The present and future of telecommunication

(from the viewpoint of core networks)

HTE Infokom 2014, Kecskemét

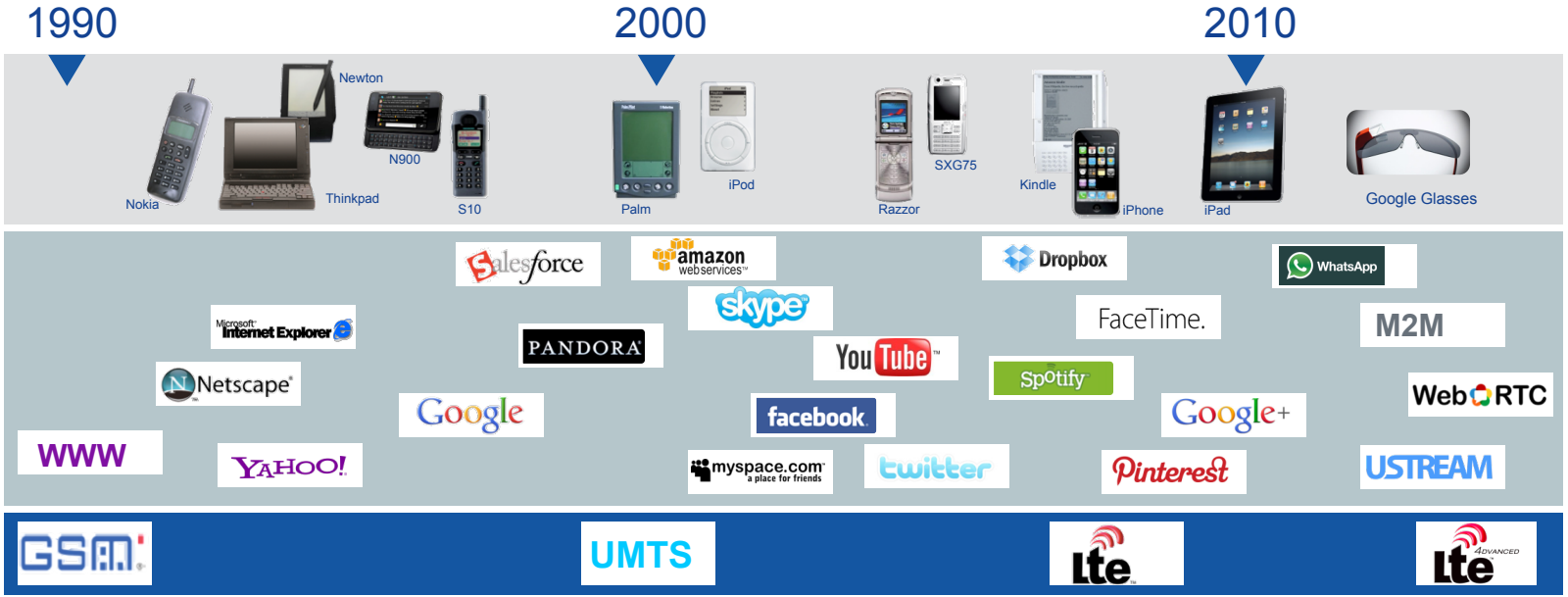
Gergely Csatari

 © Nokia 2014

NOKIA

The pace of change in the ICT industry

The future changes every day

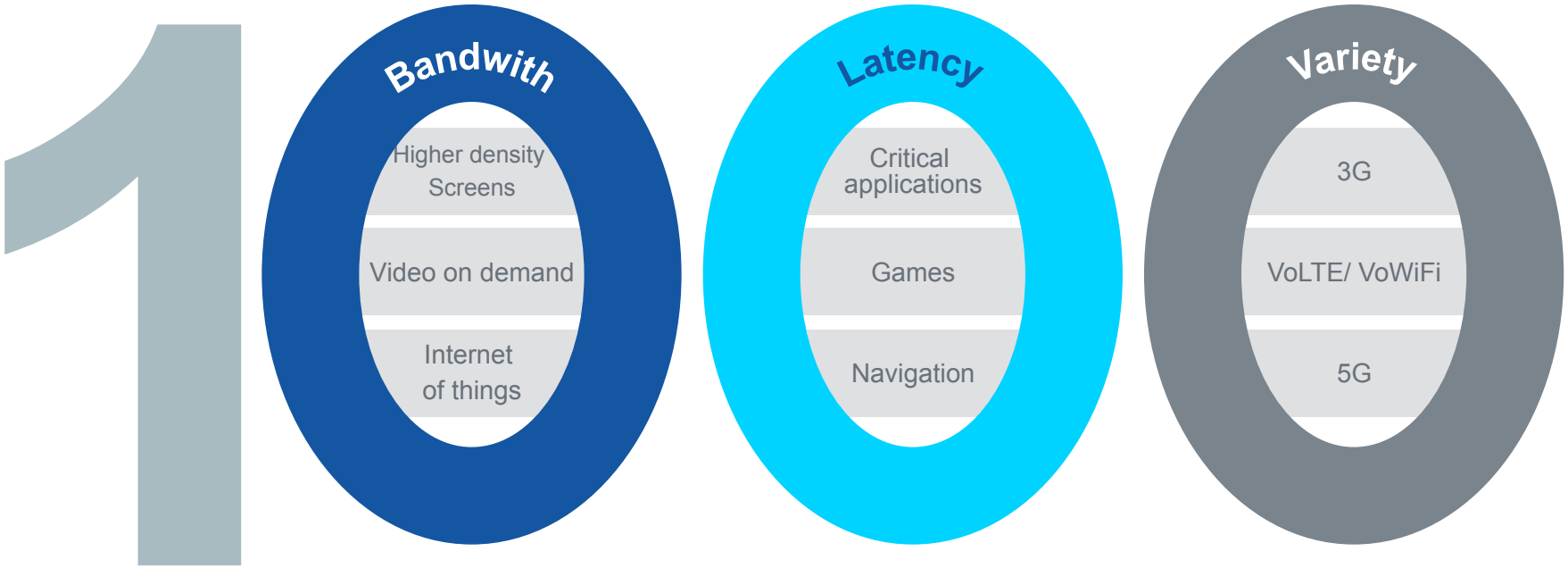


And what will be next?

© Nokia 2014
Confidential

NOKIA

Why do we need



… times more capacity?

 © Nokia 2014
Confidential

NOKIA

Nokia Technology Vision 2020

Delivering 1GB of personalized data per user per day profitably

Key requirements for networks towards 2020

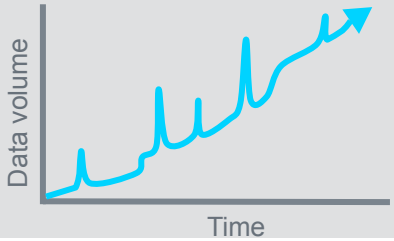
