

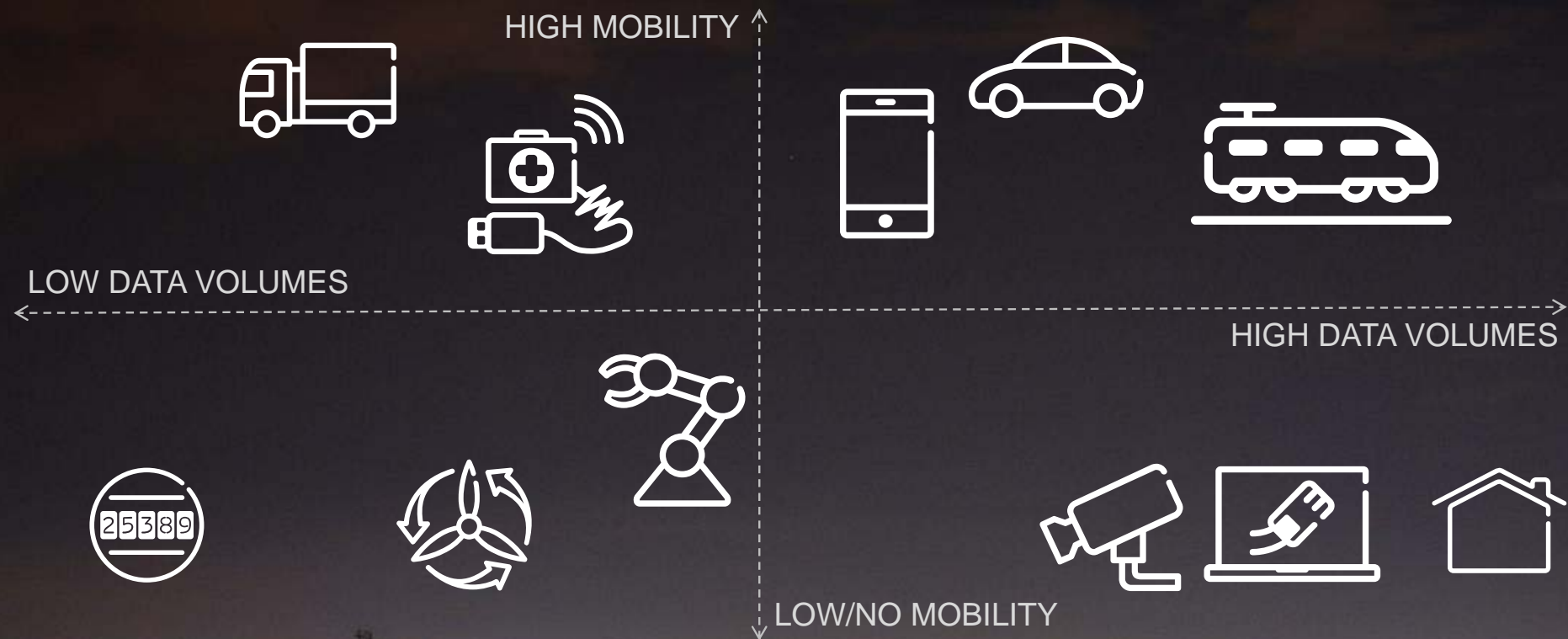


SERVICE PROVIDER CLOUD EVOLUTION

NFU Conference – 6 June 2017

Francois Lemarchand – Head of NFVI product strategy

5G & IOT USE CASES



