

Thesis  
B.Sc.

Thesis  
M.Sc.

IDP

# Investigating Passive Delay Measurement Techniques on Sampled Traffic

## Motivation

Traffic and flow analysis is an essential task of network administration in middle- to large-sized networks. As storage and analysis of all packets of all flows handled by a network does not scale, packet sampling is a common solution to reduce the problem size. This passively gathered information can then be used for many purposes, such as measuring performance of applications and the underlying communication link among communicating network devices.

In this thesis, we aim to identify appropriate techniques to passively measure delay on traffic. Several techniques in the literature include methods which make use of TCP features, such as sequence and acknowledgement number correlation and exploiting TCP timestamps [1, 2, 3].

## Your Task

- Investigate techniques for passive delay measurements
- Building on current sampling methods developed at the chair, evaluate the feasibility of the approach for passive delay measurements
- Develop a proof-of-concept framework capable of continuous profiling delay based on sampled packet data
- Evaluate your results

## Literature

- [1] <https://tinyurl.com/y9x9m7lj>
- [2] <https://tinyurl.com/yb6zap7a>
- [3] <https://tinyurl.com/ybo57r67>

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