

OVP CERTIFICATION

HPE NFVi
RESULTS, PITFALLS & DISCUSSIONS

June 27, 2020

OBJECTIVE AND SCOPE

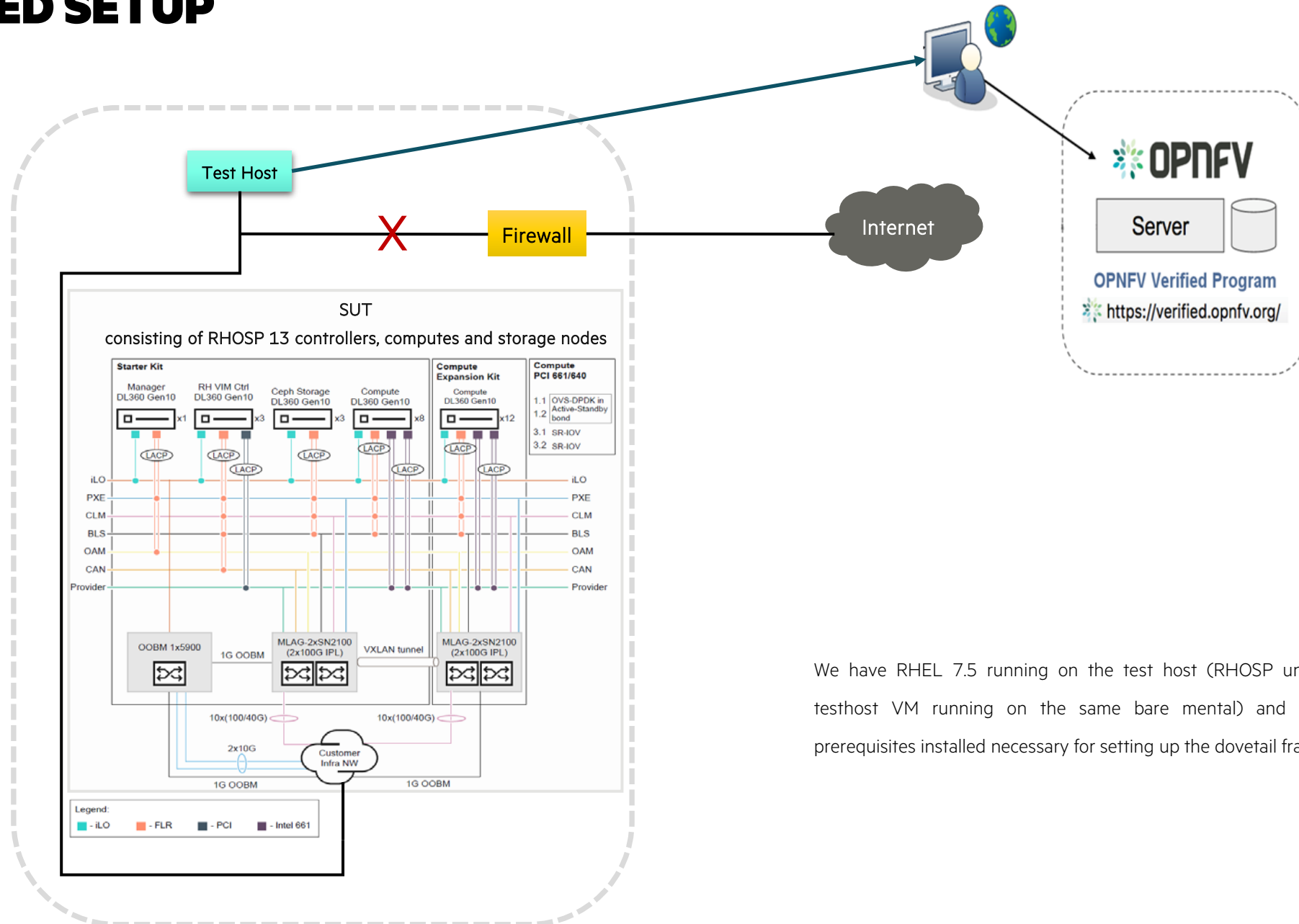
Executing, OPNFV Verification Program (OVP) NFVi version 2019.12 certification for HPE NFV-I Telco blueprint which is composed of the following components.

