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Business impact of mobile core virtualization

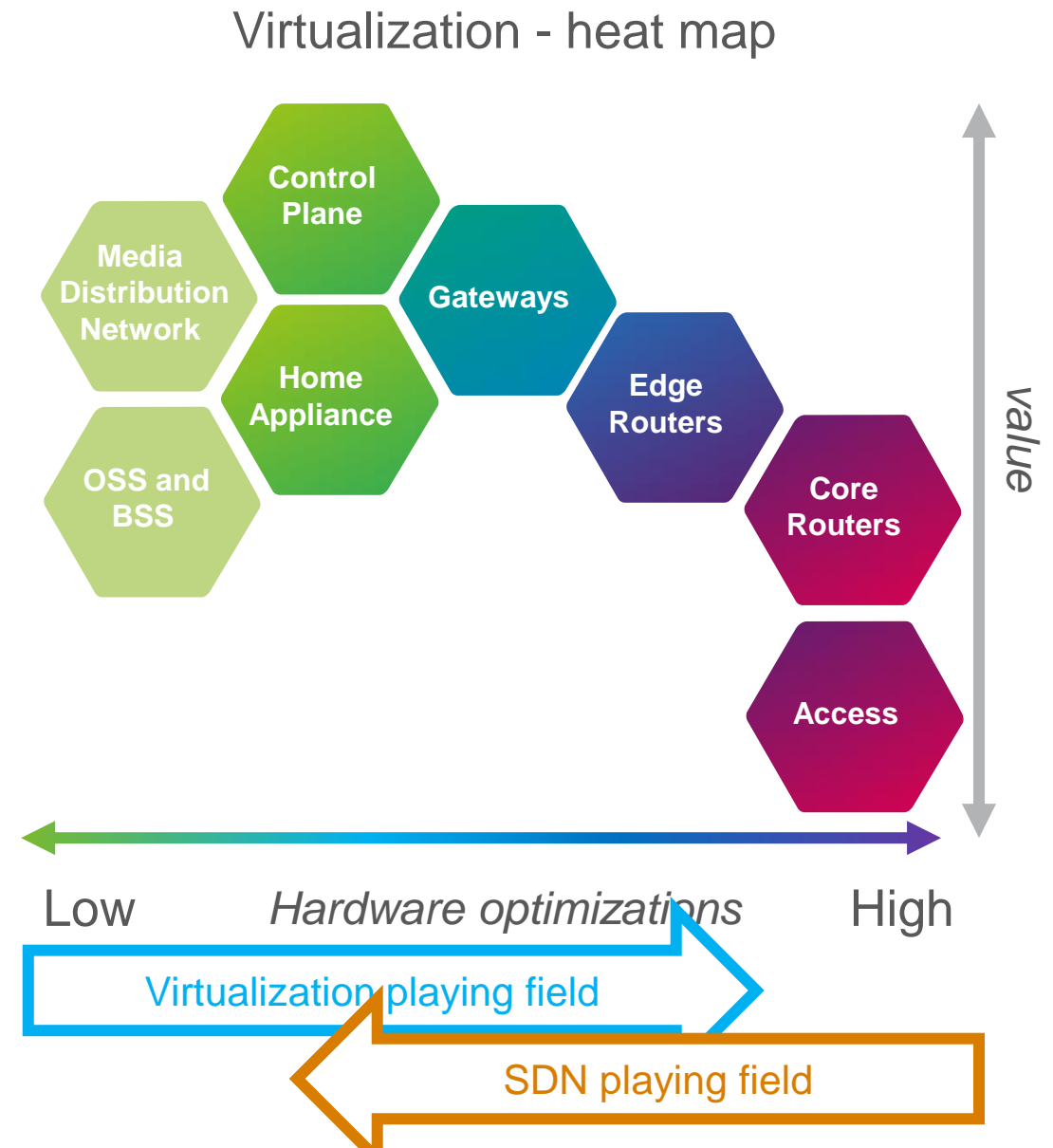
SKT

francois.lemarchand@ericsson.com

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Virtual posterchild

- Mobile Core has been the lead use case for operator journey to virtualization
- Virtual network functions are harder to virtualize than IT payloads (eg OSS/BSS) but with a perceived higher value from the move to COTS HW
- Mobile seen as good starting point
 - Centralized deployment suitable to early DC placement
 - Perceived as expensive
 - Less dataplane intensive than fixed BB more suited to early virtualization
 - Benefits from flexible service composition

