Cisco 5G Ready Platform(s)
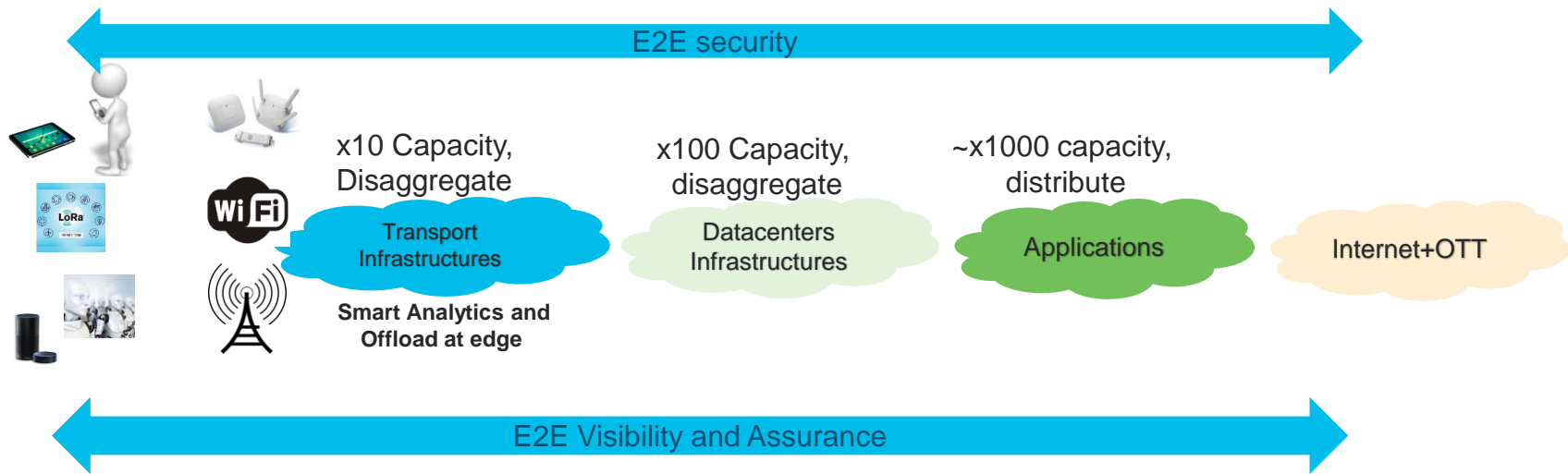
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Principal Architect, Cisco Systems Inc.

24 Sept 2017

What changes for 5G

E2E security

x10 Capacity,
Disaggregate

x100 Capacity,
disaggregate

~x1000 capacity,
distribute

Transport
Infrastructures

**Smart Analytics and
Offload at edge**

Datacenters
Infrastructures

Applications

Internet+OTT

E2E Visibility and Assurance
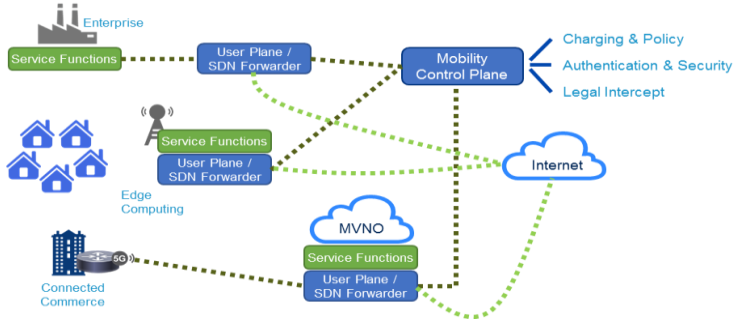
Changing Market Dynamics

