Dovetail and OVP
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 OPNFV 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

Functional Testing

- Test Result Database
- Compliance
- Yardstick
- Non-functional Testing
- Dovetail
- NFVI & VNF Performance
- vsperr, NFVBench
- Bottlenecks
- StorPerf

Utilized by OVP 2018.01 candidates for later releases

OPNFV Feature Tests
- NFVI, VIM APIs + Functions
- RefStack
- Tempest
- Cloudify
- Kubernetes

NFVI, VIM

Kubernetes
## 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

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<th>Functest</th>
<th>Yardstick</th>
<th>Bottlenecks</th>
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<td>• Tempest compute (smoke)</td>
<td>• High-availability of one controller (restart)</td>
<td>• Stress testing</td>
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<td>• Tempest identity v2 (smoke)</td>
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- High-availability of OpenStack database
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OVP and OPNFV release alignment

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

OVP 2018.07 Release Plan


- Release plan agreed with all parties (Dovetail, TSC, CVC, marketing)
- All test case candidates integrated in debug test suite
- Test case candidates evaluated in CI (list of final candidates ready)
- Pre-testing on commercial systems
- Test scope agreed in Dovetail based on passing test case candidates
- Scope approved by OPNFV TSC and CVC
- Documentation done (test specs, user guide, release notes)
- Web portal updated
- Slack
- OVP 2018.07 release
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**
    \[\Rightarrow\] 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
  \[\Rightarrow\] Gauge feedback of community and vendors regarding inclusion in OVP
Linux Foundation Networking

- Umbrella project covering 6 networking projects
- Compliance programs

program label

Infrastructure

2018.01
Dovetail

Additional Details
Dovetail Test Execution

**Dovetail**

- instantiation
- configuration
- test case execution
- result collection

**Test Tools**

- **Functest**
  - API tests

- **Yardstick**
  - OS level HA tests

- **Bottlenecks**

- **VNFKSDK VNFTest**
  - VNF validation

**System under test**: VIM + NFVI
- controller nodes, compute nodes, SDN controller

**SuT**: VNF
- ONAP
Topology of Test Infrastructure
OVP Web Portal
OVP Web Portal

- [https://verified.opnfv.org](https://verified.opnfv.org)

OPNFV is offering an OPNFV Verified Program (OVP) that verifies products and services with the "OPNFV Verified" mark.

The OPNFV Verified program demonstrates the readiness and availability of commercial products based on OPNFV. Verified products and services submitted by vendors and service providers become compliant by implementing explicitly defined interfaces, behaviors and key features while
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/