

Thesis
B.Sc.

Thesis
M.Sc.

IDP,
Guided
Research

Performance gains from Linux 3.16 to 4.9

Motivation

We use Debian Jessie Live Images in our testbed for reproducible performance measurements of networking devices. With the recent freeze/release of Debian Stretch [1] we plan to upgrade our testbed accordingly. This most notably implies a Linux upgrade from 3.16 to 4.9. Included are two years of improvements and new features, also for the Linux network stack and related tools. Heavily improved or newly integrated technology includes for instance the extended Berkeley Packet Filters (eBPF) [2] or the eXpress Data Path (XDP) [3]. In this thesis want to evaluate and analyse the improvements made and potential new processing steps introduced with the new Linux version, in comparison to measurements carried out in the previous years with Linux 3.16. The thesis offers multiple student work, each focusing on a different selected focus, like performance measurements, profiling,



<https://tinyurl.com/j4yw82l>

Your Task

- Research related changes from Linux 3.16 to 4.9
- Create a Debian Stretch Live Image for (profiling) measurements
- Run (profiling) measurements for the selected scenarios
- Compare your results and findings
- Write the thesis

Contact us and we can discuss the preferred focus or concrete ideas.

References

- [1] <https://wiki.debian.org/DebianStretch>
[2] <https://www.kernel.org/doc/Documentation/networking/filter.txt>
[3] <https://www.iovisor.org/technology/xdp>

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