

Comparing DualPI2 Lockless with TCP Prague and other CCs. There must have been an error during short flow experiments, so all completion times from clientserver A are missing in these results. Each CC is evaluated separately in these experiments, the data is captured and displayed for each CC separately based on IP addresses, and not ect value in the header. This allows to look at the results for each of the CCs separately, even if they are in the same queue. Until now, we haven't performed experiments where we wanted to investigate marks for 2 different CCs that are in the same queue, so the current test suite is not capturing marks for the clientserver B, which has always been used for not ECN-capable CC. Due to that, for testcases where marks were not captured for testcases where two ECN capable CCs were running together, the marks were not captured for the second one, running on clientserver pair B.

Kernel versions:

aqmnode: Linux router2 5.2.0-rc5-prague-36 #1 SMP Thu Aug 1 10:10:01 CEST 2019 x86\_64  
x86\_64 x86\_64 GNU/Linux

serverA: Linux svr17 5.4.0-rc1-prague-56 #1 SMP Tue Oct 22 15:38:27 CEST 2019 x86\_64  
x86\_64 x86\_64 GNU/Linux

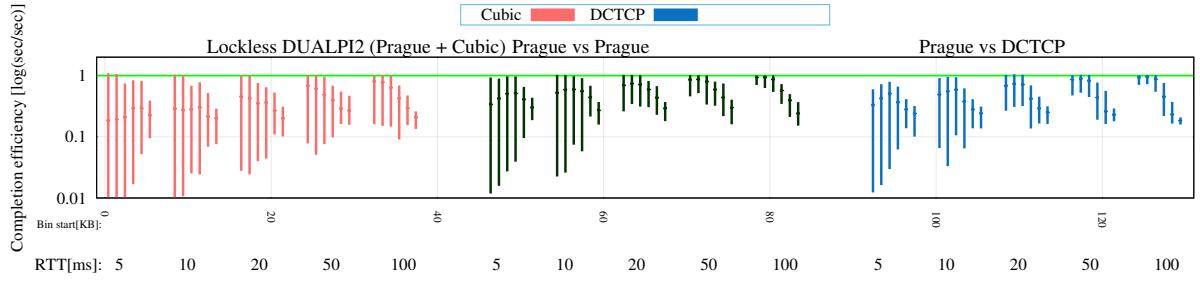
serverB: Linux svr16 5.4.0-rc1-prague-56 #1 SMP Tue Oct 22 15:38:27 CEST 2019 x86\_64  
x86\_64 x86\_64 GNU/Linux

clientA: Linux svr15 5.4.0-rc1-prague-56 #1 SMP Tue Oct 22 15:38:27 CEST 2019 x86\_64  
x86\_64 x86\_64 GNU/Linux

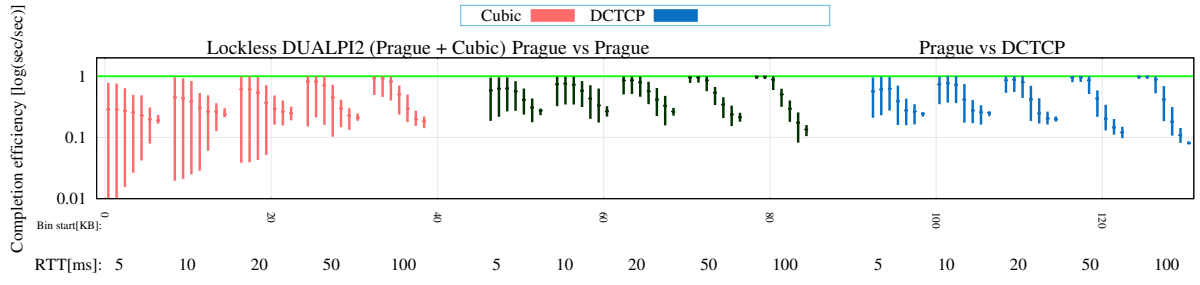
clientB: Linux svr14 5.4.0-rc1-prague-56 #1 SMP Tue Oct 22 15:38:27 CEST 2019 x86\_64  
x86\_64 x86\_64 GNU/Linux

