Containerizing VSPERF

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VSPERF

- VS: vSwitch
- Perf: Performance
- aka. Vswitchperf
- Python based Test-framework.
- vSwitches, VNFs, Traffic-Generators
  • Other Tools.
Deployment Scenarios (VSPERF)
VSPERF TESTS

Performance

Functional

Comparative
Generalizing All testing frameworks....

• “Northbound” APIs
• Command and Control Engine
• “Southbound” Abstractions
  • Tools
  • DUT Environment

containerizing an automated testing framework can vary depending on what all components it has and what all one would want to containerize...
Why Containerize VSPERF?

• Improves Usability, provides flexibility
• Cloud-Native Testing.
• Other Testing projects are already containerized.
• Support new use-cases
  • Include automated dataplane performance testing into larger frameworks such as Dovetail/OVP
  • Better analytics with results container.
How? The Terms...

- **Client**
  - Talks to controller/server to install, configure and run tests.
  - End user will only use this client to manage tests.

- **Controller/Server**
  - Receives command and control from the client and perform actual action on the DUT-Node

- **Vsperf**
  - Runs on the DUT-Node – as usual.

- **Results**
  - Node that collects and manages the results. The results include
    - Environment
    - Test-Results
    - Infrastructure metrics - collectd
    - Events from vsperf, qemu, ovs, vnf, etc.
    - Live results from T-Gen*****
How? The architecture

Client

Controller/Server

TGen: H/W or Software

In Future.....
DEPLOYMENT ONLY

In Future.....

Data Traffic

Control

VSPERF

DUT

Results

Developed for this Plugfest:
CLI Application

Developed for this Plugfest:
Containers

gRPC
REST

SSH
Formats

• Client.
  • CLI based application
  • Webapp in future.

• Controller/Server
  • Container.

• Results
  • Container
Client-Controller Communication

- gRPC
  - Easy to add rest support.
- Protobuf
- Operations.
  - First Version
    - Connect to Host
    - Install VSPERF
    - Upload Configuration
    - Run Test
    - Check Status
- In Future
  - Setup TGen.
  - Download VNFs
  - ...
Controller-DUT Communication

• SSH.
• Run commands through SSH.
• Single DUT at a time.
Results

• Testapi – For End of the test results
  • Mongodb

• ELK -- For Infrastructure metrics, Events from vsperf, qemu, ovs, vnf, etc.
  • Elasticserach
  • Logstash
  • Kibana