



INTEL OPEN SOURCE FOR SDN/NFV

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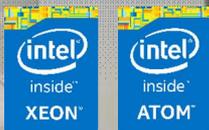
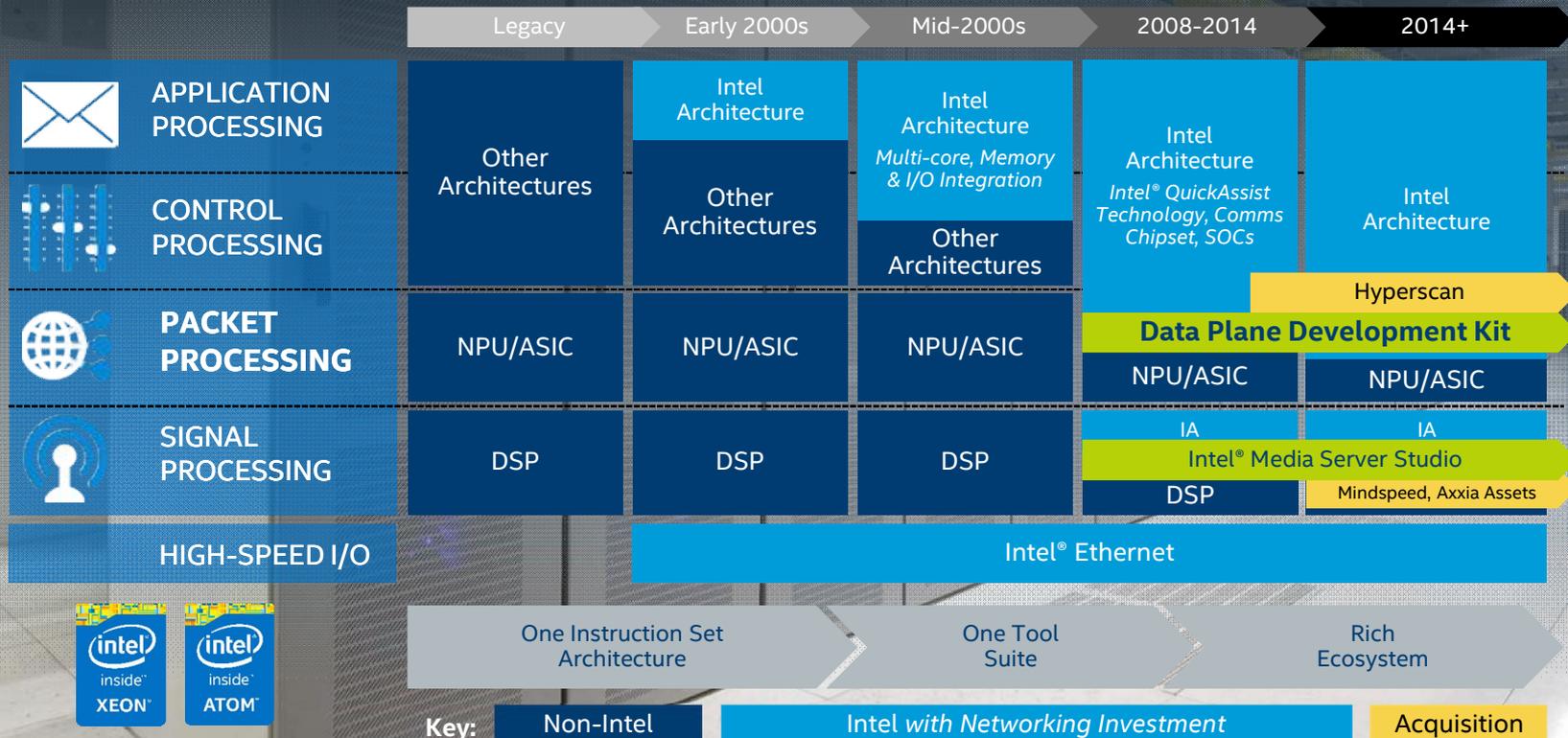