10-100X
Connected Devices

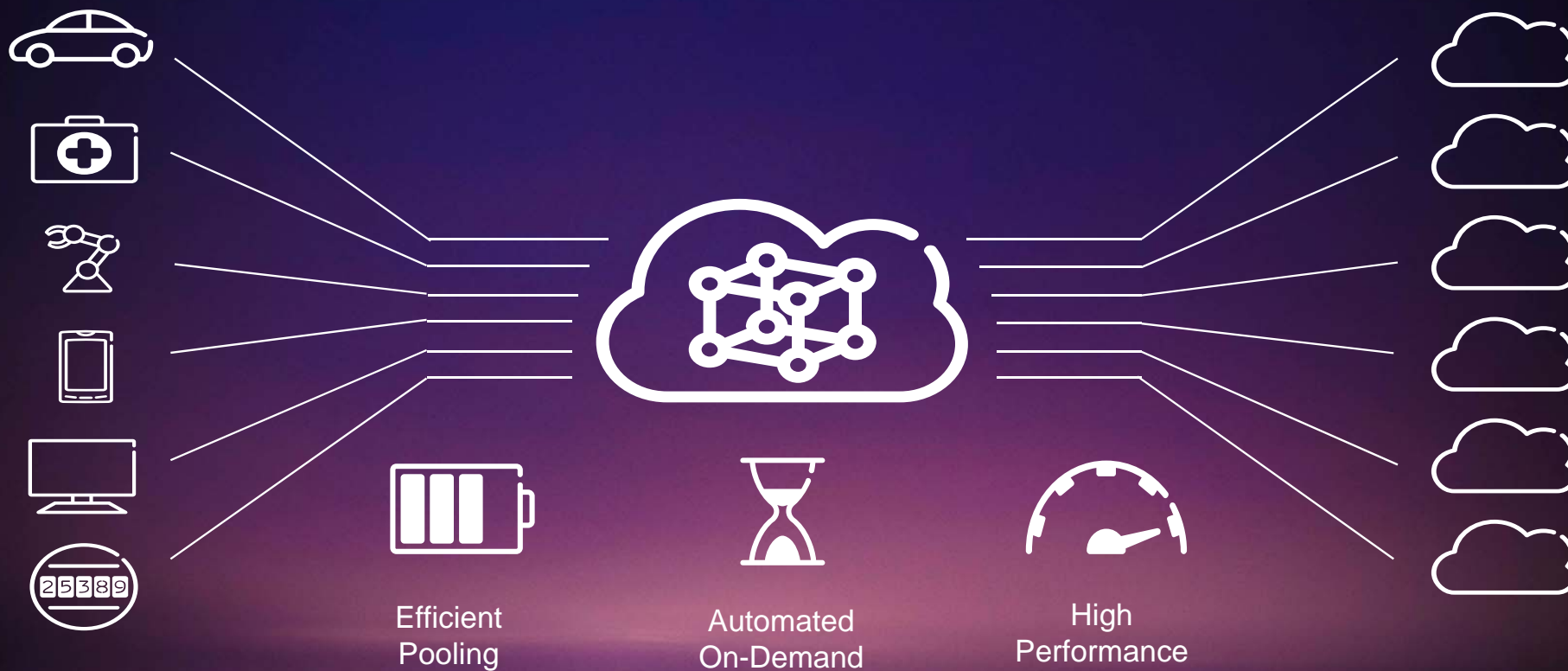
10X
Battery Life

5X
Lower Latency

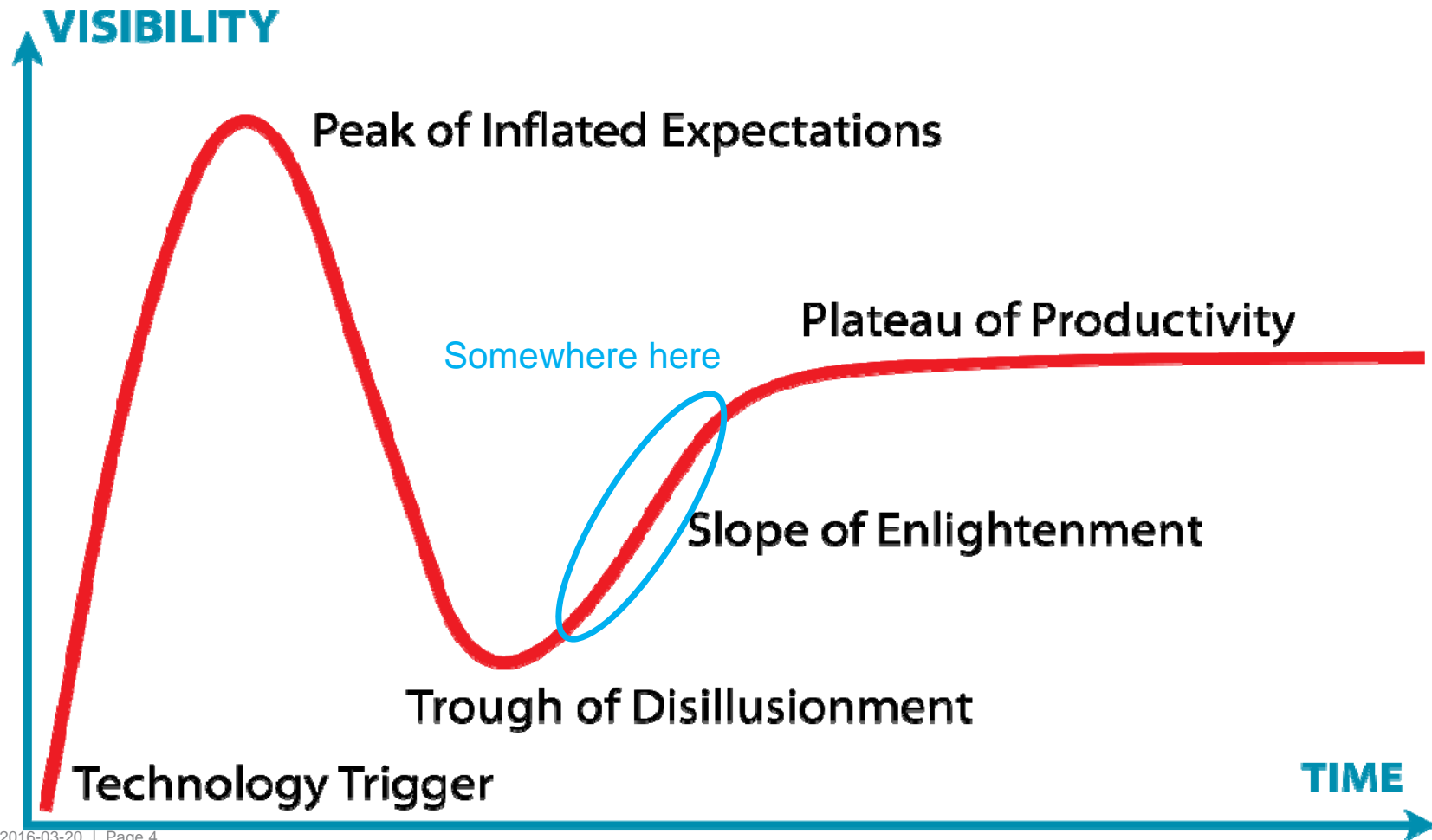
10-100X