# Appendix A

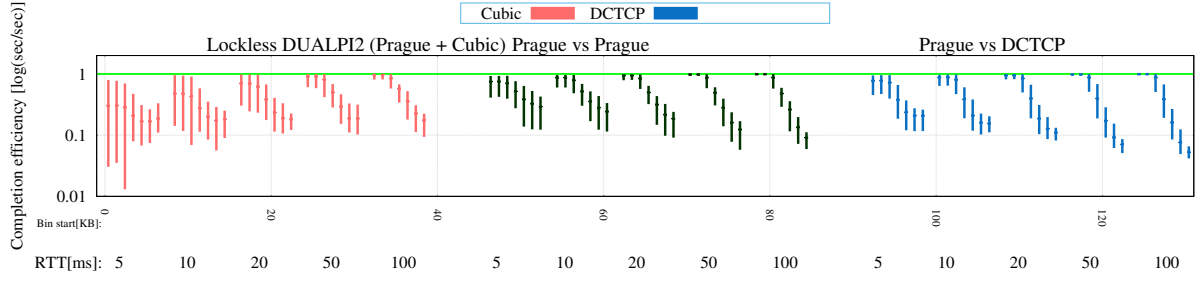
## Equal RTT experiments



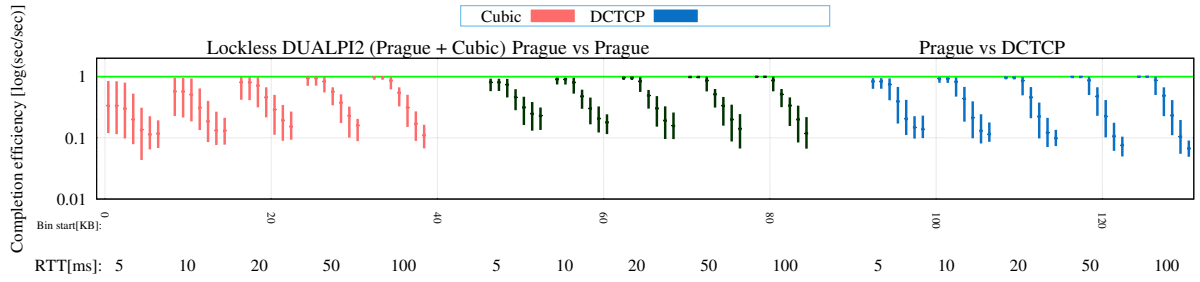
(a) 4Mbps link capacity



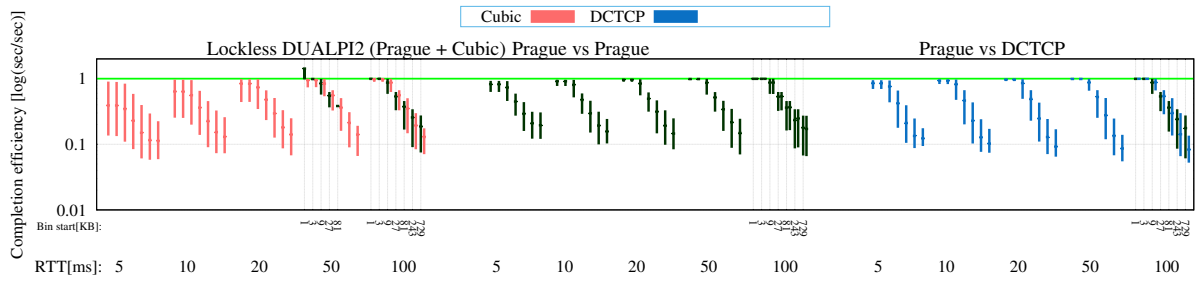
(b) 12Mbps link capacity



(c) 40Mbps link capacity



(d) 120 Mbps link capacity



(e) 200 Mbps link capacity

Figure A.1: Equal RTT (1h-1h)