- Support up to 1000 times more capacity
- Reduce latency to milliseconds
- Teach networks to be self-aware
- Flatten total energy consumption
- Reinvent Telcos for the cloud
- Personalize network experience

© Nokia 2014
Confidential

Reinvent Telcos for the cloud

Why do operators need Telco Cloud

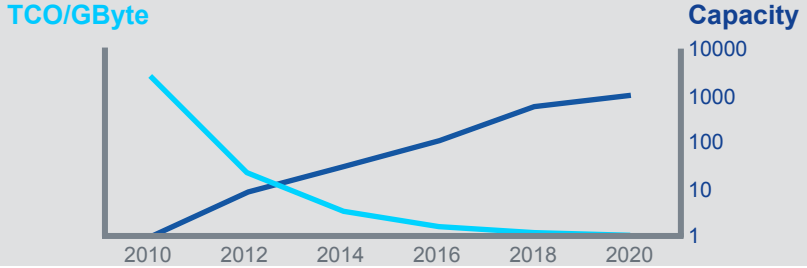
Unpredictable data growth



Drivers:

- 3D & HD video
- Video integrated everywhere
- Connected objects

Drastic reduction of TCO per GB needed



Deliver best user experience

- Network experience becomes a revenue driver
- “Real time” customer experience insight & action

