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 ...

<table>
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<tr>
<th>OSP Version</th>
<th>OpenvSwitch</th>
<th>DPDK</th>
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<tbody>
<tr>
<td>RHOSP10 - Mar</td>
<td>2.5</td>
<td>2.2</td>
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<td>RHOSP10 - May</td>
<td>2.6</td>
<td>16.07</td>
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<td>RHOSP11 - Apr</td>
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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