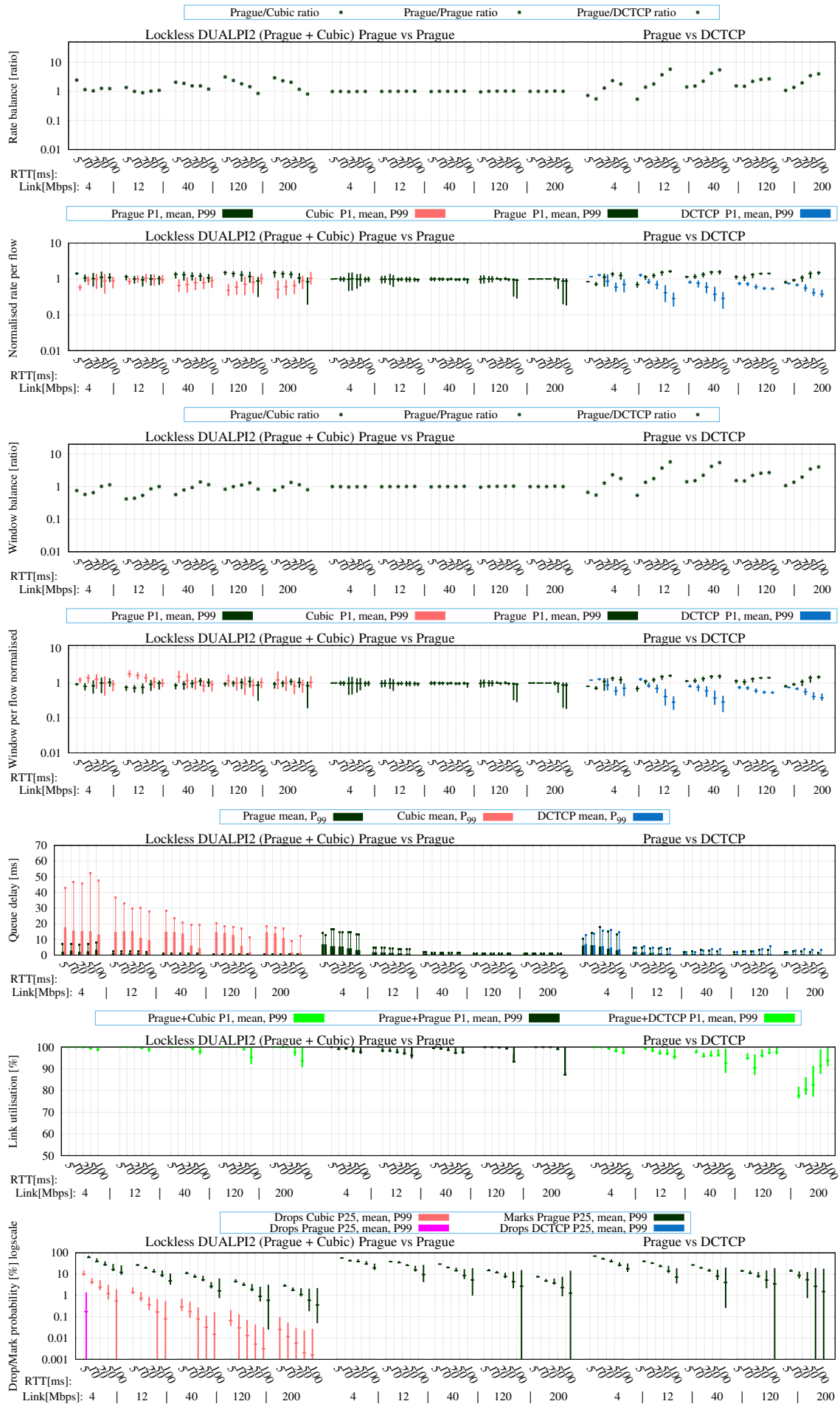


Figure A.2: Equal RTT (1-1)

