

Thesis
B.Sc.

Thesis
M.Sc.

IDP,
Guided
Research

Performance Analysis of VPP

Motivation

VPP (<https://wiki.fd.io/view/VPP>) is an open source software switch and router. The main difference to your typical hardware switches is that the full packet processing path is done in software. Compared to more well-known software switches and routers such as Open vSwitch or the Linux router, it is faster by not using slow legacy network drivers in the Linux kernel.



Research questions are:

- How fast is it?
- What are the relevant scenarios to benchmark routers?
- Are there worst-cases scenarios due to hardware bottlenecks? (e.g., routing table larger than the CPU's cache?)

Your Task

Set up a benchmarking and test environment for VPP in our testbed. Examples of relevant scenarios to analyze are:

- Impacts of various configurations (routing, switching, firewalls, tunneling, ...)
- Impacts of the size of various lookup tables (routing tables, ARP table, ...)
- How well does it scale to multiple cores?
- What's the impact of multi-CPU NUMA architectures?

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