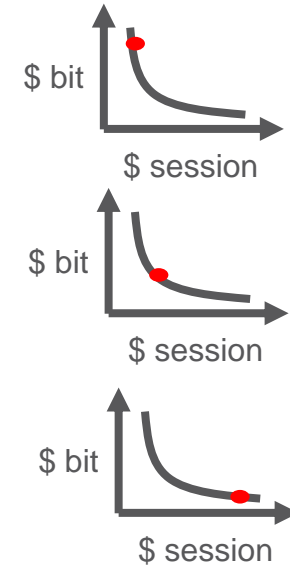
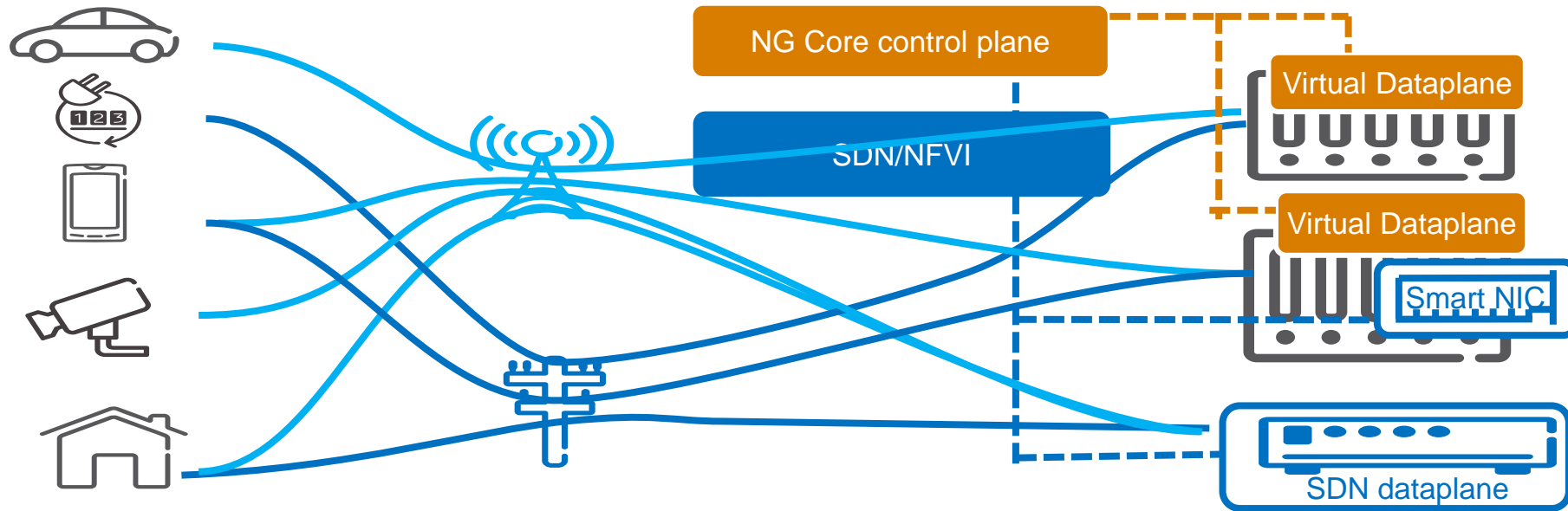


Early cost saving... or not?