End-user Data Rates

1000X
Mobile Data Volumes

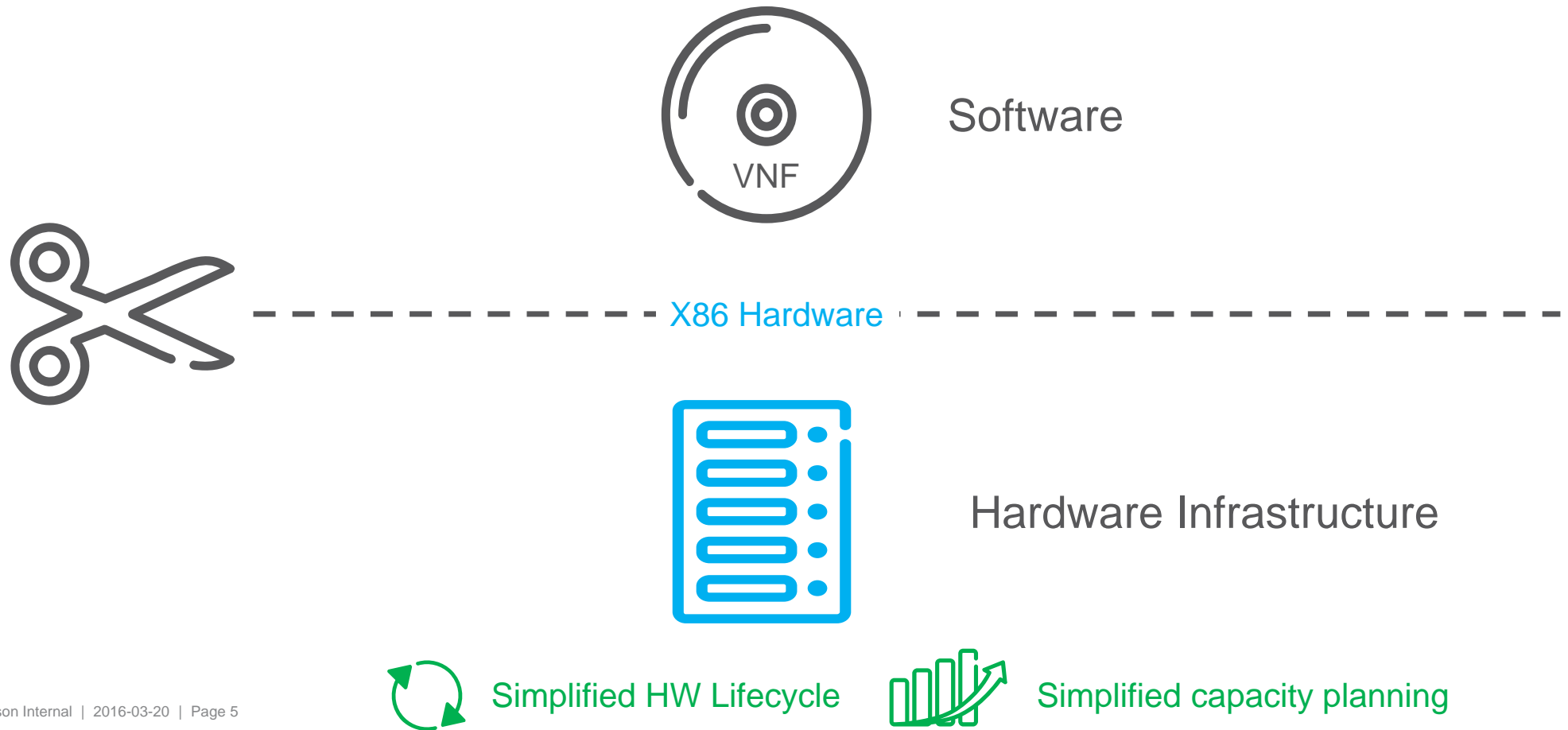
ONE NETWORK – MULTIPLE INDUSTRIES



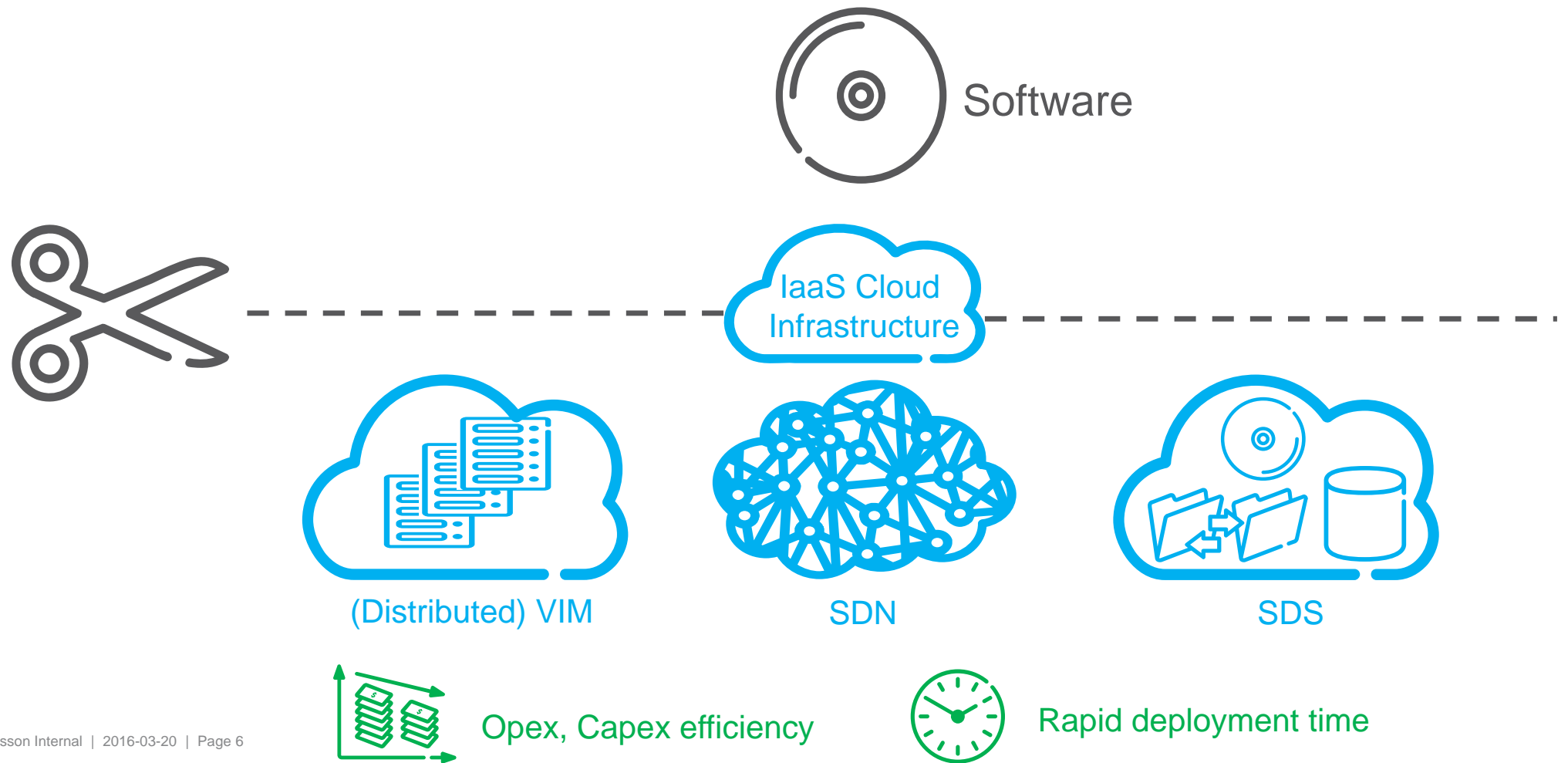
WHERE ARE WE?