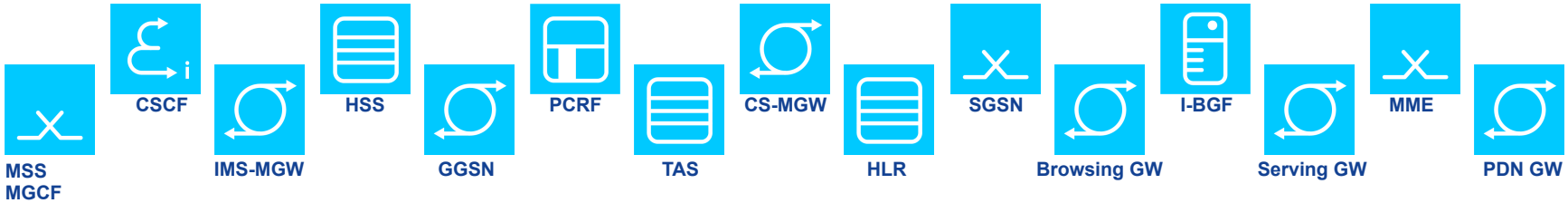
Faster innovation cycles for topline growth

Time from code to production launch

© Nokia 2014
Confidential

NOKIA

Core networks need a rethink



High complexity with dedicated hardware / software for each function

Do not scale up efficiently in line with traffic (data and signaling) demand

Proprietary hardware limits gains from industry-wide innovation

Difficult to evolve seamlessly to meet new demands

High Total Cost of Ownership

© Nokia 2014
Confidential

Liquid Core brings business agility to the core network

Network element management

Core Network

1

n

MSS

TAS

IMS/SBC

EPC

SDM

Cost leadership

Automated load and transmission balancing

Pooling of network elements

Simplification and consolidation of core network

Business agility

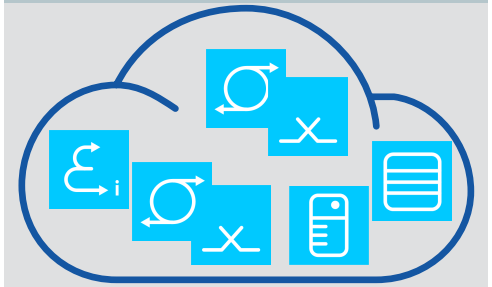
Automated management of virtualized resources

Elasticity and unlimited scalability of the core network

Leveraging latest IT HW and cloud technology

Liquid Core management

Core Virtualization



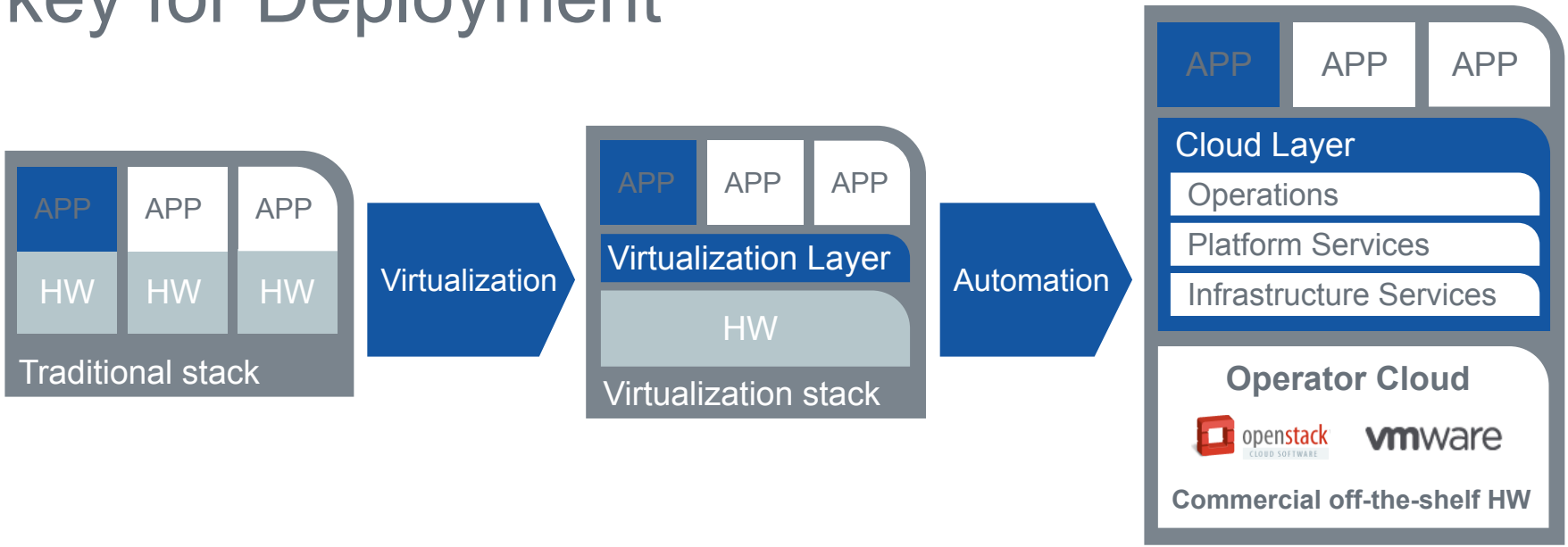
Cloud infrastructure & Virtualization layer

