Yardstick Release Note

Release draft (d8bc553)

OPNFV

March 24, 2016

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CHAPTER

ONE

OPNFV BRAHMAPUTRA RELEASE NOTE FOR YARDSTICK

1.1 Abstract

This document compiles the release notes for the OPNFV Brahmaputra release for Yardstick framework as well as Yardstick Project deliverables.

1.2 License

1.3 Version History

Date	*Version*	*Comment*
Feb 25th,2016	1.0	Brahmaputra release

1.4 Important Notes

The software delivered in the OPNFV Yardstick Project, comprising the *Yardstick framework*, the *Yardstick test cases* and the experimental framework *Apex Lake* is a realization of the methodology in ETSI-ISG NFV-TST001.

The *Yardstick* framework is *installer*, *infrastructure* and *application* independent.

1.5 Summary

This Brahmaputra release provides *Yardstick* as a framework for NFVI testing and OPNFV feature testing, automated in the OPNFV CI pipeline, including:

- Documentation generated with Sphinx
  - User Guide
  - Code Documentation
  - Release notes (this document)
  - Results

- Automated Yardstick test suite (daily, weekly)
  - Jenkins Jobs for OPNFV community labs
- Automated Yardstick test results visualization
  - Dashboard using Grafana (user:opnfv/password: opnfv), influxDB used as backend
- Yardstick framework source code
- Yardstick test cases yaml files

For Brahmaputra release, the *Yardstick framework* is used for the following testing:

- OPNFV platform testing - generic test cases to measure the categories:
  - Compute
  - Network
  - Storage
- Test cases for the following OPNFV Projects:
  - High Availability
  - IPv6
  - KVM
  - Parser

The *Yardstick framework* is developed in the OPNFV community, by the Yardstick team.

Note: The test case description template used for the Yardstick test cases is based on the document ETSI-ISG NFV-TST001; the results report template used for the Yardstick results is based on the IEEE Std 829-2008.

1.6 Release Data

Project	Yardstick
Repo/tag	yardstick/brahmaputra.1.0
Yardstick Docker image tag	brahmaputra.1.0
Release designation	Brahmaputra
Release date	Feb 25th, 2016
Purpose of the delivery	OPNFV Brahmaputra release

1.6.1 Version Change

Module Version Changes

This is the first tracked release of Yardstick. It is based on following upstream versions:

- OpenStack Liberty
- OpenDaylight Beryllium

Document Version Changes

This is the first tracked version of the Yardstick framework in OPNFV. It includes the following documentation:

- Yardstick User Guide
- Yardstick Code Documentation
- Yardstick Release Notes for Yardstick
- Test Results report for Brahmaputra testing with Yardstick

1.6.2 Reason for Version

Feature additions

This is the first tracked version of OPNFV Yardstick.

Corrected Faults

This is the first tracked version of OPNFV Yardstick.

Known Faults

JIRA REFERENCE	SLOGAN
JIRA: YARDSTICK-175	Running test suite, if a test cases running failed, the test is stopped.
JIRA: YARDSTICK-176	Fix plotter bug since Output format has been changed.
JIRA: YARDSTICK-216	ArgsAlreadyParsedError: arguments already parsed: cannot register CLI option.

Note: The faults not related to *Yardstick* framework, addressing scenarios which were not fully verified, are listed in the OPNFV installer's release notes.

1.6.3 Deliverables

Software Deliverables

Yardstick framework source code <brahmaputra.1.0>

Project	Yardstick
Repo/tag	yardstick/brahmaputra.1.0
Yardstick Docker image tag	brahmaputra.1.0
Release designation	Brahmaputra
Release date	Feb 25th, 2016
Purpose of the delivery	OPNFV Brahmaputra release

Contexts

Context	Description
Heat	Models orchestration using OpenStack Heat
Node	Models Baremetal, Controller, Compute

Runners

Runner	Description
Arithmetic	Steps every run arithmetically according to specified input value
Duration	Runs for a specified period of time
Iteration	Runs for a specified number of iterations
Sequence	Selects input value to a scenario from an input file and runs all entries sequentially

Scenarios

Category	Delivered
Availability	Attacker: • baremetal, process HA tools: • check host, openstack, process, service • kill process • start/stop service Monitor: • command, process
Compute	• cpuload • cyclictest • lmbench • perf • unixbench
Networking	• iperf3 • netperf • ping • ping6 • pktgen • sfc • sfc with tacker • vtc instantion validation • vtc instantion validation with noisy neighbors • vtc throughput • vtc throughput in the presence of noisy neighbors
Parser	Tosca2Heat
Storage	fio

API to Other Frameworks

Frame-work	Description
ApexLake	Experimental framework that enables the user to validate NFVI from the perspective of a VNF. A virtual Traffic Classifier is utilized as VNF. Enables experiments with SR-IOV on Compute Node.

Test Results Output

Dispatcher	Description
file	Log to a file.
http	Post data to html.
influxdb	Post data to influxdB.

Delivered Test cases

- Generic NFVI test cases
  - OPNFV_YARDSTICK_TCOO1 - NW Performance
  - OPNFV_YARDSTICK_TCOO2 - NW Latency
  - OPNFV_YARDSTICK_TCOO5 - Storage Performance
  - OPNFV_YARDSTICK_TCOO8 - Packet Loss Extended Test
  - OPNFV_YARDSTICK_TCOO9 - Packet Loss
  - OPNFV_YARDSTICK_TCO10 - Memory Latency
  - OPNFV_YARDSTICK_TCO11 - Packet Delay Variation Between VMs
  - OPNFV_YARDSTICK_TCO12 - Memory Bandwidth
  - OPNFV_YARDSTICK_TCO14 - Processing Speed
  - OPNFV_YARDSTICK_TCO24 - CPU Load
  - OPNFV_YARDSTICK_TCO37 - Latency, CPU Load, Throughput, Packet Loss
  - OPNFV_YARDSTICK_TCO38 - Latency, CPU Load, Throughput, Packet Loss Extended Test
- Test Cases for OPNFV HA Project:
  - OPNFV_YARDSTICK_TCO19 - HA: Control node Openstack service down
  - OPNFV_YARDSTICK_TC025 - HA: OpenStacK Controller Node abnormally down
- Test Case for OPNFV IPv6 Project:
  - OPNFV_YARDSTICK_TCO27 - IPv6 connectivity
- Test Case for OPNFV KVM Project:
  - OPNFV_YARDSTICK_TCO28 - KVM Latency measurements
- Test Case for OPNFV Parser Project:
  - OPNFV_YARDSTICK_TCO40 - Verify Parser Yang-to-Tosca