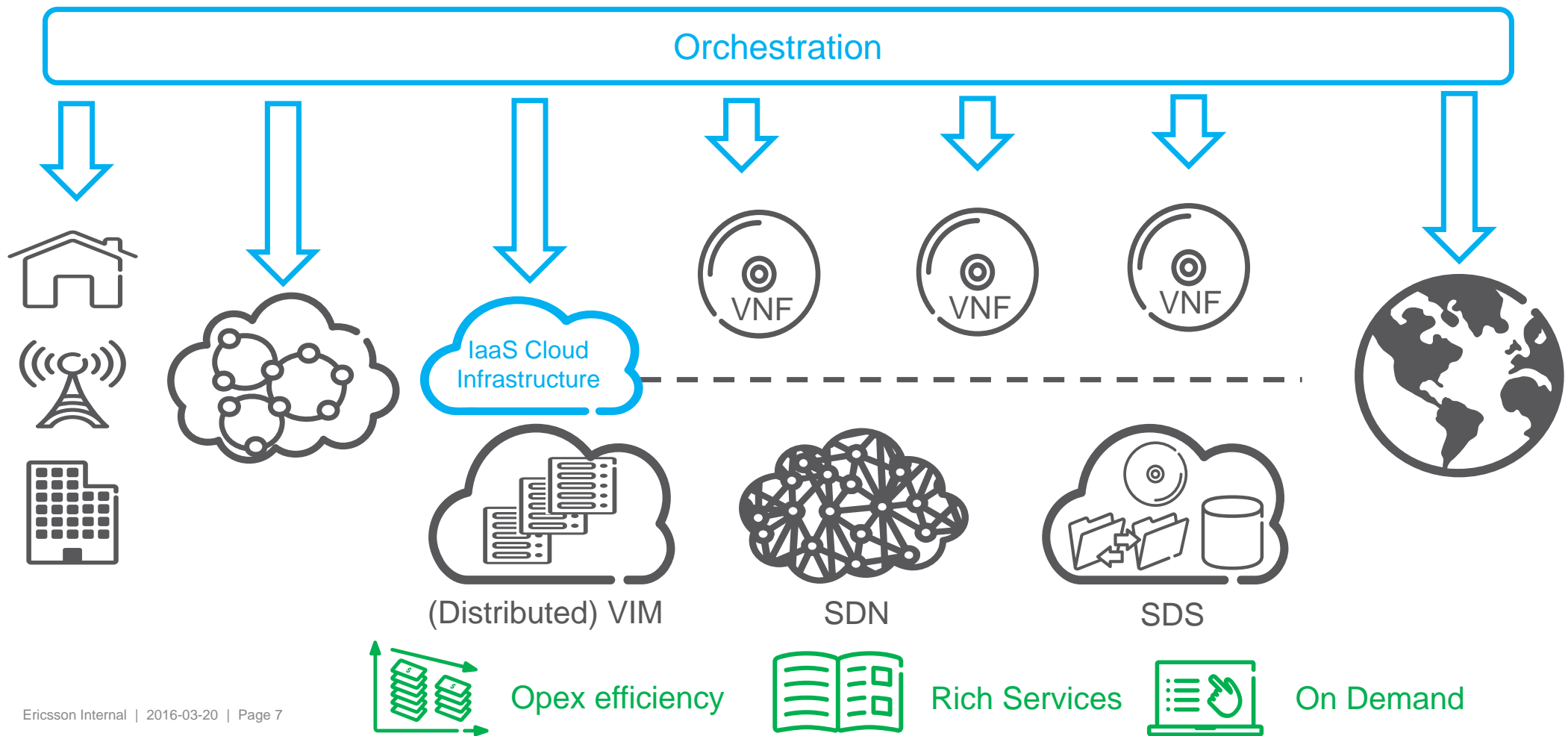
VIRTUALIZATION



CLOUD IAAS DEPLOYMENT



SERVICE LAYER ORCHESTRATION



WHAT'S NEXT?

