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Optical Networking

Early Adopter of NFV?
Mitigate Risk!
UKNOF 34 - Manchester

Anthony Magee, 21st April 2016
Global Business Development
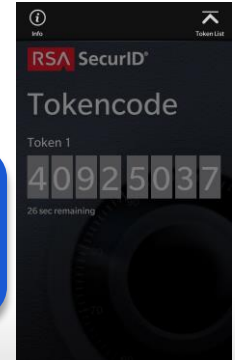
What are we trying to do?

PNF
Physical Network Function

VNF
Virtual Network Function

Physical network devices can be replaced
with software versions

Benefit of Virtualisation: <u>Choice of Hardware</u>

Physical Network Appliances become VNFs

Residential Gateway	Deep Packet Inspection	Intrusion Detection	Network Address Translation	Network Firewall	Digital PBX
Content Delivery/ Cache	Encryption	Load Balancer	Basic Traffic Management	Traffic Management	Application Acceleration
Session Border Controller	SIP Gateway	Test Set	Router		

Compute, Storage, Server Infrastructure
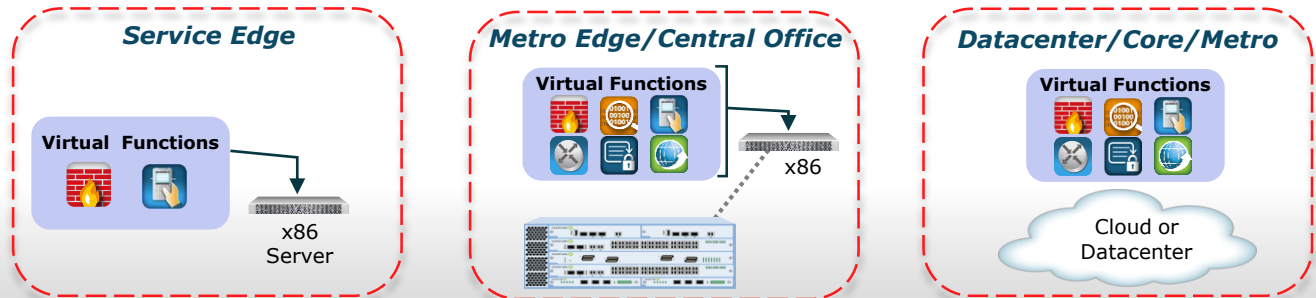
Choose any platform or brand

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Benefit of Virtualisation : <u>Choice of Location</u>

Virtualization choice in deployment locations

VNFs placed **where needed**

Service Edge

Virtual Functions

x86
Server

Metro Edge/Central Office

Virtual Functions

x86

Datacenter/Core/Metro

Virtual Functions

Cloud or
Datacenter

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Caveat: Not everything can/should be virtualised

Where Virtualization Works

- Limited life-time/elastic services
- Flexible parameters / algorithms
- Moderate processing load

e.g. CPE devices

Dedicated Hardware Preferred

- Static, always on, high volume
- Performance and delay-critical
- Synchronization

e.g. Core Routers…for now

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Avoiding problems/mitigating risk

- Some Examples…
- Early adopters need more visibility
  - Server Failures
  - Software instability
  - Latency challenges
  - Interop between multiple VNF vendors
    - Assurance and ability to isolate
- MANO Challenge
  - Global Vs Domain Orchestration
- Marketing Challenges
  - "I've virtualised your UNI!"
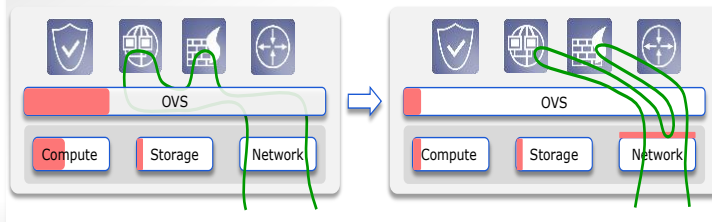   - "*But I pay for a physical UNI*"

Assured NFV Minimizes Risk

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Edge Virtualization

Pure-Play

- COTS Hardware
- Choice of brand

Assured

- Tight integration Compute / Forwarding plane
- Acceleration of Open Virtual Switch
- Efficient use of NFV resources

OVS

Compute Storage Network

OVS

Compute Storage Network

Pure-Play and Assured balance flexibility and performance

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Choices, Choices, Choices…

- Choice of…
    - Appliances to virtualise
    - Location to place VNFs in
    - Platforms to host VNFs on
    - PurePlay vs Assured
- Above all…
    - ## Openness and Interop!
- Demos during breaks and after event
- It's not virtual, its real, and it's here today!

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Thank You