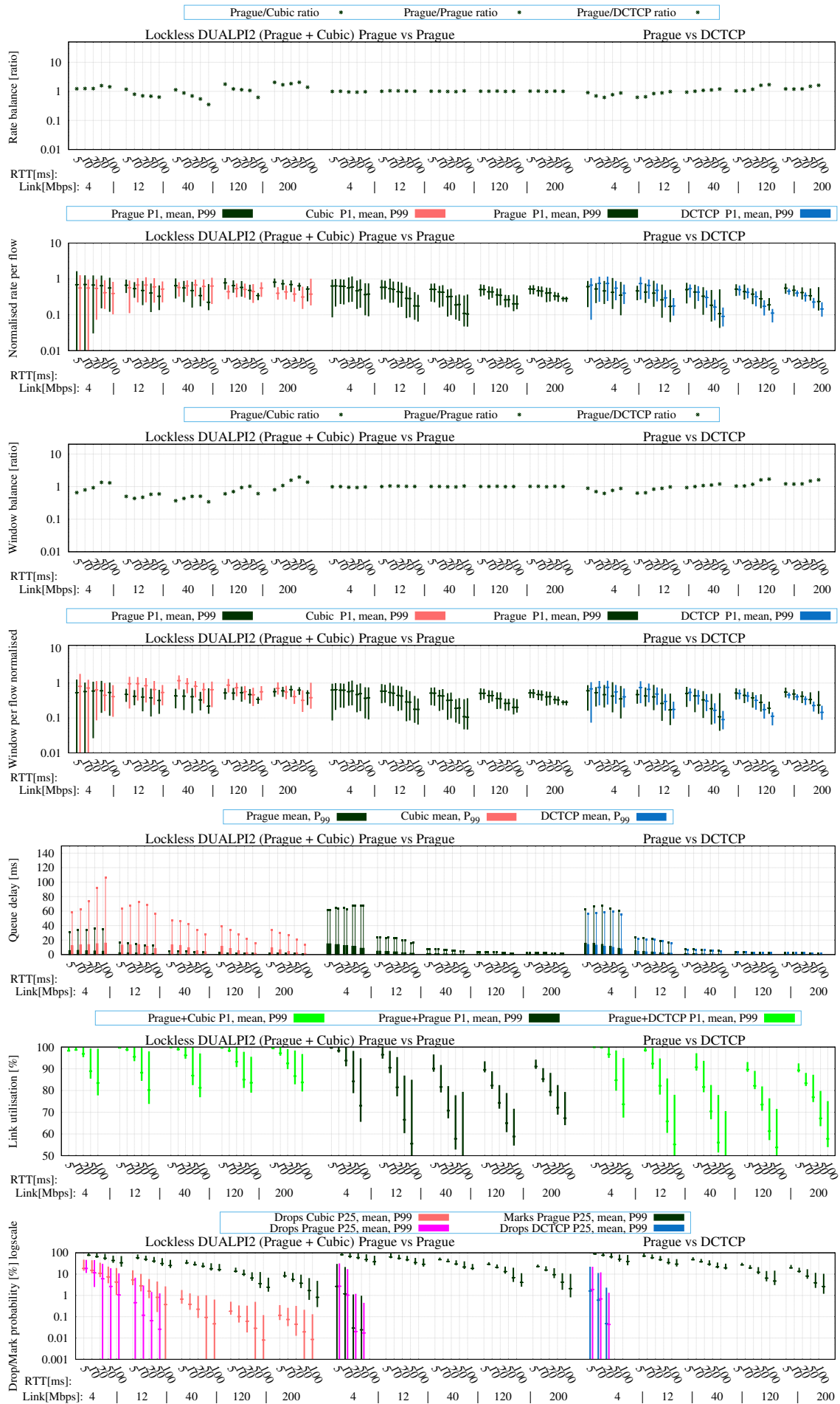


Figure A.3: Equal RTT (1h-1h)

