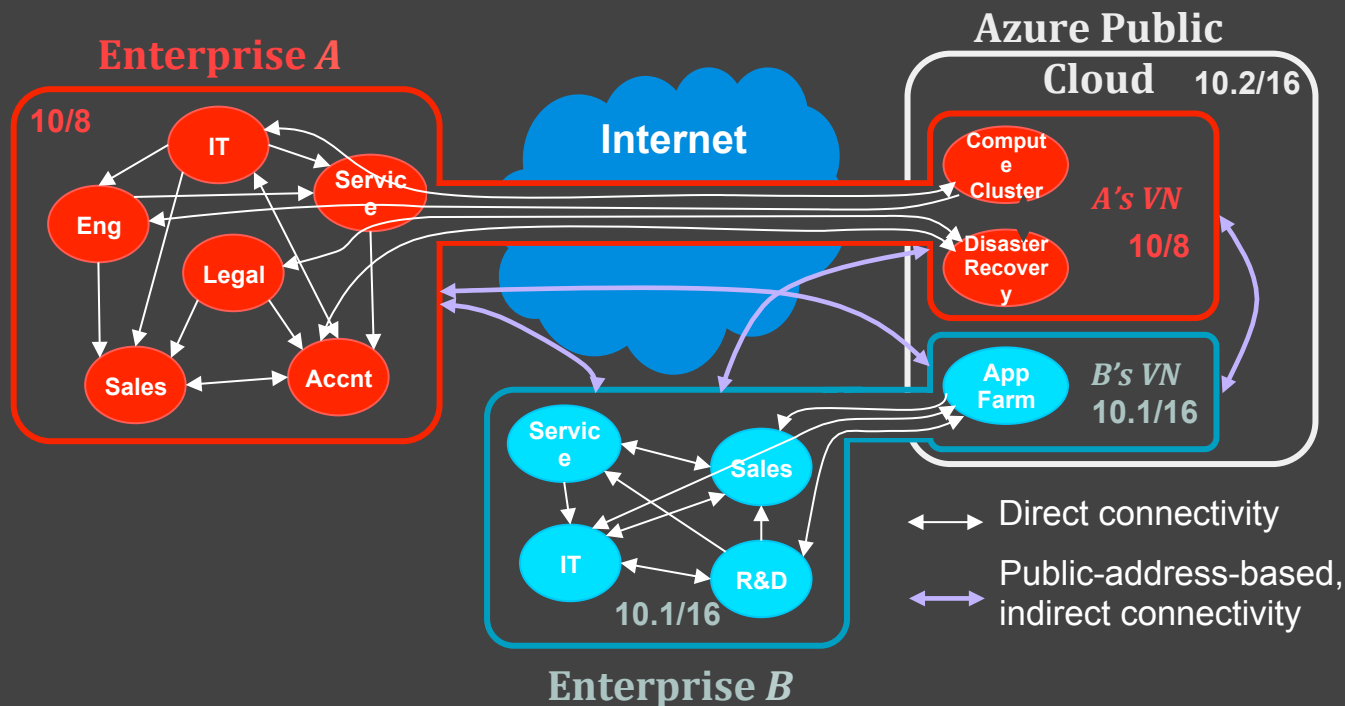
SDN in Azure Public Cloud

BYO Network Architecture

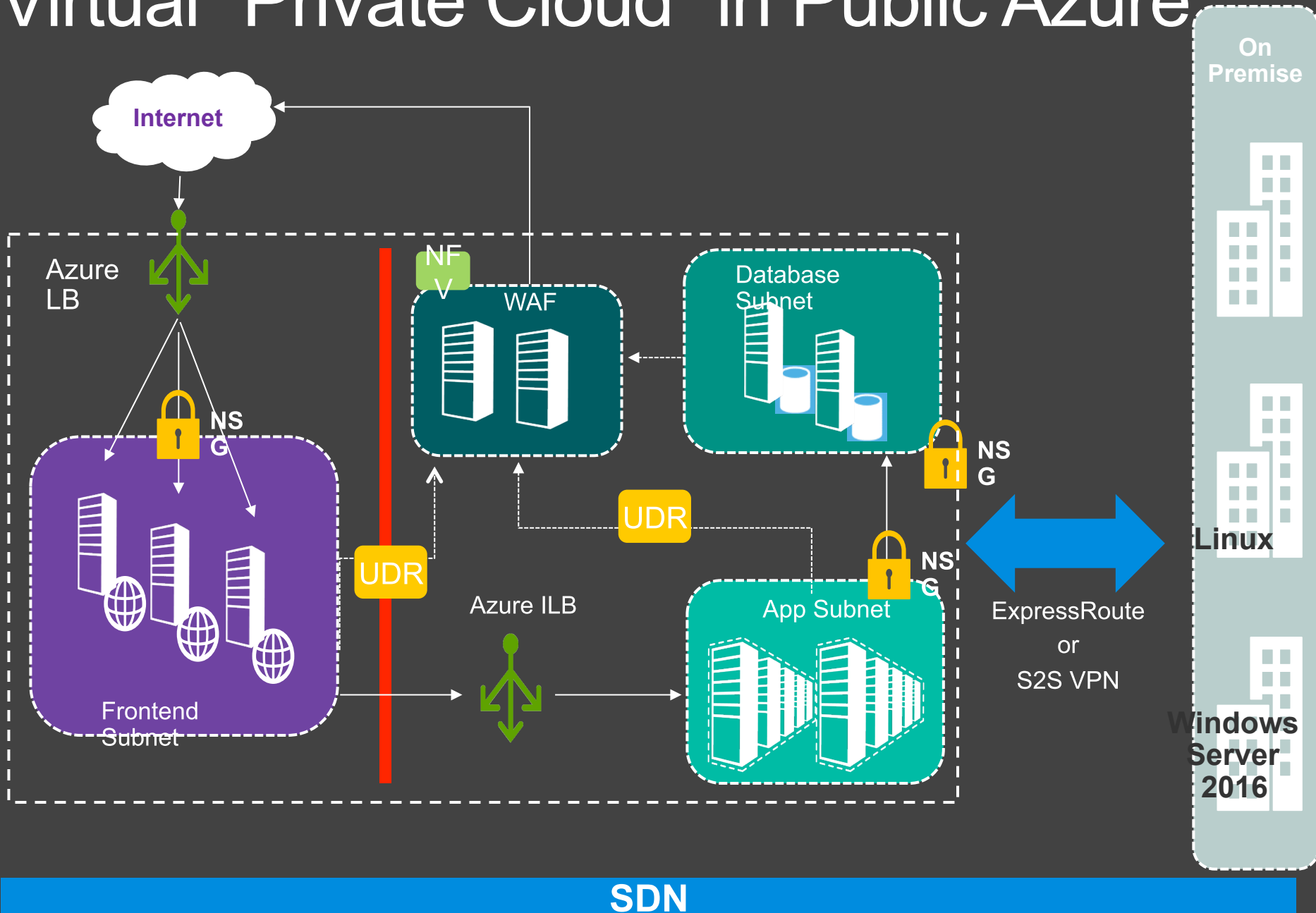


Virtual Network: your “private network” in the cloud

- Logically isolated section of the public cloud
- Provides persistent private IP addresses and micro segmentation
- Supports Bring Your Own appliances (NFV), DNS
- Extends connectivity to on-premises



Virtual “Private Cloud” in Public Azure



A world map with a dark gray background, overlaid with a complex network of white lines and dots representing global connectivity. Large orange circles highlight specific regions: North America (Seattle, Silicon Valley, Los Angeles, Chicago, Dallas, New York, Washington DC, Atlanta), Europe (Dublin*, London, Amsterdam), Asia (Mumbai*, Chennai, Hong Kong, Tokyo, Osaka), and Oceania (Sydney, Melbourne*). South America (Sao Paulo) and Africa are also shown with network lines but no highlighted regions.

ExpressRoute

Privately connect from
anywhere to any Azure
region

Azure Hyperscale – Software Defined