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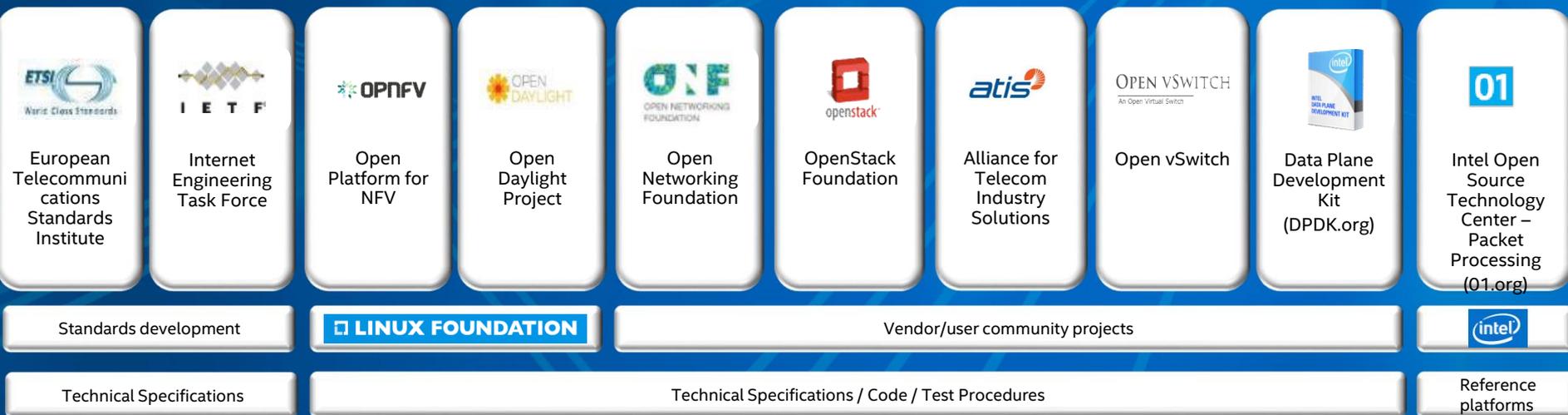
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NPG Strategy: 4:1 Workload Convergence on IA



