



DPDK Summit

DPDK Automation in RHOSP

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Agenda

- Introduction
- Architecture
- NUMA-Placement
- Composable Roles
- What's in OSP10
- Deriving Parameters

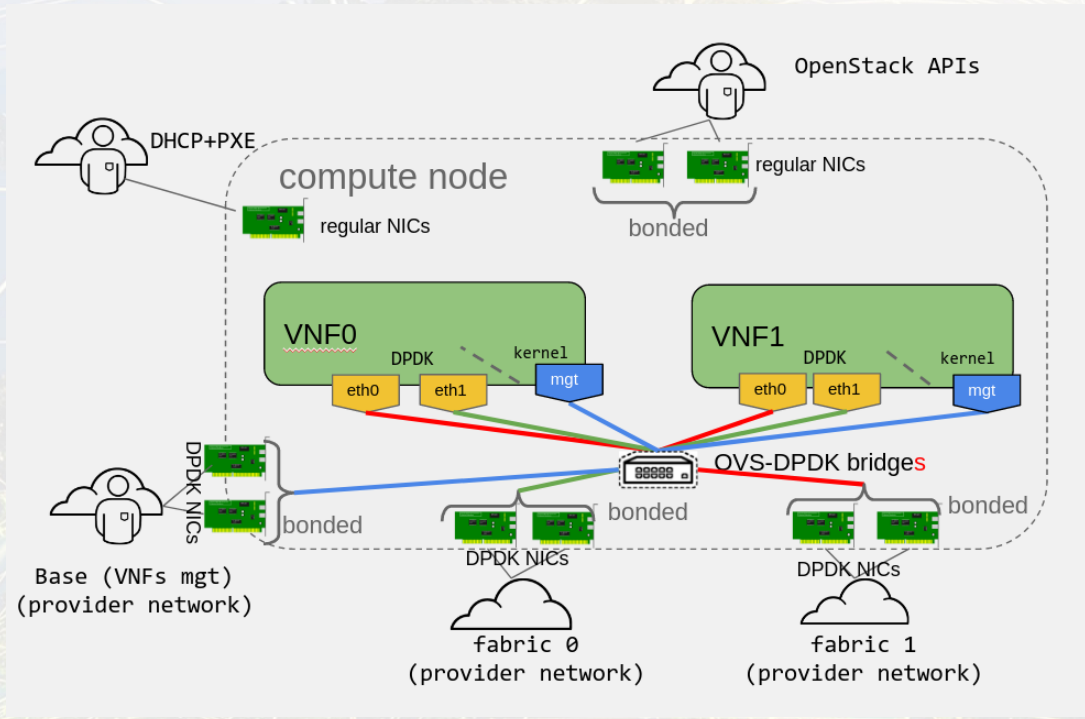
Introduction

- Red Hat OpenStack Platform 10 automated the deployment of DPDK
- Prepares the host with hugepages, iommu, CPU isolation with NUMA awareness
- Deploys the cluster with DPDK enabled Compute nodes to host VNFs

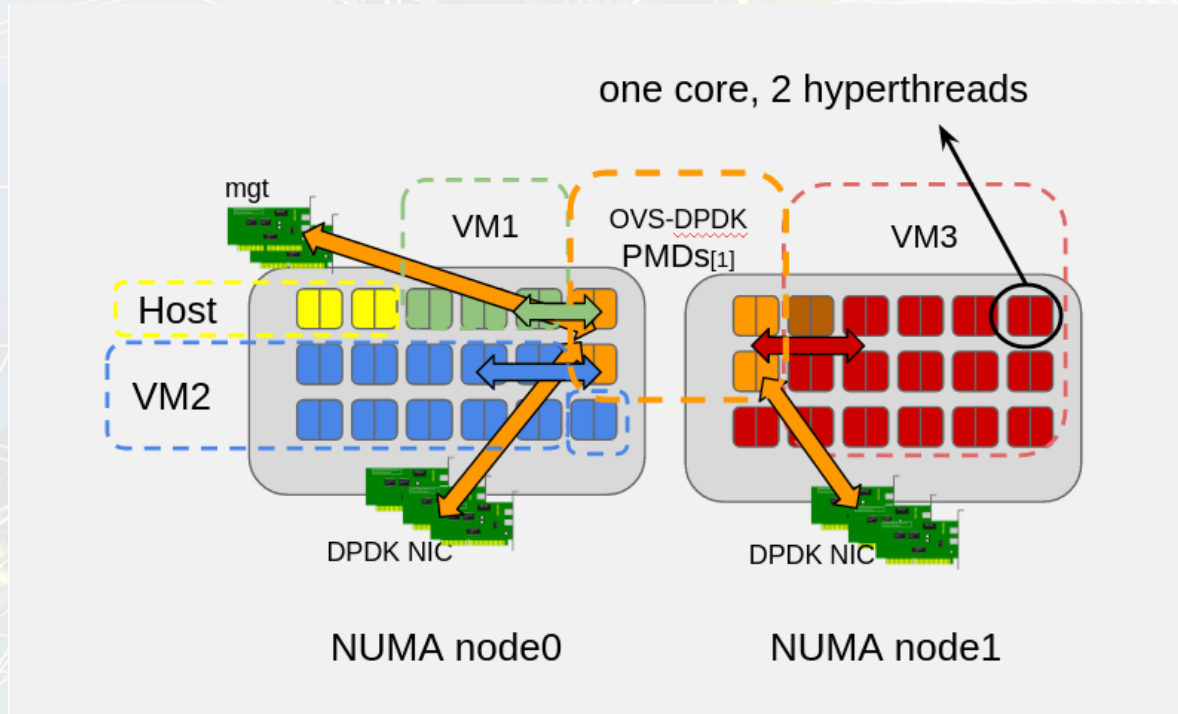
Introduction ...

OSP Version	OpenvSwitch	DPDK
RHOSP10 - Mar	2.5	2.2
RHOSP10 - May	2.6	16.07
RHOSP11 - Apr	2.6	16.07

Architecture – DPDK Compute



NUMA-placement



Composable Roles



ComputeDpdk



ComputeSriov



Compute



Controller

What is in RHOSP10?

- Operator has to follow a tuning guide to provide the following deployment parameters to deploy a cluster with DPDK:
 - NeutronDpdkCoreList (pmd-cpu-mask) (-c)
 - HostCpusList (dpdk-lcore-mask) (-l)
 - NeutronDpdkMemoryChannels (dpdk-extra) (-n)
 - NeutronDpdkSocketMemory (dpdk-socket-mem) (--socket-mem)
 - NovaReservedHostMemory (Memory for host processes)
 - NovaVcpuPinSet (Guest VMs CPUs)

Next Steps

- Deriving Parameters
 - Hardware Introspection will provide the necessary hardware details
 - Parameter can be derived with pre-defined formulas with the hardware data
 - All the parameters required for DPDK will be derived to ease the deployment for operators

Next Steps

- Jumbo Frames Support
 - Enable support for 2000 and 9000 MTU values for Jumbo Frames
- Multi-Queue Support
 - Provide configuration to enable multiple queues



THANK YOU