LINUX FOUNDATION
COLLABORATIVE PROJECTS

Leveraging open source test projects for NFVI compliance validation

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OPNFV

OPNFV facilitates the development and evolution of NFV components across various open source ecosystems. Through system level integration, deployment and testing, OPNFV creates a reference NFV platform to accelerate the transformation of enterprise and service provider networks. Participation is open to anyone, whether you are an employee of a member company or just passionate about network transformation.

OPNFV defines use cases, integrates & tests what other projects (OpenStack, Kubernetes, ODL, OVS, fd.io) create!

OPNFV Verified Program (OVP)

- OPNFV Verified Program (OVP) verifies that a commercial VIM/NFVI exposes the same
  - key APIs,
  - behaviors, and
  - characteristics

  as the OPNFV reference platform

- Main objective: Reduce VIM selection and VNF onboarding cost
  - Establish industry-accepted technical baseline
  - Simplify RFIs and RFPs

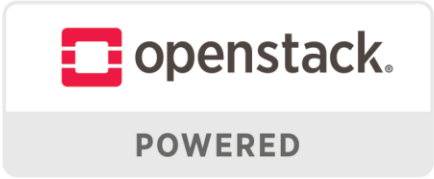
- Main components of OVP
  1. Dovetail: automated test and reporting tool leveraging OPNFV and upstream test tools
  2. OVP web portal: upload, display, and review results

OPNFV Verified Program (OVP)

- Test scope and coverage
  - Based on tests developed by OPNFV and upstream communities
- Releases of OVP
  - Tied to specific releases of OPNFV reference platform
    - 2018.01 => Danube
    - 2018.0x => Fraser
  - 6 months release cadence
  - 3 months shift wrt OPFNV platform releases
  - Labeled by release date (e.g. 2018.01)
- Ways of Participation
  - Self testing: Deploy and run Dovetail in private lab
  - 3rd party labs: Utilize services offered by selected labs (under development)

Relationship to OpenStack “Powered” programs

- OpenStack Powered programs
  - Maintained by OpenStack Interop working group
  - Governed by the OpenStack Board of Directors
  - Test cases selected from Tempest and run by RefStack tool
  - Originally focused on API interoperability of (public) clouds
  - Ongoing efforts to establish programs targeting specific capabilities
    - Heat, Designate, NFV
- Relationship to OVP
  - OVP is a complementary effort focusing on NFV use cases
  - Dovetail / OVP attempt to adopt best practices and lessons learned
- Joint challenge
  - Improve test coverage of NFV capabilities across communities



Scope of OPNFV Verified

OPNFV Verified 2018.01

Mandatory test cases

- OpenStack interop API tests (205 tests)
- Basic layer 2 packet forwarding (2 tests)
- OpenStack control service high availability (8 tests)

Optional test cases

- IPv6 tenant networks (25 tests)
- BGPVPNs (4 tests)
- Fundamental VIM capabilities (30 tests)

