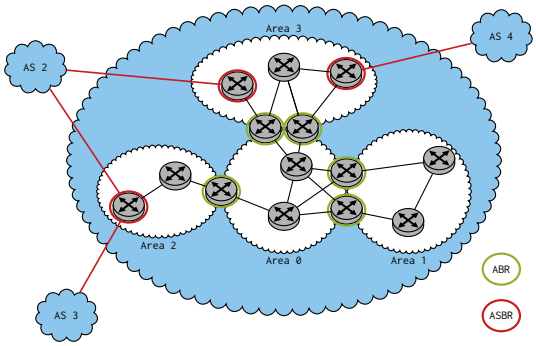
Chair of Network Architectures and Services
Department of Informatics
Technical University of Munich

Thesis B.Sc. Thesis M.Sc. Guided Research

Performance Evaluation of OSPF

Motivation

Routing protocols are an important part of today's networks and Internet. Open Shortest Path First (OSPF) is a popular routing protocol which is based on the propagation of link states among routers. Based on those link states, each router can build a global view of the network topology in order to compute routes using standard shortest-path algorithms.



In this thesis we want to study the performance of OSPF. The main goal is to evaluate the convergence time of OSPF, meaning the time it take for a network to distribute network changes to all the routers.

With this thesis, you will learn about the following topics:

- Network emulation using mininet
- Routing protocols and their implementation using Quagga
- Performance modeling of OSPF

The focus of this thesis is on setting up automation and measurements to validate and extend models using reproducible experiments.

Your Task

- Setup reproducible measurements of the performance of OSPF routing
- Evaluate those measurements against existing models of OSPF convergence
- Extend models and measurements to more advanced use-cases mechanisms

Knowledge about routing protocols and setup of measurements are recommended but not required.

Contact

Dr. Fabien Geyer fgeyer@net.in.tum.de