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

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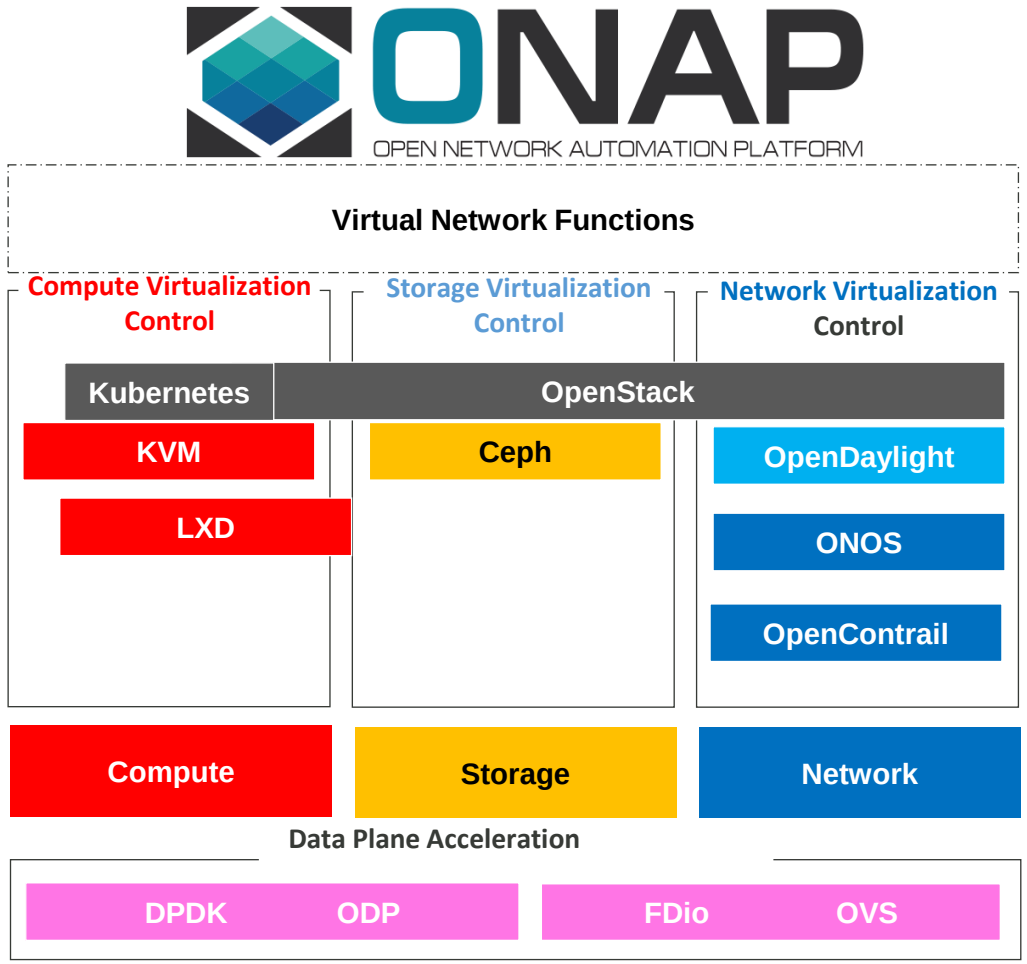
OPNFV

- Many topics for collaboration
  - Infrastructure: many scenarios for cloud, SDN, installer…
  - CI/CD tooling XCI
  - Reference VNFs
  - Certification process (CVP)
  - CG

OPNFV infrastructure

ONAP requires cloud/ NFVI infrastructure for ONAP components - VNF deployments



OPNFV Scenarios

[Cloud] - [controller] - [feature] - [mode] - [option]

