Chair of Network Architectures and Services
Department of Informatics
Technical University of Munich

Thesis B.Sc. Thesis M.Sc. IDP

Step It Down a Notch:
100 Gbit s^{-1} Software Visiting 10 Gbit s^{-1} Land

Motivation

In 2014, Bosshart et al. proposed P4, a domain-specific programming language for operator-programmable networking devices based on the concept of SDN. Soon, manufactures started introducing hardware with P4 support, some with support for rates up to 100 Gbit s^{-1}. A previous work at the chair developed a P4-based traffic generator for such a device as part of a feasibility study. However, results of this work focus on measurements with rates exceeding capabilities of most available devices and are limited to selected test cases. Hence, porting the framework to the realms of 10 Gbit s^{-1} hardware followed by performance measurements of selected targets with newly implemented scenarios are goals of this work. These scenarios may include uniform traffic of various shape, as well as, heterogeneous traffic, among others.

Your Task

- Familiarize yourself with P4 and related concepts
- Ensure portability of the existing framework
- Introduce additional measurement scenarios
- Verify portability and implementation with benchmarks

Contact

Henning Stubbe stubbe@net.in.tum.de
Dominik Scholz scholz@net.in.tum.de
Sebastian Gallenmüller gallenmu@net.in.tum.de