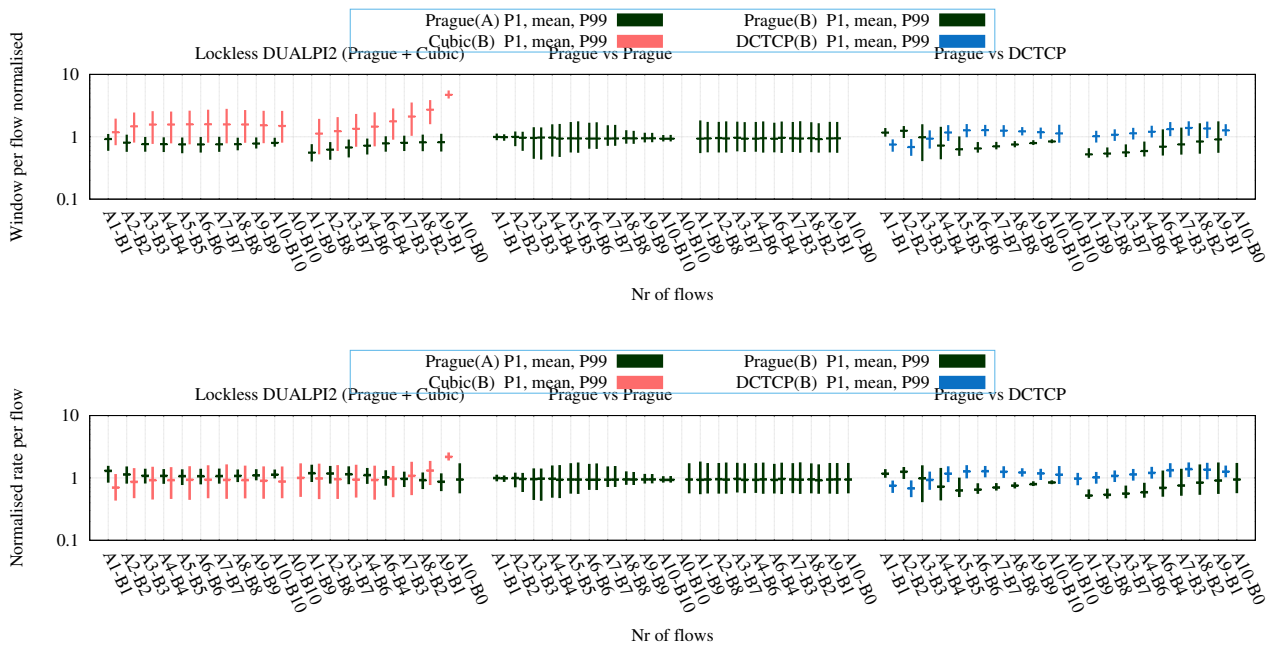


Figure A.4: Normalised rate and window size per flow. 40Mbps link capacity, 10ms RTT. Equal RTT