x86 HW

© Nokia 2014
Confidential

Evolution of existing Network Functions to the Cloud

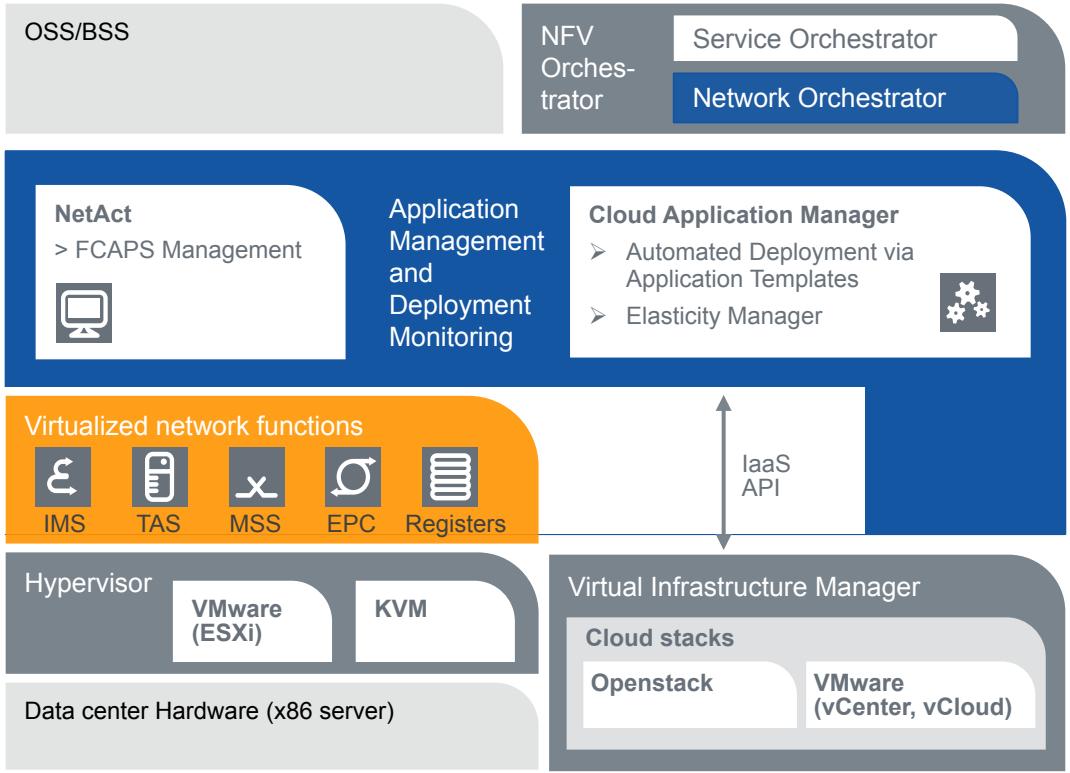
Smooth Migration without Service Impact is key for Deployment



 © Nokia 2014
Confidential

NOKIA

Telco Cloud Architecture



NFV Orchestrator

Multivendor Interface

Virtualized Network Functions and management

Multivendor IaaS API

Virtualization Layer Independence

 © Nokia 2014 Confidential

We are future ready
to bring our vision
to reality

1GB of personalized data per user per day profitably

 © Nokia
Public

NOKIA

 © Nokia 2014