LINUX FOUNDATION
COLLABORATIVE PROJECTS

Dovetail and OVP

Fraser Hackfest, 2018-06-04, Sophia Antipolis

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

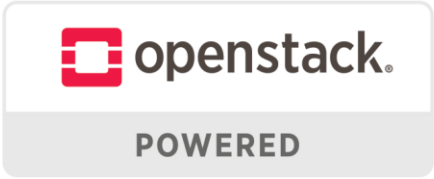
- Main components of OVP
  1. Dovetail: automated test and reporting tool leveraging OPNFV and upstream test tools
  2. OVP web portal: upload, display, and review results

OPNFV Verified Program (OVP)

- Test scope and coverage
  - Based on tests developed by OPNFV and upstream communities
- Releases of OVP
  - Labeled by release date (e.g. 2018.01)
  - 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
- Ways of Participation
  - Self testing: Deploy and run Dovetail in private lab
  - 3rd party labs: Utilize services offered by selected labs (under development)

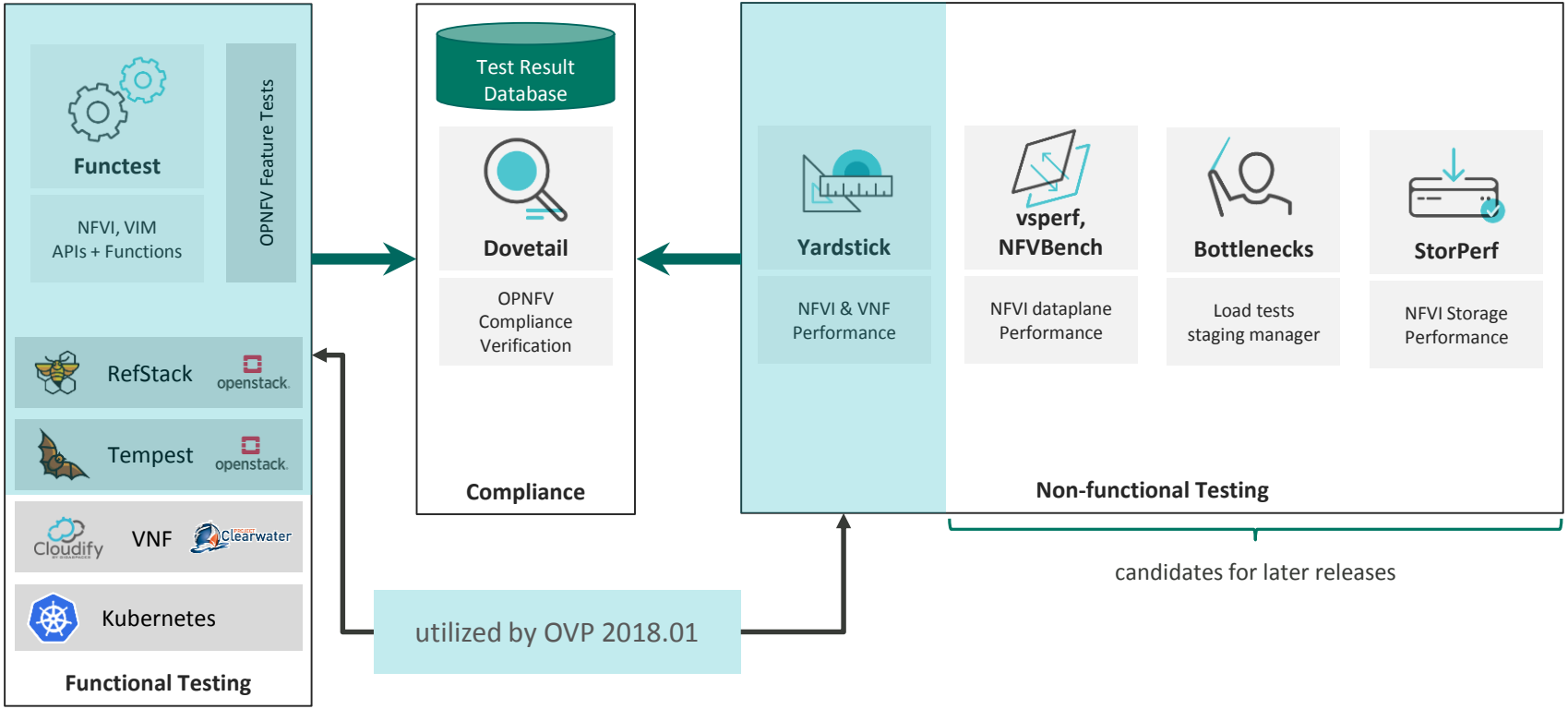
Relationship to “OpenStack Powered” programs