DISTRIBUTED & HYBRID CLOUD



Content distribution

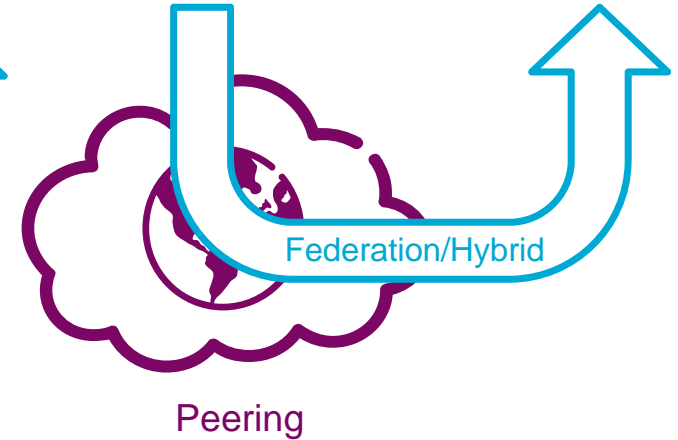
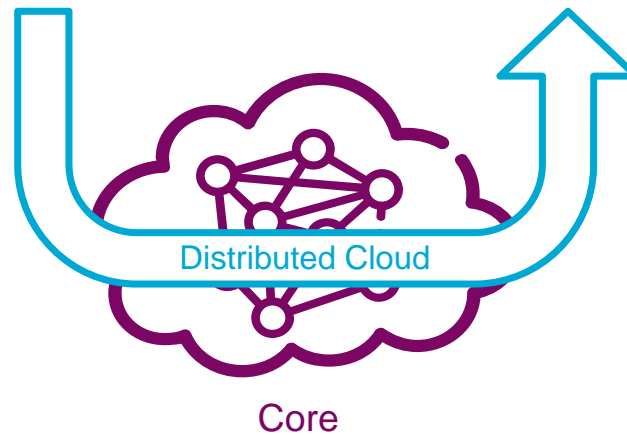
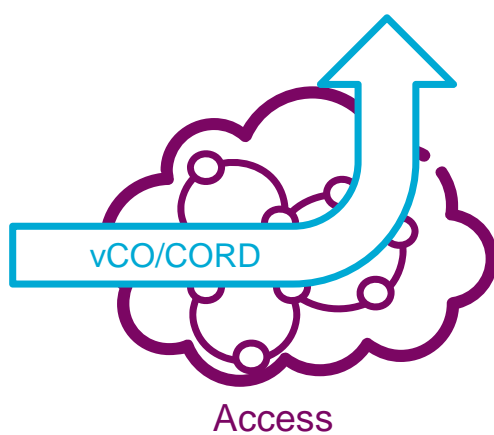
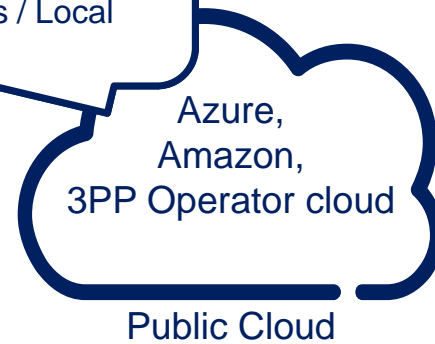
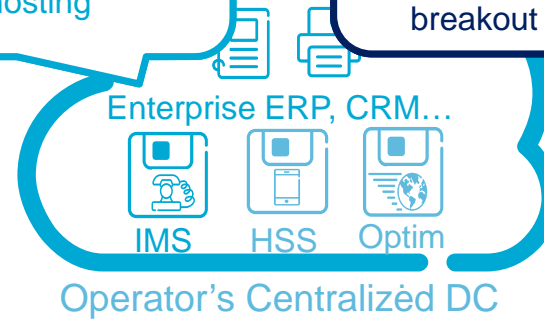
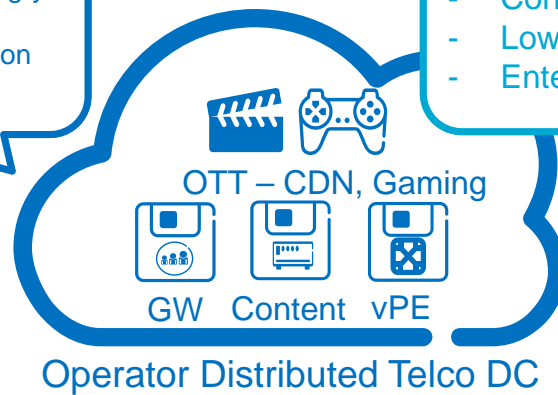
- Latency sensitive & BW hungry applications
- Infrastructure VNF distribution for local termination

Default centralization

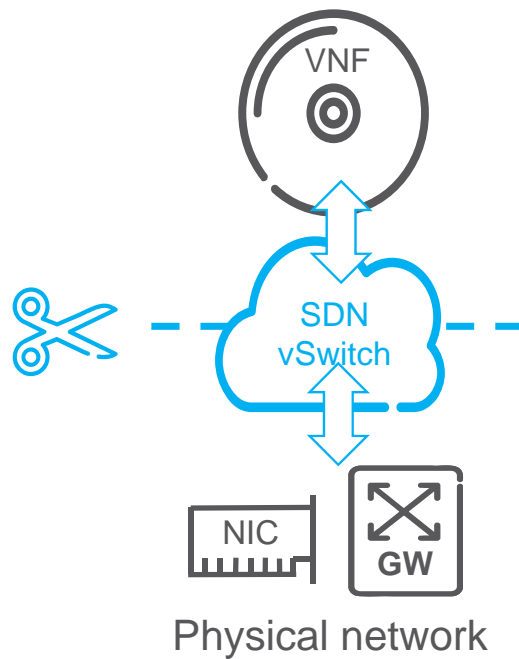
- Control plane, database, IT
- Low uptake VNF services
- Enterprise IT hosting

Off Network

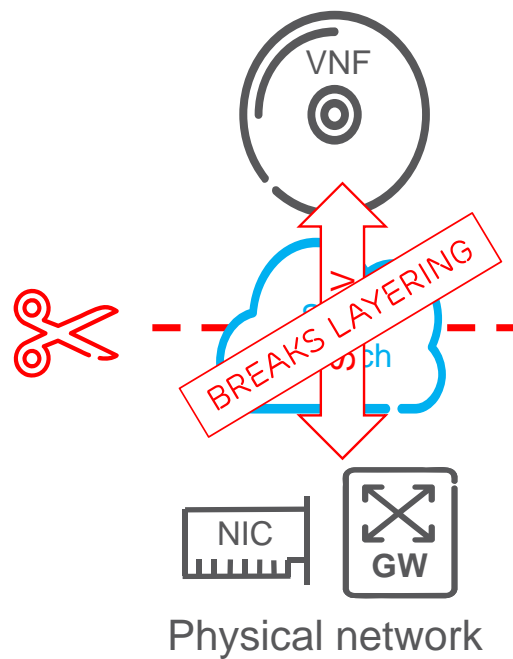
- Cost Efficiency / On demand
- Global services / Local breakout