Leadership in Enabling Network Transformation



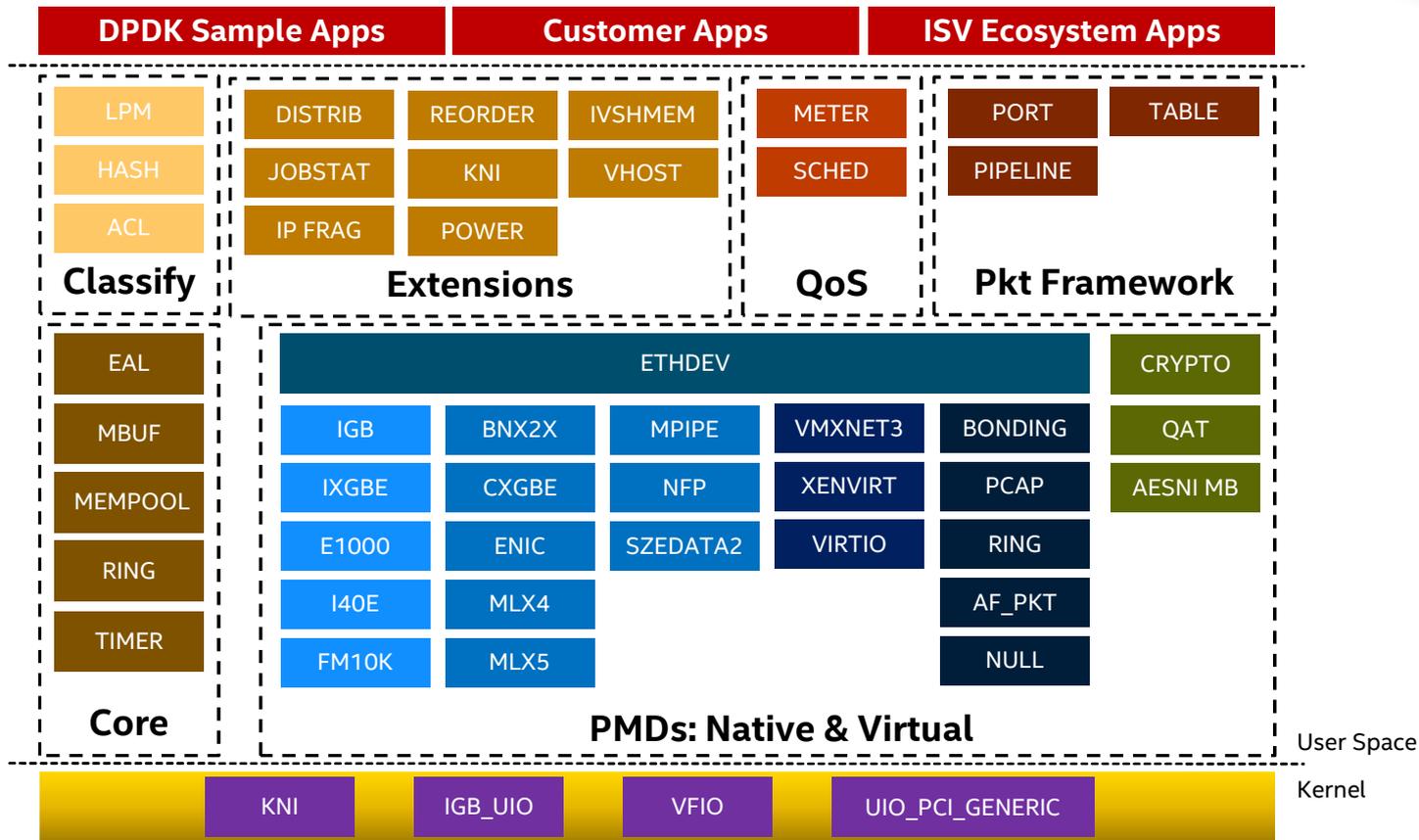
Investing in contributions to 10 SDN/NFV initiatives

Across the entire contribution spectrum
Specifications -> Code -> Test -> Reference Platforms



DPDK OVERVIEW

DPDK Architecture

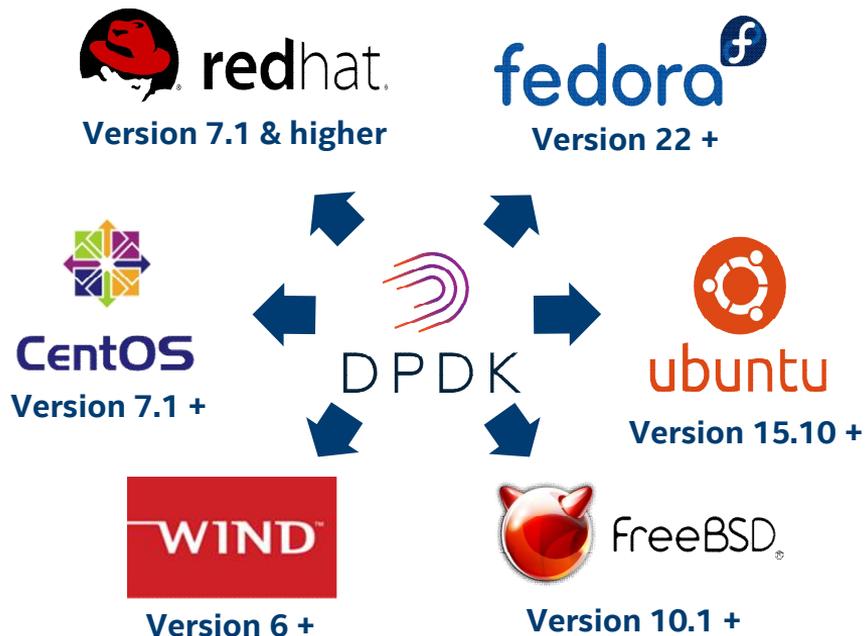


DPDK Ecosystem

Commercial support and higher-layer application software based on DPDK is available from the following companies:



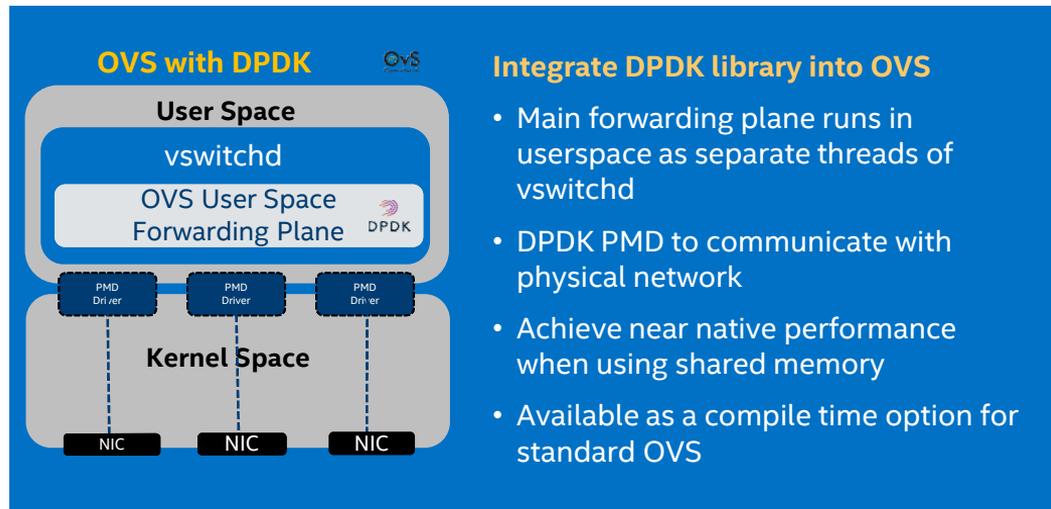
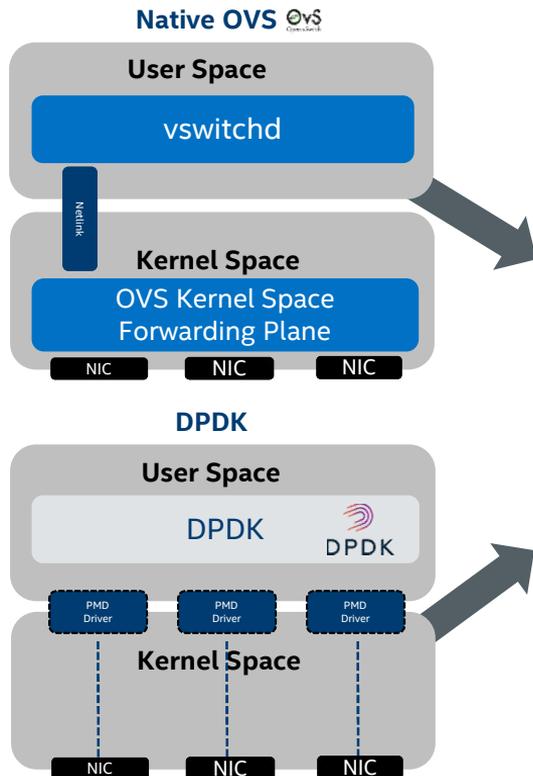
DPDK is also available as part of the following OS distributions:





OPEN VSWITCH (OVS)