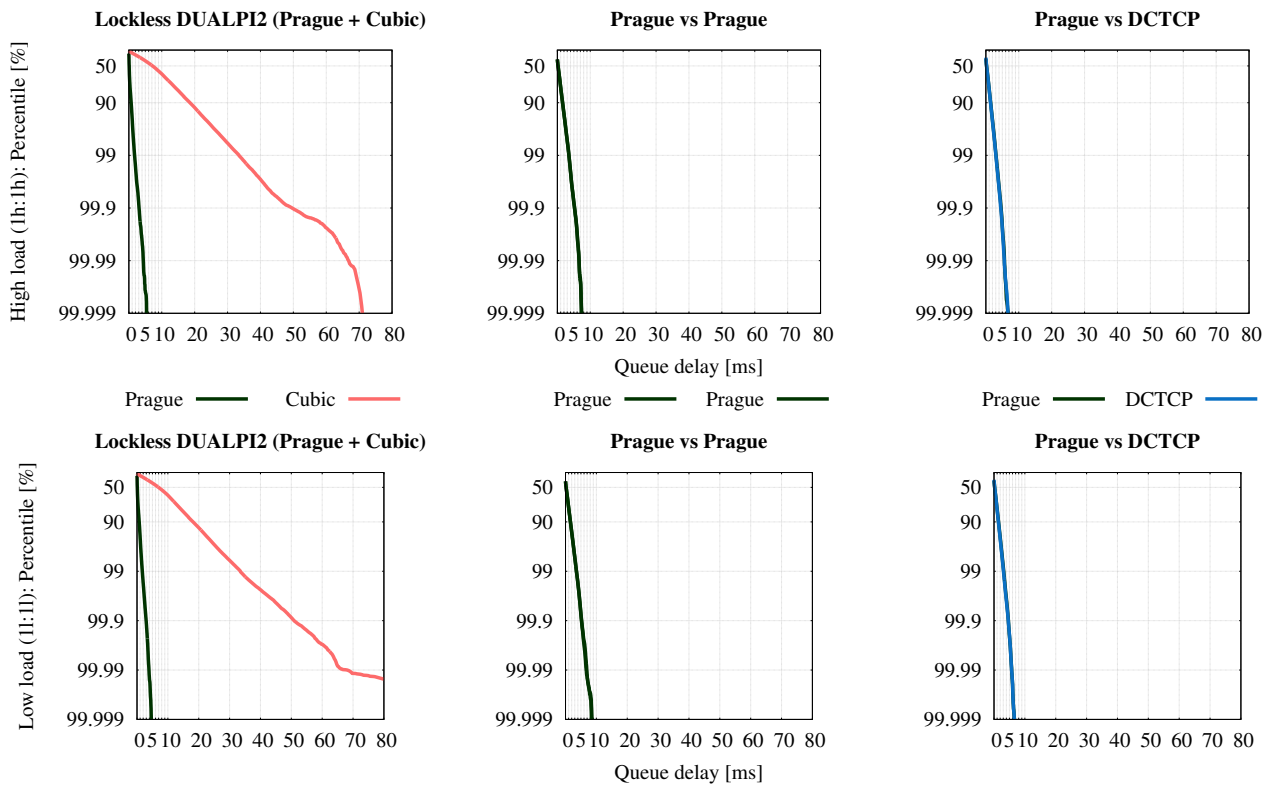


Figure A.5: Queue delay CCDF. 120Mbps link capacity, 10ms RTT. Equal RTT

# Appendix B

## Mixed RTT experiments



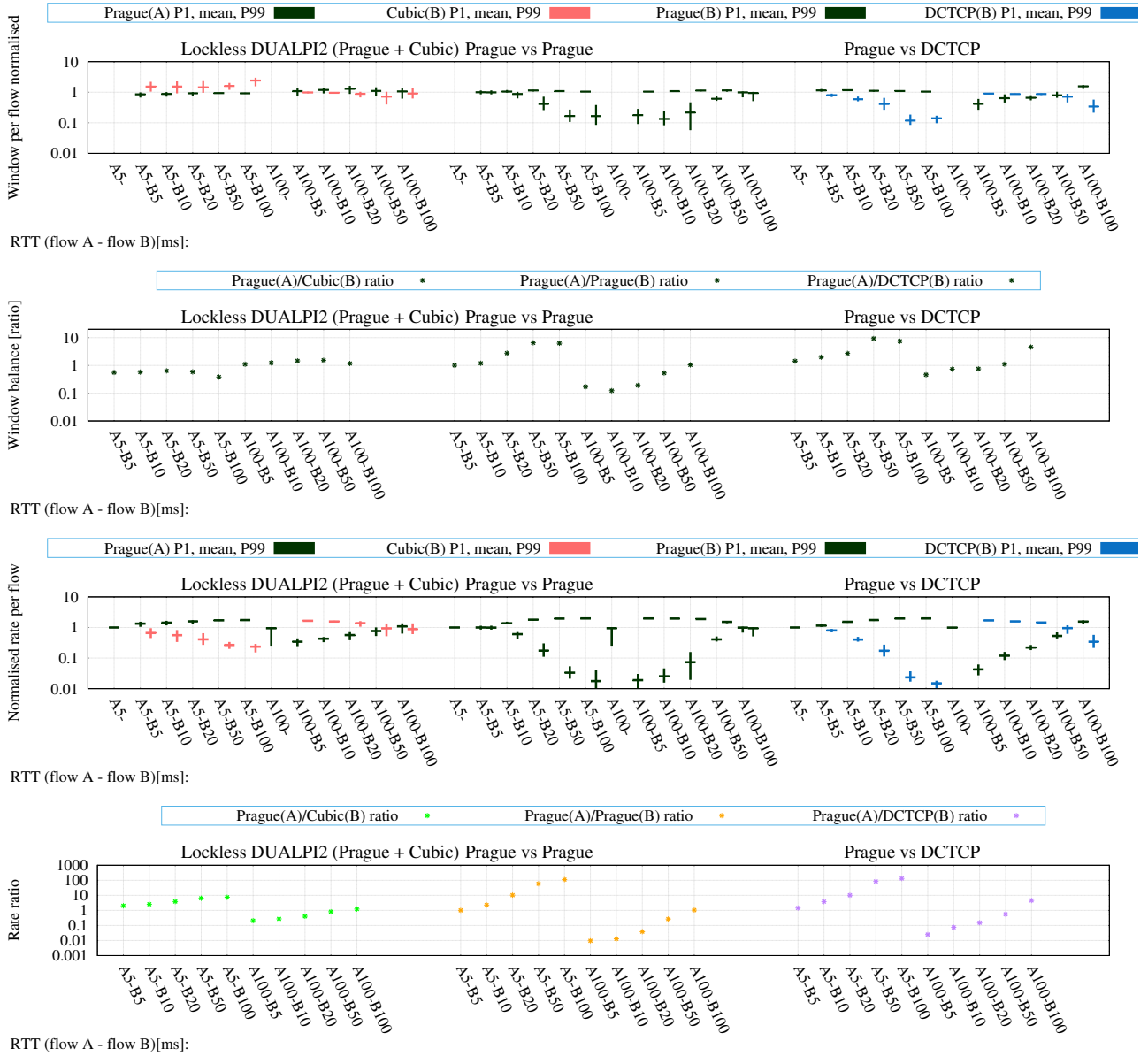


Figure B.1: 1 flow for each CC. Mixed RTT (mrtt2'link40)

