ONAP collaboration with external Open source projects: OPNFV, ODL …

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ONAP Developer Event, Paris
25-28 September 2017
OPNFV

• Many topics for collaboration
  - Infrastructure: many scenarios for cloud, SDN, installer…
  
  - CI/CD tooling XCI
  
  - Reference VNFs
  
  - Certification process (CVP)
  
  - CG
ONAP requires cloud/ NFVI infrastructure for ONAP components - VNF deployments
OPNFV Scenarios


[Cloud]: mandatory
    - example values: os/openstack- k8/kubernetes

[controller]: mandatory
    - example values: nosdn, ocl/contrail, odl/opendaylight, onos

[feature]: mandatory
    - example values: nofeature, kvm, ovs/open virtual switch

[mode]: mandatory
    - possible values: ha/high availability, noha

[option]: optional

https://wiki.opnfv.org/display/pharos/Community+Labs
https://wiki.opnfv.org/display/pharos/Pharos+Home

• os-nosdn-kvm_ovs-ha
• os-nosdn-vlan-ha
• os-odl_l2-sfc-ha
• os-odl_l2-bgpvpn-ha
• os-nosdn-fdio-noha
• os-odl_l2-fdio-ha
• os-odl_l3-fdio-ha
• os-odl_l3-vpp-ha
• os-ocl-nofeature-ha
• os-onos-sfc-ha
• os-nosdn-lxd-ha
• k8-nosdn-os-lb
Reference VNFs

- Open source VNFs used to verify and to benchmark OPNFV infrastructure
  - vIMS Clearwater Metaswitch,
  - vFW Canonical
  - vAAA Canonical
  - vPing Linux
  - vRouter OpenWRT
  - vIDS Snort
  - vSBC /SIP Open SIPS
  - vIMS SIP Proxy & media Server Emerginov Orange

VNFs for Release E
- CG-NAT Carrier Grade Network Address Translation
- vACL Access Control List
- vPE Provider Edge Router
OPNFV CI

• Communications Service Providers indicates that 80% of those surveyed feel that the DevOps software development model is essential or important to NFV success.

• OPNFV CI integrates and installs (by invoking different installers) different combinations of stack components, projects and configurations, called OPNFV scenarios, on a daily basis and executes a smoke test on each scenario.
The XCI initiative integrates the latest from all supported branches of select upstream projects on a periodic basis instead of waiting for a major release. The initiative will start with regular integration of OpenStack Cloud, OpenDaylight SDN controller and the FD.io virtual switch.

Benefits:
- Upstream changes can now be utilized by OPNFV very quickly; e.g. daily.
- Feedback can now be provided rapidly, again say daily. A feature development or bug fix cycle can now be compressed from months to just days.
Compliance and Verification program CVP

- Test Areas
  - Basic cloud capabilities
  - Basic VNFs need
  - NFV specific:
    - SDN VPN,
    - IPv6
  - High availability:
    - OPNFV HA
    - OPNFV Performance
    - Service continuity on control services

- Test Area: Basic cloud capabilities
  - Openstack Refstack-compute test cases Image, Identity, Compute, Network, Storage
  - OPNFV-Functest/vPing, including both user data and ssh
  - Port security and security groups
  - VM lifecycle events
  - VM networking
  - VM resource scheduling
  - Forwarding packets in the data path

- Test Area: SDNVPN
  - OPNFV-SDNVPN

- Test Area: IPv6
  - OPNFV-IPv6
  - Limited to overlay tests, v6Ping

- Test Area: High Availability
  - OPNFV-HA
  - OPNFV-Yardstick
  - Limited to service continuity verification on control services

Mandatory test cases, Optional test cases
Collaboration with other open source projects

• Opendaylight:
  - SDN-C and APP-C components are based on ODL
  - Next ODL Release Nitrogen will be available soon
  - New use case for Virtual Central Office (vCPE using Cumulus network OS)

• PNDA:
  - Relation with DCAE need to be discussed
Meeting note (Vimal Begwani)

- **OPNFV:**
  - Should we directly interface (for Infrastructure) with OpenStack or interact via OPNFV?
  - Should all the open source we interact with Linux foundation open source projects only?
  - Could OPNFV support carrier grade testing and certification? Are there standard matrix for carrier grade from OPNFV?
  - Three controllers for OPNFV infrastructure: ODL, ONOS and OpenContrail
  - Use OPNFV as infrastructure for ONAP
    - Two cloud infrastructure supported by OPNFV (OpenStack and K8s)
    - Has anyone tried ONAP on any of the OPNFV scenario – Not yet, Orange plan to test. Waiting for ONAP release 1, though we can test the current version
  - Multiple reference VNFs supported by OPNFV
  - Performance testing supported by OPNFV is for infrastructure focus for OpenStack as well as K8s.
  - CI/CD is the third area of OPNFV leveraged by ONAP.
  - OPNFV supports branch code testing without waiting for completing M4
  - CORD hardware can be configured using ODL (Virtual Central Office Project in OPNFV). CORD doesn’t have to be configured by ONOS controller. vCPE demonstrate that.

- **ODL:**
  - ODL has a strong presence in China. Lot of contribution. ODL used by several vendors and operators
  - Which version of ODL is being used by ONAP – Think will go to Carbon first then go to Oxygen
  - Should we release SDN-C SLI in ODL and make it standard?
  - Should we push APPC Ansible & Chef interfaces back to ODL?

- **PNDA:** We should also explore PNDA and DCAE collaboration.
• Thank You