

# Container-based NFVI Platform with Network Performance Analysis and Tuning for Mobile Edge Private Network

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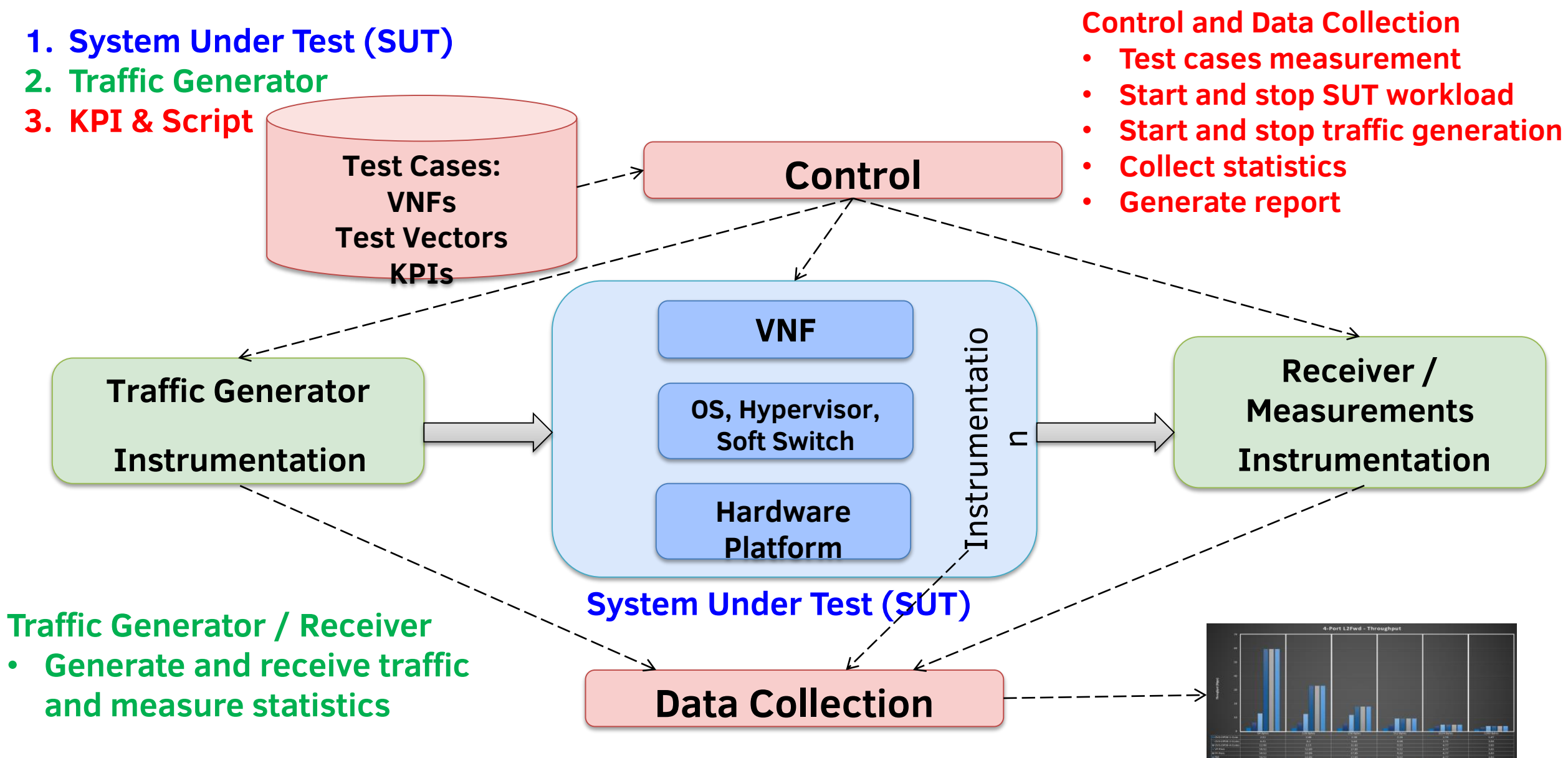
## ITRI NFV Performance Lab

- Cooperates with intel
- NFV performance characterization
- Performance Tuning
  - CPU pinning, NUMA Configuration BIOS configuration, etc.
- Data Plane Acceleration
  - SRIOV passthrough, Enable DPDK, QAT, Intel AES-NI, etc.
- Assists OxMs in executing NFV performance tests on the OCP equipment.

