OVN - SFC and Hybrid Environment Support (OVN4NFV)

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OVN - SFC and Hybrid Environment Support

› Introduction
  › I'm Amir Mohamad
  › Originally from Cairo
  › Coming from Queen's University
  › My mentor Trinath Somanchi
  › OPNFV Project OVN4NFV

Intern Project: OVN - SFC and Hybrid Environment Support

Created by Trinath Somanchi, last modified on Dec 26, 2018

Description	OVN SFC in VM, VM+CN and CN environments.
Status	**PROJECT_COMPLETED**
Difficulty	**HIGH**

› **Project Description:** OVN SFC is a mini project work that involves Service Function Chaining of VNFs (VMs and Containers) on OVN - which is Distributed Control Plane solution on OVS.

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› Project Objectives:

1. Realizing SFC with VMs
2. Installation document
3. Installer scripts to Automation
4. Integration to APEX, JOID installers
5. Unit/Functional test scripts to test the scenarios
6. Documentation for use cases, scenarios and installer help guides

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› Project Deliverables:

1. ovn-sfc (no nsh)

2. ovn-vmvm-sfc-noha (no nsh) - APEX installer support.

3. os-ovn-vmcn-noha* - Hybrid Environment - Apex Installer Support

4. Feature and PoC documentation.

5. Test cases for new Scenarios.

* This PoC was later changed to k8s-ovn-cnvm with JOID installer support

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› Project Execution & Accomplishments:

1. We managed to finish the first PoC except for the test scripts:
   › Realized the ovn-vmvm-sfc PoC using DevStack
   › Delivered a detailed installation document
   › Collaborated with RedHat folks for the APEX integration

2. Started the second PoC k8s-ovn-cnvm
   › Installed k8s cluster along with OVN as the CNI network provider
   › Didn't have the time to finish this PoC with Virtlet to deploy VMs in k8s cluster

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› Most proud of:
  › Starting this internship with zero knowledge of/hands-on experience with OS and k8s, and still being able to finish most of the requirements
  › Most of the conclusions I reached were proven to be correct

› Most challenging:
  › installing Virtlet. Unlike KubeVirt, Virtlet requires many more than one component, the documentation wasn't easy to follow
  › Worked with Mirantis folks to resolve the issue but things didn't work though

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› Recommendations for future work:

  › There is already an ongoing work in the ONAP project that involves k8s and Virtlet as part of ONAP multicloud. I will try to participate in such project

  › I will work on the test scripts, as I will need to conduct tests later on as part of my PhD

  › Also I will dig deeper into **Yardstick** - Infrastructure Verification for my PhD research