- › Initially doesn't change development cost
 - HW design is traditionally a small fraction of the development cost anyway
 - Virtualization doesn't simplify the software design per say
 - It is adding additional complexity in platform integration
- › From an operator perspective it likely increased the initial cost
 - As any new technology there is an initial investment that is required
 - Upfront infrastructure cost for first application
 - Cheaper COST... but need more of it
 - Sub optimal network cost – centralization & additional layers (DC GW, Fabric etc...)
- › Early market cost pressure due to inflated expectations and new entrants – but stabilizing now

new efficiency gains



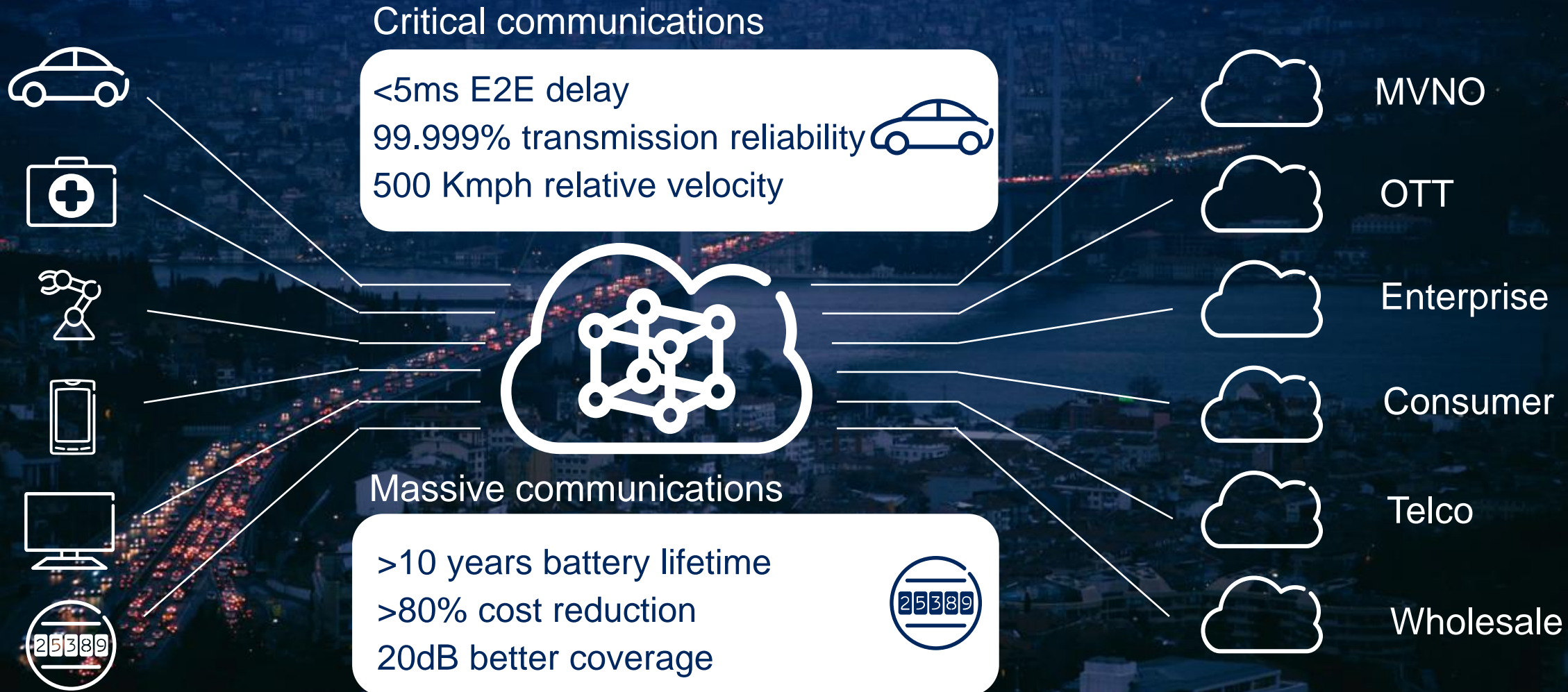
› CAPEX efficiency

- Better commercial leverage with reduced vendor stickiness
- Flexible deployment enable best of breed niche solutions
- When reaching critical mass of virtualized functions will allow efficient resource utilization

