THE VISION

END-TO-END 5G **POWERED BY INTEL**

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NETWORK PLATFORMS GROUP

TRANSFORMING THE NETWORK END-TO-END

INTEL ARCHITECTURE ACROSS THE NETWORK, FROM DEVICE TO CLOUD

VIRTUALIZED, SOFTWARE-DEFINED, CLOUD-READY

NFV/SDN IS ESSENTIAL TO 5G NETWORKS
MOVING THE NETWORK AT CLOUD PACE

Compute, Network, and Storage Pooled Resources
Standardized Commercial Grade Solutions

Dynamic Flexible Networks
Next-Generation Network Architectures

Services Delivery and Agility
Business Process Transformation

INVESTMENTS TO ACCELERATE THE TRANSFORMATION

INTEL TECHNOLOGY LEADERSHIP

ADVANCE
OPEN SOURCE AND STANDARDS

DPDK
IETF
Open Networking User Group
openstack
Open vSwitch
An Open Virtual Switch
OPNFV
OPEN DAYLIGHT
OpenFlow

DELIVER
OPEN REFERENCE ARCHITECTURES

Intel® Open Network Platform

Intel® Architecture | Linux KVM | Optimized Ingredients

ENABLE
AN OPEN ECOSYSTEM

Intel® Network Builders

COLLABORATE
WITH END USERS

CommSP
Cloud
Enterprise

INTEL POWERING THE VIRTUAL NETWORK INFRASTRUCTURE FOR 5G

RADIO ACCESS TECHNOLOGY

Anchor
Booster Beamforming,
New 5G Radio Access Technology

Massive MIMO

ACCESS NETWORK

FlexRAN: CRAN/vRAN,
Split/Macro/Small Base Solution

FlexRAN: Mobile Edge
Computing, Small Cell,

Network Slicing

CORE NETWORK

vEPC

Router

Backbone

Network Slicing

NFV/SDN Foundation

SOFTWARE DEFINED INFRASTRUCTURE

APPLICATIONS
DEFINE THE RESOURCES NEEDED

INFRASTRUCTURE
ASSURES EFFICIENCY AND SERVICE LEVELS

STANDARDIZED BENCHMARKING FOR NFV
DRIVE "BEST OF BREED" APPROACH

NFV Platforms Need:

More efficient and real-world test infrastructure

Test architectures to be consistent and extensible for benchmarking Network Services

Standard testing methodologies, tools and benchmark criteria

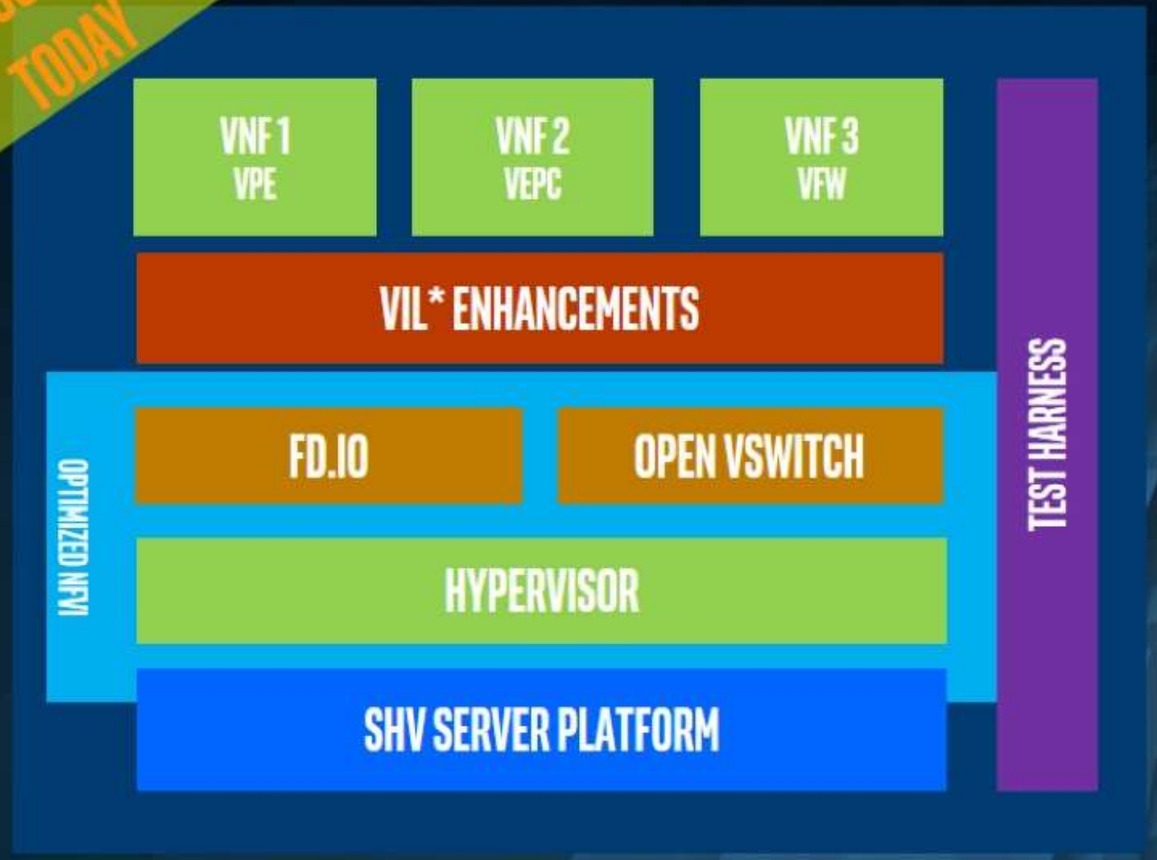
REAL WORLD TESTING AND BENCHMARKING THROUGH COLLABORATION

NETWORK SERVICE BENCHMARKING QUESTIONS

How will a Network Service perform on a specified infrastructure?	How will specific performance metrics for a Network Service change when various infrastructure features are introduced or re-provisioned?	How will specific performance metrics for a Network Service change with realistic and dynamic traffic workloads?
How do MANO components impact performance with policy based networking?	How will Network Services change in a SFC with other Network Services sharing platform resources?	How are commercial VNFs compare to other VNFs providing similar functionality for key Network Service metrics?

VNF INDUSTRY STANDARD BENCHMARKING (ISB)

ANNOUNCING TODAY



Develop Open Source ***approximations*** of Telco grade VNF's using optimized VNF + NFVi Infrastructure libraries, with Performance Characterization of ***Sample*** Traffic Flows using open source Test Harness

Facilitate ***Deterministic and Repeatable*** benchmarking on Industry SHV Servers

*VIL – VNF Infrastructure Libraries includes DPDK Optimized NFVI with OVS-DPDK
* Not a commercial product, Not Vendor/Proprietary Workloads

ISB METHODOLOGY: VNF PERFORMANCE BENCHMARKING

VNF performance benchmarking

Native Linux environment

Standalone Virtualized environment

Managed virtualized environment (e.g. OpenStack)

Evaluate both scale-up and scale-out performance data

VNFs performance graphs for both scale-up and scale-out in all three environments

Collect KPIs: Network KPIs, VNF KPIs and NFVi KPIs

Test Infrastructure: Standard test framework for all 3 environments

SUMMARY

Prepare for the future

Deploy Network Function Virtualization (NFV) and Software Defined Networks (SDN)

Adopt and Adapt

The future is a paradigm shift for the CommSP business model – leverage key learnings and capabilities from multiple industries

Join in!

A robust ecosystem is needed to move from a virtualized network view… to a cloud-ready vision


intel®
experience
what's inside™