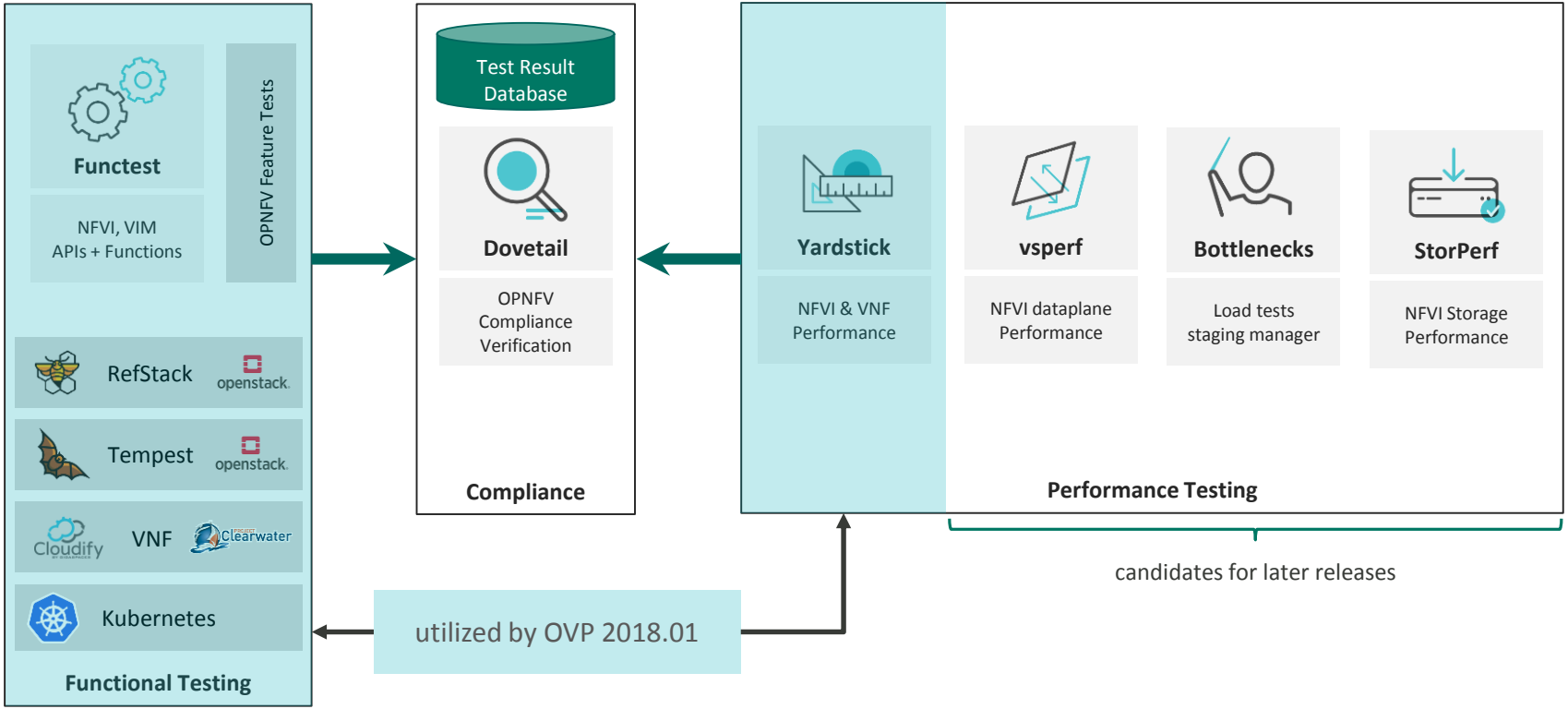
Potential Future Scope

Future test case candidates

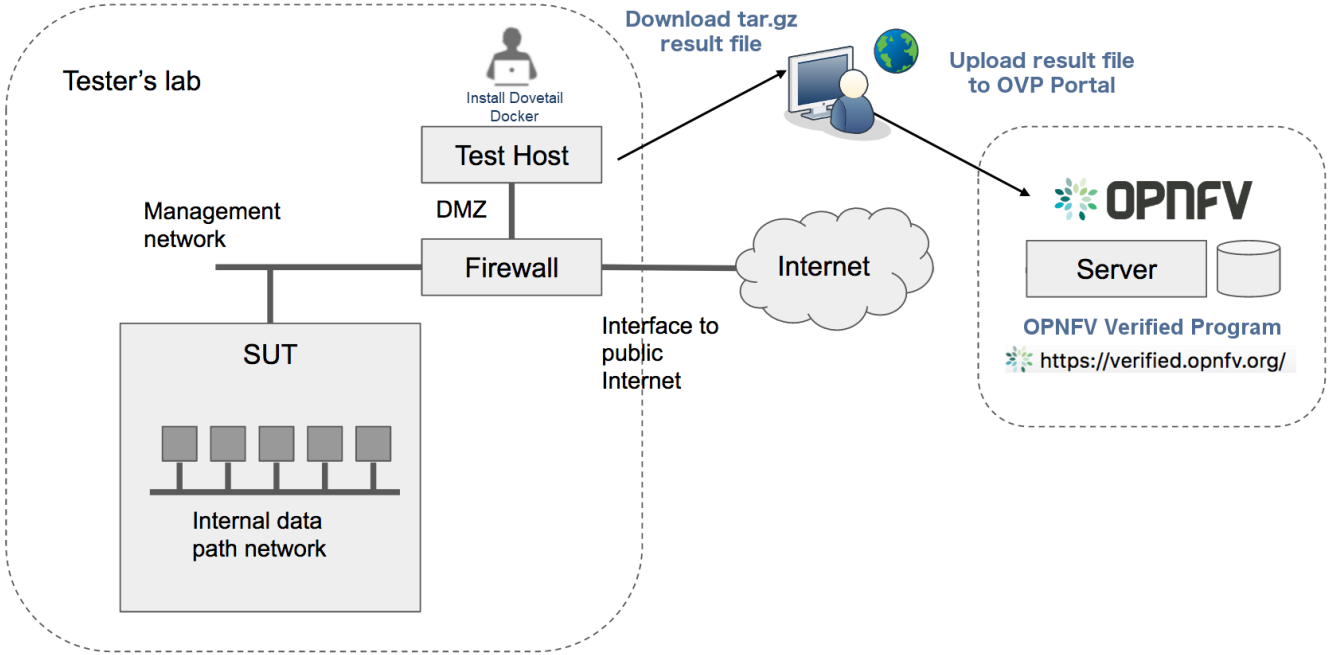
- Neutron Trunk ports
- OpenStack Tempest smoke tests
- OPNFV SNAPS smoke tests
- BGPVPN Tempest tests
- SDN Controller (OpenDaylight) high availability
- vSwitch (Open vSwitch) high availability
- Sample VNF lifecycle management
- Load tests
- … more to come …