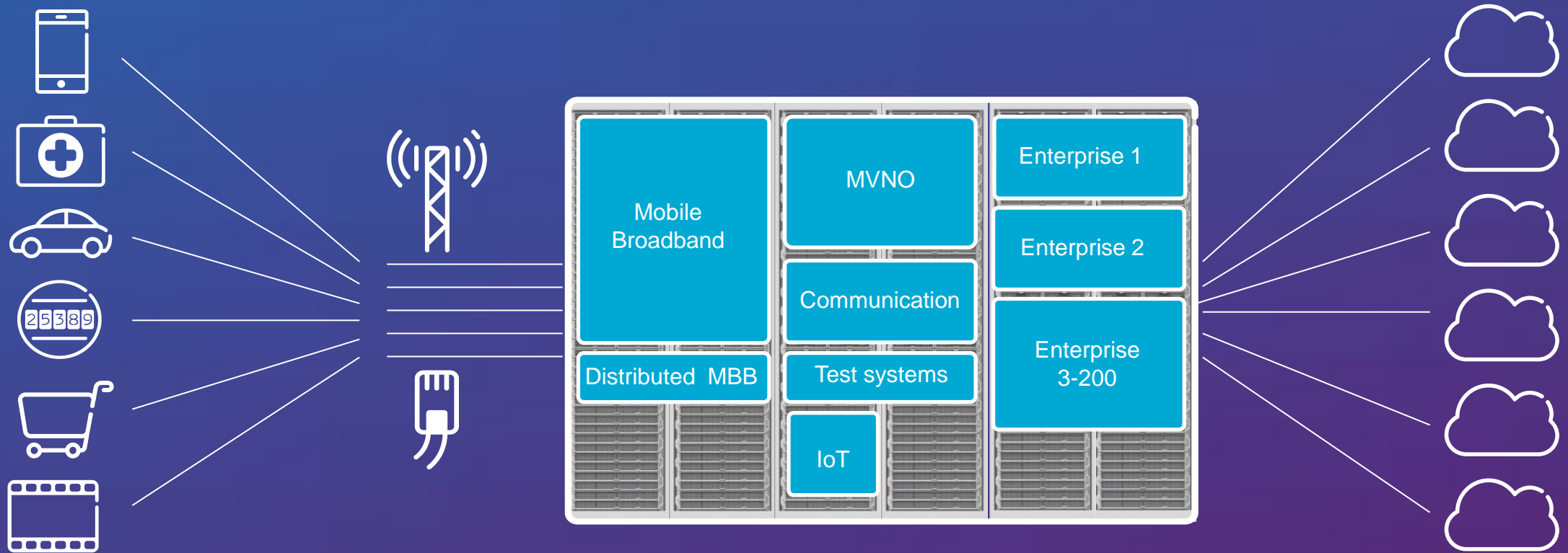
› OPEX efficiency

- Virtualization reduces de complexity of deployment, maintenance and capacity planning
- Virtualization and SDN simplify rollout of new services