[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

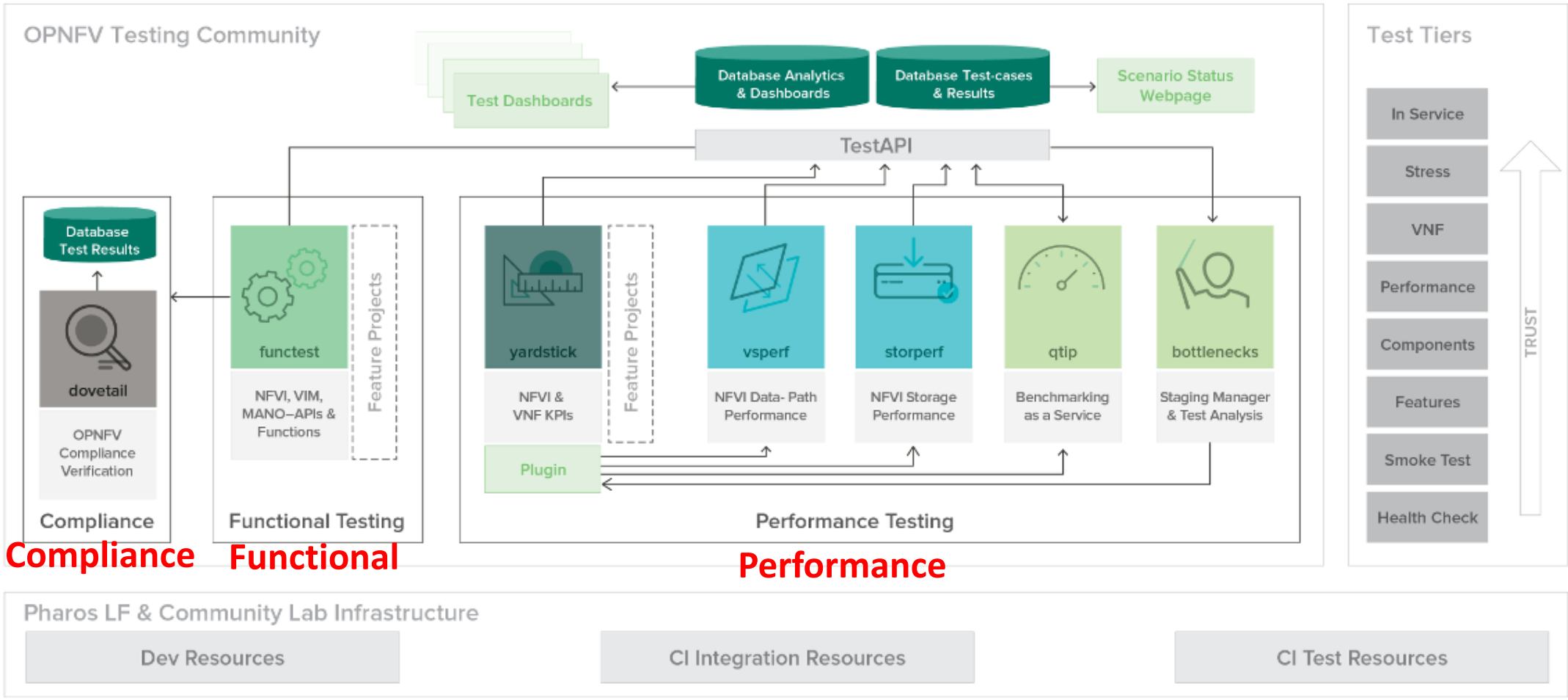
- os-nosdn-kvm_ovs-ha
- os-nosdn-vlan-ha
- os-odl_l2-sfc-ha
- os-odl_l2-bgpvpn-ha
- os-nosdn-fdio-noha
- os-odl_l2-fdio-ha
- os-odl_l3-fdio-ha
- os-odl_l3-vpp-ha
- os-ocl-nofeature-ha
- os-onos-sfc-ha
- os-nosdn-lxd-ha
- k8-nosdn-os-lb

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

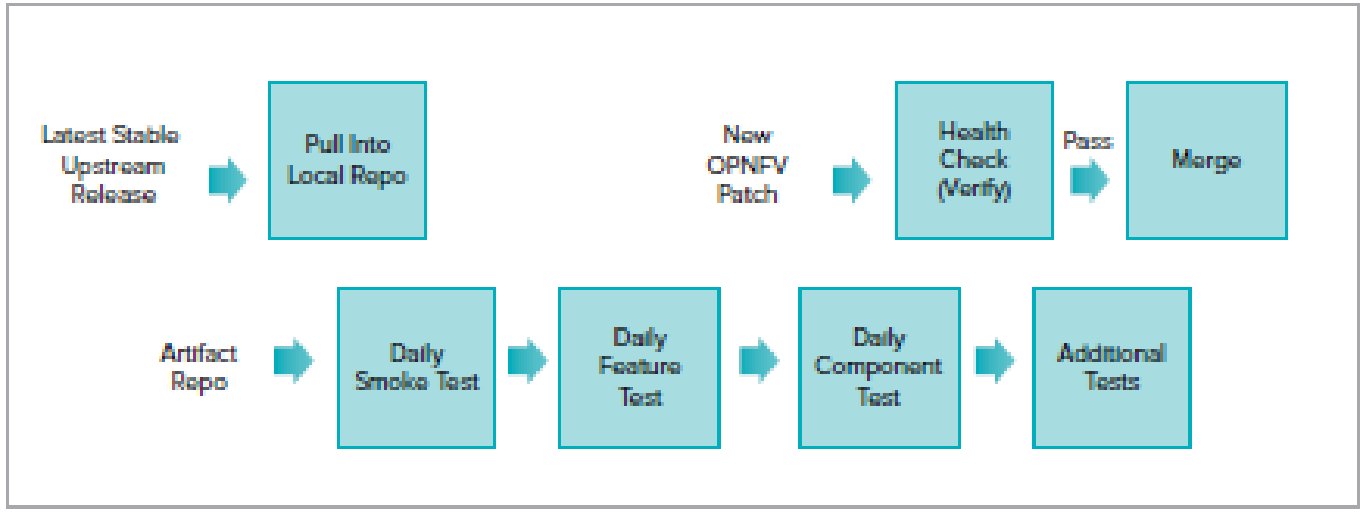
  VNFs for Release E
  - CG-NAT Carrier Grade Network Address Translation
  - vACL Access Control List
  - vPE Provider Edge Router