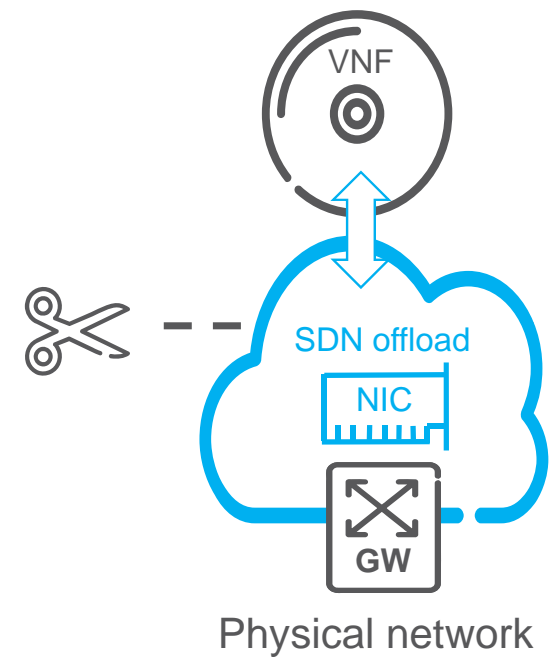
HARDWARE OPTIMIZED CLOUD



Bottleneck for some VNF



Bare Metal performance



SDN & NFV HW offload

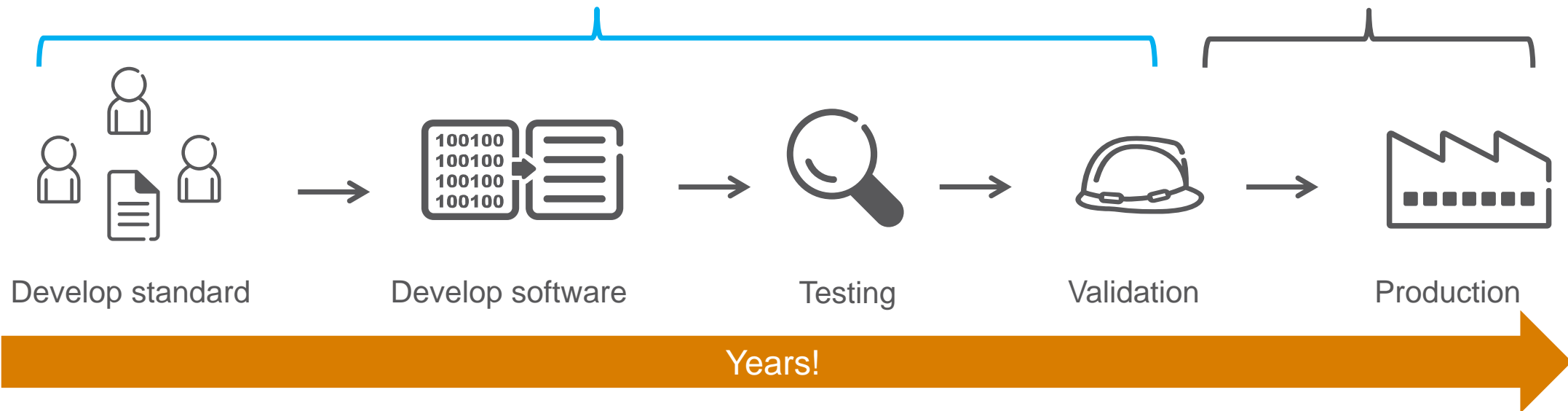


TIME TO INNOVATION

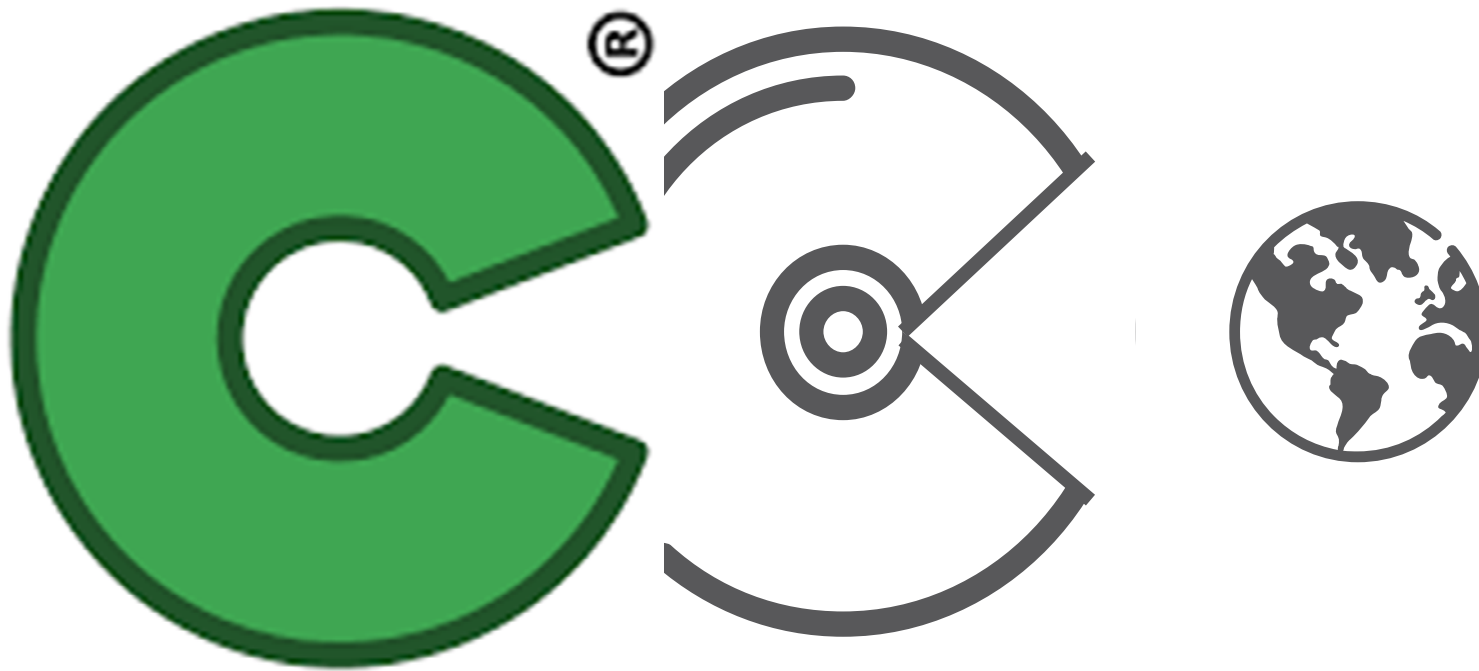


DevOps, PaaS & Opensource

Cloud,
SDN / NFV
Orchestration...

