

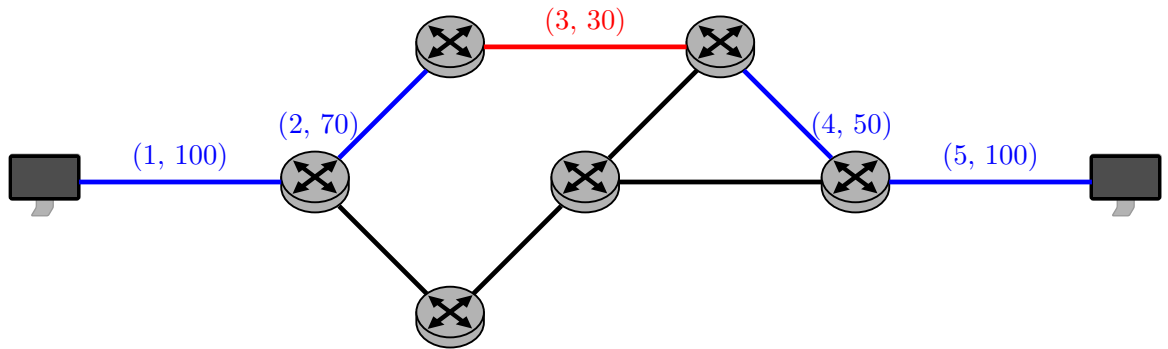
Thesis
B.Sc.

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Active and Passive Capacity Measurements

Motivation



Path capacity is a metric of major interest for service and infrastructure providers. Various tools exist that measure path capacity in an active manner, mainly based on TCP. However, passive measurement approaches exist and have been shown to be quite accurate.

As TCP limits estimation to end-to-end capacity, further protocols, like ICMP, might introduce new capabilities to measure capacity characteristics of a path.

Your Task

At the Chair of Network Architectures and Services we implemented and evaluated a passive capacity estimation tool for TCP traffic.

Your task is to survey the suitability of further protocols.

This project consists of two parts:

Extend the existing tool with further protocols like ICMP, UDP, and QUIC.

- Implement traffic initiation and analysis
- Evaluate and compare the accuracy for different protocols in our Testbed

Use your implementation for large scale Internet measurements!

- Run active and passive capacity measurements across the Internet
- Analyze your results for bottleneck positions and other characteristics

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