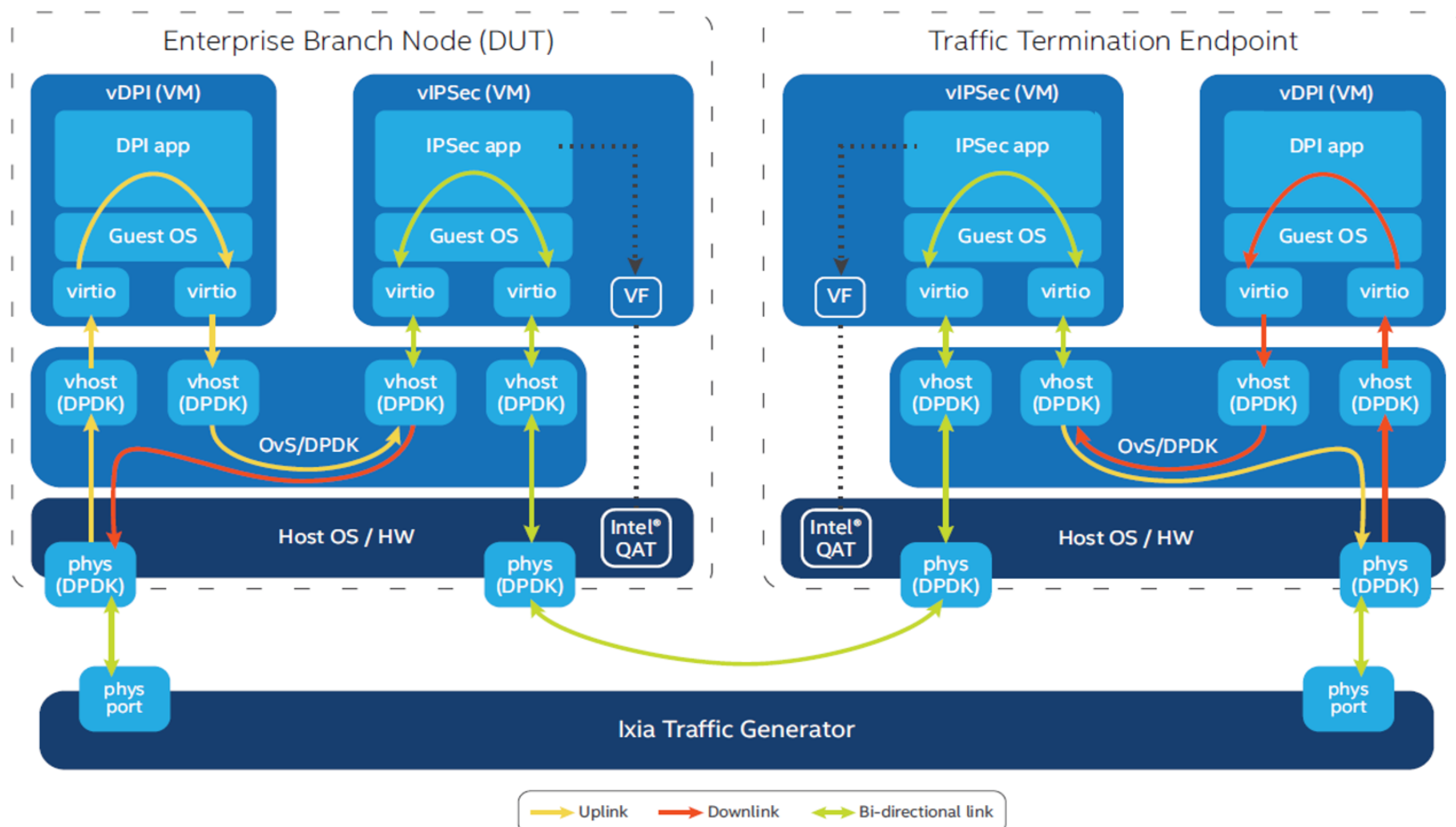
## ITRI Edge NFVI Solution

- Perf. tuning technology adopted from NFV Performance Lab
- Based on Kubernetes container orchestrator
- Multi-NIC support for CNV in Kubernetes
- Provides high-throughput network solution
  - Supports SRIOV, SmartNIC, etc.
- Provides CPU Pining for performance stability
- Provides end-to-end edge private network solution with CNFs like MEC, EPC and other edge applications.