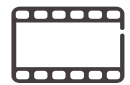


SOFTWARE IS EATING THE WORLD...



...OPENSOURCE IS EATING SOFTWARE

OPENSOURCE PLATFORM TO FOSTER THE INNOVATION



Video streamer



E-commerce portal



inventory database



Cloud Service



Broadband Access



Internet service

Common libraries, modules & services



SSL



OVS



HTTP



LXC

Core Kernel components



process



memory



Filesystem



LXC

Drivers



SFC



Routing



Neutron



Policy

Core platform components



MDSAL



DB/cluster



Security



O&M

Southbound plugins



OF



BGP



NC



PCEP



Linux

An OS



A network OS



IP Routing
& PCE



DC Overlay

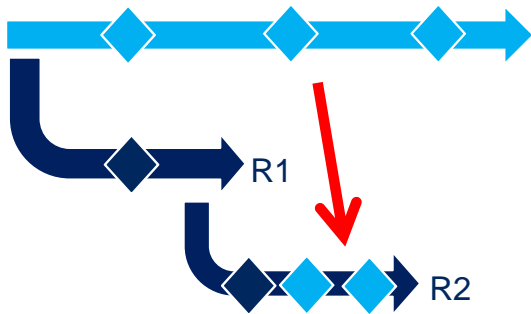


vCPE & VAS
Orchestration

UPSTREAM FIRST MODEL

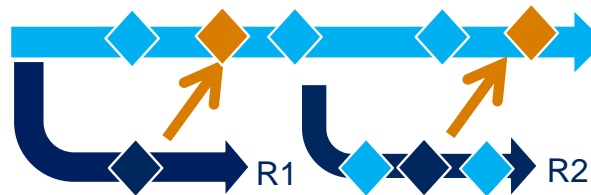


Downstream



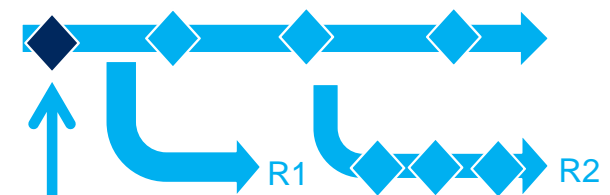
- › Duplication of work
- › Growing integration effort
- › Reduced interoperability with VNF ecosystem

Upstream



- › Efficient downstream
- › Ecosystem compatibility
- › Slow and inefficient upstream process

