

Pantheon Report

Generated at 2019-01-21 13:18:17 (UTC).

Data path: AWS Brazil 2 on `ens5` (*local*) → Colombia on `p4p1` (*remote*).

Repeated the test of 21 congestion control schemes 5 times.

Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

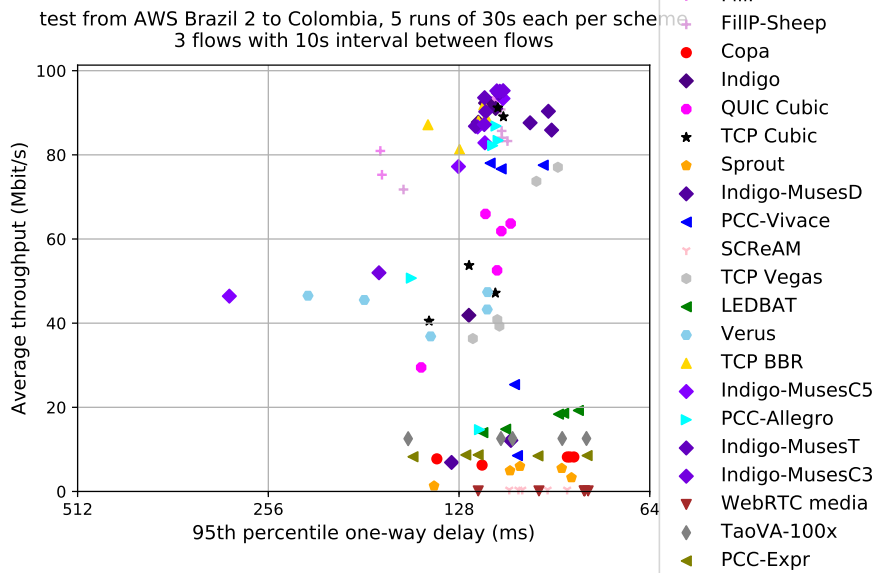
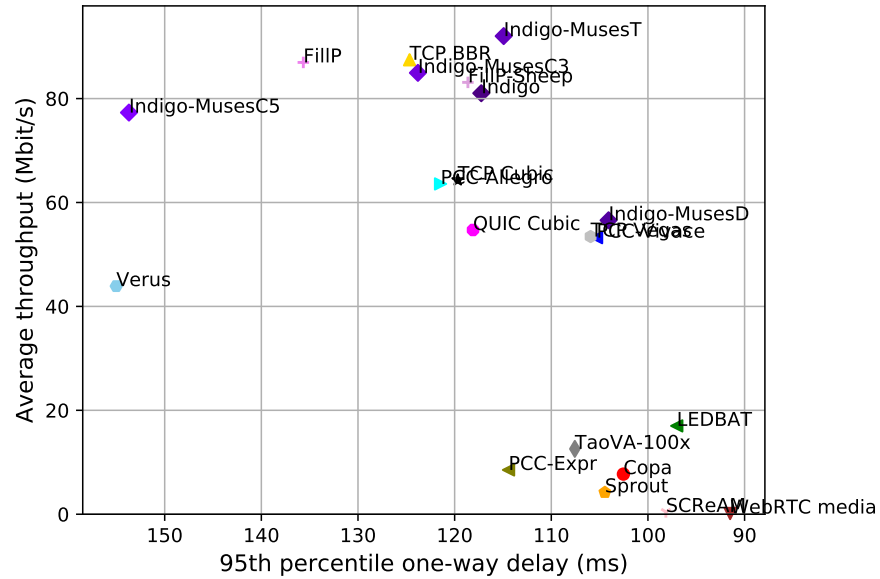
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 89d24e57783e7fbfec537a619071de937b639e38
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 1ddcff131048c6962f123bcd22b4d166a422adde
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS Brazil 2 to Colombia, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	50.82	41.19	27.98	128.86	119.76	118.82	14.14	15.91	25.67
Copa	5	0.00	8.42	6.36	87.62	108.08	99.13	98.23	50.52	63.52
TCP Cubic	5	42.01	23.30	20.47	120.41	119.36	117.50	0.59	0.81	0.50
FillP	5	57.81	31.19	25.31	135.65	142.22	132.04	17.22	29.06	26.08
FillP-Sheep	5	40.52	49.94	28.33	113.96	117.86	116.57	7.34	8.04	10.65
Indigo	5	56.97	22.49	28.56	116.42	117.09	118.44	8.97	26.32	45.72
Indigo-MusesC3	5	44.35	42.21	43.66	126.58	121.09	116.11	2.23	4.02	3.82
Indigo-MusesC5	5	58.59	25.37	7.17	157.28	124.71	127.37	7.58	5.81	3.90
Indigo-MusesD	5	49.45	8.12	6.13	104.53	104.48	105.88	0.01	0.05	0.04
Indigo-MusesT	5	68.99	22.56	27.78	115.22	111.10	114.33	5.61	5.07	8.98
LEDBAT	5	10.90	7.40	3.58	97.82	96.38	93.20	0.08	0.04	0.14
PCC-Allegro	5	48.63	14.44	16.20	120.14	115.96	123.88	3.73	3.45	5.41
PCC-Expr	5	0.01	10.21	5.24	83.48	115.26	110.65	88.03	31.24	28.83
QUIC Cubic	5	36.68	18.22	18.13	117.92	115.39	115.05	1.10	1.21	1.64
SCReAM	5	0.22	0.22	0.22	100.71	94.96	90.49	0.00	0.00	0.00
Sprout	5	2.11	2.28	1.80	104.03	104.98	101.50	0.00	0.00	0.00
TaoVA-100x	5	8.27	4.72	3.50	109.65	106.56	98.38	27.87	32.48	39.95
TCP Vegas	5	34.36	18.53	20.26	107.03	103.94	106.59	1.36	0.91	0.85
Verus	5	19.75	28.75	16.24	143.32	161.89	150.06	28.31	38.75	51.64
PCC-Vivace	5	42.03	10.87	12.02	104.07	104.43	105.66	0.43	0.40	0.46
WebRTC media	5	0.05	0.04	0.04	92.23	90.65	90.52	0.00	0.01	0.01

Run 1: Statistics of TCP BBR

Start at: 2019-01-21 11:03:58

End at: 2019-01-21 11:04:28

Local clock offset: -7.149 ms

Remote clock offset: 8.73 ms

Below is generated by plot.py at 2019-01-21 13:10:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.86 Mbit/s

95th percentile per-packet one-way delay: 116.955 ms

Loss rate: 17.70%

-- Flow 1:

Average throughput: 55.57 Mbit/s

95th percentile per-packet one-way delay: 116.126 ms

Loss rate: 12.77%

-- Flow 2:

Average throughput: 37.49 Mbit/s

95th percentile per-packet one-way delay: 117.063 ms

Loss rate: 17.87%

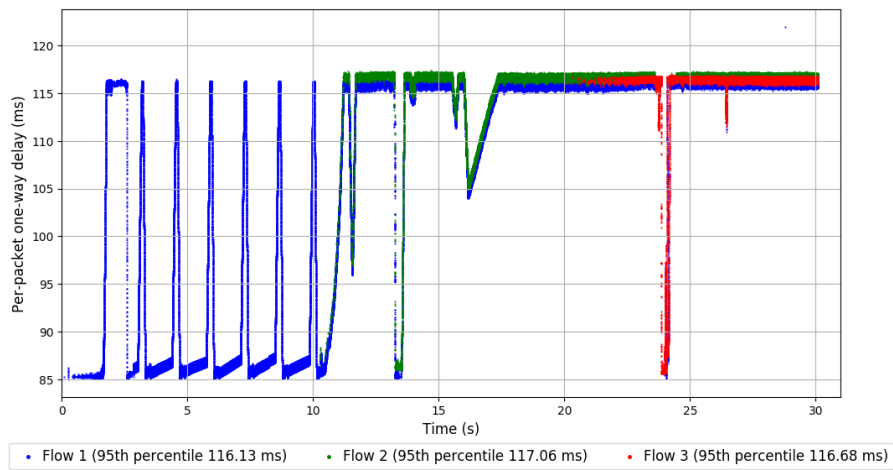
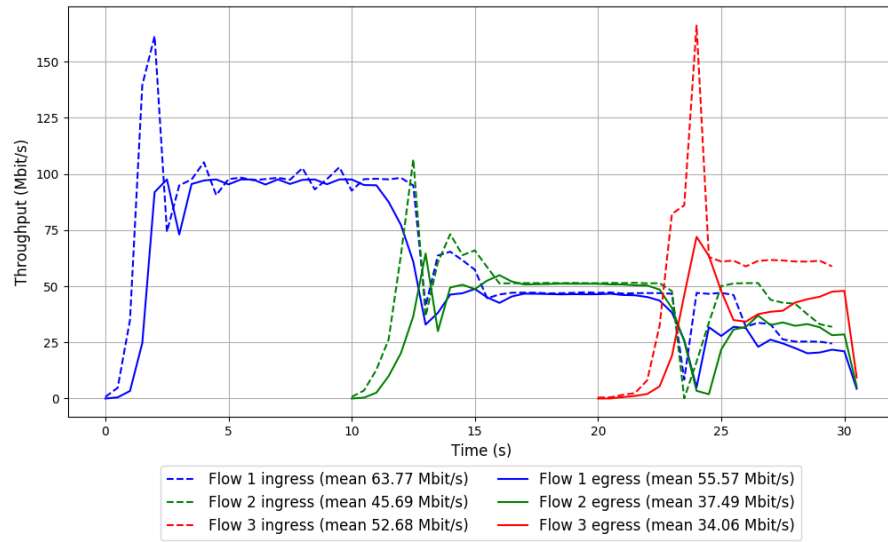
-- Flow 3:

Average throughput: 34.06 Mbit/s

95th percentile per-packet one-way delay: 116.682 ms

Loss rate: 35.35%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-01-21 11:30:28

End at: 2019-01-21 11:30:58

Local clock offset: -6.851 ms

Remote clock offset: 4.977 ms

Below is generated by plot.py at 2019-01-21 13:10:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.00 Mbit/s

95th percentile per-packet one-way delay: 119.277 ms

Loss rate: 13.50%

-- Flow 1:

Average throughput: 51.08 Mbit/s

95th percentile per-packet one-way delay: 118.463 ms

Loss rate: 13.93%

-- Flow 2:

Average throughput: 48.80 Mbit/s

95th percentile per-packet one-way delay: 119.147 ms

Loss rate: 11.78%

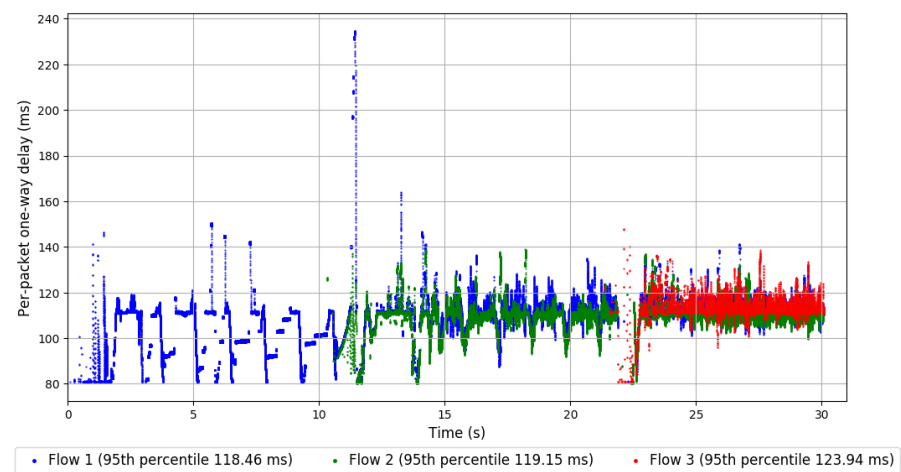
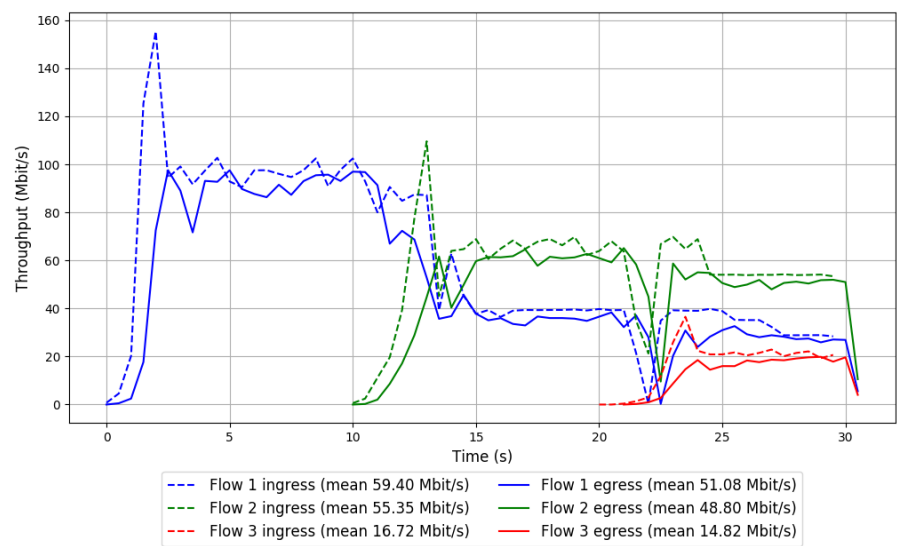
-- Flow 3:

Average throughput: 14.82 Mbit/s

95th percentile per-packet one-way delay: 123.942 ms

Loss rate: 20.34%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-01-21 11:56:51

End at: 2019-01-21 11:57:21

Local clock offset: -11.53 ms

Remote clock offset: 4.279 ms

Below is generated by plot.py at 2019-01-21 13:10:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.27 Mbit/s

95th percentile per-packet one-way delay: 127.764 ms

Loss rate: 16.29%

-- Flow 1:

Average throughput: 43.31 Mbit/s

95th percentile per-packet one-way delay: 135.922 ms

Loss rate: 15.16%

-- Flow 2:

Average throughput: 41.13 Mbit/s

95th percentile per-packet one-way delay: 115.473 ms

Loss rate: 13.46%

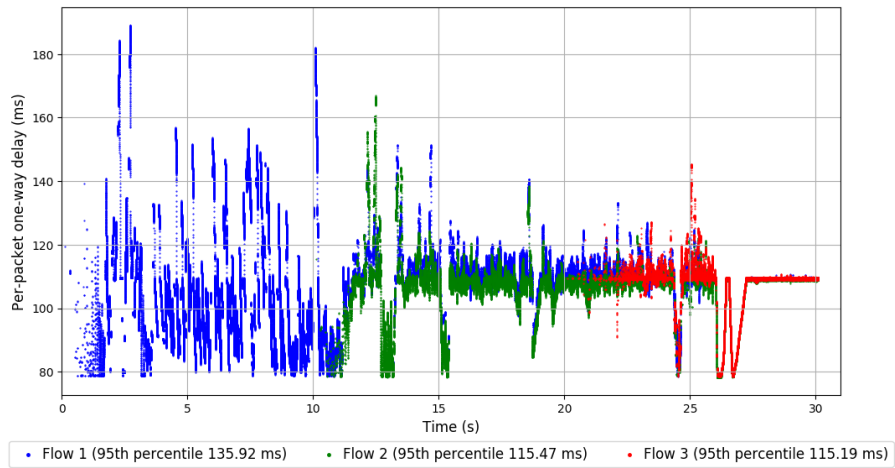
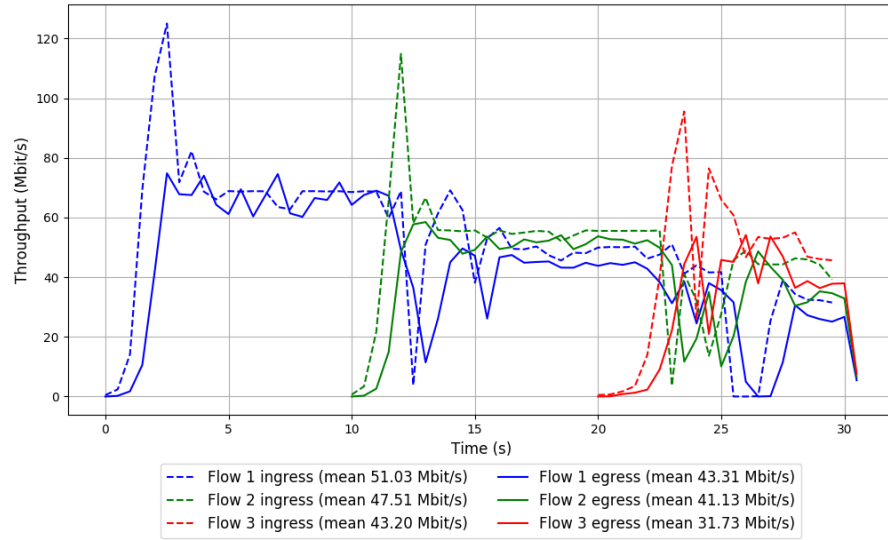
-- Flow 3:

Average throughput: 31.73 Mbit/s

95th percentile per-packet one-way delay: 115.194 ms

Loss rate: 26.56%

Run 3: Report of TCP BBR — Data Link

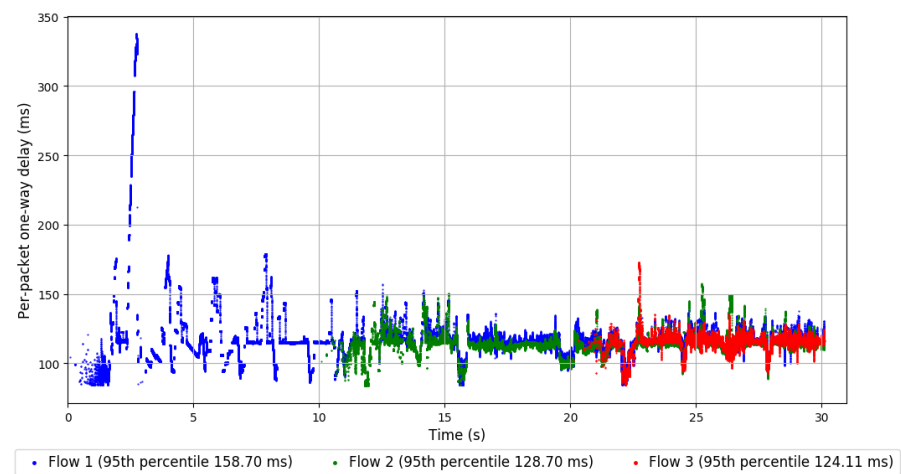
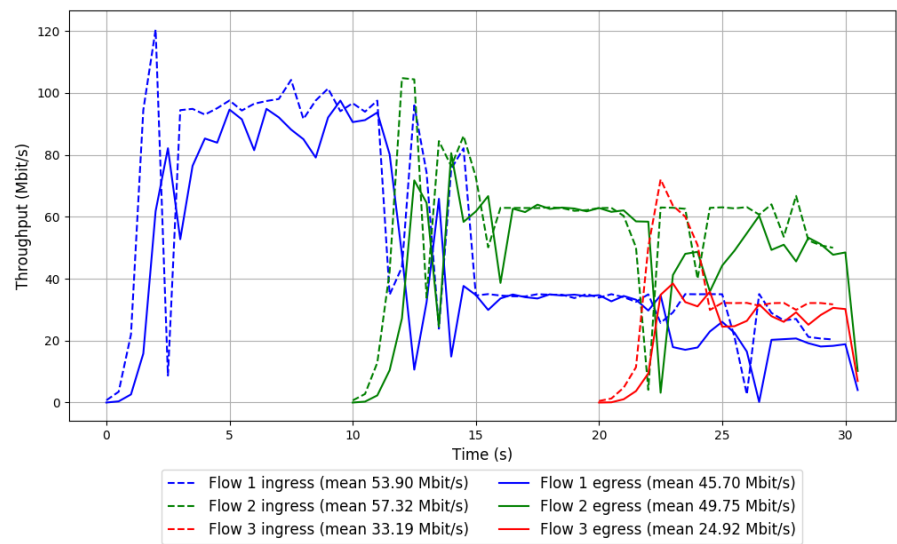


Run 4: Statistics of TCP BBR

Start at: 2019-01-21 12:23:16
End at: 2019-01-21 12:23:46
Local clock offset: -10.157 ms
Remote clock offset: 9.13 ms

Below is generated by plot.py at 2019-01-21 13:10:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.16 Mbit/s
95th percentile per-packet one-way delay: 143.300 ms
Loss rate: 15.46%
-- Flow 1:
Average throughput: 45.70 Mbit/s
95th percentile per-packet one-way delay: 158.698 ms
Loss rate: 15.19%
-- Flow 2:
Average throughput: 49.75 Mbit/s
95th percentile per-packet one-way delay: 128.699 ms
Loss rate: 13.15%
-- Flow 3:
Average throughput: 24.92 Mbit/s
95th percentile per-packet one-way delay: 124.114 ms
Loss rate: 24.81%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-01-21 12:49:52

End at: 2019-01-21 12:50:22

Local clock offset: -6.309 ms

Remote clock offset: 2.933 ms

Below is generated by plot.py at 2019-01-21 13:10:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.04 Mbit/s

95th percentile per-packet one-way delay: 116.021 ms

Loss rate: 16.93%

-- Flow 1:

Average throughput: 58.46 Mbit/s

95th percentile per-packet one-way delay: 115.103 ms

Loss rate: 13.67%

-- Flow 2:

Average throughput: 28.76 Mbit/s

95th percentile per-packet one-way delay: 118.435 ms

Loss rate: 23.28%

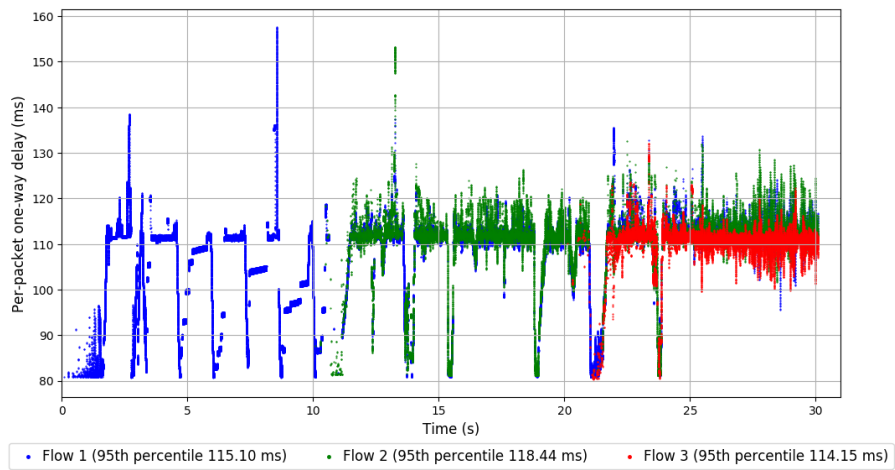
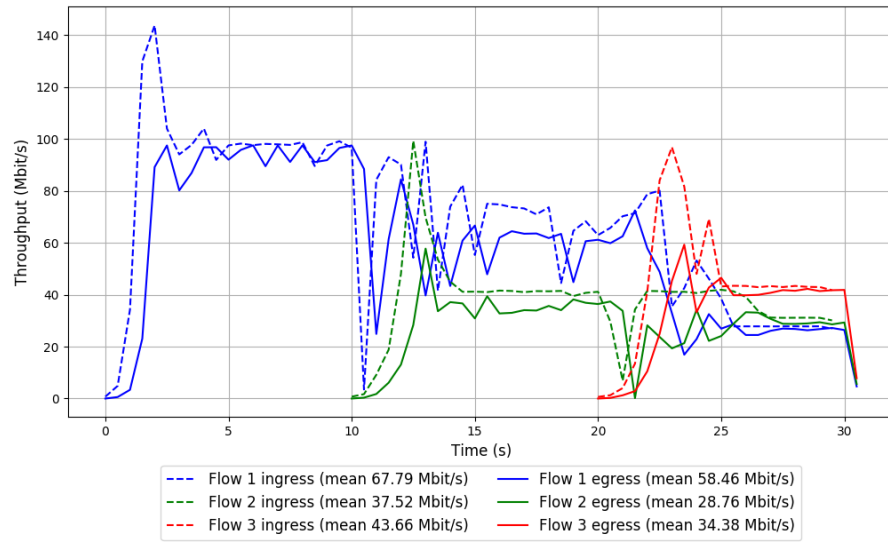
-- Flow 3:

Average throughput: 34.38 Mbit/s

95th percentile per-packet one-way delay: 114.151 ms

Loss rate: 21.27%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-01-21 11:14:09

End at: 2019-01-21 11:14:39

Local clock offset: -7.265 ms

Remote clock offset: 9.017 ms

Below is generated by plot.py at 2019-01-21 13:10:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.20 Mbit/s

95th percentile per-packet one-way delay: 86.340 ms

Loss rate: 75.59%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 84.974 ms

Loss rate: 98.33%

-- Flow 2:

Average throughput: 9.95 Mbit/s

95th percentile per-packet one-way delay: 86.436 ms

Loss rate: 74.50%

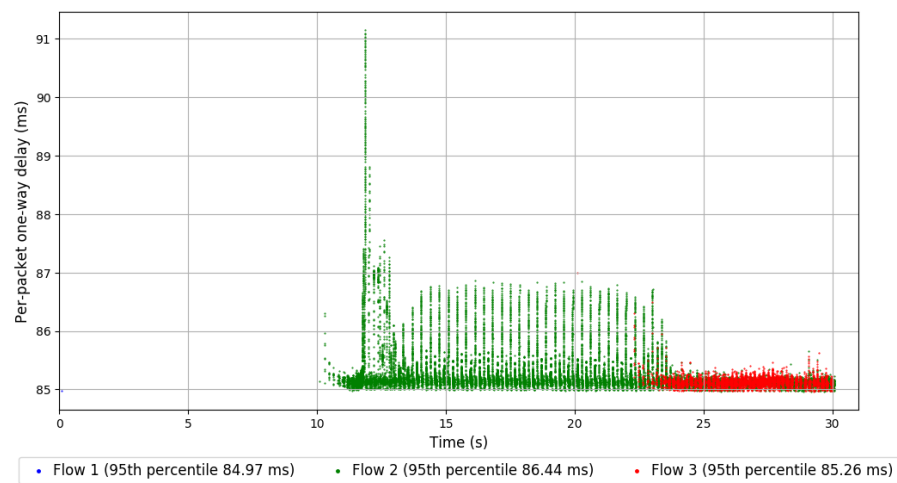
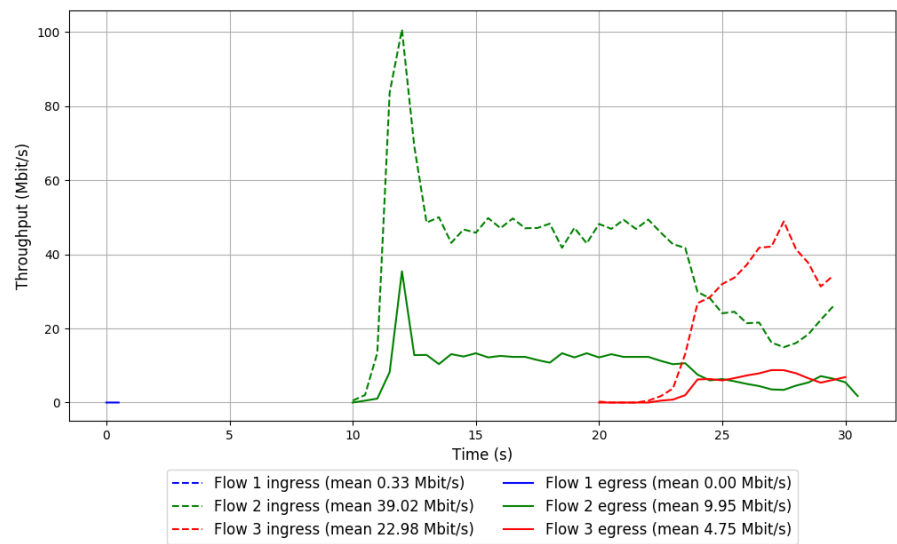
-- Flow 3:

Average throughput: 4.75 Mbit/s

95th percentile per-packet one-way delay: 85.260 ms

Loss rate: 79.35%

Run 1: Report of Copa — Data Link

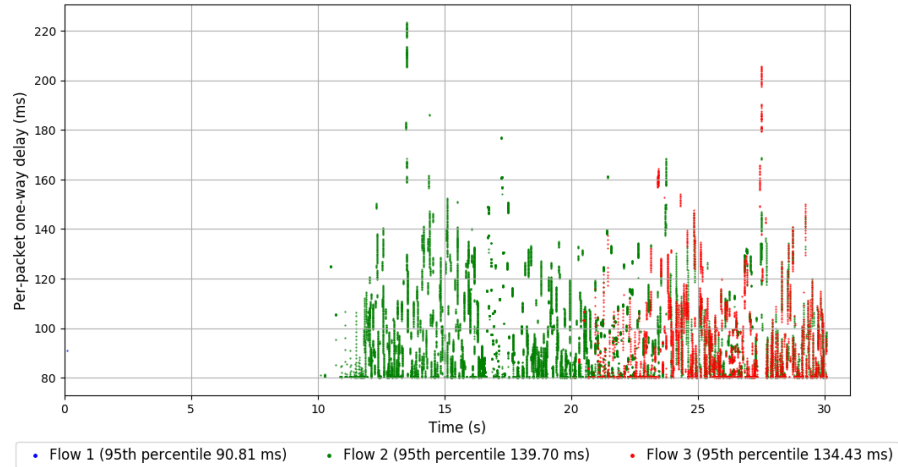
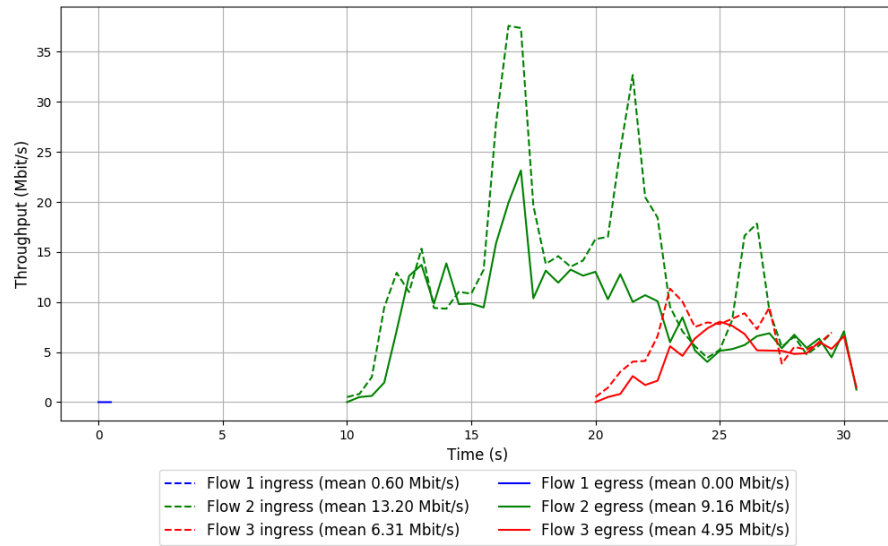


Run 2: Statistics of Copa

Start at: 2019-01-21 11:40:37
End at: 2019-01-21 11:41:08
Local clock offset: -6.789 ms
Remote clock offset: 5.215 ms

Below is generated by plot.py at 2019-01-21 13:10:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 138.749 ms
Loss rate: 28.82%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 90.809 ms
Loss rate: 99.16%
-- Flow 2:
Average throughput: 9.16 Mbit/s
95th percentile per-packet one-way delay: 139.701 ms
Loss rate: 30.53%
-- Flow 3:
Average throughput: 4.95 Mbit/s
95th percentile per-packet one-way delay: 134.434 ms
Loss rate: 21.50%

Run 2: Report of Copa — Data Link

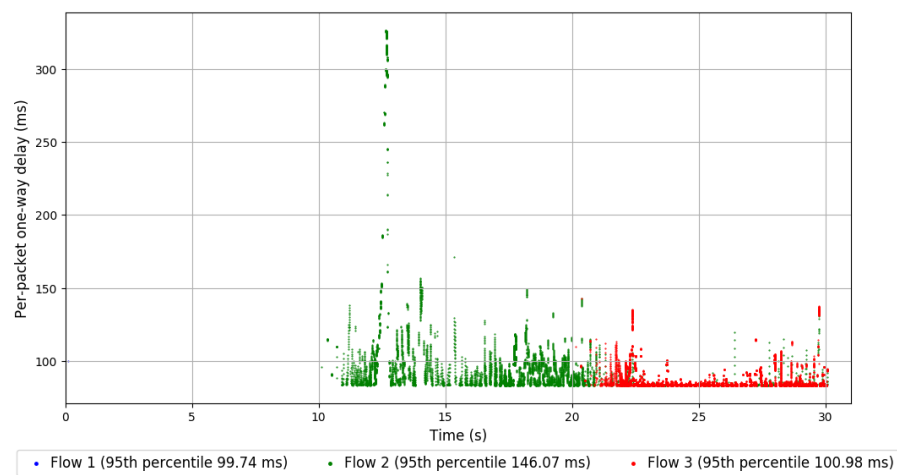
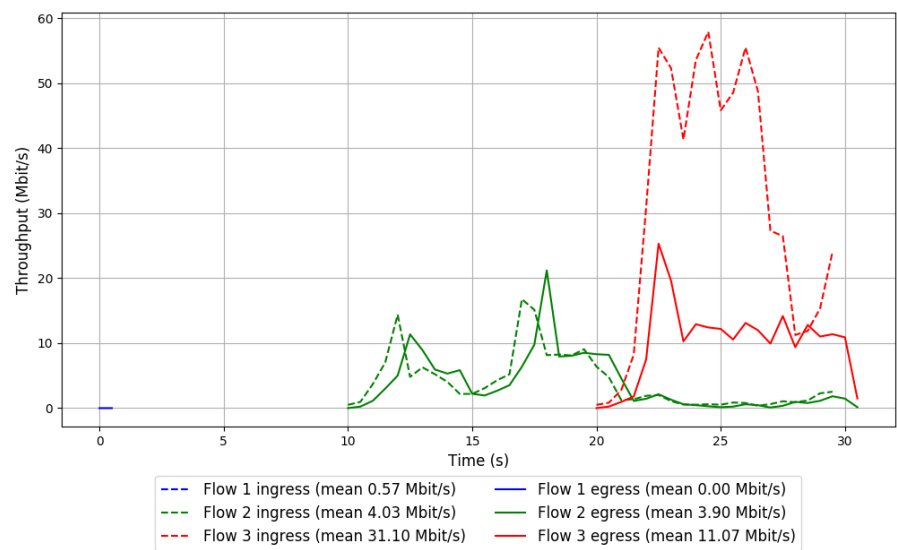


Run 3: Statistics of Copa

Start at: 2019-01-21 12:06:59
End at: 2019-01-21 12:07:29
Local clock offset: -13.374 ms
Remote clock offset: 9.379 ms

Below is generated by plot.py at 2019-01-21 13:10:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 117.723 ms
Loss rate: 51.85%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 99.737 ms
Loss rate: 99.16%
-- Flow 2:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 146.070 ms
Loss rate: 3.32%
-- Flow 3:
Average throughput: 11.07 Mbit/s
95th percentile per-packet one-way delay: 100.977 ms
Loss rate: 64.45%

Run 3: Report of Copa — Data Link

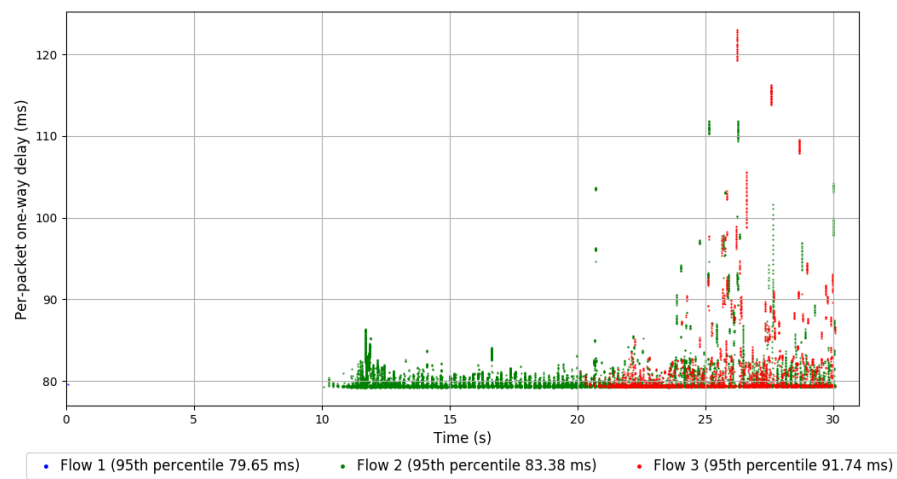
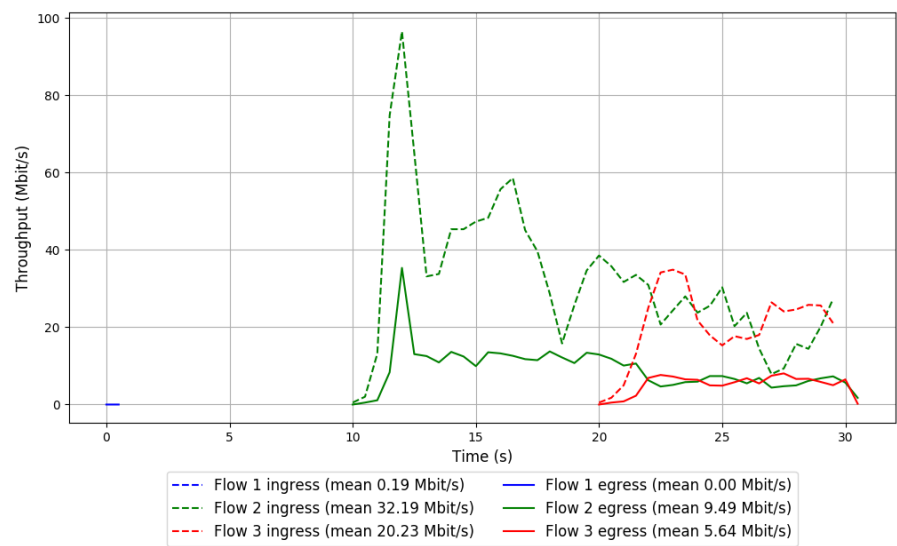


Run 4: Statistics of Copa

Start at: 2019-01-21 12:33:30
End at: 2019-01-21 12:34:00
Local clock offset: -7.415 ms
Remote clock offset: 2.619 ms

Below is generated by plot.py at 2019-01-21 13:10:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 85.547 ms
Loss rate: 70.90%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 79.648 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 83.379 ms
Loss rate: 70.52%
-- Flow 3:
Average throughput: 5.64 Mbit/s
95th percentile per-packet one-way delay: 91.743 ms
Loss rate: 72.09%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-01-21 13:00:03

End at: 2019-01-21 13:00:33

Local clock offset: -6.343 ms

Remote clock offset: 6.057 ms

Below is generated by plot.py at 2019-01-21 13:10:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.20 Mbit/s

95th percentile per-packet one-way delay: 84.334 ms

Loss rate: 75.47%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 82.914 ms

Loss rate: 97.24%

-- Flow 2:

Average throughput: 9.61 Mbit/s

95th percentile per-packet one-way delay: 84.819 ms

Loss rate: 73.71%

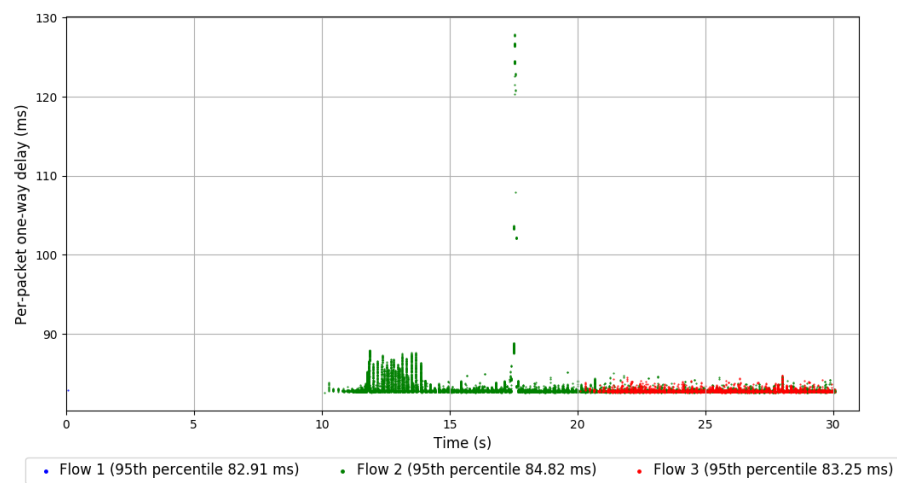
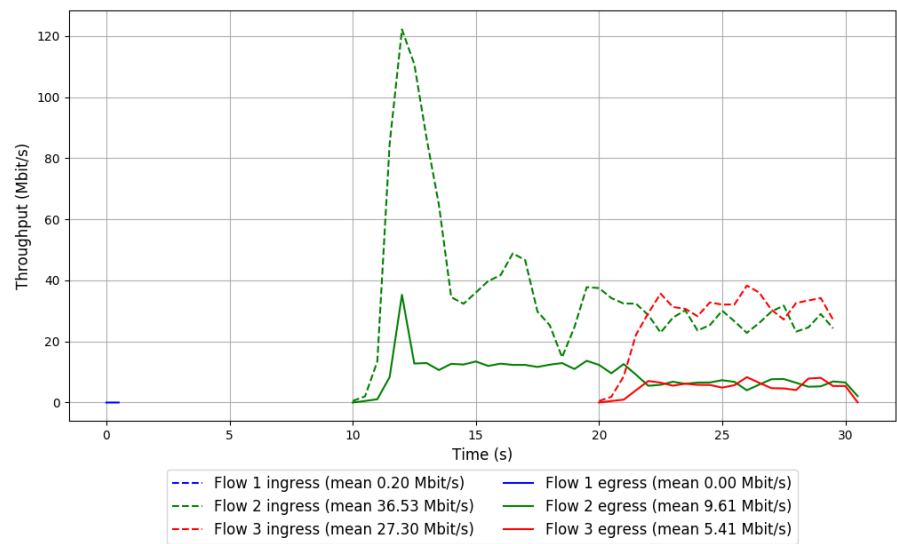
-- Flow 3:

Average throughput: 5.41 Mbit/s

95th percentile per-packet one-way delay: 83.247 ms

Loss rate: 80.20%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-01-21 11:19:08

End at: 2019-01-21 11:19:38

Local clock offset: -7.105 ms

Remote clock offset: 4.46 ms

Below is generated by plot.py at 2019-01-21 13:10:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 47.16 Mbit/s

95th percentile per-packet one-way delay: 112.162 ms

Loss rate: 1.82%

-- Flow 1:

Average throughput: 11.78 Mbit/s

95th percentile per-packet one-way delay: 114.809 ms

Loss rate: 0.85%

-- Flow 2:

Average throughput: 33.19 Mbit/s

95th percentile per-packet one-way delay: 112.242 ms

Loss rate: 2.69%

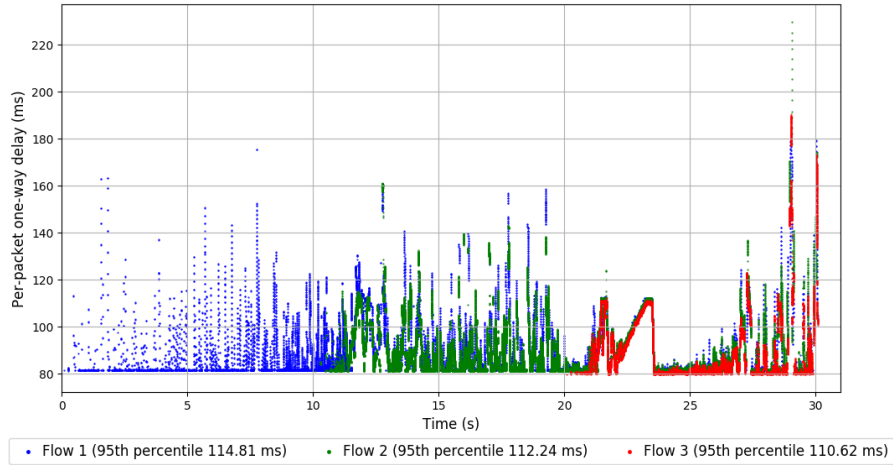
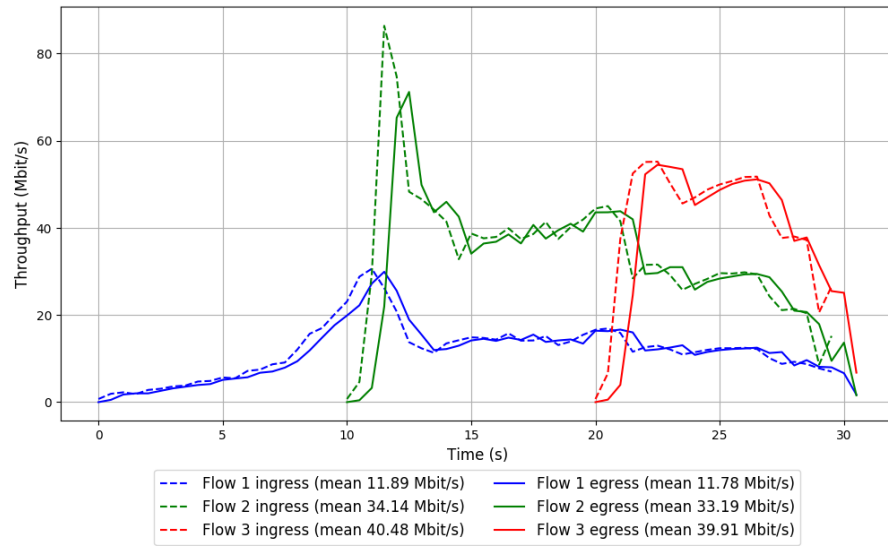
-- Flow 3:

Average throughput: 39.91 Mbit/s

95th percentile per-packet one-way delay: 110.617 ms

Loss rate: 1.22%

Run 1: Report of TCP Cubic — Data Link

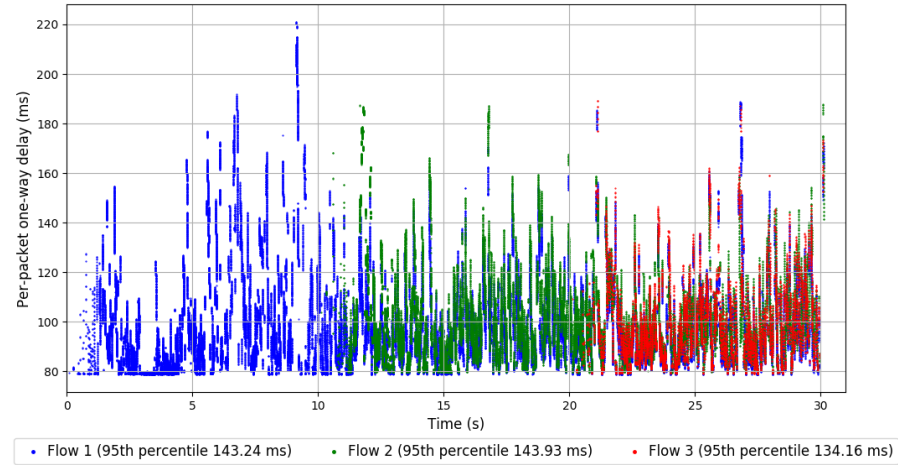
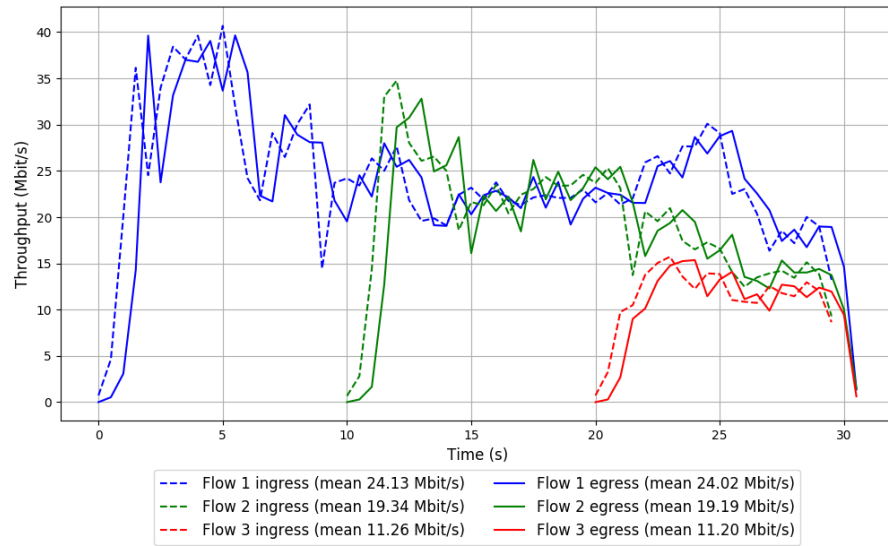