- 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 between OVP and OpenStack Powered
  - OVP is a complementary effort specifically focusing on NFV use cases
  - Dovetail / OVP attempt to adopt best practices and lessons learned

Test Ecosystem



Scope of 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)

Scope under evaluation for OVP 2018.0x

Functest

- Tempest compute (smoke)
- Tempest identity v2 (smoke)
- Tempest identity v3 (smoke)
- Tempest image (smoke)
- Tempest network (smoke)
- Tempest volume (smoke)
- Tempest Neutron Trunk ports
- Tempest BGPVPN Tempest tests

- Security: Patrole RBAC tests

- OPNFV SNAPS smoke tests

- VNF testing vIMS
- VNF testing vEPC

Yardstick

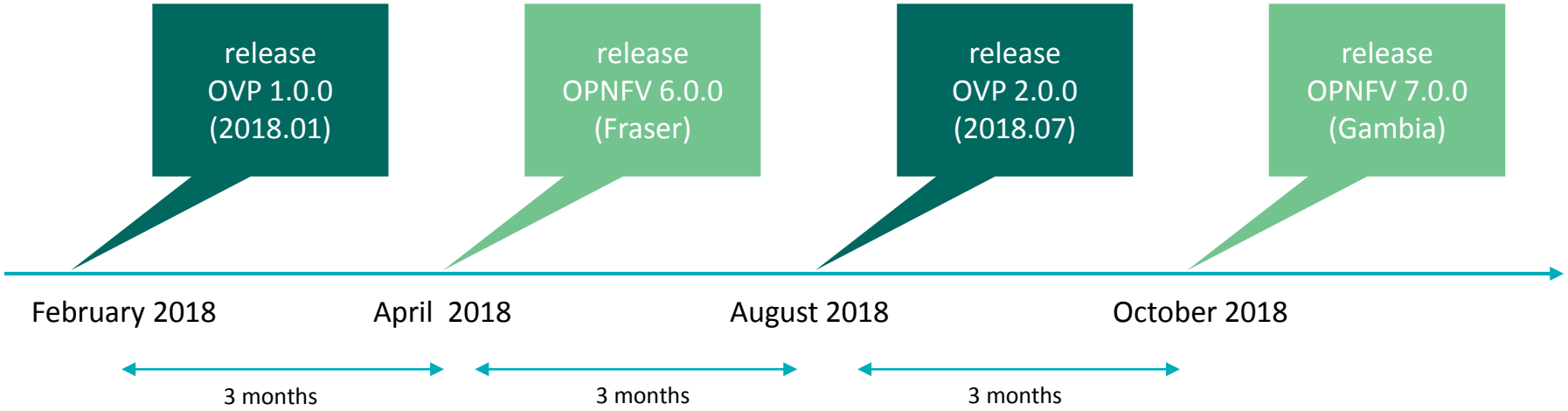
- High-availability of one controller (restart)
- High-availability of message queue
- High-availability of Neutron L3 agent
- High-availability of OpenStack database

