

VNF Performance Validation and Onboarding

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Demonstrate the full life cycle of a sample VNF using OPNFV and ONAP:

- Characterizing a VNF's performance by using OPNFV Yardstick NSB
- Onboarding the VNF onto MANO software (ONAP)
- Deploying the VNF using ONAP, onto OPNFV scenario using Aarna Networks' ONAP distribution (ANOD)

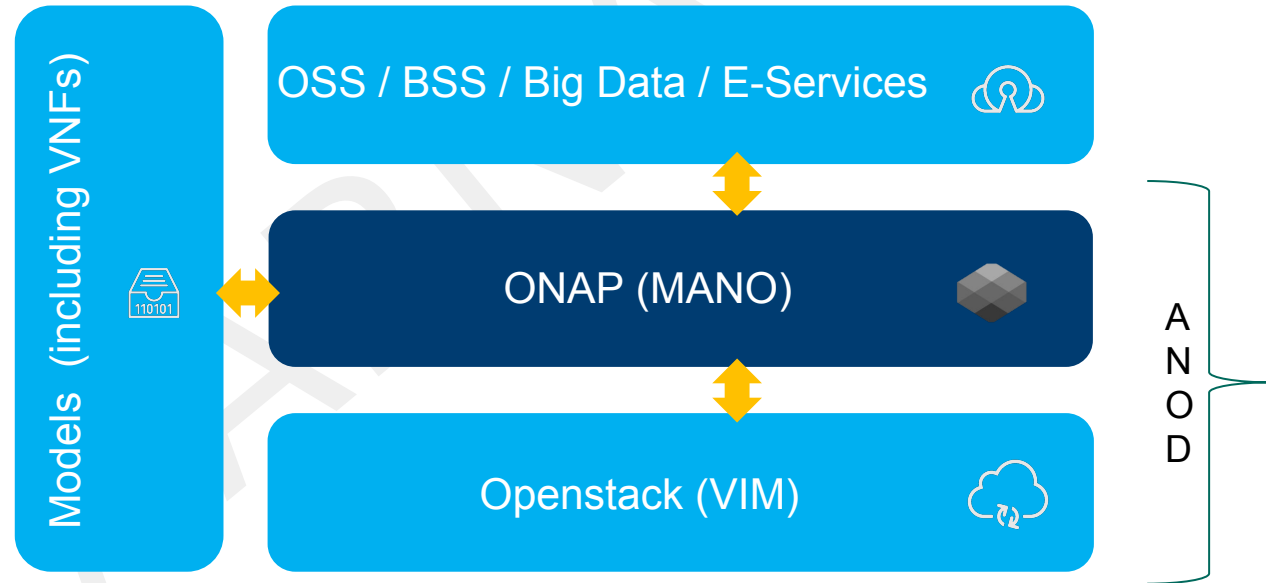
Challenges: Comparing VNF performance is a lot more difficult than before for the following reasons:

- Differences between vendor environments
- Differences from a real CSP environment

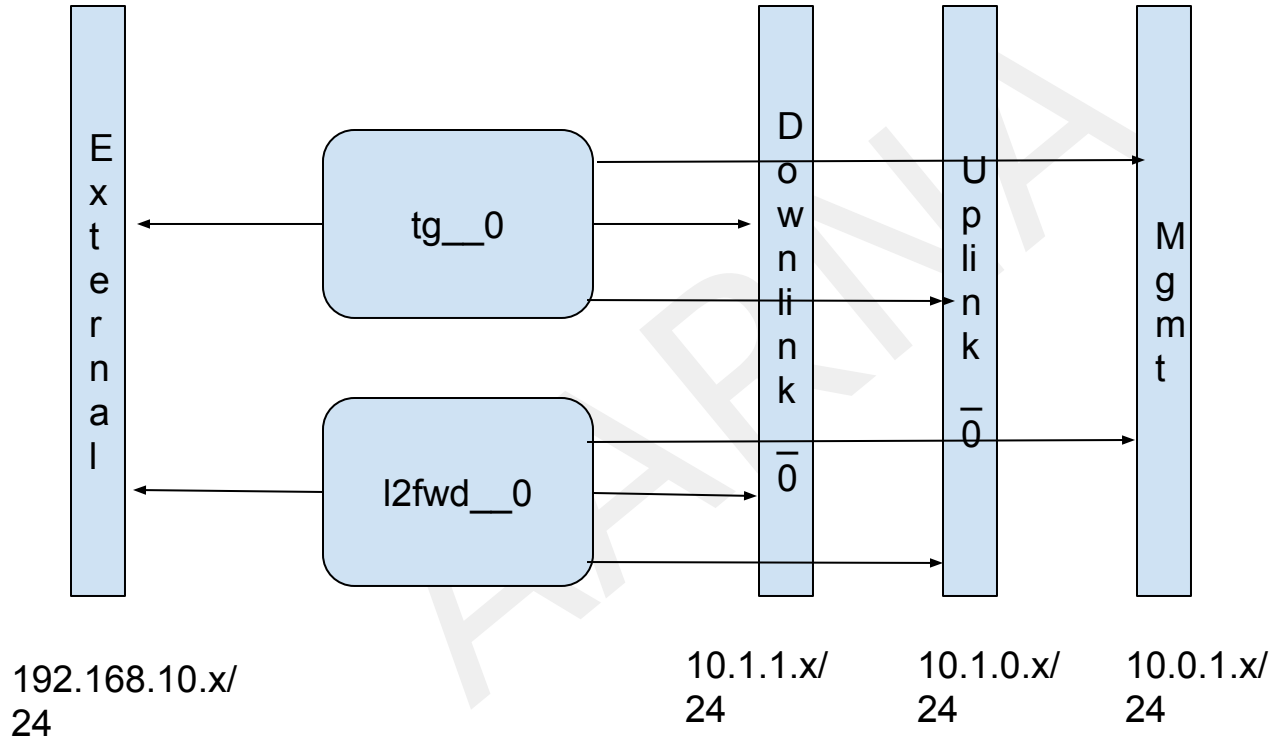
The OPNFV Yardstick Network Service Benchmarking ([NSB](#)) tool is useful in solving the above problem

