

Pantheon Report

Generated at 2019-02-05 20:28:32 (UTC).

Data path: Brazil on **p4p1** (*remote*) → AWS Brazil 1 on **ens5** (*local*).

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:

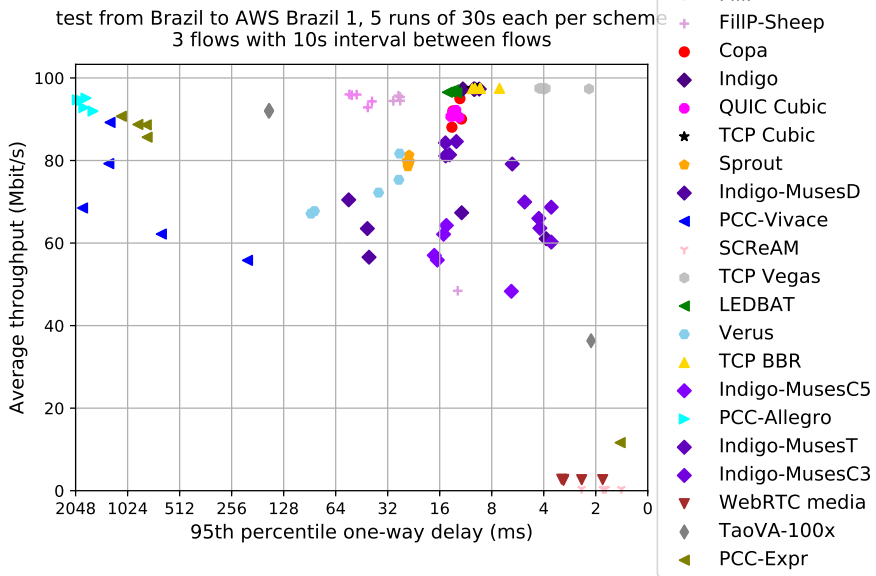
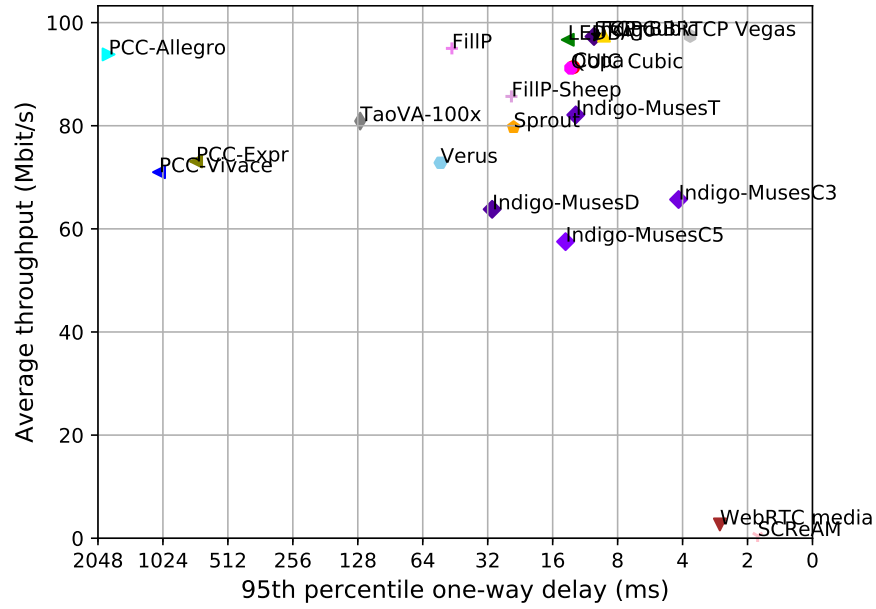
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
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 Brazil to AWS Brazil 1, 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	59.30	40.88	32.96	8.54	9.67	9.80	0.08	0.34	0.53
Copa	5	54.68	39.49	31.26	11.97	13.43	14.51	0.04	0.09	0.11
TCP Cubic	5	59.61	40.65	32.49	9.88	9.90	10.07	0.08	0.15	0.23
FillP	5	55.02	45.86	28.47	29.36	50.41	51.74	0.15	2.46	2.81
FillP-Sheep	5	54.32	33.35	27.69	21.88	26.50	46.63	0.03	0.05	0.15
Indigo	5	59.67	40.63	32.34	9.60	10.59	8.94	0.02	0.41	0.12
Indigo-MusesC3	5	44.88	26.37	15.76	4.01	4.17	4.09	0.01	0.01	0.04
Indigo-MusesC5	5	31.58	27.92	31.13	12.95	12.98	15.98	0.05	0.05	0.18
Indigo-MusesD	5	38.84	24.50	35.40	10.25	12.65	37.34	0.05	0.09	2.30
Indigo-MusesT	5	52.63	37.29	22.97	11.21	14.47	11.59	0.03	0.04	0.12
LEDBAT	5	59.04	40.61	31.88	13.20	13.75	13.81	0.13	0.22	0.41
PCC-Allegro	5	64.84	32.69	22.06	1848.38	122.84	6.70	8.77	1.57	0.10
PCC-Expr	5	43.75	32.02	24.32	595.80	545.62	364.08	7.58	5.52	5.85
QUIC Cubic	5	54.15	40.19	31.08	12.97	13.07	13.67	0.17	0.32	0.50
SCReAM	5	0.22	0.22	0.22	1.69	1.68	1.68	0.00	0.00	0.21
Sprout	5	42.82	39.48	32.20	22.69	24.63	25.56	0.18	0.36	0.28
TaoVA-100x	5	46.36	32.92	37.94	124.10	125.04	125.12	0.39	0.85	2.25
TCP Vegas	5	52.03	48.37	39.65	2.86	3.54	4.11	0.01	0.01	0.04
Verus	5	39.52	34.79	30.50	29.07	32.40	191.38	0.04	0.03	0.07
PCC-Vivace	5	37.45	36.88	27.30	504.65	776.80	82.29	1.97	4.64	0.34
WebRTC media	5	1.52	0.79	0.38	2.68	2.59	2.80	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2019-02-05 18:12:28

End at: 2019-02-05 18:12:58

Local clock offset: -5.955 ms

Remote clock offset: 0.433 ms

Below is generated by plot.py at 2019-02-05 20:15:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 7.209 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 59.35 Mbit/s

95th percentile per-packet one-way delay: 7.026 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.89 Mbit/s

95th percentile per-packet one-way delay: 7.243 ms

Loss rate: 0.03%

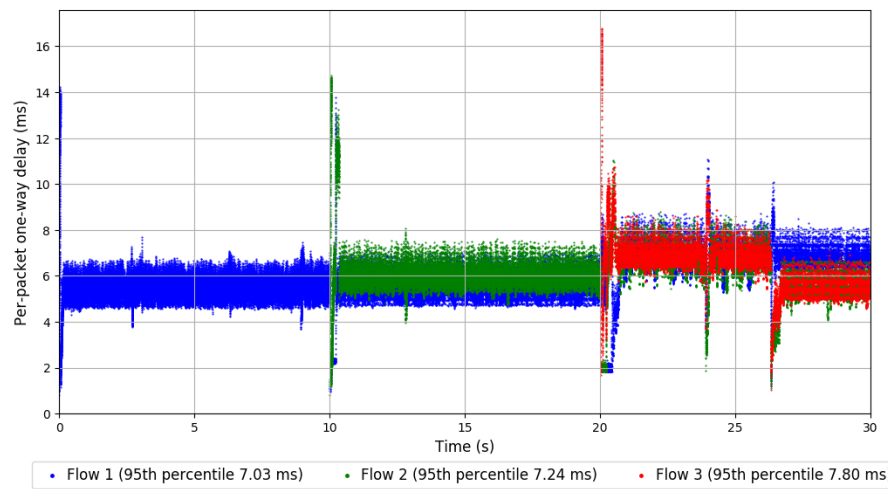
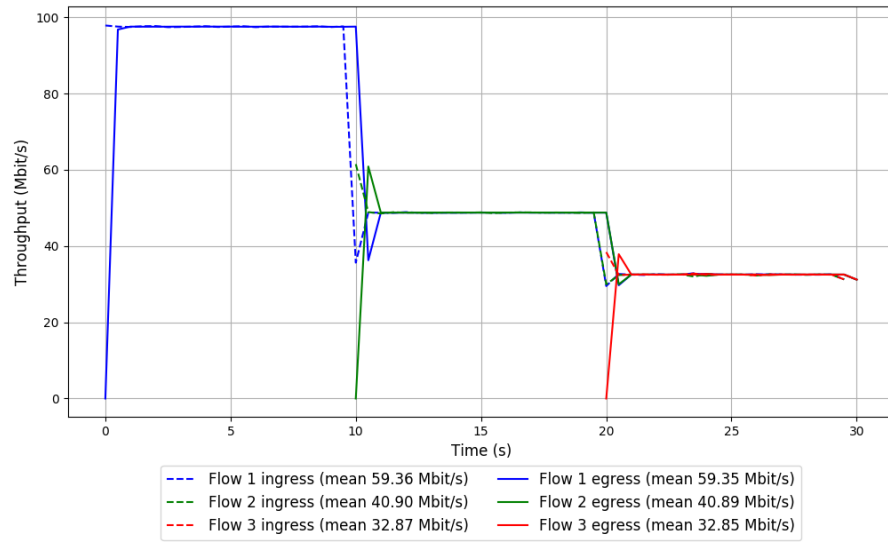
-- Flow 3:

Average throughput: 32.85 Mbit/s

95th percentile per-packet one-way delay: 7.797 ms

Loss rate: 0.06%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-02-05 18:36:24

End at: 2019-02-05 18:36:54

Local clock offset: -5.807 ms

Remote clock offset: 1.174 ms

Below is generated by plot.py at 2019-02-05 20:15:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 9.307 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 59.30 Mbit/s

95th percentile per-packet one-way delay: 8.199 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.87 Mbit/s

95th percentile per-packet one-way delay: 9.954 ms

Loss rate: 0.41%

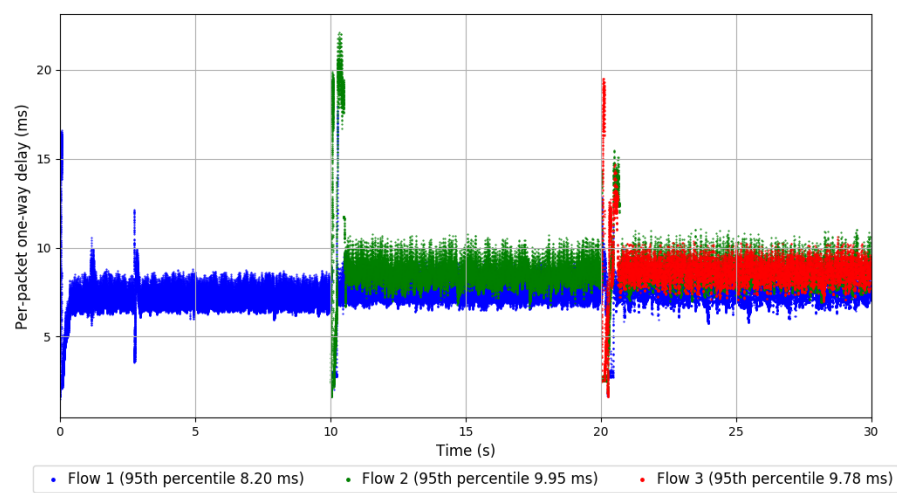
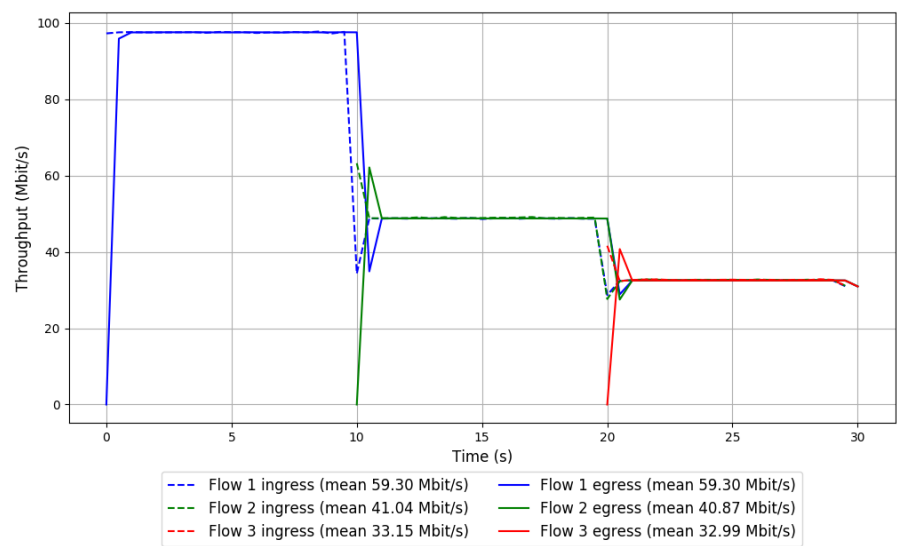
-- Flow 3:

Average throughput: 32.99 Mbit/s

95th percentile per-packet one-way delay: 9.776 ms

Loss rate: 0.55%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-02-05 19:00:35

End at: 2019-02-05 19:01:05

Local clock offset: -3.881 ms

Remote clock offset: 1.661 ms

Below is generated by plot.py at 2019-02-05 20:15:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 10.009 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 59.30 Mbit/s

95th percentile per-packet one-way delay: 8.880 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.88 Mbit/s

95th percentile per-packet one-way delay: 10.473 ms

Loss rate: 0.32%

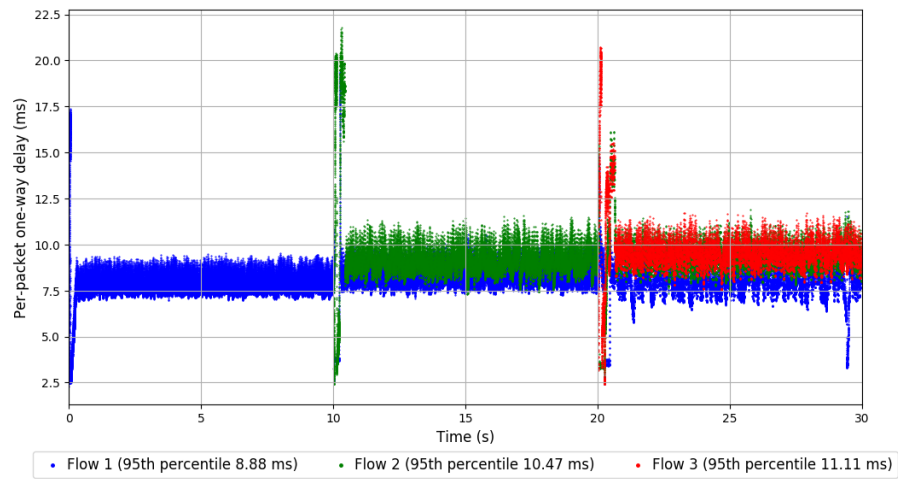
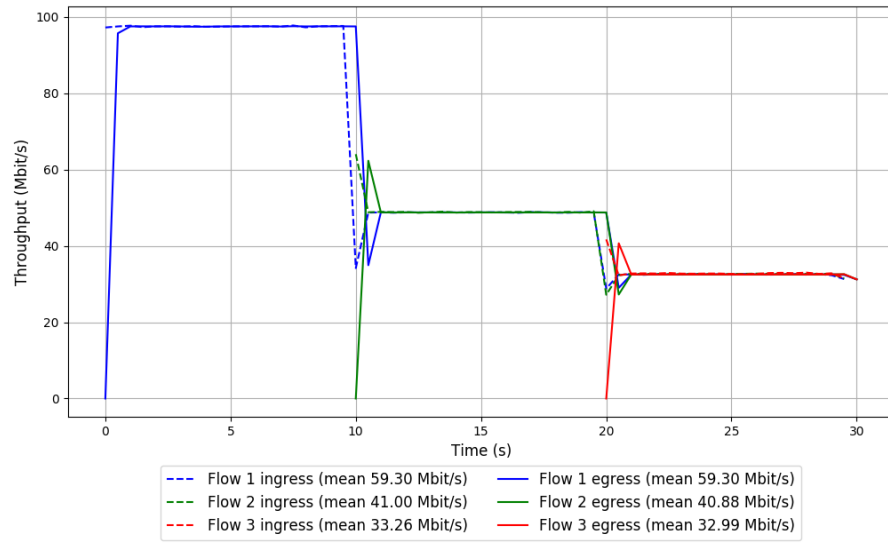
-- Flow 3:

Average throughput: 32.99 Mbit/s

95th percentile per-packet one-way delay: 11.109 ms

Loss rate: 0.85%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-02-05 19:24:45

End at: 2019-02-05 19:25:15

Local clock offset: -3.32 ms

Remote clock offset: 1.968 ms

Below is generated by plot.py at 2019-02-05 20:15:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.42 Mbit/s

95th percentile per-packet one-way delay: 10.365 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 59.23 Mbit/s

95th percentile per-packet one-way delay: 10.117 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 40.90 Mbit/s

