Agenda

- Key Drivers for Telecom Network Transformation
- What is NFV/SDN?
- NFV Adoption Strategy
- Summary & Conclusion
- Etisalat Misr Virtualization Journey
Key Drivers for Core Network Transformation

Telecom Operators to depend more on SW for Future Network Expansion

SDN & NFV ARE THE WAY FORWARD

Decoupling of network traffic and operator revenue.

Exponential increase in Operational expenses

Telecom Operators to depend more on SW for Future Network Expansion

SDN & NFV ARE THE WAY FORWARD

Longer TTM

Enhance the traditional way for Data Network Expansions

Source: Accenture

Complex Carrier Networks

Telecom Operators to depend more on SW for Future Network Expansion

SDN & NFV ARE THE WAY FORWARD

Longer TTM

Enhance the traditional way for Data Network Expansions

Source: Accenture
What is NFV?

- Fragmented functions
- Network設備 were SW-based
- Physical instal/Appliance/Site from the hardware
- Constrained innovation & Competition
- Multiple roles over same HW

A re-definition of network equipment architecture
What is SDN?

Current Network Architecture

- Network equipment as black boxes
- Autonomous Nodes Behaviour
- Diversified OSS
- Full dependency on manual configuration

A re-definition of Network Architecture

- Separate the data and control Plane.
- Network equipment as black boxes
- Autonomous Nodes Behaviour
- Diversified OSS
- Dynamic network configuration
NFV Adoption Strategies

**Application-Driven NFV**
- Start with a particular function e.g. EPC
- Increase VNF over time as technology allows
- Faster, Less risky, a chance to experiment

**Platform-Driven NFV**
- Developing a horizontal platform to run VNFs
- Evolve platform to support demanding workloads.
- Strategic, disruptive, expensive & long term

**Identify Lead Applications** (Control vs. Data-plane)
- POC trials & performance testing
- Impact assessment on Legacy elements (Contained system vs. Hybrid Model)
- Identify lead use cases
- Vendor Selection

TO SECURE MORE AGILITY THE NFV STRATEGY SHOULD BE A BLEND BETWEEN BOTH APPLICATION & PLATFORM DRIVEN
Etisalat Misr Virtualization Journey

Identify the Use Cases “Criteria Matching”

NEW PS CAPACITY
IGW Every Where

2017

2016

PoC
Largest PoC with Intel in the middle east to virtualize all GI functions (12 functions) over a single NFV-I

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Figure 1. Hardware and software used in the Etisalat PoC

OSS/BSS
Service, VNF & Infrastructure Description
Orchestrator
VNF Managers
OpenStack
NFV M&O

SERVERS
HYPERVERSOR
SWITCHING
Open vSwitch

CR
SR
OLT

DWDM
CSW

VO

NFV Infrastructure Establishment
New Technologies
Modernization Current Functions Over Cloud

Etisalat Telco Cloud

2020
Thanks