OVS Architecture

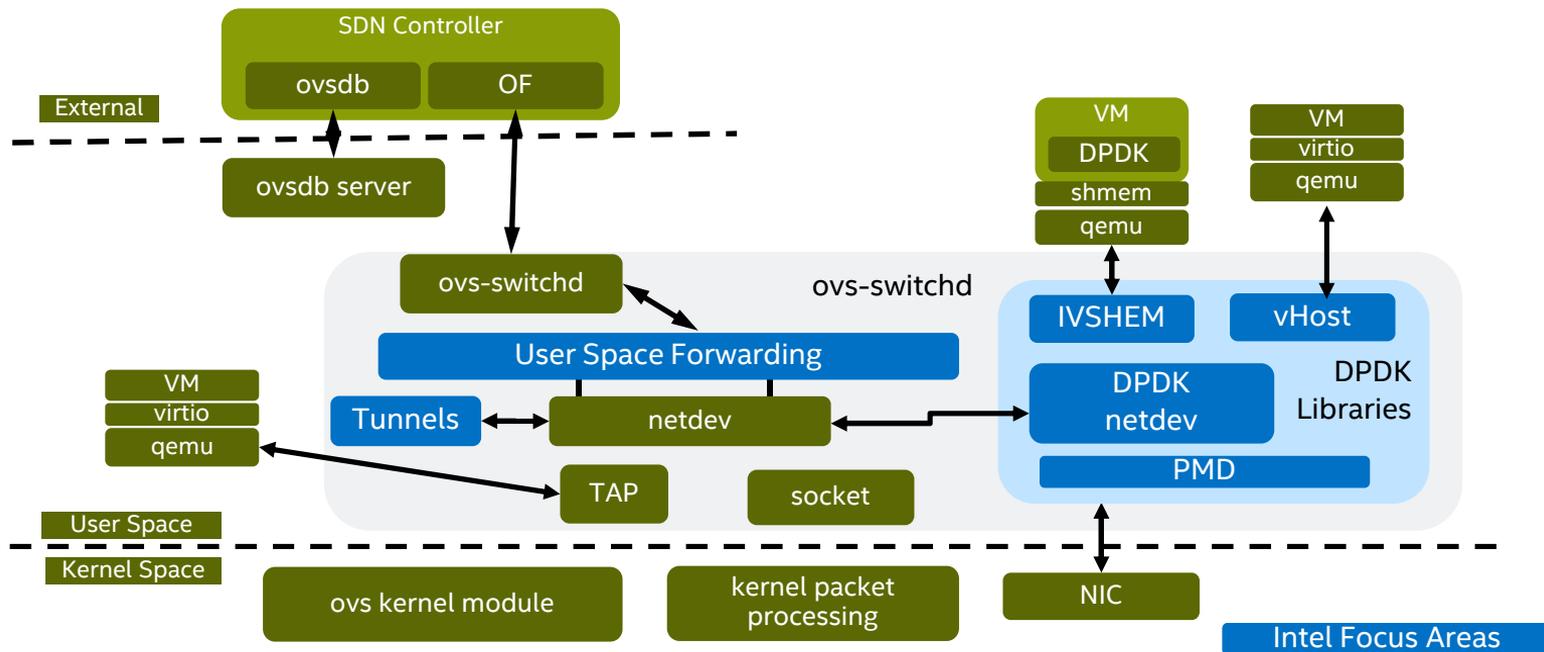


Integrate DPDK library into OVS

- Main forwarding plane runs in userspace as separate threads of vswitchd
- DPDK PMD to communicate with physical network
- Achieve near native performance when using shared memory
- Available as a compile time option for standard OVS

Open vSwitch with DPDK Architectural Approach

Integrating DPDK to Accelerate Open vSwitch®





FD.IO

FD.io (pronounced Fido)

Open source collection of projects delivering high performance data I/O

- Data services build on top of DPDK

Two initial sub-projects contributed by Cisco

- Vector Packet Processing library (VPP)
- ODL compatible management agent

Usable in cloud, Virtual Machines, containers, bare metal and others

- Library that needs integration

Continuous Performance Lab (CPL)