95th percentile per-packet one-way delay: 10.755 ms

Loss rate: 0.56%

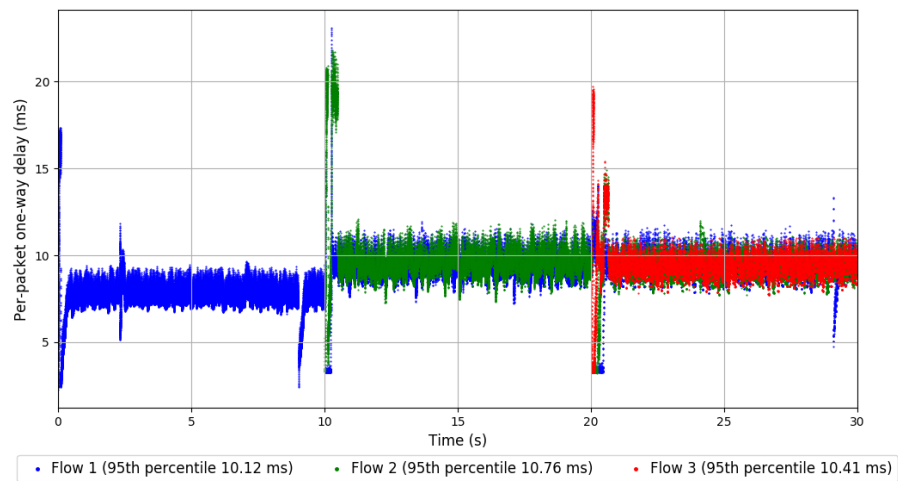
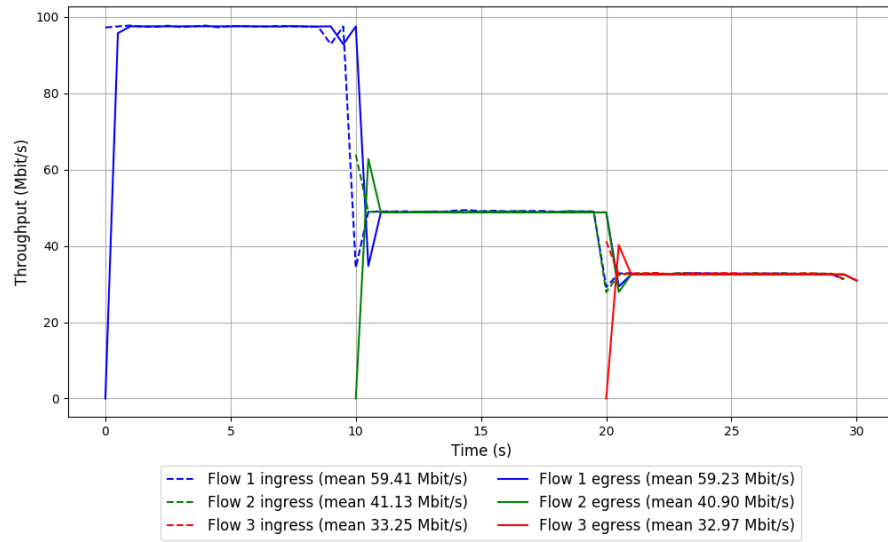
-- Flow 3:

Average throughput: 32.97 Mbit/s

95th percentile per-packet one-way delay: 10.410 ms

Loss rate: 0.88%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-02-05 19:48:56

End at: 2019-02-05 19:49:26

Local clock offset: -3.841 ms

Remote clock offset: 1.803 ms

Below is generated by plot.py at 2019-02-05 20:15:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 9.351 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 59.31 Mbit/s

95th percentile per-packet one-way delay: 8.489 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.88 Mbit/s

95th percentile per-packet one-way delay: 9.904 ms

Loss rate: 0.40%

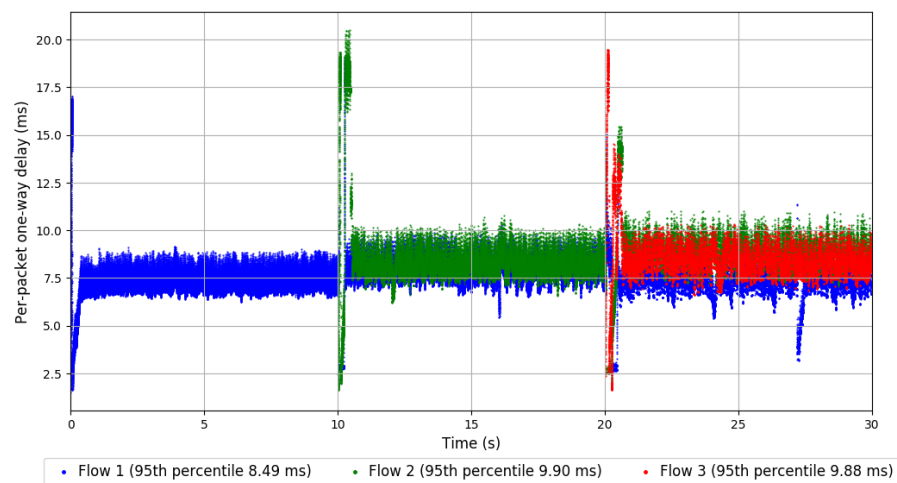
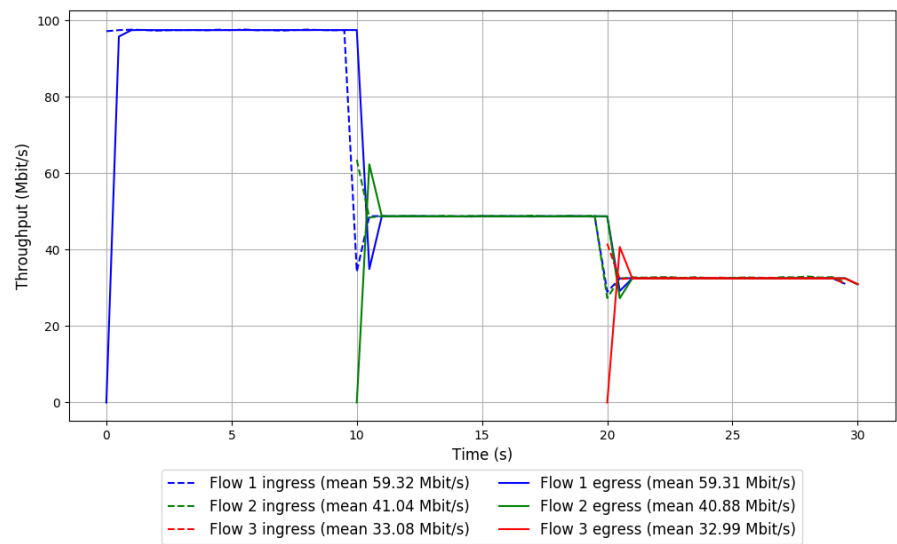
-- Flow 3:

Average throughput: 32.99 Mbit/s

95th percentile per-packet one-way delay: 9.884 ms

Loss rate: 0.31%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-02-05 18:34:01

End at: 2019-02-05 18:34:31

Local clock offset: -5.124 ms

Remote clock offset: 1.049 ms

Below is generated by plot.py at 2019-02-05 20:16:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.99 Mbit/s

95th percentile per-packet one-way delay: 12.219 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 58.12 Mbit/s

95th percentile per-packet one-way delay: 11.851 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 39.35 Mbit/s

95th percentile per-packet one-way delay: 13.135 ms

Loss rate: 0.08%

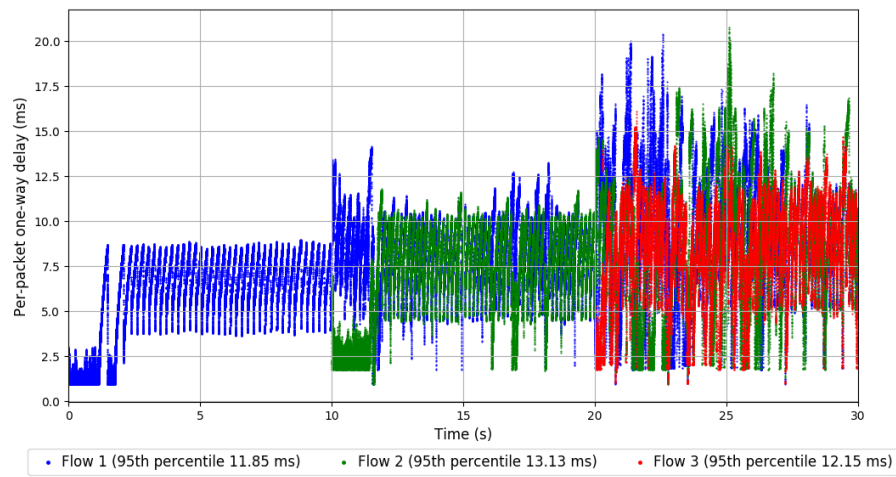
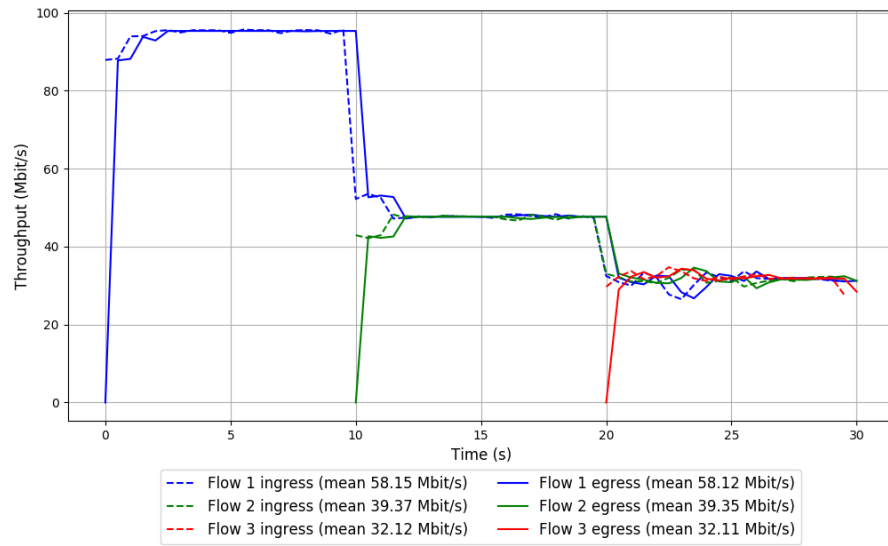
-- Flow 3:

Average throughput: 32.11 Mbit/s

95th percentile per-packet one-way delay: 12.150 ms

Loss rate: 0.08%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-02-05 18:58:13

End at: 2019-02-05 18:58:43

Local clock offset: -3.983 ms

Remote clock offset: 1.588 ms

Below is generated by plot.py at 2019-02-05 20:16:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.06 Mbit/s

95th percentile per-packet one-way delay: 13.599 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 51.89 Mbit/s

95th percentile per-packet one-way delay: 12.538 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 38.77 Mbit/s

95th percentile per-packet one-way delay: 14.639 ms

Loss rate: 0.08%

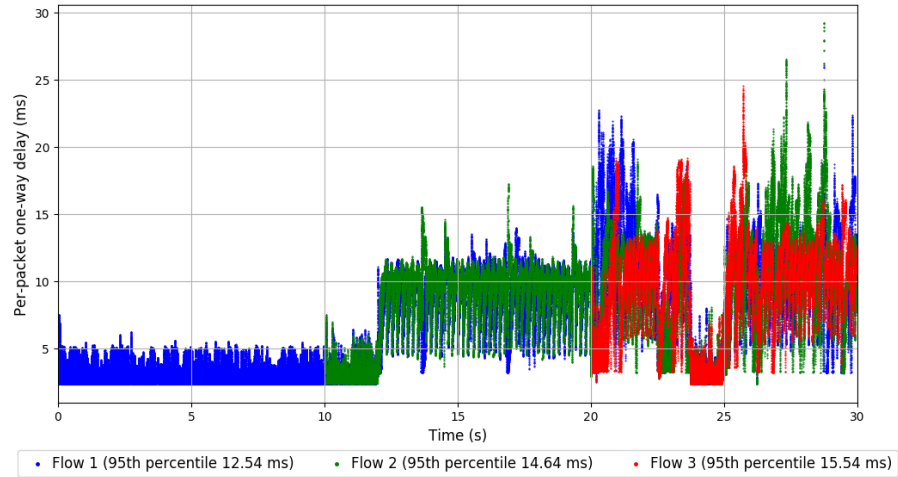
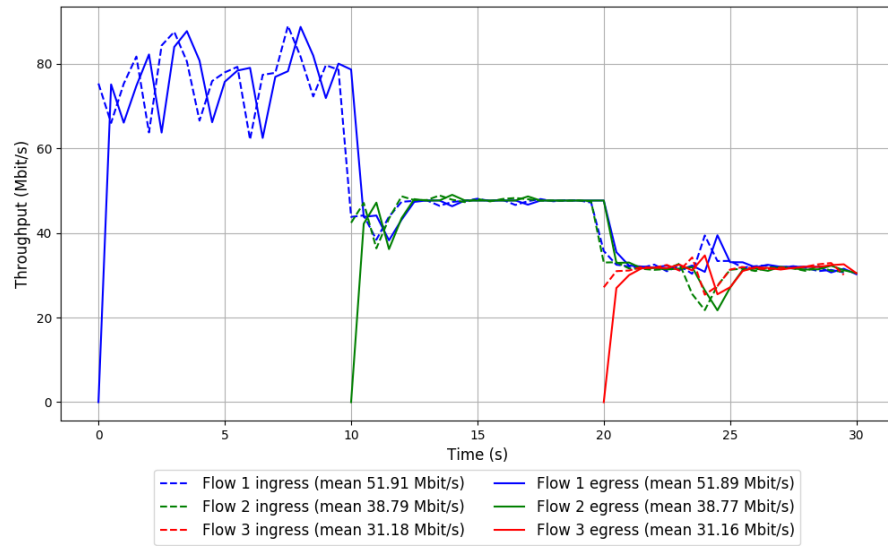
-- Flow 3:

Average throughput: 31.16 Mbit/s

95th percentile per-packet one-way delay: 15.539 ms

Loss rate: 0.11%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-02-05 19:22:22

End at: 2019-02-05 19:22:52

Local clock offset: -3.351 ms

Remote clock offset: 1.909 ms

Below is generated by plot.py at 2019-02-05 20:16:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.68 Mbit/s

95th percentile per-packet one-way delay: 13.017 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 55.23 Mbit/s

95th percentile per-packet one-way delay: 12.175 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 39.14 Mbit/s

95th percentile per-packet one-way delay: 14.363 ms

Loss rate: 0.10%

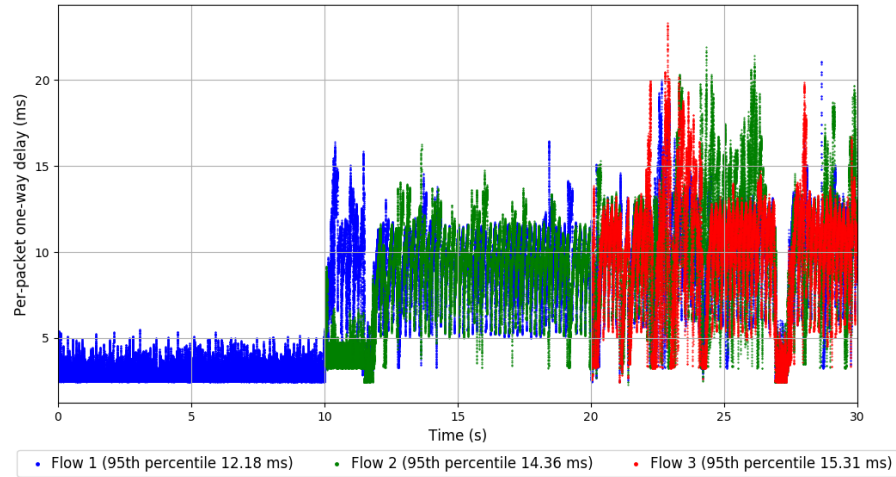
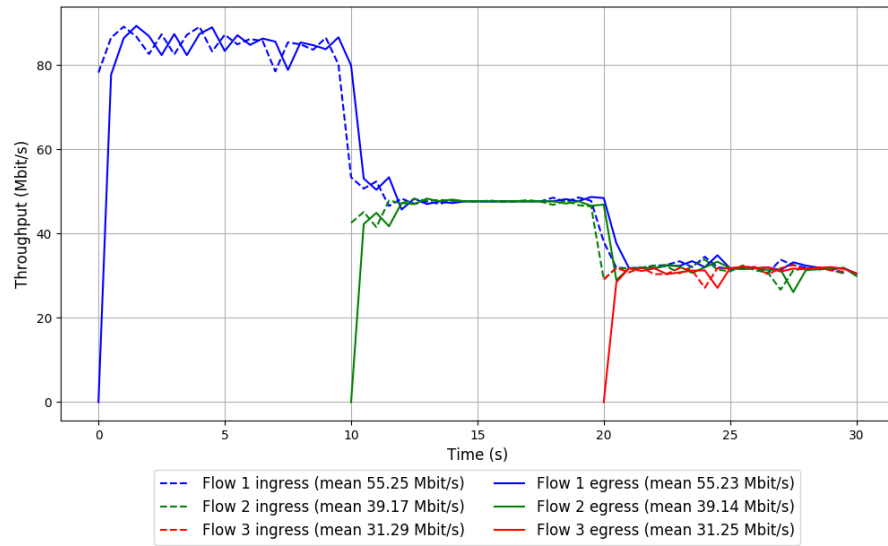
-- Flow 3:

Average throughput: 31.25 Mbit/s

95th percentile per-packet one-way delay: 15.313 ms

Loss rate: 0.15%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-02-05 19:46:34

End at: 2019-02-05 19:47:04

Local clock offset: -3.801 ms

Remote clock offset: 1.742 ms

Below is generated by plot.py at 2019-02-05 20:17:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.05 Mbit/s

95th percentile per-packet one-way delay: 11.972 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 52.96 Mbit/s

95th percentile per-packet one-way delay: 11.316 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 40.01 Mbit/s

95th percentile per-packet one-way delay: 12.434 ms

Loss rate: 0.09%

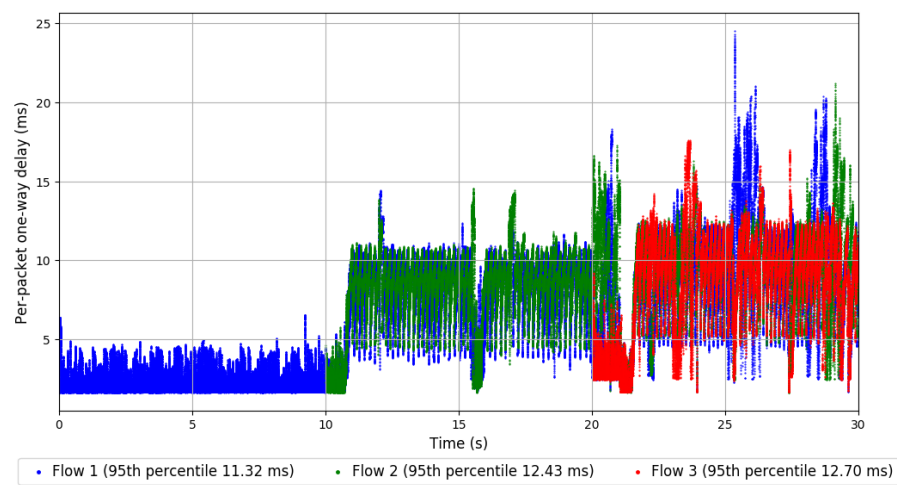
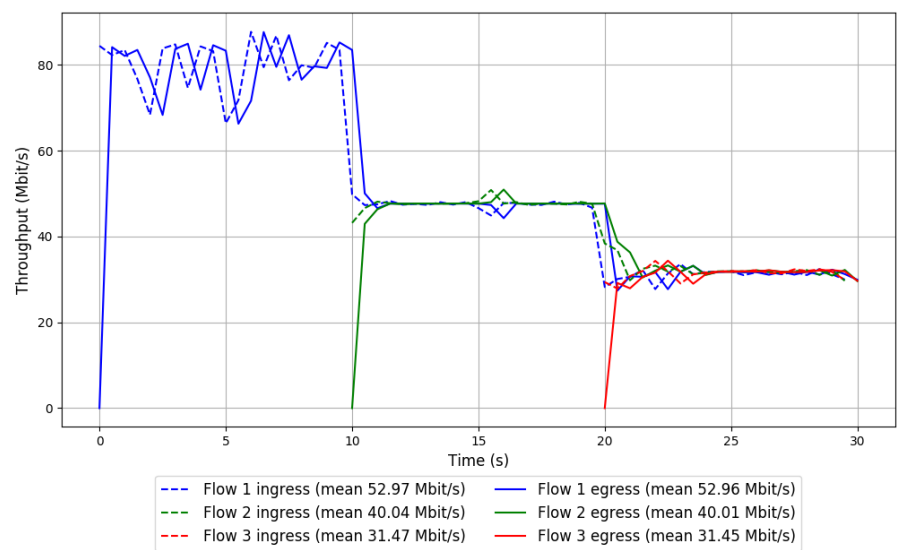
-- Flow 3:

