

Performance and robustness tests for future releases

M.Richomme (Integration)

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For the moment, most of the tests are functional tests. There is no real stress or performance test. There is 1 72h long duration test (stability test executed by integration team consisting in running vFW use case during 72h). These tests are usually complex to setup and requires resources. This session will question the sense of such tests within ONAP context and evaluate some scenarios.

Stability : the 72h test

- Run since Casablanca (at the end of the integration phase / just before the release)
 - <https://docs.onap.org/en/elalto/submodules/integration.git/docs/integration-s3p.html#integration-s3p>
 - <https://wiki.onap.org/display/DW/El+Alto+Stability+Run+Notes>
- Consists in
 - Running ete stability72h robot suite periodically (instantiation vDNS, vFWCI and VVG)
 - Set up vFW Closed Loop to remain running

Test Case	Attempts	Env Issues	Failures	Successes	Pass Rate
Stability 72 hours	72	34	0	38	100%
vFW Closed Loop	75	7	0	68	100%
Total	147	41	0	106	100%

Resiliency :

- Run since Casablanca (at the end of the integration phase / just before the release)
 - <https://wiki.onap.org/display/DW/Dublin+Release+Resilience+Testing+Status>
- Consists in
 - For each Use Case, a list of the ONAP components involved is identified. The pods of each of those components are systematically deleted one-by-one; after each pod deletion, we wait for the pods to recover, then execute the Use Case again to verify successful ONAP platform recovery.

Use Case	Attempts	Env Issues	Failures	Successes	Pass Rate
VNF Onboarding and Distribution	49	0	0	49	100%
VNF Instantiation	64	19	1	44	97.8%
vFW Closed Loop	66	0	0	66	100%
Total	179	19	1	159	99.4%

Gating & Daily CI chains

- We may mention gating + CI daily here as part of stability testing
 - Run all the time (not only just before the release)
 - Fully automated

Conclusions on existing tests

- Limited number of tests to validate robustness and performance
- Tests based on existing use cases (vLB, vFWCL, vIMS,..)
- Results reporting 100 % success with lots of env errors
- « Light » load during stability tests
- No tests targeting specifically ONAP through its API
- No performance tests (each API maybe benchmarked at component level – no information found)
- Resilience tests
 - destruction of the resources (pod) one after the other before re-running the scripts – done automatically ?
 - Due to ONAP architecture, onboarding is not replayed, just instantiation is re-done

Stability : What's next ?

- done on master just before the release, it could make sense to perform stability test on the last stable version
- Could be partially performed in daily or in weekly (instead of deploying daily master => use the week end to perform such weekly tests during the dev lifecycle)

Resiliency : What's next ?

- More automation for some chaos testing ? Was it automated already ? Need already a full automation of the sub testcases + random on the resource destructions (~4h for VNF onboarding and distribution, ~ 9h for instantiation, 6h for closed loop)

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Load

- Test to evaluate API KPI on load for some components (the most critical ones : SDC, SO, AAI, ..)?
- Definition of ONAP KPIs ? What does it mean ? Ability to onboard N VNFs in //, to distribute simultaneously N VNFs, instantiate ? Where are the bottlenecks : API, DB, storage, network ?



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Thank you!