



TNOVA

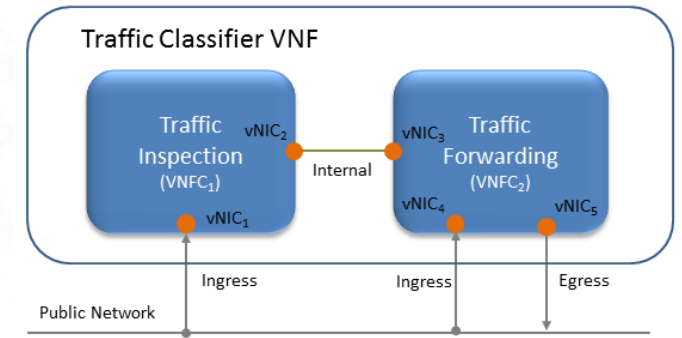
NETWORK FUNCTIONS AS-A-SERVICE  
OVER VIRTUALISED INFRASTRUCTURES

# OPNFV T-NOVA vTC presentation

NCSR Demokritos

# vTC Architecture

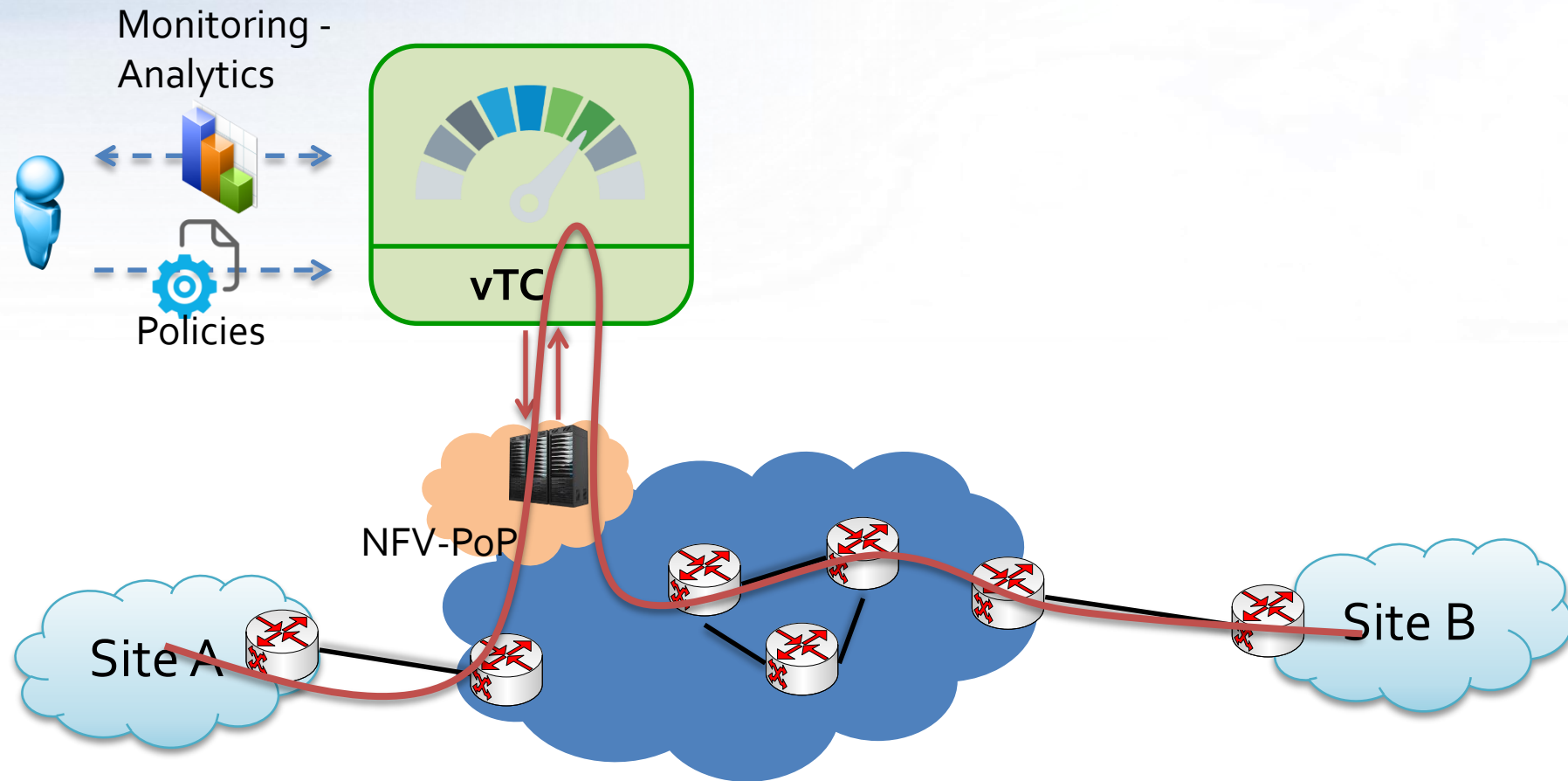
- The T-NOVA virtual Traffic Classifier (vTC) comprises of 2 main modules:
  - The Deep Packet Inspection Module (DPI)
  - Traffic Classifier Module
- The DPI module analyzes the incoming traffic and detects the application of the flow.
- Based on a user-defined set of rules. The forwarding and tagging 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.



# T-NOVA OPNFV vTC Components

- 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



# 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.