

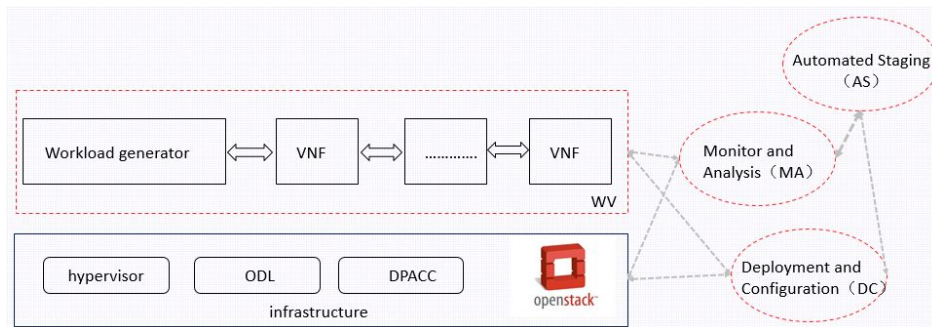
Bottlenecks

Bottlenecks - System Limitation Testing

Project Scope || Road Map & Work Plans || Project Meetings || Key Facts || Proposals & Materials || Useful Links

Project Description

This project aims to find system bottlenecks by testing and verifying OPNFV infrastructure in a staging environment before committing it to a production environment. Instead of debugging a deployment in production environment, an automatic method for executing benchmarks which plans to validate the deployment during staging is adopted. This project will provide a framework to find the bottlenecks of OPNFV infrastructure. The framework has four components: Workload generator and VNFs (WV), Monitor and Analysis (MA), Deployment and Configuration (DC), Automated Staging (AS). The architecture is shown as follow:



The functions of each components are as below.

- Workload generator and VNFs: workload generator generates workloads which go through VNFs
- Monitor and Analysis: monitor VNFs status and infrastructure status to output analyzed results
- Deployment and Configuration: deploy and configure infrastructure and WV
- Automated Staging: implement automated staging

Project Scope

The scope of Bottlenecks project includes:

- **Forming a staging test framework**
 1. Release candidates A,B... provides a foundation to be tested of Infrastructure layer
 2. A workload generator generates workloads which go through VNFs. This workload generator will be scalable and may cover multiply workload models for different scenarios
 3. Monitor and analysis units will monitor the infrastructure and VNFs status and present results after analysis
- **Automatically generating the full set of experimental specification**
 1. Document and codes to describe how to generate experimental specification according to different service level agreement (SLA)
 2. Document to describe how to find some typical bottlenecks according to specific monitoring
- **Measuring the performance of standard benchmarks over a wide range of hardware and software configurations**
 1. Different hardware resource adopted to produce test data used for bottleneck analysis

Road Map & Work Plans

Bottlenecks Road Map

- Load/Tuning Tests over OPNFV Platform
- Stress Tests over OPNFV Platform
- Bottlenecks Load Manager /Test Scheduler

Bottlenecks Release Plans

- User Interface
- Test Framework
- Test Suites
 - POSCA Test Suite
- Results Reporting

Bottlenecks Work Items & Review

- JIRA Tickets
- Gerrit Reviews

Project Meetings

Weekly Work Meeting: Thursdays 1:00-2:00 UTC

- Go to Meeting (GTM): 391235029
- IRC channel: #opnfv-bottlenecks
- Bottlenecks Meeting Agendas & Minutes

Upcoming Meeting

Planned Meeting

Key Facts

Bottlenecks Project Proposal

Concepts, Classification of Bottlenecks

People in Bottlenecks

2. Different parameters adopted in software configuration files to produce test data used for bottleneck analysis

- **Automated iterative staging process for finding bottlenecks**

1. Achieve full automation in system deployment, evaluation, and evolution, by creating code generation tools to link the different steps of deployment, evaluation, reconfiguration, and redesign in full lifecycle.
2. Reassignment and reconfiguration of hardware resources
3. Reassignment and reconfiguration of software resource

Deliverable & Reference

- **Bottlenecks Code Repository**
 - Euphrates Code Repository
- **Project Release Documents**
 - OPNFV Testing Framework Overview
 - Euphrates Release Documents
 - Release Notes
 - User Guide

Proposals & Materials

- **Bottlenecks Beginners**
- **Bottlenecks Proposals & Presentations**
 - Project Proposal
 - Test Meeting 20150820
 - POSCA Test Suite
- **Concepts, Classification of Bottlenecks**
- **Media & Press**
 - **Stress Test Demo on Youtube**

Useful Links

- **OPNFV Release Page**
 - Euphrates Release Page
 - Danube Release Page
- **OPNFV Release Priorities**
 - Danube priorities
- **OPNFV Beginner**
 - Git Tutorial
 - Documentation Toolchain
 - Meetbot Tips
- **OPNFV Coding Guidelines**
- **OPNFV Testing Group**
- **OPNFV Q&A Forum**