Yardstick
NFV Infrastructure verification from VNF perspective

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Agenda

• Introduction
• Yardstick Framework
• Methodology
• Yardstick Test Cases
• Yardstick and T-NOVA
Hello! 😊

Let me start ...

by asking something ...

... about **you**
Are you interested in … ?

Methodology

VNF Applications

Code Quality

Big Data

NFV Infrastructure

Testing

SW Development

Analytics
Good !!!
So, now back to business: **YARDSTICK** is:

A framework, yes...

... but more than a framework!

- ✔ Generic test cases for NFVI testing
- ✔ SLA verification
- ✔ Methodology aligned ETSI-NFV TST001
- ✔ VNF vTC
Where do we fit ???

End-to-end NFV Testing

- NFVI testing
- VNF application testing

NFVI Testing

- Pre-deployment validation of NFVI
- Deploy VNF
- VNF infrastructure validation

Yardstick Generic test Cases

Yardstick test cases for OPNFV feature projects
Get started with Yardstick!

1. Install Yardstick
2. Create Test .yaml
3. Build & load image
4. Run tests

Cloud Environment

Yardstick installation video
The Yardstick framework

- Configure
- Deploy
- Test
- Validate
The Yardstick framework

**SUT configuration**
Specify context(s), scenario(s), runner(s)
Yardstick Task File .yaml
Supports Jinja2 syntax
The Yardstick framework

**Deploy context(s)**

**Cloud:**
- OpenStack Heat, OVF, LXC
- Feature: SFC, VPN

**Node:**
- Baremetal
- Controller
- Compute
The Yardstick framework

Configure  Deploy  Test  Validate

Execute scenarios (benchmarks) for a duration (runners)

Runners:
- Arithmetic, Iteration, Duration, Sequence

Scenarios:
- Compute, Network, Storage
The Yardstick framework

Results: monitor or verify SLA
Common Result API
Verify SLA and/or monitor
Yardstick and Code Quality

- Flake8
- Unit test
- Functional test
- Code coverage
Yardstick and **OPNFV CI**

- **Yardstick-Verify**
  - Flake8
  - unittest
  - Functional test

- **Yardstick-Merge**
  - Flake8
  - unittest
  - Functional test

- **Yardstick-Daily/Weekly**
  - Build
  - Deploy
  - Yardstick OPNFV infrastructure test suite
Methodology

Aligned with ETSI GS NFV-TST001

Decompose the workload in metrics

Metrics represented by test cases

Combine test cases for complex scenario verification
Yardstick Test Cases

- Generic Test Cases for NFVI verification (compute, storage, network)
- Test cases for OPNFV Projects: HA, SFC, SDNVPN, IPVSIX, VNFFG, KVM
- Execute Yardstick Generic Test cases for OVS4NFV, ARMBAND
- Your need?
Yardstick and **T-NOVA** contributions

- A VNF, the Virtual Traffic Classifier
  - VNF sample with two components:
    - Traffic Inspection (DPI module)
    - Traffic Forwarding (Traffic Classifier)

- An experimental framework, ApexLake
  - VNF Performance characterization
  - Integrated with Yardstick framework

**T-NOVA presentations**  **vTC demo video**
Yardstick Evolution - Framework Capabilities

Results
- Result API, SLA
- Analytics

SUT
- Cloud, Node (Baremetal, Compute, Controller)

Test Cases
- NFVI Test Cases (Compute, Storage, Networking)

R2
R3
RX

[Image of OPNFV logo]
Interested?

Join us!

Thank you