

# Intern Project: Scaling up/out VNFs with Storage Testing

Description	competition testing for VNF and storage network usage
Status	<b>PROJECT COMPLETED</b>
Difficulty	<b>MEDIUM</b>

## Description:

SampleVNF project in OPNFV has provided a series of VNFs over OPNFV platform which includes vPE, vACL, vFW, vCGNAPT, UDP\_Relay, etc. Refer to following link for more details.

- <https://wiki.opnfv.org/display/SAM>
- [SampleVNF - E Release Update](#)

Yardstick and Bottlenecks decide to implement the VNF scaling up/out test for NFVI (Heat) for OPNFV E release. Currently, some draft are submitted.

- <https://gerrit.opnfv.org/gerrit/#/c/38233/>
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Bottlenecks has currently done TESTPMD testing offline and prepare to test the sample VNFs in bare metal manner. In the meantime, storage network usage testing has been discussed with Storperf project which is planned to support multi-stacks storage testing. It is worth testing both VNFs and Storage in network usage context since it common to have storage network utilized while VNFs handling service in realistic senarios.

The plans is to implement the general VNF testing scripts or/and 1-2 VNF testing scripts together with the Multi-stack Storage network testing. Then to develop top logic to call the two test cases together and measure the network competition. The measured metrics include IOPS, Latency, Throughput, PKT Loss Rate, CPU Usage, etc. A demo is expected in the end of this internship to demonstrate the work in community meetings or OPNFV events (Plugfest, Summit, etc.).

## Additional Information:

Storperf:

- <http://docs.opnfv.org/en/stable-danube/submodules/storperf/docs/testing/user/index.html>

Yardstick:

- <http://docs.opnfv.org/en/stable-danube/submodules/yardstick/docs/testing/user/userguide/index.html>
- <http://docs.opnfv.org/en/stable-danube/submodules/yardstick/docs/testing/developer/devguide/index.html>

Bottlenecks:

- <http://docs.opnfv.org/en/stable-danube/submodules/bottlenecks/docs/testing/developer/devguide/index.html>

## Desirable Skills:

- General linux skills
- Python, Bash
- Minimal skill for Docker
- Minimal skill for OpenStack
- Networking theory
- Familiar with testing techniques or/and OPNFV testing projects (e.g., Yardstick)
- Results plotting (e.g., Kibana)

## Expected Outcome:

- General VNF testing scripts or/and 1-2 VNF testing scripts
- Results reporting
- Kibana results plotting for the test case
- Online test case
- Demo for comparison results

## Difficulty:

**MEDIUM**

## Desired project timeline/completion date:

**M1:** Introduction to the intern about how to contribute in OPNFV, the requirements of the internship, testing projects, reference code, etc.  
12 Sep 2017

**M2:** Make up detailed tasks. 19 Sep 2017

**M3:** Go into coding and testing period 26 Sep 2017

**M4:** Online in CI system for different installers (into debugging and adjustment period) 30 Oct 2017

**M5:** Finish debugging 27 Nov 2017

**M6:** Finish the details result report and the demo (comparison results) for internship works 11 Dec 2017

**Mentor(s) & contact info:**

- [Ace Lee](#)
- [Yang \(Gabriel\) Yu](#)


**Intern:**

**Reports:**

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key	summary	type	created	updated	due	assignee	reporter	priority	status	resolution
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 Jira project doesn't exist or you don't have permission to view it.

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Gerrit Patches: <https://gerrit.opnfv.org/gerrit/#/q/owner:%22Shubham+Agarwal+%253Cshubham.agarwal.coder%2540gmail.com%253E%22>