Dovetail

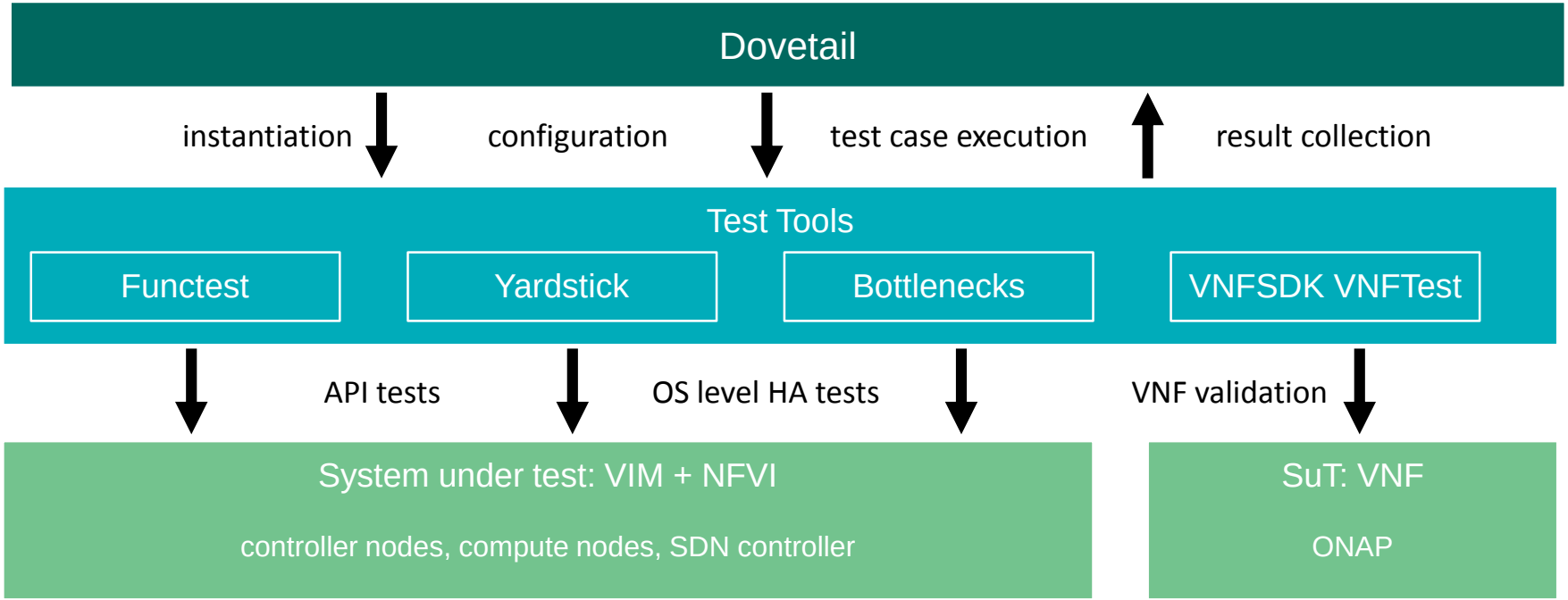
OPNFV Test Ecosystem



Topology of Test Infrastructure



Dovetail Test Execution



OVP Web Portal

OVP Web Portal

- https://verified.opnfv.org

Compliance Verification Workflow

1. Submission of participation form
2. Testing
3. Submission of results
4. Notification of reviewers
5. Community review of test results
6. Grant of use of program marks

OVP Web Portal

- Demo time!

Evolution of OVP

Linux Foundation Networking

- Umbrella project covering 6 networking projects

Linux Foundation Networking

.io

ONAP
OPEN NETWORK AUTOMATION PLATFORM

OPEN DAYLIGHT

OPNFV

pnda

SNAS.io

- Compliance programs

References

- OPNFV Verified Portal
  - https://verified.opnfv.org
- Dovetail project
  - https://wiki.opnfv.org/display/dovetail
  - #opnfv-dovetail on Freenode
- OPNFV
  - https://www.opnfv.org/