Component	Description
Controller:	DL360/RHOSP 13 with Intel 2 nd Generation Xeon Silver 4216 processor
Compute	DL360/RHOSP 13 with Intel 2 nd Generation Xeon Gold 6252N processor
Storage:	DL380/RH Ceph 12.2 with Intel 2 nd Generation Xeon Silver 4216 processor
Networking:	FlexFabric 5900 (management) and HPE StoreFabric SN2100M (data) ONIE switch
Data NICs:	HPE Ethernet 25Gb 2-port 661 SFP28 / 640 SFP28 Adapter

Software Component	Version
Red Hat Ceph	12.2.4 (Luminous) Selected for Long Term Support
Red Hat OpenStack Platform (RHOSP)	13.0 (Queens) – Selected for Long Term Support



TESTBED SETUP



We have RHEL 7.5 running on the test host (RHOSP undercloud and the testhost VM running on the same bare mental) and all the necessary prerequisites installed necessary for setting up the dovetail framework.

TEST RESULT SUMMARY [DOVETAIL HUNTER RELEASE]

bottlenecks.stress.ping	1 FAIL out of 1
functest.vping.userdata	1 PASS out 1
functest.tempest.osinterop	89 FAIL out of 219
functest.vping.ssh (1)	1 PASS out of 1
functest.tempest.compute	12 out of 12 FAIL
functest.tempest.identity_v3	11 PASS out of 11
functest.tempest.image	2 PASS out of 2
functest.tempest.network_api	14 PASS out of 14
functest.tempest.volume	2 out of 2 FAIL
functest.tempest.neutron_trunk_ports	38 out of 38 FAIL
functest.tempest.ipv6_api	21 PASS out of 21
functest.security.patrole	123 out of 124 PASS
yardstick.ha	5 PASS out of 10

TEST RESULT SUMMARY [DOVETAIL FRAZER RELEASE]

bottlenecks.stress.ping	1 FAIL out of 1
functest.vping.userdata	1 PASS out of 1
functest.tempest.osinterop	89 FAIL out of 200
functest.vping.ssh	1 PASS out of 1
functest.tempest.compute	12 out of 12 FAIL
functest.tempest.identity_v3	11 PASS out of 11
functest.tempest.image	2 PASS our of 2
functest.tempest.network_api	14 PASS out of 14
functest.tempest.volume	2 out of 2 FAIL
functest.tempest.neutron_trunk_ports	38 out of 38 FAIL
functest.tempest.ipv6_api	21 PASS out of 21
functest.security.patrole	117 out of 117 PASS
yardstick.ha	10 out of 10 FAIL



OVP TEMPEST EXECUTION CHALLENGES

- Initial Setup (OVP Hunter):
 - Set up dovetail framework based on Hunter Release,
 - Triggered few iterations –
 - resulted in Tempest test case failures
 - Hunter Release was based on upstream OpenStack Rocky Release were as RH OSP13 based on Queens
 - Discussed with RH and understood that features and fixes for some of the issues are available on RHOSP 15 (Stein based).
 - Reference Bugzilla - https://bugzilla.redhat.com/show_bug.cgi?id=1693650
 - Redhat advised that these features/fixes cannot be backported to RHOSP 13
 - As it could lead to other implications
- Downgrade to OVP Fraser
 - RH suggested to have the tempest tests out of QUEENS release.
 - Ported back to Dovetail framework Fraser
 - based out of upstream Pike –
 - Again not a one-to-one mapping with RHOSP 13 resulted in failures.
- Reached out to OVP Community,
 - Advised by Lincoln to run the tempest bundled with RHOSP 13 suite and provide the result appropriately –
 - Post which we worked with Redhat to have the tempest bundle executed on RHOSP – results discussed in the next slide.