One network many industries



Network slicing for shared network / capacity models



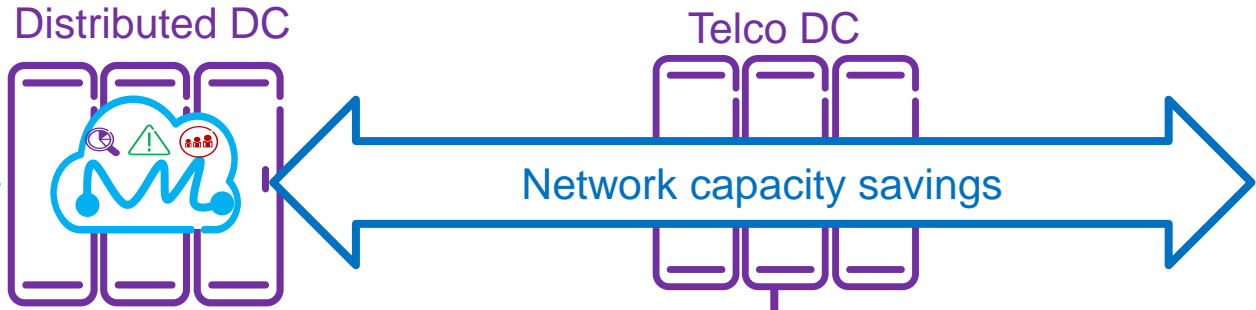
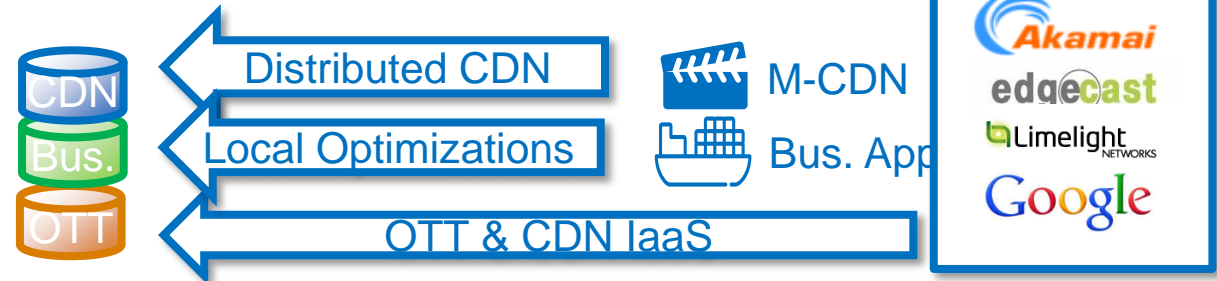
AVAILABLE TODAY - IN LIVE OPERATIONS

drive for distributed cloud

Edge computing & content



-  Gaming, Mobile AR / VR
-  Automotive, Industrial
-  Remote surgery, tactile internet