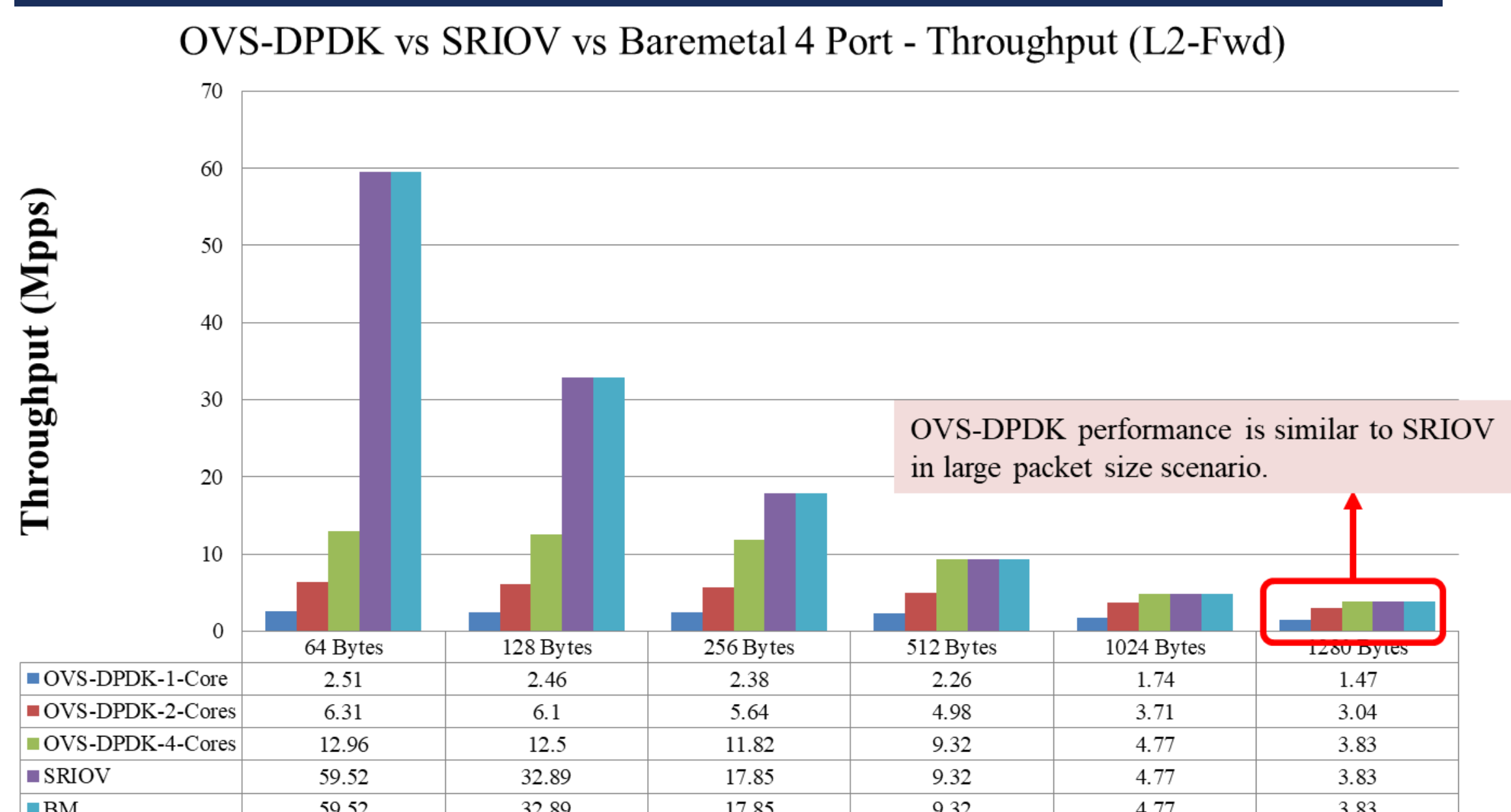
## NFV Performance Test Framework



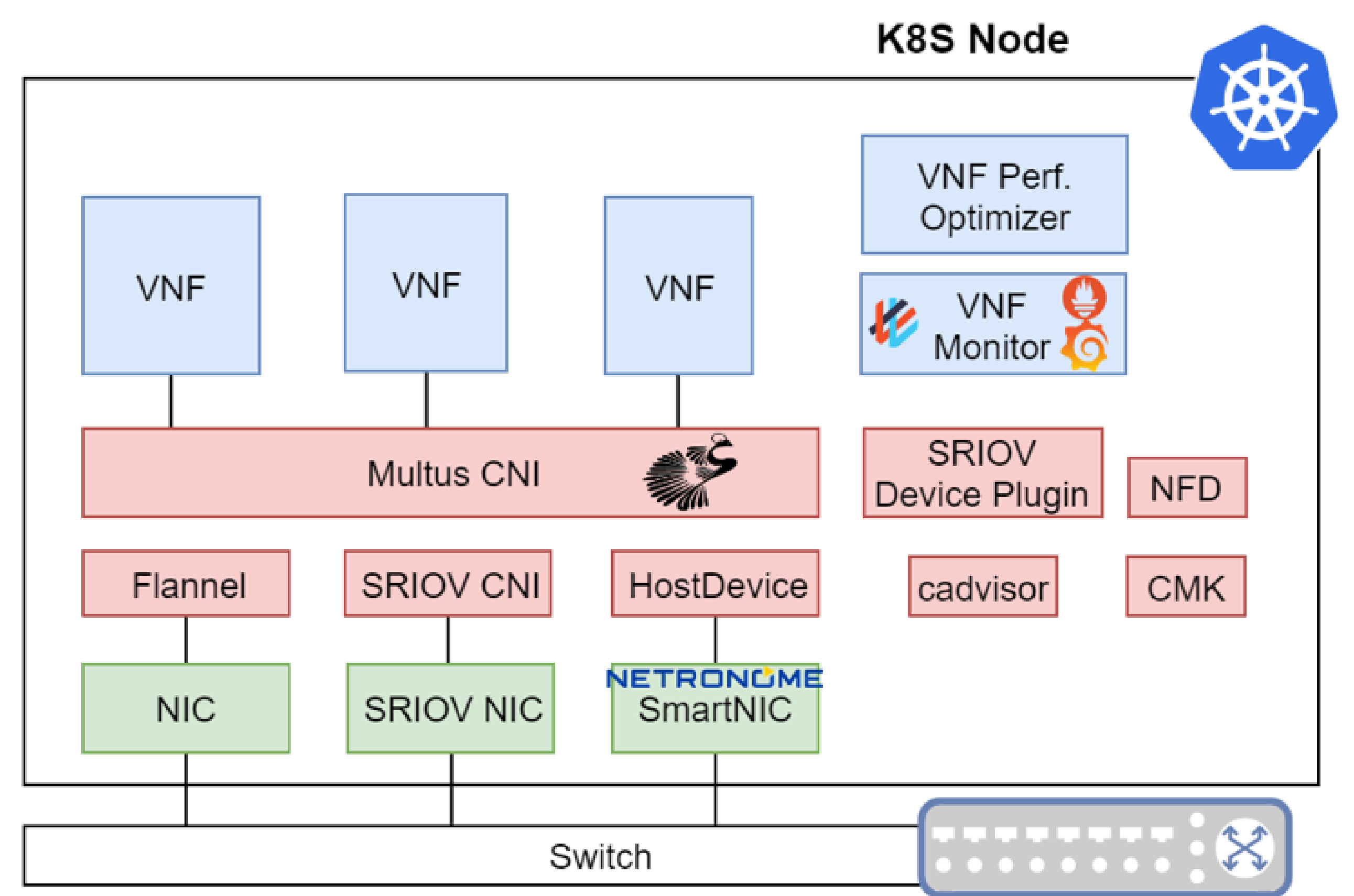
## SD-WAN Test Scenario



## Test Results for OVS-DPDK vs SRIOV vs Baremetal



## Components of ITRI Edge NFVI



## System Architecture of End-to-End Solution

- Control/Data plane split by different NIC
  - Data plane on high throughput NIC – SRIOV or SmartNIC
- Local breakout by MEC with internal SRIOV network
  - Lower latency, Higher throughput
- SmartNIC hardware offloading for SPGW-U in EPC