- Fully automated testing infrastructure/verification of code/feature

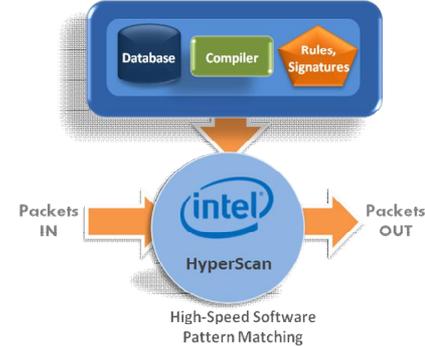
Broad industry participation

- Communication Service Providers, Public Cloud Providers, Massively Scalable Datacenter, Financials, IT Vendors, Semiconductor Vendors

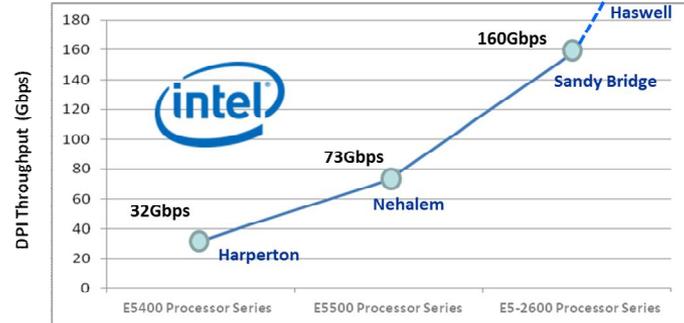
RELATED PACKET PROCESSING TECHNOLOGIES

Hyperscan

- Software Regex (Pattern Matching) engine
 - Regex and Fixed-string matching
 - Massively parallel matching
- Scan content for malware
 - Using customers' patterns sets
- High performance
 - Market moving to software DPI
- Fully scales IA
- Low latency and overhead
- Portable, easy to integrate
- Wide application
 - Network Security and infrastructure equipment suppliers



HyperScan scalability on Intel® Xeon® Multi-core Processor Series



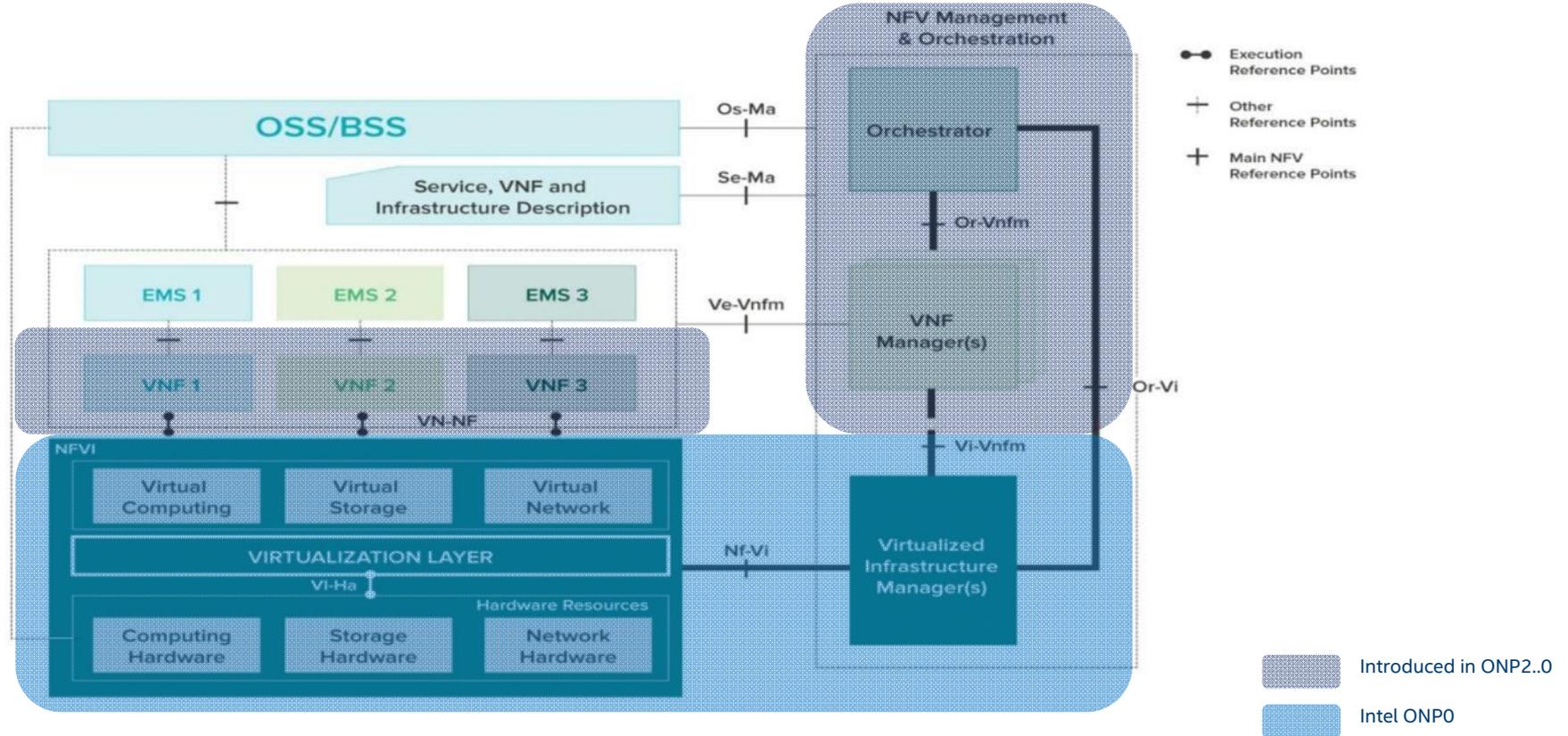
Using the same test criteria and database for every platform benchmark