ONAP Within the Overall Stack

ONAP requires integration and design before it can generate value



L2 Forwarder Network Topology



- Create Openstack Cloud image with required software (prox/DPDK library etc.)
- Create required resources on Openstack (Flavor, Networks/Subnets)
- Create HEAT templates and environment files
 - Method 1: Create VNF HEAT templates from scratch
 - Method 2: Use the HEAT template file generated by NSB as part of its execution

Note: We have used Method 1, but Method 2 can be done as well.

Note: In Method 1, we created 2 VNFs - Traffic Generator (TG) and L2 forwarder (L2FWD), and 1 Network Service

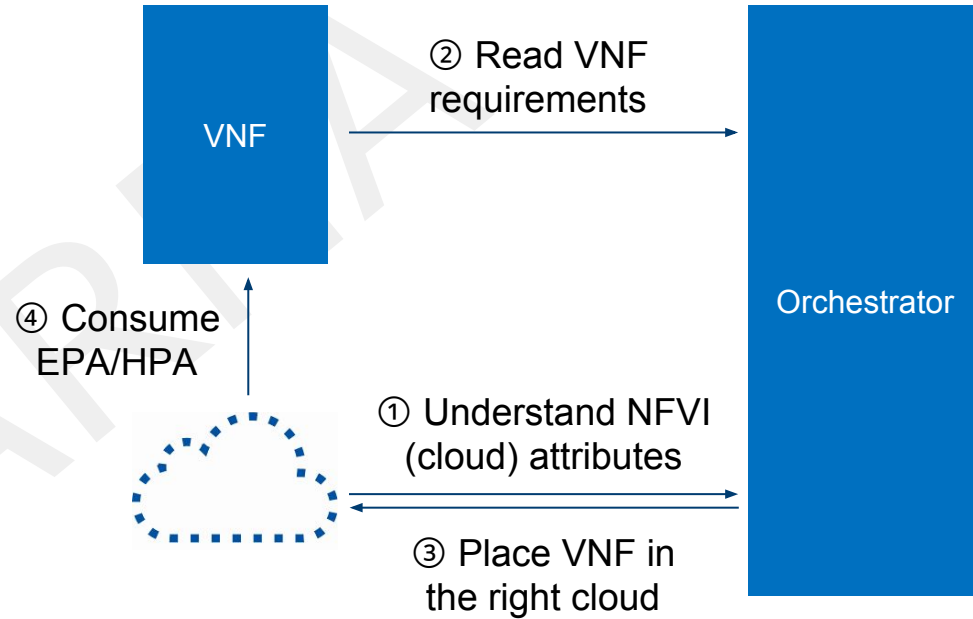
- Add the required scripts in cloud-init section of VNF's YAML files
 - In case of L2FWD, this requires running prox utility on both VNFs
- Onboard the ZIP files in SDC, and create VSP's & NS

Deployment using ONAP

- Run SDN-C Preload scripts that set the required parameters in SDN-C
- Instantiate VNF L2FWD, which creates the VM and runs prox process with appropriate configuration file
- Instantiate VNF TG, which creates the VM and runs prox process with traffic generator options

HPA support in ONAP

End-to-end orchestration
needs to support
EPA/HPA



Note: Not shown in this
Demo

Goal: Help VNF vendors and network service designers to figure out right hardware requirements for various network functions

How:

1. Enhance NSB to output hardware features and configuration of hardware features to meet SLA such as throughput, latency and jitter using NSB.
2. Auto-creation of VNF hardware requirements (VNFD) based on the output of previous step.

Note: Inputs from Intel

Thank You!!!