OPNFV T-NOVA vTC presentation

NCSR Demokritos
The T-NOVA virtual Traffic Classifier (vTC) comprises of 2 main modules:

- The Deep Packet Inspection Module (DPI)
- Traffic Classifier Module

The DPI module analyzes the incoming traffic and detects the application of the flow.

- Based on a user-defined set of rules. The forwarding and tagging of the traffic can be done. For example a ToS value -> Detected Application

- Additionally, both SR-IOV enabled and standard network deployment setups have been investigated and integrated with the vTC.
The T-NOVA virtual Traffic Classifier (vTC) is implemented to be deployed in an Openstack environment.

The DPI functionality is based on the open-source packet application protocol detection library nDPI.

The forwarding is currently implemented using the PF_RING kernel module. Based on the open source PF_RING library.

nDPI is released under LGPL license, PF_RING kernel module is released under GPL license.

Demo utilizes the DPDK PktGen traffic generator.
  - Replay of pcap file captured from NCSRD network.

Grafana powered graphical interface
Standard Architecture of the vTC

Site A

Site B

NFV-PoP

Monitoring - Analytics

Policies

vTC
T-NOVA OPNFV Next Steps

• A DPDK enhanced implementation in order to further accelerate the proposed setup.

• DPDK version currently being characterized (~8Gbps throughput when combined with SR-IOV)
  – Hugepage/NUMA pinning/etc. configuration options under test

• Containerized Docker versions, examining the pros and cons of Dockerized implementations.

• T-NOVA VNF Characterisation Framework in development.
  – Automated test cases based on vTC
  – Planned API to support integration with Yardstick Framework
  – Initial standalone version to be completed by early October.