Network Transformation



Delivering NFV Performance with Agility

What's the challenge?

- Interdependencies between hardware and software are making it hard for some Communications Service Providers (CoSPs) to implement high-performance, cloud-native data planes.
- Input/output virtualization approaches either have performance limitations (VirtIO) or reduced flexibility (SRIOV).
- Delivering on the vision of network function virtualization (NFV) requires high levels of function partitioning and hardware abstraction to increase modularity and portability.

What solutions are available?

Data Plane Development Kit

- The Data Plane Development Kit (DPDK) helps to abstract hardware and NICs to support cloud-native execution environments.
- For example, Release 18.05 introduces application interfaces that augment installed platform hardware with software equivalents to provide a consistent base level of functionality. Supported functions include encryption, compression and security.

Intel® Xeon® Scalable processor

- Intel is integrating competitive packet processing and data plane features in the Intel® Xeon® Scalable processor, to complement the infrastructure acceleration capabilities of standard NICs and SmartNICs.
- Infrastructure acceleration in NICs and SmartNICs combined with application acceleration in the CPU can deliver the scalability required for the next generation of applications that will be increasingly dependent on packet data.

Intel® Select Solutions for NFVI

- •Intel® Select Solutions for NFVI are workload-optimized network solutions, based on the Intel Xeon Scalable processor.
- They make it easier for CoSPs to find off-the-shelf hardware that delivers the performance required for NFV.
- Vendors verify the performance of their platforms against a defined benchmark, and can offer a "base" or "plus" solution for either balanced price/performance or ultimate performance.
- Participating vendors include Advantech, H3C, Huawei, Lenovo, Nokia, QCT, and Wiwynn.

Learn More

- Blog: High Performance Cloud-Ready Virtual Network Functions with DPDK Device Abstraction
- The Data Plane Development Kit (DPDK) website
- Intel® Xeon® Scalable processor
- Intel® Select Solutions for NFVI

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