



Edge: Tomorrow's Network Today

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New Business Models Are Driving An Explosion Of Data Which is Putting New Demands on the Network



1.5

gigabytes
per day¹



18

terabytes
per day²



4

terabytes
per day³



3

terabytes
per minute⁴

¹<https://www.cisco.com/c/en/us/solutions/service-provider/vni-network-traffic-forecast/infographic.html>

²Amalgamation of analyst data and Intel analysts.

³<https://itpeernetwork.intel.com/data-center-holds-keys-autonomous-vehicles/>

⁴<https://newsroom.intel.com/news/2018-ces-keynote-intel-brian-krzanich/>

Video Drives Network Transformation



82%
OF INTERNET
TRAFFIC¹



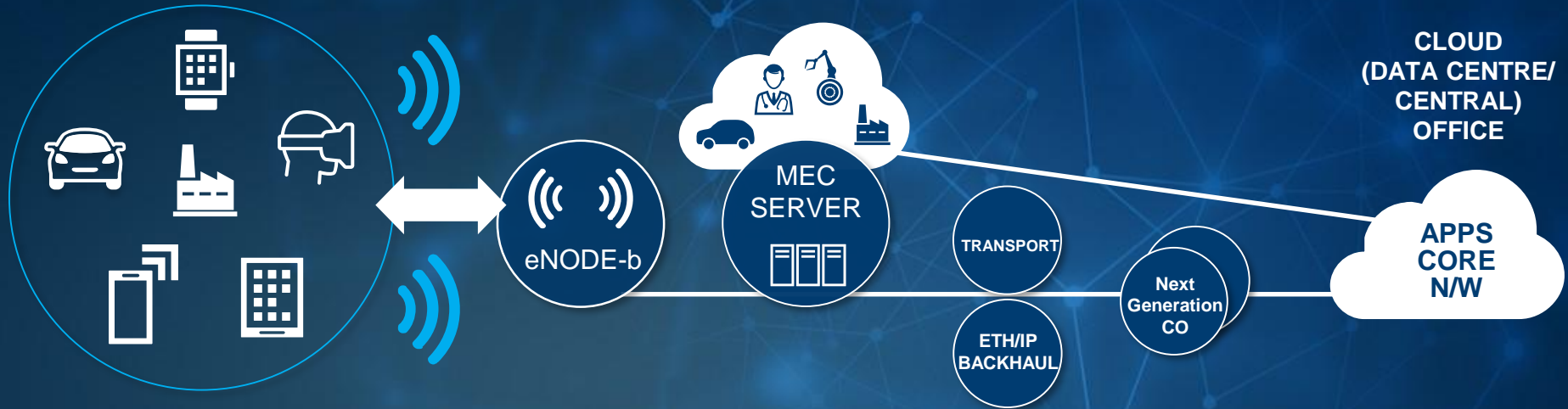
75%
OF MOBILE DATA
TRAFFIC¹



60%
OF IOT DATA
TRAFFIC¹

¹ Source: Cisco Visual Networking Index (VNI) Report 2016, ABI Research

Transformation From Core To Edge



PROXIMITY

ULTRA-LOW LATENCY

HIGH BANDWIDTH

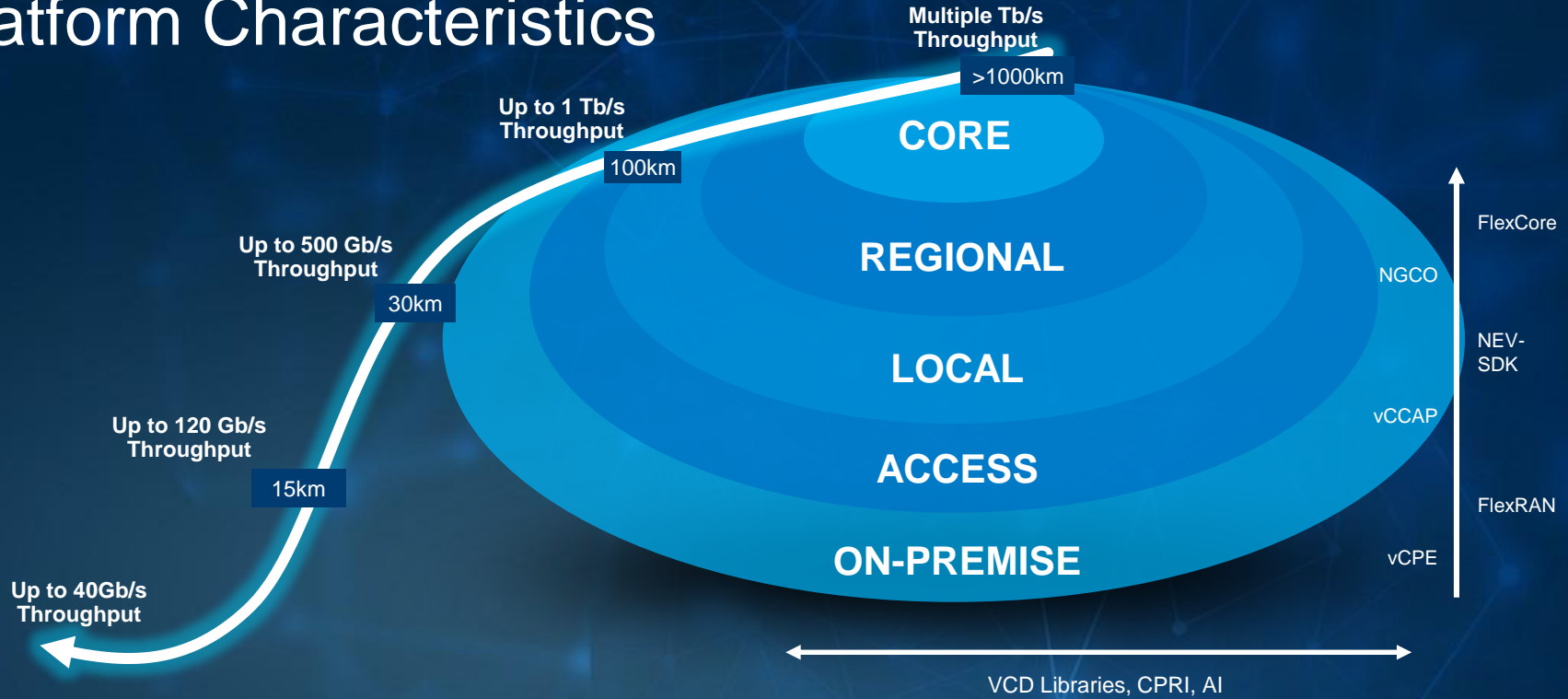
REAL-TIME ACCESS
TO RADIO NETWORK

LOCATION
AWARENESS

Edge Can Provide Value For Latency Sensitivity



Platform Characteristics



Intel® Xeon® Processor

Intel® Atom™ Processor

Intel® Ethernet Controller