5G & IOT SDN



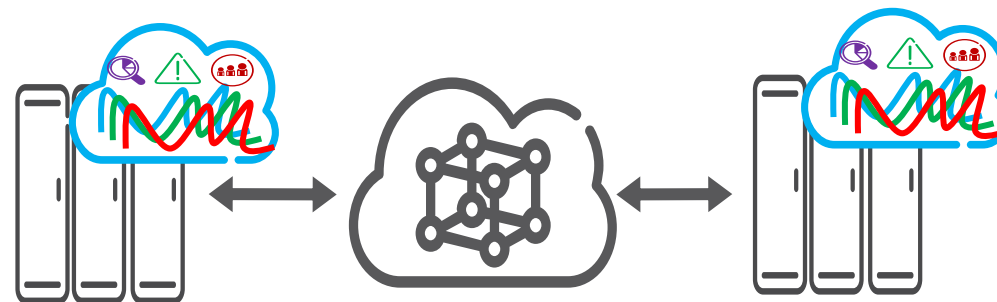
Many/Efficient
5 Billion



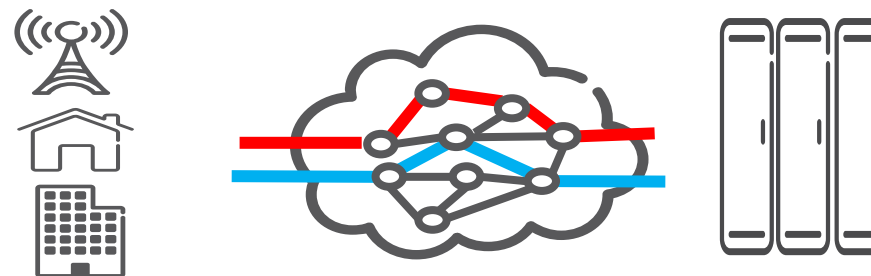
Low Latency:
1ms



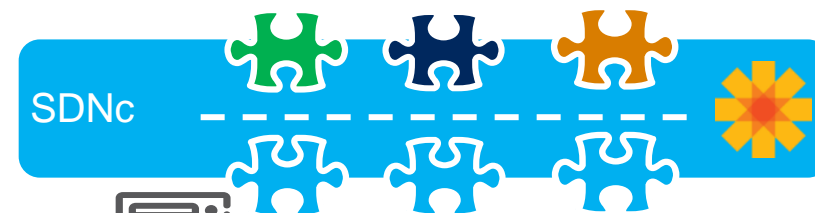
High Speed
10Gbps



Distributed Cloud & Service slicing



Application aware transport slicing



Software Defined Network functions

Mobile core deployments



**On premises Cloud
Cloud Island**

**Operator distributed
Cloud**

**Global Cloud
Provider**

Regulations?

Regulations?

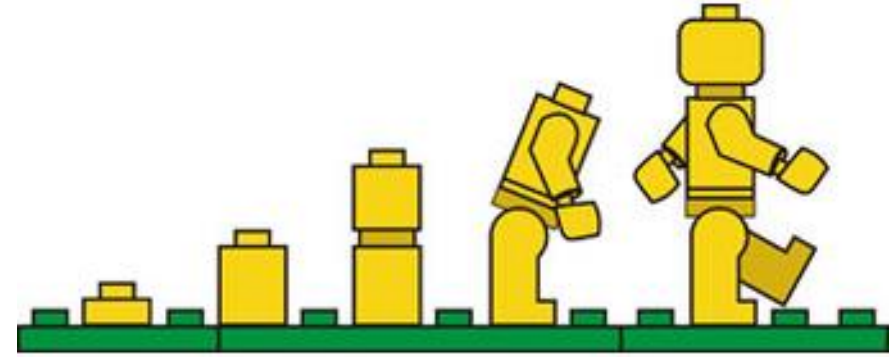
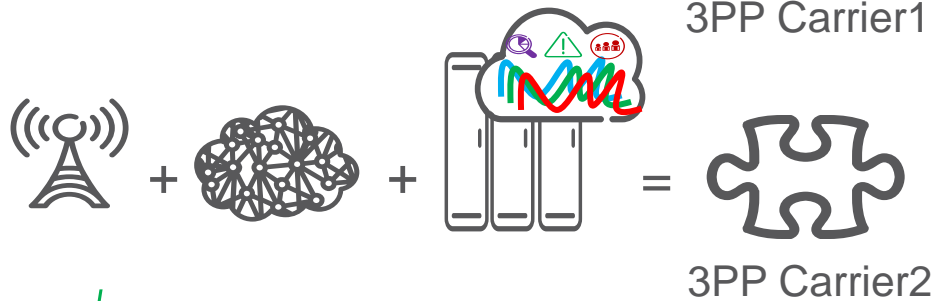


Defense, Stadiums,
Boats... EPC in a Box

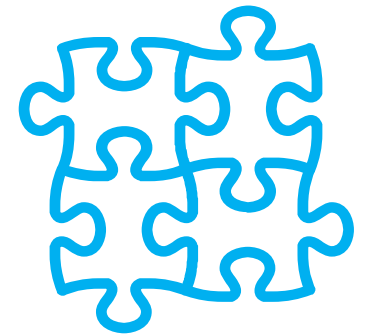
Mainstream operator
Mobile Core

MVNO's, Global
operator local breakout

Global service composition



Internet / Global transit



Operator Global service



Take away



› It is happening

- Technology is ready, operators are rolling out now, low percent of traffic still
- Streamline operations / planning
- Simplify service deployment and insertion (creation)

› Break the barriers – more competition, new opportunities:

- Global MVNO... and FVNO (SD-WAN style)
- OTT content providers ability to gain deeper network access
- Enterprise, Defense, blue light – private network slice over shared infrastructure

› SDN and NFV enable network exposure required to build global services

- Need a good model that enables operators to open their network assets to for benefits of other operators, OTT and consumers -> Operator IaaS, smart neutrality
- Help operator to leverage public cloud resources for network services (regulatory question on security, LI, emergency services etc...)



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Cloud networking