TEMPEST TEST RESULT SUMMARY – TEMPEST BUNDLED WITH RHOSP 13

MANDATORY TEMPEST TEST SUITS	SUMMARY	
functest.tempest.osinterop functest.tempest.compute functest.tempest.identity_v3 functest.tempest.image functest.tempest.network_api functest.tempest.volume functest.tempest.neutron_trunk_ports functest.tempest.ipv6_api functest.security.patrole	<p>- All the mandatory tempest test on OVP, have resulted in a PASS case, when we execute the tempest tests bundled with the RHOSP 13 (based out of the Queens Release)</p> <p>===== Totals Tests =====</p> <p>Ran: 3113 tests Skipped: 478 Expected Fail: 0 Unexpected Success: 0 Failed: 400</p>	<p>The results of the tempest tests bundled with RHOSP 13 are shared at the below path –</p> <p><i>HTTPS Access:</i> https://ftp.ext.hpe.com/hprc</p> <p><i>FTP Access:</i> ftp://ovp_hpe:P2ssword@ftp.ext.hpe.com</p> <p><i>Login: ovp_hpe</i> <i>Password: P2ssword (NOTE: CASE-sensitive)</i></p>



OVP YARDSTICK AND BOTTLENECK TEST EXECUTION CHALLENGES

1. Tried executing Yardstick HA test cases and Bottleneck stress ping tests
2. The tests were not resulting in constant outputs
 - we encountered frequent ssh time out errors,
 - we did reach out for help from the OVP community,
 - Tried to reach the developer community via Lincoln, unfortunately we were not able to hear back from them. We also did not want to take the route of tweaking the code by increasing the SLAs, since we did not know what other implications it could have led to, hence we were not able to close on these ssh and time out errors and conclude on them.



YARDSTICK AND BOTTLENECK TEST RESULT SUMMARY

MANDATORY TEMPEST TEST SUITS	SUMMARY	
HA Yardstick	We have observed inconsistencies while execute Yardstick HA tests cases and Bottleneck stress ping test often logging ssh time out error as shown below Ssh is still unavailable: SSHError("Exception <class 'paramiko.ssh_exception.NoValidConnectionsError'> was raised during connect.	The results of the tempest tests bundled with RHOSP 13 are shared at the below path – HTTPS <i>Access:</i> https://ftp.ext.hpe.com/hprc FTP <i>Access:</i> ftp://ovp_hpe:P2ssword@ftp.ext.hpe.com <i>Login: ovp_hpe</i> <i>Password: P2ssword (NOTE: CASE-sensitive)</i>
Bottleneck stress ping tests		



TEST REPORTS

We are attaching the HTML report which was derived out of the tempest run executed as part of RHOPS 13, and also the dovetail.log.

We did comparison of both the files & we did have the inference that all the mandatory tempest test cases of OVP were PASSED, when run as part of tempest tests bundled with RHOSP 13.



Chrome HTML
Document



C:\chengappa\
Validation Artifacts



CONCLUSION

OVP versions (dovetail both on Hunter and Frazer) were carried on industry leading HPE Telco grade NFV-I running RH OpenStack 13 (Queens release) a long term supported, commercially available, widely deployed flavor of OpenStack as Virtual Infrastructure Manager (VIM) of our NFV-I offering.

Summary of challenges

- Mismatch of OpenStack version – RHOSP 13 is based on Queens and we did not have a one on one mapping for dovetail framework (Hunter is based on Rocky & Fraser was bases on Pike versions)
- Features/fixes introduced in higher versions
- SLA thresholds for Yardstick HA, we have opened a ticket with Redhat to get their justification on the same. could result in inconsistent OpenStack behavior



HPE'S PLEA

- HPE is quite serious on the engagement with OPNFV and CNTT engagements and also we are evangelizing our TELCO NFV BLUEPRINTS on containers and Reference Architecture for vRAN and Edge solutions, as a first step we wanted to have the OVP badging for our infrastructure as a precedence to these open community engagements.
- However, lack of support from the community – started the tests in early March 2020, due to lack of support and inadequate documentation tests continued till Jul 2020 – On the tempest tests suite, since we did not have a compatible version for RHOSP 13 (Queens based & LTS), we had to fall back on executing tempest bundle which was part of RHOSP 13 and also verified that all the mandatory tests were “PASSED” in this iteration. Furthermore, we did not modify SLA or timeout settings for Yardstick & Bottlenecks, as we wanted to avoid changing the OPNFV code without Community support – we were also informed that for the next phase of the certifications these projects will be deprecated.
- Considering the challenges described and based on same tests executed successfully using matching versions of test automation, *we seek an exception* from standard OVP Dovetail testing and request badging to be awarded to HPE NFV-I.



THANK YOU

