



Welcome to the World of Standards



NFV TUTORIAL SESSION - ACCELERATION

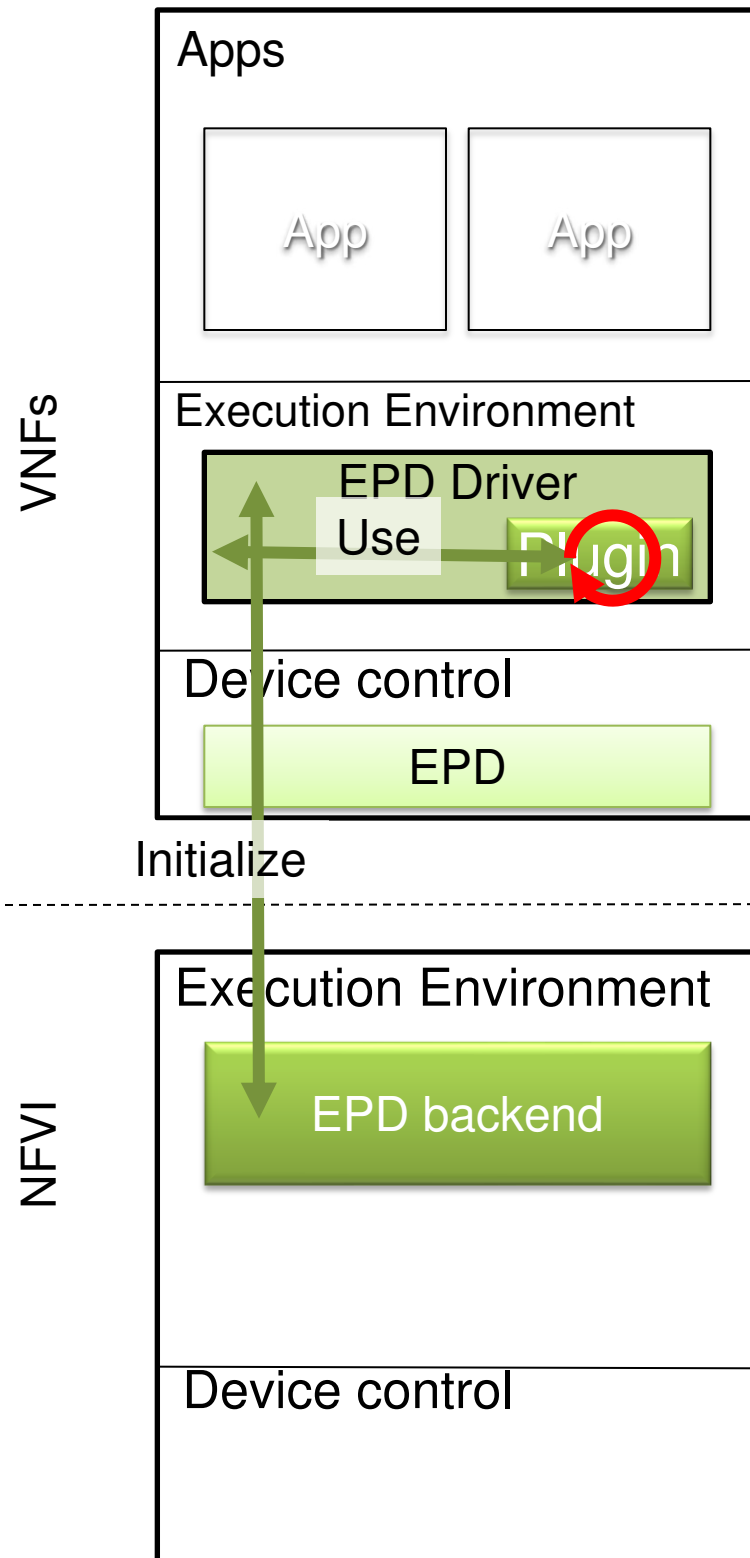
NFV#12

Monday 26th October, 12:30 – 14:00

François- Frederic Ozog, Rapporteur, 6Wind

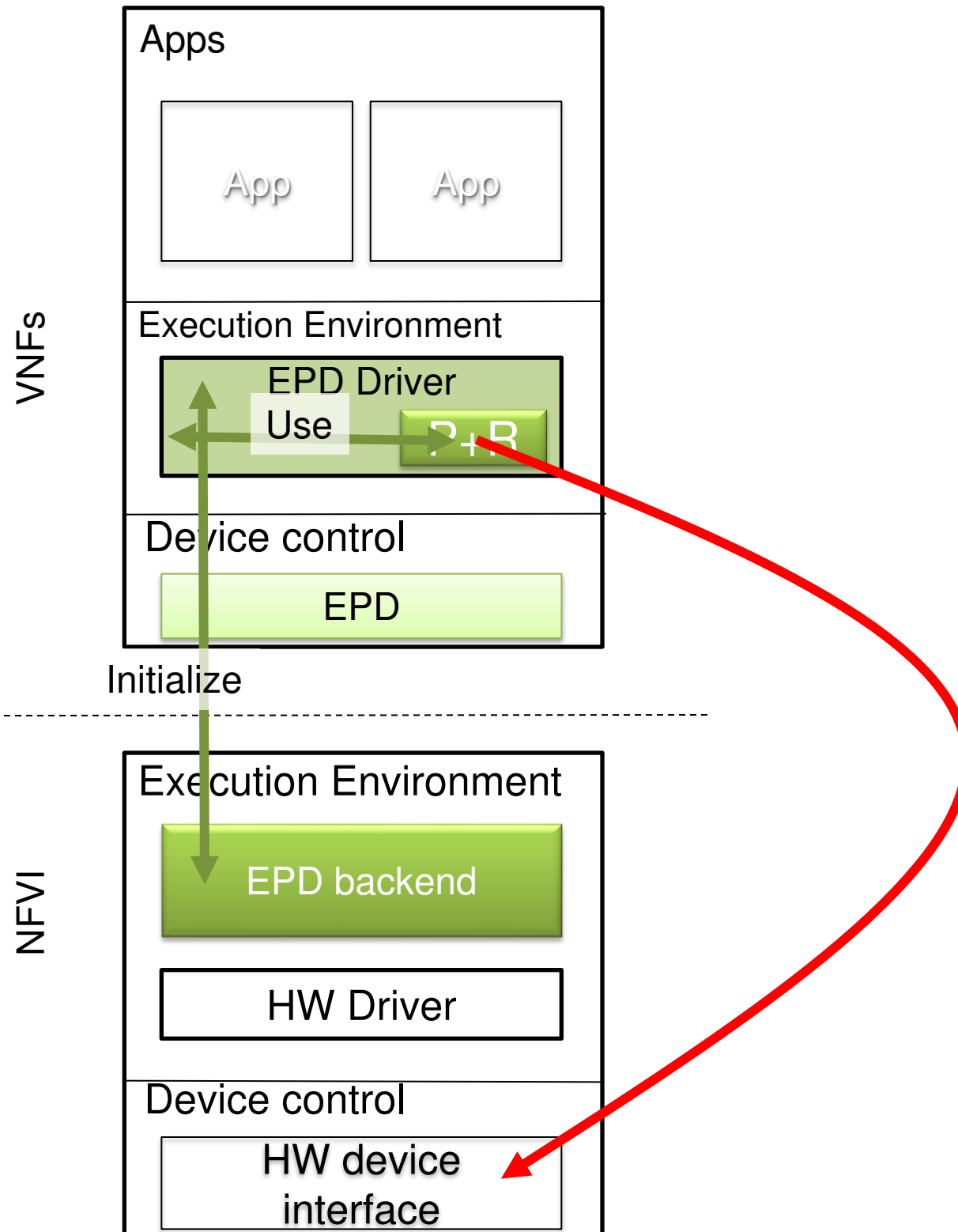
- Main public documentation: IFA001, IFA002, IFA003, IFA004
- Based on abstract Acceleration Capabilities such as crypto, compression, RDMA that present a standard Acceleration Interface IFA002
- VNF descriptors may contain Information Elements to express the need of Acceleration Capabilities with certain performance requirements IFA004
- VIM sees all Acceleration Resources and expose Acceleration Capabilities IFA005
- NFVO select VIM based on Acceleration Capabilities, which in turn allocate Acceleration Resources “sub-resources” as part of Resource Management IFA010
- Hypervisor domain expose Acceleration Capabilities to VNFCIs through Extensible Para-virtualised Devices (EPD), building on hardware/software Acceleration Resources. IFA002
- EPD allow execution of NFVI provided plugins in the context of VNFCIs to allow lightest cost of acceleration abstraction

EPD: Intra-VNFC software execution



Avoid crossing hypervisor boundary
Depends on administrative policy
Rely on proper trust model

EPD: portable native hardware access



- Requirements and functional aspects standardized in ETSI NFV
- Detailed specifications and Open Source implementation in OPNFV DPACC
- First phase of implementation to be demoed before year end by OPNFV DPACC members
- Commercial products to follow
- Standards + open Source offer the fastest way to interoperability by clearing most/all ambiguities through community led reference implementation (as opposed to test different implementations coded separately)

- High performance networking
 - Cryptography, IPsec offloading, TCP offloading, Packet dispatching
- High performance computing
 - GPU computing, RDMA
- High performance Storage
 - NVMe, ISCSI, other persistent memory schemes
- Dynamic Optimization of Packet Flow Routing
 - Optimize intra-VNF packet forwarding and routing