Run 2: Statistics of TCP Cubic

Start at: 2019-01-21 11:45:35
End at: 2019-01-21 11:46:05
Local clock offset: -6.749 ms
Remote clock offset: 4.303 ms

Below is generated by plot.py at 2019-01-21 13:10:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 40.51 Mbit/s
95th percentile per-packet one-way delay: 142.726 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 24.02 Mbit/s
95th percentile per-packet one-way delay: 143.242 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 19.19 Mbit/s
95th percentile per-packet one-way delay: 143.929 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 11.20 Mbit/s
95th percentile per-packet one-way delay: 134.160 ms
Loss rate: 0.60%

Run 2: Report of TCP Cubic — Data Link

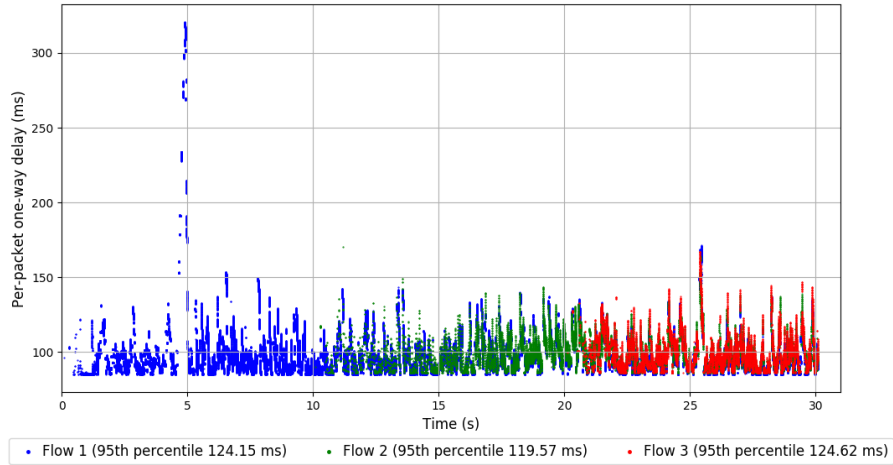
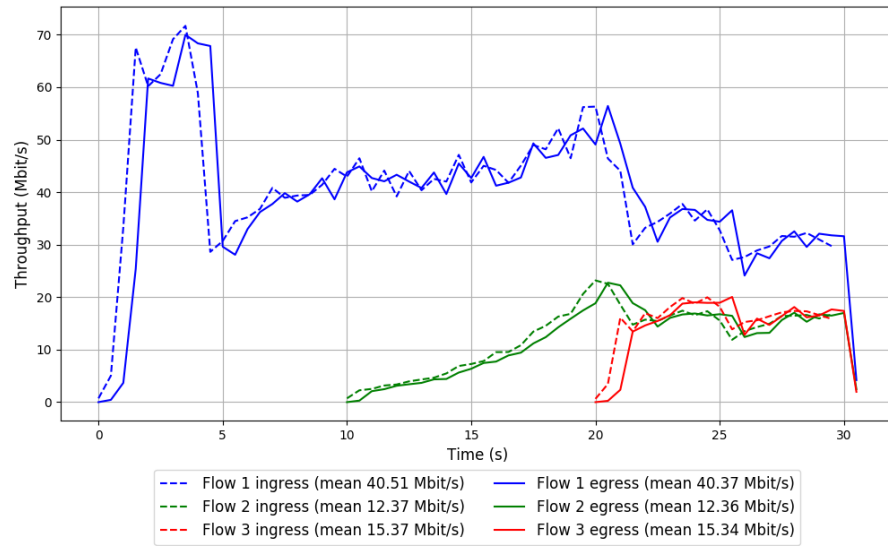


Run 3: Statistics of TCP Cubic

Start at: 2019-01-21 12:11:55
End at: 2019-01-21 12:12:25
Local clock offset: -14.165 ms
Remote clock offset: 10.957 ms

Below is generated by plot.py at 2019-01-21 13:10:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 53.71 Mbit/s
95th percentile per-packet one-way delay: 123.417 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: 124.146 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 12.36 Mbit/s
95th percentile per-packet one-way delay: 119.567 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 15.34 Mbit/s
95th percentile per-packet one-way delay: 124.616 ms
Loss rate: 0.27%

Run 3: Report of TCP Cubic — Data Link

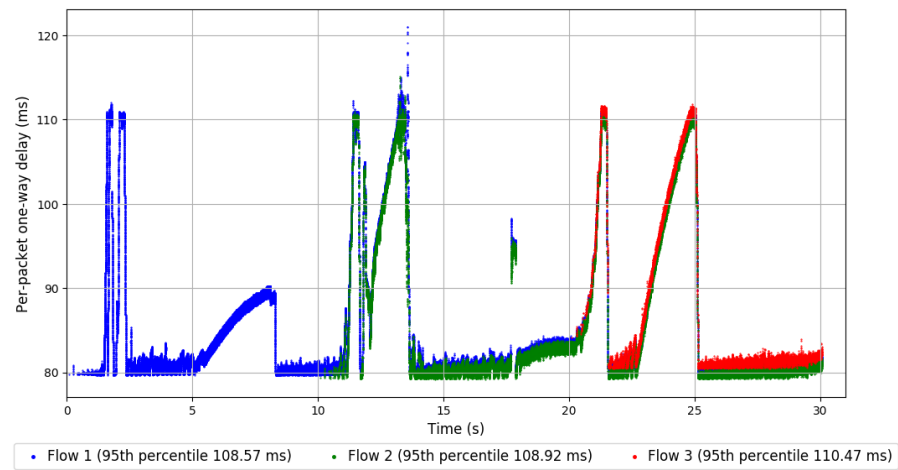
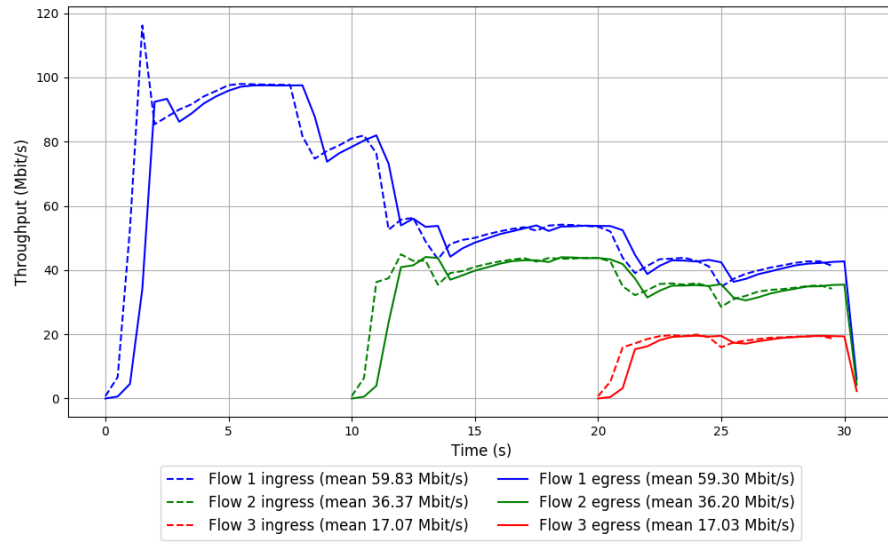


Run 4: Statistics of TCP Cubic

Start at: 2019-01-21 12:38:30
End at: 2019-01-21 12:39:00
Local clock offset: -6.795 ms
Remote clock offset: 2.299 ms

Below is generated by plot.py at 2019-01-21 13:11:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.07 Mbit/s
95th percentile per-packet one-way delay: 108.935 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 59.30 Mbit/s
95th percentile per-packet one-way delay: 108.566 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 36.20 Mbit/s
95th percentile per-packet one-way delay: 108.915 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 17.03 Mbit/s
95th percentile per-packet one-way delay: 110.469 ms
Loss rate: 0.27%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-01-21 13:05:04

End at: 2019-01-21 13:05:34

Local clock offset: -6.267 ms

Remote clock offset: 7.899 ms

Below is generated by plot.py at 2019-01-21 13:11:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.19 Mbit/s

95th percentile per-packet one-way delay: 111.166 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 74.56 Mbit/s

95th percentile per-packet one-way delay: 111.262 ms

Loss rate: 0.64%

-- Flow 2:

Average throughput: 15.54 Mbit/s

95th percentile per-packet one-way delay: 112.165 ms

Loss rate: 0.10%

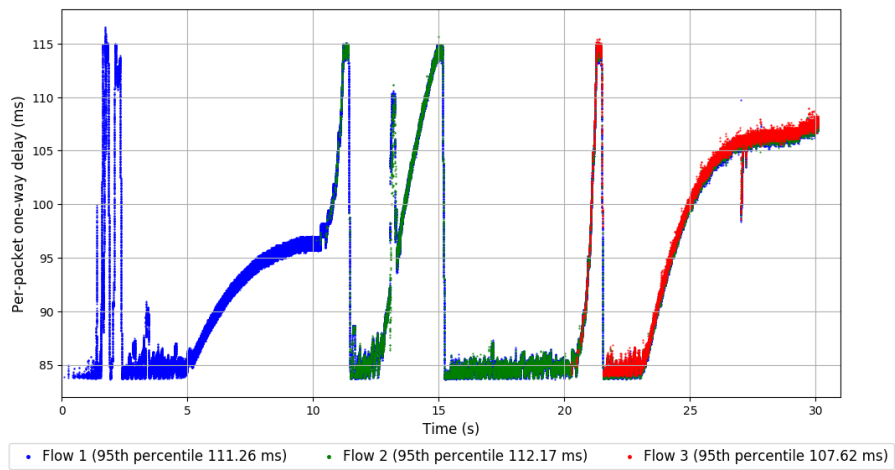
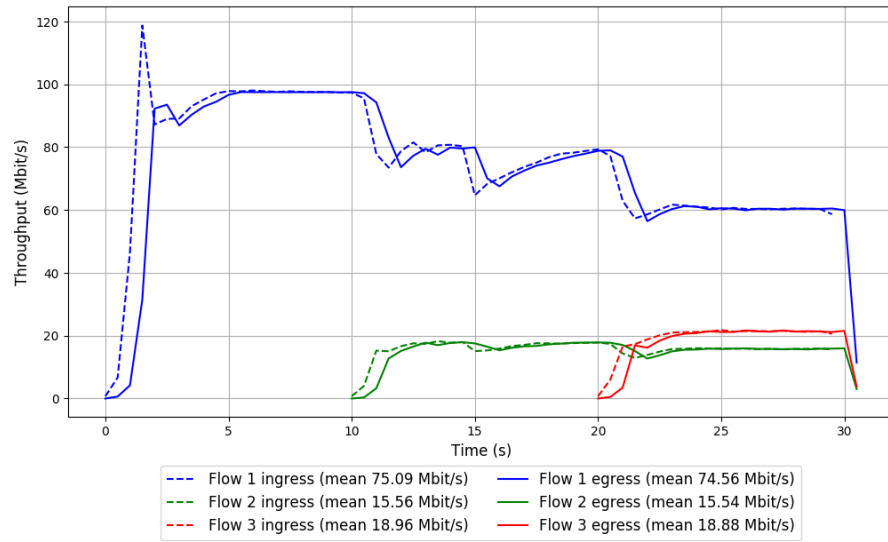
-- Flow 3:

Average throughput: 18.88 Mbit/s

95th percentile per-packet one-way delay: 107.623 ms

Loss rate: 0.14%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-01-21 11:10:23

End at: 2019-01-21 11:10:53

Local clock offset: -7.191 ms

Remote clock offset: 8.845 ms

Below is generated by plot.py at 2019-01-21 13:11:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.83 Mbit/s

95th percentile per-packet one-way delay: 113.555 ms

Loss rate: 20.29%

-- Flow 1:

Average throughput: 61.33 Mbit/s

95th percentile per-packet one-way delay: 113.532 ms

Loss rate: 15.57%

-- Flow 2:

Average throughput: 36.76 Mbit/s

95th percentile per-packet one-way delay: 113.714 ms

Loss rate: 28.91%

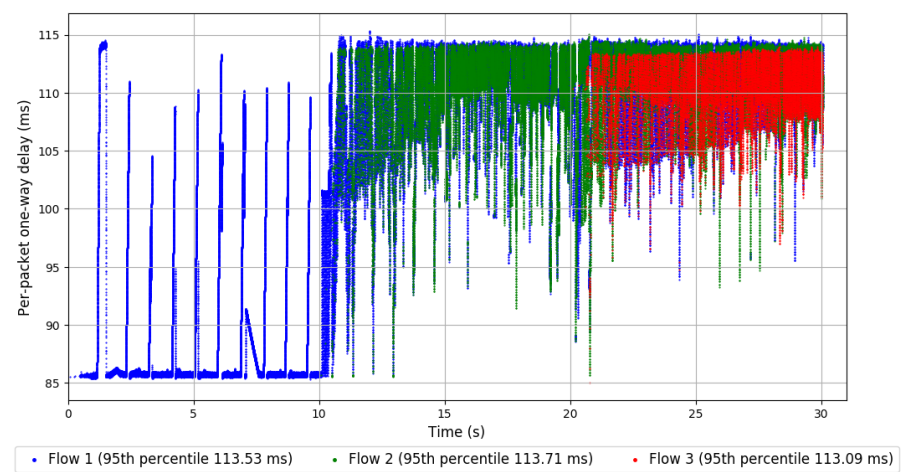
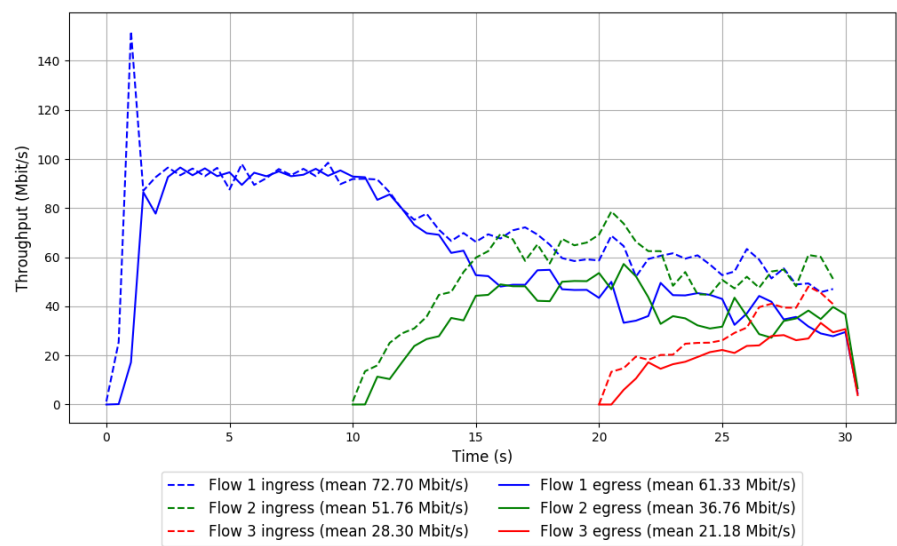
-- Flow 3:

Average throughput: 21.18 Mbit/s

95th percentile per-packet one-way delay: 113.090 ms

Loss rate: 25.20%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-01-21 11:36:50

End at: 2019-01-21 11:37:20

Local clock offset: -6.762 ms

Remote clock offset: 8.901 ms

Below is generated by plot.py at 2019-01-21 13:11:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 75.27 Mbit/s

95th percentile per-packet one-way delay: 169.379 ms

Loss rate: 25.66%

-- Flow 1:

Average throughput: 53.45 Mbit/s

95th percentile per-packet one-way delay: 160.271 ms

Loss rate: 21.98%

-- Flow 2:

Average throughput: 16.03 Mbit/s

95th percentile per-packet one-way delay: 213.028 ms

Loss rate: 35.82%

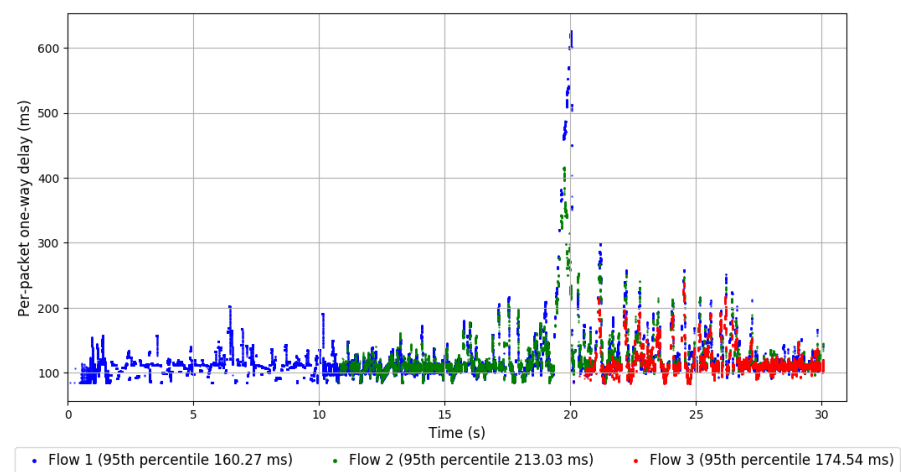
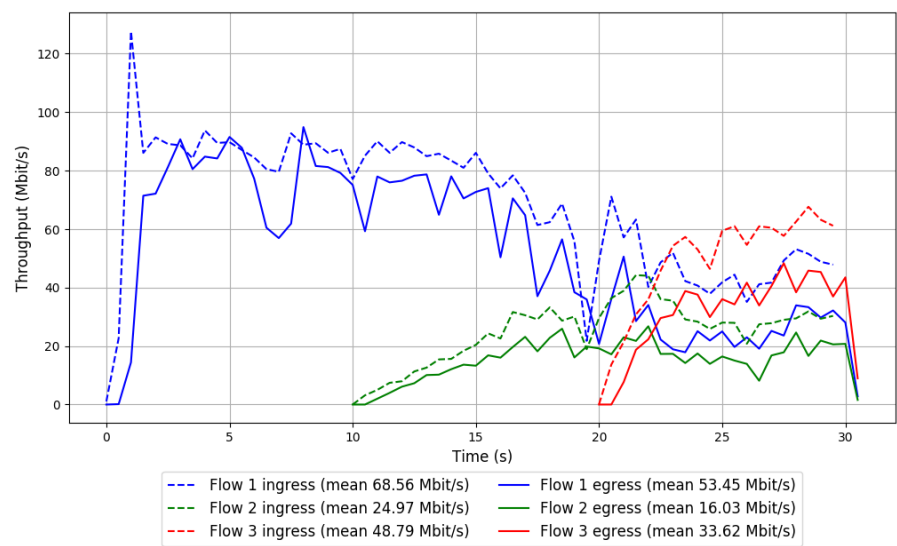
-- Flow 3:

Average throughput: 33.62 Mbit/s

95th percentile per-packet one-way delay: 174.538 ms

Loss rate: 30.87%

Run 2: Report of FillP — Data Link

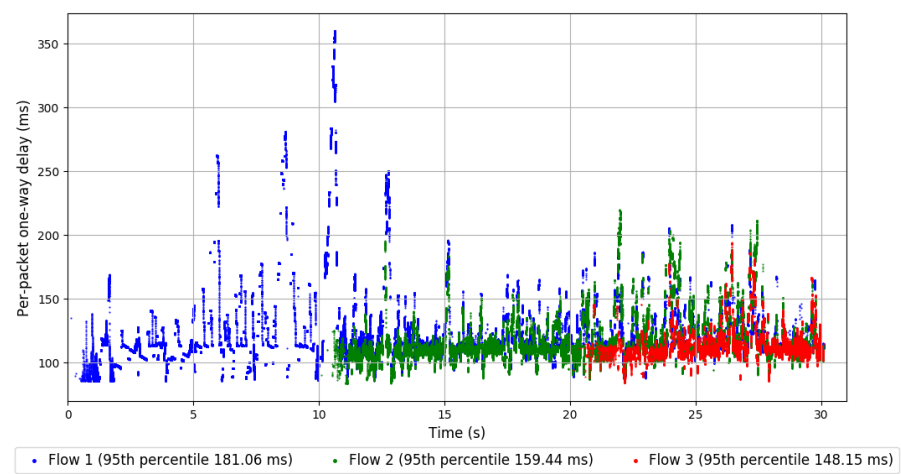
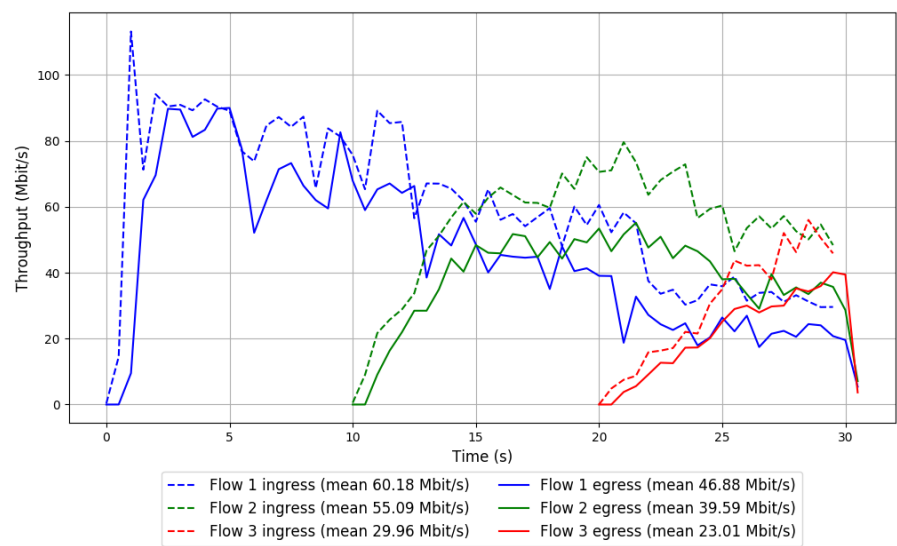


Run 3: Statistics of FillP

Start at: 2019-01-21 12:03:12
End at: 2019-01-21 12:03:42
Local clock offset: -12.962 ms
Remote clock offset: 9.575 ms

Below is generated by plot.py at 2019-01-21 13:11:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.93 Mbit/s
95th percentile per-packet one-way delay: 170.382 ms
Loss rate: 24.27%
-- Flow 1:
Average throughput: 46.88 Mbit/s
95th percentile per-packet one-way delay: 181.063 ms
Loss rate: 22.17%
-- Flow 2:
Average throughput: 39.59 Mbit/s
95th percentile per-packet one-way delay: 159.443 ms
Loss rate: 28.07%
-- Flow 3:
Average throughput: 23.01 Mbit/s
95th percentile per-packet one-way delay: 148.150 ms
Loss rate: 23.04%

Run 3: Report of FillP — Data Link

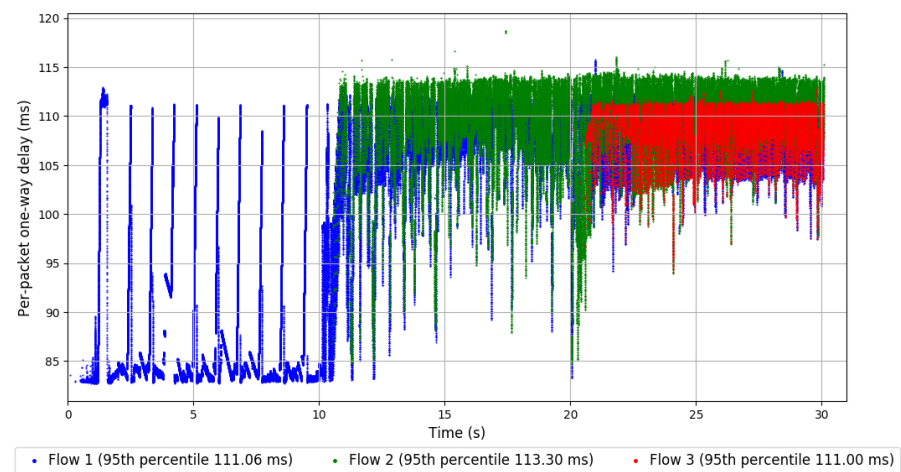
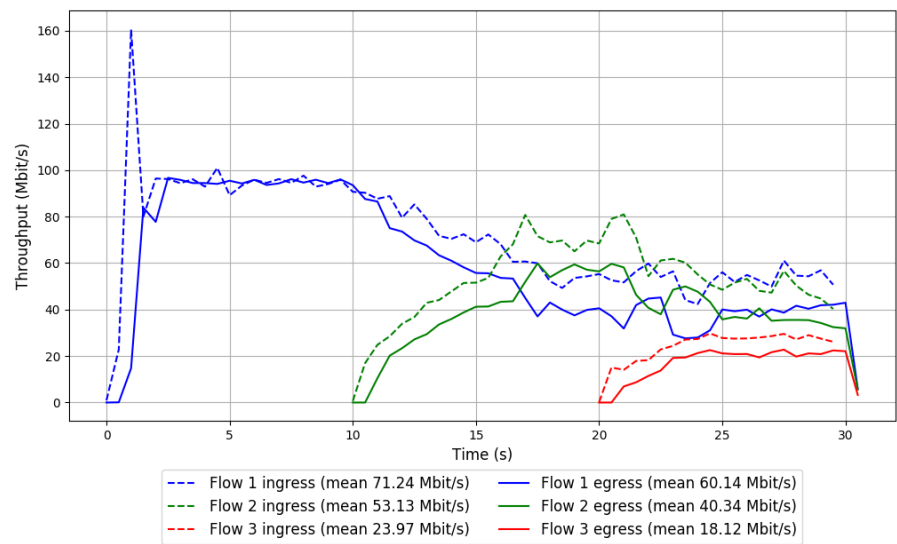


Run 4: Statistics of FillP

Start at: 2019-01-21 12:29:43
End at: 2019-01-21 12:30:13
Local clock offset: -8.078 ms
Remote clock offset: 6.743 ms

Below is generated by plot.py at 2019-01-21 13:12:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.98 Mbit/s
95th percentile per-packet one-way delay: 112.562 ms
Loss rate: 18.74%
-- Flow 1:
Average throughput: 60.14 Mbit/s
95th percentile per-packet one-way delay: 111.063 ms
Loss rate: 15.51%
-- Flow 2:
Average throughput: 40.34 Mbit/s
95th percentile per-packet one-way delay: 113.297 ms
Loss rate: 23.96%
-- Flow 3:
Average throughput: 18.12 Mbit/s
95th percentile per-packet one-way delay: 111.003 ms
Loss rate: 24.42%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-21 12:56:17

End at: 2019-01-21 12:56:47

Local clock offset: -6.353 ms

Remote clock offset: 6.755 ms

Below is generated by plot.py at 2019-01-21 13:12:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.79 Mbit/s

95th percentile per-packet one-way delay: 112.403 ms

Loss rate: 16.30%

-- Flow 1:

Average throughput: 67.23 Mbit/s

95th percentile per-packet one-way delay: 112.314 ms

Loss rate: 10.85%

-- Flow 2:

Average throughput: 23.23 Mbit/s

95th percentile per-packet one-way delay: 111.631 ms

Loss rate: 28.54%

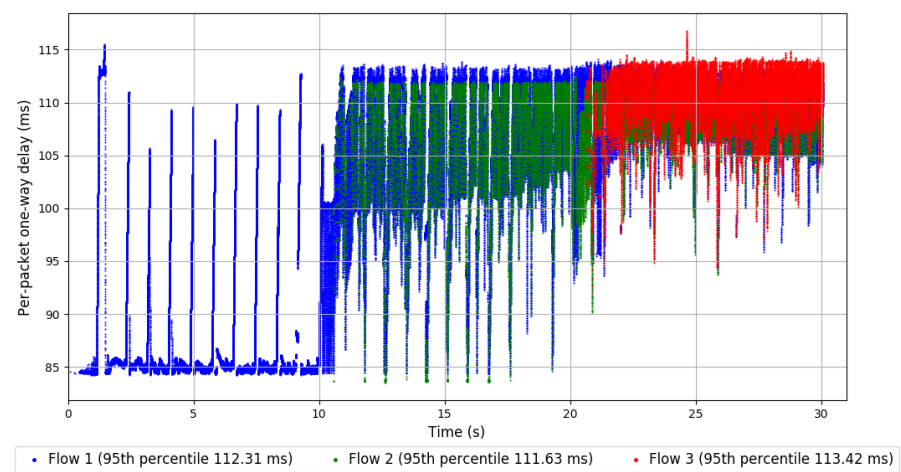
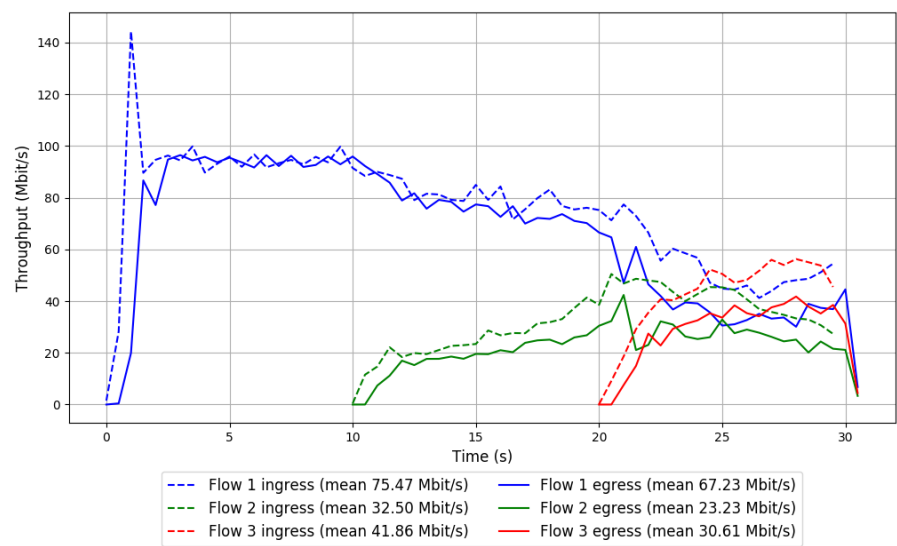
-- Flow 3:

Average throughput: 30.61 Mbit/s

95th percentile per-packet one-way delay: 113.423 ms

Loss rate: 26.85%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-01-21 11:12:52

End at: 2019-01-21 11:13:22

Local clock offset: -7.24 ms

Remote clock offset: 3.804 ms

Below is generated by plot.py at 2019-01-21 13:12:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 83.28 Mbit/s

95th percentile per-packet one-way delay: 107.341 ms

Loss rate: 4.05%

-- Flow 1:

Average throughput: 28.32 Mbit/s

95th percentile per-packet one-way delay: 99.137 ms

Loss rate: 4.44%

-- Flow 2:

Average throughput: 74.32 Mbit/s

95th percentile per-packet one-way delay: 107.489 ms

Loss rate: 2.80%

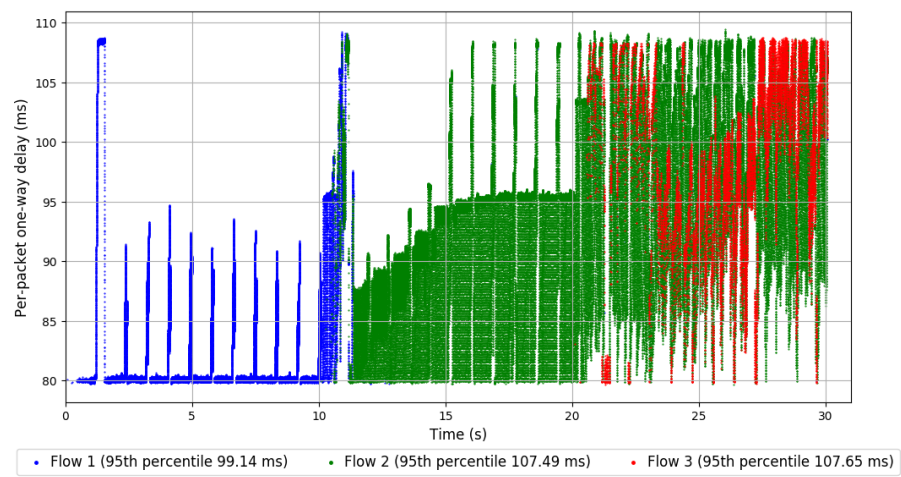
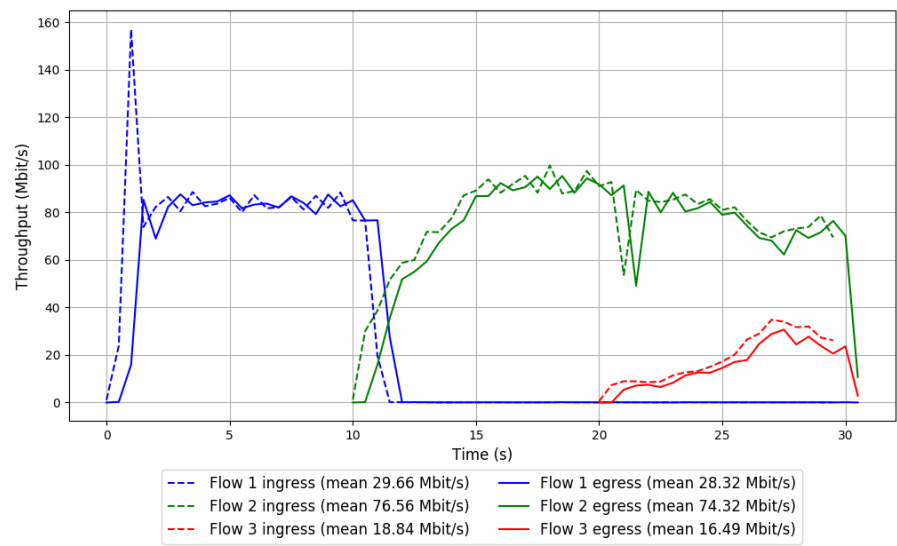
-- Flow 3:

Average throughput: 16.49 Mbit/s

95th percentile per-packet one-way delay: 107.648 ms

Loss rate: 12.33%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-01-21 11:39:20

End at: 2019-01-21 11:39:50

Local clock offset: -6.775 ms

Remote clock offset: 8.94 ms

Below is generated by plot.py at 2019-01-21 13:12:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 71.77 Mbit/s

95th percentile per-packet one-way delay: 156.627 ms

Loss rate: 15.18%

-- Flow 1:

Average throughput: 52.77 Mbit/s

95th percentile per-packet one-way delay: 158.725 ms

Loss rate: 15.61%

-- Flow 2:

Average throughput: 24.95 Mbit/s

95th percentile per-packet one-way delay: 150.585 ms

Loss rate: 14.01%

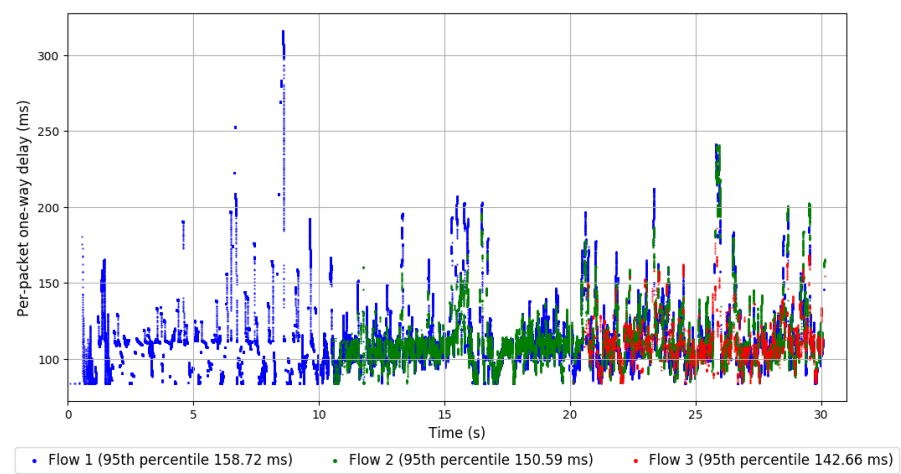
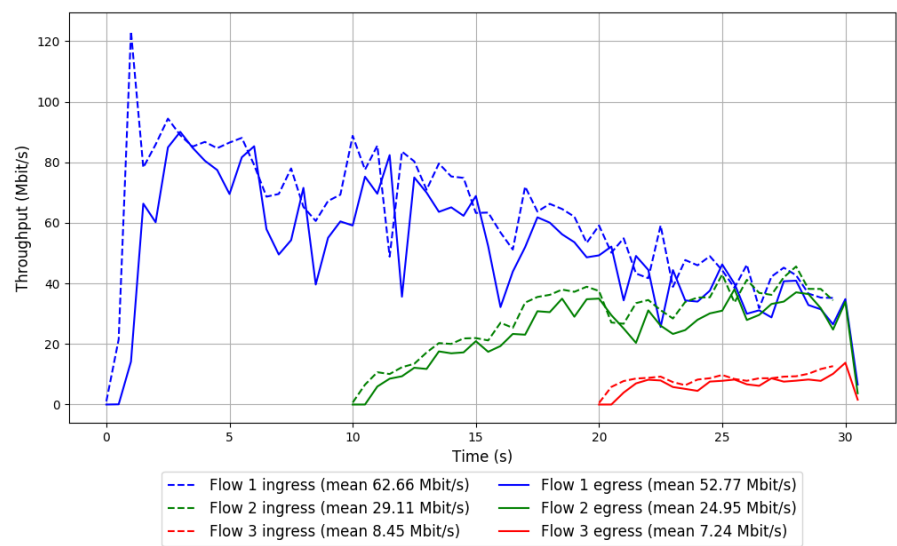
-- Flow 3:

Average throughput: 7.24 Mbit/s

95th percentile per-packet one-way delay: 142.664 ms

Loss rate: 13.80%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-01-21 12:05:42

End at: 2019-01-21 12:06:12

Local clock offset: -13.44 ms

Remote clock offset: 4.469 ms

Below is generated by plot.py at 2019-01-21 13:12:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.79 Mbit/s

95th percentile per-packet one-way delay: 110.013 ms

Loss rate: 9.60%

-- Flow 1:

Average throughput: 65.00 Mbit/s

95th percentile per-packet one-way delay: 109.453 ms

Loss rate: 7.85%

-- Flow 2:

Average throughput: 27.88 Mbit/s

95th percentile per-packet one-way delay: 110.463 ms

Loss rate: 14.86%

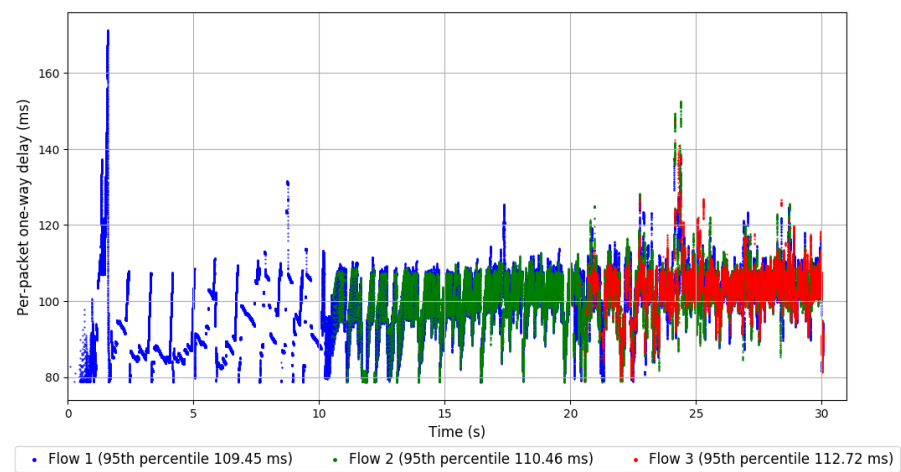
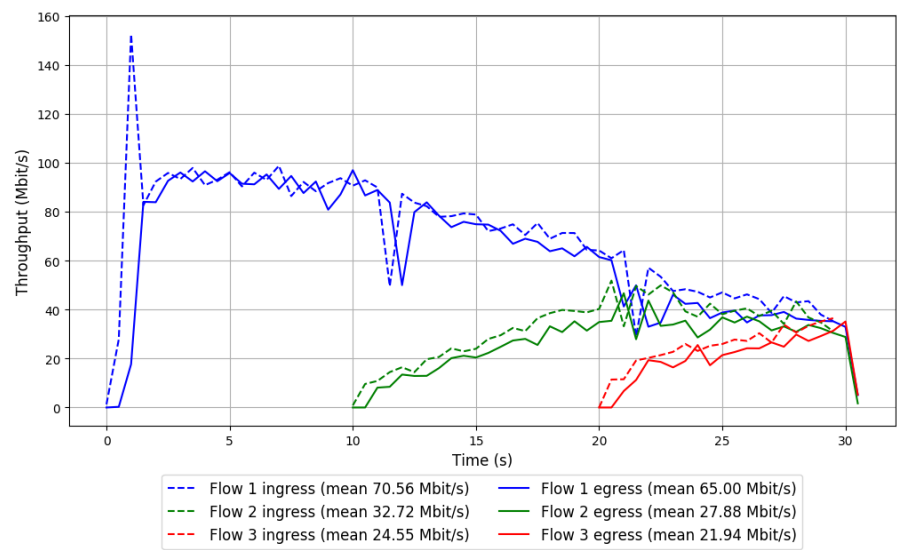
-- Flow 3:

Average throughput: 21.94 Mbit/s

95th percentile per-packet one-way delay: 112.719 ms

Loss rate: 10.71%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-01-21 12:32:13

End at: 2019-01-21 12:32:43

Local clock offset: -7.626 ms

Remote clock offset: 7.592 ms

Below is generated by plot.py at 2019-01-21 13:12:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.07 Mbit/s

95th percentile per-packet one-way delay: 109.522 ms

Loss rate: 4.51%

-- Flow 1:

Average throughput: 28.37 Mbit/s

95th percentile per-packet one-way delay: 99.963 ms

Loss rate: 3.52%

-- Flow 2:

Average throughput: 43.36 Mbit/s

95th percentile per-packet one-way delay: 110.593 ms

Loss rate: 4.97%

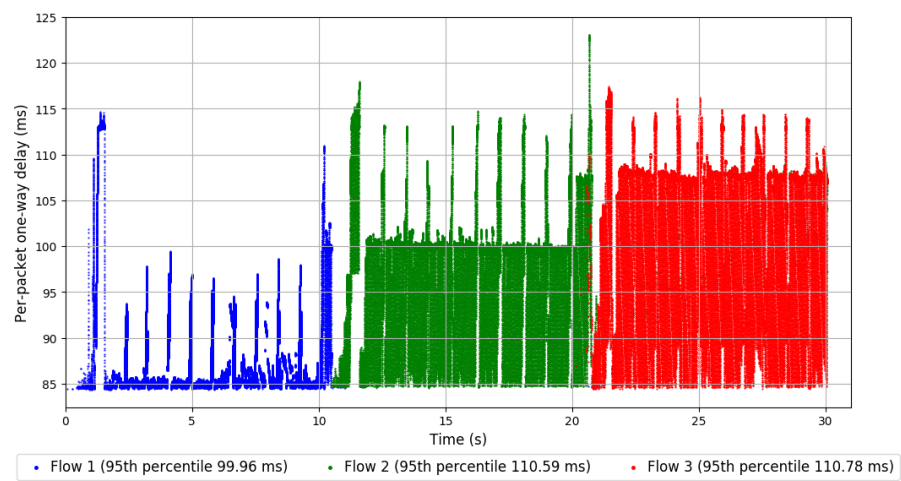
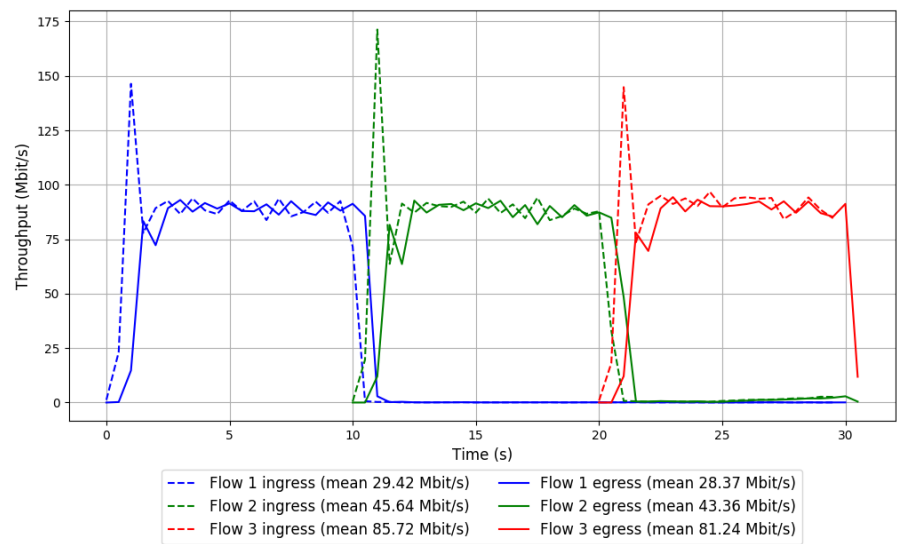
-- Flow 3:

Average throughput: 81.24 Mbit/s

95th percentile per-packet one-way delay: 110.778 ms

Loss rate: 5.04%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-01-21 12:58:46

End at: 2019-01-21 12:59:16

Local clock offset: -6.407 ms

Remote clock offset: 3.464 ms

Below is generated by plot.py at 2019-01-21 13:13:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.69 Mbit/s

95th percentile per-packet one-way delay: 109.630 ms

Loss rate: 4.60%

-- Flow 1:

Average throughput: 28.13 Mbit/s

95th percentile per-packet one-way delay: 102.529 ms

Loss rate: 5.27%

-- Flow 2:

Average throughput: 79.17 Mbit/s

95th percentile per-packet one-way delay: 110.158 ms

Loss rate: 3.55%

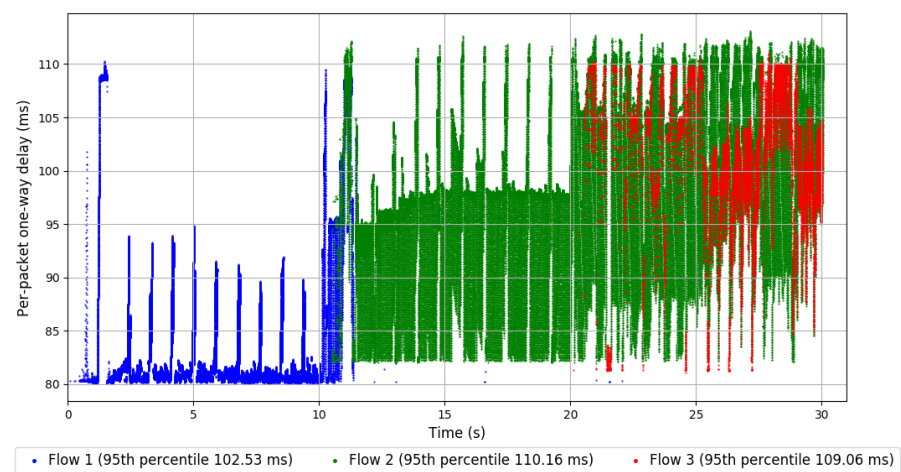
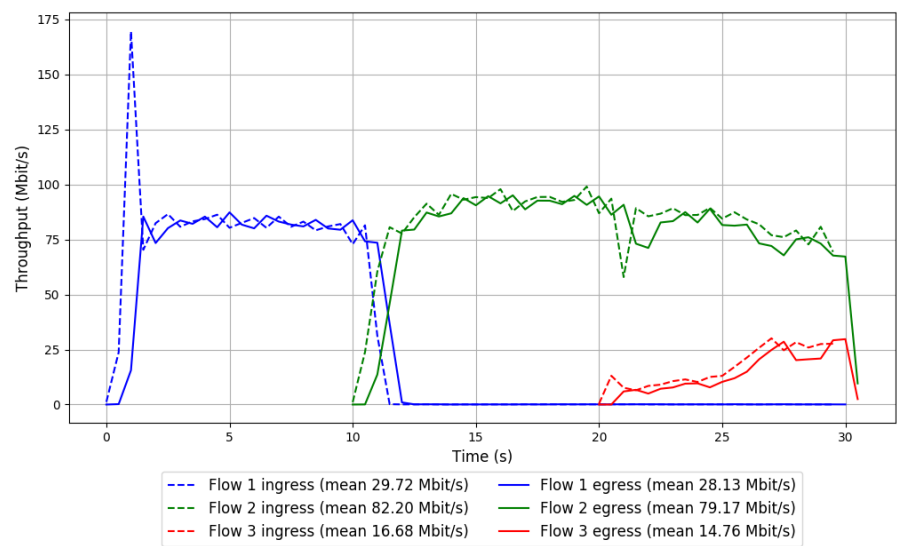
-- Flow 3:

Average throughput: 14.76 Mbit/s

95th percentile per-packet one-way delay: 109.063 ms

Loss rate: 11.36%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2019-01-21 11:00:08

End at: 2019-01-21 11:00:38

Local clock offset: -8.004 ms

Remote clock offset: 7.564 ms

Below is generated by plot.py at 2019-01-21 13:13:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.32 Mbit/s

95th percentile per-packet one-way delay: 116.237 ms

Loss rate: 30.98%

-- Flow 1:

Average throughput: 64.98 Mbit/s

95th percentile per-packet one-way delay: 115.860 ms

Loss rate: 12.38%

-- Flow 2:

Average throughput: 23.35 Mbit/s

95th percentile per-packet one-way delay: 115.948 ms

Loss rate: 34.43%

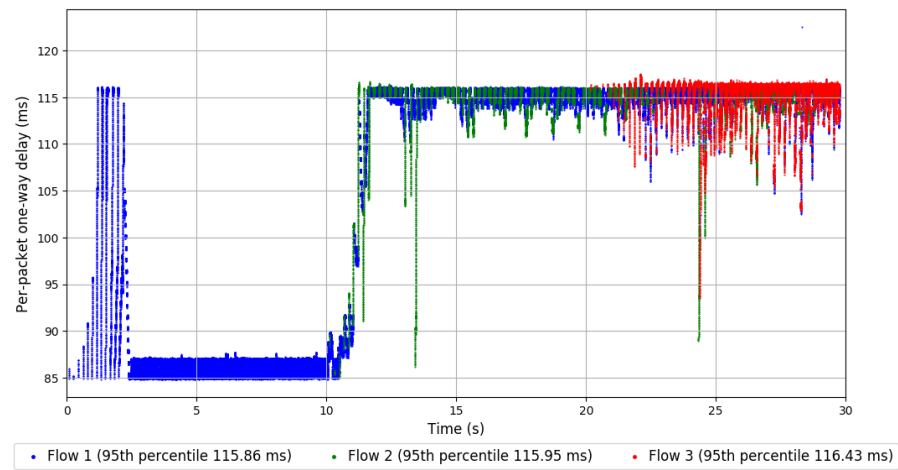
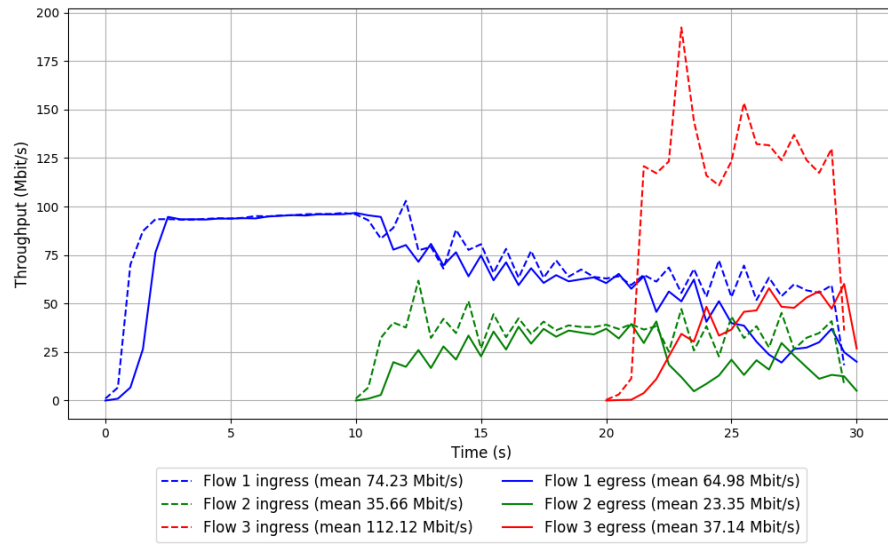
-- Flow 3:

Average throughput: 37.14 Mbit/s

95th percentile per-packet one-way delay: 116.432 ms

Loss rate: 66.88%

Run 1: Report of Indigo — Data Link

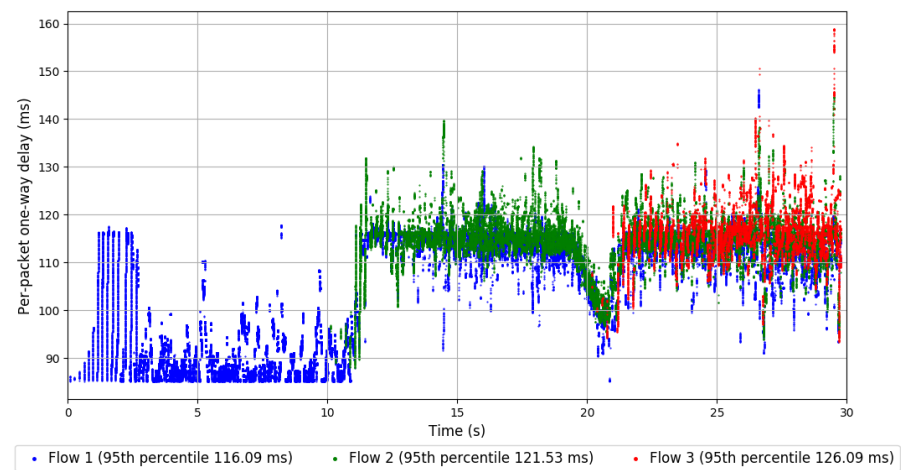
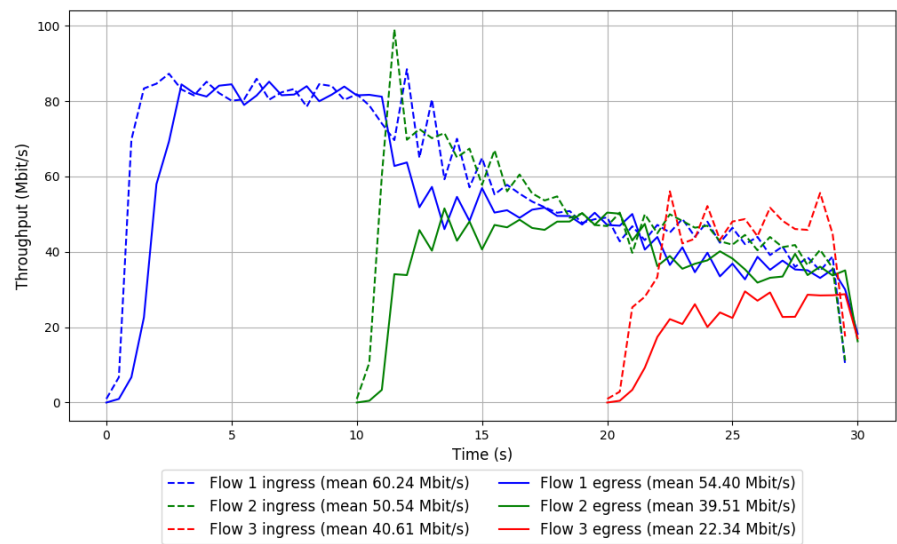


Run 2: Statistics of Indigo

Start at: 2019-01-21 11:26:37
End at: 2019-01-21 11:27:07
Local clock offset: -6.877 ms
Remote clock offset: 9.717 ms

Below is generated by plot.py at 2019-01-21 13:13:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.75 Mbit/s
95th percentile per-packet one-way delay: 119.350 ms
Loss rate: 17.74%
-- Flow 1:
Average throughput: 54.40 Mbit/s
95th percentile per-packet one-way delay: 116.093 ms
Loss rate: 9.61%
-- Flow 2:
Average throughput: 39.51 Mbit/s
95th percentile per-packet one-way delay: 121.525 ms
Loss rate: 21.75%
-- Flow 3:
Average throughput: 22.34 Mbit/s
95th percentile per-packet one-way delay: 126.093 ms
Loss rate: 44.93%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-01-21 11:53:05

End at: 2019-01-21 11:53:35

Local clock offset: -5.735 ms

Remote clock offset: 9.413 ms

Below is generated by plot.py at 2019-01-21 13:13:04

Datalink statistics

-- Total of 3 flows:

Average throughput: 41.86 Mbit/s

95th percentile per-packet one-way delay: 123.507 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 36.47 Mbit/s

95th percentile per-packet one-way delay: 124.573 ms

Loss rate: 0.28%

-- Flow 2:

Average throughput: 4.44 Mbit/s

95th percentile per-packet one-way delay: 119.629 ms

Loss rate: 0.03%

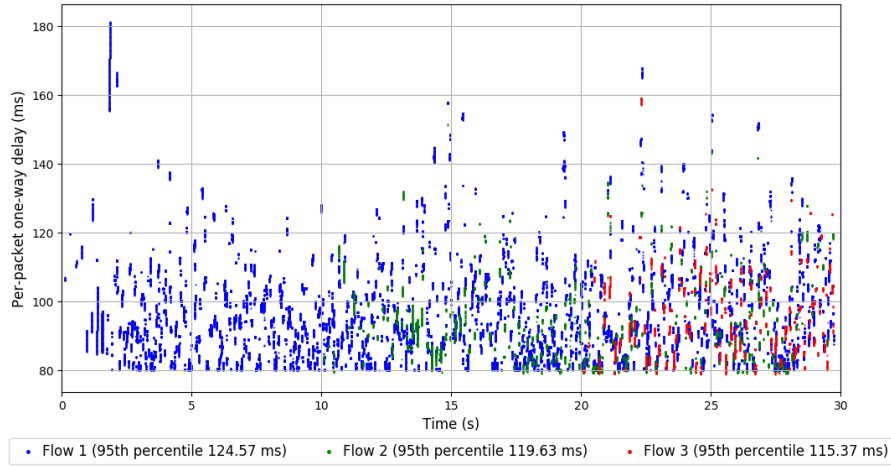
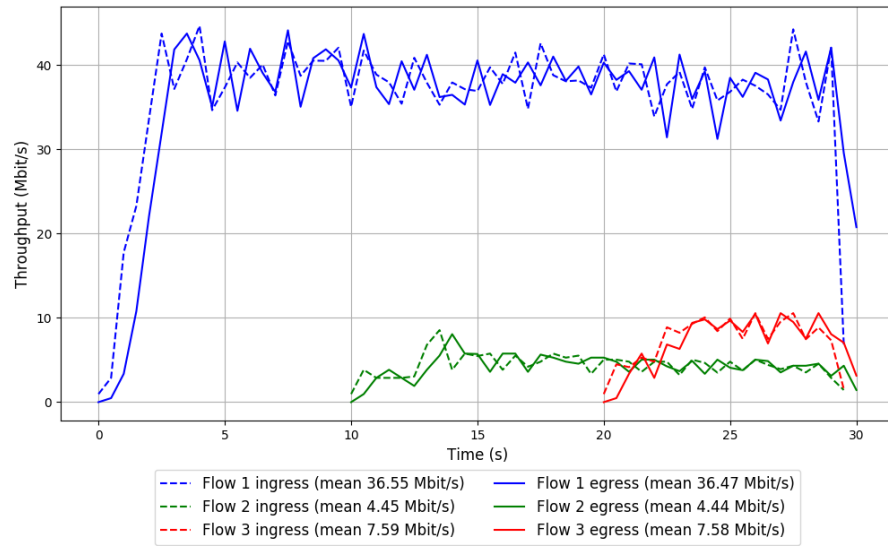
-- Flow 3:

Average throughput: 7.58 Mbit/s

95th percentile per-packet one-way delay: 115.374 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

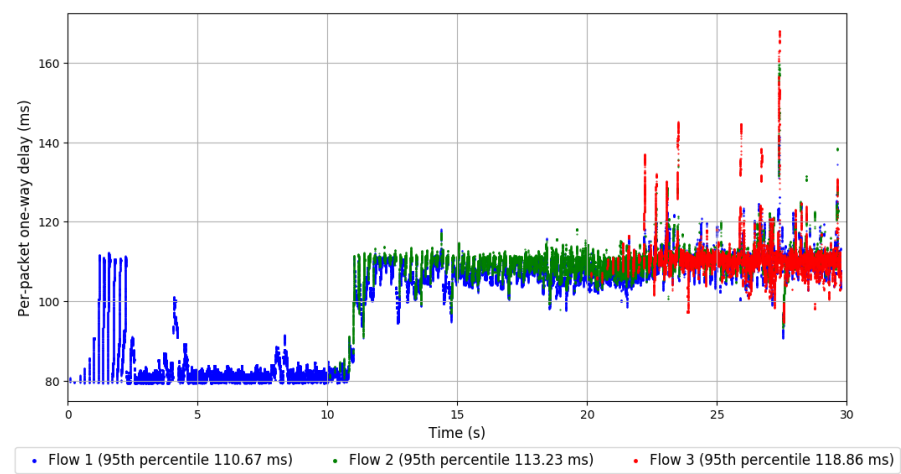
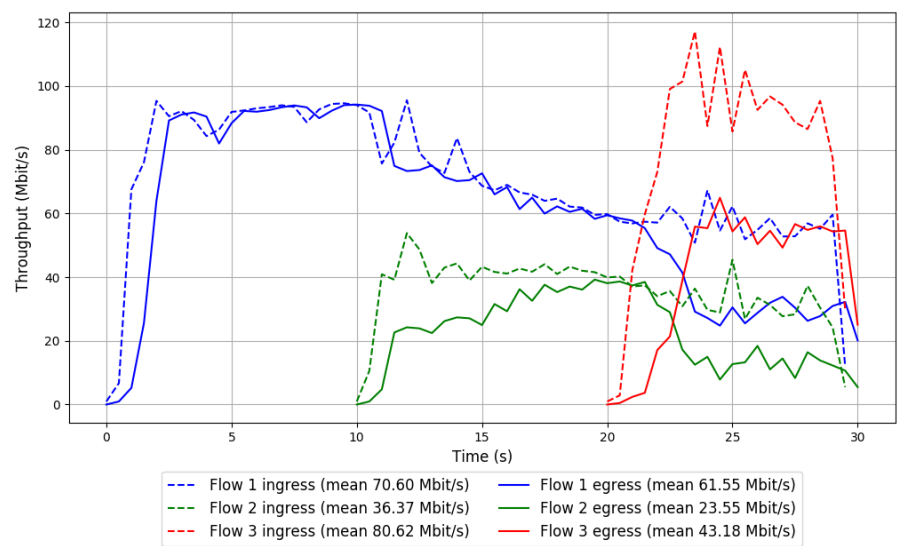


Run 4: Statistics of Indigo

Start at: 2019-01-21 12:19:26
End at: 2019-01-21 12:19:56
Local clock offset: -12.335 ms
Remote clock offset: 5.033 ms

Below is generated by plot.py at 2019-01-21 13:13:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.04 Mbit/s
95th percentile per-packet one-way delay: 112.040 ms
Loss rate: 24.48%
-- Flow 1:
Average throughput: 61.55 Mbit/s
95th percentile per-packet one-way delay: 110.665 ms
Loss rate: 12.74%
-- Flow 2:
Average throughput: 23.55 Mbit/s
95th percentile per-packet one-way delay: 113.231 ms
Loss rate: 35.15%
-- Flow 3:
Average throughput: 43.18 Mbit/s
95th percentile per-packet one-way delay: 118.857 ms
Loss rate: 46.44%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-01-21 12:46:02

End at: 2019-01-21 12:46:32

Local clock offset: -6.244 ms

Remote clock offset: 6.789 ms

Below is generated by plot.py at 2019-01-21 13:13:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.18 Mbit/s

95th percentile per-packet one-way delay: 115.089 ms

Loss rate: 31.24%

-- Flow 1:

Average throughput: 67.44 Mbit/s

95th percentile per-packet one-way delay: 114.925 ms

Loss rate: 9.85%

-- Flow 2:

Average throughput: 21.58 Mbit/s

95th percentile per-packet one-way delay: 115.108 ms

Loss rate: 40.22%

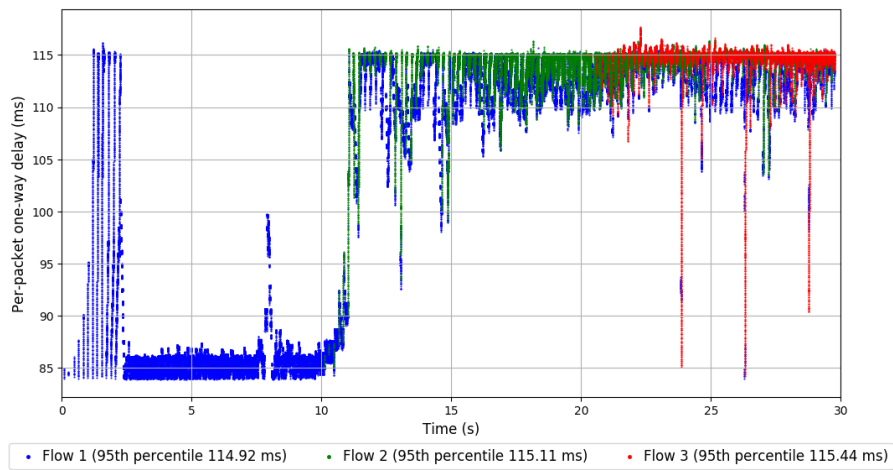
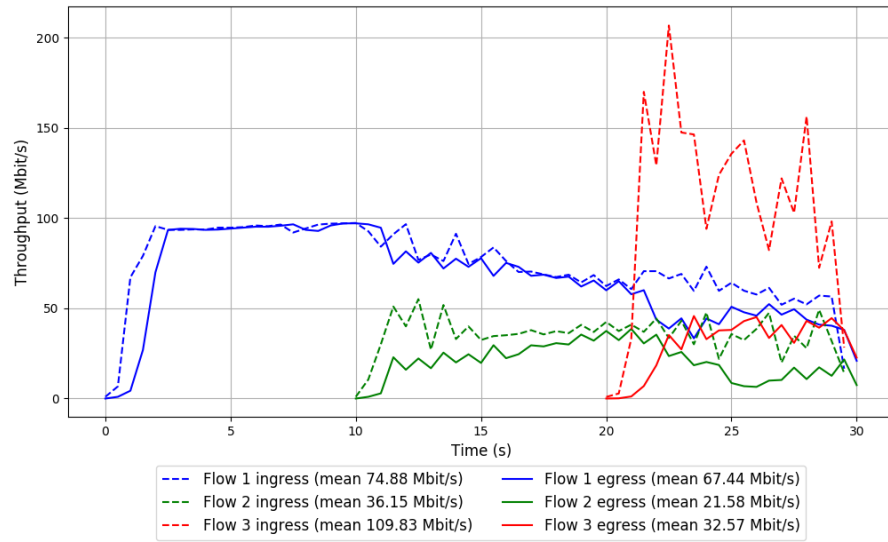
-- Flow 3:

Average throughput: 32.57 Mbit/s

95th percentile per-packet one-way delay: 115.437 ms

Loss rate: 70.35%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-21 11:20:23

End at: 2019-01-21 11:20:53

Local clock offset: -7.016 ms

Remote clock offset: 8.346 ms

Below is generated by plot.py at 2019-01-21 13:13:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.20 Mbit/s

95th percentile per-packet one-way delay: 116.783 ms

Loss rate: 2.35%

-- Flow 1:

Average throughput: 51.55 Mbit/s

95th percentile per-packet one-way delay: 115.160 ms

Loss rate: 1.52%

-- Flow 2:

Average throughput: 36.36 Mbit/s

95th percentile per-packet one-way delay: 120.319 ms

Loss rate: 4.07%

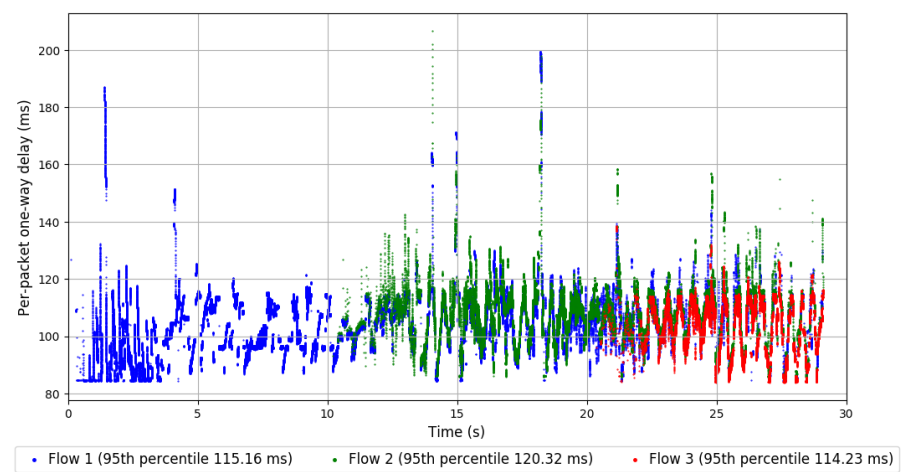
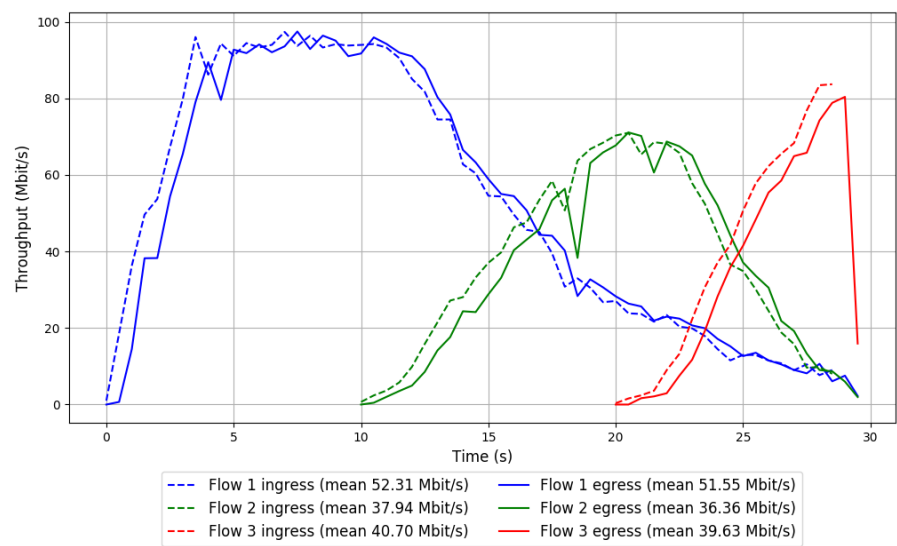
-- Flow 3:

Average throughput: 39.63 Mbit/s

95th percentile per-packet one-way delay: 114.226 ms

Loss rate: 2.42%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-21 11:46:51

End at: 2019-01-21 11:47:21

Local clock offset: -4.862 ms

Remote clock offset: 4.307 ms

Below is generated by plot.py at 2019-01-21 13:13:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 51.98 Mbit/s

95th percentile per-packet one-way delay: 171.232 ms

Loss rate: 6.78%

-- Flow 1:

Average throughput: 23.58 Mbit/s

95th percentile per-packet one-way delay: 189.104 ms

Loss rate: 5.83%

-- Flow 2:

Average throughput: 32.39 Mbit/s

95th percentile per-packet one-way delay: 154.637 ms

Loss rate: 7.92%

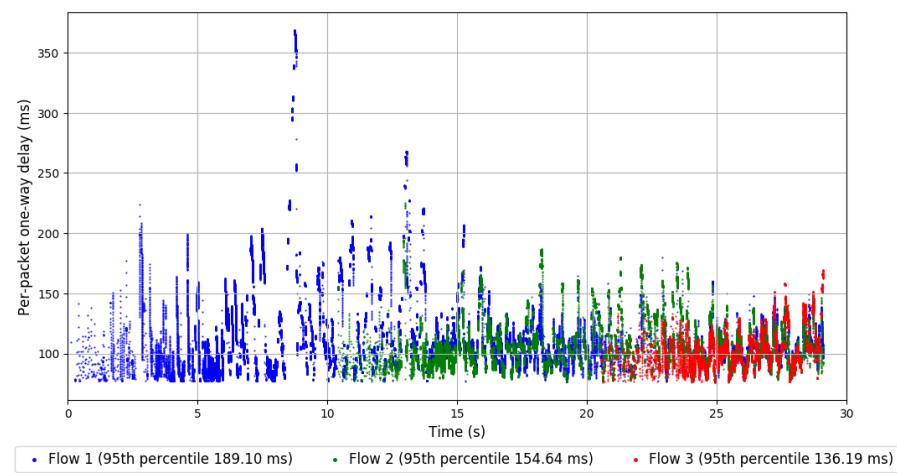
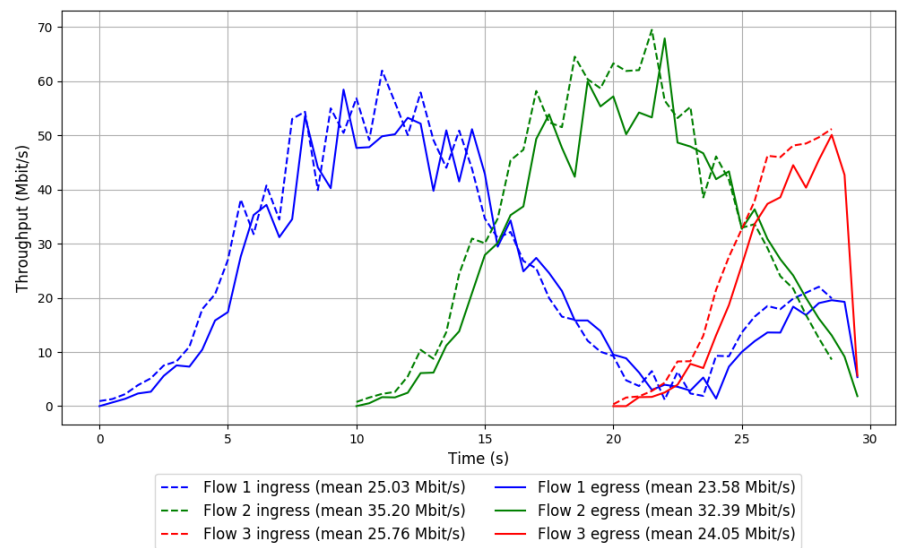
-- Flow 3:

Average throughput: 24.05 Mbit/s

95th percentile per-packet one-way delay: 136.192 ms

Loss rate: 6.45%

Run 2: Report of Indigo-MusesC3 — Data Link

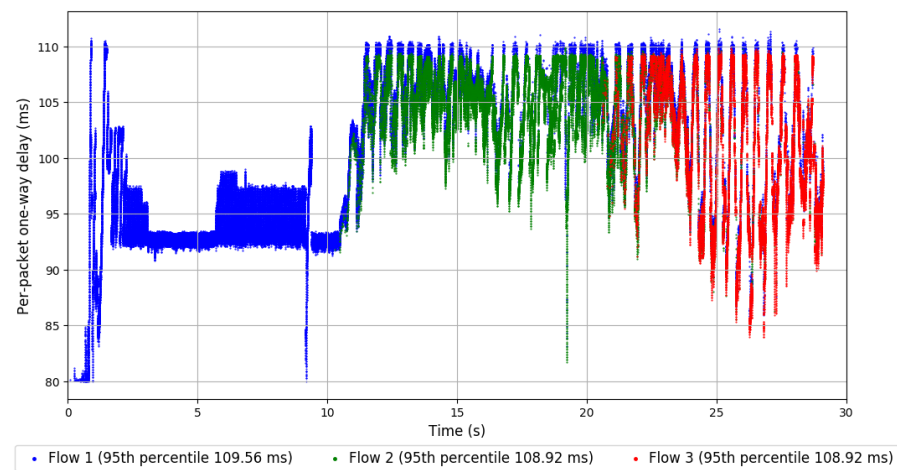
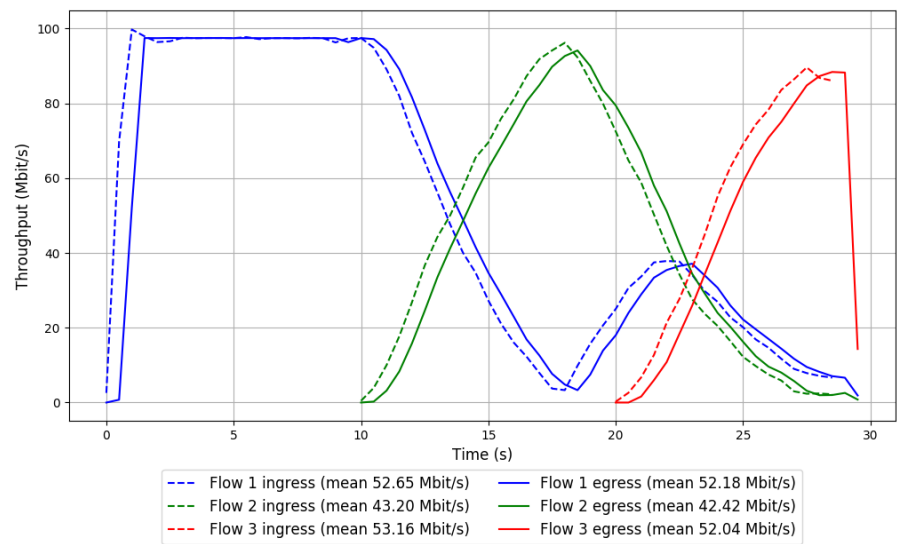


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-21 12:13:11
End at: 2019-01-21 12:13:41
Local clock offset: -14.398 ms
Remote clock offset: 4.786 ms

Below is generated by plot.py at 2019-01-21 13:14:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.25 Mbit/s
95th percentile per-packet one-way delay: 109.038 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 52.18 Mbit/s
95th percentile per-packet one-way delay: 109.560 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 42.42 Mbit/s
95th percentile per-packet one-way delay: 108.924 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 52.04 Mbit/s
95th percentile per-packet one-way delay: 108.921 ms
Loss rate: 2.17%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-21 12:39:47

End at: 2019-01-21 12:40:17

Local clock offset: -6.694 ms

Remote clock offset: 3.235 ms

Below is generated by plot.py at 2019-01-21 13:14:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.21 Mbit/s

95th percentile per-packet one-way delay: 111.584 ms

Loss rate: 3.35%

-- Flow 1:

Average throughput: 46.33 Mbit/s

95th percentile per-packet one-way delay: 110.169 ms

Loss rate: 1.76%

-- Flow 2:

Average throughput: 51.70 Mbit/s

95th percentile per-packet one-way delay: 111.721 ms

Loss rate: 4.99%

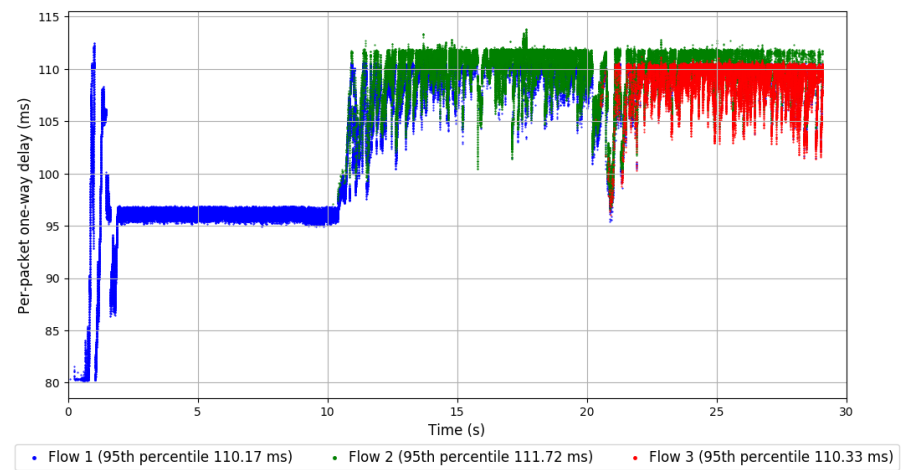
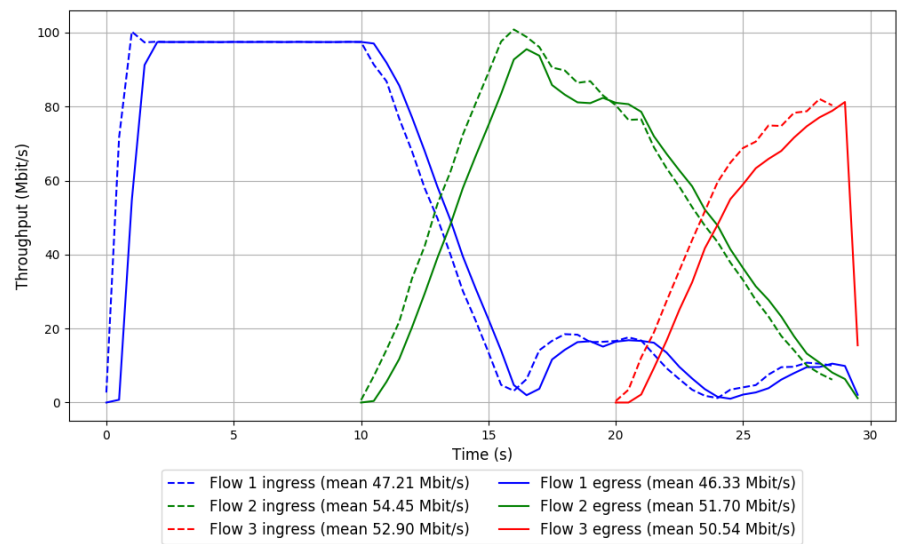
-- Flow 3:

Average throughput: 50.54 Mbit/s

95th percentile per-packet one-way delay: 110.329 ms

Loss rate: 4.42%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-21 13:06:21

End at: 2019-01-21 13:06:51

Local clock offset: -6.249 ms

Remote clock offset: 4.171 ms

Below is generated by plot.py at 2019-01-21 13:14:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.11 Mbit/s

95th percentile per-packet one-way delay: 110.372 ms

Loss rate: 1.65%

-- Flow 1:

Average throughput: 48.12 Mbit/s

95th percentile per-packet one-way delay: 108.912 ms

Loss rate: 1.19%

-- Flow 2:

Average throughput: 48.20 Mbit/s

95th percentile per-packet one-way delay: 109.839 ms

Loss rate: 1.34%

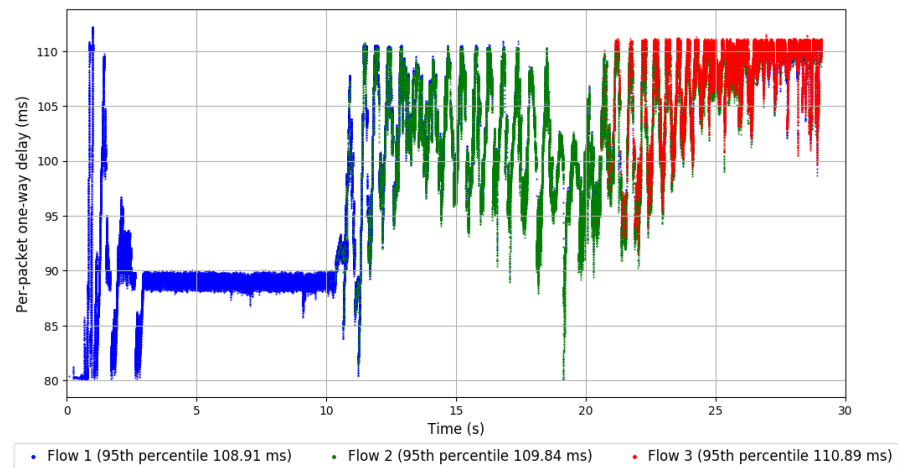
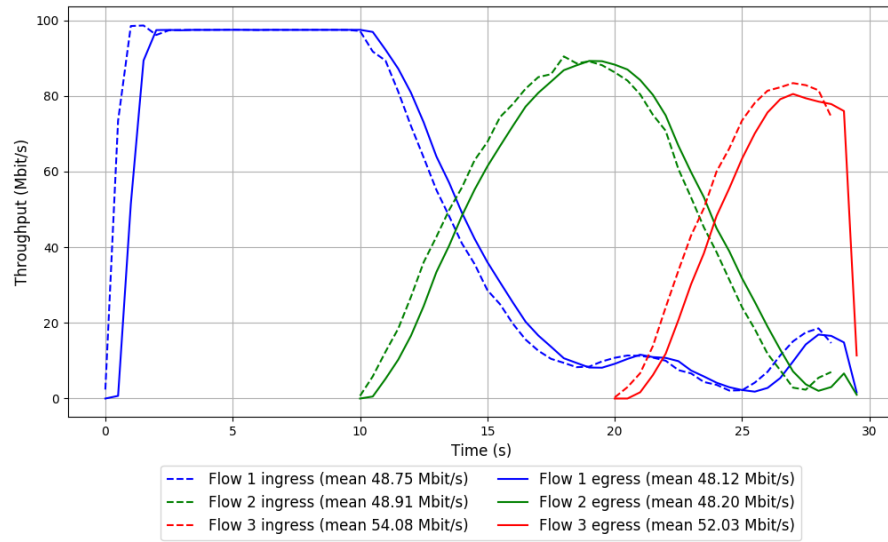
-- Flow 3:

Average throughput: 52.03 Mbit/s

95th percentile per-packet one-way delay: 110.893 ms

Loss rate: 3.63%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-21 11:02:41

End at: 2019-01-21 11:03:11

Local clock offset: -7.117 ms

Remote clock offset: 2.794 ms

Below is generated by plot.py at 2019-01-21 13:14:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.38 Mbit/s

95th percentile per-packet one-way delay: 109.095 ms

Loss rate: 2.32%

-- Flow 1:

Average throughput: 53.12 Mbit/s

95th percentile per-packet one-way delay: 106.653 ms

Loss rate: 2.34%

-- Flow 2:

Average throughput: 58.59 Mbit/s

95th percentile per-packet one-way delay: 109.934 ms

Loss rate: 2.27%

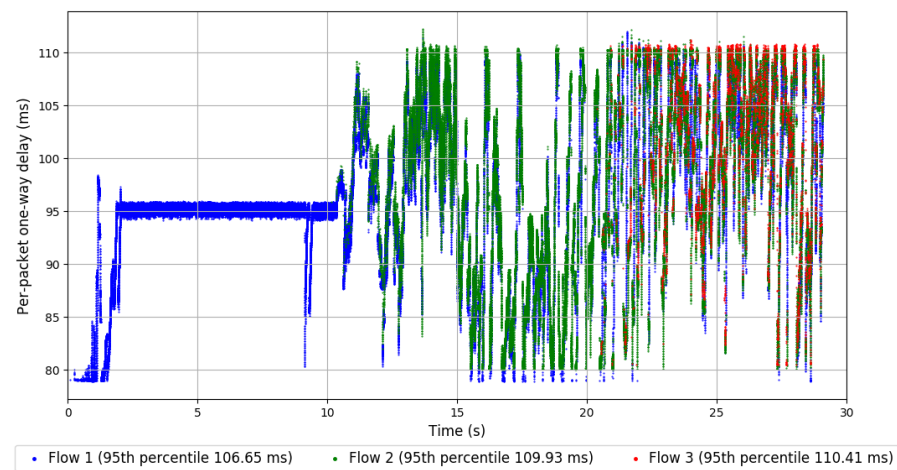
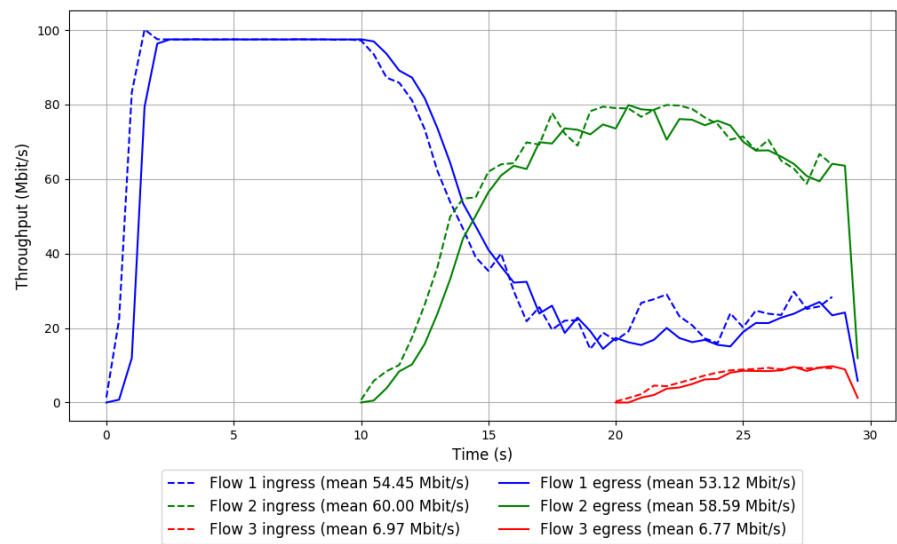
-- Flow 3:

Average throughput: 6.77 Mbit/s

95th percentile per-packet one-way delay: 110.413 ms

Loss rate: 2.86%

Run 1: Report of Indigo-MusesC5 — Data Link

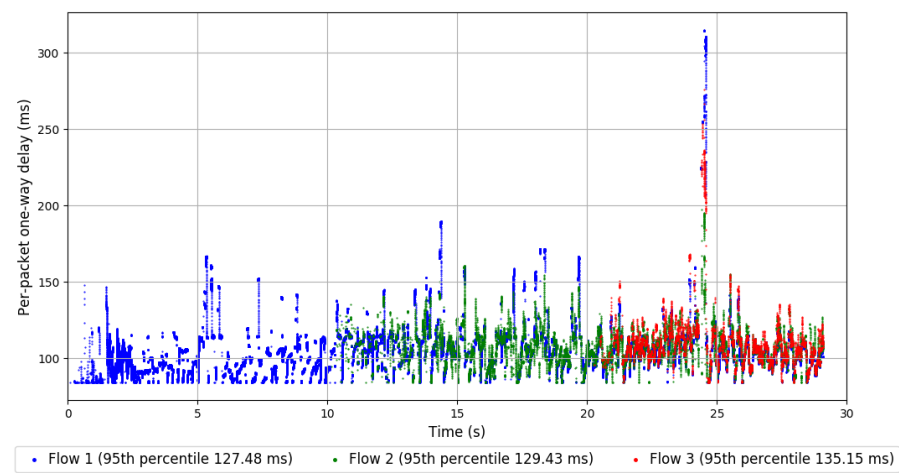
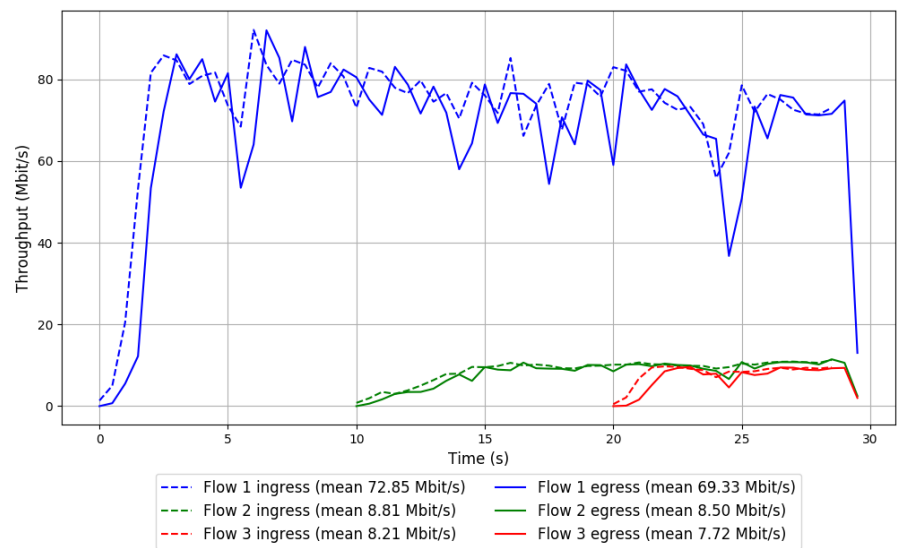


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-21 11:29:10
End at: 2019-01-21 11:29:40
Local clock offset: -6.847 ms
Remote clock offset: 8.672 ms

Below is generated by plot.py at 2019-01-21 13:14:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.22 Mbit/s
95th percentile per-packet one-way delay: 128.270 ms
Loss rate: 4.73%
-- Flow 1:
Average throughput: 69.33 Mbit/s
95th percentile per-packet one-way delay: 127.480 ms
Loss rate: 4.79%
-- Flow 2:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 129.429 ms
Loss rate: 3.53%
-- Flow 3:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 135.153 ms
Loss rate: 5.88%

