**Thesis B.Sc.**

Thesis M.Sc.

IDP

Virtualized Data Center Networks In-A-Box

Motivation

Complex network topologies are expensive to create and maintain. Therefore, scientists typically rely on virtualized or emulated networks for their network experiments. Emulated or virtualized networks behave differently compared to real networks. Technologies, such as single root IO virtualization, allow network performance for virtualized networks that is almost indistinguishable from the behavior of a real network.

The goal of this thesis is the creation of a framework for hybrid network experiments. This hybrid approach uses virtualized machines for all the software components but real network equipment to create network topologies. The hybrid approach should be created in a way that there is little to no difference between a network experiment using the hybrid approach compared to an approach that relies on real hardware for all its components. The Chair of Network Architectures and Servicesoperates a testbed that will be used to develop the framework and to provide the network equipment for the experiments.
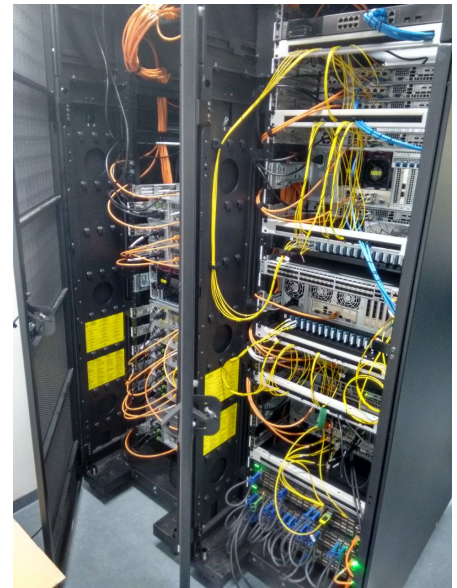
Network Testbed

Your Task

- Make yourself familiar with state-of-the-art network virtualization technologies (SR-IOV, kvm)

- Create a framework for hybrid network experiments (virtualized machines but non-virtualized network equipment).

- Set up hybrid and non-hybrid network experiments and compare them.

Contact

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