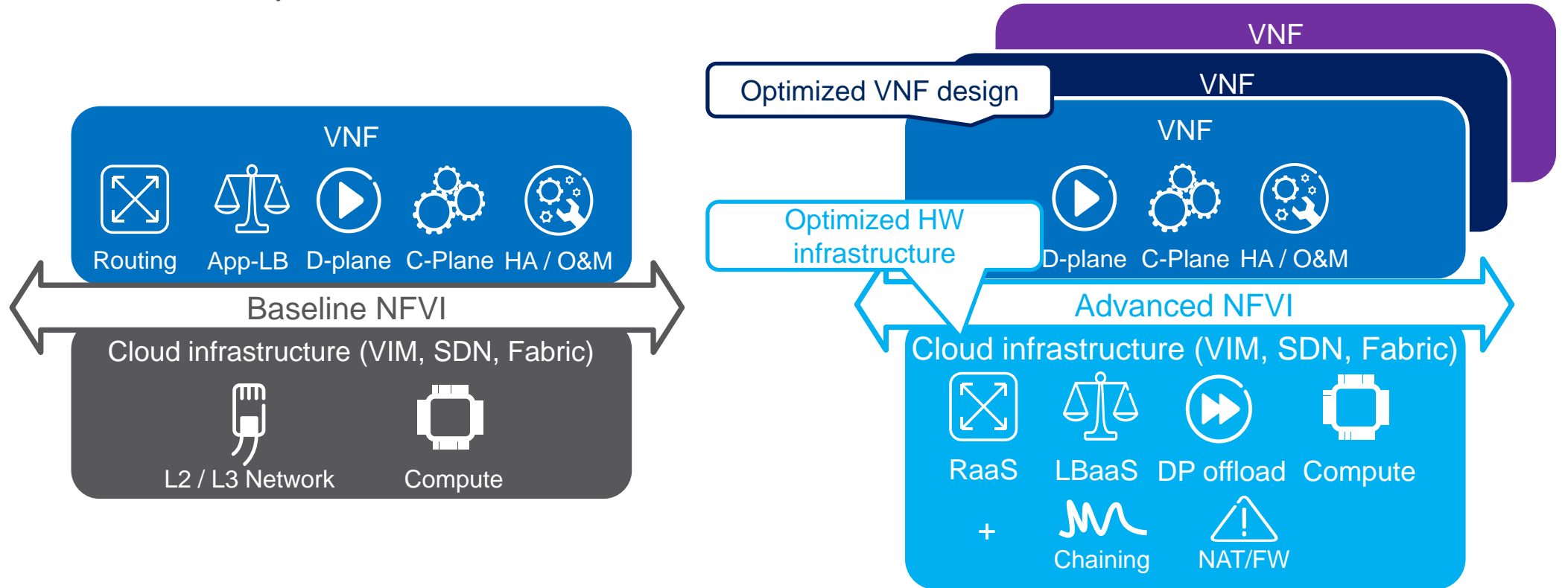
Upstream first



- › Efficient downstream
- › Ecosystem compatibility
- › Simplified upstream



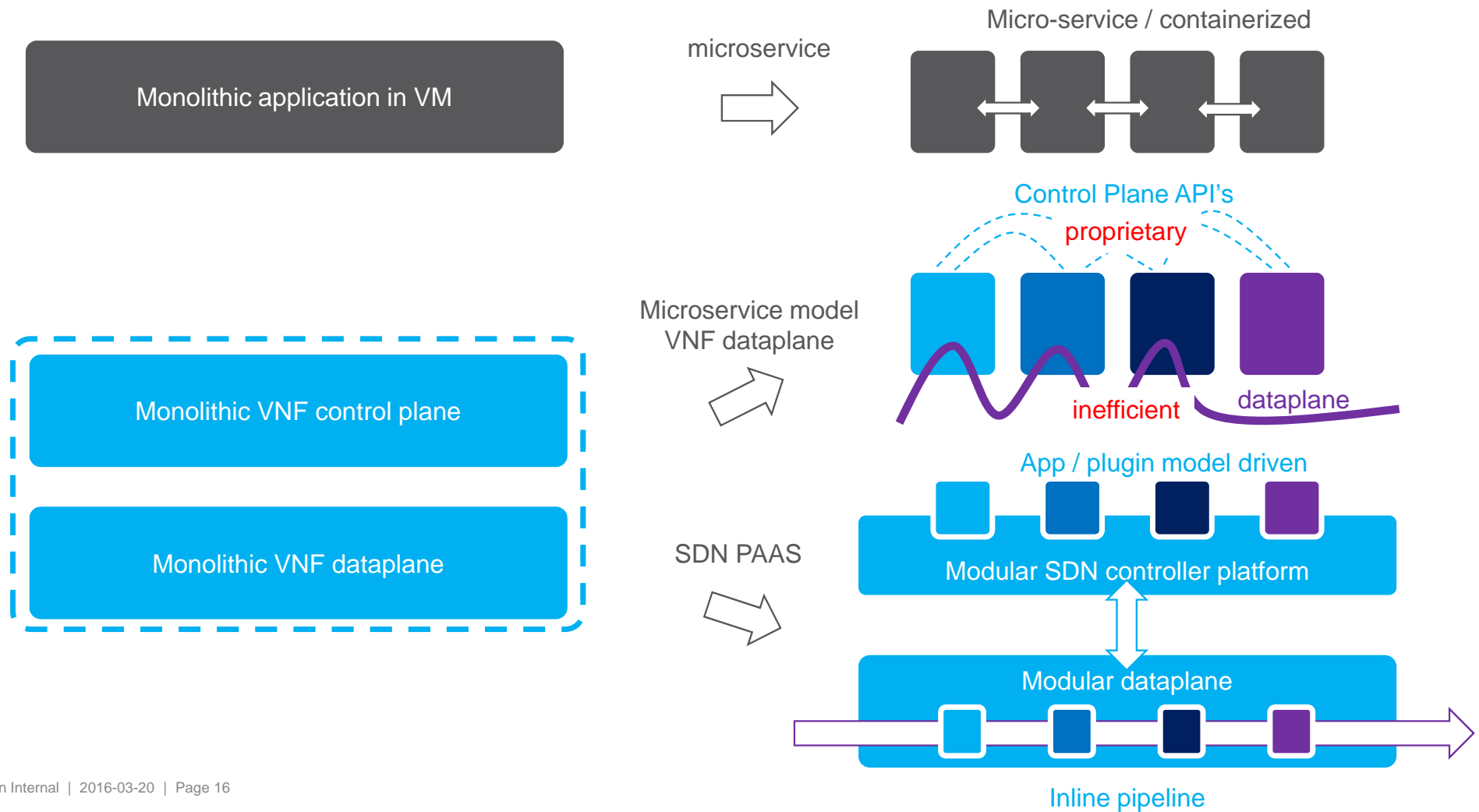
PAAS / SERVICE ENABLED IAAS



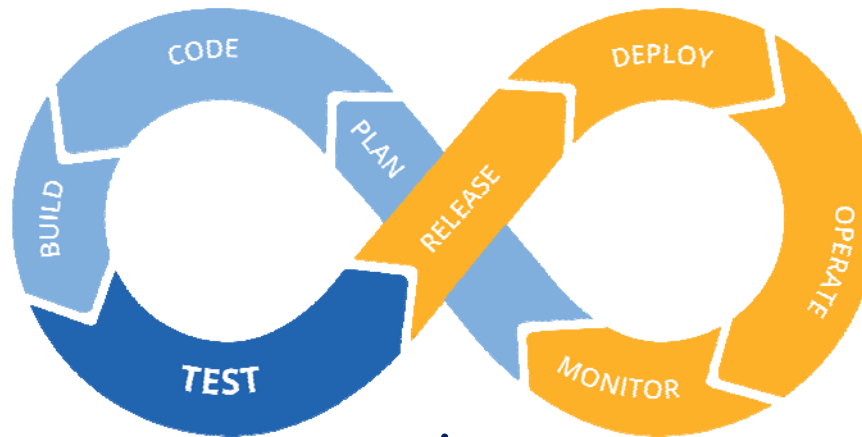
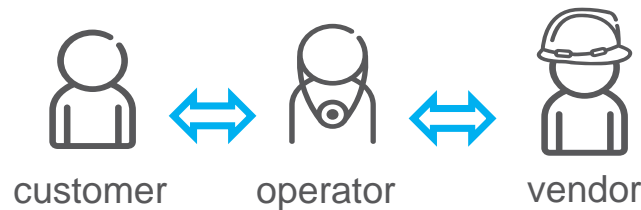
- › VNF mirrors stand alone nodes design
- › NFVI provides baseline lowest common denominator HW abstraction

- › Cloud optimized VNF design
- › Service enabled NFVI
- › Infrastructure owner free to introduce HW accelerations for offloaded services

NETWORK CENTRIC PAAS FUTURE



DEVOPS: ACCELERATE INNOVATION AND REDUCE OPEX



Cloud: Dynamically allocate cloud/vPOD for new version and auto-scale



SDN & Orchestration: Selective subscriber sampling and redirection



Network centric monitoring tools / performance management & CI/CD integration offerings



NEW TECHNOLOGIES FOR SUCCESS



Virtualization & Cloud
Rapid deployment



Orchestration & SDN
Fast Service Activation



Opensource & DevOps
Accelerate innovation

VNF Onboarding and
Instantiation

Automated
Configuration

Upgrade
Automation

Network Self-
healing

Close Loop
Management
& Devops



ERICSSON