Altera® FPGA

Intel® SSD

Intel® 3D Xpoint

Intel® QuickAssist

Intel® Quick Sync Video

Intel® Resource Director

Network Edge Platform Infrastructure

Applications
& Services
Flexibility

Virtualized Network Functions &
Cloud Native Applications

Orchestration



1

PACKET
PROCESSING

2

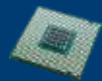
SERVICE
ASSURANCE

3

SECURITY

Software &
hardware
abstraction

Network Edge
Infrastructure



Intel® Xeon®
Processor



Intel® Xeon® D
Processor



Intel® Atom™
Processor



Intel® Ethernet
Controller

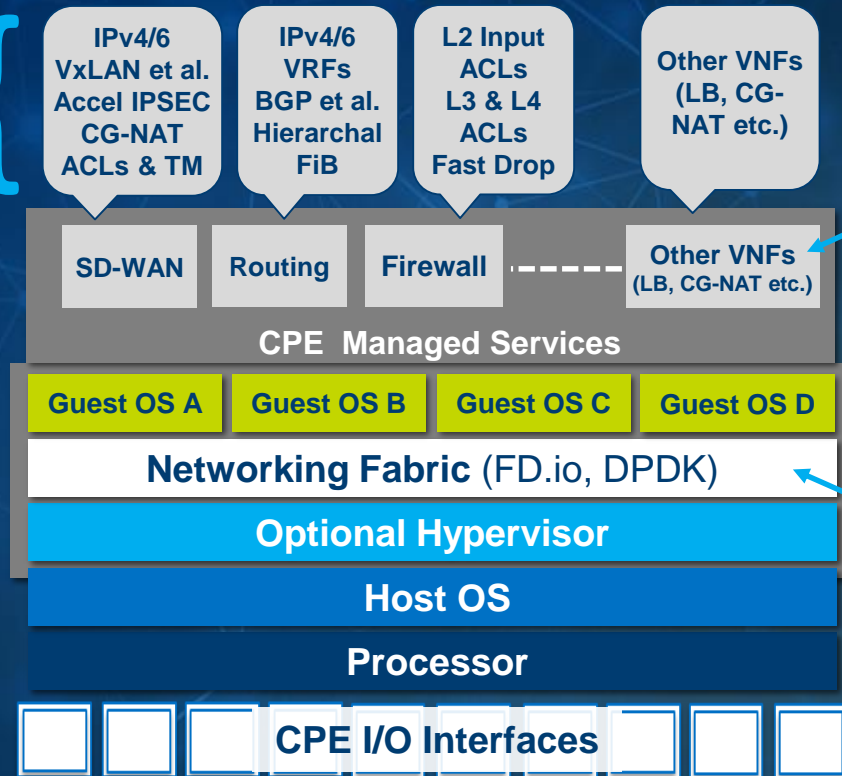


Intel® 3D
Xpoint



Intel® QuickAssist
Technology

FD.io vCPE Reference Stack



FD.io VPP based VNFs

1:N – 1 Network Stack, Many Possible VNFs!

- SD-WAN
- Routing (w/VPN & VRFs)
- Firewall (ACLs)
- Carrier Grade - NAT
- IPSEC Gateway

FD.io VPP based Fabric

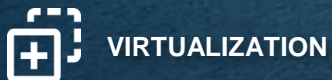
Best in class NFVi vSwitch!

- OpenStack* & OpenDayLight* Support
- Native Virtio/VHost Support
- Accel IPSEC w/DPDK CryptoDev
- Overlays; VxLan, GENEVE, GRE, NSH

CLOUD SERVICES

NETWORK INFRASTRUCTURE

FLEXIBLE, AUTOMATED, SECURE
AND ASSURED SERVICE DELIVERY



We Are in the