Run 2: Report of Indigo-MusesC5 — Data Link

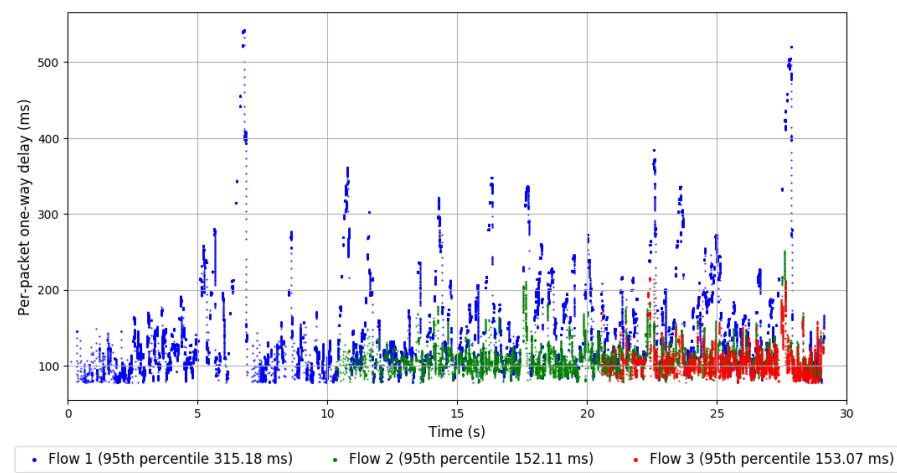
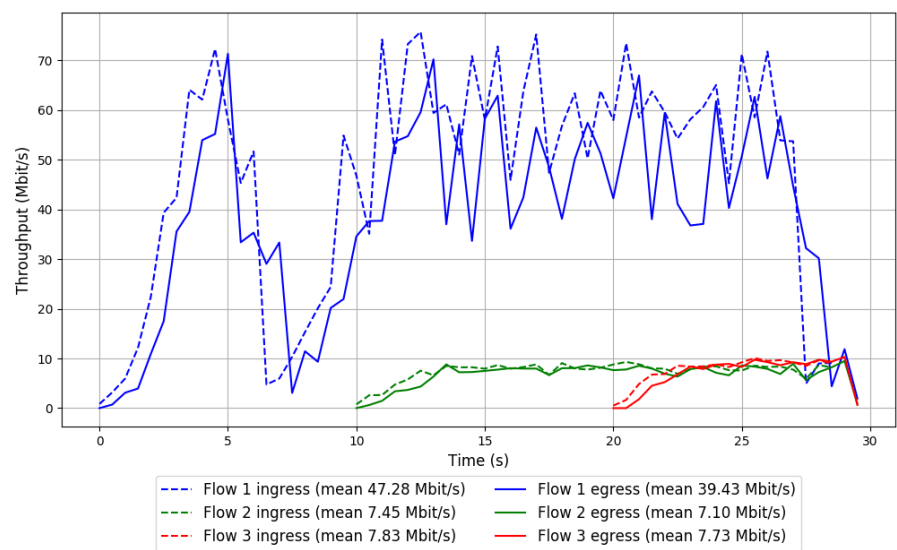


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-21 11:55:35
End at: 2019-01-21 11:56:05
Local clock offset: -10.655 ms
Remote clock offset: 4.524 ms

Below is generated by plot.py at 2019-01-21 13:14:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 46.42 Mbit/s
95th percentile per-packet one-way delay: 294.949 ms
Loss rate: 14.77%
-- Flow 1:
Average throughput: 39.43 Mbit/s
95th percentile per-packet one-way delay: 315.181 ms
Loss rate: 16.50%
-- Flow 2:
Average throughput: 7.10 Mbit/s
95th percentile per-packet one-way delay: 152.111 ms
Loss rate: 4.62%
-- Flow 3:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 153.070 ms
Loss rate: 1.08%

Run 3: Report of Indigo-MusesC5 — Data Link

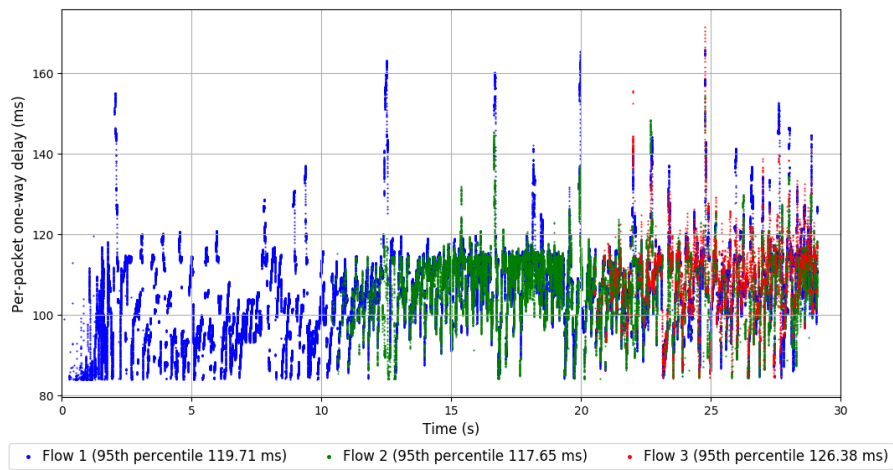
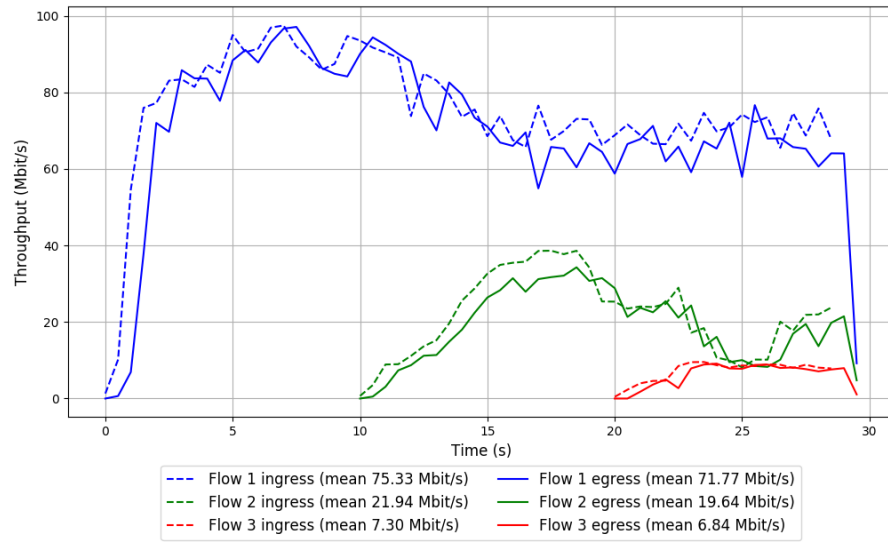


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-21 12:21:58
End at: 2019-01-21 12:22:28
Local clock offset: -10.793 ms
Remote clock offset: 9.444 ms

Below is generated by plot.py at 2019-01-21 13:14:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.64 Mbit/s
95th percentile per-packet one-way delay: 119.648 ms
Loss rate: 5.60%
-- Flow 1:
Average throughput: 71.77 Mbit/s
95th percentile per-packet one-way delay: 119.711 ms
Loss rate: 4.67%
-- Flow 2:
Average throughput: 19.64 Mbit/s
95th percentile per-packet one-way delay: 117.653 ms
Loss rate: 10.36%
-- Flow 3:
Average throughput: 6.84 Mbit/s
95th percentile per-packet one-way delay: 126.379 ms
Loss rate: 6.42%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-21 12:48:35

End at: 2019-01-21 12:49:05

Local clock offset: -6.311 ms

Remote clock offset: 1.515 ms

Below is generated by plot.py at 2019-01-21 13:14:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.86 Mbit/s

95th percentile per-packet one-way delay: 116.526 ms

Loss rate: 9.12%

-- Flow 1:

Average throughput: 59.29 Mbit/s

95th percentile per-packet one-way delay: 117.400 ms

Loss rate: 9.62%

-- Flow 2:

Average throughput: 33.04 Mbit/s

95th percentile per-packet one-way delay: 114.420 ms

Loss rate: 8.26%

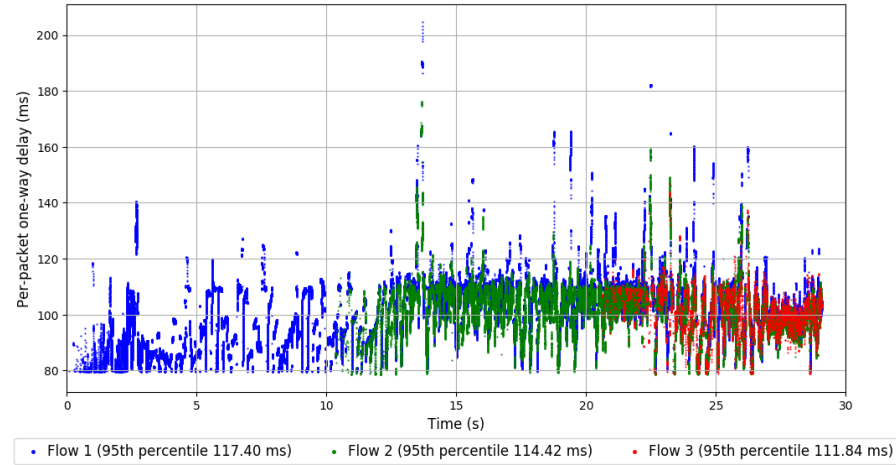
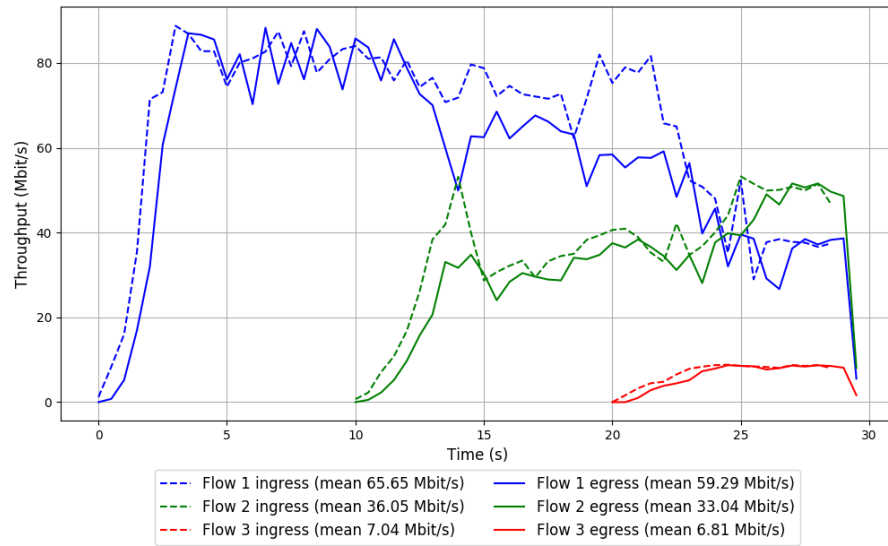
-- Flow 3:

Average throughput: 6.81 Mbit/s

95th percentile per-packet one-way delay: 111.843 ms

Loss rate: 3.26%

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-21 11:15:22

End at: 2019-01-21 11:15:52

Local clock offset: -7.297 ms

Remote clock offset: 3.123 ms

Below is generated by plot.py at 2019-01-21 13:14:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.62 Mbit/s

95th percentile per-packet one-way delay: 98.867 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 80.57 Mbit/s

95th percentile per-packet one-way delay: 98.356 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 8.05 Mbit/s

95th percentile per-packet one-way delay: 101.975 ms

Loss rate: 0.02%

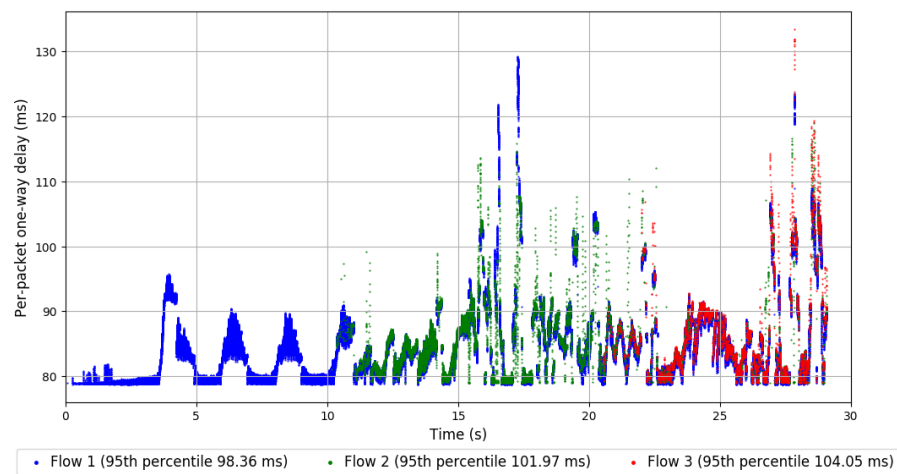
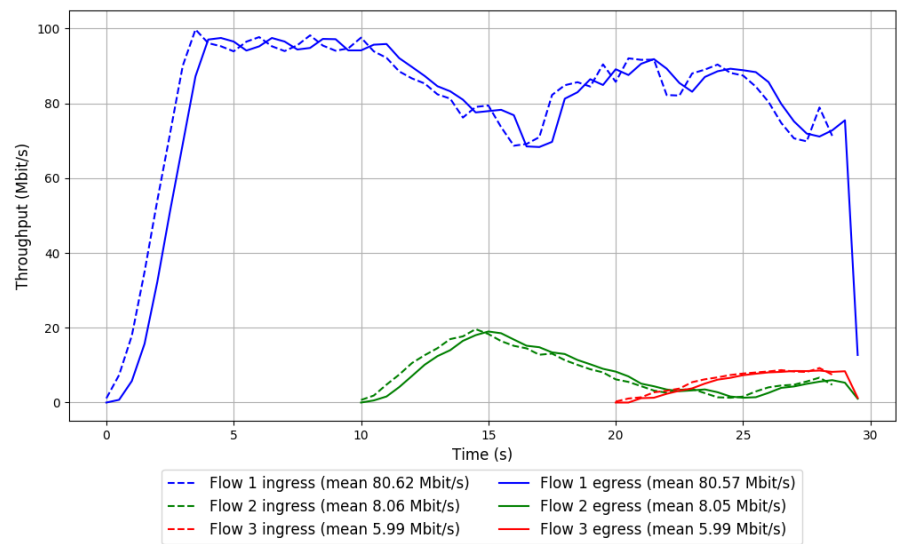
-- Flow 3:

Average throughput: 5.99 Mbit/s

95th percentile per-packet one-way delay: 104.046 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-21 11:41:51

End at: 2019-01-21 11:42:21

Local clock offset: -6.695 ms

Remote clock offset: 9.29 ms

Below is generated by plot.py at 2019-01-21 13:14:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 6.90 Mbit/s

95th percentile per-packet one-way delay: 131.528 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 3.93 Mbit/s

95th percentile per-packet one-way delay: 133.174 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 3.29 Mbit/s

95th percentile per-packet one-way delay: 129.706 ms

Loss rate: 0.00%

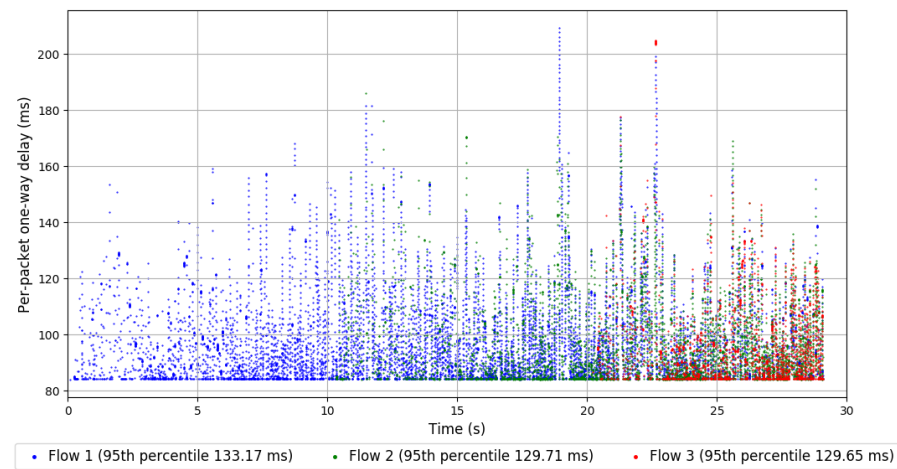
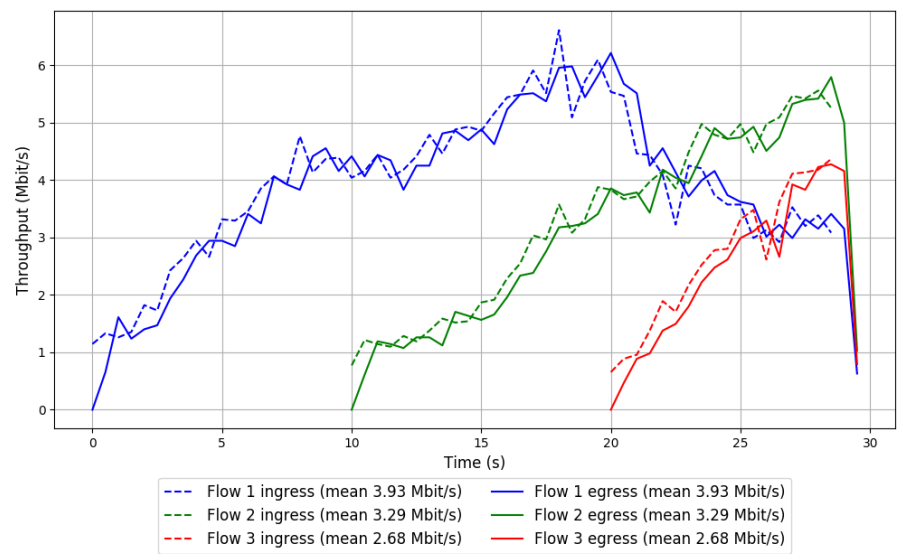
-- Flow 3:

Average throughput: 2.68 Mbit/s

95th percentile per-packet one-way delay: 129.646 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link

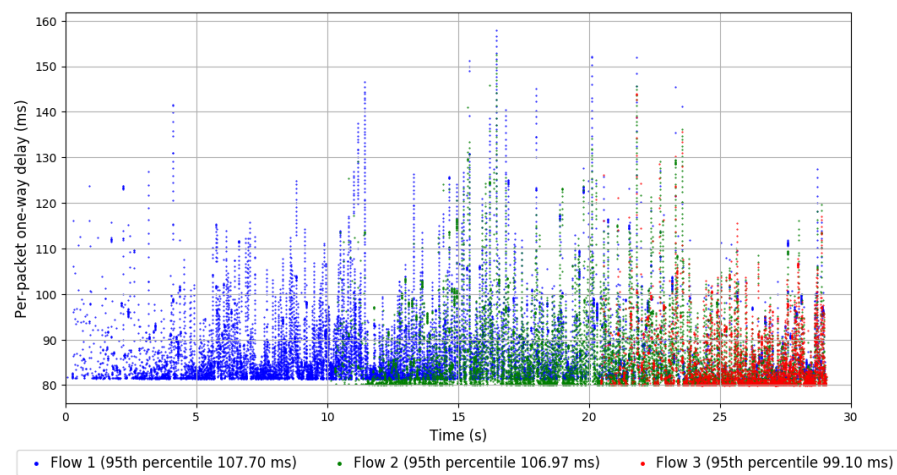
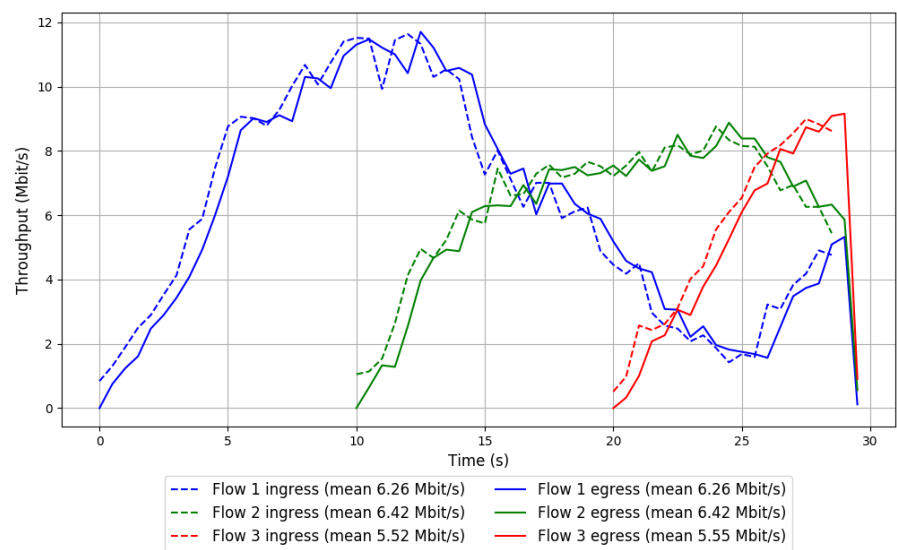


Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-21 12:08:12
End at: 2019-01-21 12:08:42
Local clock offset: -13.742 ms
Remote clock offset: 5.959 ms

Below is generated by plot.py at 2019-01-21 13:14:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 106.029 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.26 Mbit/s
95th percentile per-packet one-way delay: 107.703 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 6.42 Mbit/s
95th percentile per-packet one-way delay: 106.965 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.55 Mbit/s
95th percentile per-packet one-way delay: 99.096 ms
Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-21 12:34:43

End at: 2019-01-21 12:35:13

Local clock offset: -7.298 ms

Remote clock offset: 2.455 ms

Below is generated by plot.py at 2019-01-21 13:15:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.89 Mbit/s

95th percentile per-packet one-way delay: 91.437 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 76.74 Mbit/s

95th percentile per-packet one-way delay: 90.760 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 10.37 Mbit/s

95th percentile per-packet one-way delay: 91.922 ms

Loss rate: 0.23%

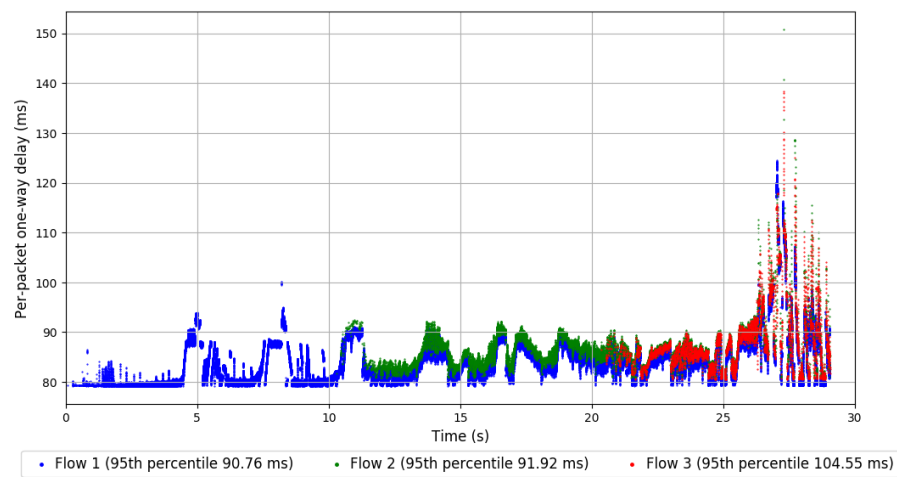
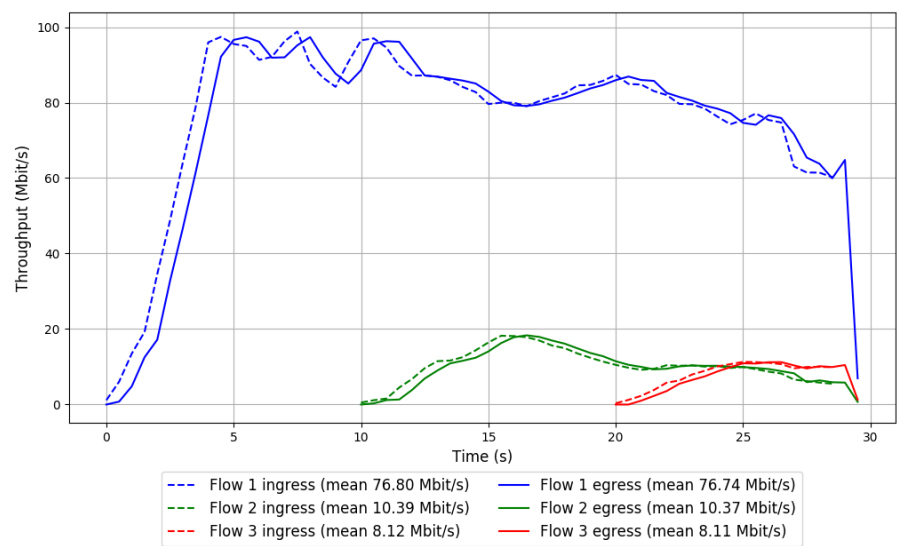
-- Flow 3:

Average throughput: 8.11 Mbit/s

95th percentile per-packet one-way delay: 104.549 ms

Loss rate: 0.20%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-21 13:01:16

End at: 2019-01-21 13:01:46

Local clock offset: -6.301 ms

Remote clock offset: 2.737 ms

Below is generated by plot.py at 2019-01-21 13:15:12

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.35 Mbit/s

95th percentile per-packet one-way delay: 92.509 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 79.76 Mbit/s

95th percentile per-packet one-way delay: 92.659 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 12.47 Mbit/s

95th percentile per-packet one-way delay: 91.843 ms

Loss rate: 0.00%

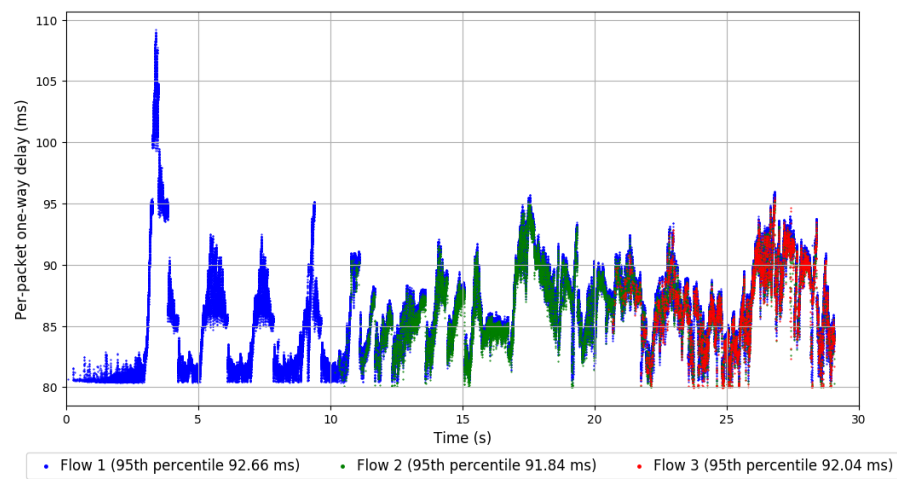
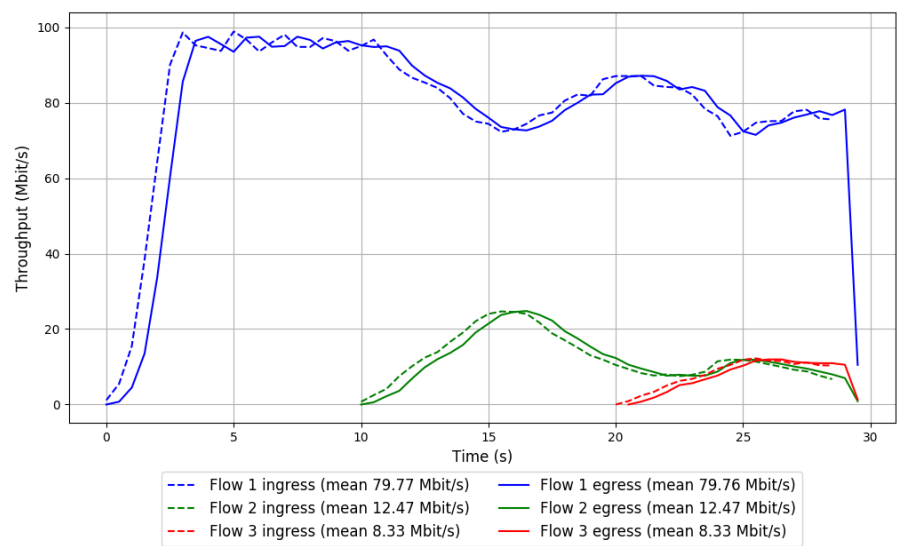
-- Flow 3:

Average throughput: 8.33 Mbit/s

95th percentile per-packet one-way delay: 92.042 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-21 11:05:17

End at: 2019-01-21 11:05:47

Local clock offset: -7.215 ms

Remote clock offset: 3.847 ms

Below is generated by plot.py at 2019-01-21 13:15:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.85 Mbit/s

95th percentile per-packet one-way delay: 110.397 ms

Loss rate: 6.28%

-- Flow 1:

Average throughput: 55.90 Mbit/s

95th percentile per-packet one-way delay: 110.320 ms

Loss rate: 4.84%

-- Flow 2:

Average throughput: 38.12 Mbit/s

95th percentile per-packet one-way delay: 110.373 ms

Loss rate: 5.08%

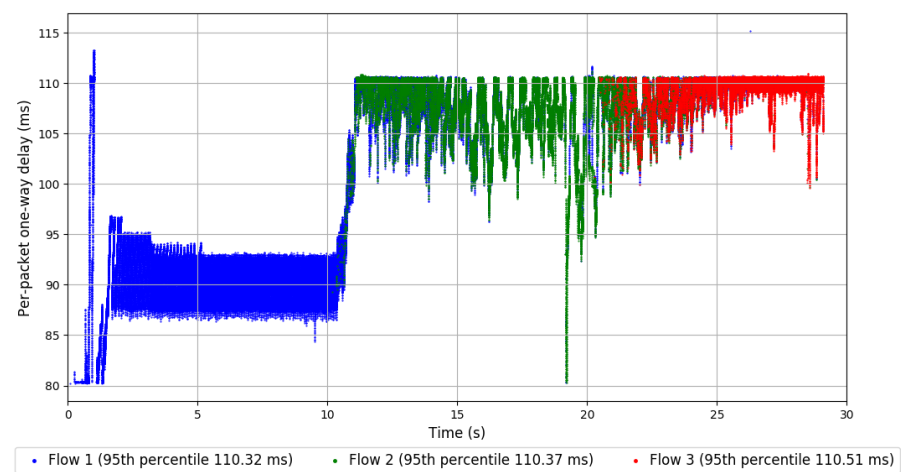
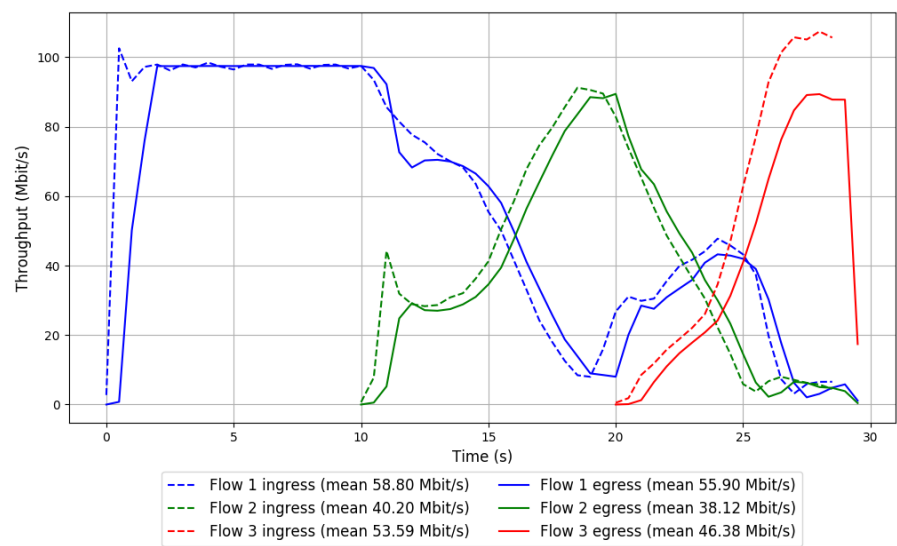
-- Flow 3:

Average throughput: 46.38 Mbit/s

95th percentile per-packet one-way delay: 110.508 ms

Loss rate: 13.40%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-21 11:31:47

End at: 2019-01-21 11:32:17

Local clock offset: -5.245 ms

Remote clock offset: 4.985 ms

Below is generated by plot.py at 2019-01-21 13:15:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 86.80 Mbit/s

95th percentile per-packet one-way delay: 120.602 ms

Loss rate: 7.87%

-- Flow 1:

Average throughput: 80.64 Mbit/s

95th percentile per-packet one-way delay: 121.154 ms

Loss rate: 8.00%

-- Flow 2:

Average throughput: 7.00 Mbit/s

95th percentile per-packet one-way delay: 109.276 ms

Loss rate: 4.65%

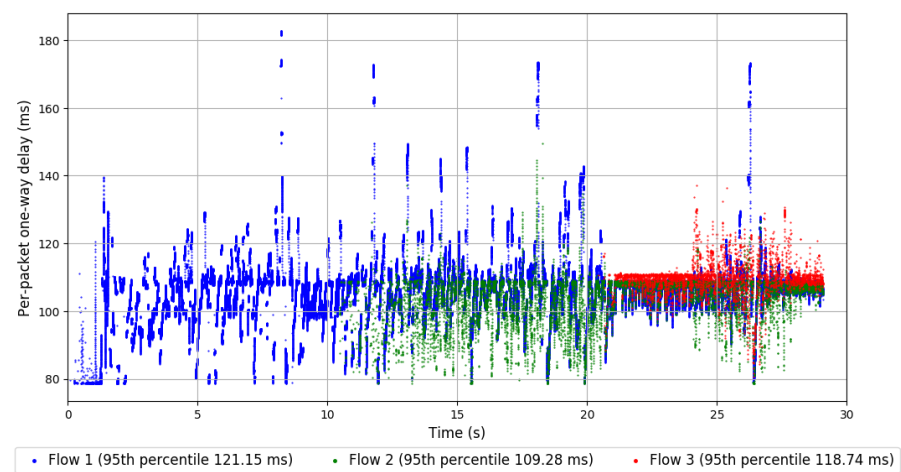
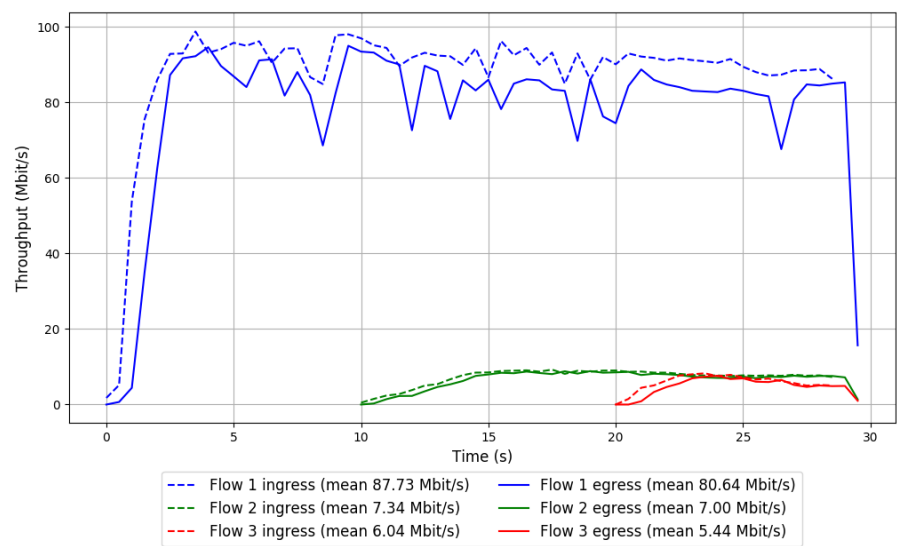
-- Flow 3:

Average throughput: 5.44 Mbit/s

95th percentile per-packet one-way delay: 118.743 ms

Loss rate: 9.89%

Run 2: Report of Indigo-MusesT — Data Link

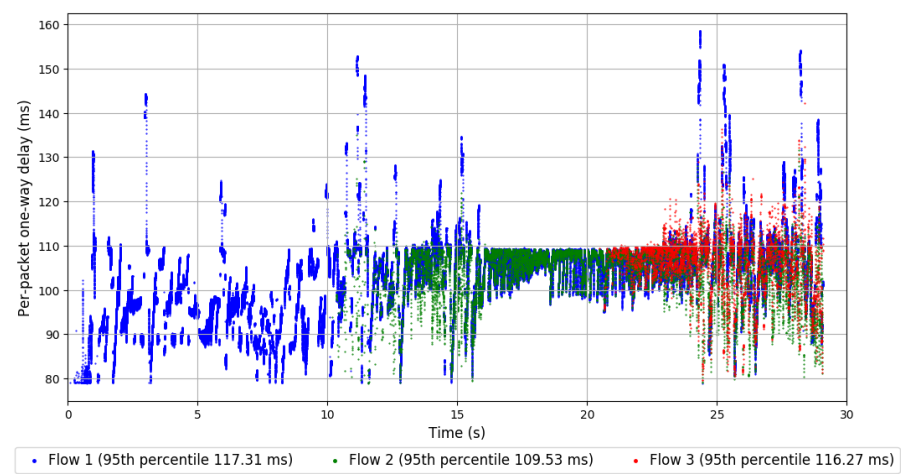
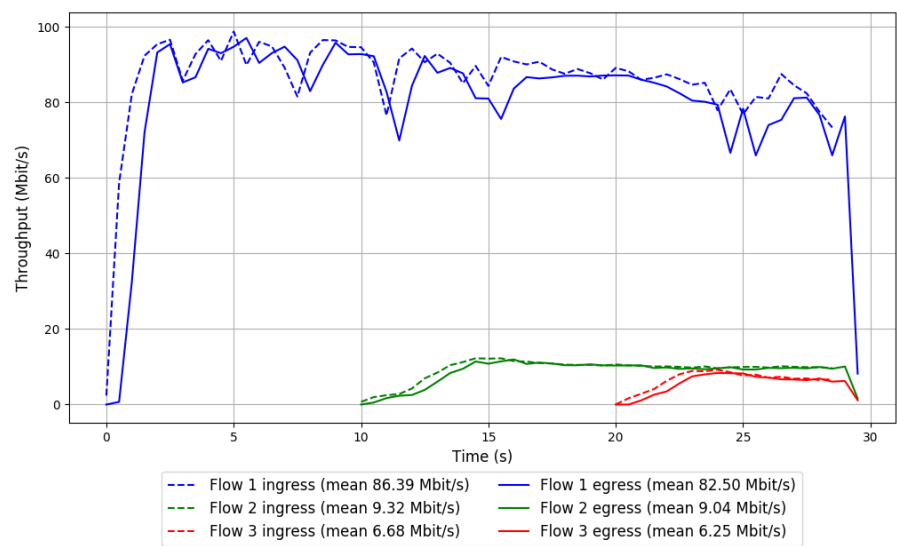


Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-21 11:58:09
End at: 2019-01-21 11:58:39
Local clock offset: -11.984 ms
Remote clock offset: 4.525 ms

Below is generated by plot.py at 2019-01-21 13:15:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.25 Mbit/s
95th percentile per-packet one-way delay: 116.180 ms
Loss rate: 4.38%
-- Flow 1:
Average throughput: 82.50 Mbit/s
95th percentile per-packet one-way delay: 117.309 ms
Loss rate: 4.42%
-- Flow 2:
Average throughput: 9.04 Mbit/s
95th percentile per-packet one-way delay: 109.525 ms
Loss rate: 3.06%
-- Flow 3:
Average throughput: 6.25 Mbit/s
95th percentile per-packet one-way delay: 116.273 ms
Loss rate: 6.69%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-21 12:24:34

End at: 2019-01-21 12:25:04

Local clock offset: -9.65 ms

Remote clock offset: 3.927 ms

Below is generated by plot.py at 2019-01-21 13:15:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.66 Mbit/s

95th percentile per-packet one-way delay: 110.810 ms

Loss rate: 3.95%

-- Flow 1:

Average throughput: 58.06 Mbit/s

95th percentile per-packet one-way delay: 110.613 ms

Loss rate: 4.07%

-- Flow 2:

Average throughput: 41.33 Mbit/s

95th percentile per-packet one-way delay: 111.067 ms

Loss rate: 3.78%

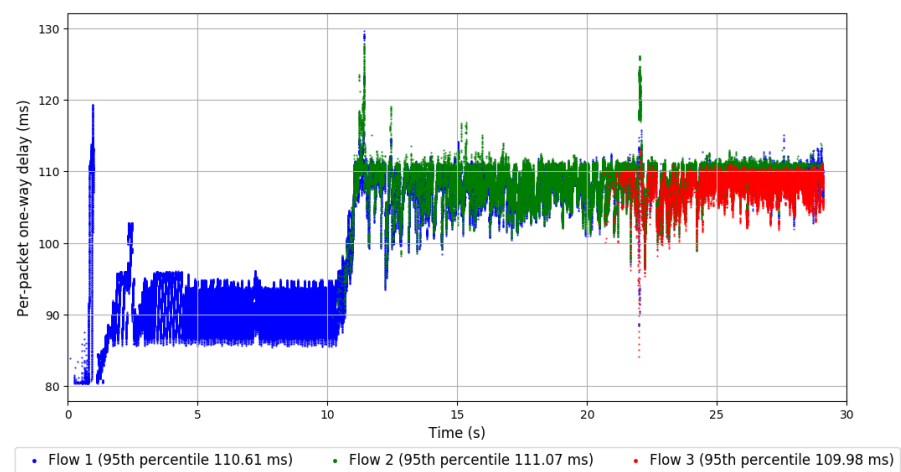
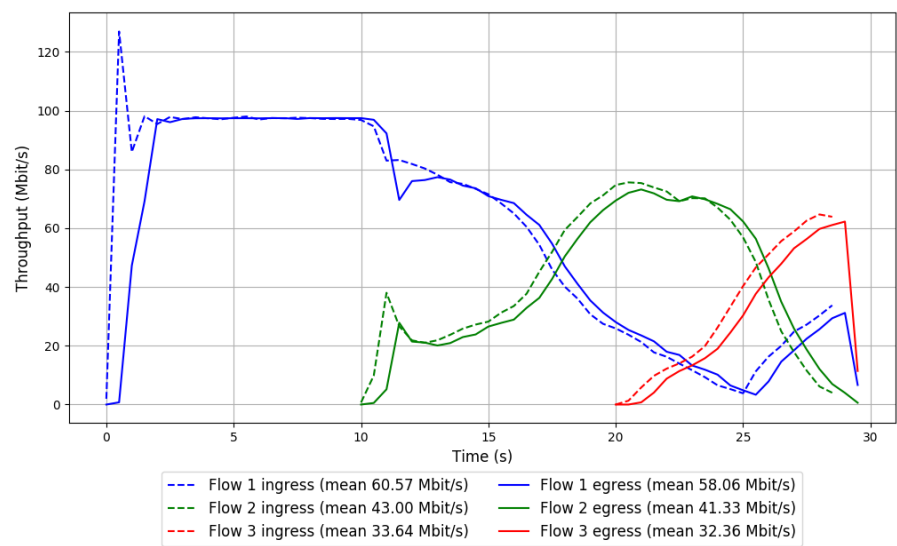
-- Flow 3:

Average throughput: 32.36 Mbit/s

95th percentile per-packet one-way delay: 109.984 ms

Loss rate: 3.73%

Run 4: Report of Indigo-MusesT — Data Link

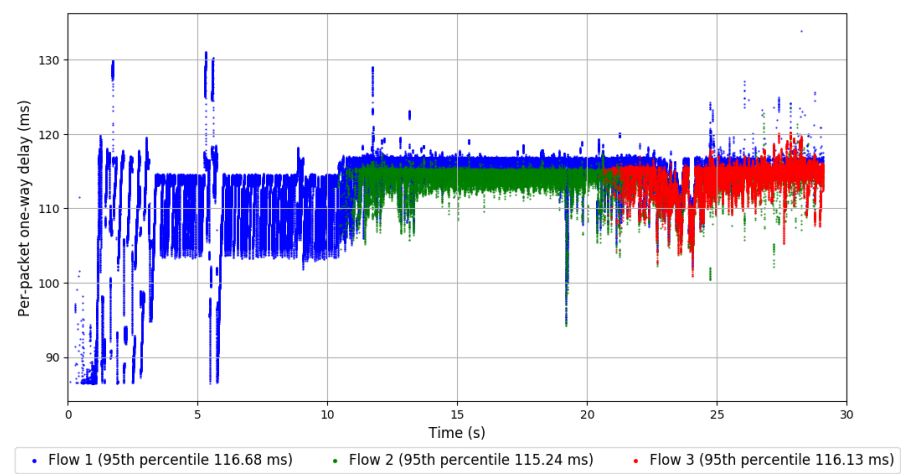
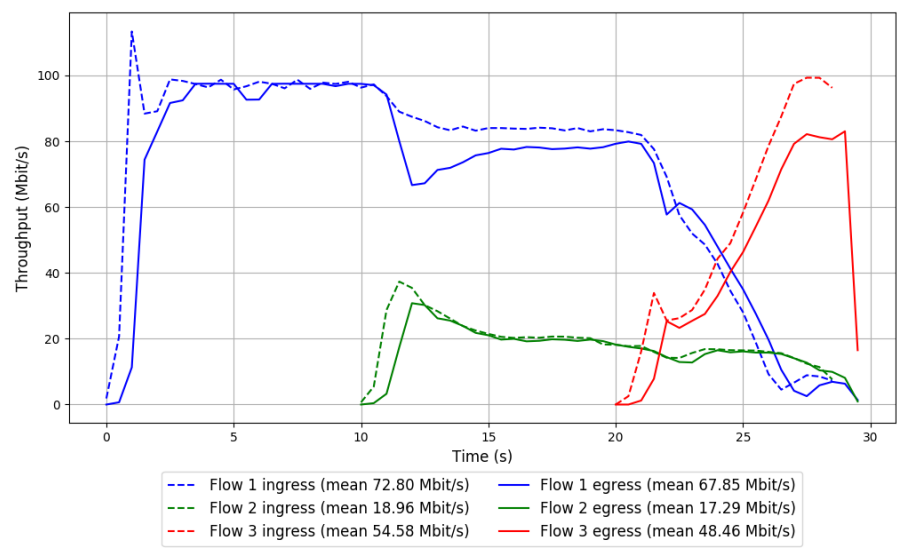


Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-21 12:51:11
End at: 2019-01-21 12:51:41
Local clock offset: -6.402 ms
Remote clock offset: 7.699 ms

Below is generated by plot.py at 2019-01-21 13:15:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 116.642 ms
Loss rate: 7.69%
-- Flow 1:
Average throughput: 67.85 Mbit/s
95th percentile per-packet one-way delay: 116.681 ms
Loss rate: 6.71%
-- Flow 2:
Average throughput: 17.29 Mbit/s
95th percentile per-packet one-way delay: 115.241 ms
Loss rate: 8.80%
-- Flow 3:
Average throughput: 48.46 Mbit/s
95th percentile per-packet one-way delay: 116.128 ms
Loss rate: 11.21%