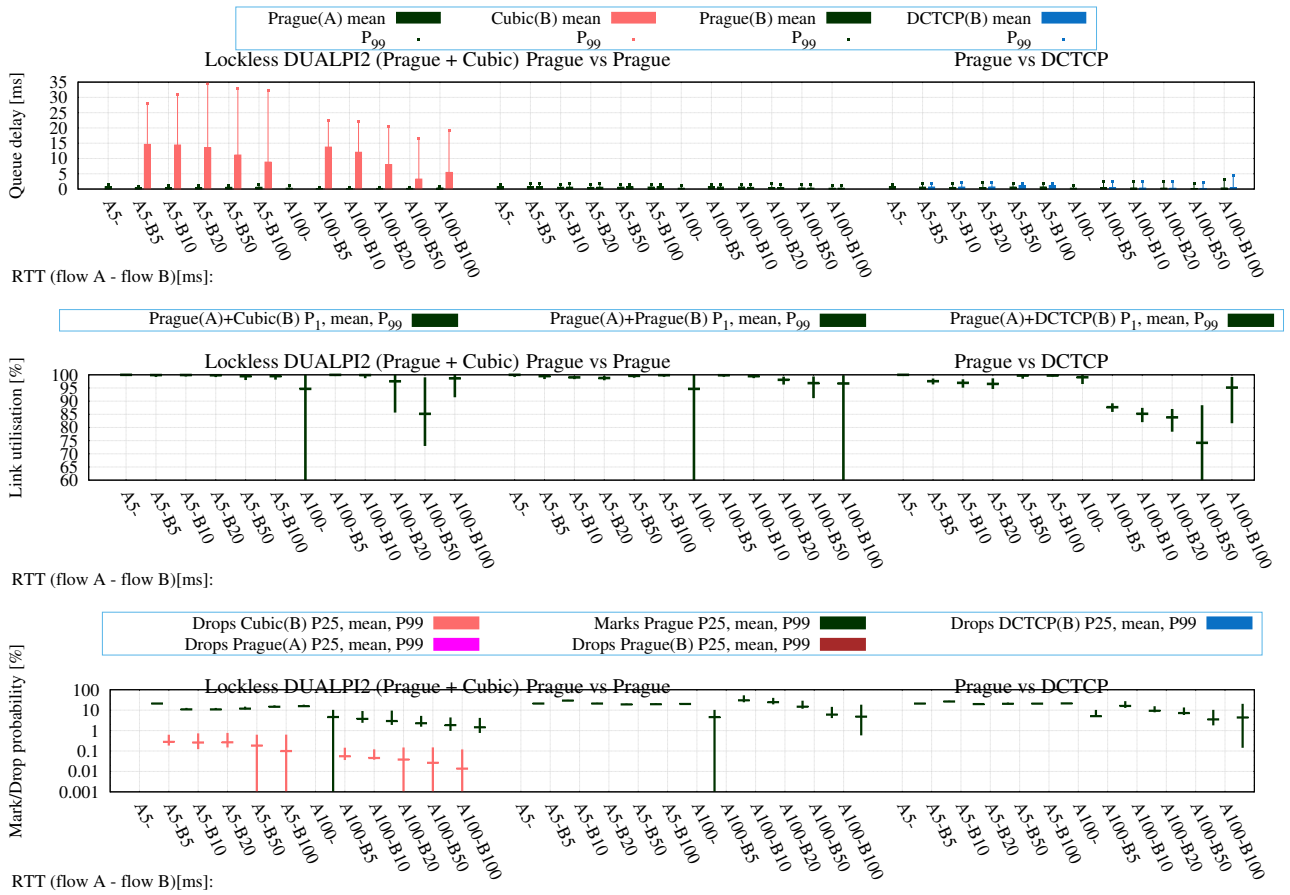


Figure B.2: 1 flow for each CC. Mixed RTT (mrtt2`link40)