Bottlenecks

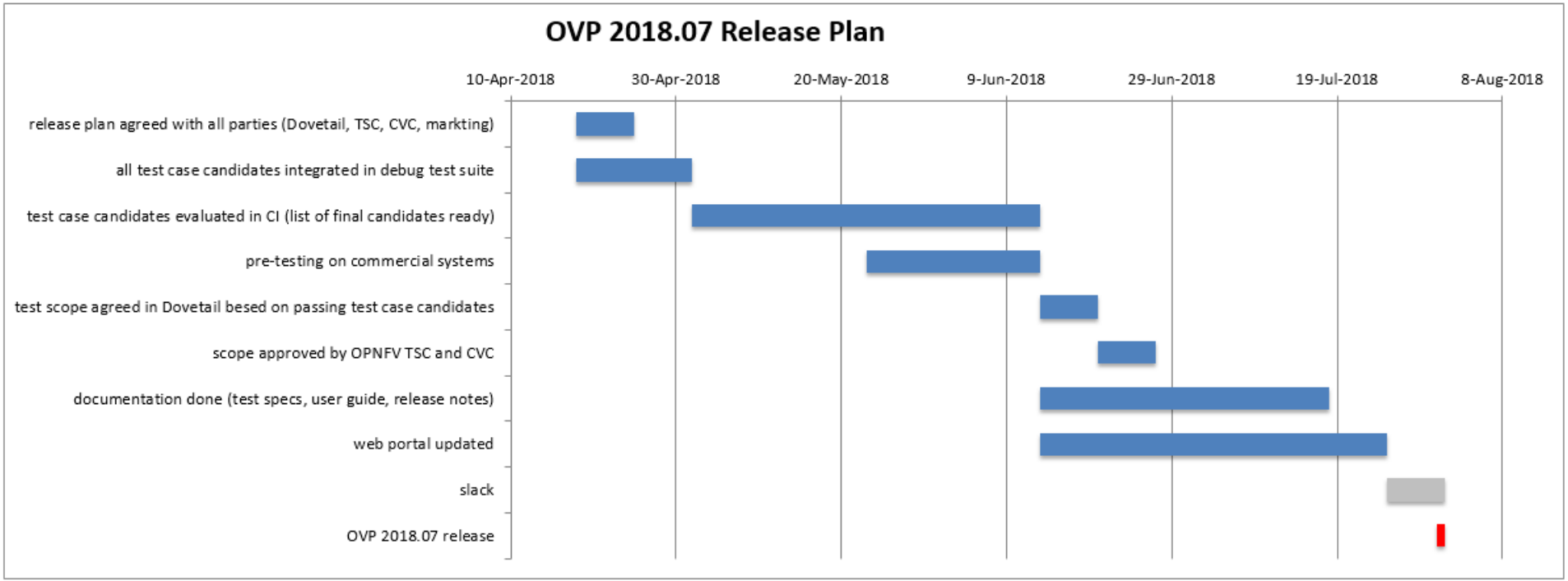
- Stress testing

OVP and OPNFV release alignment

- Release cadence
  - 6 months between each type of release
  - 3 months shift between releases



Release Plan



Evolution of OVP

More stuff to work on this week

Desired Test Coverage for NFV Features

- Desired tests for NFV features (https://etherpad.opnfv.org/p/tsc_ovp)
  - SRIOV tests
  - EPA (NUMA awareness, CPU pinning)
  - resilience tests
  - L2GW
  - edge cloud use cases
  - performance testing
  - load balancing, firewalling
  - System management (e.g. host maintenance)

- Effort across installers, test projects, Pharos and Dovetail
  - Get together this week and agree on work items

Performance Tests

- Challenges of performance testing in a compliance program
  - Comparability of results across different hardware platforms
  - Determining pass/fail criteria (“how much is good enough”?)
  - Repeatability

- Proposal: Verify performance **characteristics**, not absolute results
  - Verify that tenant networks and storage networks do not interfere
  1. Measure network performance (e.g. NFVBench)
  2. Measure storage network performance (StorPerf)
  3. Measure network and storage performance **simultaneously**
  ⇨ Pass test if run 3 shows the same performance as run 1 and 2

- Current state
  - Discussed in the context of long duration testing (Mark Beierl)
  - No test suite implementation available yet
  ⇨ Gauge feedback of community and vendors regarding inclusion in OVP