Run 5: Report of Indigo-MusesT — Data Link

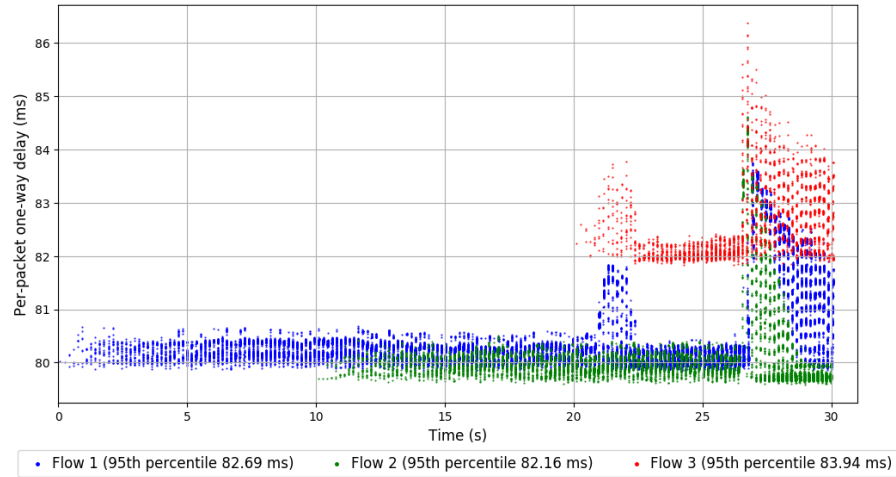
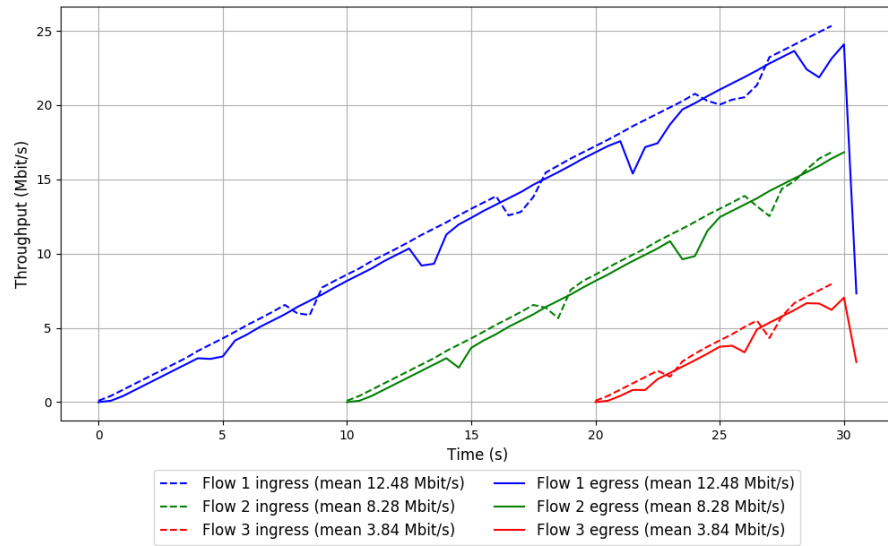


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-21 11:06:34
End at: 2019-01-21 11:07:04
Local clock offset: -7.148 ms
Remote clock offset: 3.667 ms

# Below is generated by plot.py at 2019-01-21 13:15:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.25 Mbit/s
95th percentile per-packet one-way delay: 82.957 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.48 Mbit/s
95th percentile per-packet one-way delay: 82.694 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 82.164 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 83.935 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-01-21 11:33:04

End at: 2019-01-21 11:33:34

Local clock offset: -6.751 ms

Remote clock offset: 3.882 ms

Below is generated by plot.py at 2019-01-21 13:15:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 13.99 Mbit/s

95th percentile per-packet one-way delay: 117.391 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 8.51 Mbit/s

95th percentile per-packet one-way delay: 120.940 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 6.68 Mbit/s

95th percentile per-packet one-way delay: 115.686 ms

Loss rate: 0.00%

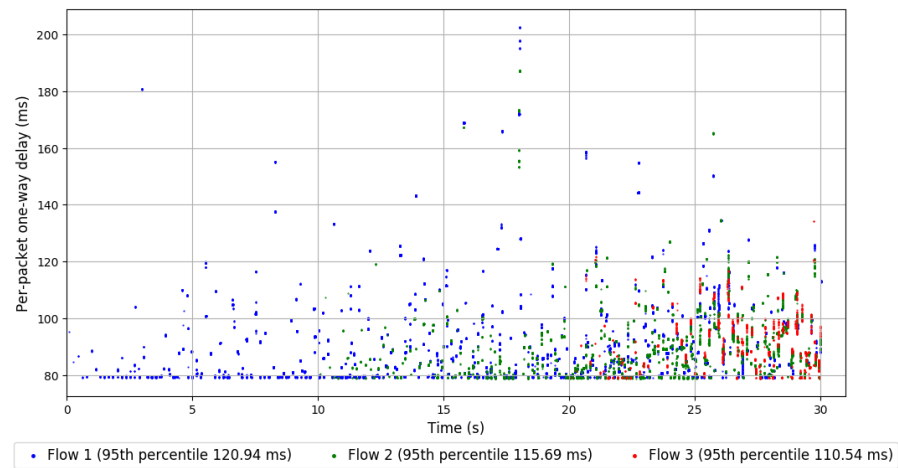
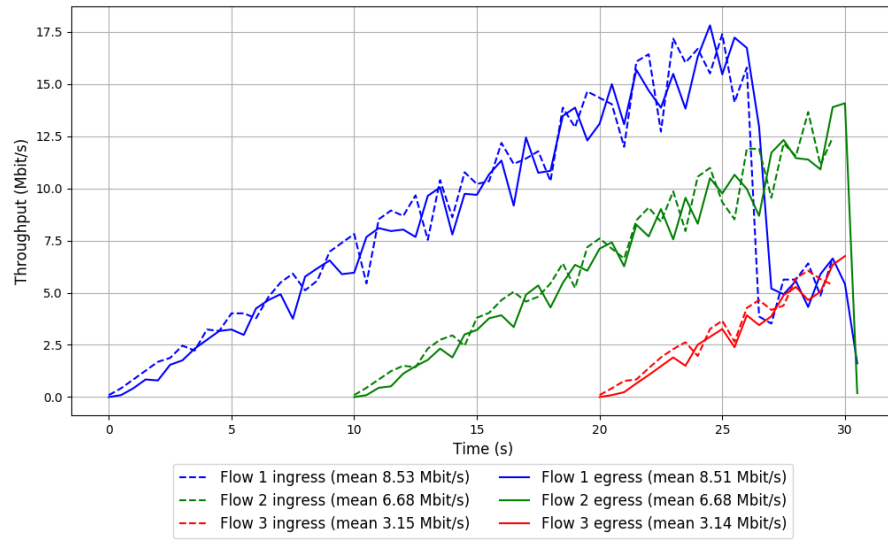
-- Flow 3:

Average throughput: 3.14 Mbit/s

95th percentile per-packet one-way delay: 110.543 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

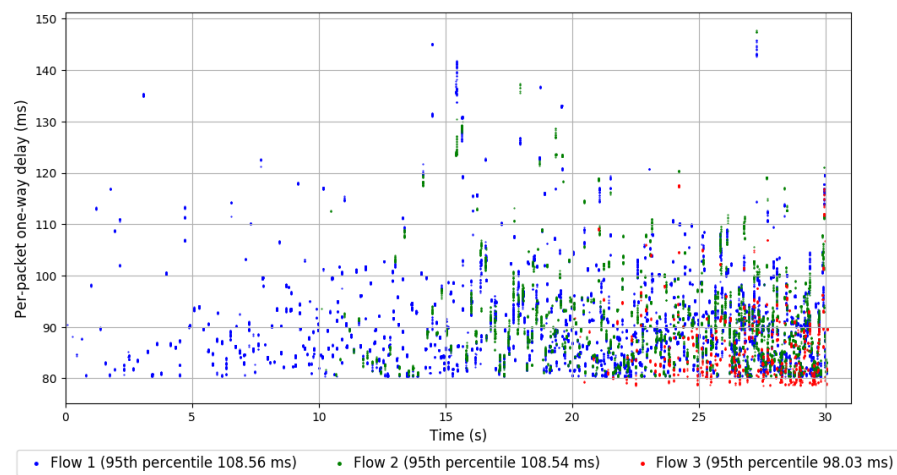
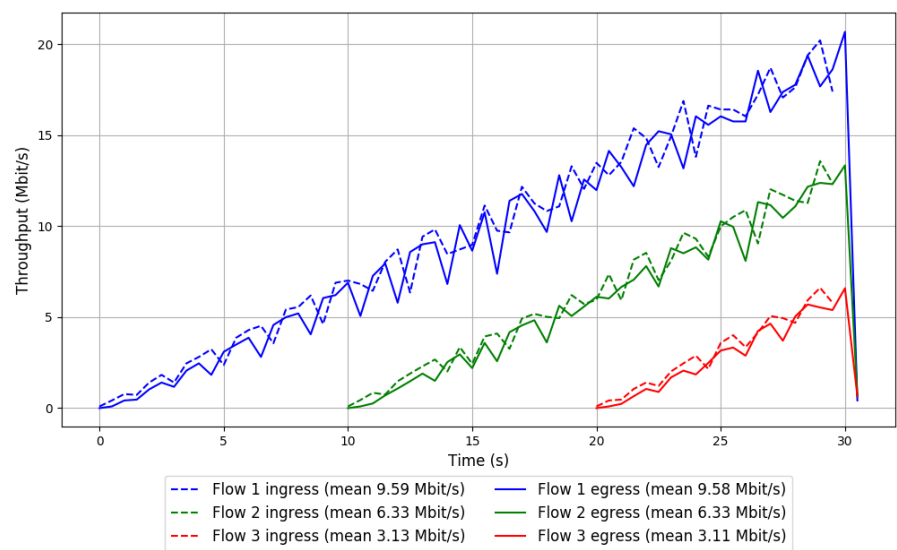


Run 3: Statistics of LEDBAT

Start at: 2019-01-21 11:59:27
End at: 2019-01-21 11:59:57
Local clock offset: -12.182 ms
Remote clock offset: 4.392 ms

Below is generated by plot.py at 2019-01-21 13:15:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.80 Mbit/s
95th percentile per-packet one-way delay: 108.053 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 108.560 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 108.538 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 98.025 ms
Loss rate: 0.68%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-01-21 12:25:52

End at: 2019-01-21 12:26:22

Local clock offset: -9.136 ms

Remote clock offset: 8.816 ms

Below is generated by plot.py at 2019-01-21 13:15:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.59 Mbit/s

95th percentile per-packet one-way delay: 87.520 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 12.11 Mbit/s

95th percentile per-packet one-way delay: 86.803 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 7.85 Mbit/s

95th percentile per-packet one-way delay: 88.061 ms

Loss rate: 0.00%

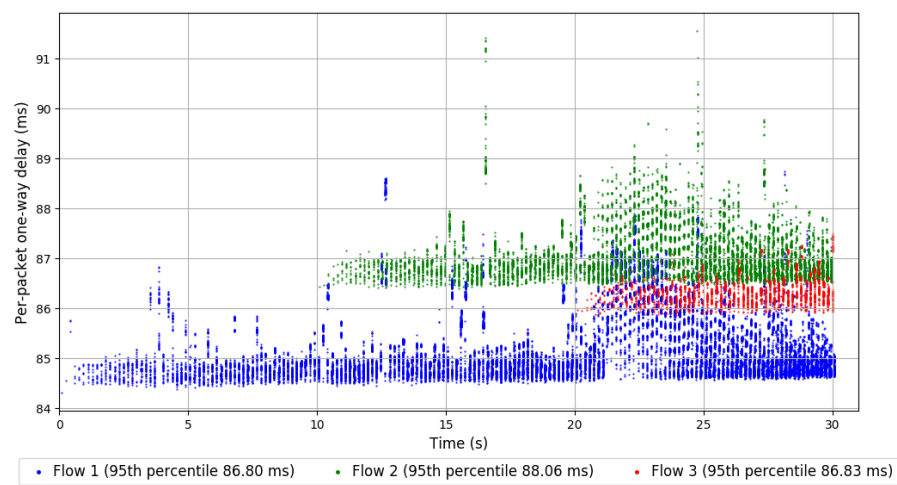
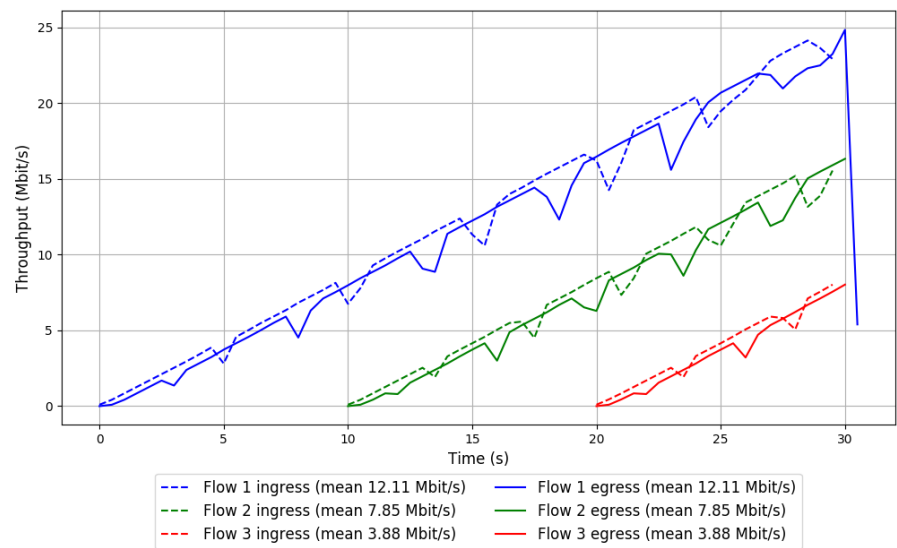
-- Flow 3:

Average throughput: 3.88 Mbit/s

95th percentile per-packet one-way delay: 86.829 ms

Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-01-21 12:52:29

End at: 2019-01-21 12:52:59

Local clock offset: -6.356 ms

Remote clock offset: 2.571 ms

Below is generated by plot.py at 2019-01-21 13:15:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 18.37 Mbit/s

95th percentile per-packet one-way delay: 89.174 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 11.83 Mbit/s

95th percentile per-packet one-way delay: 90.099 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 7.87 Mbit/s

95th percentile per-packet one-way delay: 87.473 ms

Loss rate: 0.00%

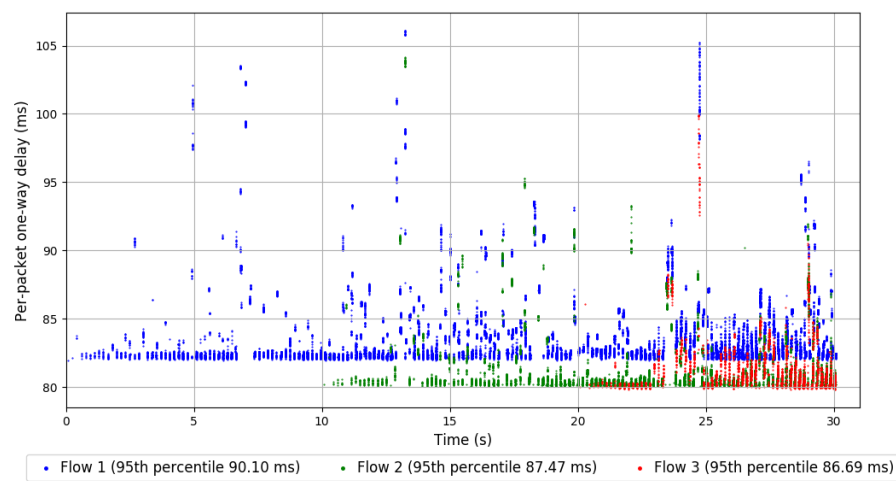
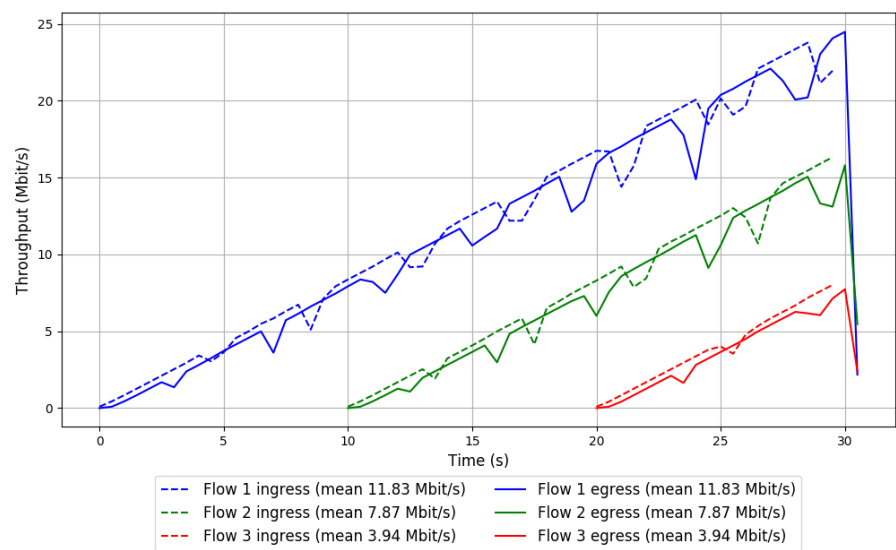
-- Flow 3:

Average throughput: 3.94 Mbit/s

95th percentile per-packet one-way delay: 86.687 ms

Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2019-01-21 10:58:52

End at: 2019-01-21 10:59:22

Local clock offset: -7.943 ms

Remote clock offset: 3.598 ms

Below is generated by plot.py at 2019-01-21 13:16:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 86.85 Mbit/s

95th percentile per-packet one-way delay: 111.901 ms

Loss rate: 2.56%

-- Flow 1:

Average throughput: 79.17 Mbit/s

95th percentile per-packet one-way delay: 111.834 ms

Loss rate: 2.47%

-- Flow 2:

Average throughput: 7.16 Mbit/s

95th percentile per-packet one-way delay: 114.003 ms

Loss rate: 3.66%

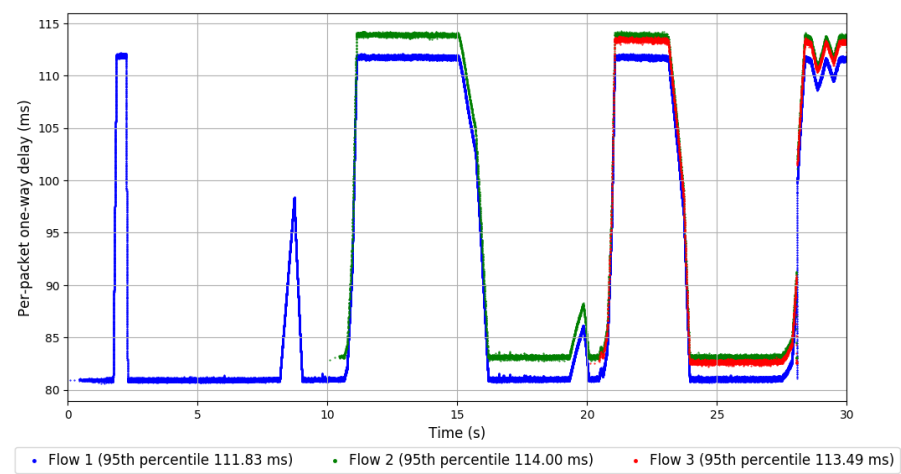
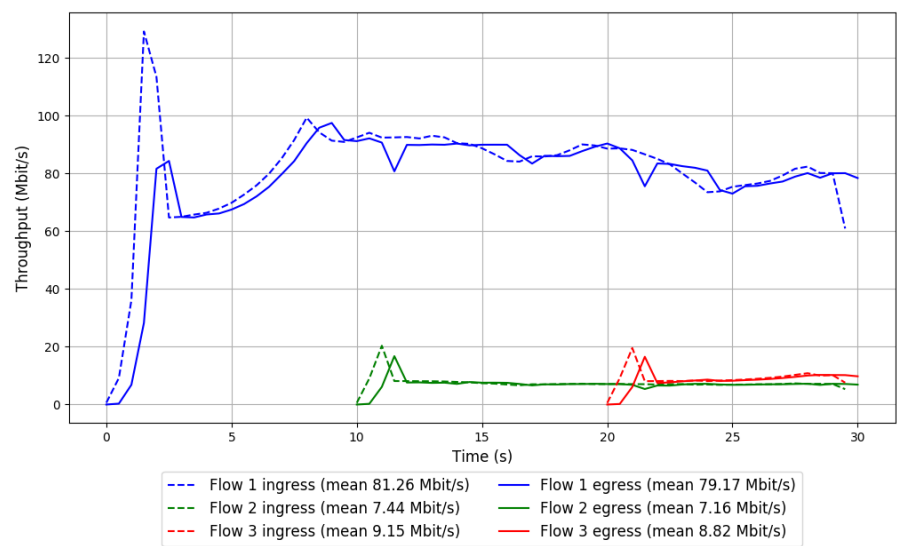
-- Flow 3:

Average throughput: 8.82 Mbit/s

95th percentile per-packet one-way delay: 113.488 ms

Loss rate: 3.29%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-01-21 11:25:23

End at: 2019-01-21 11:25:53

Local clock offset: -6.901 ms

Remote clock offset: 8.599 ms

Below is generated by plot.py at 2019-01-21 13:16:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 14.69 Mbit/s

95th percentile per-packet one-way delay: 118.833 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 9.04 Mbit/s

95th percentile per-packet one-way delay: 117.432 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 4.37 Mbit/s

95th percentile per-packet one-way delay: 120.509 ms

Loss rate: 0.00%

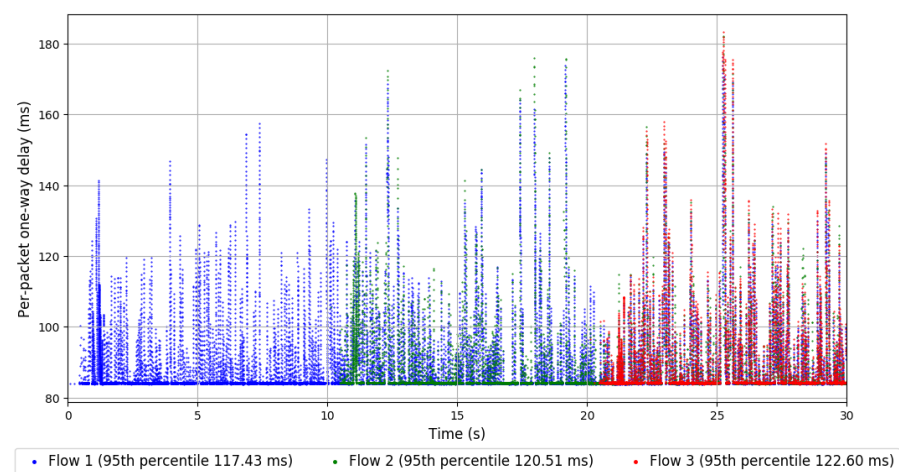
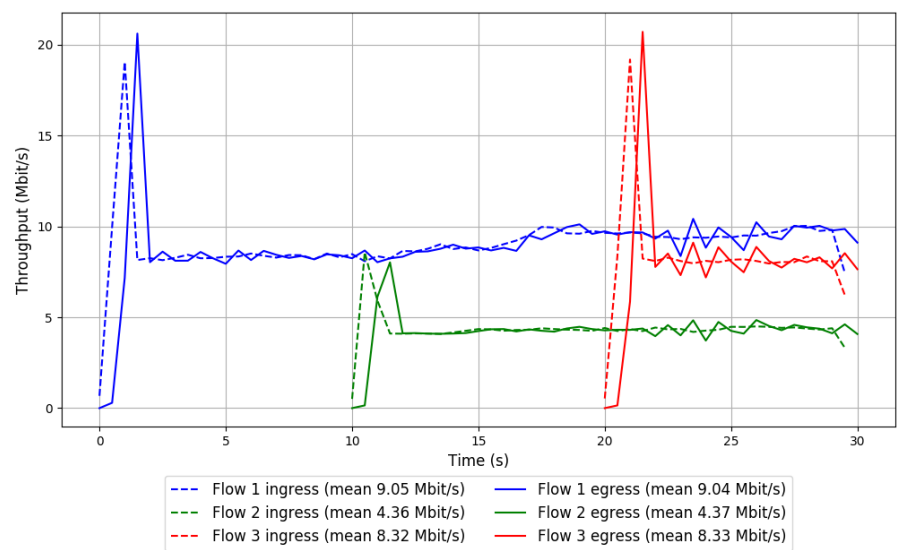
-- Flow 3:

Average throughput: 8.33 Mbit/s

95th percentile per-packet one-way delay: 122.601 ms

Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-21 11:51:49

End at: 2019-01-21 11:52:19

Local clock offset: -9.859 ms

Remote clock offset: 5.589 ms

Below is generated by plot.py at 2019-01-21 13:16:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 50.70 Mbit/s

95th percentile per-packet one-way delay: 152.228 ms

Loss rate: 12.23%

-- Flow 1:

Average throughput: 32.54 Mbit/s

95th percentile per-packet one-way delay: 146.871 ms

Loss rate: 8.10%

-- Flow 2:

Average throughput: 1.99 Mbit/s

95th percentile per-packet one-way delay: 122.233 ms

Loss rate: 4.56%

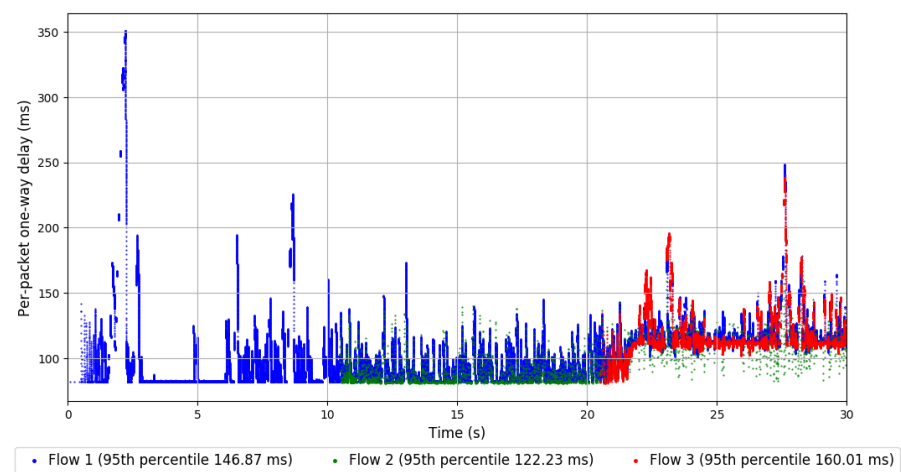
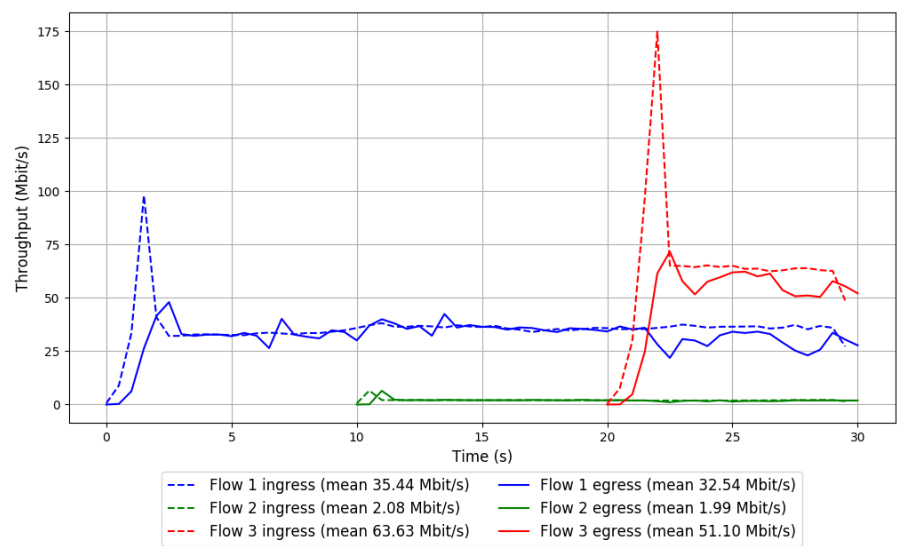
-- Flow 3:

Average throughput: 51.10 Mbit/s

95th percentile per-packet one-way delay: 160.009 ms

Loss rate: 19.71%

Run 3: Report of PCC-Allegro — Data Link

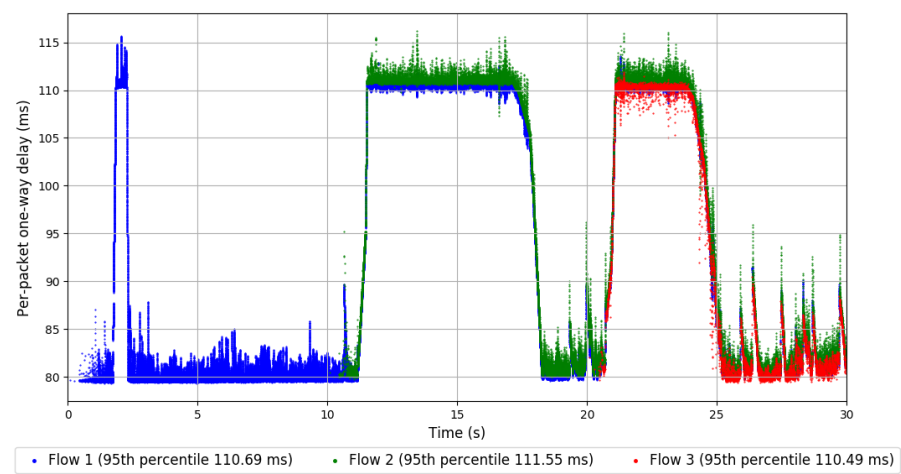
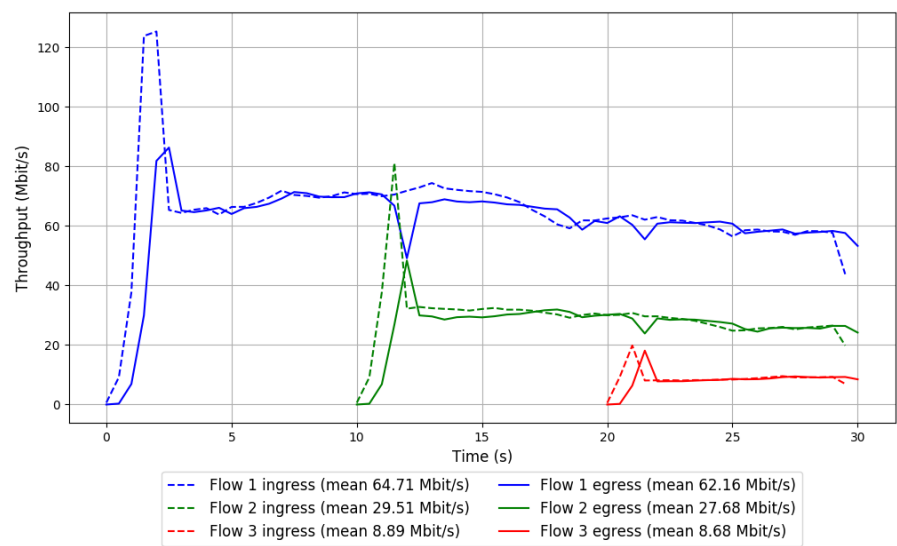


Run 4: Statistics of PCC-Allegro

Start at: 2019-01-21 12:18:10
End at: 2019-01-21 12:18:40
Local clock offset: -13.198 ms
Remote clock offset: 5.013 ms

Below is generated by plot.py at 2019-01-21 13:16:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 83.42 Mbit/s
95th percentile per-packet one-way delay: 111.045 ms
Loss rate: 4.39%
-- Flow 1:
Average throughput: 62.16 Mbit/s
95th percentile per-packet one-way delay: 110.691 ms
Loss rate: 3.94%
-- Flow 2:
Average throughput: 27.68 Mbit/s
95th percentile per-packet one-way delay: 111.554 ms
Loss rate: 6.20%
-- Flow 3:
Average throughput: 8.68 Mbit/s
95th percentile per-packet one-way delay: 110.490 ms
Loss rate: 2.39%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-21 12:44:46

End at: 2019-01-21 12:45:16

Local clock offset: -6.344 ms

Remote clock offset: 3.005 ms

Below is generated by plot.py at 2019-01-21 13:16:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.20 Mbit/s

95th percentile per-packet one-way delay: 113.268 ms

Loss rate: 3.77%

-- Flow 1:

Average throughput: 60.24 Mbit/s

95th percentile per-packet one-way delay: 113.876 ms

Loss rate: 4.14%

-- Flow 2:

Average throughput: 31.00 Mbit/s

95th percentile per-packet one-way delay: 111.525 ms

Loss rate: 2.81%

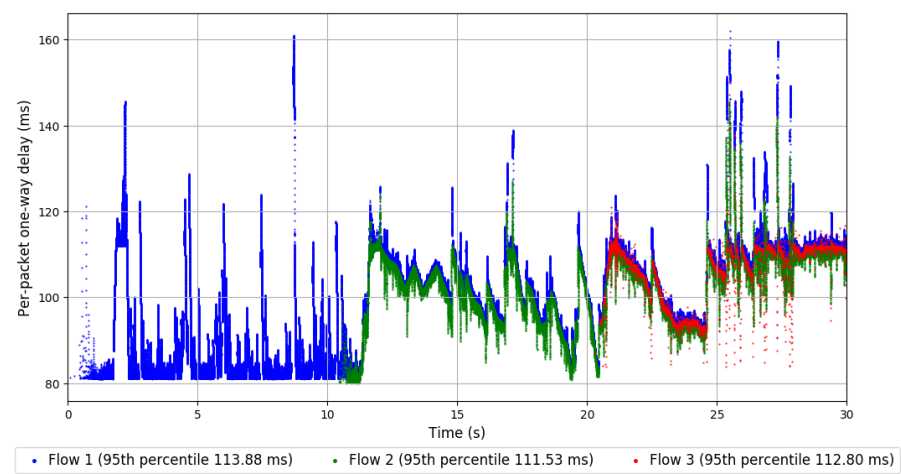
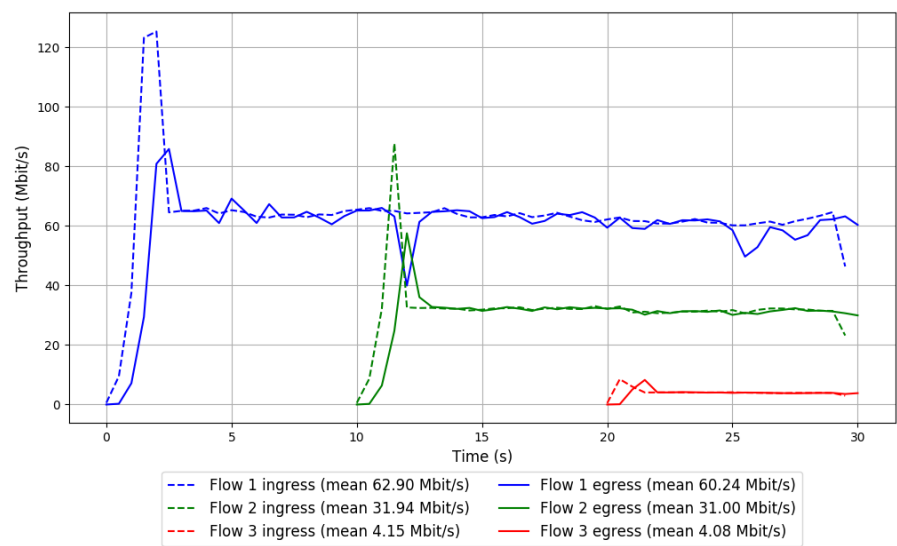
-- Flow 3:

Average throughput: 4.08 Mbit/s

95th percentile per-packet one-way delay: 112.803 ms

Loss rate: 1.68%

Run 5: Report of PCC-Allegro — Data Link

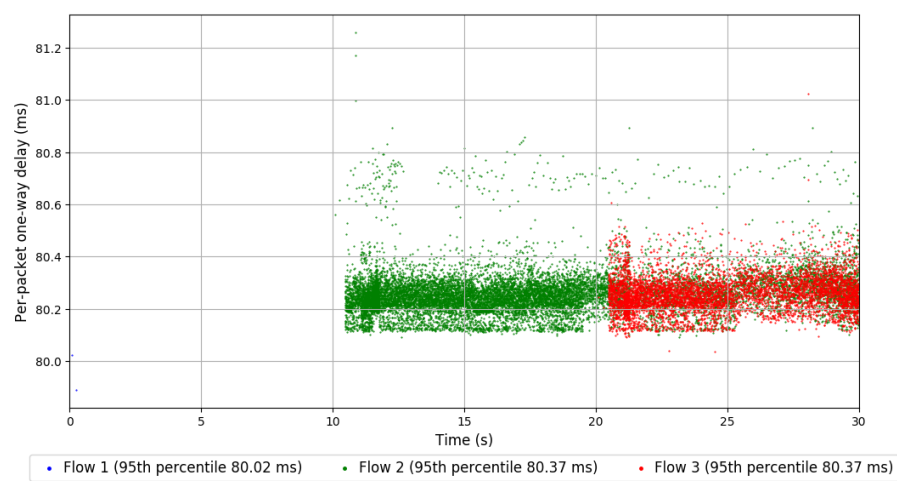
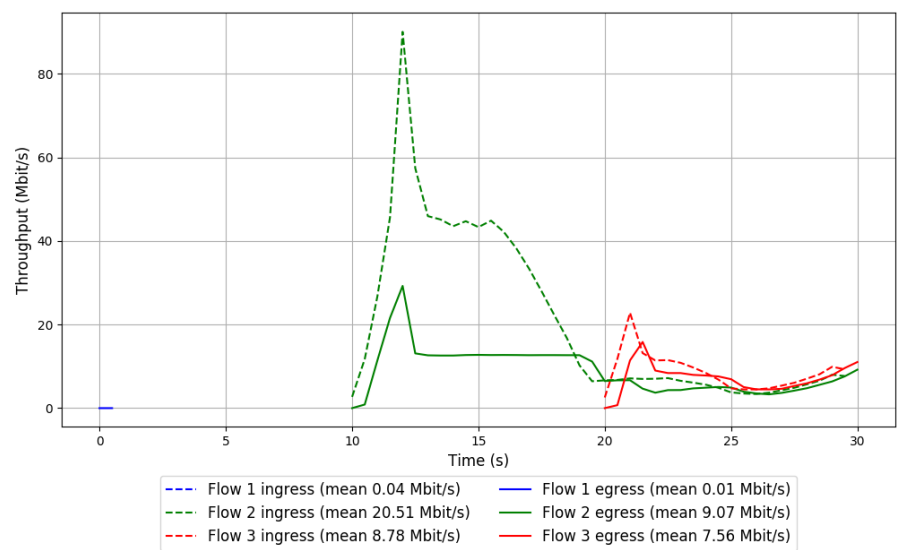



```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-21 11:01:28
End at: 2019-01-21 11:01:58
Local clock offset: -7.12 ms
Remote clock offset: 3.751 ms

# Below is generated by plot.py at 2019-01-21 13:16:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.53 Mbit/s
95th percentile per-packet one-way delay: 80.373 ms
Loss rate: 48.43%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 80.024 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 80.373 ms
Loss rate: 55.78%
-- Flow 3:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 80.374 ms
Loss rate: 13.87%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-01-21 11:27:57

End at: 2019-01-21 11:28:27

Local clock offset: -6.785 ms

Remote clock offset: 8.59 ms

Below is generated by plot.py at 2019-01-21 13:16:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.68 Mbit/s

95th percentile per-packet one-way delay: 124.914 ms

Loss rate: 38.73%

-- Flow 1:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 86.307 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 11.41 Mbit/s

95th percentile per-packet one-way delay: 125.134 ms

Loss rate: 37.66%

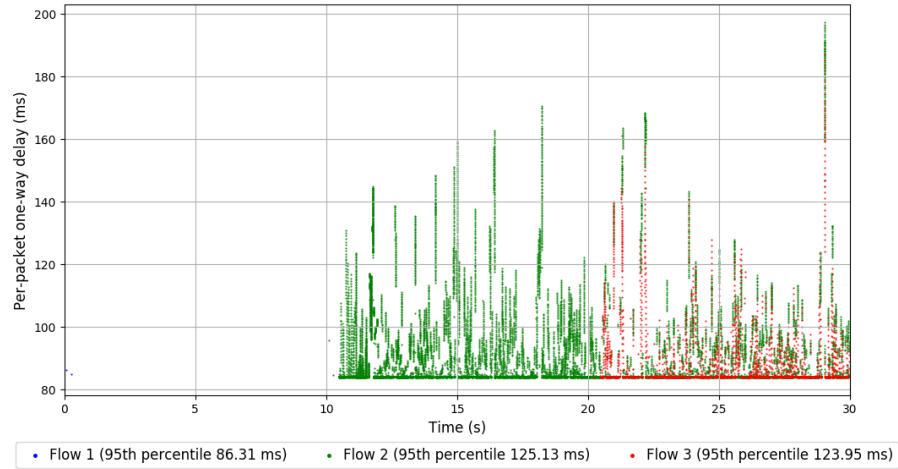
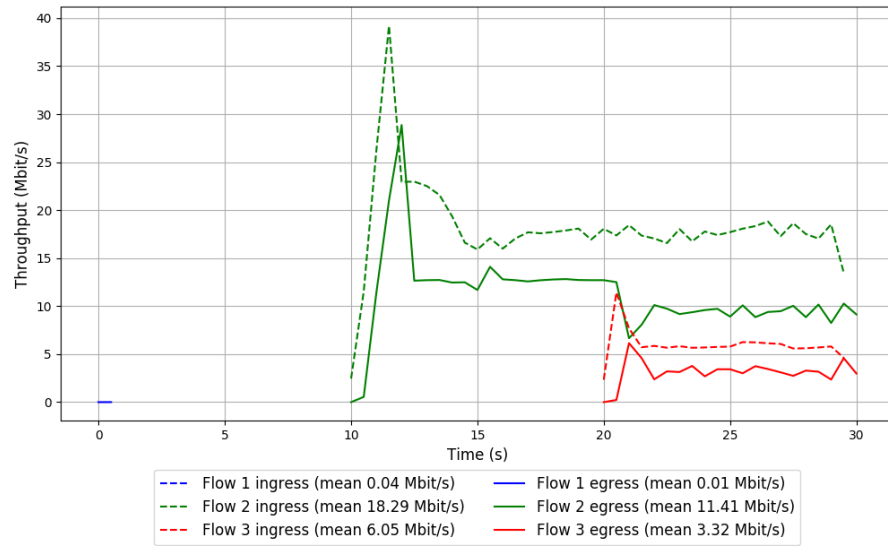
-- Flow 3:

Average throughput: 3.32 Mbit/s

95th percentile per-packet one-way delay: 123.955 ms

Loss rate: 45.21%

Run 2: Report of PCC-Expr — Data Link

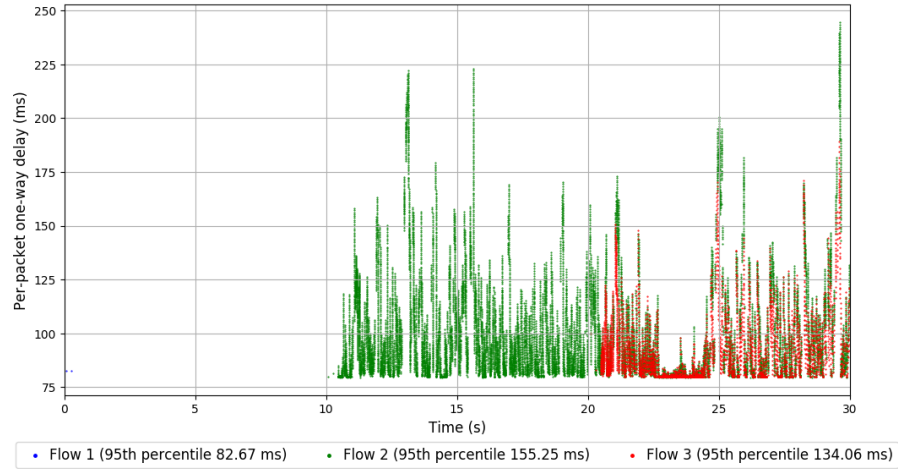
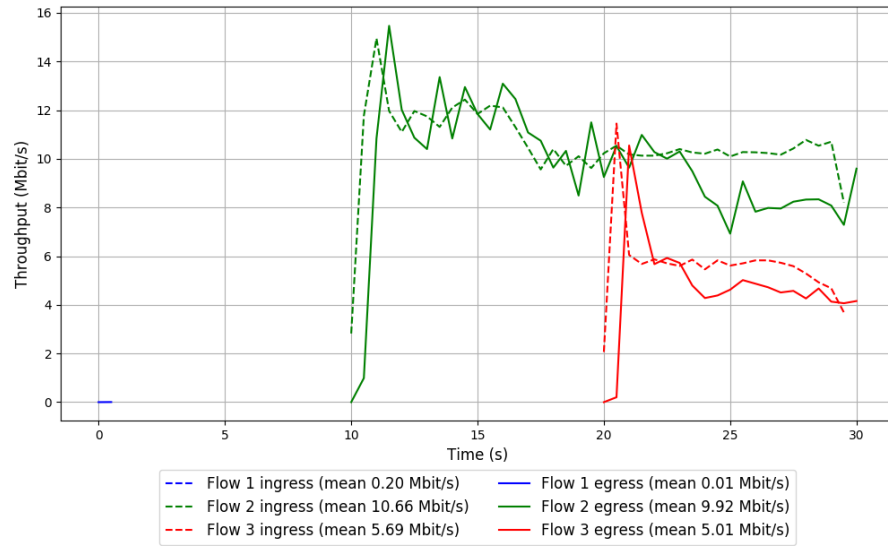


Run 3: Statistics of PCC-Expr

Start at: 2019-01-21 11:54:21
End at: 2019-01-21 11:54:51
Local clock offset: -10.898 ms
Remote clock offset: 5.365 ms

Below is generated by plot.py at 2019-01-21 13:16:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.25 Mbit/s
95th percentile per-packet one-way delay: 151.326 ms
Loss rate: 7.98%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 82.667 ms
Loss rate: 97.30%
-- Flow 2:
Average throughput: 9.92 Mbit/s
95th percentile per-packet one-way delay: 155.253 ms
Loss rate: 6.88%
-- Flow 3:
Average throughput: 5.01 Mbit/s
95th percentile per-packet one-way delay: 134.056 ms
Loss rate: 12.02%

Run 3: Report of PCC-Expr — Data Link

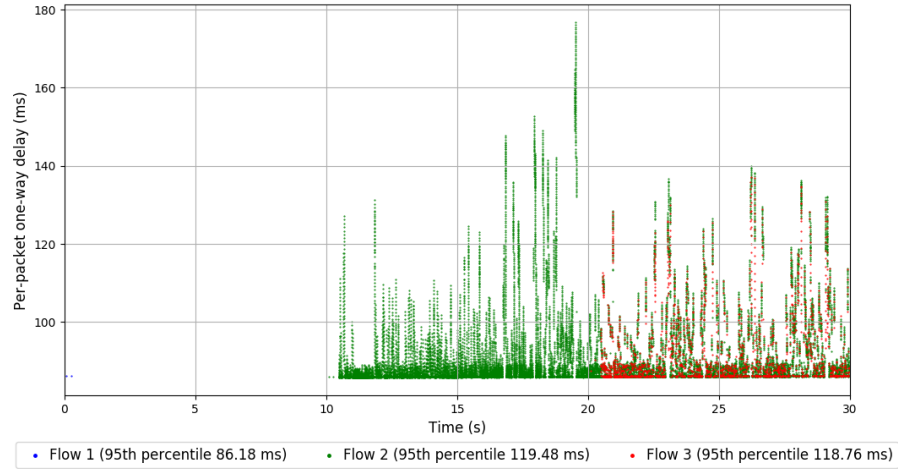
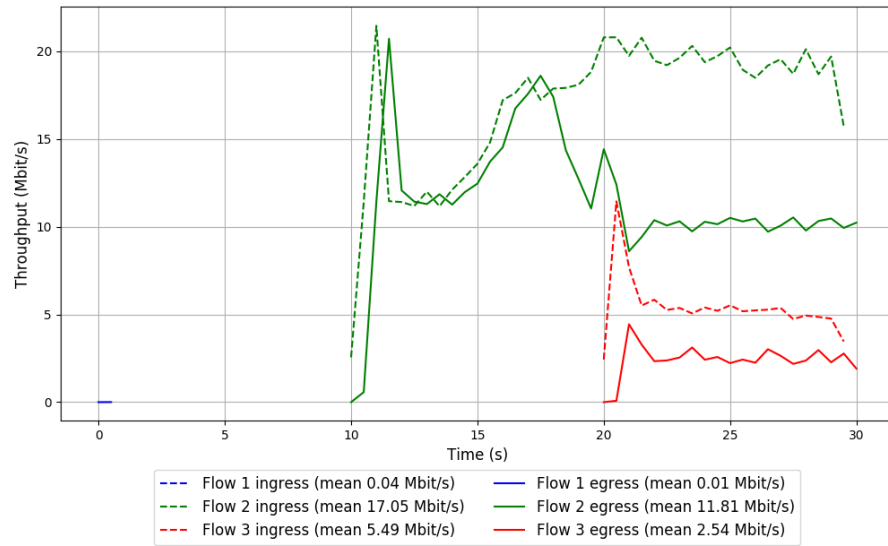


Run 4: Statistics of PCC-Expr

Start at: 2019-01-21 12:20:45
End at: 2019-01-21 12:21:15
Local clock offset: -11.482 ms
Remote clock offset: 11.153 ms

Below is generated by plot.py at 2019-01-21 13:16:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 119.428 ms
Loss rate: 33.92%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 86.184 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 119.479 ms
Loss rate: 30.75%
-- Flow 3:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 118.756 ms
Loss rate: 53.75%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-01-21 12:47:21

End at: 2019-01-21 12:47:51

Local clock offset: -6.201 ms

Remote clock offset: 2.862 ms

Below is generated by plot.py at 2019-01-21 13:16:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.46 Mbit/s

95th percentile per-packet one-way delay: 96.080 ms

Loss rate: 23.45%

-- Flow 1:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 82.243 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 8.86 Mbit/s

95th percentile per-packet one-way delay: 96.074 ms

Loss rate: 25.13%

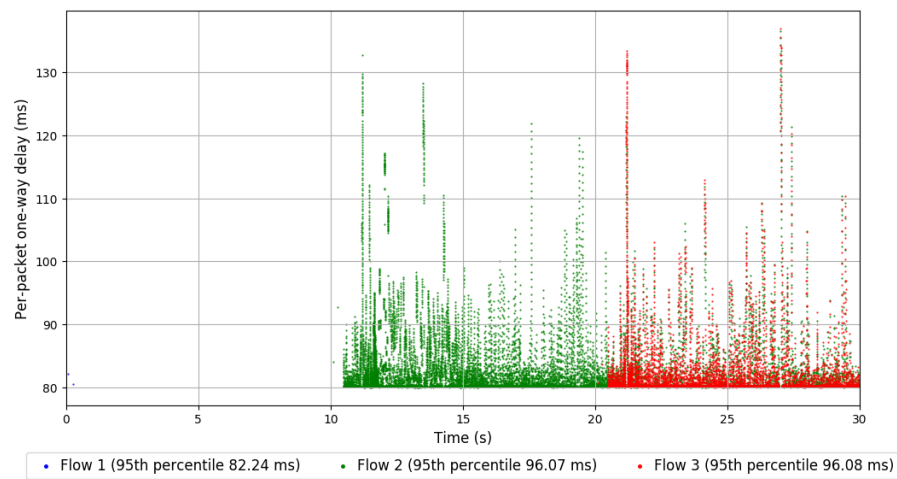
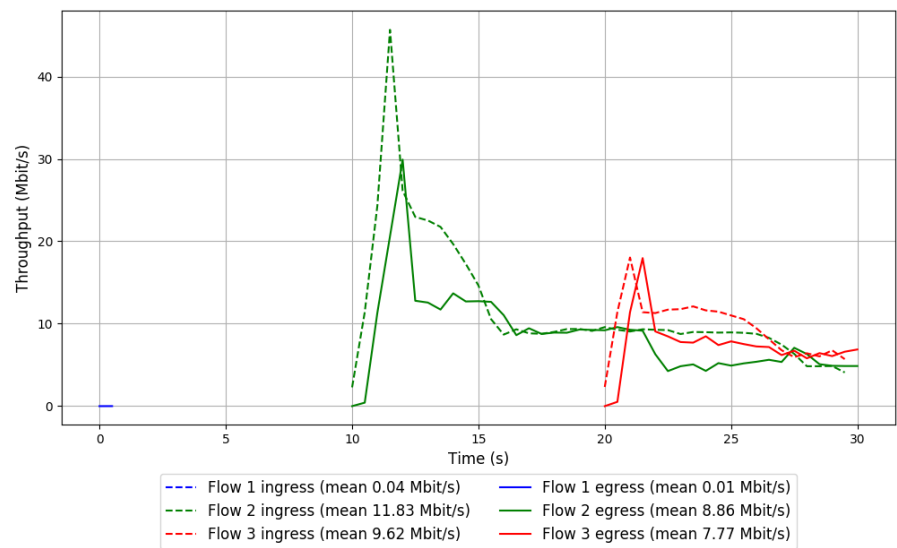
-- Flow 3:

Average throughput: 7.77 Mbit/s

95th percentile per-packet one-way delay: 96.085 ms

Loss rate: 19.29%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-01-21 11:21:41

End at: 2019-01-21 11:22:11

Local clock offset: -7.033 ms

Remote clock offset: 8.367 ms

Below is generated by plot.py at 2019-01-21 13:16:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 65.96 Mbit/s

95th percentile per-packet one-way delay: 116.278 ms

Loss rate: 2.28%

-- Flow 1:

Average throughput: 39.12 Mbit/s

95th percentile per-packet one-way delay: 114.479 ms

Loss rate: 1.38%

-- Flow 2:

Average throughput: 28.57 Mbit/s

95th percentile per-packet one-way delay: 120.506 ms

Loss rate: 3.93%

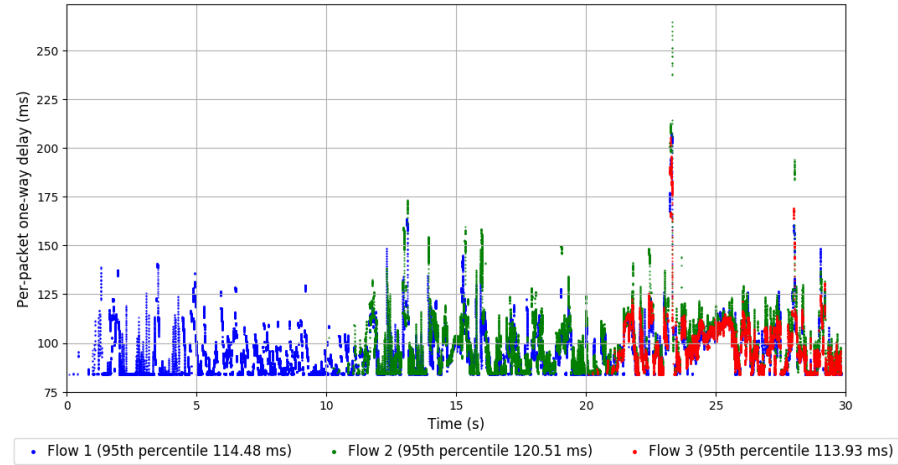
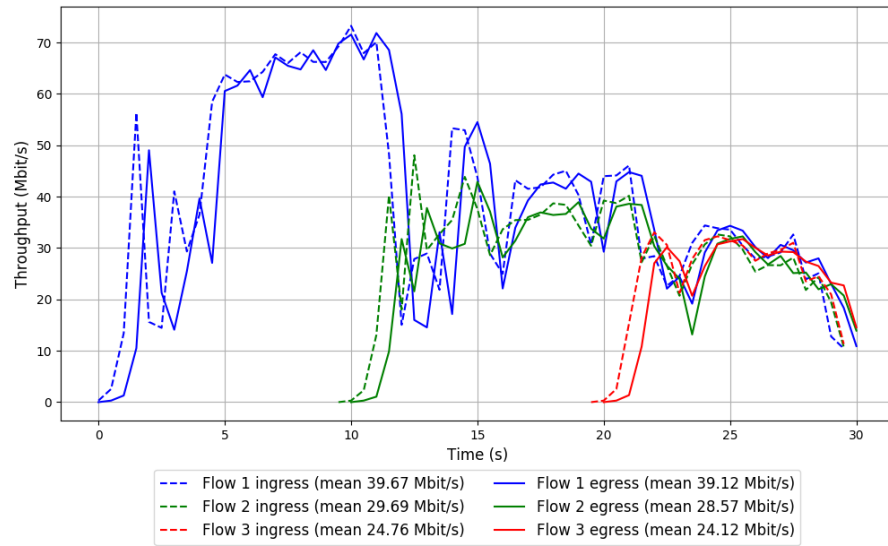
-- Flow 3:

Average throughput: 24.12 Mbit/s

95th percentile per-packet one-way delay: 113.932 ms

Loss rate: 2.68%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-01-21 11:48:08

End at: 2019-01-21 11:48:38

Local clock offset: -8.03 ms

Remote clock offset: 4.112 ms

Below is generated by plot.py at 2019-01-21 13:16:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 29.48 Mbit/s

95th percentile per-packet one-way delay: 146.893 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 22.72 Mbit/s

95th percentile per-packet one-way delay: 147.918 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 8.03 Mbit/s

95th percentile per-packet one-way delay: 141.272 ms

Loss rate: 0.53%

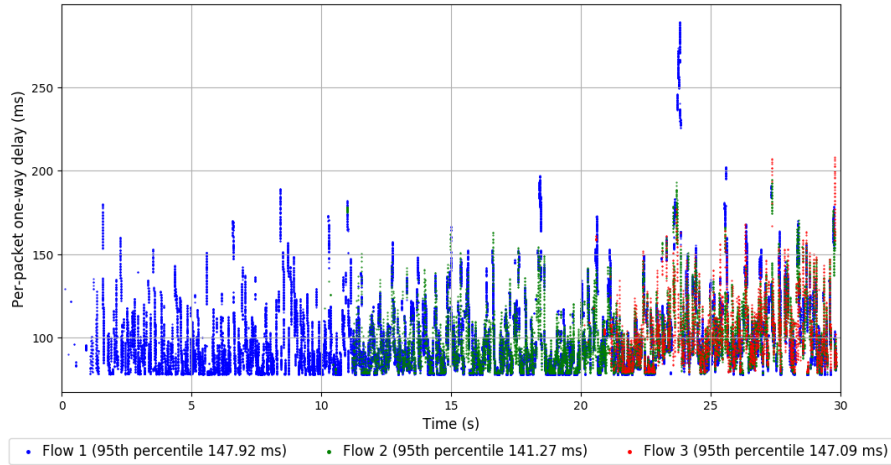
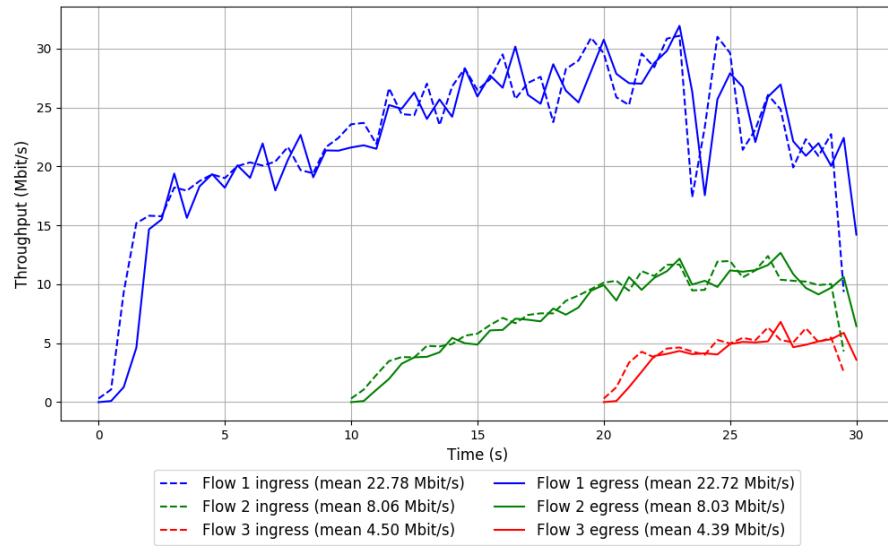
-- Flow 3:

Average throughput: 4.39 Mbit/s

95th percentile per-packet one-way delay: 147.086 ms

Loss rate: 2.71%

Run 2: Report of QUIC Cubic — Data Link

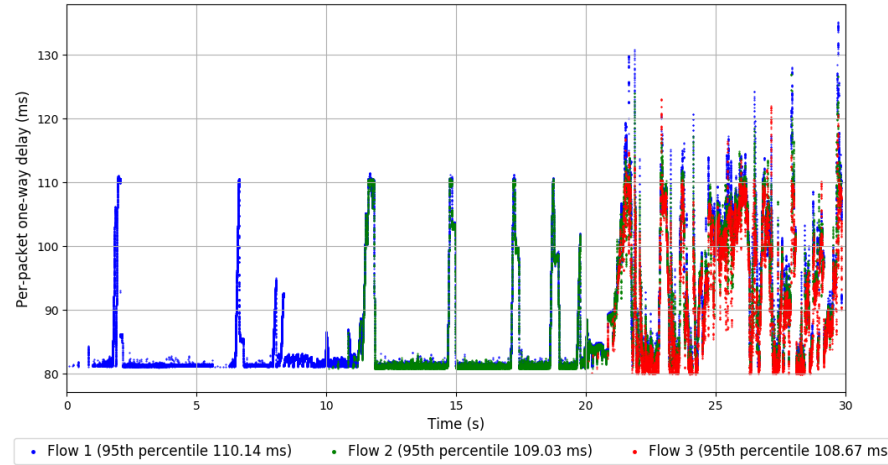
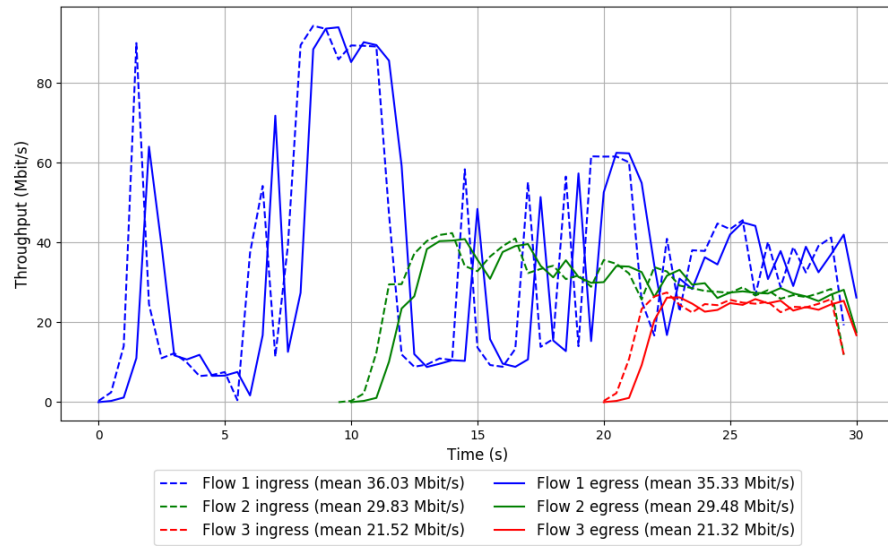


Run 3: Statistics of QUIC Cubic

Start at: 2019-01-21 12:14:28
End at: 2019-01-21 12:14:58
Local clock offset: -14.544 ms
Remote clock offset: 6.161 ms

Below is generated by plot.py at 2019-01-21 13:16:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 61.87 Mbit/s
95th percentile per-packet one-way delay: 109.758 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 35.33 Mbit/s
95th percentile per-packet one-way delay: 110.143 ms
Loss rate: 1.92%
-- Flow 2:
Average throughput: 29.48 Mbit/s
95th percentile per-packet one-way delay: 109.033 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 21.32 Mbit/s
95th percentile per-packet one-way delay: 108.674 ms
Loss rate: 0.83%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-01-21 12:41:05

End at: 2019-01-21 12:41:35

Local clock offset: -6.569 ms

Remote clock offset: 8.188 ms

Below is generated by plot.py at 2019-01-21 13:16:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 52.55 Mbit/s

95th percentile per-packet one-way delay: 111.466 ms

Loss rate: 1.30%

-- Flow 1:

Average throughput: 38.42 Mbit/s

95th percentile per-packet one-way delay: 110.047 ms

Loss rate: 1.23%

-- Flow 2:

Average throughput: 5.18 Mbit/s

95th percentile per-packet one-way delay: 104.264 ms

Loss rate: 0.32%

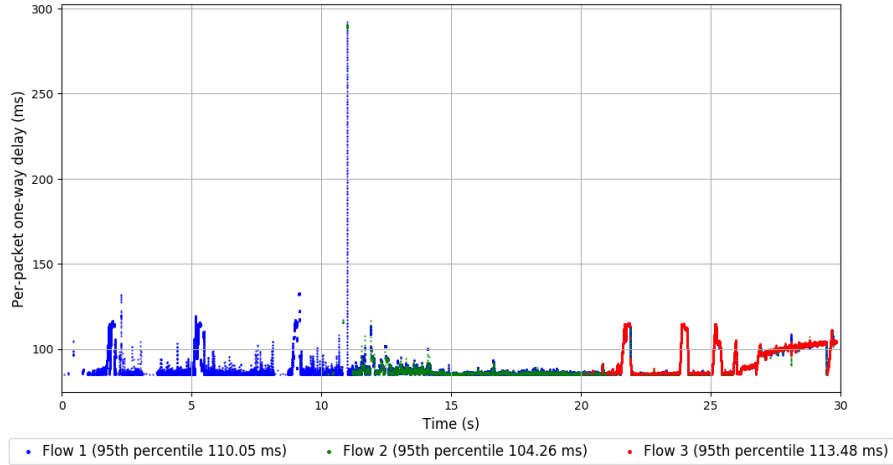
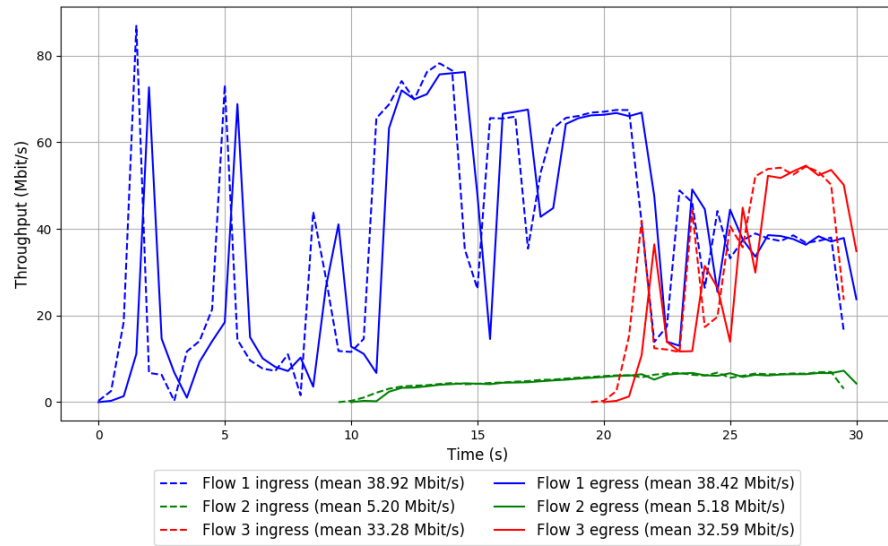
-- Flow 3:

Average throughput: 32.59 Mbit/s

95th percentile per-packet one-way delay: 113.483 ms

Loss rate: 1.86%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-21 13:07:38

End at: 2019-01-21 13:08:08

Local clock offset: -6.221 ms

Remote clock offset: 3.157 ms

Below is generated by plot.py at 2019-01-21 13:17:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 63.68 Mbit/s

95th percentile per-packet one-way delay: 106.100 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 47.82 Mbit/s

95th percentile per-packet one-way delay: 107.031 ms

Loss rate: 0.57%

-- Flow 2:

Average throughput: 19.86 Mbit/s

95th percentile per-packet one-way delay: 101.880 ms

Loss rate: 0.24%

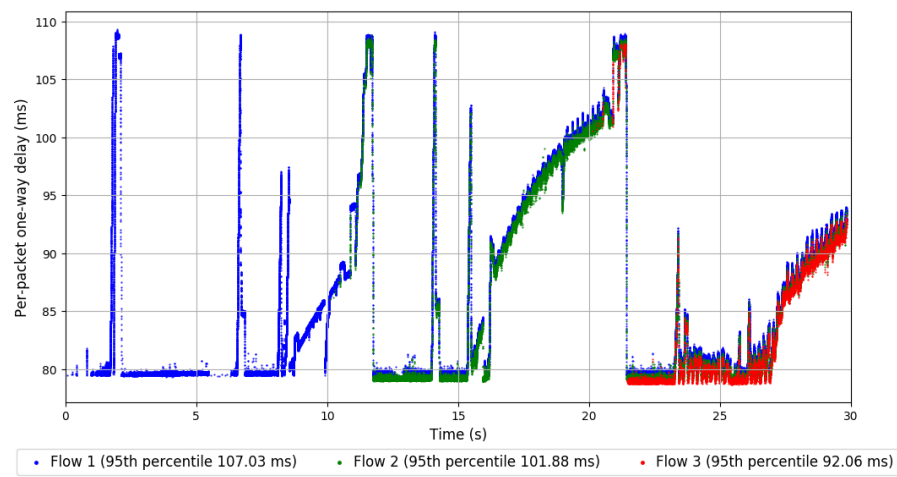
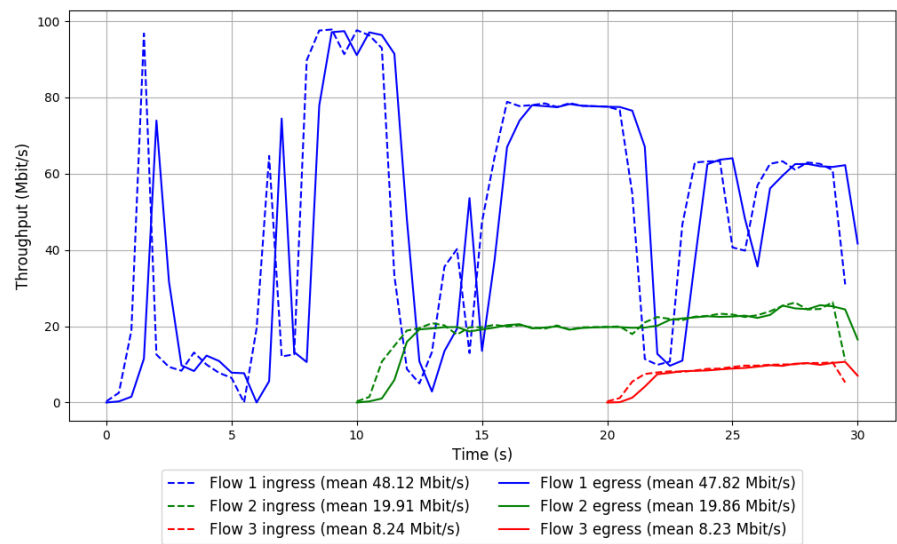
-- Flow 3:

Average throughput: 8.23 Mbit/s

95th percentile per-packet one-way delay: 92.055 ms

Loss rate: 0.14%

Run 5: Report of QUIC Cubic — Data Link

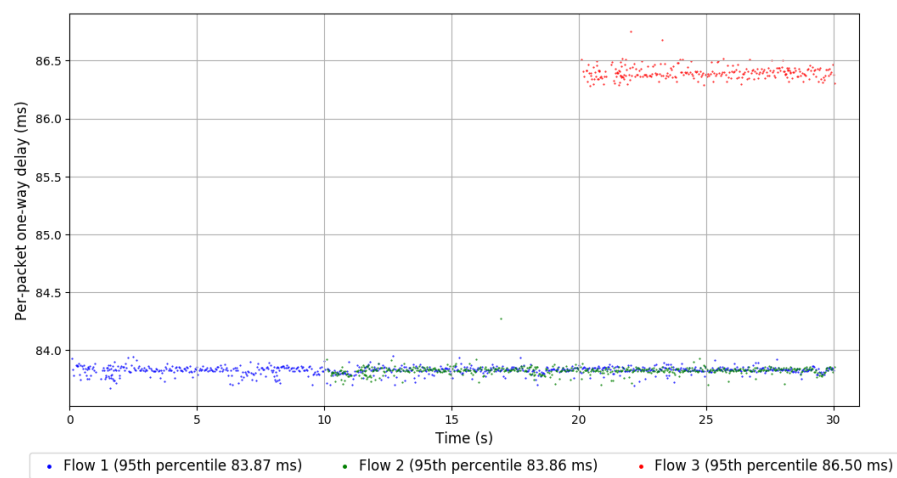
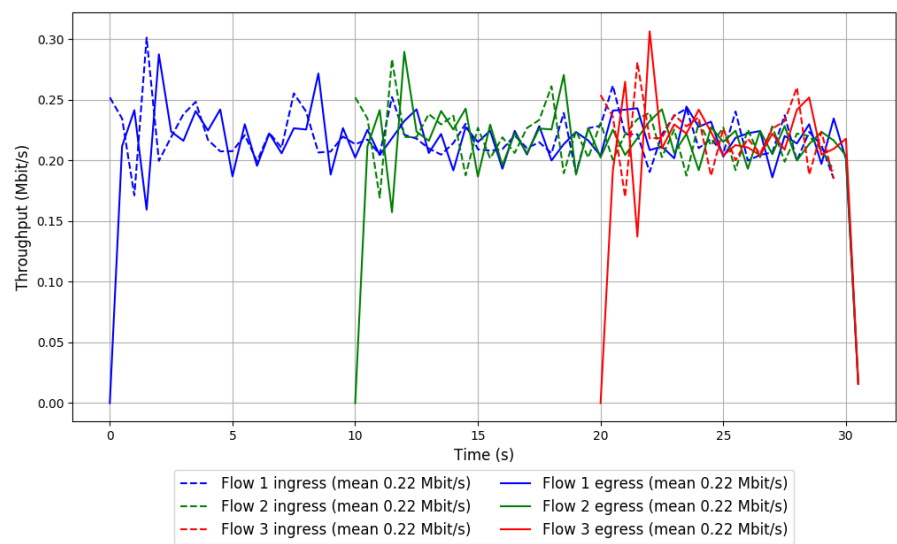


```
Run 1: Statistics of SReAM

Start at: 2019-01-21 10:57:39
End at: 2019-01-21 10:58:09
Local clock offset: -7.961 ms
Remote clock offset: 6.498 ms

# Below is generated by plot.py at 2019-01-21 13:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.416 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.872 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.860 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.495 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

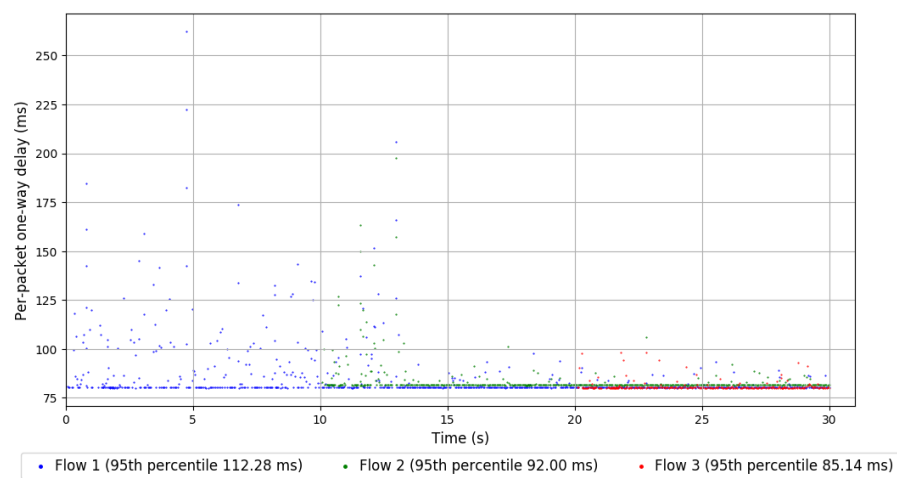
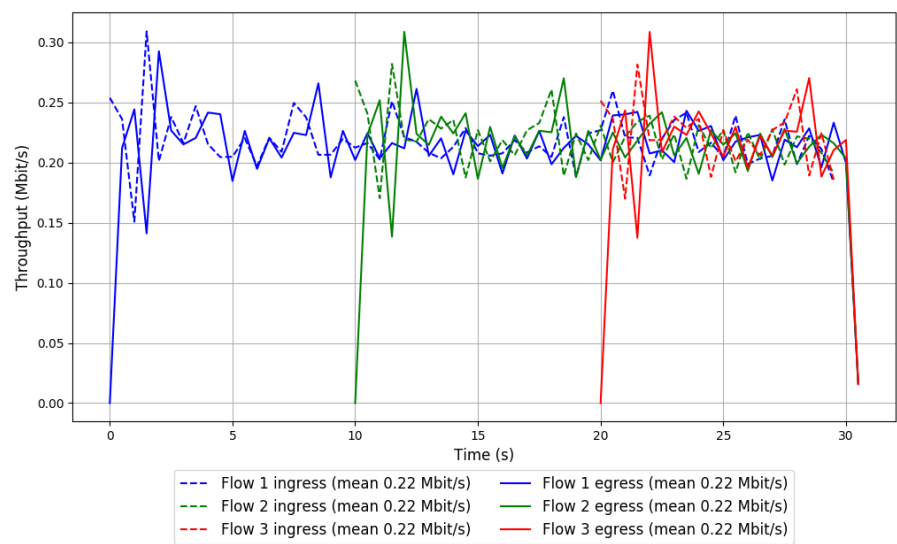


Run 2: Statistics of SReAM

Start at: 2019-01-21 11:24:11
End at: 2019-01-21 11:24:41
Local clock offset: -6.855 ms
Remote clock offset: 4.678 ms

Below is generated by plot.py at 2019-01-21 13:17:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 103.158 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.279 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.003 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.138 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

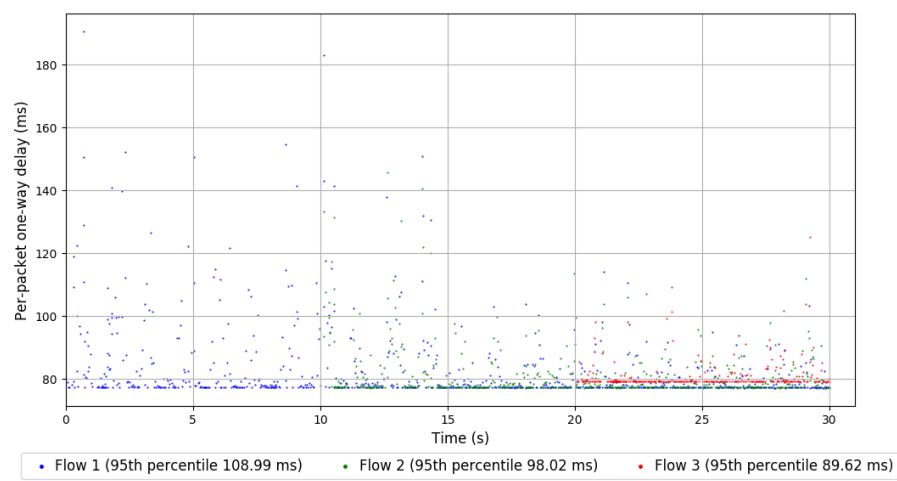
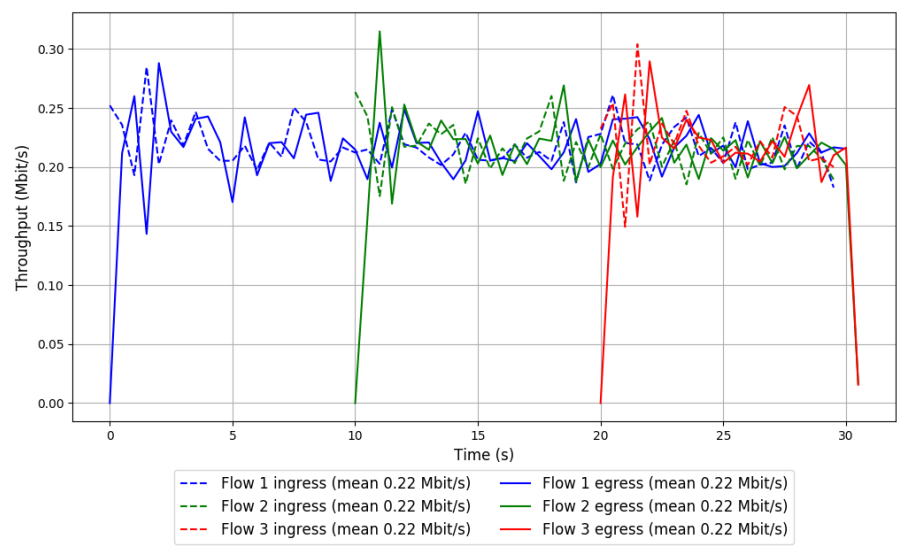


Run 3: Statistics of SReAM

Start at: 2019-01-21 11:50:36
End at: 2019-01-21 11:51:06
Local clock offset: -6.642 ms
Remote clock offset: 5.572 ms

Below is generated by plot.py at 2019-01-21 13:17:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 101.731 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 108.988 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 98.019 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 89.622 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

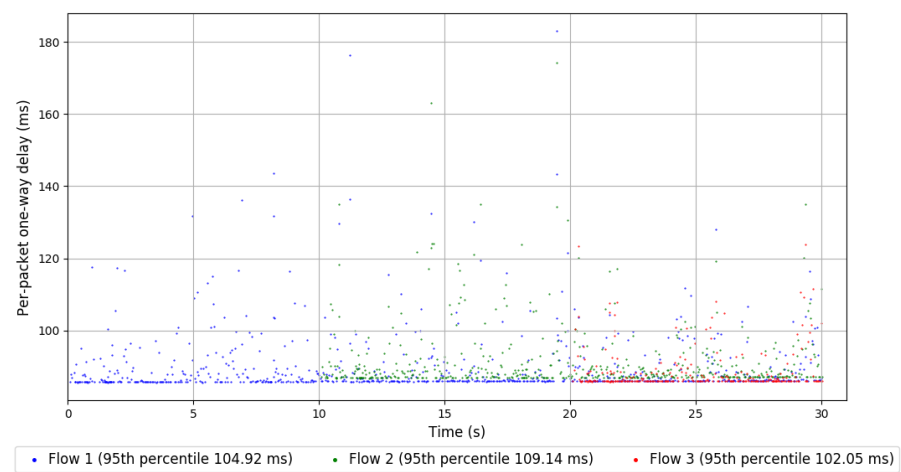
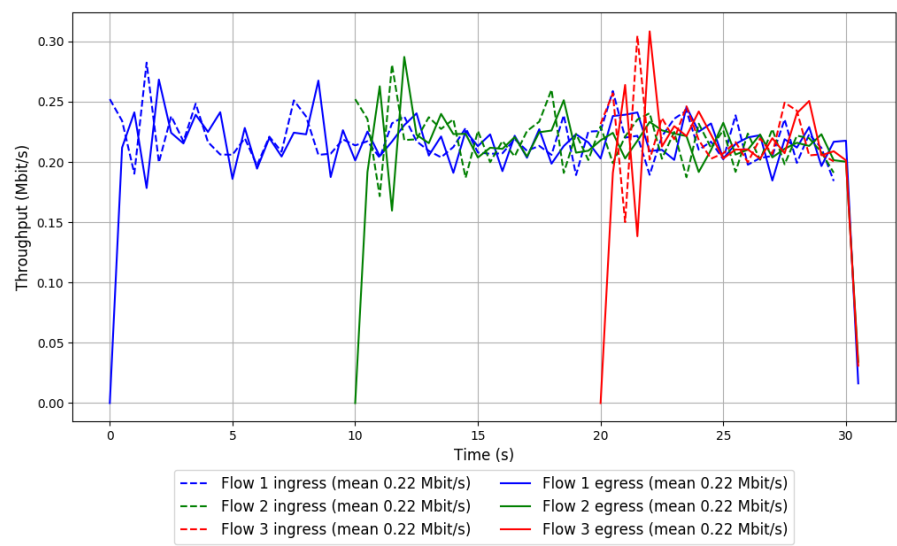


Run 4: Statistics of SReAM

Start at: 2019-01-21 12:16:58
End at: 2019-01-21 12:17:28
Local clock offset: -14.222 ms
Remote clock offset: 11.099 ms

Below is generated by plot.py at 2019-01-21 13:17:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 106.646 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 104.924 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 109.136 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 102.049 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

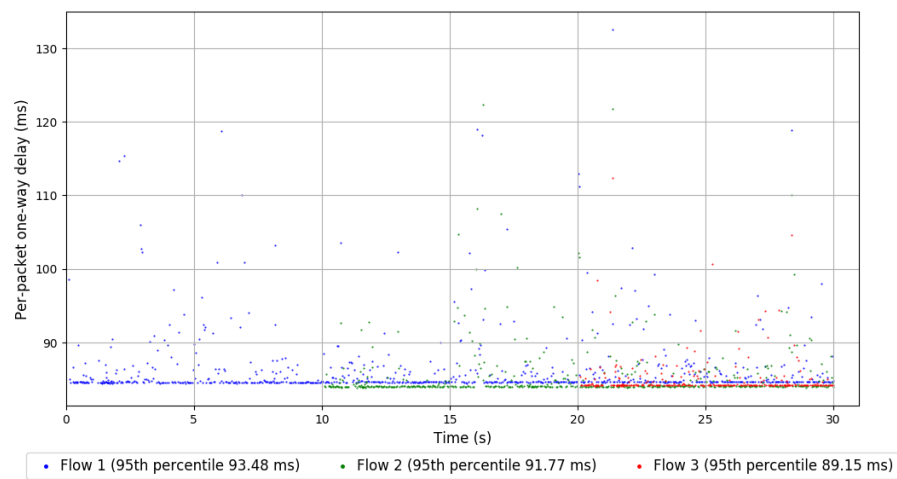
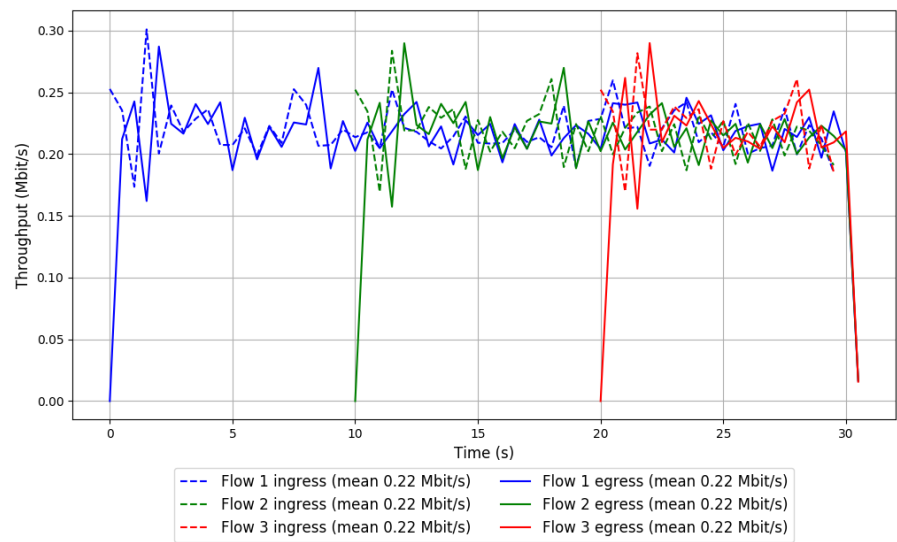


Run 5: Statistics of SReAM

Start at: 2019-01-21 12:43:34
End at: 2019-01-21 12:44:04
Local clock offset: -6.449 ms
Remote clock offset: 6.649 ms

Below is generated by plot.py at 2019-01-21 13:17:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 92.775 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.482 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.770 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 89.149 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

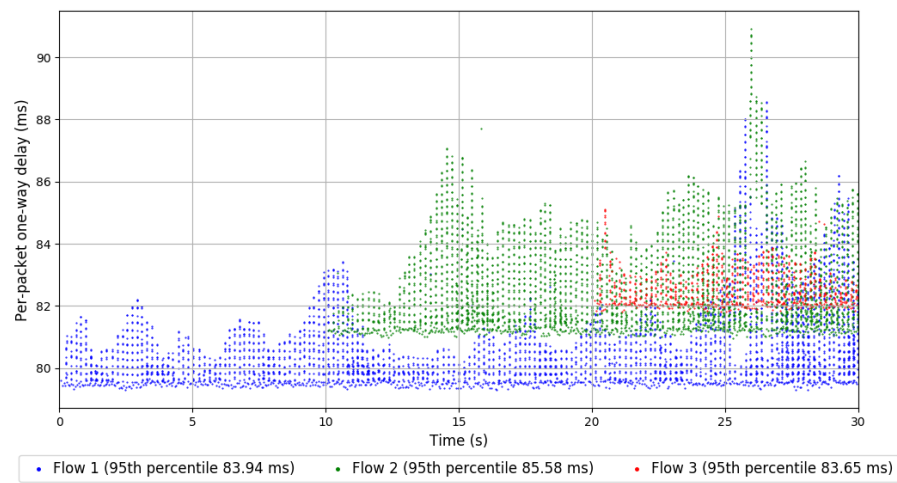
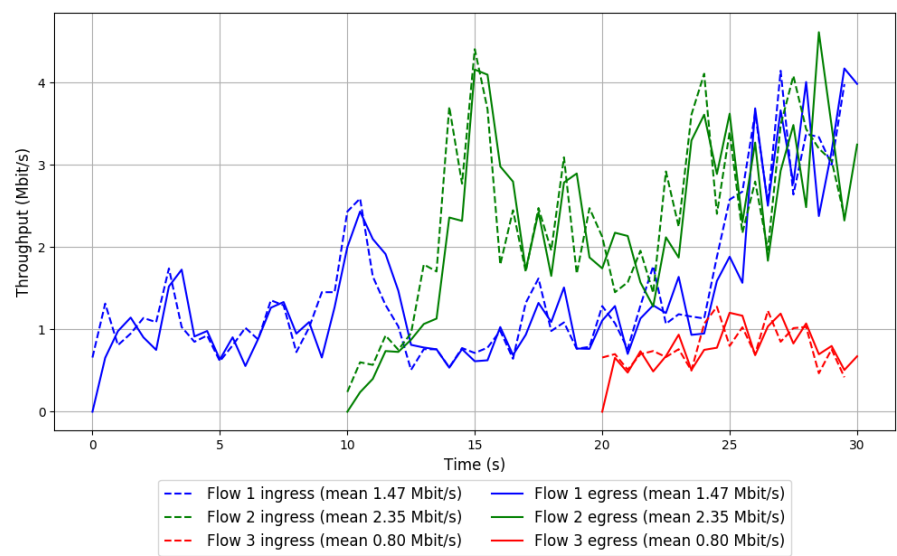


Run 1: Statistics of Sprout

Start at: 2019-01-21 10:56:26
End at: 2019-01-21 10:56:56
Local clock offset: -7.246 ms
Remote clock offset: 2.555 ms

Below is generated by plot.py at 2019-01-21 13:17:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 85.061 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 83.937 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 85.579 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 83.654 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

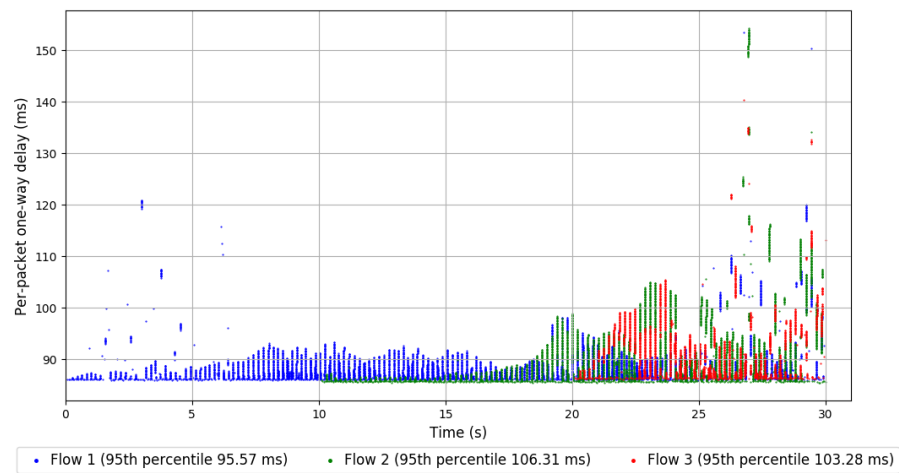
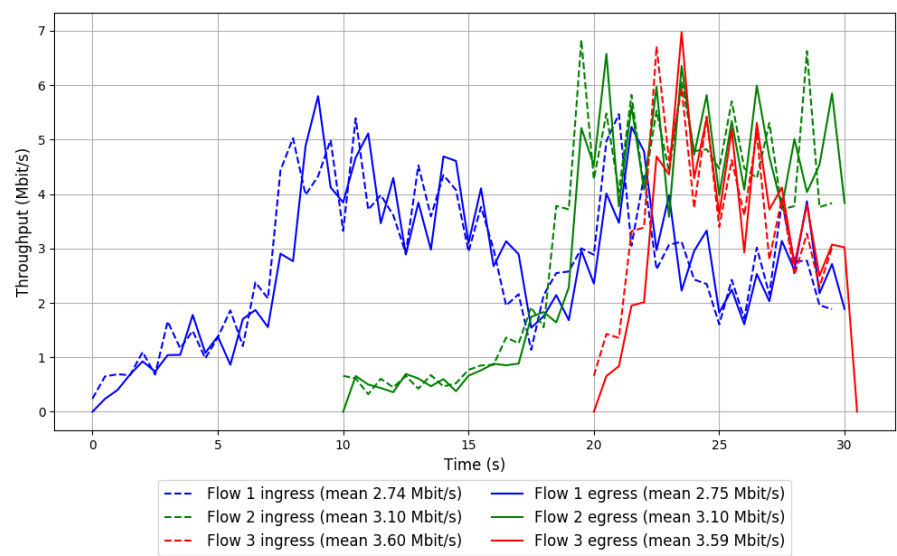