Middle of Network
Transformation

Proprietary
Fixed Function
Inflexible

Invest, Enable and Collaborate with Partners

CLOUD FOUNDRY

CLOUD NATIVE
COMPUTING FOUNDATION



World Class Standards



DPDK



katacontainers



kubernetes



OPEN
DAYLIGHT



Open Source
MANO



OPNFV



openstack



Open vSwitch



260+

Member
Companies

2500+

Developers
worldwide

82

Unique partners
solutions POCs /
Trials/ Deployments

3800+

Developers
trained

174k Page views

CLOUD READY
NETWORKS FOR
5G & IOT



Comms



Enterprise



Cloud

INVEST

Open Source and
Standards

COLLABORATE

Intel® Network Builders¹
Intel® Developer Zone²

ENABLE

End Users

[1] networkbuilders.intel.com

[2] software.intel.com/networking

Agenda – Deep Dive sessions/Hands on Labs

DPDK/FD.io	2:00-2:20 pm	VPP/FD.io synergy with DPDK – Performance Secret Sauce (Talk)
	2:20-4:00 pm	Kubernetes Networking with Contiv-VPP CNI plugin (Talk and Lab))
OPNFV/ONAP	2:00-4:00 pm	ONAP/OPNFV: Enablers for Cloud Service Providers and Enterprise (Talk and Lab)
OpenDaylight and Kubernetes	2:00-4:00 pm	Kubernetes Networking with OpenDaylight COE (Talk and Lab)

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