Advanced Computer Networking (ACN)

Exercise 4 – Transport Layer Protocols

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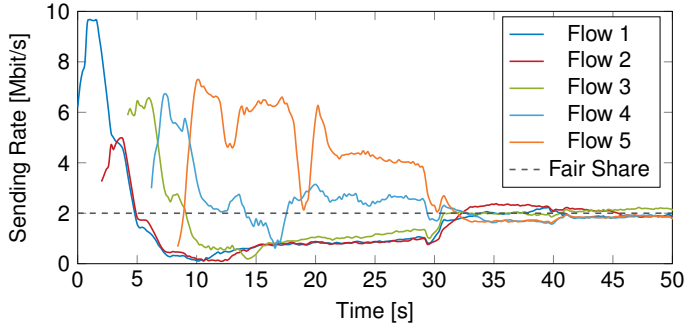
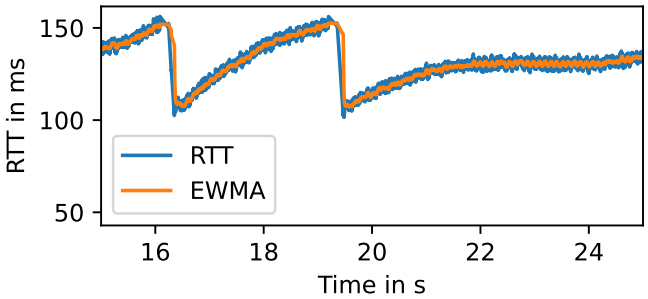
Tutorial 4
Problem 1: TCP Congestion Control Fairness

- Recognize and compare different congestion control algorithms
- Understand how the bandwidth-delay product (BDP) is computed
- Implement Jain's Fairness Index and assess TCP's fairness



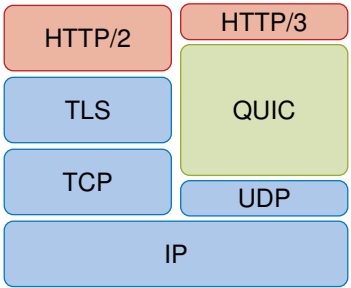
Tutorial 4
Problem 2: TCP Exponential Weighted Moving Average

- Compute the exponential weighted moving average over RTT samples of a TCP connection
- Understand impact of different parameters
- Implement a TCP retransmission timeout caclulation



Tutorial 4
Problem 3: QUIC

- Understand the protocol stack with QUIC
- Use qlog and qvis to analyze a QUIC trace



Tutorial 4

Deadlines

Start	December 7, 16:00
First submission	December 14, 14:00
Exercise lecture	December 14, 14:00
Second submission	December 21, 14:00

Availability

- Available in the template Git (branch: `tutorial`)
  - `tutorial/tutorial4/tutorial4.ipynb`