Run 2: Statistics of Sprout

Start at: 2019-01-21 11:22:58
End at: 2019-01-21 11:23:28
Local clock offset: -6.896 ms
Remote clock offset: 9.613 ms

```
# Below is generated by plot.py at 2019-01-21 13:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.99 Mbit/s
95th percentile per-packet one-way delay: 102.589 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 95.567 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 106.311 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 103.276 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

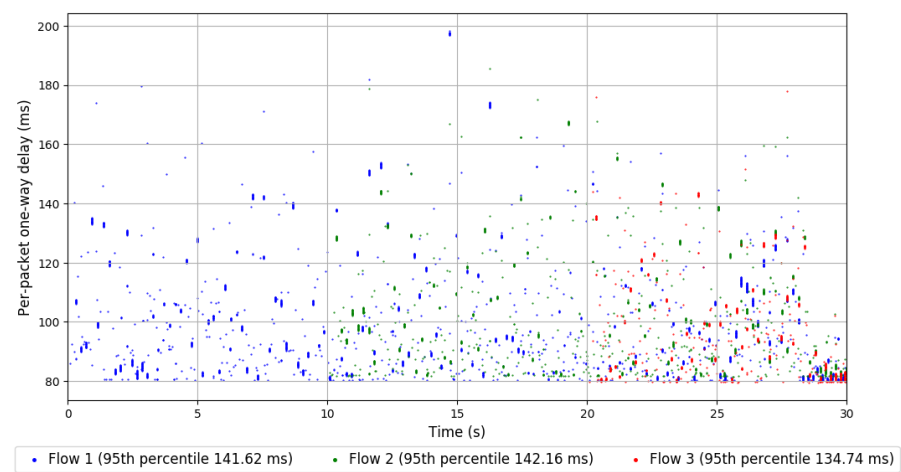
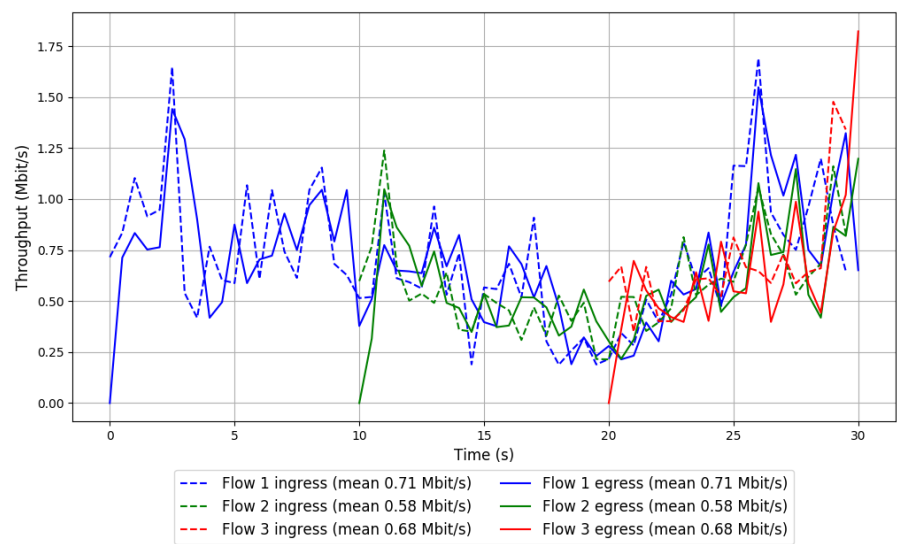


Run 3: Statistics of Sprout

Start at: 2019-01-21 11:49:24
End at: 2019-01-21 11:49:54
Local clock offset: -8.772 ms
Remote clock offset: 5.479 ms

```
# Below is generated by plot.py at 2019-01-21 13:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 140.161 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 141.622 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 142.159 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 134.736 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

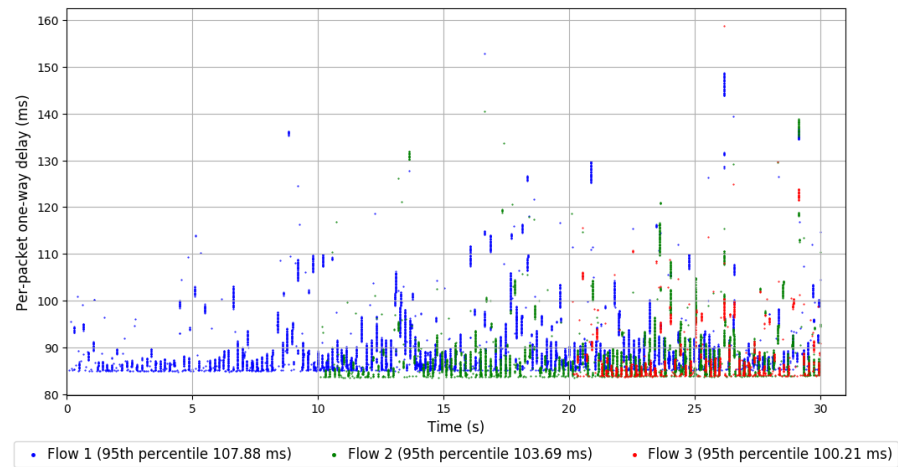
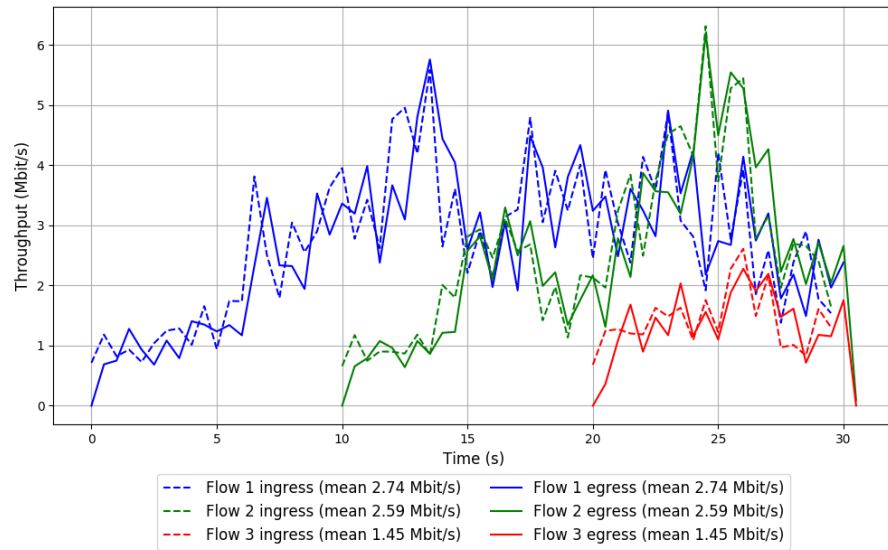


Run 4: Statistics of Sprout

Start at: 2019-01-21 12:15:45
End at: 2019-01-21 12:16:15
Local clock offset: -14.656 ms
Remote clock offset: 9.743 ms

```
# Below is generated by plot.py at 2019-01-21 13:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 106.342 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 107.875 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.59 Mbit/s
95th percentile per-packet one-way delay: 103.688 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 100.209 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

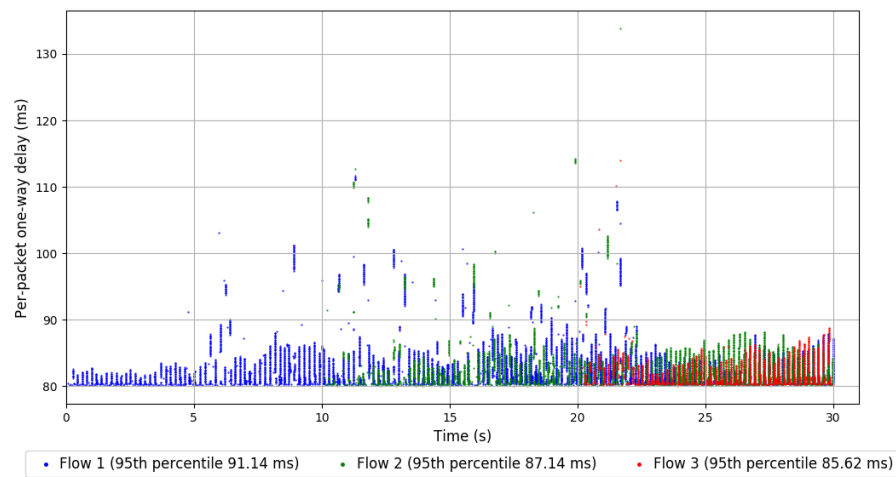
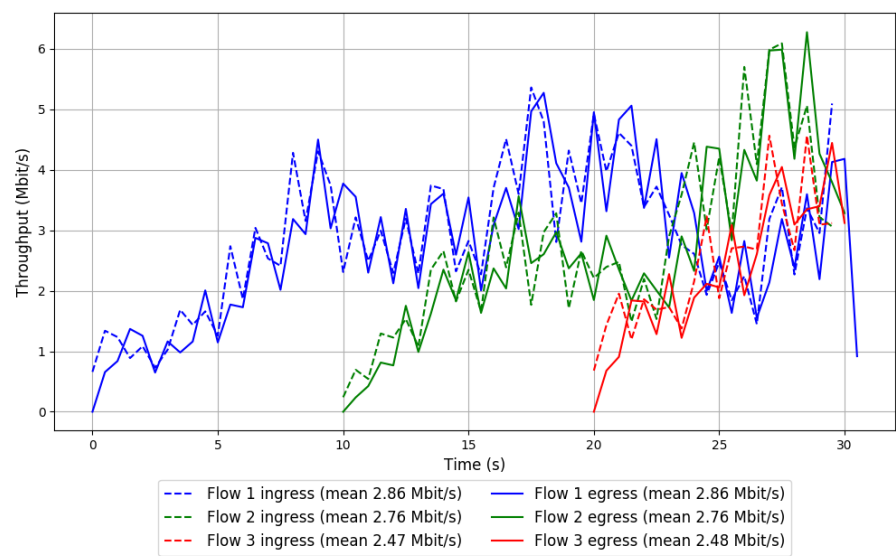


Run 5: Statistics of Sprout

Start at: 2019-01-21 12:42:21
End at: 2019-01-21 12:42:51
Local clock offset: -6.491 ms
Remote clock offset: 3.113 ms

```
# Below is generated by plot.py at 2019-01-21 13:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.51 Mbit/s
95th percentile per-packet one-way delay: 88.130 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 91.143 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 87.141 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 85.625 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-01-21 11:17:54

End at: 2019-01-21 11:18:24

Local clock offset: -7.173 ms

Remote clock offset: 9.294 ms

Below is generated by plot.py at 2019-01-21 13:17:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.57 Mbit/s

95th percentile per-packet one-way delay: 105.376 ms

Loss rate: 26.58%

-- Flow 1:

Average throughput: 8.47 Mbit/s

95th percentile per-packet one-way delay: 106.246 ms

Loss rate: 22.53%

-- Flow 2:

Average throughput: 4.28 Mbit/s

95th percentile per-packet one-way delay: 104.421 ms

Loss rate: 30.90%

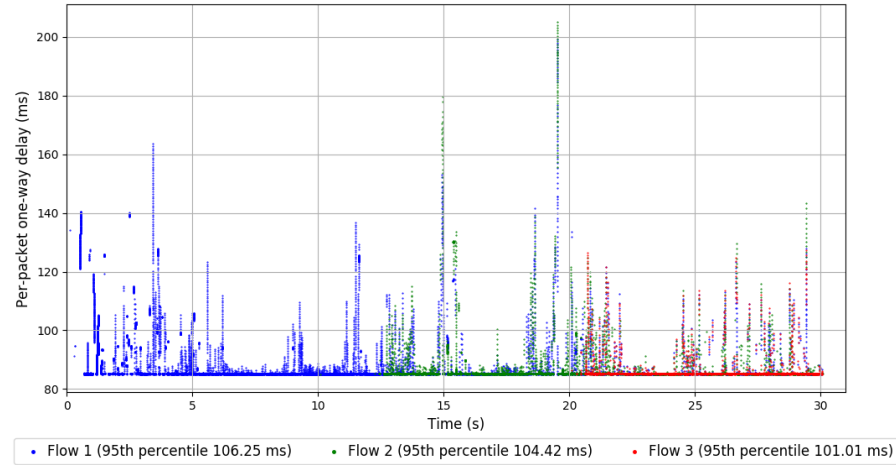
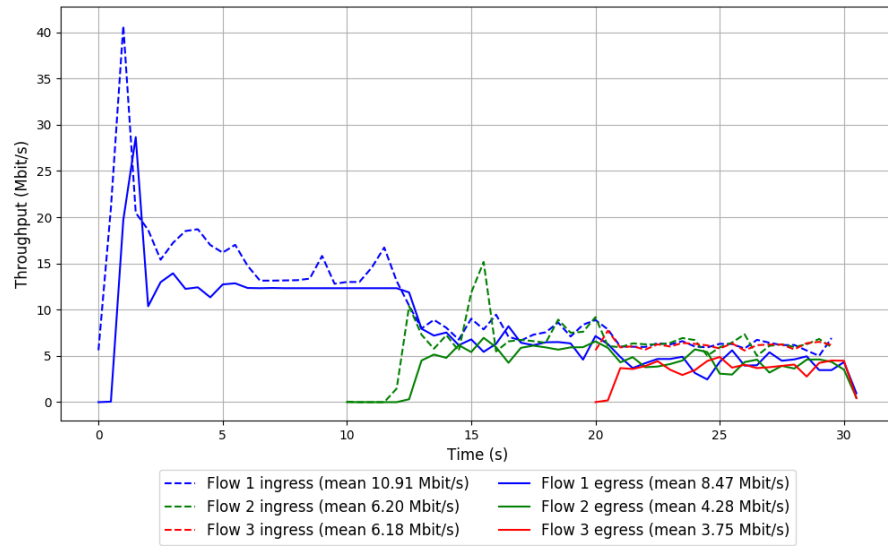
-- Flow 3:

Average throughput: 3.75 Mbit/s

95th percentile per-packet one-way delay: 101.013 ms

Loss rate: 39.41%

Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-21 11:44:21

End at: 2019-01-21 11:44:51

Local clock offset: -6.87 ms

Remote clock offset: 9.235 ms

Below is generated by plot.py at 2019-01-21 13:17:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.54 Mbit/s

95th percentile per-packet one-way delay: 153.991 ms

Loss rate: 39.49%

-- Flow 1:

Average throughput: 7.84 Mbit/s

95th percentile per-packet one-way delay: 155.199 ms

Loss rate: 35.83%

-- Flow 2:

Average throughput: 4.88 Mbit/s

95th percentile per-packet one-way delay: 159.323 ms

Loss rate: 44.03%

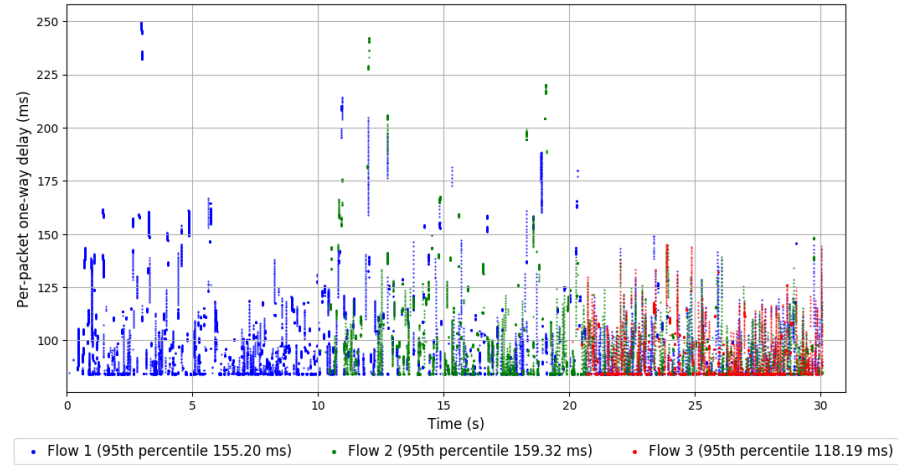
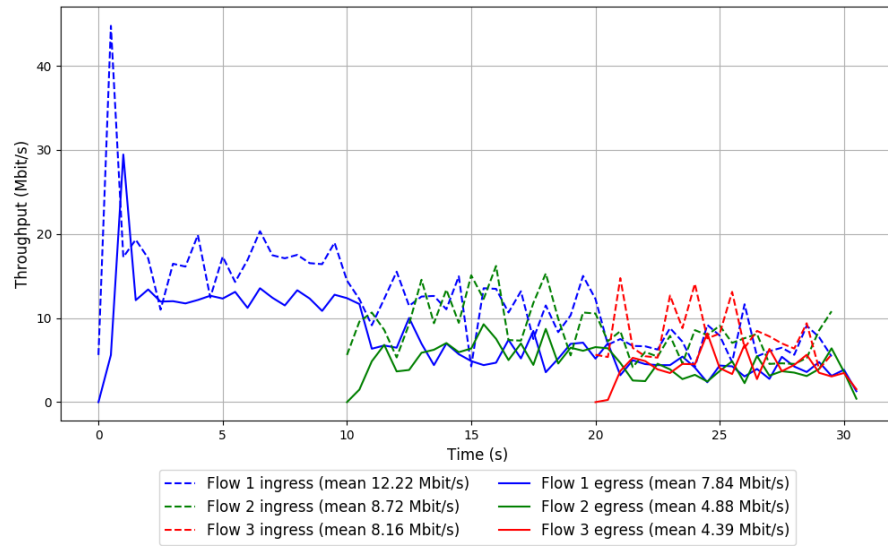
-- Flow 3:

Average throughput: 4.39 Mbit/s

95th percentile per-packet one-way delay: 118.192 ms

Loss rate: 46.27%

Run 2: Report of TaoVA-100x — Data Link



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-21 12:10:41

End at: 2019-01-21 12:11:11

Local clock offset: -6.616 ms

Remote clock offset: 4.78 ms

Below is generated by plot.py at 2019-01-21 13:17:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.57 Mbit/s

95th percentile per-packet one-way delay: 109.920 ms

Loss rate: 35.75%

-- Flow 1:

Average throughput: 8.67 Mbit/s

95th percentile per-packet one-way delay: 111.294 ms

Loss rate: 33.44%

-- Flow 2:

Average throughput: 4.83 Mbit/s

95th percentile per-packet one-way delay: 104.351 ms

Loss rate: 40.58%

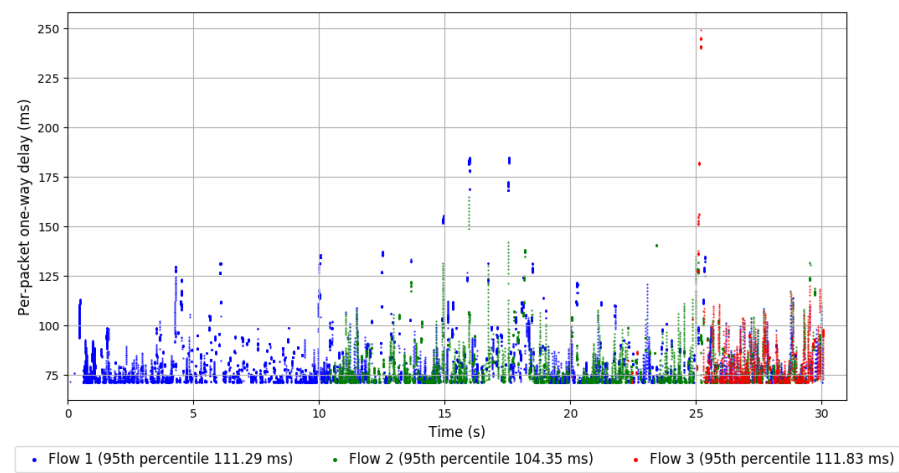
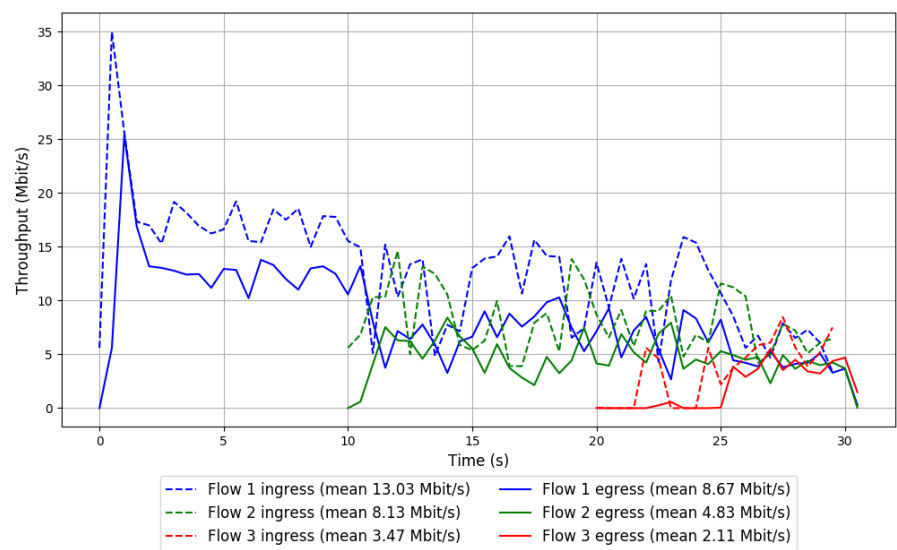
-- Flow 3:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 111.827 ms

Loss rate: 39.18%

Run 3: Report of TaoVA-100x — Data Link



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-21 12:37:17

End at: 2019-01-21 12:37:47

Local clock offset: -6.933 ms

Remote clock offset: 2.153 ms

Below is generated by plot.py at 2019-01-21 13:17:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.59 Mbit/s

95th percentile per-packet one-way delay: 87.979 ms

Loss rate: 21.65%

-- Flow 1:

Average throughput: 8.03 Mbit/s

95th percentile per-packet one-way delay: 90.054 ms

Loss rate: 17.54%

-- Flow 2:

Average throughput: 5.19 Mbit/s

95th percentile per-packet one-way delay: 85.162 ms

Loss rate: 23.47%

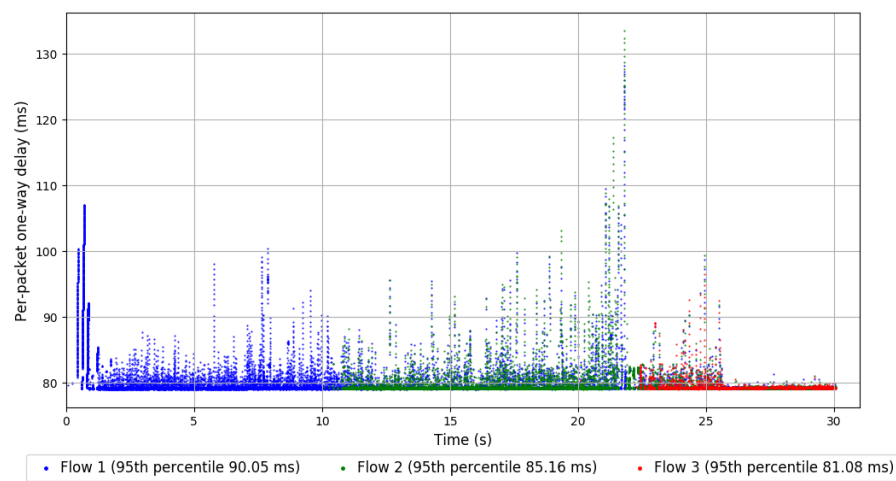
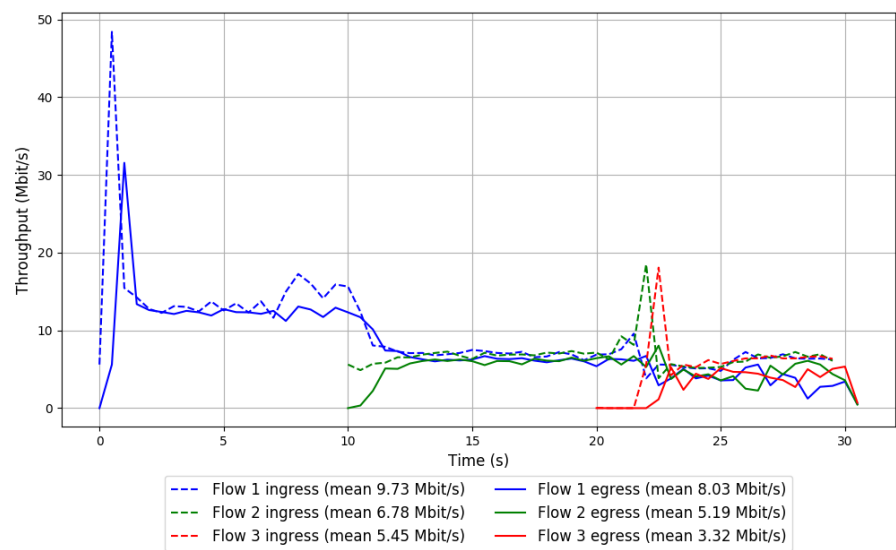
-- Flow 3:

Average throughput: 3.32 Mbit/s

95th percentile per-packet one-way delay: 81.083 ms

Loss rate: 39.19%

Run 4: Report of TaoVA-100x — Data Link



Run 5: Statistics of TaoVA-100x

Start at: 2019-01-21 13:03:50

End at: 2019-01-21 13:04:20

Local clock offset: -6.27 ms

Remote clock offset: 2.987 ms

Below is generated by plot.py at 2019-01-21 13:17:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 12.59 Mbit/s

95th percentile per-packet one-way delay: 80.552 ms

Loss rate: 29.23%

-- Flow 1:

Average throughput: 8.34 Mbit/s

95th percentile per-packet one-way delay: 85.473 ms

Loss rate: 30.00%

-- Flow 2:

Average throughput: 4.43 Mbit/s

95th percentile per-packet one-way delay: 79.553 ms

Loss rate: 23.44%

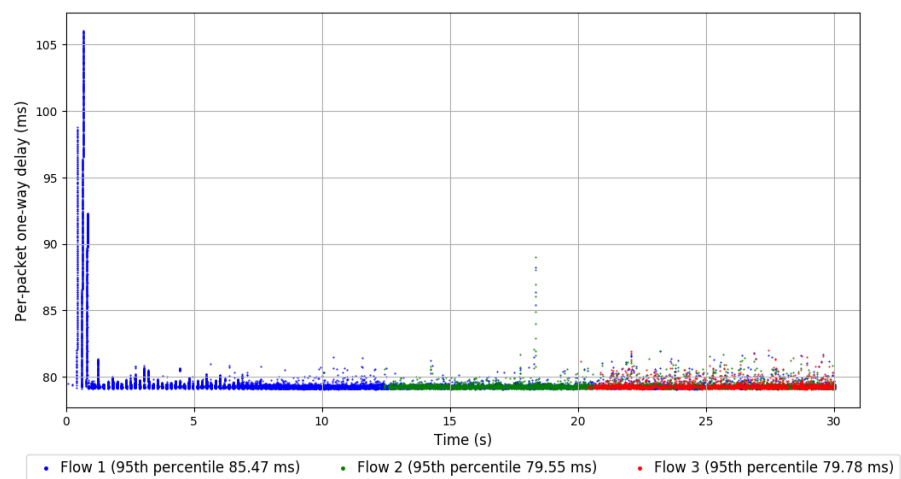
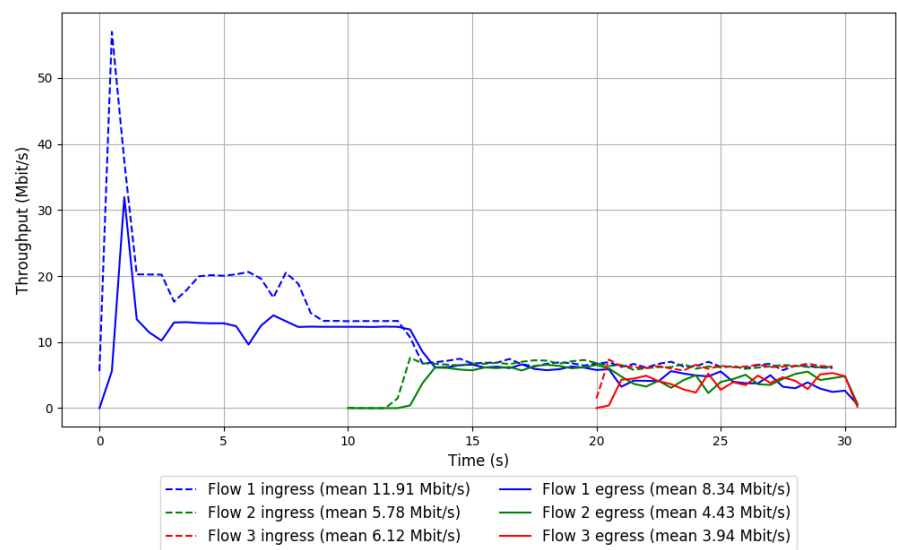
-- Flow 3:

Average throughput: 3.94 Mbit/s

95th percentile per-packet one-way delay: 79.780 ms

Loss rate: 35.68%

Run 5: Report of TaoVA-100x — Data Link



Run 1: Statistics of TCP Vegas

Start at: 2019-01-21 11:16:39

End at: 2019-01-21 11:17:09

Local clock offset: -7.298 ms

Remote clock offset: 3.129 ms

Below is generated by plot.py at 2019-01-21 13:17:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 39.30 Mbit/s

95th percentile per-packet one-way delay: 110.537 ms

Loss rate: 2.47%

-- Flow 1:

Average throughput: 16.37 Mbit/s

95th percentile per-packet one-way delay: 111.166 ms

Loss rate: 3.54%

-- Flow 2:

Average throughput: 25.86 Mbit/s

95th percentile per-packet one-way delay: 110.109 ms

Loss rate: 1.71%

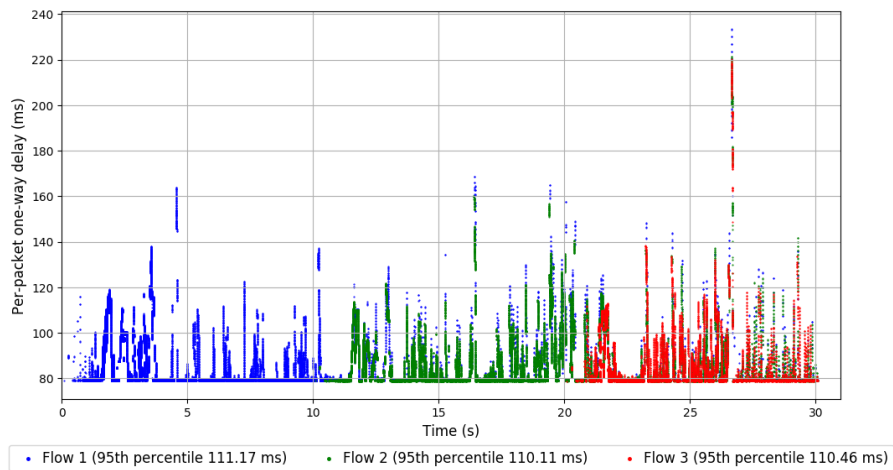
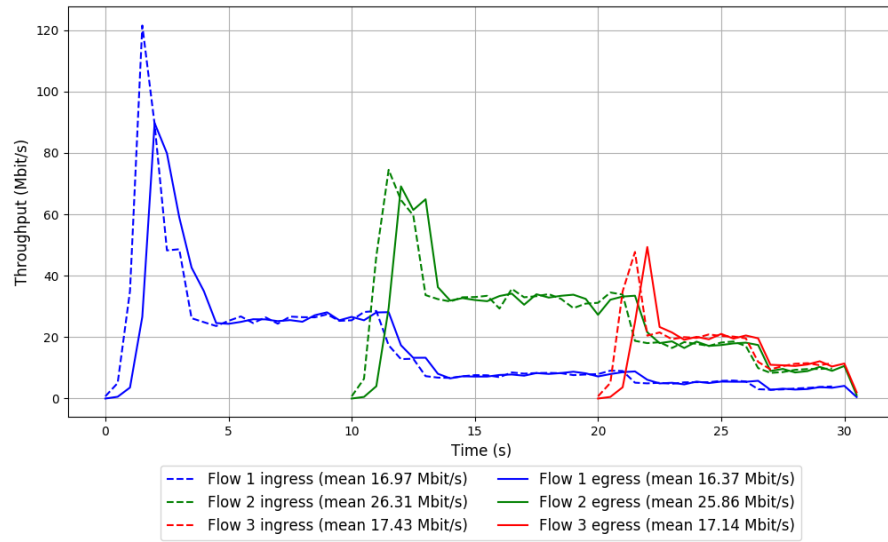
-- Flow 3:

Average throughput: 17.14 Mbit/s

95th percentile per-packet one-way delay: 110.462 ms

Loss rate: 1.66%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-01-21 11:43:06

End at: 2019-01-21 11:43:36

Local clock offset: -3.785 ms

Remote clock offset: 5.293 ms

Below is generated by plot.py at 2019-01-21 13:17:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 36.34 Mbit/s

95th percentile per-packet one-way delay: 121.737 ms

Loss rate: 0.96%

-- Flow 1:

Average throughput: 15.09 Mbit/s

95th percentile per-packet one-way delay: 124.930 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 28.98 Mbit/s

95th percentile per-packet one-way delay: 117.057 ms

Loss rate: 1.20%

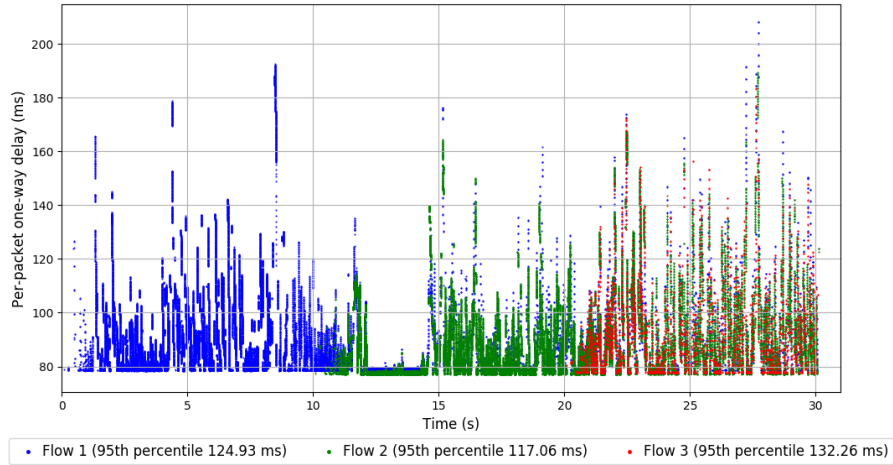
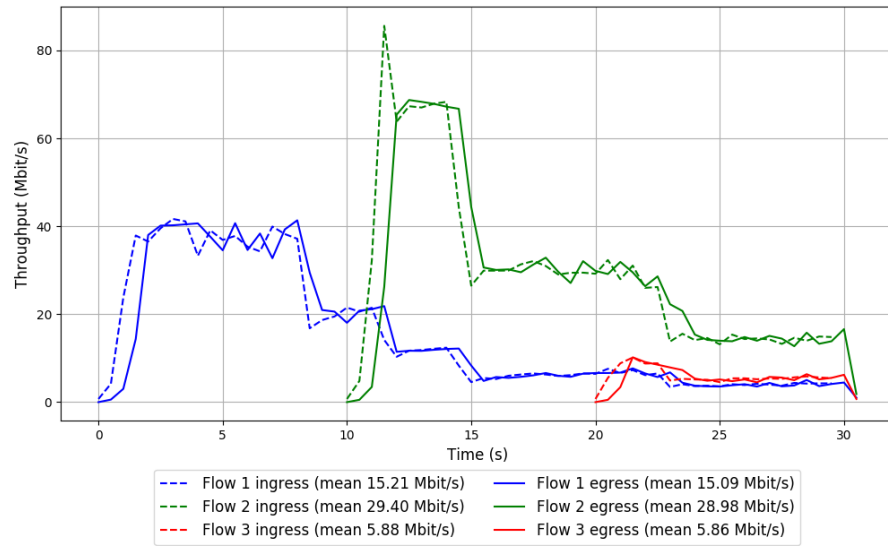
-- Flow 3:

Average throughput: 5.86 Mbit/s

95th percentile per-packet one-way delay: 132.260 ms

Loss rate: 0.04%

Run 2: Report of TCP Vegas — Data Link

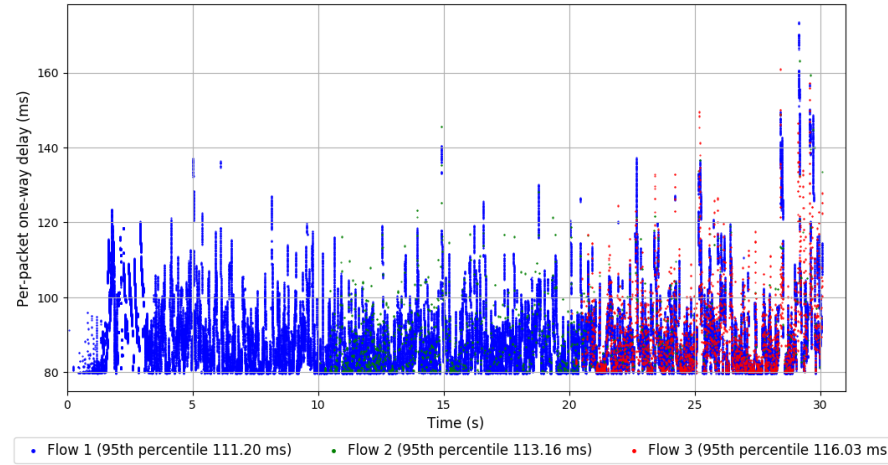
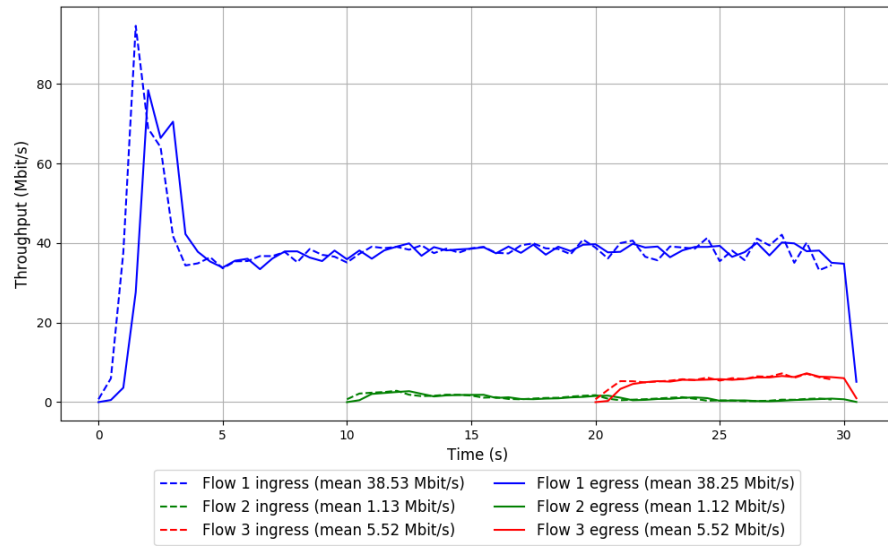


Run 3: Statistics of TCP Vegas

Start at: 2019-01-21 12:09:26
End at: 2019-01-21 12:09:56
Local clock offset: -13.959 ms
Remote clock offset: 5.789 ms

Below is generated by plot.py at 2019-01-21 13:17:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 40.83 Mbit/s
95th percentile per-packet one-way delay: 111.378 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 38.25 Mbit/s
95th percentile per-packet one-way delay: 111.196 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 113.164 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 5.52 Mbit/s
95th percentile per-packet one-way delay: 116.028 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-01-21 12:36:00

End at: 2019-01-21 12:36:30

Local clock offset: -7.07 ms

Remote clock offset: 2.428 ms

Below is generated by plot.py at 2019-01-21 13:17:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 73.71 Mbit/s

95th percentile per-packet one-way delay: 96.634 ms

Loss rate: 0.88%

-- Flow 1:

Average throughput: 49.29 Mbit/s

95th percentile per-packet one-way delay: 98.502 ms

Loss rate: 0.91%

-- Flow 2:

Average throughput: 18.63 Mbit/s

95th percentile per-packet one-way delay: 88.896 ms

Loss rate: 0.42%

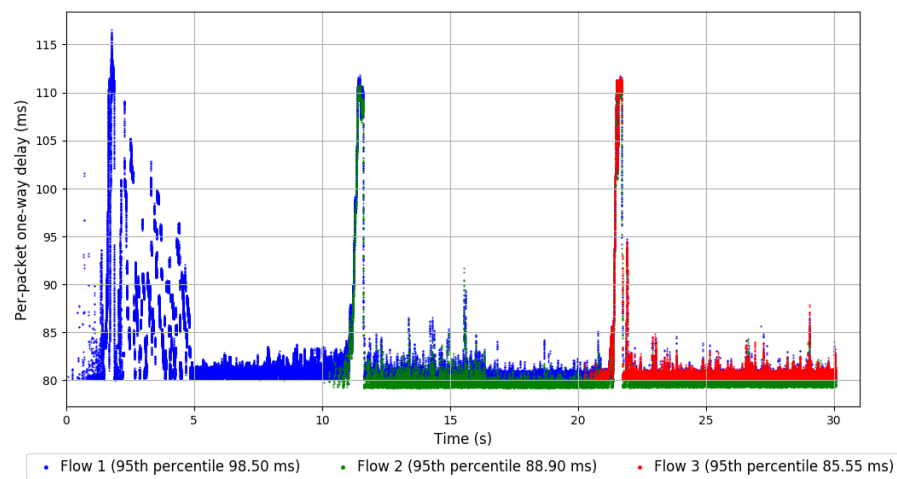
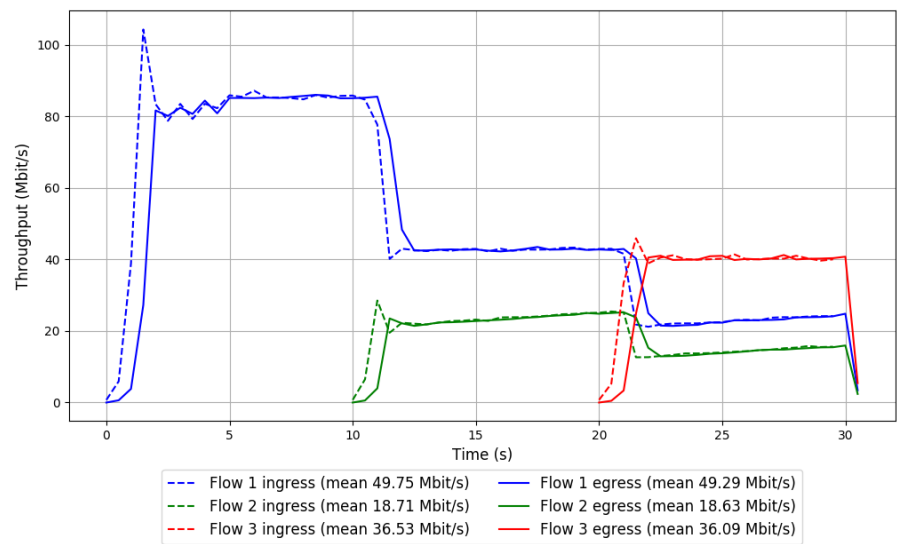
-- Flow 3:

Average throughput: 36.09 Mbit/s

95th percentile per-packet one-way delay: 85.554 ms

Loss rate: 1.20%

Run 4: Report of TCP Vegas — Data Link

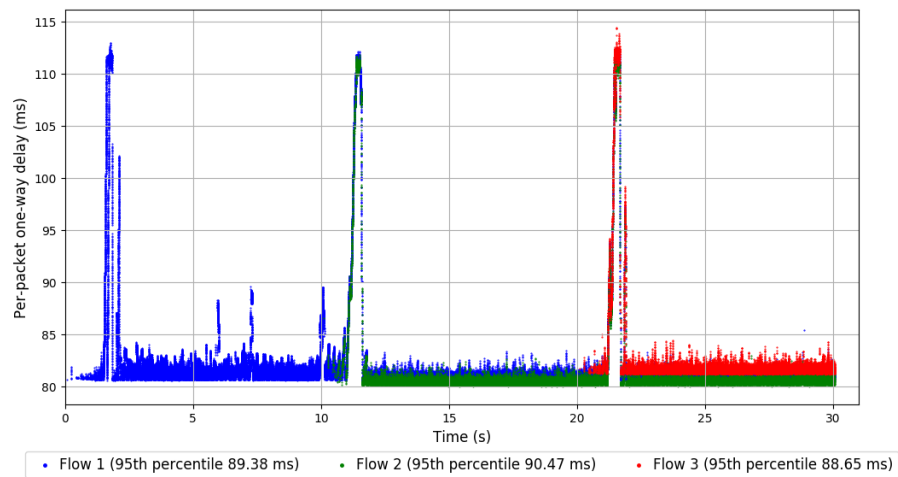
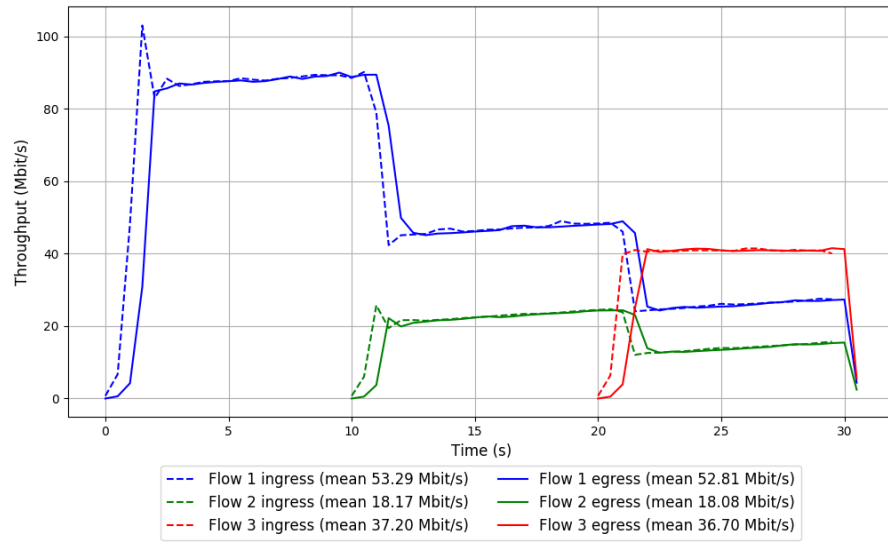


Run 5: Statistics of TCP Vegas

Start at: 2019-01-21 13:02:33
End at: 2019-01-21 13:03:03
Local clock offset: -6.344 ms
Remote clock offset: 3.873 ms

Below is generated by plot.py at 2019-01-21 13:17:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.05 Mbit/s
95th percentile per-packet one-way delay: 89.373 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 52.81 Mbit/s
95th percentile per-packet one-way delay: 89.380 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 18.08 Mbit/s
95th percentile per-packet one-way delay: 90.473 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 36.70 Mbit/s
95th percentile per-packet one-way delay: 88.648 ms
Loss rate: 1.35%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-01-21 11:09:06

End at: 2019-01-21 11:09:36

Local clock offset: -7.179 ms

Remote clock offset: 7.743 ms

Below is generated by plot.py at 2019-01-21 13:17:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 47.38 Mbit/s

95th percentile per-packet one-way delay: 115.380 ms

Loss rate: 35.03%

-- Flow 1:

Average throughput: 22.67 Mbit/s

95th percentile per-packet one-way delay: 114.501 ms

Loss rate: 12.45%

-- Flow 2:

Average throughput: 21.70 Mbit/s

95th percentile per-packet one-way delay: 115.339 ms

Loss rate: 10.83%

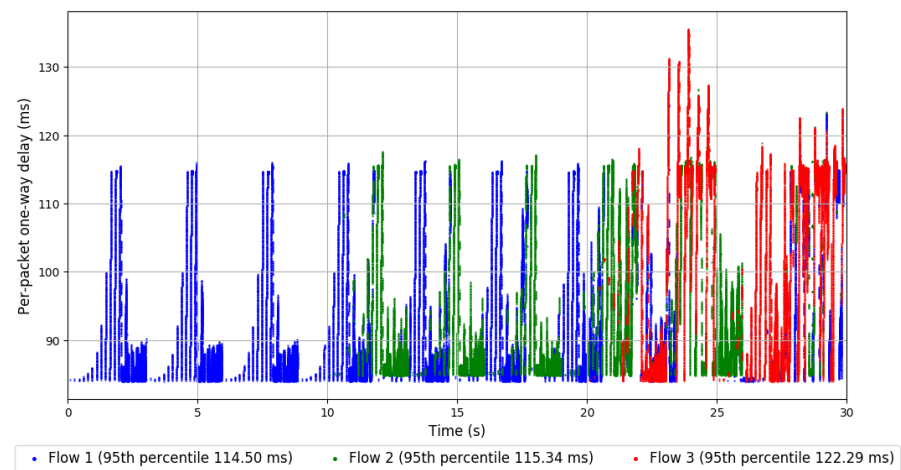
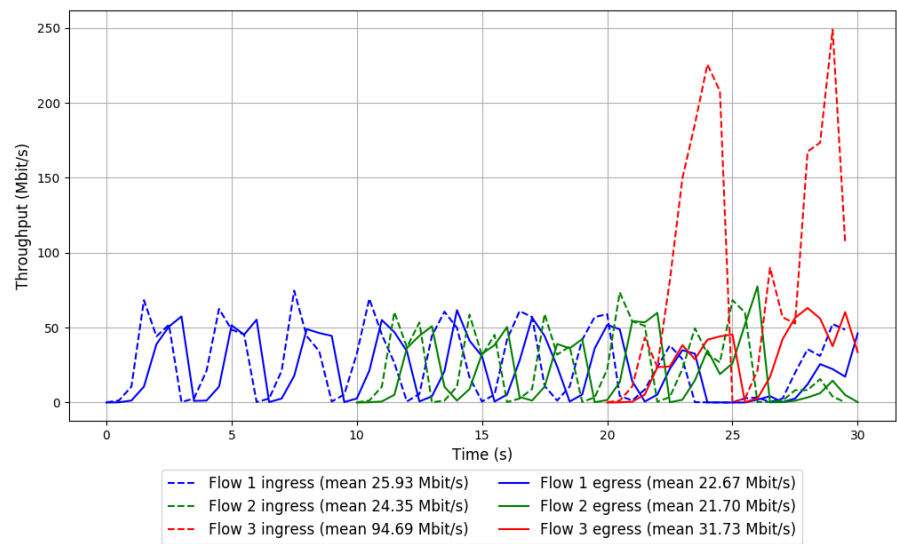
-- Flow 3:

Average throughput: 31.73 Mbit/s

95th percentile per-packet one-way delay: 122.289 ms

Loss rate: 66.38%

Run 1: Report of Verus — Data Link

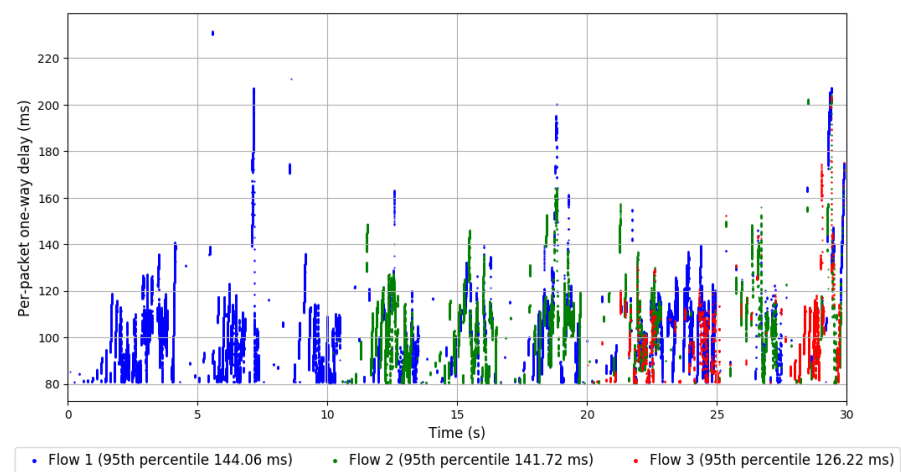
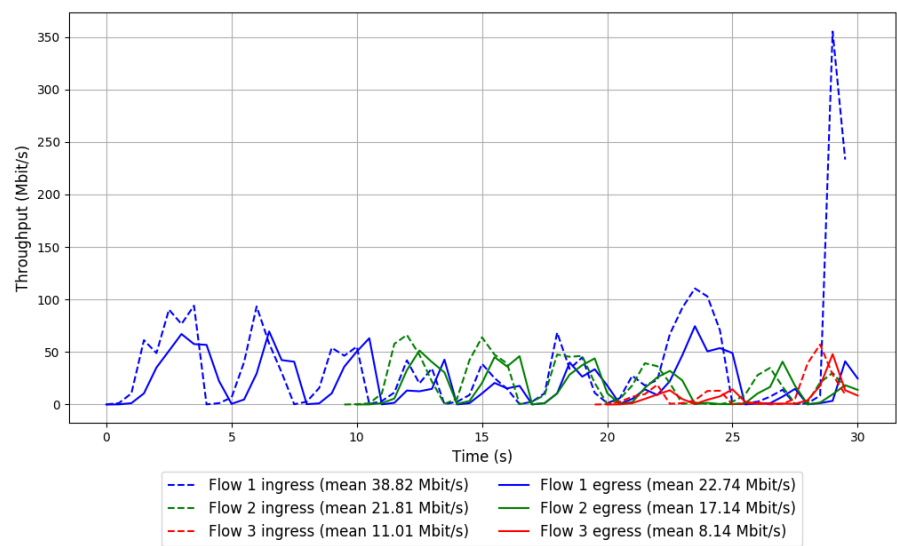


Run 2: Statistics of Verus

Start at: 2019-01-21 11:35:33
End at: 2019-01-21 11:36:03
Local clock offset: -6.757 ms
Remote clock offset: 5.155 ms

Below is generated by plot.py at 2019-01-21 13:17:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 36.86 Mbit/s
95th percentile per-packet one-way delay: 141.913 ms
Loss rate: 35.08%
-- Flow 1:
Average throughput: 22.74 Mbit/s
95th percentile per-packet one-way delay: 144.063 ms
Loss rate: 41.24%
-- Flow 2:
Average throughput: 17.14 Mbit/s
95th percentile per-packet one-way delay: 141.717 ms
Loss rate: 21.04%
-- Flow 3:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 126.216 ms
Loss rate: 25.36%

Run 2: Report of Verus — Data Link

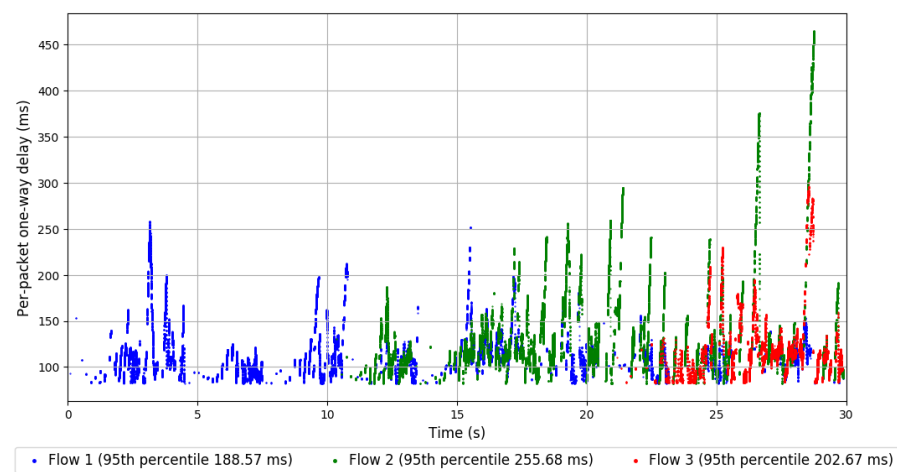
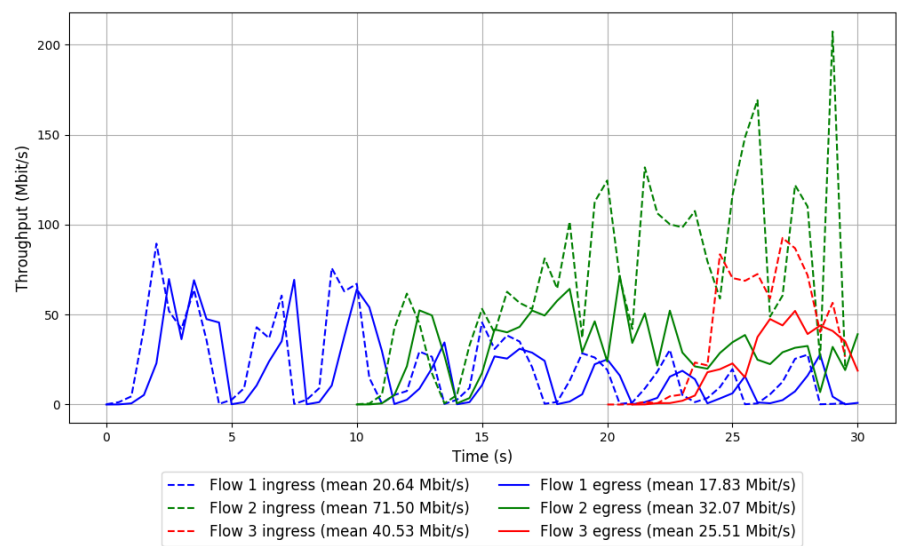


Run 3: Statistics of Verus

Start at: 2019-01-21 12:01:55
End at: 2019-01-21 12:02:25
Local clock offset: -12.089 ms
Remote clock offset: 8.433 ms

Below is generated by plot.py at 2019-01-21 13:17:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 46.52 Mbit/s
95th percentile per-packet one-way delay: 221.634 ms
Loss rate: 42.72%
-- Flow 1:
Average throughput: 17.83 Mbit/s
95th percentile per-packet one-way delay: 188.574 ms
Loss rate: 13.62%
-- Flow 2:
Average throughput: 32.07 Mbit/s
95th percentile per-packet one-way delay: 255.683 ms
Loss rate: 55.15%
-- Flow 3:
Average throughput: 25.51 Mbit/s
95th percentile per-packet one-way delay: 202.667 ms
Loss rate: 43.64%

Run 3: Report of Verus — Data Link

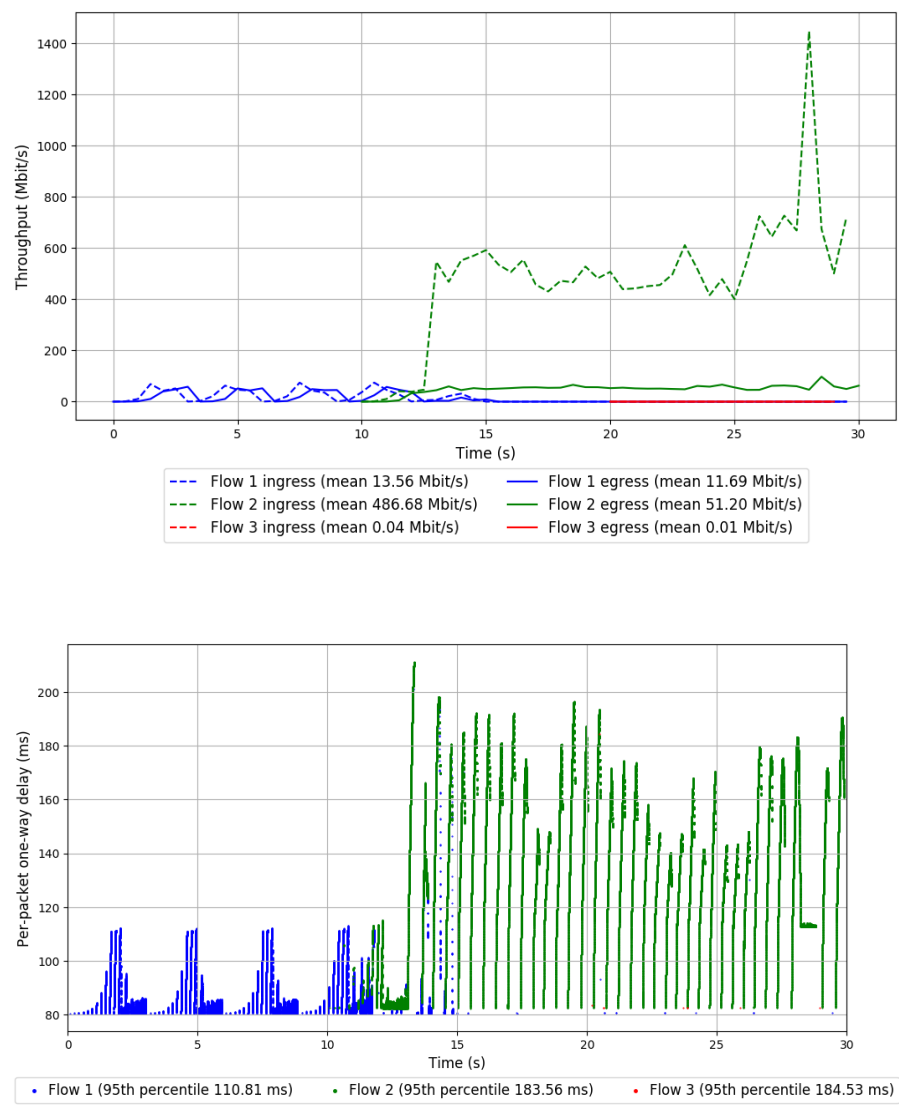


Run 4: Statistics of Verus

Start at: 2019-01-21 12:28:24
End at: 2019-01-21 12:28:54
Local clock offset: -8.387 ms
Remote clock offset: 4.336 ms

Below is generated by plot.py at 2019-01-21 13:18:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 45.51 Mbit/s
95th percentile per-packet one-way delay: 180.595 ms
Loss rate: 86.43%
-- Flow 1:
Average throughput: 11.69 Mbit/s
95th percentile per-packet one-way delay: 110.815 ms
Loss rate: 14.28%
-- Flow 2:
Average throughput: 51.20 Mbit/s
95th percentile per-packet one-way delay: 183.558 ms
Loss rate: 89.44%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 184.535 ms
Loss rate: 66.67%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-01-21 12:55:01

End at: 2019-01-21 12:55:31

Local clock offset: -6.355 ms

Remote clock offset: 5.248 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 43.25 Mbit/s

95th percentile per-packet one-way delay: 115.542 ms

Loss rate: 51.08%

-- Flow 1:

Average throughput: 23.82 Mbit/s

95th percentile per-packet one-way delay: 158.642 ms

Loss rate: 59.94%

-- Flow 2:

Average throughput: 21.62 Mbit/s

95th percentile per-packet one-way delay: 113.157 ms

Loss rate: 17.28%

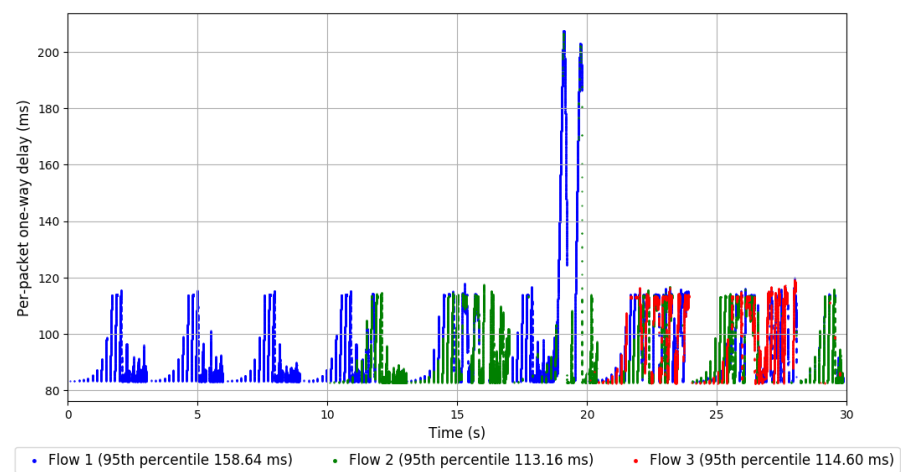
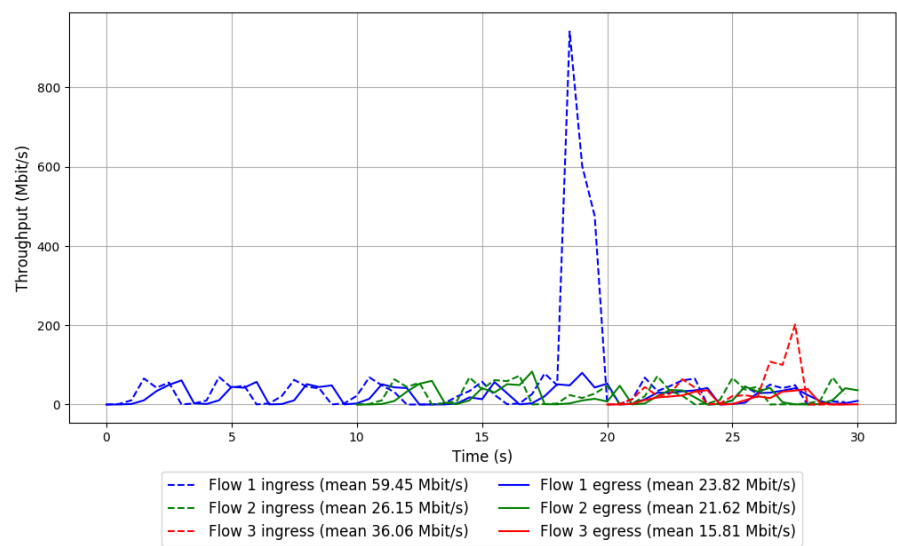
-- Flow 3:

Average throughput: 15.81 Mbit/s

95th percentile per-packet one-way delay: 114.601 ms

Loss rate: 56.14%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-01-21 11:07:48

End at: 2019-01-21 11:08:18

Local clock offset: -7.155 ms

Remote clock offset: 6.567 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.55 Mbit/s

95th percentile per-packet one-way delay: 94.265 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 66.93 Mbit/s

95th percentile per-packet one-way delay: 94.359 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 14.25 Mbit/s

95th percentile per-packet one-way delay: 93.739 ms

Loss rate: 0.01%

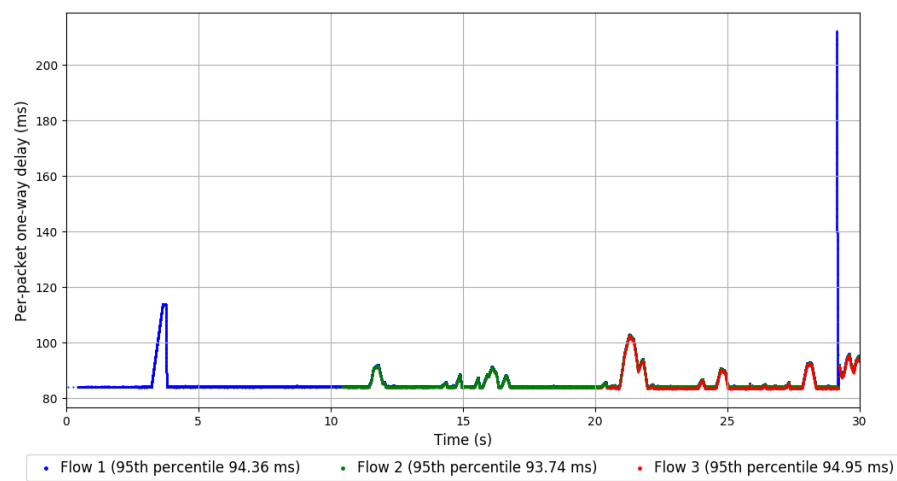
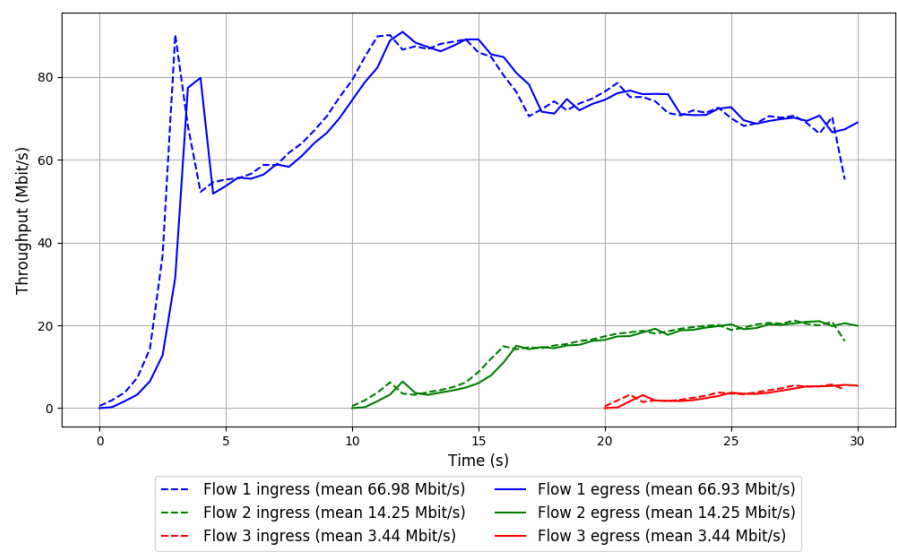
-- Flow 3:

Average throughput: 3.44 Mbit/s

95th percentile per-packet one-way delay: 94.946 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-01-21 11:34:18

End at: 2019-01-21 11:34:48

Local clock offset: 1.102 ms

Remote clock offset: 7.661 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 25.40 Mbit/s

95th percentile per-packet one-way delay: 104.627 ms

Loss rate: 1.77%

-- Flow 1:

Average throughput: 8.94 Mbit/s

95th percentile per-packet one-way delay: 99.184 ms

Loss rate: 1.61%

-- Flow 2:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 98.478 ms

Loss rate: 0.80%

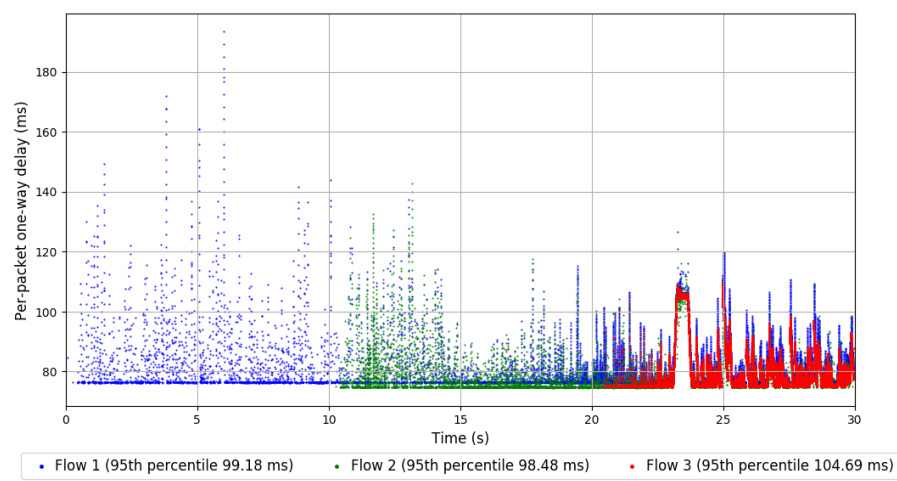
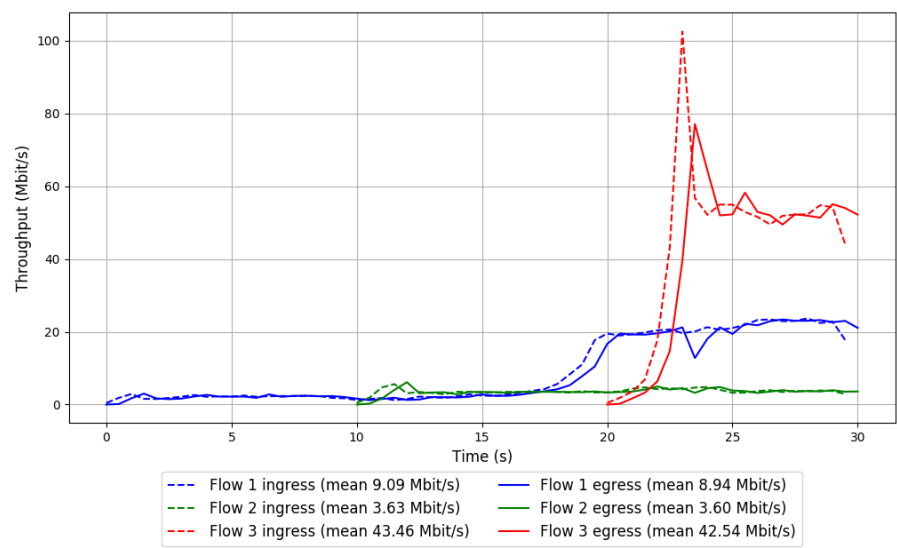
-- Flow 3:

Average throughput: 42.54 Mbit/s

95th percentile per-packet one-way delay: 104.694 ms

Loss rate: 2.04%

Run 2: Report of PCC-Vivace — Data Link

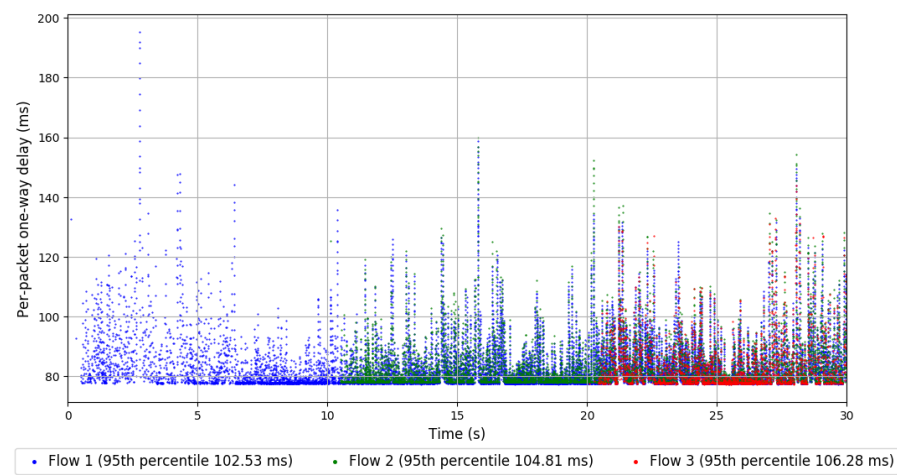
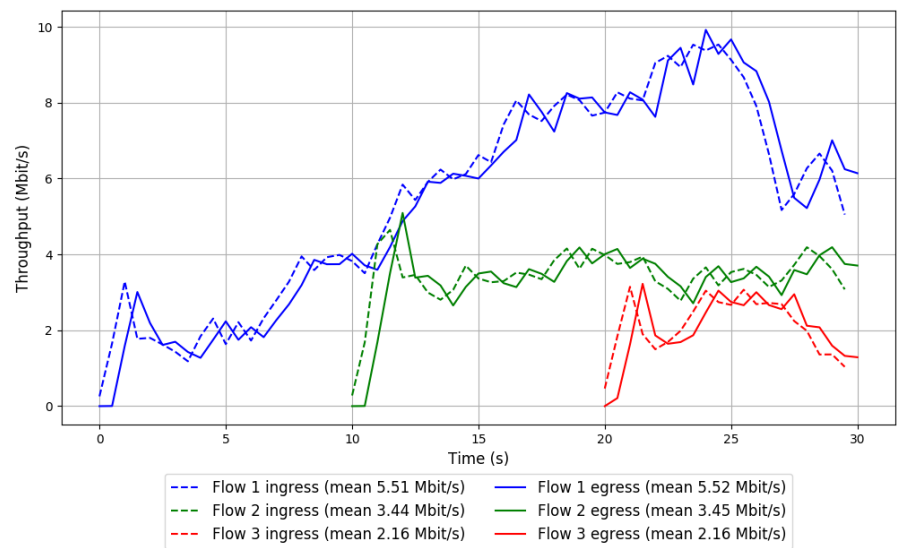


Run 3: Statistics of PCC-Vivace

Start at: 2019-01-21 12:00:41
End at: 2019-01-21 12:01:11
Local clock offset: -11.522 ms
Remote clock offset: 4.409 ms

Below is generated by plot.py at 2019-01-21 13:18:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.53 Mbit/s
95th percentile per-packet one-way delay: 103.526 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.52 Mbit/s
95th percentile per-packet one-way delay: 102.528 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.45 Mbit/s
95th percentile per-packet one-way delay: 104.810 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 106.279 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-21 12:27:06

End at: 2019-01-21 12:27:36

Local clock offset: -8.758 ms

Remote clock offset: 9.445 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 78.03 Mbit/s

95th percentile per-packet one-way delay: 114.332 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 69.59 Mbit/s

95th percentile per-packet one-way delay: 114.537 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 9.46 Mbit/s

95th percentile per-packet one-way delay: 113.408 ms

Loss rate: 0.55%

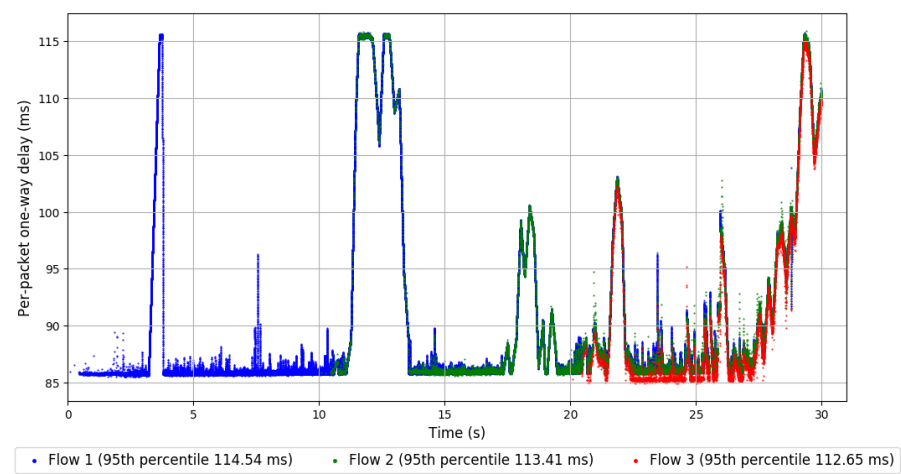
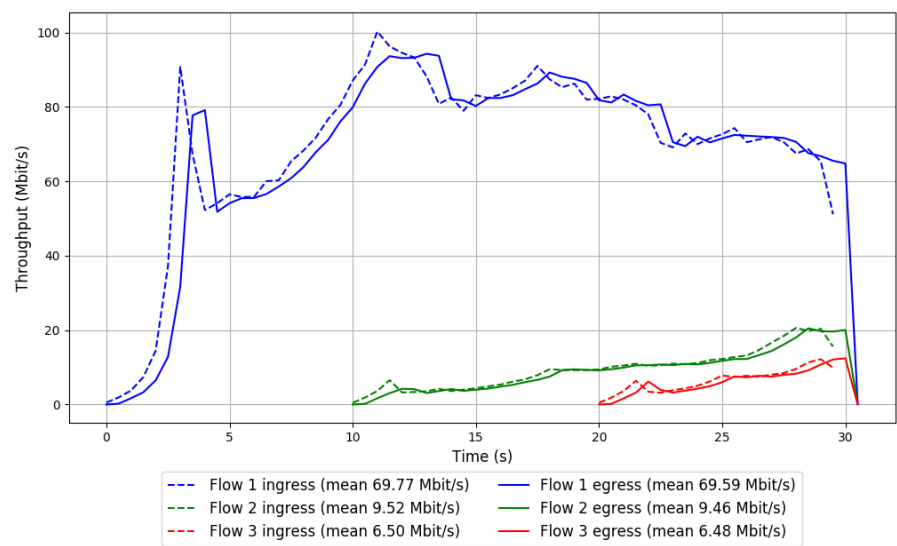
-- Flow 3:

Average throughput: 6.48 Mbit/s

95th percentile per-packet one-way delay: 112.646 ms

Loss rate: 0.07%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-21 12:53:43

End at: 2019-01-21 12:54:13

Local clock offset: -6.427 ms

Remote clock offset: 2.636 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 76.66 Mbit/s

95th percentile per-packet one-way delay: 109.840 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 59.16 Mbit/s

95th percentile per-packet one-way delay: 109.723 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 23.59 Mbit/s

95th percentile per-packet one-way delay: 111.735 ms

Loss rate: 0.63%

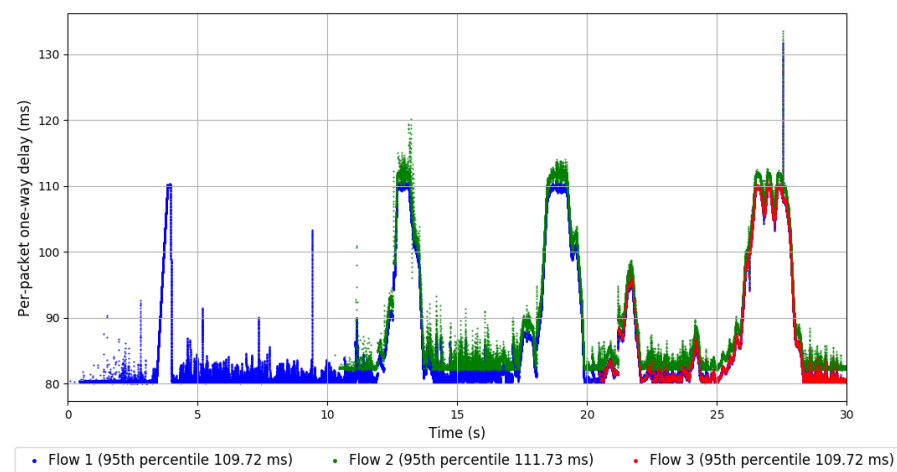
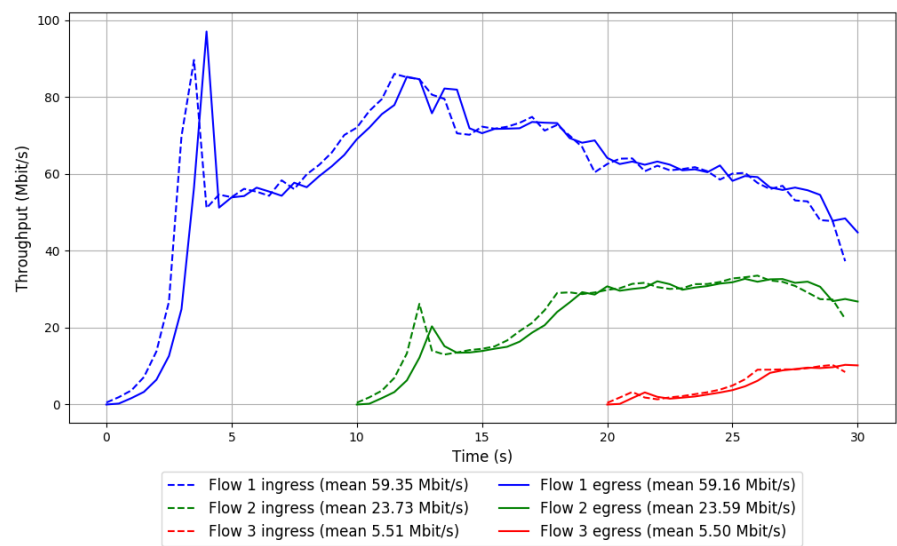
-- Flow 3:

Average throughput: 5.50 Mbit/s

95th percentile per-packet one-way delay: 109.725 ms

Loss rate: 0.19%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-01-21 11:11:40

End at: 2019-01-21 11:12:10

Local clock offset: -7.224 ms

Remote clock offset: 3.705 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 81.240 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 80.474 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 81.528 ms

Loss rate: 0.00%

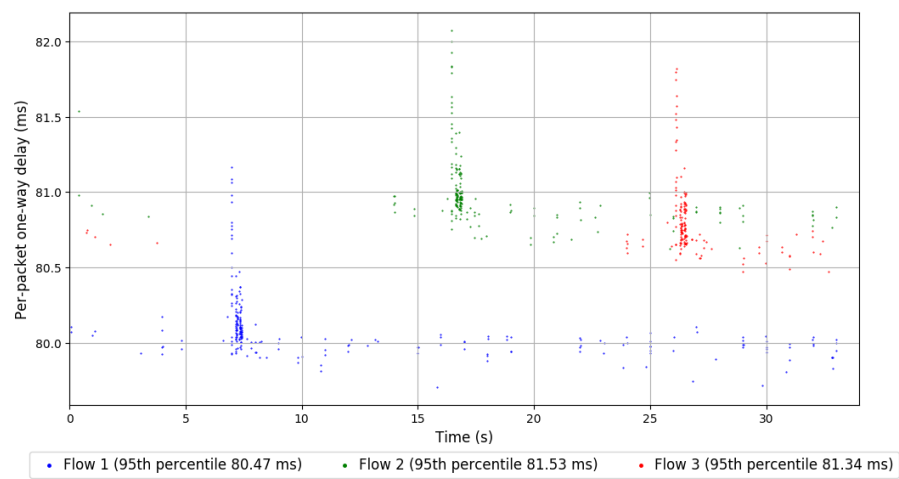
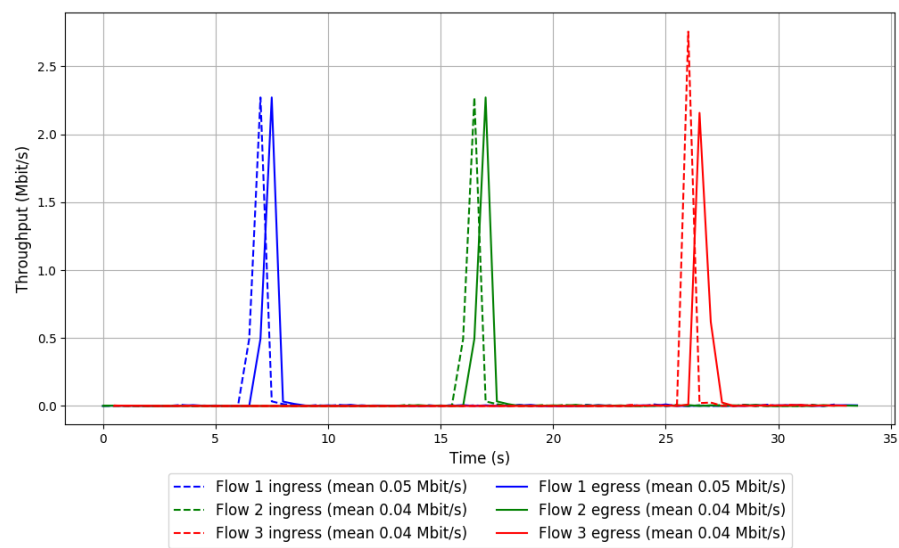
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 81.344 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-01-21 11:38:08

End at: 2019-01-21 11:38:38

Local clock offset: -6.773 ms

Remote clock offset: 4.008 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 119.370 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 124.161 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 116.967 ms

Loss rate: 0.00%

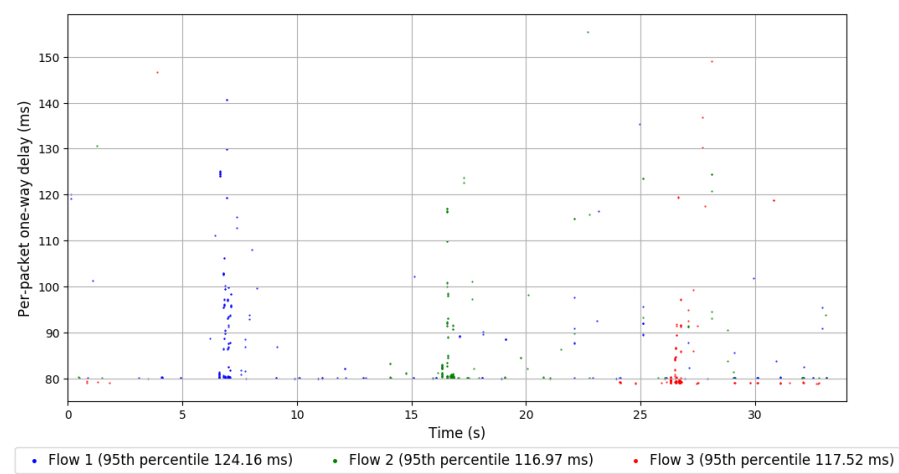
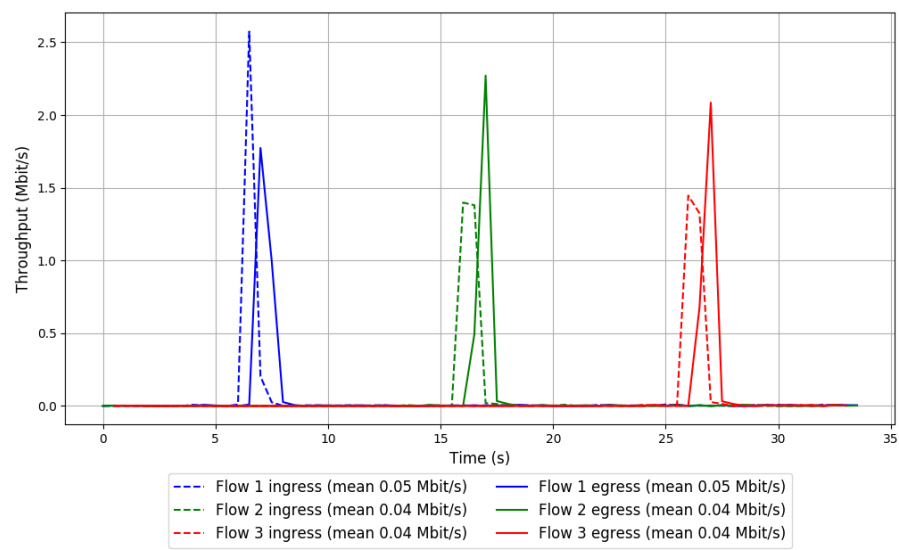
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 117.522 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

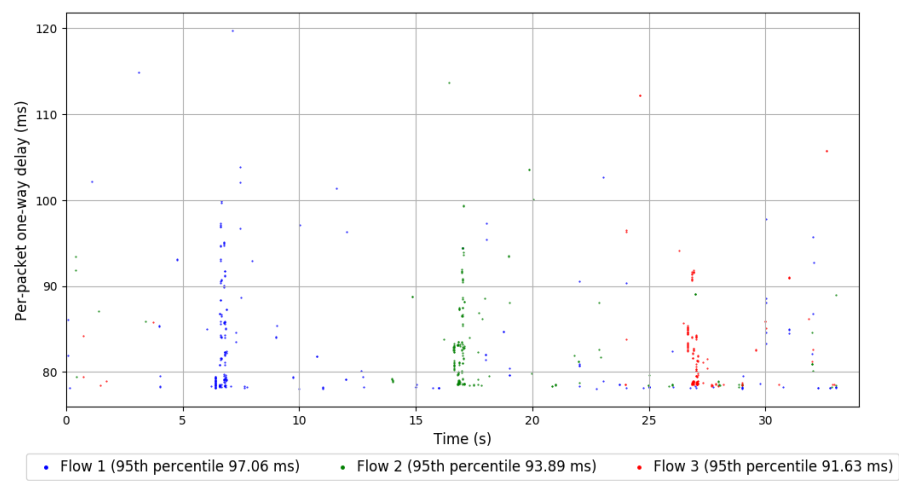
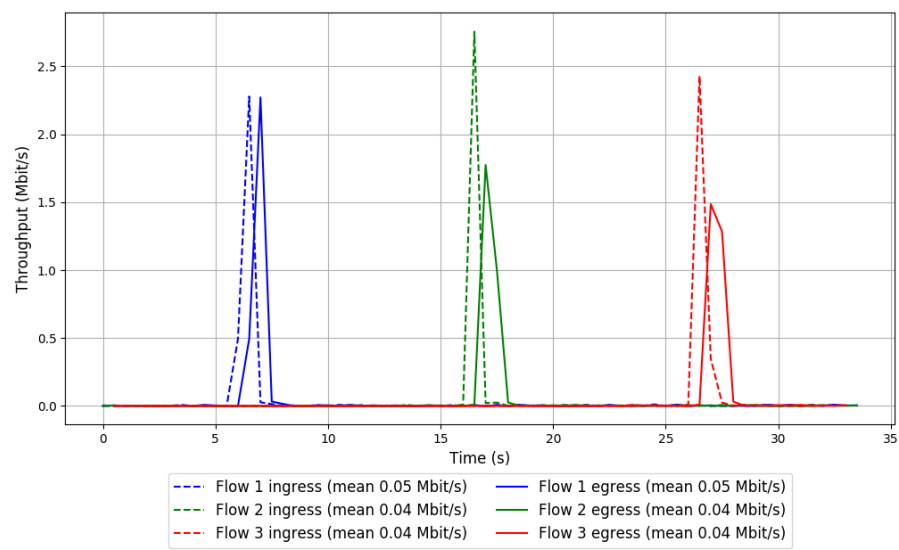


Run 3: Statistics of WebRTC media

Start at: 2019-01-21 12:04:29
End at: 2019-01-21 12:04:59
Local clock offset: -12.856 ms
Remote clock offset: 4.559 ms

```
# Below is generated by plot.py at 2019-01-21 13:18:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 95.736 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 97.064 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 93.887 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 91.634 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-21 12:31:01

End at: 2019-01-21 12:31:31

Local clock offset: -7.825 ms

Remote clock offset: 2.768 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 80.057 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 79.901 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 79.888 ms

Loss rate: 0.05%

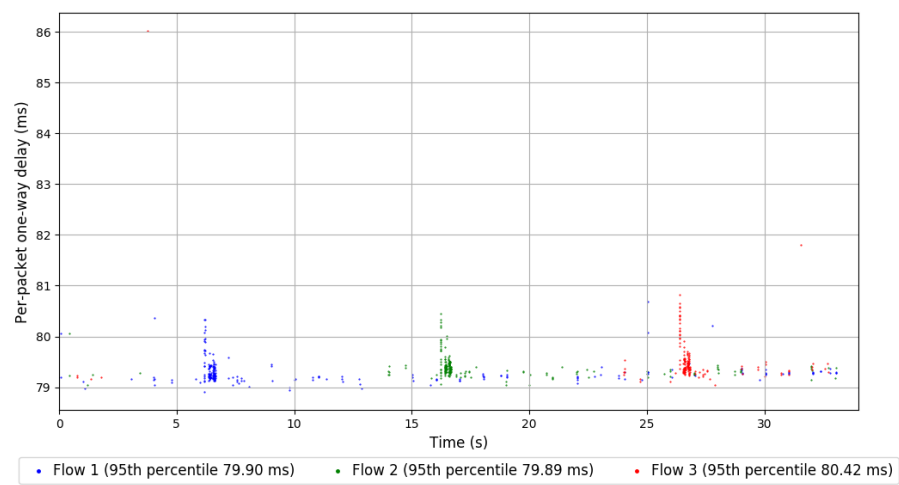
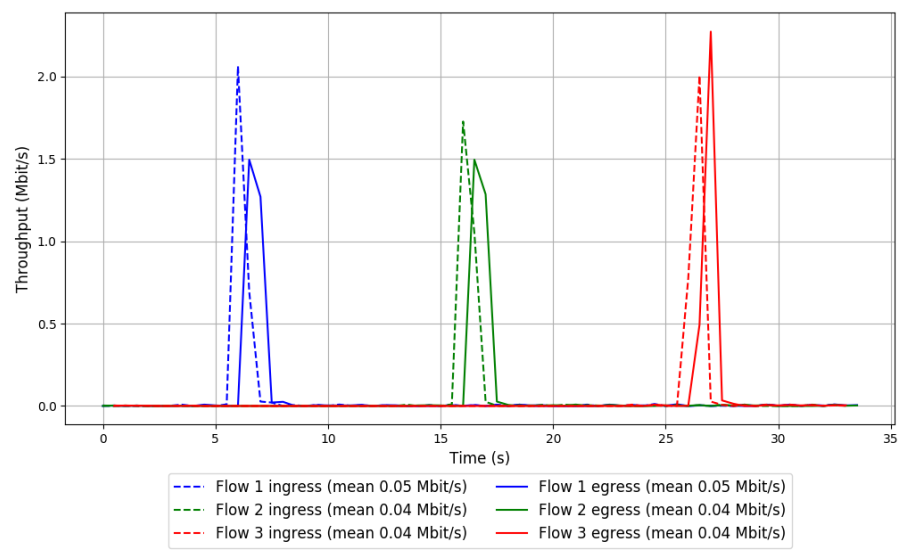
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 80.419 ms

Loss rate: 0.05%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-01-21 12:57:34

End at: 2019-01-21 12:58:04

Local clock offset: -6.363 ms

Remote clock offset: 2.11 ms

Below is generated by plot.py at 2019-01-21 13:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 81.076 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 79.562 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 80.996 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 81.698 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