OPNFV CI integration and testing ecosystem



OPNFV CI

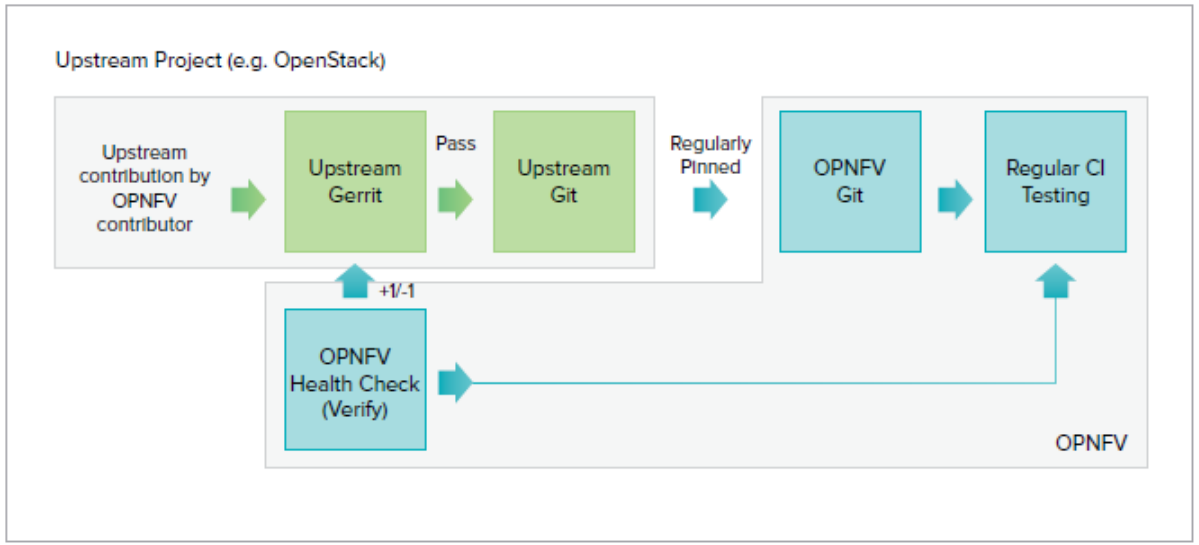
- Communications Service Providers indicates that 80% of those surveyed feel that the DevOps software development model is essential or important to NFV success.
- OPNFV CI integrates and installs (by invoking different installers) different combinations of stack components, projects and configurations, called OPNFV scenarios, on a daily basis and executes a smoke test on each scenario.



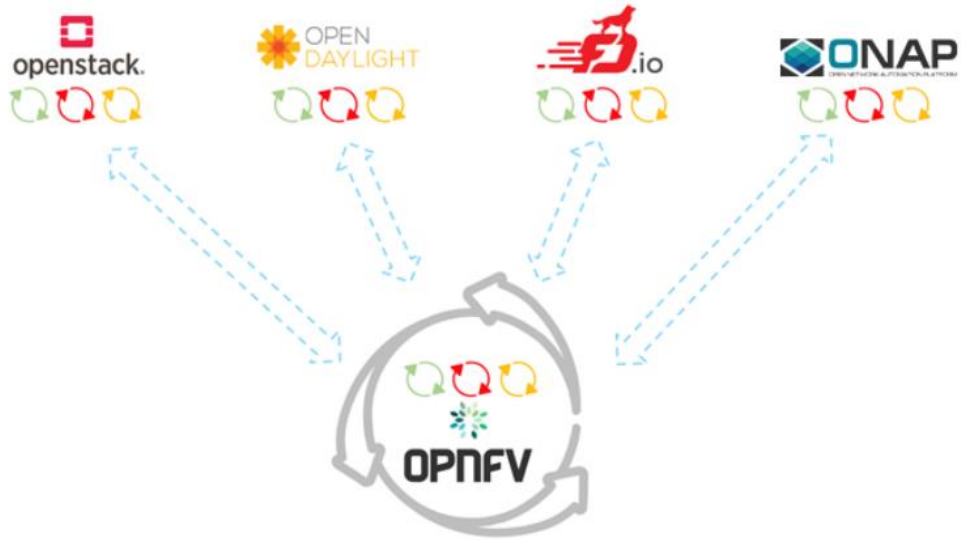
Simplified View of the OPNFV CI Pipeline

XCI

- 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.



XCI Integration Tasks



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