Architecture for an Open Source Network Tester

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1 The Problem

- Commercial Network Testers are:
  - **Prohibitively expensive**: >$20,000 per 10GbE port
  - **Inflexible:** It's difficult to add new features
  - **Closed and Proprietary**: It's hard to test new protocols.

2 Our Goal

- Create **a low-cost open-source network tester** (OSNT).
  - NetFPGA seems a natural choice: <$2000 for 4x10GbE ports
- Build **a community of users** who gradually improve OSNT for use in **research and education.**

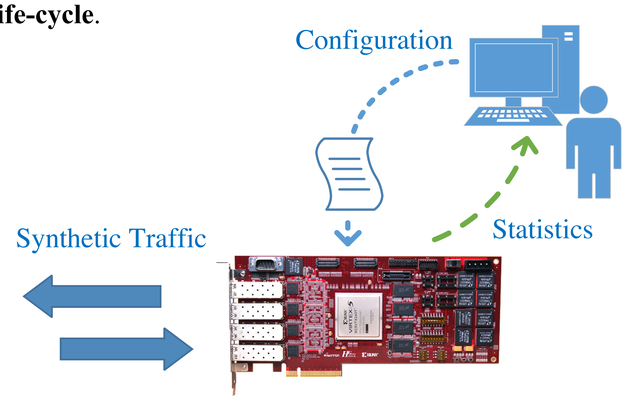
3 Why use OSNT?

- A complete open-source solution from **user-software** through to **hardware implementation**.
- A flexible and extensible platform that permits **validation and review** of the **entire network-testing life-cycle**.

Use Cases

Network Elements
(end-systems, routers, and switches)

Small-to-Large Scale Networks
(enterprises, campus, datacenters, and WANs)



Enabling Features

- **Line-rate packet processing**
  - Traffic generation and monitoring
- **End-to-End traffic measurements**
  - Latency, throughput and jitter etc
- **Adding custom features**
  - Traffic models and protocols
- **High precision timestamping** and more

Operating Modes

- **Default:**
  - Pre-built traffic models (CBR, Poisson)
  - Pre-built protocol models (TCP/UDP)
- **Custom:**
  - User-defined traffic models (UDTM)
  - User-defined protocol models (UDPM)

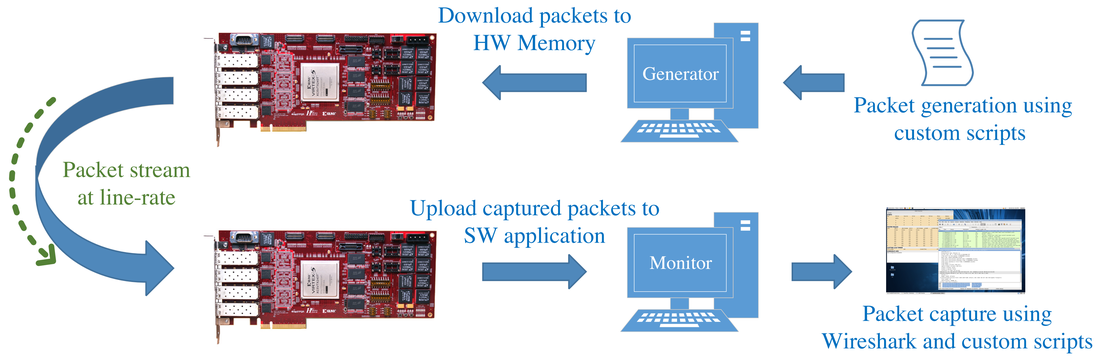
4 How can you participate?

- The code is available at https://github.com/NetFPGA/OSNT.
- **Contribute** to the project.
  - Get latest repository
  - **Design** and **develop applications** and **add-ons!**
  - Push back to the repository
- **Disseminate** your work to the **world.**

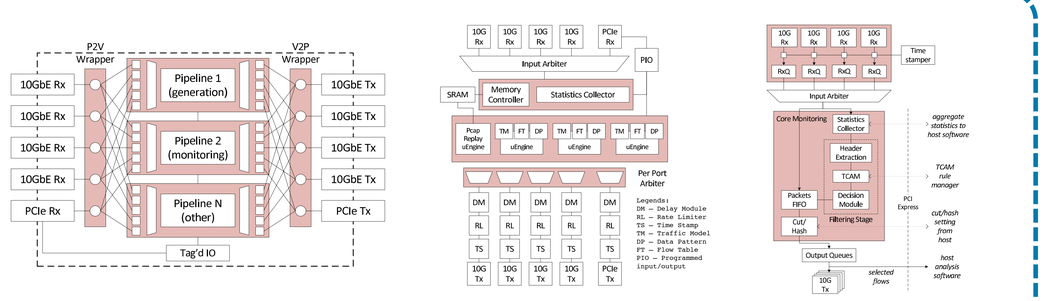
It's that Simple!

"Help *build* the *open-source network testing community*"

5 DEMO



6 Hardware Architecture



a. *NetV* – NetFPGA Virtualization *b.* Traffic Generation Pipeline *c.* Traffic Monitoring Pipeline

For more information:
Visit us at: www.osnt.org.
Public release coming soon!