Intern Project: VSPERF Automated Deployment and Results Management

This page is to track the progress of the project.

Link to the Project Description

Work Logs

13th Sept 2018 : Attended Meeting on Containerization for testing Projects in OPNFV : Notes

1st Oct: Intern Start Date - Project Plan Doc for 1st Month _ Modified

Week 1(1st-7th Oct): Doc Link

- Read VSPERF Documentation and made accounts.
- Made the wiki page
- Explored Docker for Containers - Installed locally and ran experiments with it
- Started writing the containers to run VSPERF and to serve results(run prometheus) -
  - Prometheus running locally in a docker container (Now look into configuration)
  - VSPERF (Unable to download dependencies in the docker container. Troubleshooting)
- Explored the yardstick project container

Week 2(7th Oct- 14 Oct):

- Explored the concept of Docker Machines : https://docs.docker.com/machine/overview/ - The docker machine can be used to provision docker hosts. This can be installed on the jumphost.
- Explored and tried out docker container to run prometheus with another docker as a target. https://docs.docker.com/config/thirdparty/prometheus/#configure-docker
- set up Prometheus to run as a Docker container
- configured it to monitor the Docker instance using Promethues
- Potential Problem with this architecture. This prometheus instance only monitors the docker metrics itself, not the metrics of the application running inside the docker.
  - ASKS: What are the metrics we will be monitoring using prometheus.
- Wrote VSPERFContainer dockerfile which : Reference(https://docs.docker.com/engine/examples/running_ssh_service/)
  - Runs Ubuntu 16.04
  - runs an ssh daemon
  - ssh into given IP and logs in (Currently using hardcoded IP and login info. TODO: Explore the option of using config files to give IP and Login Info)
  - runs all commands required to install vsperf via ssh connection to the remote host (have to test)
- ASKS : Credentials and access to the jumphost
- Install Docker Daemon on the jumphost
- Test out the Version 1 of VSPERF on the jumphost

Week 3(15-21 Oct) :

- Accessed Intel Pods running VSPERF
- Still waiting on contributor access to Opnfv. Signed the Individual Developer authorization. Supposed to receive an invite by mail.
- Took a 4 hour course on GRPC and tested a mock API between two different Docker Containers. This will serve as rough draft of the VSPERF container. Next week will combine the ssh code with GRPC API
- Installed collectd on a docker container and collected CPU stats from it and sent it to another container on local device. This will serve as base code for the prometheus container.
  - Since GRPC and collectd are both new to me, this took a while.
- Took 4 days off for festival in India since I had to travel to hometown from my college. Will catch up on all work in Week 4 so that all deliverables for the first month are in.

Week 4(21 Oct to 28th Oct) :

- VSPERF Container: Wrote gRPC code in python, for implementing:
  - dut_host_access(ip_addr, password) : ssh into another system and installs VSPERF there (IN PROGRESS, needs debugging)
  - vsperf_status_check(ip_addr, password) : ssh into the IP address, activate vsperf env. and check using ‘./vsperf --help command’, if up return VSPERF Instance Found or No VSPERF Found. (VSPERF in Intel Pharos Lab - Pod 12 using the usage test here)(Tested on Local Docker Containers)
  - To implement the REST API that can handle access to the gRPC server, need to integrate gRPC web gateway so that all this can be accessed via HTTPS queries too. https://github.com/grpc/grpc/blob/master/doc/PROTOCOL-WEB.md. (IN PROGRESS)
- Results Container:
• Just contains collectd code as of now
• Need to discuss the structure of the messages and how to run Traffic Generator and what responses to collect and implement. (Schedule a meeting soon)