Intel® Architecture + DPDK + HyperScan -> Best in class DPI



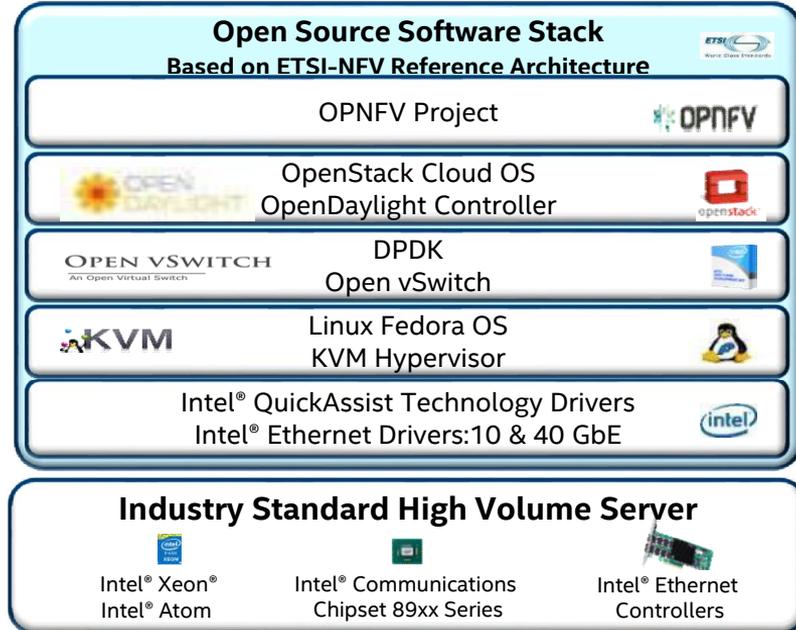
ONP : OPEN NETWORK PLATFORM

INTEL® ONP REFERENCE ARCHITECTURE - ETSI NFV REFERENCE ARCHITECTURE





INTEL® OPEN NETWORK REFERENCE ARCHITECTURE



What is Intel ONP?

Reference Architecture that brings together hardware and open source software ingredients

Optimized server architecture for SDN/NFV in Telco, Enterprise and Cloud

Vehicle to drive development and to showcase solutions for SDN/NFV based on IA

Reference Architecture delivered quarterly on O1.org in the form of:
Reference open source software
Reference Architecture Guide

Intel ONP is not a commercial product