1 Evaluation

1.1 Packet Generating

Packet generating is the act of creating packets with random payloads to be sent to certain MAC addresses on the network. This can either be done via the use of specialised hardware or using software. They are used for load testing of packet processing applications to test the amount of data which applications can process per second. This can reveal whether limitations on a system is software or hardware based.

Talk about pktgen module in kernel - does dpdk version use this

Pktgen is open source software tool, maintained by Intel, which aims to generate packets using the DPDK framework. It can generate up to 10Gbits of data per second and send the data in the form of packets across a compatible network interface card/controller. It has a number of benefits which include:

- Real time packet configuration and port control

- Real time metrics on packets sent and received

- Handles UDP, TCP, ARP and more packet headers

- Can be commanded via a Lua **??** script

how does pktgen work and why we used it

1.2 Initial Testing

The initial testing of applications was carried out an a local Mac OS X machine running Ubuntu 14.04 LTS 64-bit on a VirtualBox virtual machine. Although this set-up didn't provide the ability to load test on very high speeds (anything above 1Gbit/s), it allowed for basic testing to check that the application was running as expected. Load testing of speeds up to roughly 700Mbit/s were also possible which have a basic testing platform without the need to move code to servers.

which ones?

ref this and ubuntu

1.2.1 Set-up

1.2.2 Methods

1.2.3 Results

1.3 Further Testing

On servers

1.3.1 Set-up

1.3.2 Methods

1.3.3 Results

1.4 Software Design

Mention somewhere about the limitations of pktgen

1.4.1 Portability

1.5 Possible Improvement