Agenda

Challenges in NFV

High Level Design

Current Status

Next Steps

Q & A
Challenges in NFV - Typical NFV Environment

- Host
- Hypervisor
- vSwitch
- Data Plane Acceleration
- HW Platform

VM

VNF

OpenDataPlane

OpenDataPlane

OpenDataPlane
Challenges in NFV – ODP perspective

Platform components identified during run time

Single application binary to run on all environments
ODP Cloud - High Level Design

Application

Packet I/O  Classifier  Mempool  Queue  Scheduler  Timer  Crypto

Packet I/O Subsys  Classifier Subsys  Mempool Subsys  Queue Subsys  Scheduler Subsys  Timer Subsys  Crypto Subsys

Packet I/O  Classifier  Mempool  Queue  Scheduler  SW Classifier  SW Scheduler  SW Queue  SW Timer  SW Crypto  SW Mempool

SoC  Server  Packet I/O

NIC 1  NIC 2

PMD  PMD

Mempool  Mempool
ODP Cloud - Key Components

**Modular Framework** - Helps to implement subsystems for various ODP components

**Platform Discovery** – Identifies various components in the platform and matching libraries

**Module loader** - Allows to load libraries and register implementations into subsystems

**Device Driver Framework** - Framework for writing the drivers
Current Status

Modular Framework is created
Various subsystems are created
  Pool
  Buffer
  Packet
  Packet I/O
  Queue
  Scheduler

DPDK is integrated as a platform – Components provided
  Pool
  Buffer
  Packet
  Packet I/O
Next Steps

User Space Drivers for NICs and vNICs

ODP Component Optimizations
  Components derived from Linux-Generic

Platform discovery and library load infrastructure

Single repository for ODP
  Directory structure changes

Build changes
Thank You, Q & A

Contact: honnappa.nagarahalli@arm.com

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