1 Smartphone data/month ~10 G Bytes to >100 G Bytes/month

2 User Equipment's (smartphones << mMTC, sensors, Artificial Intelligence apps)

3 App based digital economy ($4.5T by 2025)
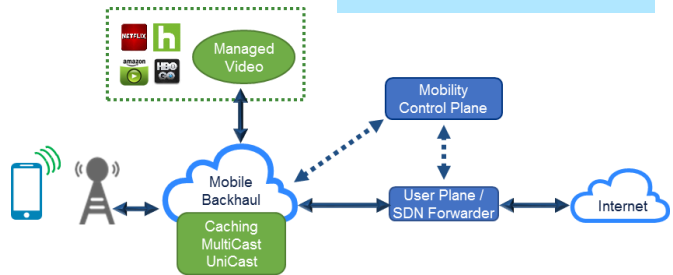
Future Network Infrastructure

1 Smart and Secured Network
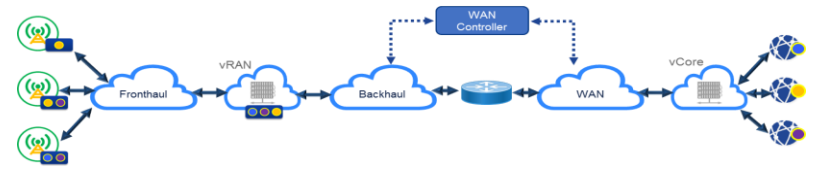
2 Flexible Architecture
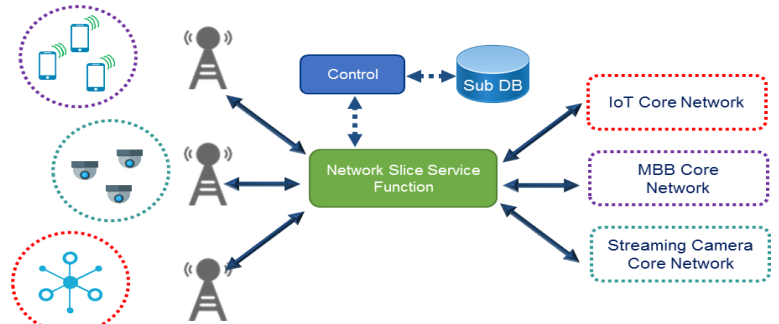
2 Unwind Complexity

5G Key Technologies

Enterprise
Service Functions
User Plane / SDN Forwarder
Mobility Control Plane
Charging & Policy
Authentication & Security
Legal Intercept
Service Functions
User Plane / SDN Forwarder
Edge Computing
Internet
MVNO
Service Functions
User Plane / SDN Forwarder
Connected Commerce

Control/User Plane Separation ▶ **Cost saving for internet offload at edge**

Managed Video
Mobility Control Plane
Mobile Backhaul
Caching MultiCast UniCast
User Plane / SDN Forwarder
Internet

Mobile Edge Computing ▶ **Video caching, multicast traffic optimization**

Fronthaul
vRAN
Backhaul
WAN Controller
WAN
vCore

Cloud-RAN ▶ **Commoditize radio, multivendor support**

Control
Sub DB
Network Slice Service Function
IoT Core Network
MBB Core Network
Streaming Camera Core Network

Network slicing ▶ **Automate resources creations and Service launch**

Cisco 5G Ready Platform(s)

E2E Security and Assurance

Auto Services Provisioning, Application Engineered Routing (Segment Routing)

Radio

Small Cell Controller

xG Licensed

WiFi Controller

xG unlicensed

LoRa

NB-IoT

xG IOT

Fixed/Wireless Enterprise

xHaul

ASR920

Fronthaul

ASR920

Backhaul

~10%

~90%

IP Core

NCS5500

NCS5500

Services Edge Processing
(High capacity, low latency, offload)

NCS5500

Security Gateway

C-RAN

Edge Compute

User Plane

Internet

Backend Processing
(Bulk data, latency insensitive, massive capacity)

NCS5500

Cloud Controller

Automations Tools

Virtual Packet Core

Policy

Orchestration

Physical Gateways

Virtualized Gateways

Internet

Summary

- Network infrastructure to <u>enable new business opportunities</u>

- Use Cases based on <u>open source tools</u>

- Let us collaborate and co-invent