# Appendix C

## Overload experiments

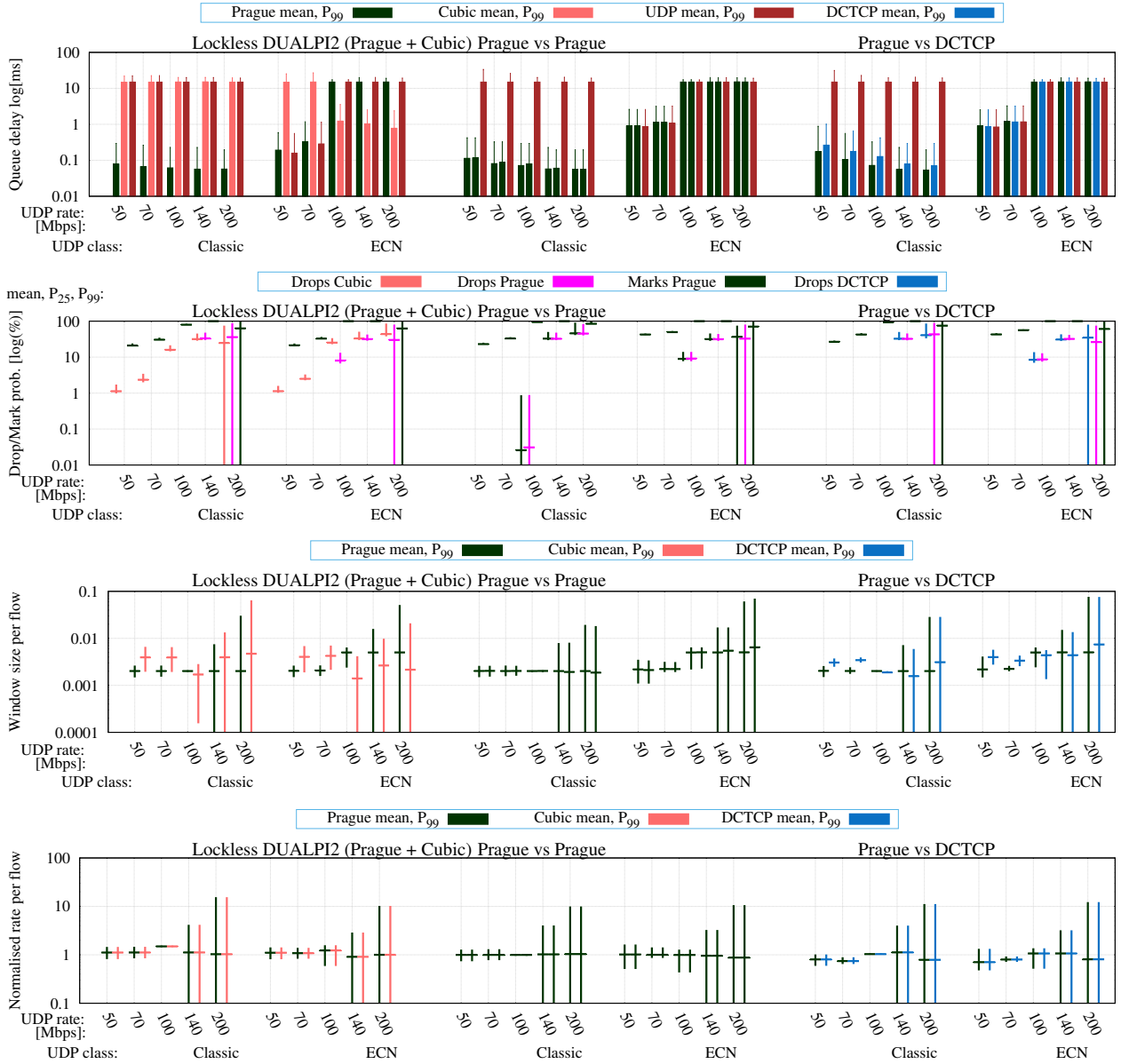


Figure C.1: Overload experiments. 1 flow for each CC