Yardstick

Status update

August 2015

Agenda

- Overview of new functionality (Ana Cunha)
- Memory latency - using LmBench, demo will be done on virtual environment, Fuel installer (Kristian Hunt)
- Software events (CPU migrations, context switches) - using Perf, demo will be done on virtual environment, Fuel installer (Kristian Hunt)
- Storage performance - using Fio, demo will be done on Huawei lab, Compass installer, all in one environment (Qi Liang)

New functionality

- Added tools: lmbench, fio, perf
- Possible to use external scripts to perform actions on the infrastructure (e.g. server live migration, network interface down)
- Possible to generate simple graphs as a result of the measurements
- Increased flexibility to select how the test is run (list of input values, duration of the test, number of iterations)
- Added unit tests in Yardstick-verify and Yardstick-merge jobs on OPNFV Jenkins

Included functionality

- Possible to run test cases in virtual machines in the Cloud
- Orchestration using OpenStack Heat to configure the system under test, network is configured using floating IPs
- Possible to configure affinity/anti-affinity rules for virtual machines
- Possible to configure parameters for SLA verification
- Yardstick jobs on OPNFV Jenkins are created and enabled
- Supported tools: ping, iperf3 and pktgen
- Sample task configuration files
- Preliminary documentation in README file

Lmbench

JIRA: YARDSTICK-89

- Memory read latency - measurements taken using Lmbench **lat_mem_rd** benchmark
- Measures different memory sizes and strides
- Results reported in nanoseconds per load
- SLA verification for assert or monitor actions

Perf

JIRA: YARDSTICK-51

- Measurements taken using Linux kernel perf tool
- Supports perf software events such as:
  - Page, minor/major, alignment and emulation faults
  - Cpu migrations
  - Context switches
- Possible to add some dummy load during measurements
- SLA verification for all events

Yardstick-plot

JIRA: YARDSTICK-65

- Simple built-in visualization tool
- Implemented using matplotlib library
- Supports generating graphs from test cases of
  - Ping
  - Pktgen
  - Iperf3
  - Fio
- Example usage: $ yardstick-plot -i results.out

Other topics

- Yardstick-verify and yardstick-merge Jenkins jobs now check the formatting and run unit tests
- Work is ongoing on increasing the coverage of unit tests
- YouTube video on installing and running yardstick