Linux Foundation Networking

- Umbrella project covering 6 networking projects

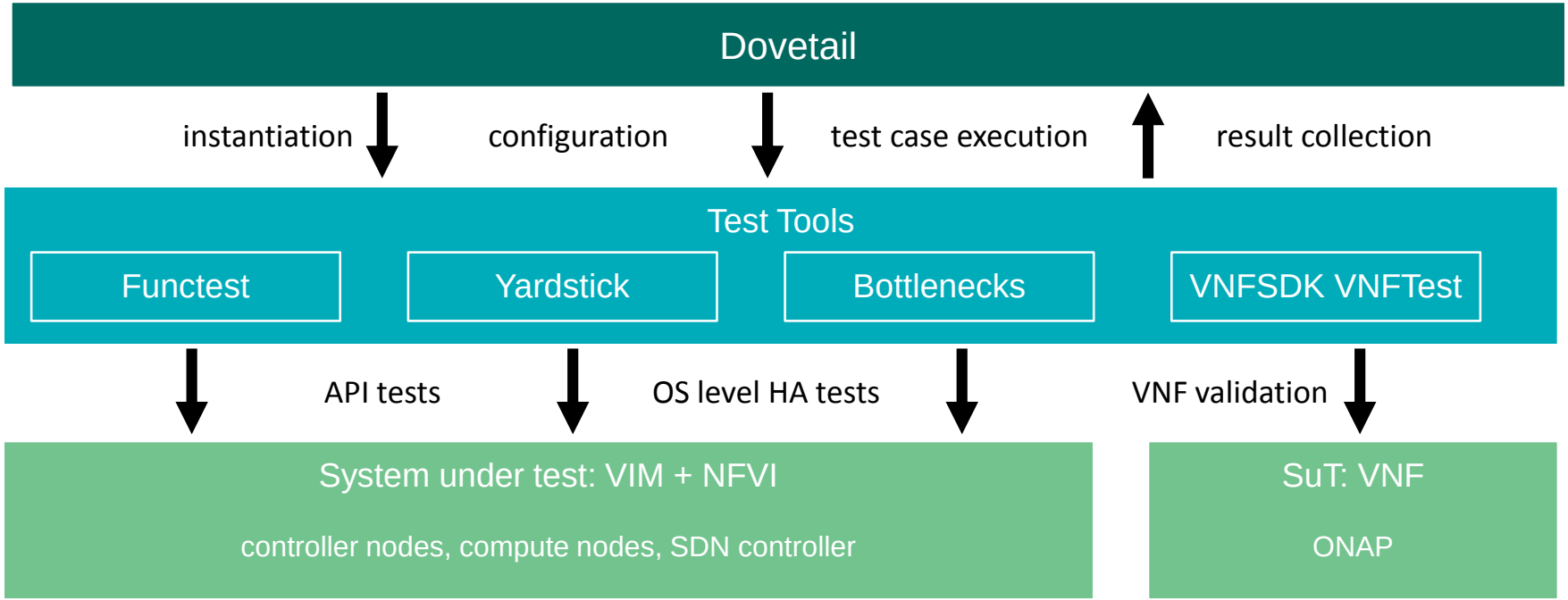
Linux Foundation Networking

- Compliance programs

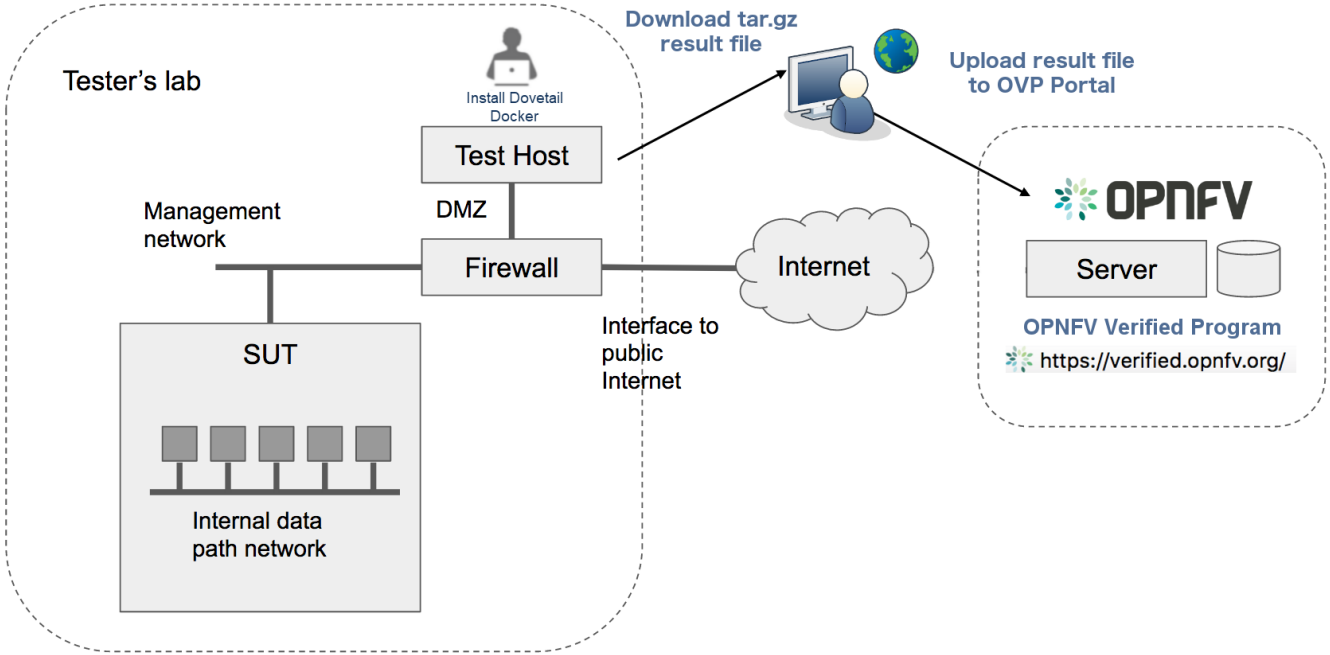
Dovetail

Additional Details

Dovetail Test Execution



Topology of Test Infrastructure



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

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/