

Thesis  
B.Sc.

Thesis  
M.Sc.

# Automated Testing of Capacity Estimation

## Motivation

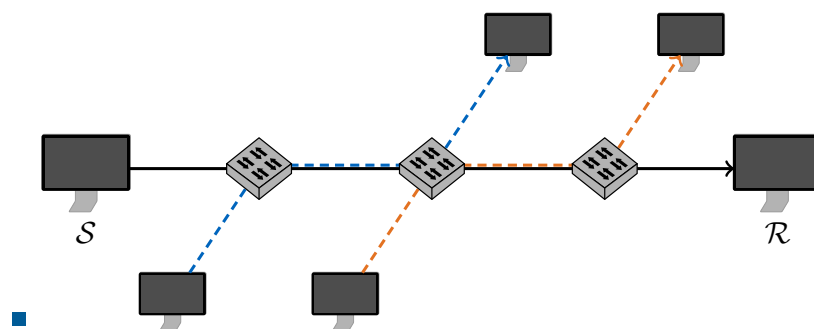
Capacity estimation is purposed to determine a network path's maximum physical bandwidth. Next to describing a network path's characteristics, capacity is used for more sophisticated traffic analysis approaches. One way to measure capacity is the passive analysis of packet inter-arrival times (IATs) of a network connection. <sup>a</sup>

The Chair of Network Architectures and Services has developed different approaches to generate traffic for such IAT-based capacity estimation. Now, we are interested in comparing these different approaches regarding the accuracy of accordingly estimated capacities

<sup>a</sup>En-Najjary, Taoufik, and Guillaume Urvoy-Keller. "Pprate: A passive capacity estimation tool." 2006 4th IEEE/IFIP Workshop on End-to-End Monitoring Techniques and Services. IEEE, 2006.

## Your Task

- Implement a test framework with the network emulation tool Mininet<sup>b</sup>. . .
  - ...to enable automated tests
  - ...allowing to configure several network parameters
- Generate different kinds of network traffic and analyze capacity with an existing estimator



<sup>b</sup>mininet.org

## What you should bring

- Interest in networking and traffic analysis
- Fun to work with Python and Linux

## Contact

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