Average throughput: 31.45 Mbit/s

95th percentile per-packet one-way delay: 12.696 ms

Loss rate: 0.16%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-02-05 20:10:44

End at: 2019-02-05 20:11:14

Local clock offset: -4.081 ms

Remote clock offset: 1.562 ms

Below is generated by plot.py at 2019-02-05 20:17:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.01 Mbit/s

95th percentile per-packet one-way delay: 13.425 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 55.18 Mbit/s

95th percentile per-packet one-way delay: 11.965 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 40.17 Mbit/s

95th percentile per-packet one-way delay: 12.588 ms

Loss rate: 0.11%

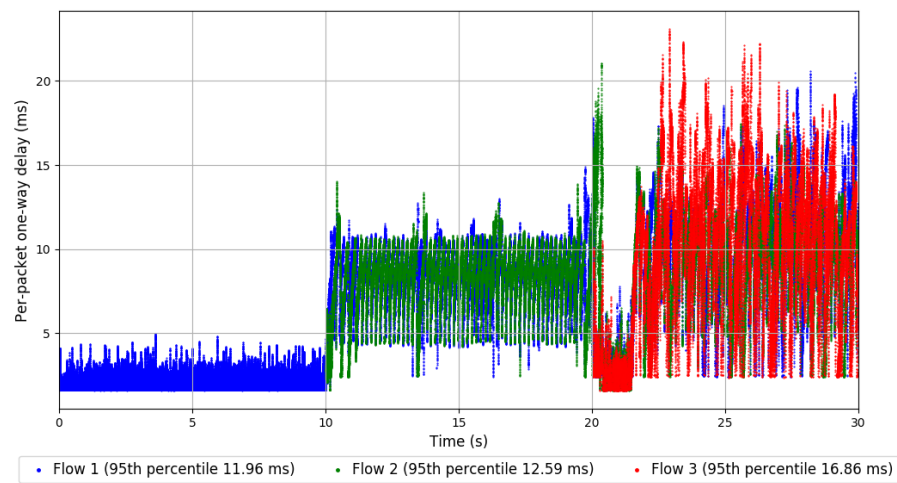
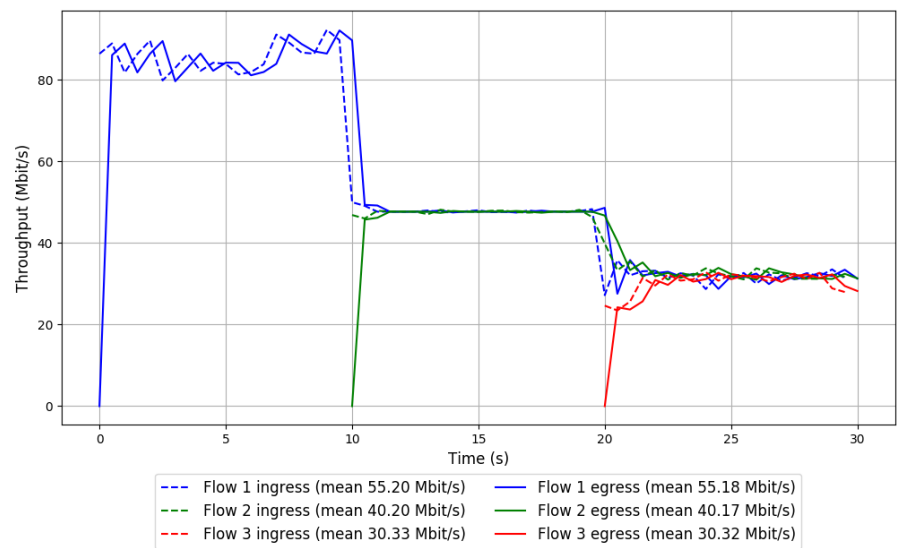
-- Flow 3:

Average throughput: 30.32 Mbit/s

95th percentile per-packet one-way delay: 16.862 ms

Loss rate: 0.05%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-02-05 18:17:01

End at: 2019-02-05 18:17:31

Local clock offset: -5.881 ms

Remote clock offset: 0.453 ms

Below is generated by plot.py at 2019-02-05 20:17:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.52 Mbit/s

95th percentile per-packet one-way delay: 9.558 ms

Loss rate: 0.13%

-- Flow 1:

Average throughput: 59.60 Mbit/s

95th percentile per-packet one-way delay: 9.695 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 40.65 Mbit/s

95th percentile per-packet one-way delay: 9.406 ms

Loss rate: 0.17%

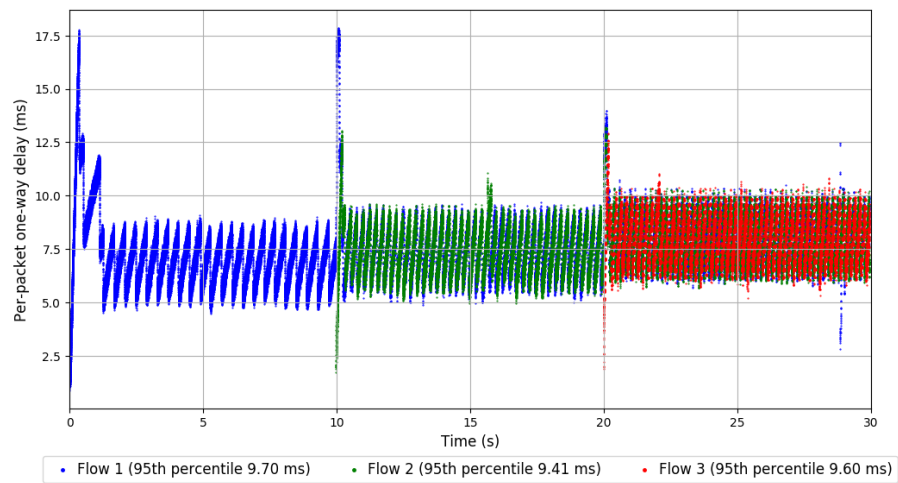
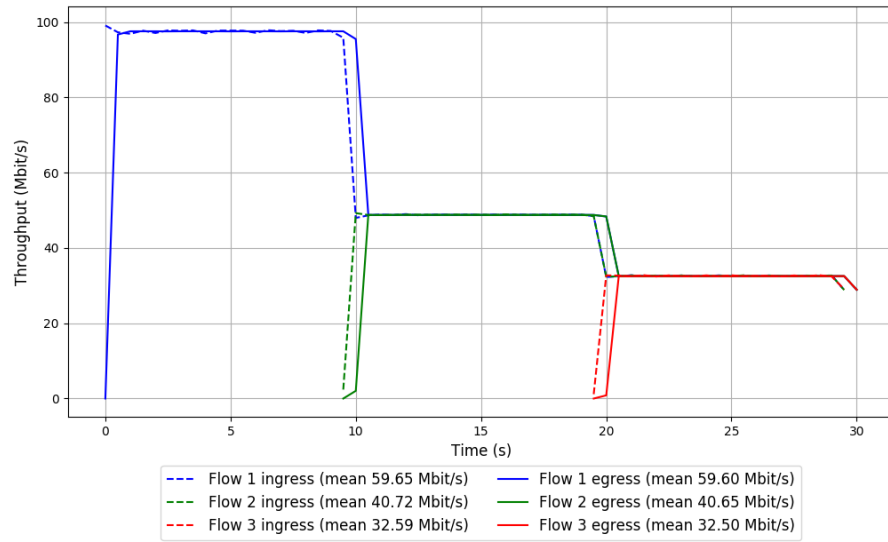
-- Flow 3:

Average throughput: 32.50 Mbit/s

95th percentile per-packet one-way delay: 9.601 ms

Loss rate: 0.28%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-02-05 18:40:57

End at: 2019-02-05 18:41:27

Local clock offset: -5.745 ms

Remote clock offset: 1.275 ms

Below is generated by plot.py at 2019-02-05 20:17:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 9.590 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.58 Mbit/s

95th percentile per-packet one-way delay: 9.286 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 40.65 Mbit/s

95th percentile per-packet one-way delay: 9.821 ms

Loss rate: 0.15%

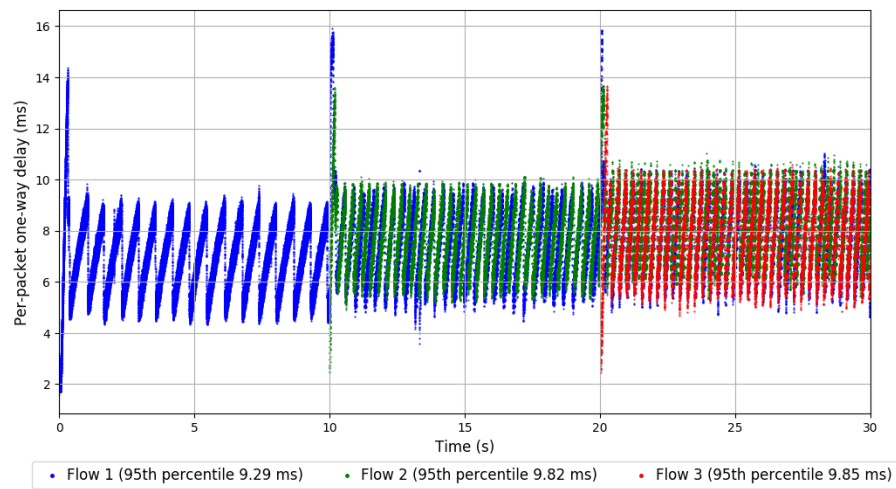
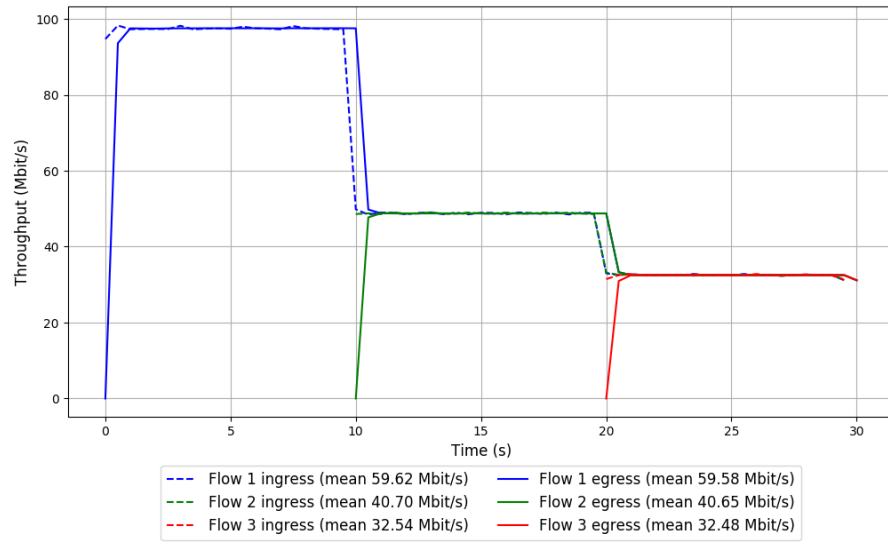
-- Flow 3:

Average throughput: 32.48 Mbit/s

95th percentile per-packet one-way delay: 9.849 ms

Loss rate: 0.21%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-02-05 19:05:08

End at: 2019-02-05 19:05:38

Local clock offset: -4.507 ms

Remote clock offset: 1.756 ms

Below is generated by plot.py at 2019-02-05 20:17:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 9.752 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 59.64 Mbit/s

95th percentile per-packet one-way delay: 9.895 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 40.64 Mbit/s

95th percentile per-packet one-way delay: 9.487 ms

Loss rate: 0.14%

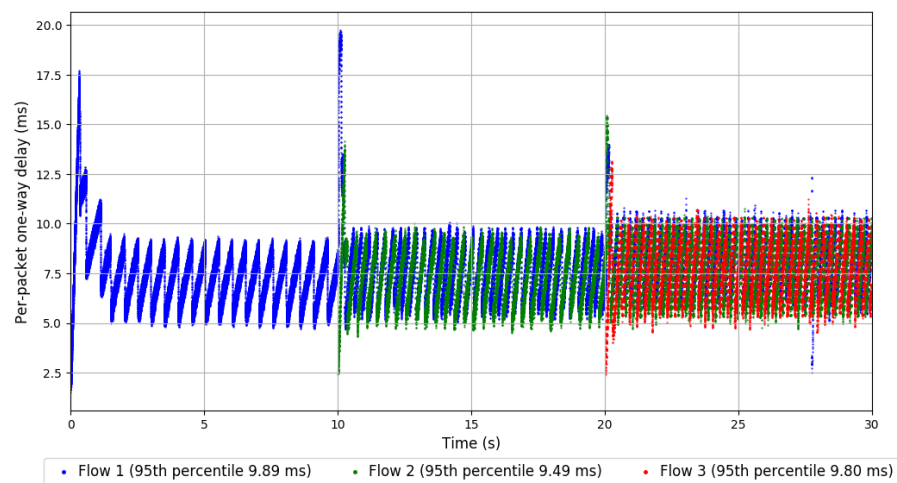
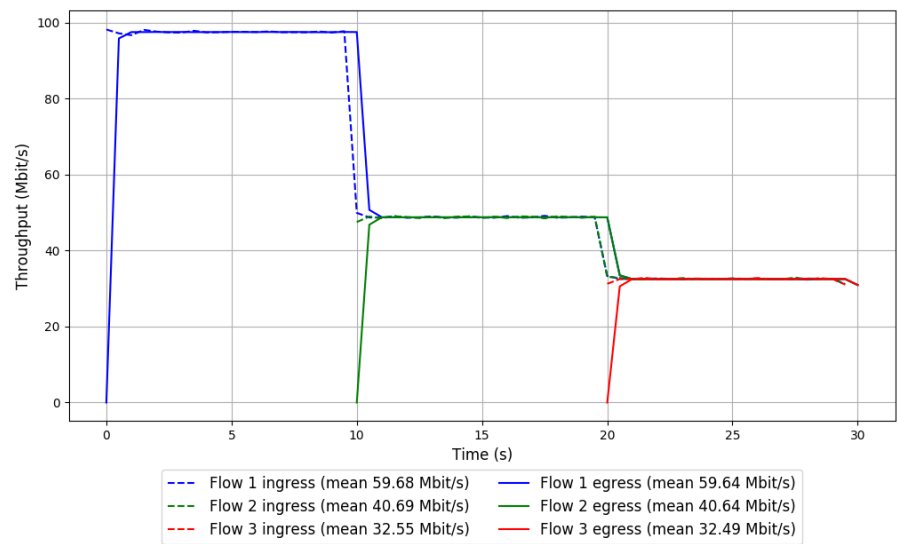
-- Flow 3:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 9.801 ms

Loss rate: 0.24%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-02-05 19:29:18

End at: 2019-02-05 19:29:48

Local clock offset: -3.246 ms

Remote clock offset: 1.991 ms

Below is generated by plot.py at 2019-02-05 20:17:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 10.273 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.63 Mbit/s

95th percentile per-packet one-way delay: 10.290 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 40.64 Mbit/s

95th percentile per-packet one-way delay: 10.207 ms

Loss rate: 0.14%

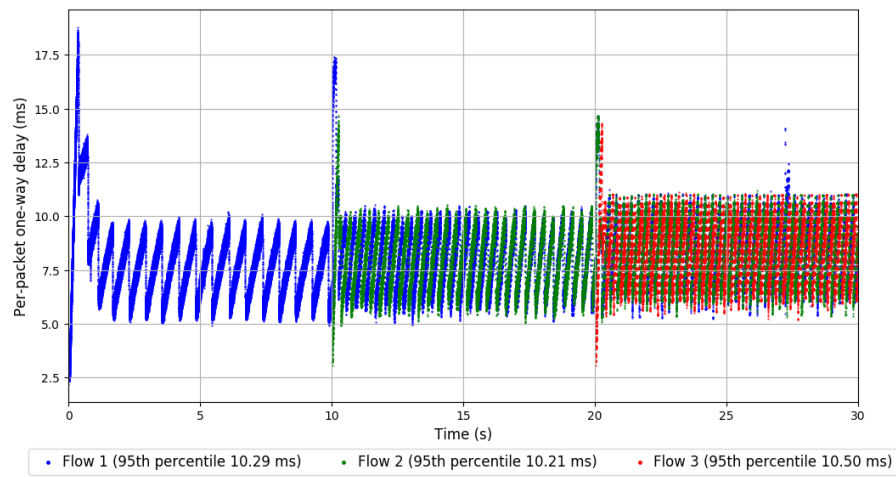
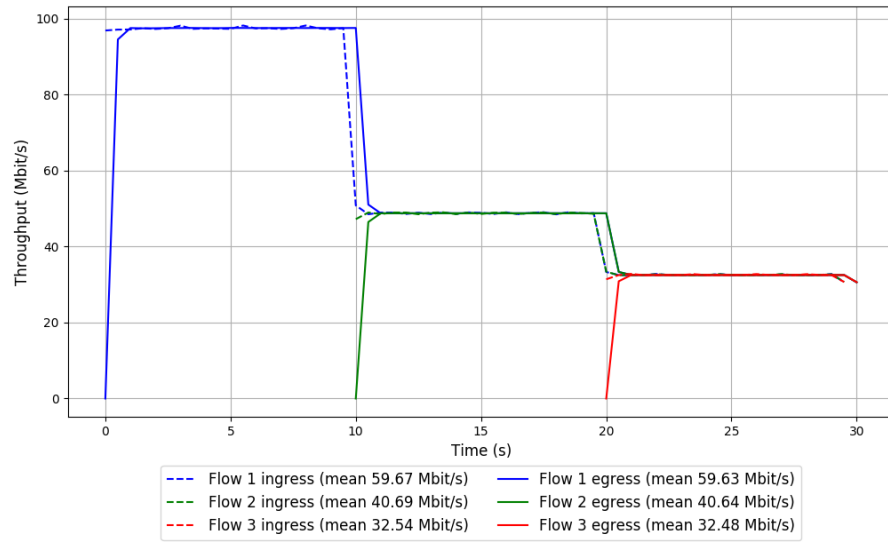
-- Flow 3:

Average throughput: 32.48 Mbit/s

95th percentile per-packet one-way delay: 10.498 ms

Loss rate: 0.22%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-02-05 19:53:29

End at: 2019-02-05 19:53:59

Local clock offset: -3.208 ms

Remote clock offset: 1.705 ms

Below is generated by plot.py at 2019-02-05 20:17:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 10.370 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 59.61 Mbit/s

95th percentile per-packet one-way delay: 10.218 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 40.65 Mbit/s

95th percentile per-packet one-way delay: 10.574 ms

Loss rate: 0.16%

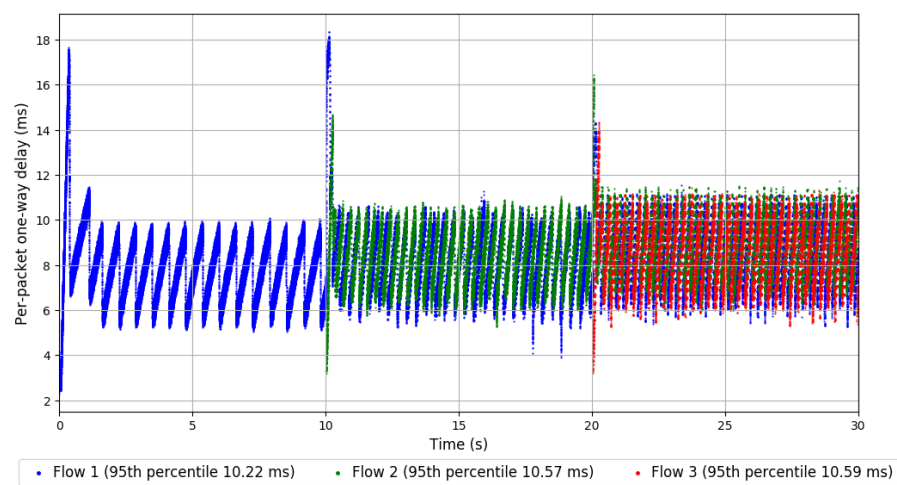
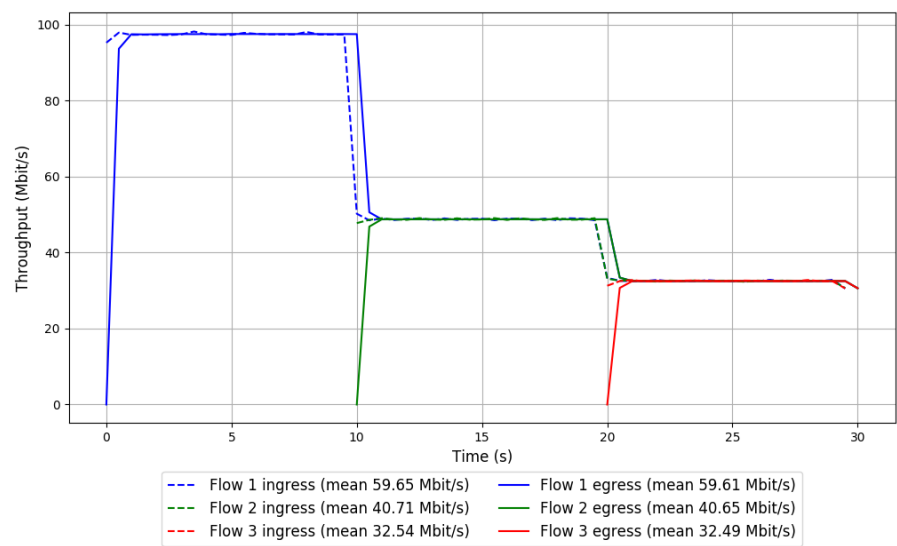
-- Flow 3:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 10.588 ms

Loss rate: 0.20%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-02-05 18:20:29

End at: 2019-02-05 18:20:59

Local clock offset: -5.606 ms

Remote clock offset: 0.625 ms

Below is generated by plot.py at 2019-02-05 20:18:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.32 Mbit/s

95th percentile per-packet one-way delay: 39.448 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 47.93 Mbit/s

95th percentile per-packet one-way delay: 25.605 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 53.32 Mbit/s

95th percentile per-packet one-way delay: 41.458 ms

Loss rate: 0.50%

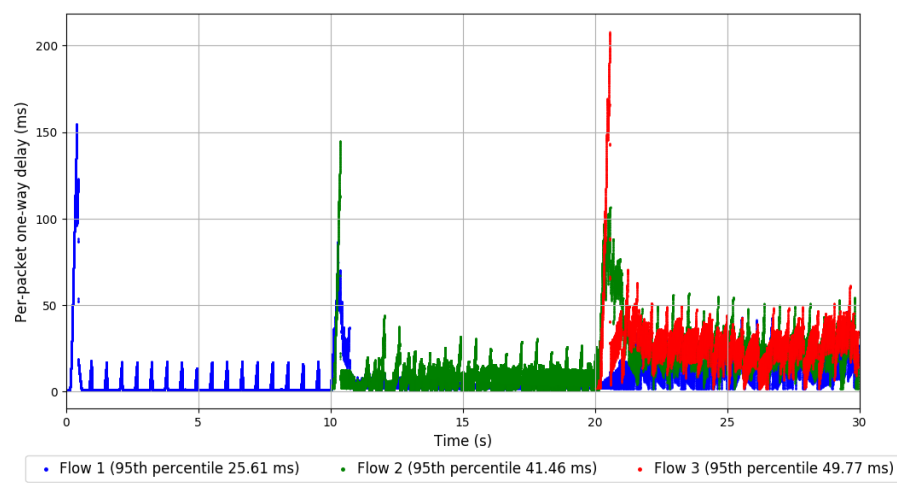
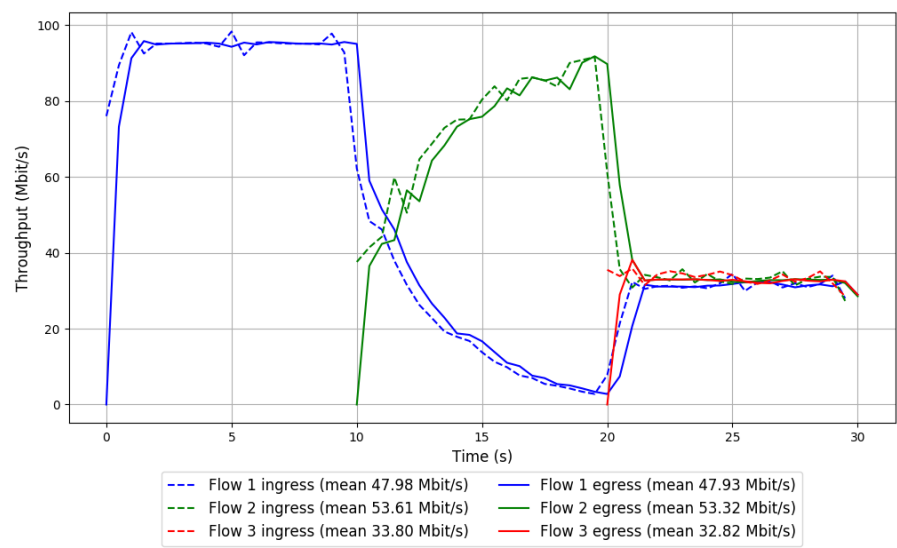
-- Flow 3:

Average throughput: 32.82 Mbit/s

95th percentile per-packet one-way delay: 49.765 ms

Loss rate: 2.76%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-02-05 18:44:24

End at: 2019-02-05 18:44:54

Local clock offset: -5.709 ms

Remote clock offset: 1.438 ms

Below is generated by plot.py at 2019-02-05 20:18:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 48.368 ms

Loss rate: 1.78%

-- Flow 1:

Average throughput: 53.54 Mbit/s

95th percentile per-packet one-way delay: 27.178 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 47.67 Mbit/s

95th percentile per-packet one-way delay: 58.151 ms

Loss rate: 3.54%

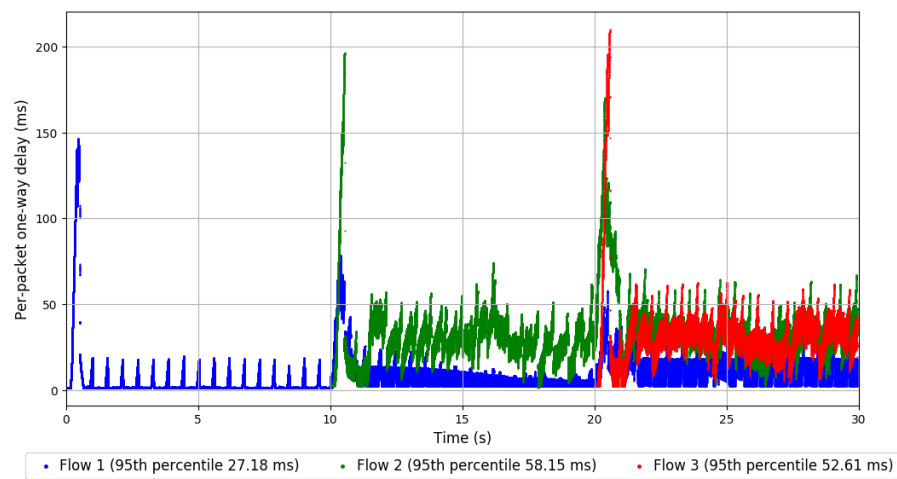
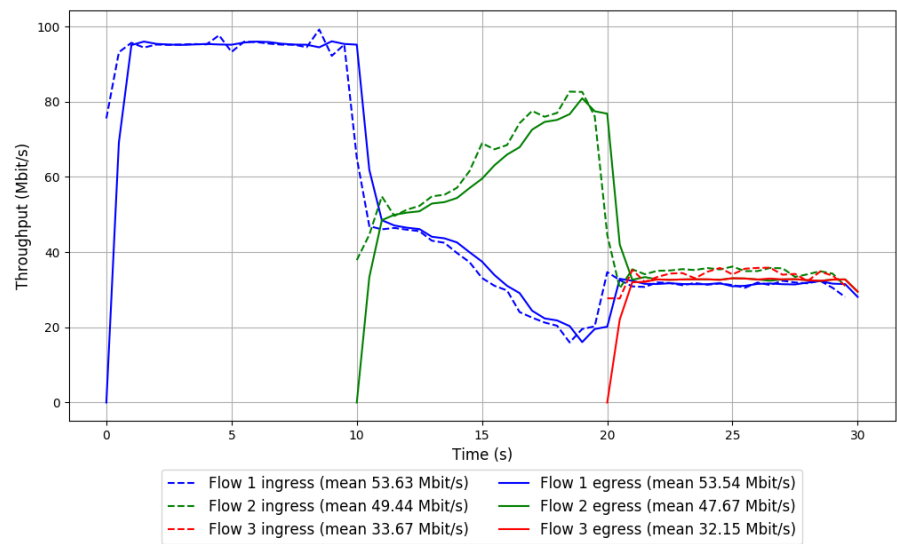
-- Flow 3:

Average throughput: 32.15 Mbit/s

95th percentile per-packet one-way delay: 52.608 ms

Loss rate: 4.54%

Run 2: Report of FillP — Data Link

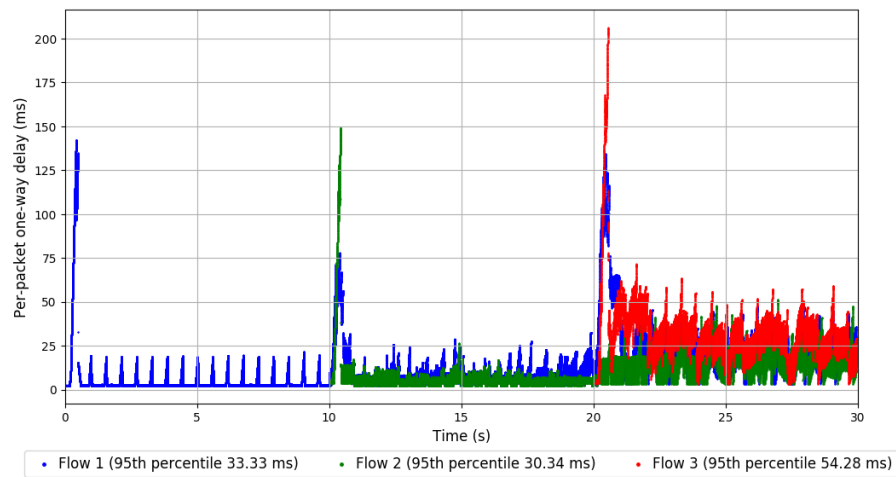
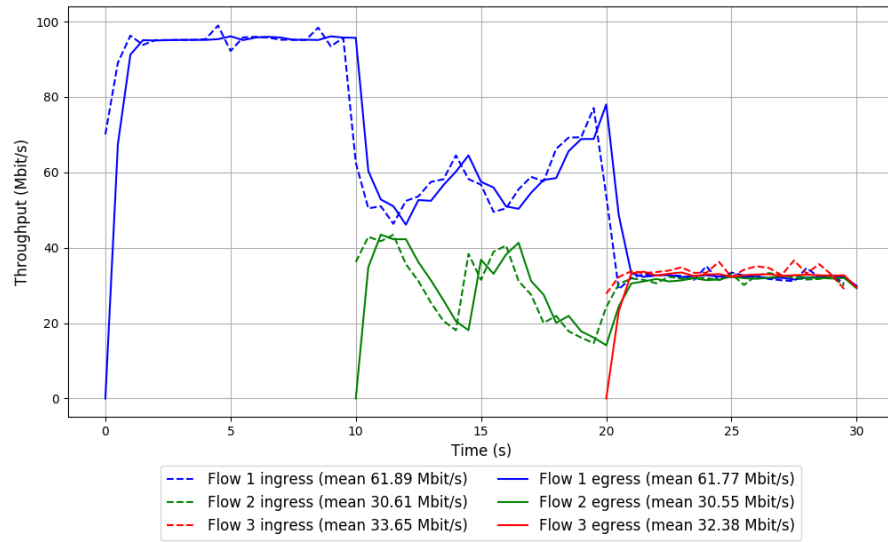


Run 3: Statistics of FillP

Start at: 2019-02-05 19:08:36
End at: 2019-02-05 19:09:06
Local clock offset: -3.703 ms
Remote clock offset: 1.773 ms

Below is generated by plot.py at 2019-02-05 20:18:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.86 Mbit/s
95th percentile per-packet one-way delay: 41.711 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 61.77 Mbit/s
95th percentile per-packet one-way delay: 33.326 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 30.55 Mbit/s
95th percentile per-packet one-way delay: 30.339 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 32.38 Mbit/s
95th percentile per-packet one-way delay: 54.280 ms
Loss rate: 3.68%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-02-05 19:32:46

End at: 2019-02-05 19:33:16

Local clock offset: -3.937 ms

Remote clock offset: 1.823 ms

Below is generated by plot.py at 2019-02-05 20:18:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.02 Mbit/s

95th percentile per-packet one-way delay: 53.327 ms

Loss rate: 1.65%

-- Flow 1:

Average throughput: 58.85 Mbit/s

95th percentile per-packet one-way delay: 34.163 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 48.95 Mbit/s

95th percentile per-packet one-way delay: 60.261 ms

Loss rate: 4.31%

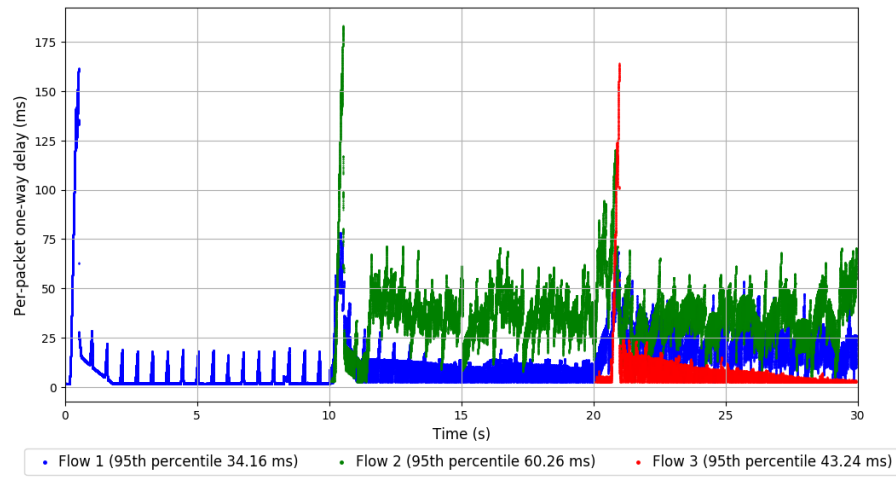
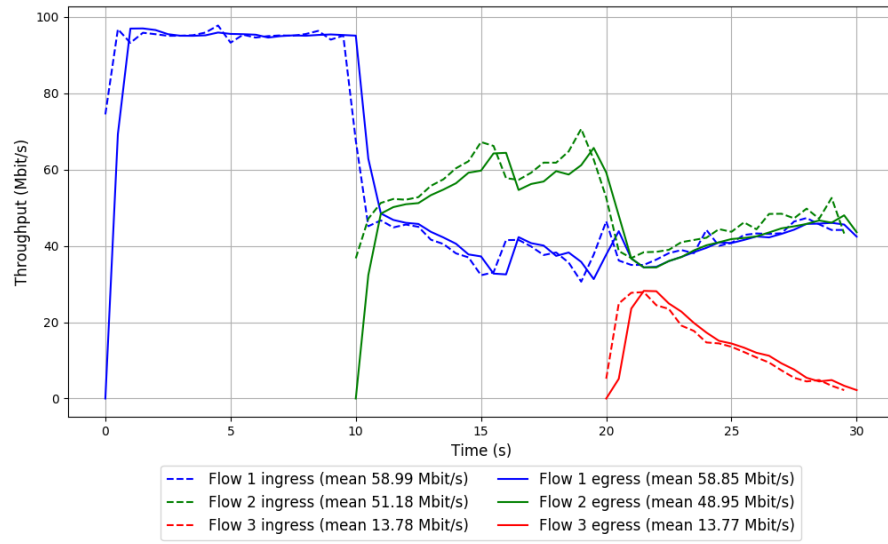
-- Flow 3:

Average throughput: 13.77 Mbit/s

95th percentile per-packet one-way delay: 43.236 ms

Loss rate: 0.06%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-02-05 19:56:57

End at: 2019-02-05 19:57:27

Local clock offset: -4.007 ms

Remote clock offset: 1.733 ms

Below is generated by plot.py at 2019-02-05 20:19:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.83 Mbit/s

95th percentile per-packet one-way delay: 51.622 ms

Loss rate: 1.66%

-- Flow 1:

Average throughput: 53.00 Mbit/s

95th percentile per-packet one-way delay: 26.543 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 48.82 Mbit/s

95th percentile per-packet one-way delay: 61.826 ms

Loss rate: 3.74%

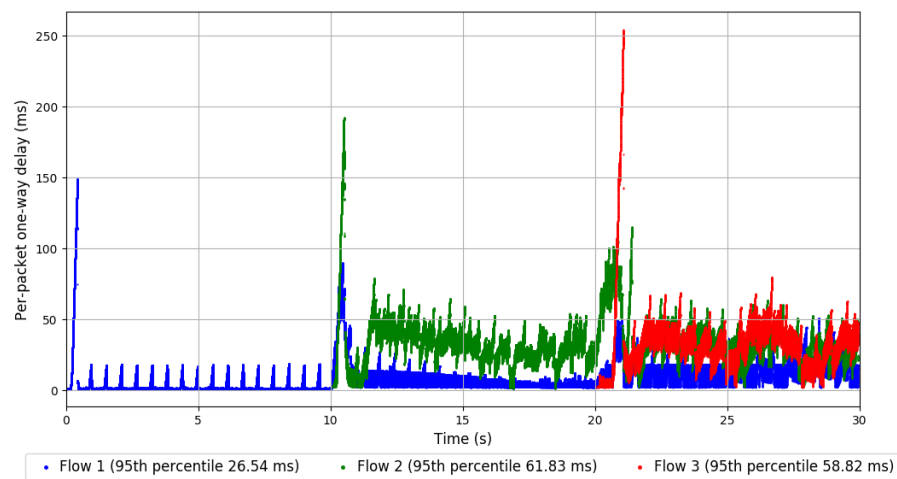
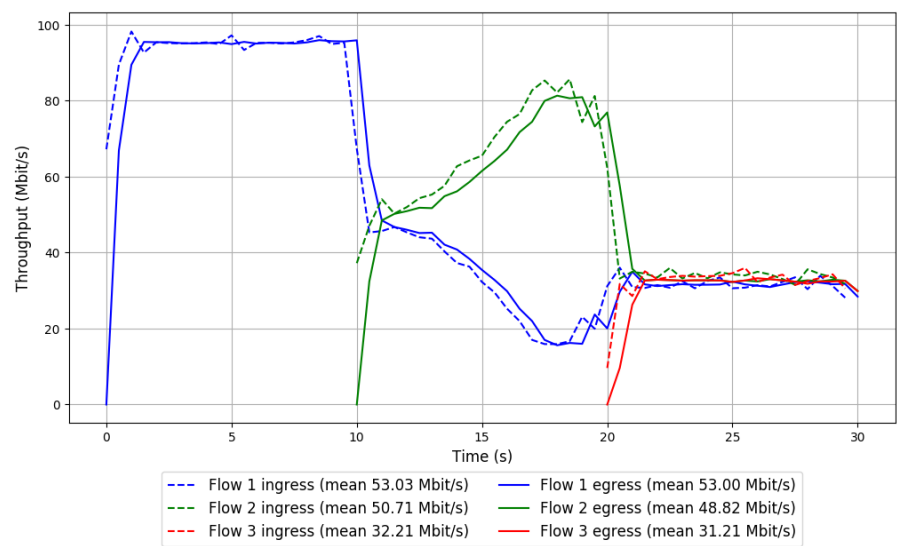
-- Flow 3:

Average throughput: 31.21 Mbit/s

95th percentile per-packet one-way delay: 58.823 ms

Loss rate: 3.01%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-02-05 18:30:40

End at: 2019-02-05 18:31:10

Local clock offset: -5.246 ms

Remote clock offset: 0.954 ms

Below is generated by plot.py at 2019-02-05 20:19:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 48.44 Mbit/s

95th percentile per-packet one-way delay: 12.580 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 37.28 Mbit/s

95th percentile per-packet one-way delay: 7.870 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 11.62 Mbit/s

95th percentile per-packet one-way delay: 22.699 ms

Loss rate: 0.02%

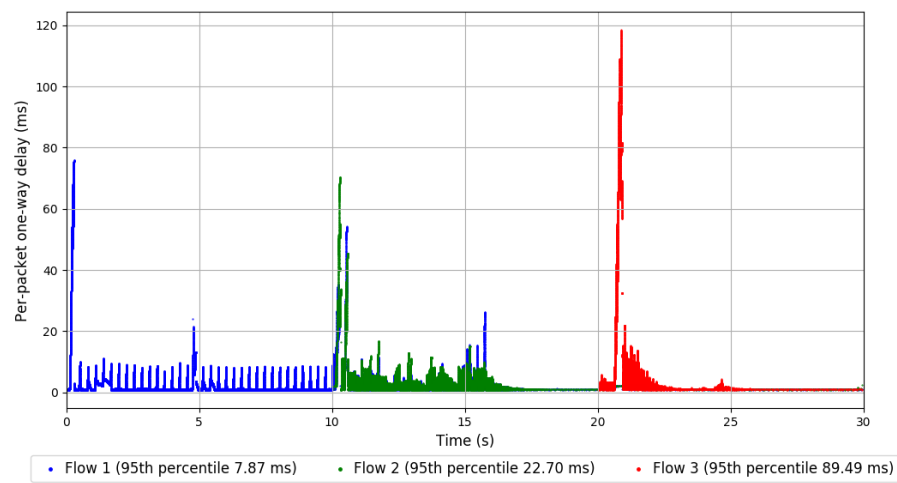
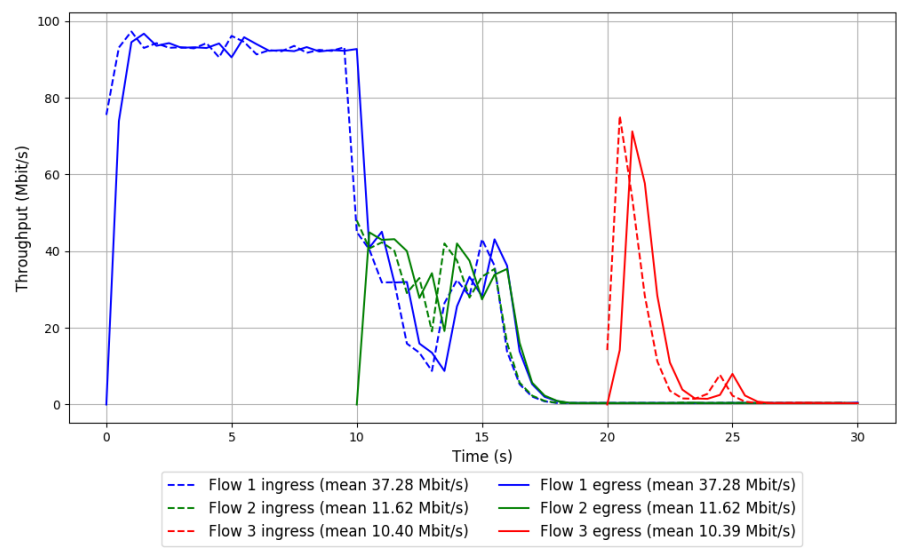
-- Flow 3:

Average throughput: 10.39 Mbit/s

95th percentile per-packet one-way delay: 89.488 ms

Loss rate: 0.03%

Run 1: Report of FillP-Sheep — Data Link

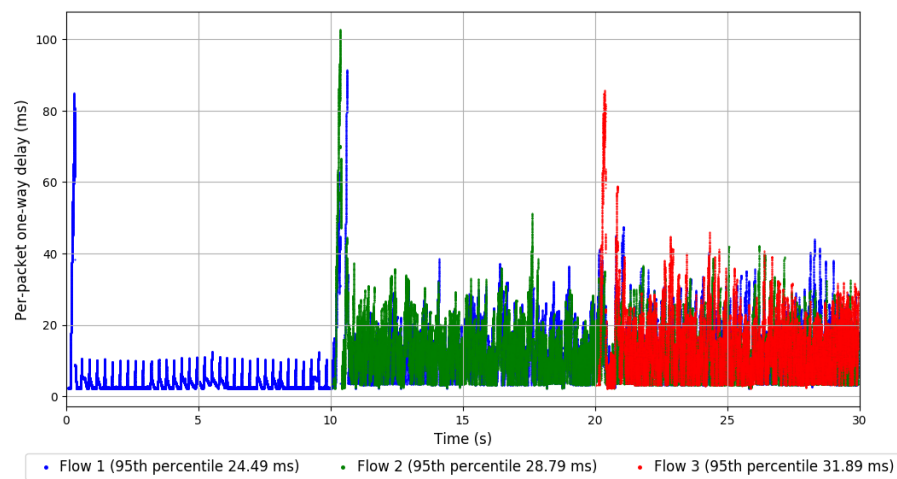
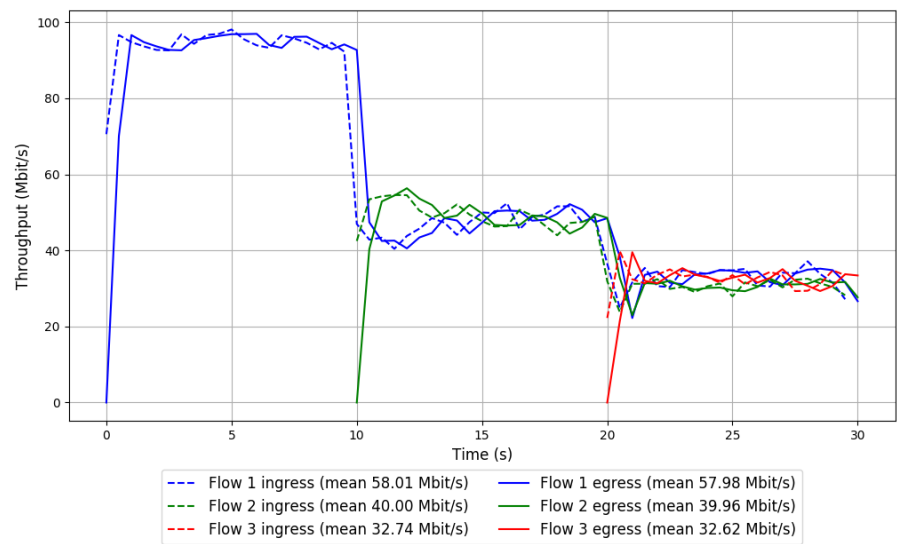


Run 2: Statistics of FillP-Sheep

Start at: 2019-02-05 18:54:50
End at: 2019-02-05 18:55:20
Local clock offset: -4.224 ms
Remote clock offset: 1.512 ms

Below is generated by plot.py at 2019-02-05 20:19:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.37 Mbit/s
95th percentile per-packet one-way delay: 27.087 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 57.98 Mbit/s
95th percentile per-packet one-way delay: 24.488 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.96 Mbit/s
95th percentile per-packet one-way delay: 28.786 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 32.62 Mbit/s
95th percentile per-packet one-way delay: 31.890 ms
Loss rate: 0.28%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-02-05 19:18:59

End at: 2019-02-05 19:19:29

Local clock offset: -4.241 ms

Remote clock offset: 1.98 ms

Below is generated by plot.py at 2019-02-05 20:19:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.48 Mbit/s

95th percentile per-packet one-way delay: 27.099 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 58.14 Mbit/s

95th percentile per-packet one-way delay: 25.442 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.47 Mbit/s

95th percentile per-packet one-way delay: 28.668 ms

Loss rate: 0.02%

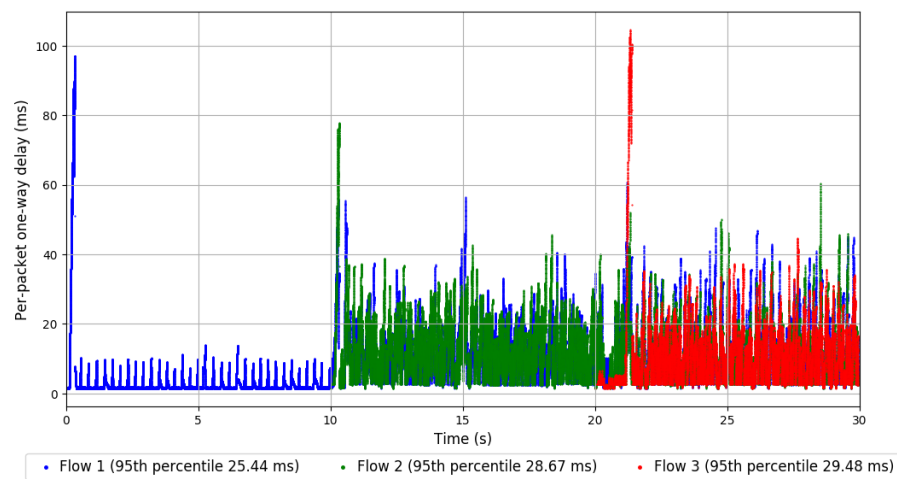
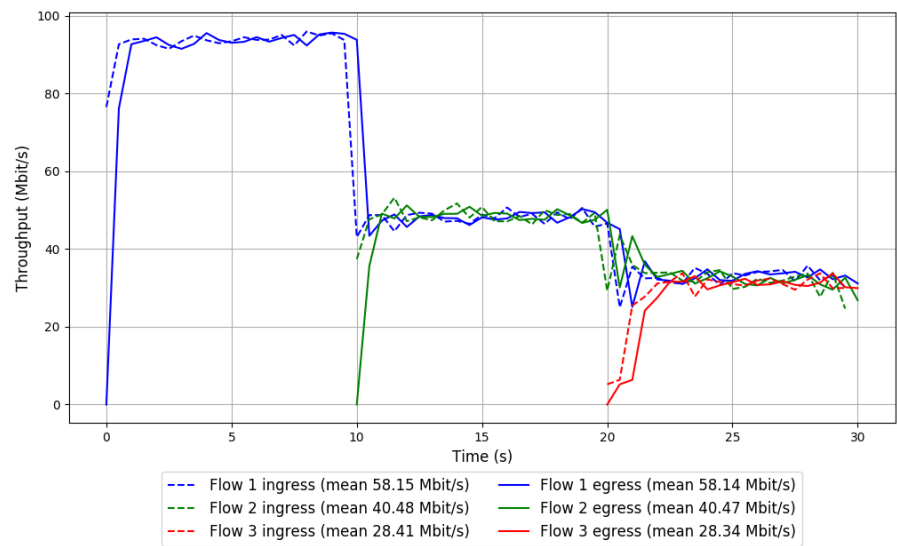
-- Flow 3:

Average throughput: 28.34 Mbit/s

95th percentile per-packet one-way delay: 29.482 ms

Loss rate: 0.28%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-02-05 19:43:11

End at: 2019-02-05 19:43:41

Local clock offset: -3.757 ms

Remote clock offset: 1.863 ms

Below is generated by plot.py at 2019-02-05 20:19:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.70 Mbit/s

95th percentile per-packet one-way delay: 27.746 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 58.87 Mbit/s

95th percentile per-packet one-way delay: 25.938 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 40.47 Mbit/s

95th percentile per-packet one-way delay: 29.398 ms

Loss rate: 0.07%

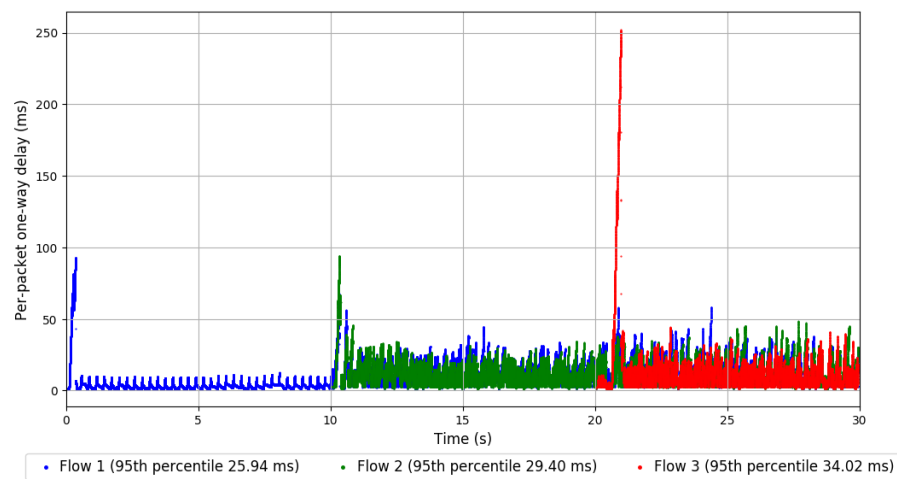
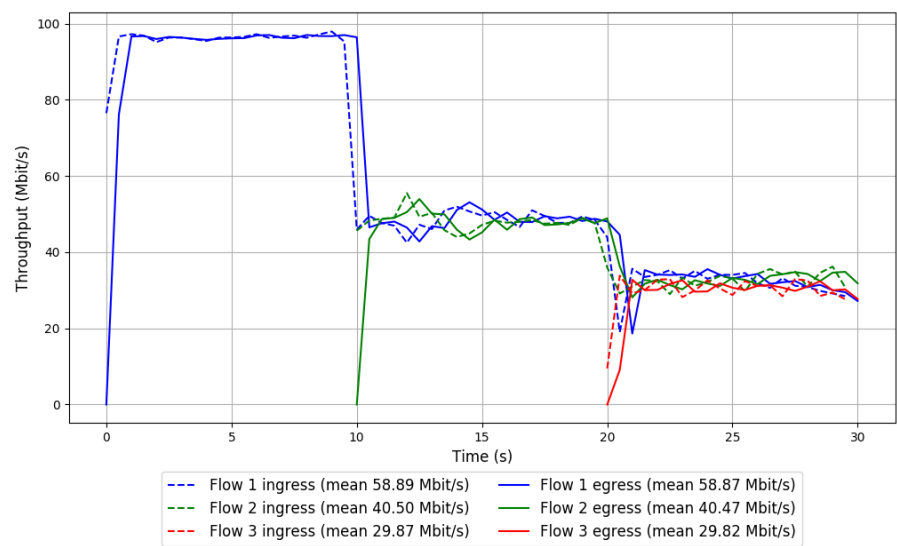
-- Flow 3:

Average throughput: 29.82 Mbit/s

95th percentile per-packet one-way delay: 34.022 ms

Loss rate: 0.03%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-02-05 20:07:21

End at: 2019-02-05 20:07:51

Local clock offset: -4.015 ms

Remote clock offset: 1.627 ms

Below is generated by plot.py at 2019-02-05 20:19:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.43 Mbit/s

95th percentile per-packet one-way delay: 29.691 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 59.34 Mbit/s

95th percentile per-packet one-way delay: 25.678 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 34.21 Mbit/s

95th percentile per-packet one-way delay: 22.973 ms

Loss rate: 0.09%

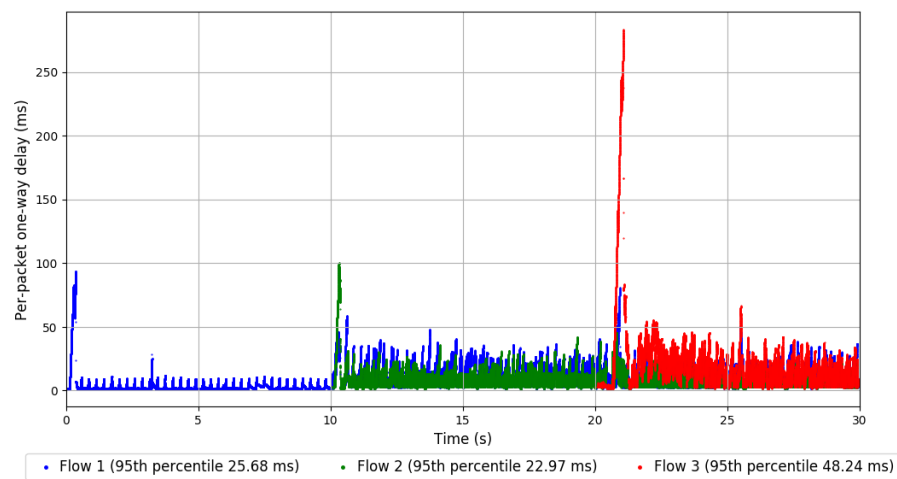
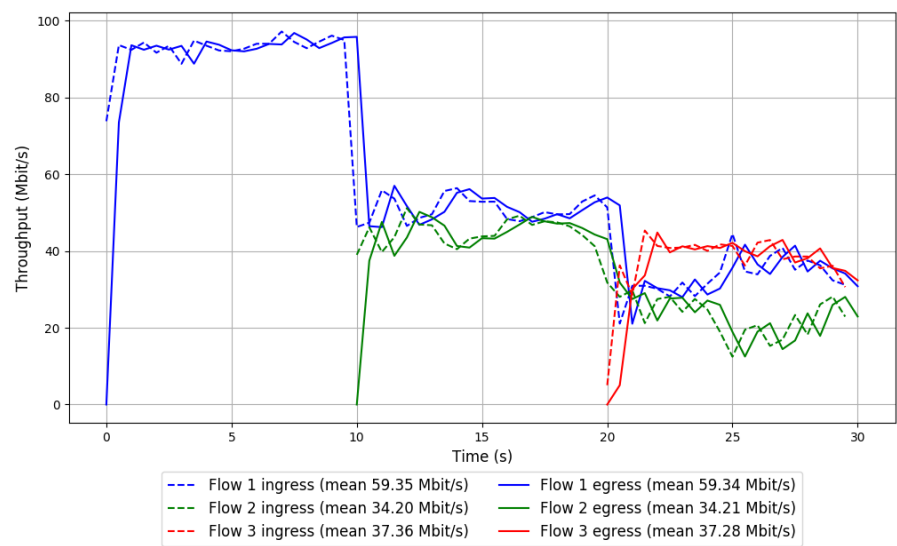
-- Flow 3:

Average throughput: 37.28 Mbit/s

95th percentile per-packet one-way delay: 48.245 ms

Loss rate: 0.14%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2019-02-05 18:35:13

End at: 2019-02-05 18:35:43

Local clock offset: -5.104 ms

Remote clock offset: 1.079 ms

Below is generated by plot.py at 2019-02-05 20:19:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 9.445 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 59.67 Mbit/s

95th percentile per-packet one-way delay: 8.737 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.58 Mbit/s

95th percentile per-packet one-way delay: 9.312 ms

Loss rate: 0.06%

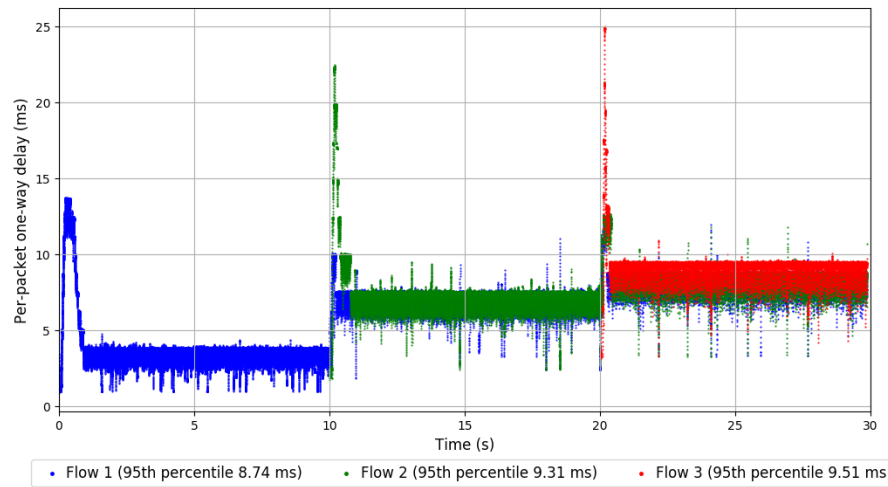
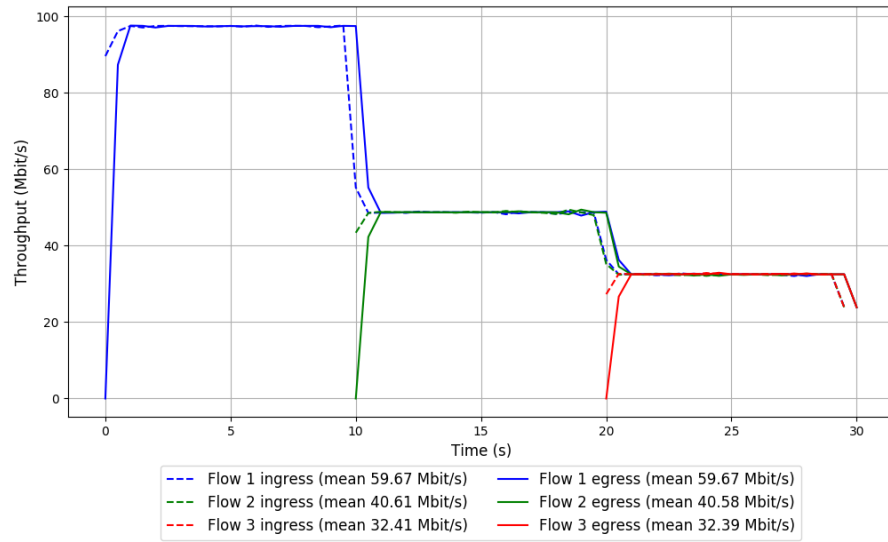
-- Flow 3:

Average throughput: 32.39 Mbit/s

95th percentile per-packet one-way delay: 9.506 ms

Loss rate: 0.11%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-02-05 18:59:25

End at: 2019-02-05 18:59:55

Local clock offset: -4.01 ms

Remote clock offset: 1.711 ms

Below is generated by plot.py at 2019-02-05 20:19:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.29 Mbit/s

95th percentile per-packet one-way delay: 10.017 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 59.63 Mbit/s

95th percentile per-packet one-way delay: 9.633 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.63 Mbit/s

95th percentile per-packet one-way delay: 10.467 ms

Loss rate: 0.09%

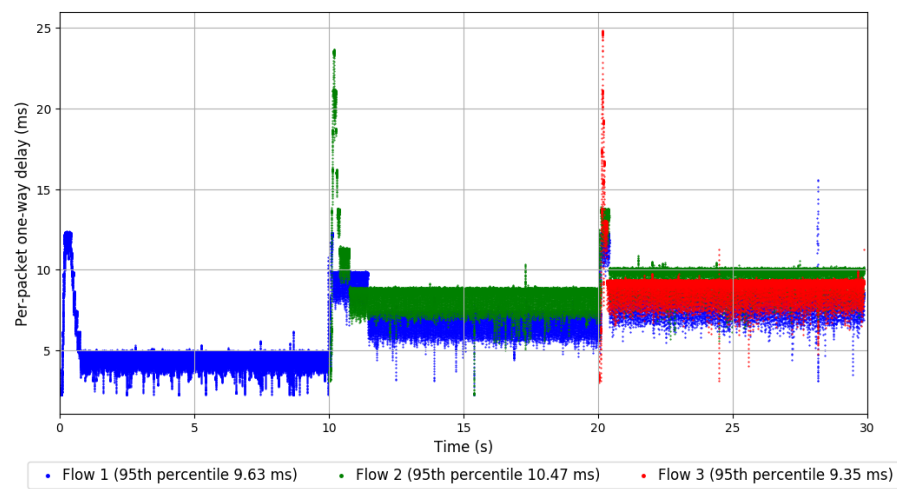
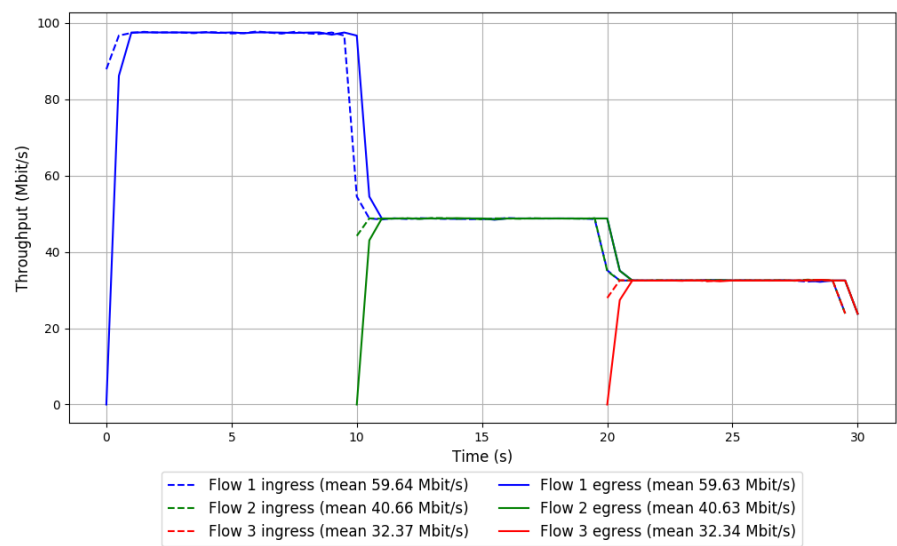
-- Flow 3:

Average throughput: 32.34 Mbit/s

95th percentile per-packet one-way delay: 9.348 ms

Loss rate: 0.11%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-02-05 19:23:34

End at: 2019-02-05 19:24:04

Local clock offset: -3.326 ms

Remote clock offset: 2.0 ms

Below is generated by plot.py at 2019-02-05 20:19:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.34 Mbit/s

95th percentile per-packet one-way delay: 11.747 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 59.70 Mbit/s

95th percentile per-packet one-way delay: 10.147 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 40.59 Mbit/s

95th percentile per-packet one-way delay: 12.128 ms

Loss rate: 1.74%

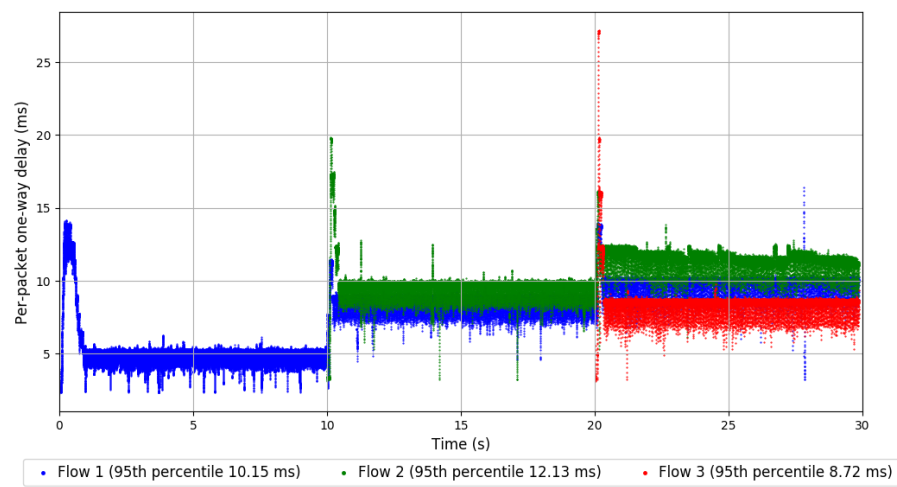
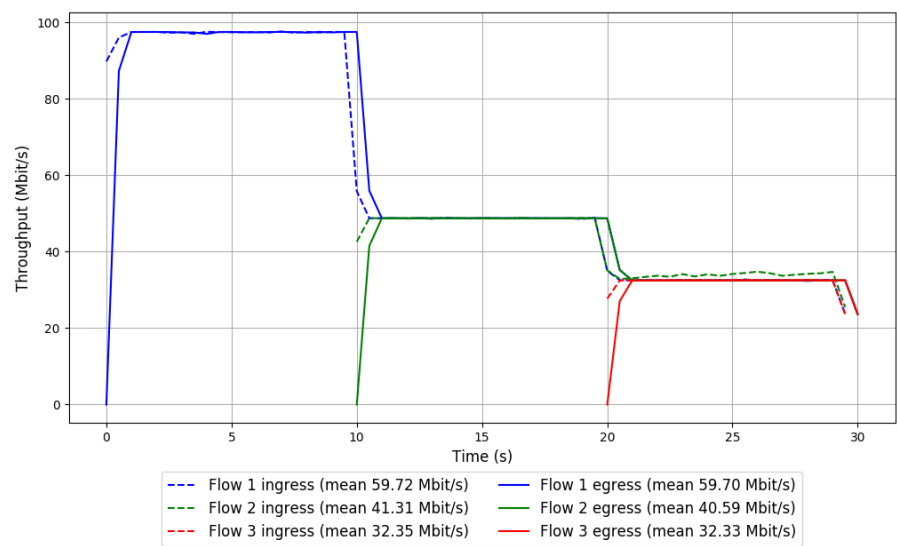
-- Flow 3:

Average throughput: 32.33 Mbit/s

95th percentile per-packet one-way delay: 8.720 ms

Loss rate: 0.10%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-02-05 19:47:46

End at: 2019-02-05 19:48:16

Local clock offset: -3.024 ms

Remote clock offset: 1.822 ms

Below is generated by plot.py at 2019-02-05 20:20:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.32 Mbit/s

95th percentile per-packet one-way delay: 10.153 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 59.67 Mbit/s

95th percentile per-packet one-way delay: 9.751 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.69 Mbit/s

95th percentile per-packet one-way delay: 10.469 ms

Loss rate: 0.08%

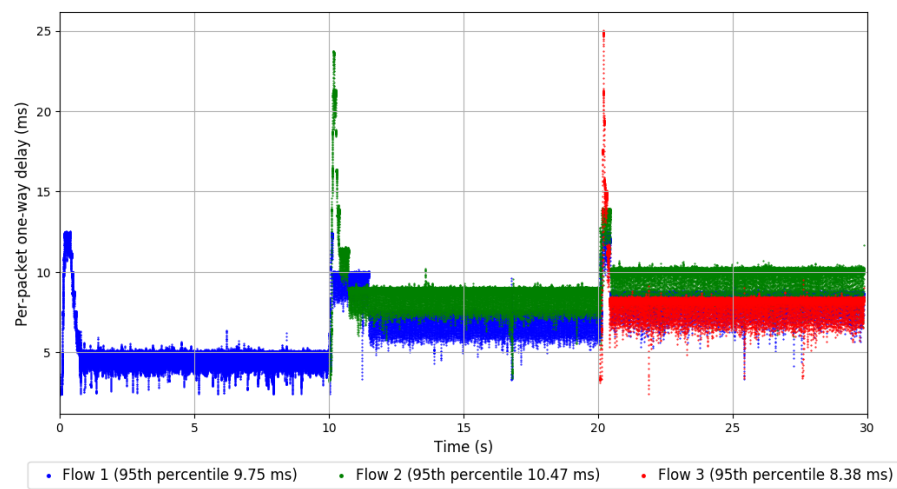
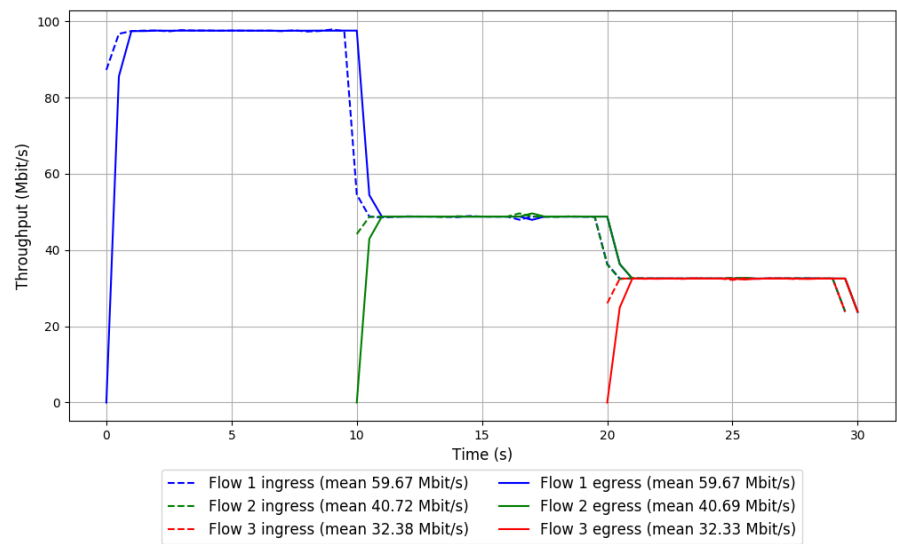
-- Flow 3:

Average throughput: 32.33 Mbit/s

95th percentile per-packet one-way delay: 8.385 ms

Loss rate: 0.18%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-02-05 20:11:56

End at: 2019-02-05 20:12:26

Local clock offset: -3.244 ms

Remote clock offset: 1.63 ms

Below is generated by plot.py at 2019-02-05 20:20:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.26 Mbit/s

95th percentile per-packet one-way delay: 10.122 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 59.66 Mbit/s

95th percentile per-packet one-way delay: 9.734 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 40.65 Mbit/s

95th percentile per-packet one-way delay: 10.593 ms

Loss rate: 0.09%

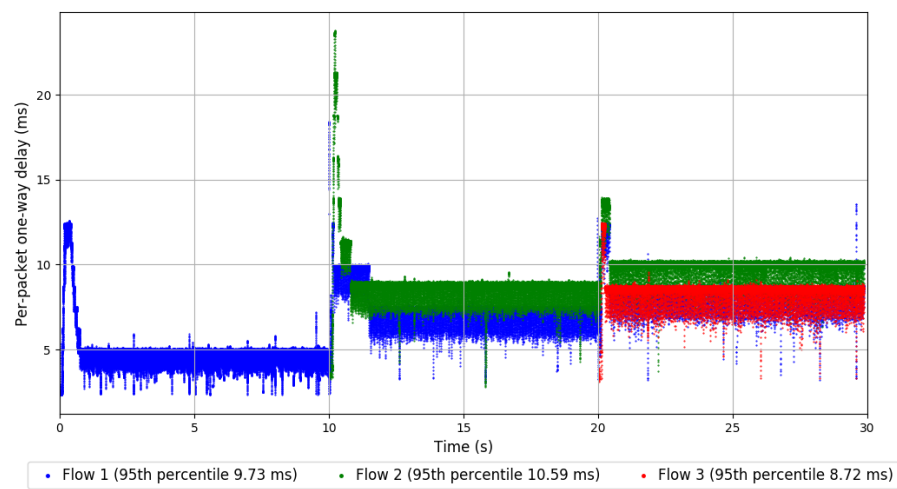
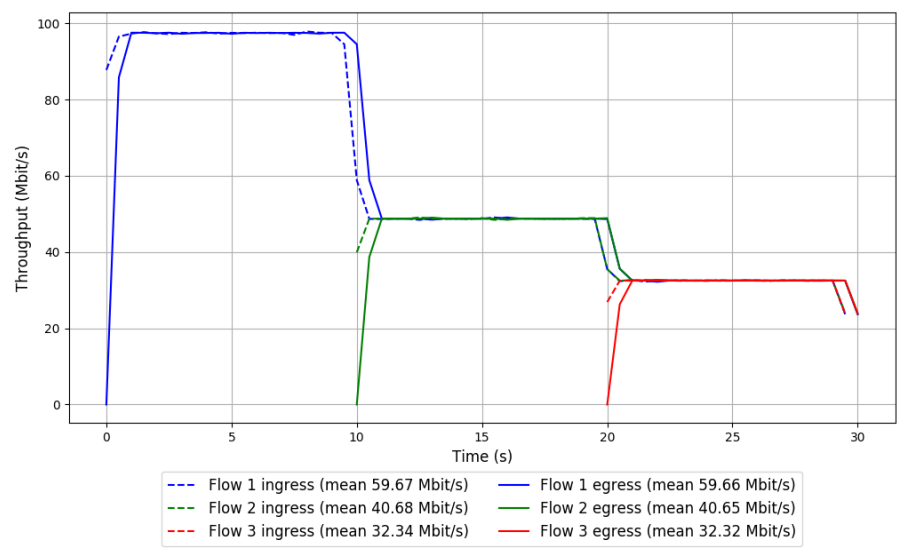
-- Flow 3:

Average throughput: 32.32 Mbit/s

95th percentile per-packet one-way delay: 8.720 ms

Loss rate: 0.08%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-05 18:26:08

End at: 2019-02-05 18:26:38

Local clock offset: -5.316 ms

Remote clock offset: 0.786 ms

Below is generated by plot.py at 2019-02-05 20:20:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 68.69 Mbit/s

95th percentile per-packet one-way delay: 3.619 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 49.83 Mbit/s

95th percentile per-packet one-way delay: 3.613 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 21.71 Mbit/s

95th percentile per-packet one-way delay: 3.593 ms

Loss rate: 0.00%

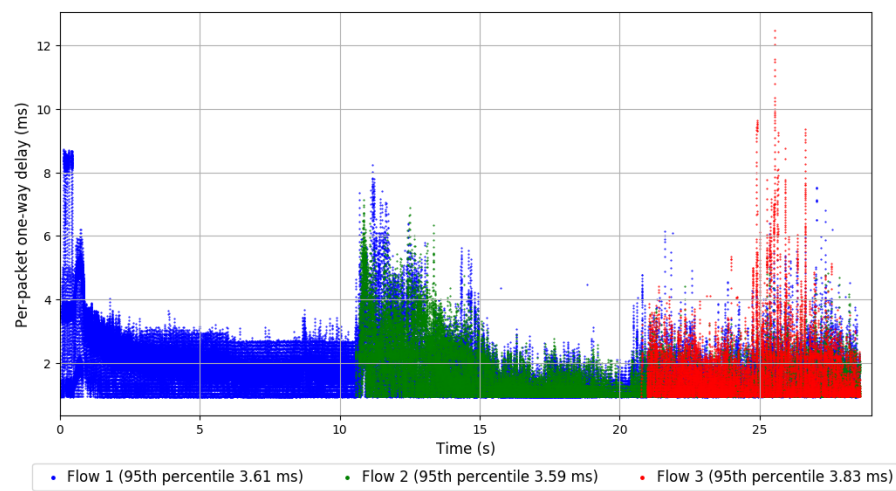
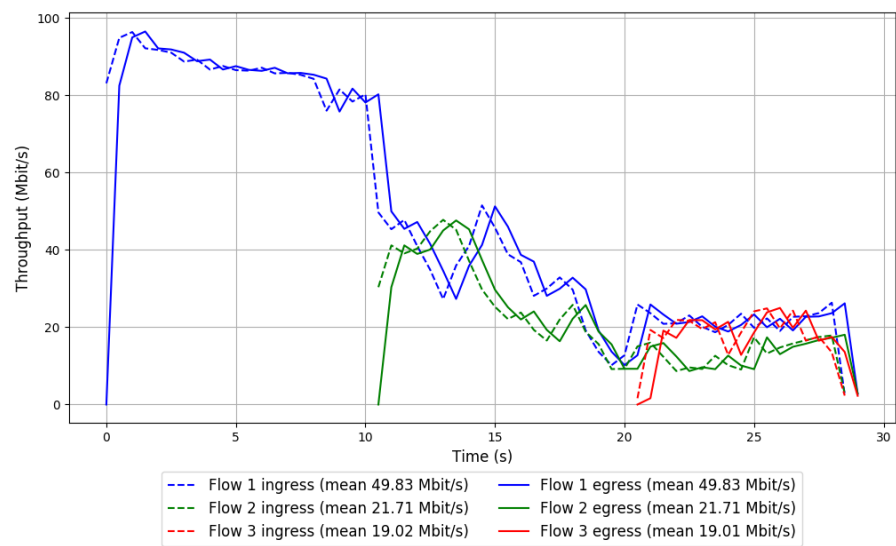
-- Flow 3:

Average throughput: 19.01 Mbit/s

95th percentile per-packet one-way delay: 3.828 ms

Loss rate: 0.02%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-05 18:50:12

End at: 2019-02-05 18:50:42

Local clock offset: -5.259 ms

Remote clock offset: 1.501 ms

Below is generated by plot.py at 2019-02-05 20:20:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 69.95 Mbit/s

95th percentile per-packet one-way delay: 5.159 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 51.69 Mbit/s

95th percentile per-packet one-way delay: 5.448 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 22.86 Mbit/s

95th percentile per-packet one-way delay: 4.232 ms

Loss rate: 0.00%

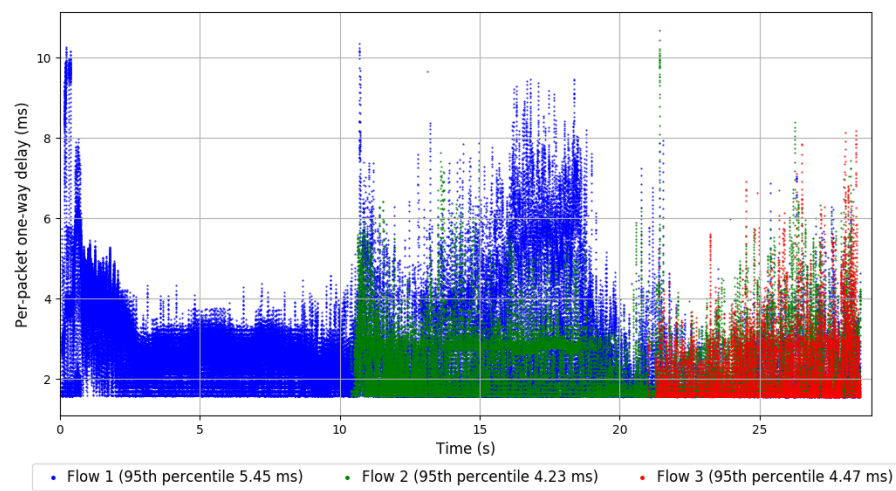
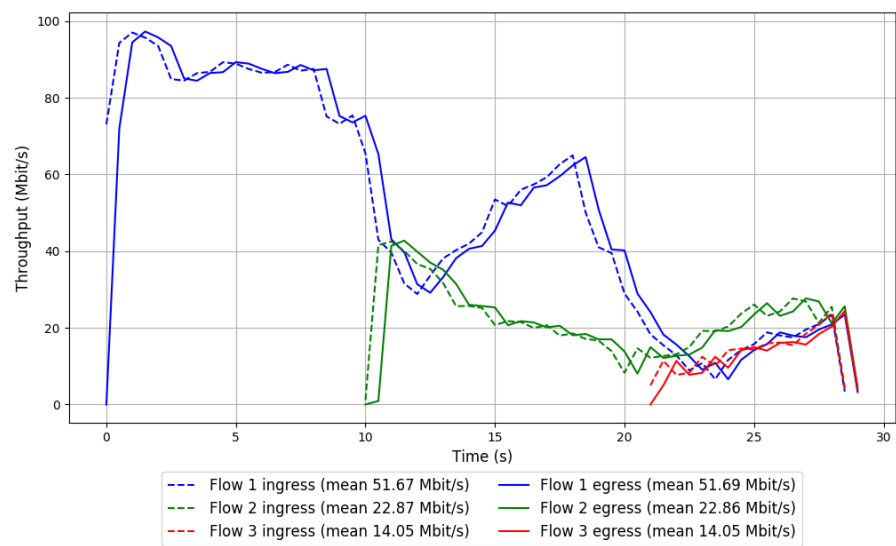
-- Flow 3:

Average throughput: 14.05 Mbit/s

95th percentile per-packet one-way delay: 4.469 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-05 19:14:22

End at: 2019-02-05 19:14:52

Local clock offset: -4.353 ms

Remote clock offset: 1.905 ms

Below is generated by plot.py at 2019-02-05 20:20:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 60.23 Mbit/s

95th percentile per-packet one-way delay: 3.616 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 37.09 Mbit/s

95th percentile per-packet one-way delay: 3.287 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 31.22 Mbit/s

95th percentile per-packet one-way delay: 4.056 ms

Loss rate: 0.03%

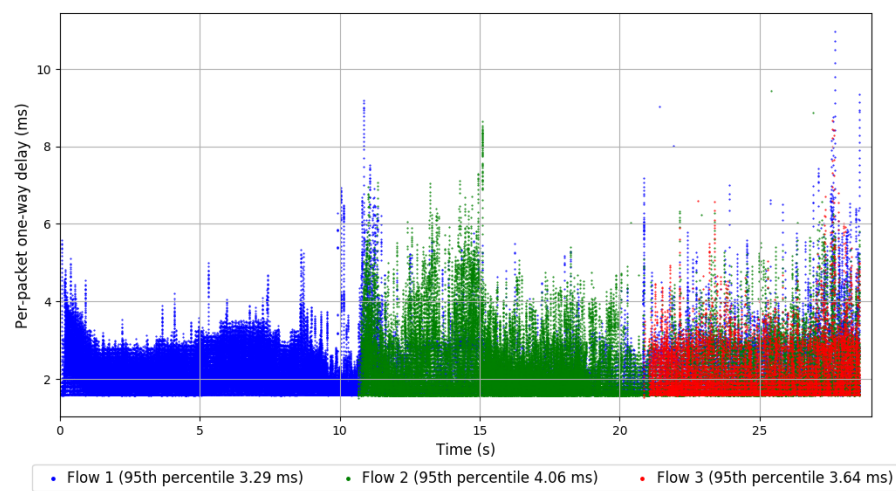
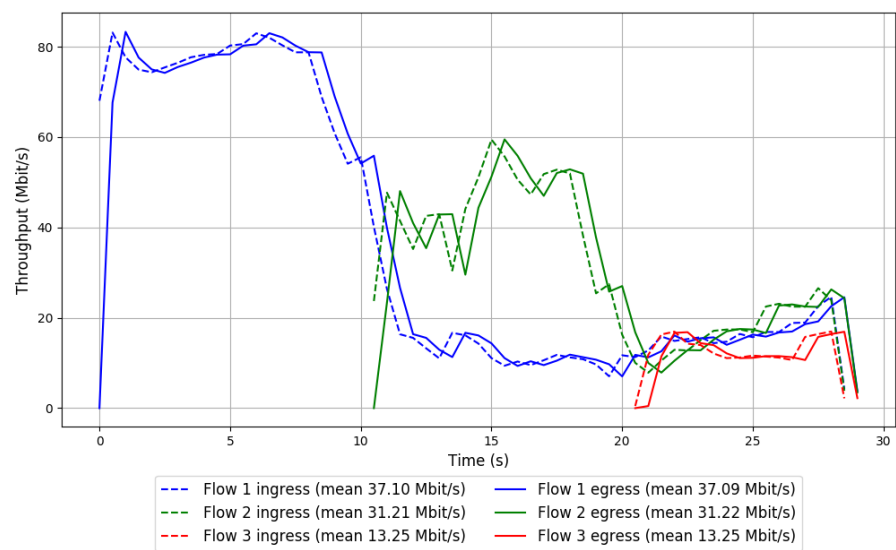
-- Flow 3:

Average throughput: 13.25 Mbit/s

95th percentile per-packet one-way delay: 3.644 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-05 19:38:34

End at: 2019-02-05 19:39:04

Local clock offset: -3.851 ms

Remote clock offset: 1.79 ms

Below is generated by plot.py at 2019-02-05 20:20:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 63.60 Mbit/s

95th percentile per-packet one-way delay: 4.209 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 37.74 Mbit/s

95th percentile per-packet one-way delay: 3.338 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 32.70 Mbit/s

95th percentile per-packet one-way delay: 4.982 ms

Loss rate: 0.00%

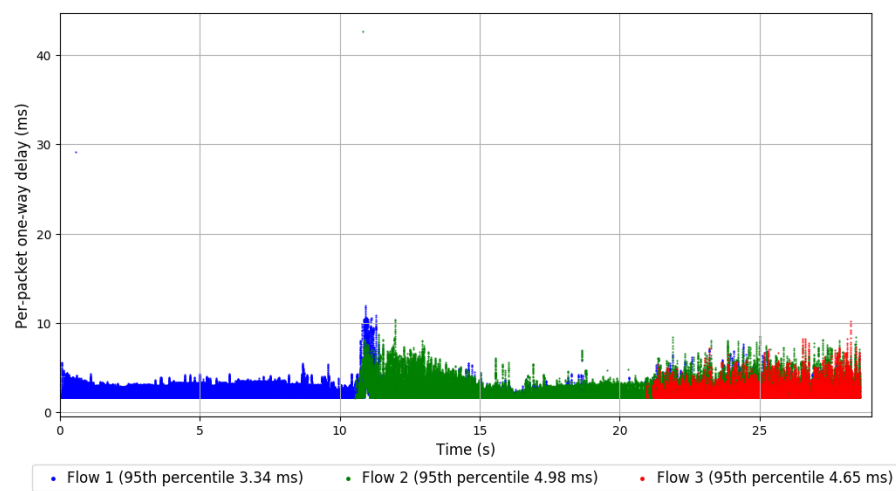
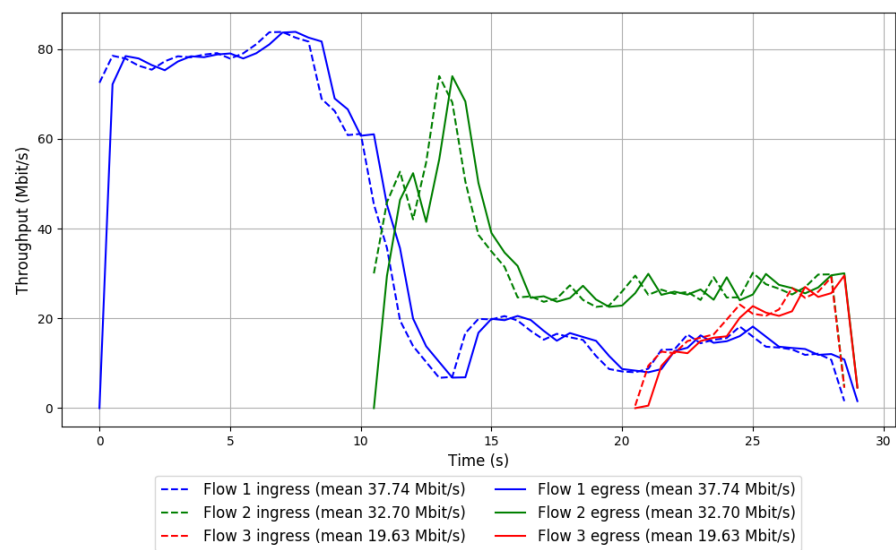
-- Flow 3:

Average throughput: 19.63 Mbit/s

95th percentile per-packet one-way delay: 4.648 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-05 20:02:44

End at: 2019-02-05 20:03:14

Local clock offset: -4.105 ms

Remote clock offset: 1.583 ms

Below is generated by plot.py at 2019-02-05 20:20:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 65.98 Mbit/s

95th percentile per-packet one-way delay: 4.271 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 48.05 Mbit/s

95th percentile per-packet one-way delay: 4.347 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 23.37 Mbit/s

95th percentile per-packet one-way delay: 3.980 ms

Loss rate: 0.01%

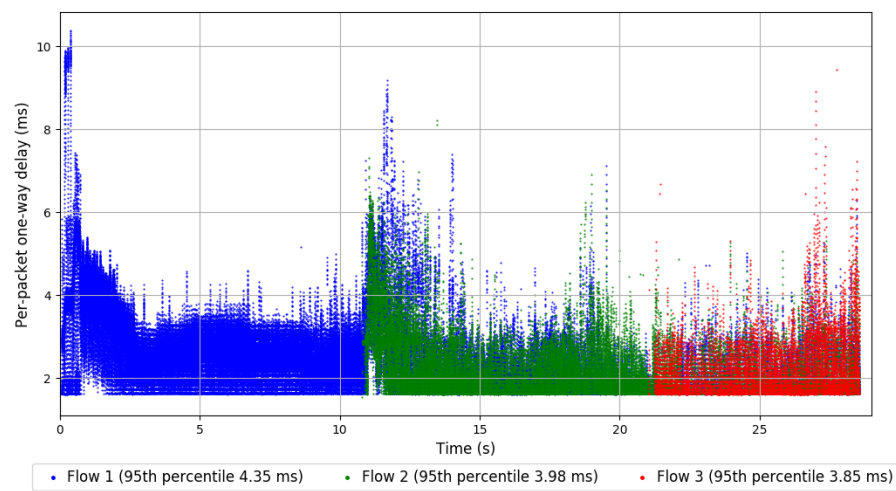
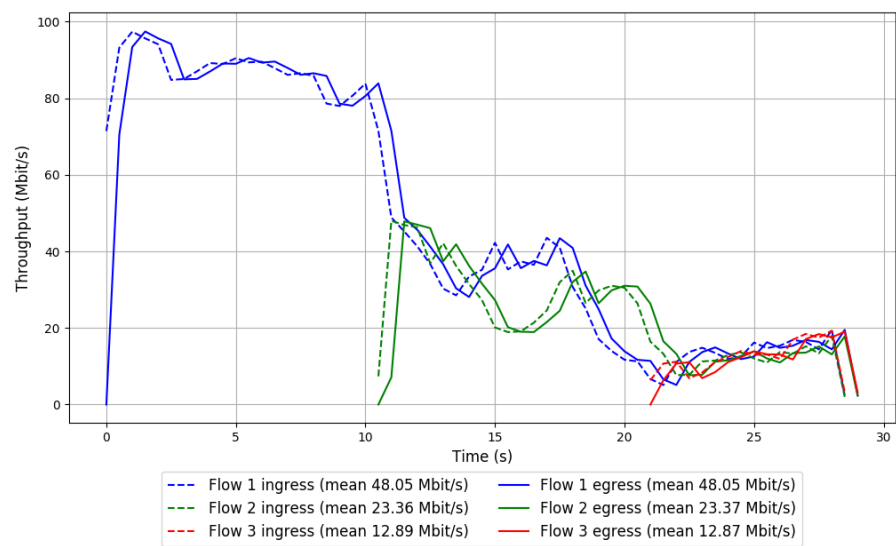
-- Flow 3:

Average throughput: 12.87 Mbit/s

95th percentile per-packet one-way delay: 3.855 ms

Loss rate: 0.18%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-05 18:23:55

End at: 2019-02-05 18:24:25

Local clock offset: -5.443 ms

Remote clock offset: 0.627 ms

Below is generated by plot.py at 2019-02-05 20:20:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 48.31 Mbit/s

95th percentile per-packet one-way delay: 6.157 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 25.62 Mbit/s

95th percentile per-packet one-way delay: 5.167 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 23.24 Mbit/s

95th percentile per-packet one-way delay: 5.954 ms

Loss rate: 0.02%

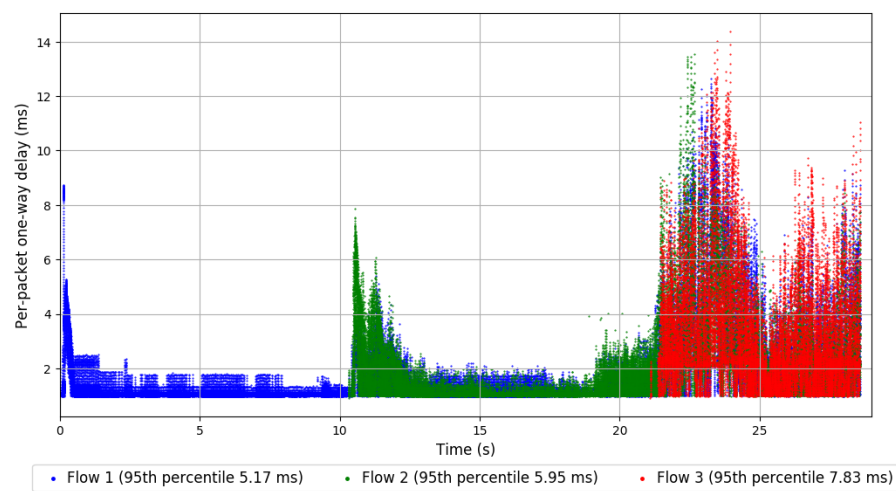
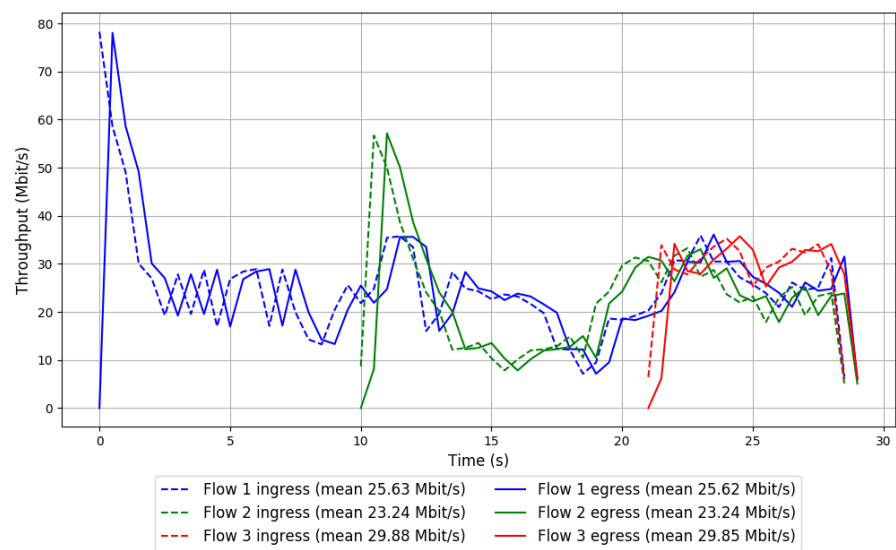
-- Flow 3:

Average throughput: 29.85 Mbit/s

95th percentile per-packet one-way delay: 7.832 ms

Loss rate: 0.05%

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-05 18:47:52

End at: 2019-02-05 18:48:22

Local clock offset: -4.711 ms

Remote clock offset: 1.398 ms

Below is generated by plot.py at 2019-02-05 20:20:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.88 Mbit/s

95th percentile per-packet one-way delay: 16.522 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 31.64 Mbit/s

95th percentile per-packet one-way delay: 17.608 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 25.68 Mbit/s

95th percentile per-packet one-way delay: 14.441 ms

Loss rate: 0.02%

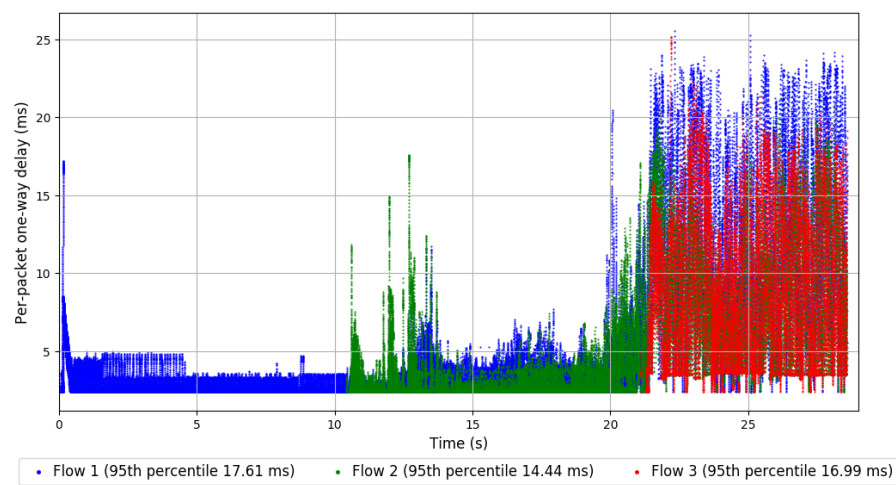
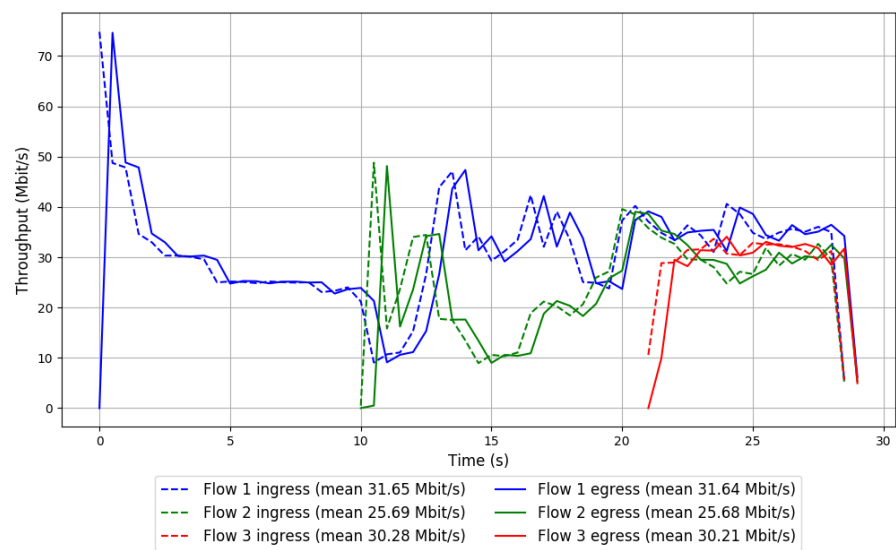
-- Flow 3:

Average throughput: 30.21 Mbit/s

95th percentile per-packet one-way delay: 16.987 ms

Loss rate: 0.24%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-05 19:12:01

End at: 2019-02-05 19:12:31

Local clock offset: -3.555 ms

Remote clock offset: 1.921 ms

Below is generated by plot.py at 2019-02-05 20:20:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 62.13 Mbit/s

95th percentile per-packet one-way delay: 15.194 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 36.90 Mbit/s

95th percentile per-packet one-way delay: 14.792 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 26.45 Mbit/s

95th percentile per-packet one-way delay: 13.780 ms

Loss rate: 0.06%

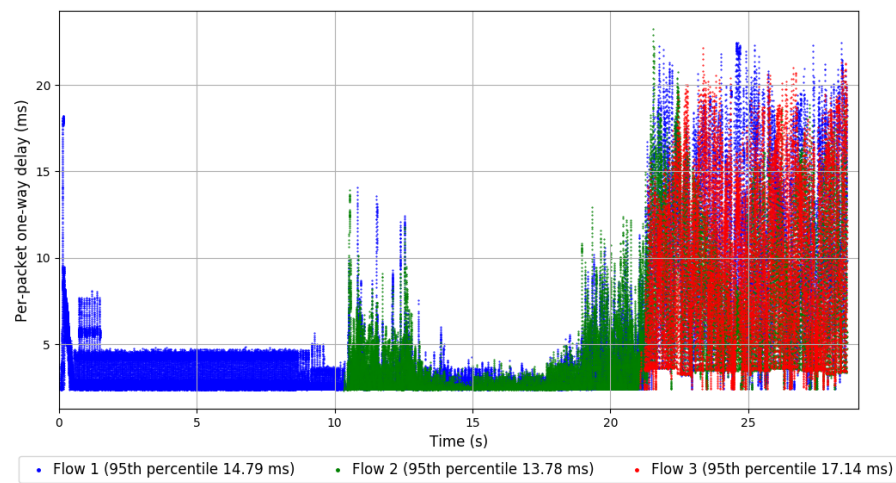
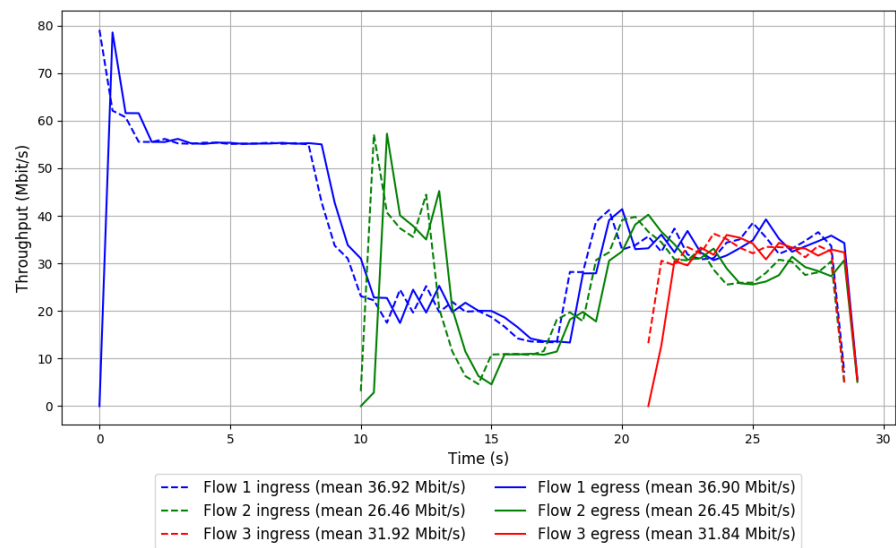
-- Flow 3:

Average throughput: 31.84 Mbit/s

95th percentile per-packet one-way delay: 17.145 ms

Loss rate: 0.18%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-05 19:36:14

End at: 2019-02-05 19:36:44

Local clock offset: -3.876 ms

Remote clock offset: 1.871 ms

Below is generated by plot.py at 2019-02-05 20:20:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.27 Mbit/s

95th percentile per-packet one-way delay: 14.648 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 34.59 Mbit/s

95th percentile per-packet one-way delay: 11.818 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 33.64 Mbit/s

95th percentile per-packet one-way delay: 14.606 ms

Loss rate: 0.10%

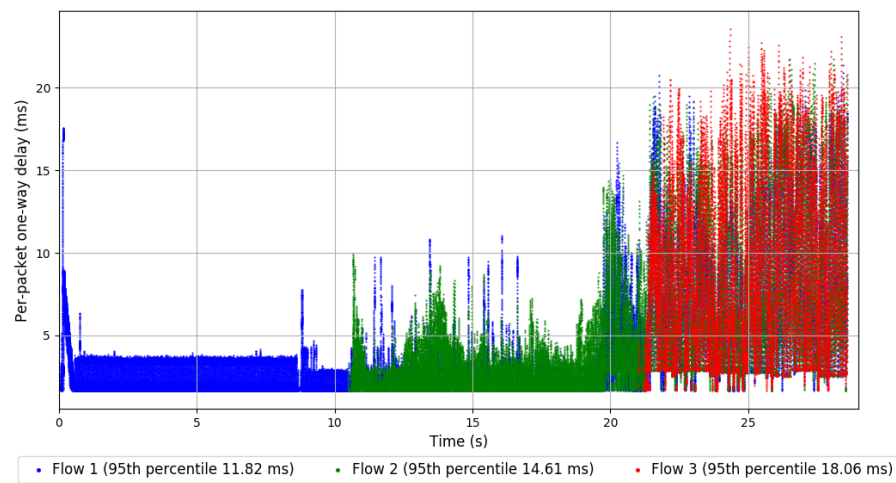
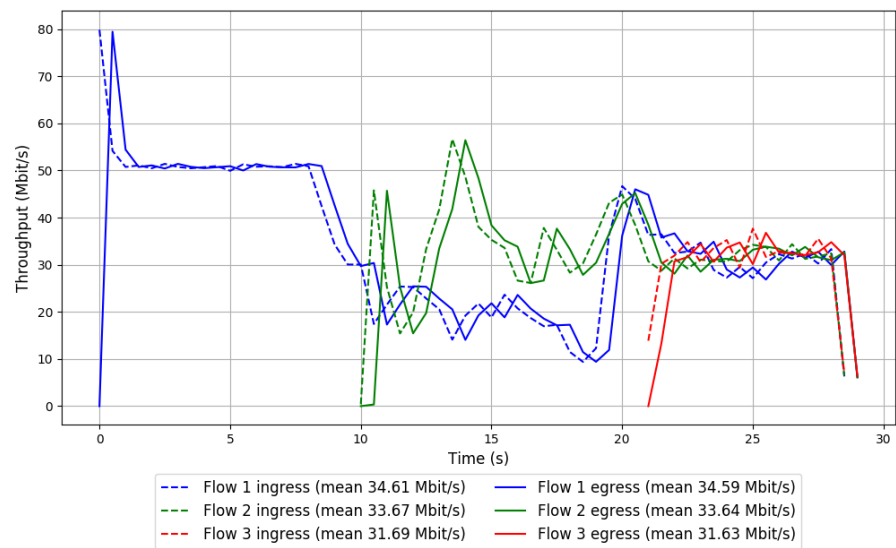
-- Flow 3:

Average throughput: 31.63 Mbit/s

95th percentile per-packet one-way delay: 18.058 ms

Loss rate: 0.21%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-05 20:00:23

End at: 2019-02-05 20:00:53

Local clock offset: -3.273 ms

Remote clock offset: 1.613 ms

Below is generated by plot.py at 2019-02-05 20:20:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 57.02 Mbit/s

95th percentile per-packet one-way delay: 17.197 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 29.15 Mbit/s

95th percentile per-packet one-way delay: 15.373 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 30.57 Mbit/s

95th percentile per-packet one-way delay: 16.120 ms

Loss rate: 0.06%

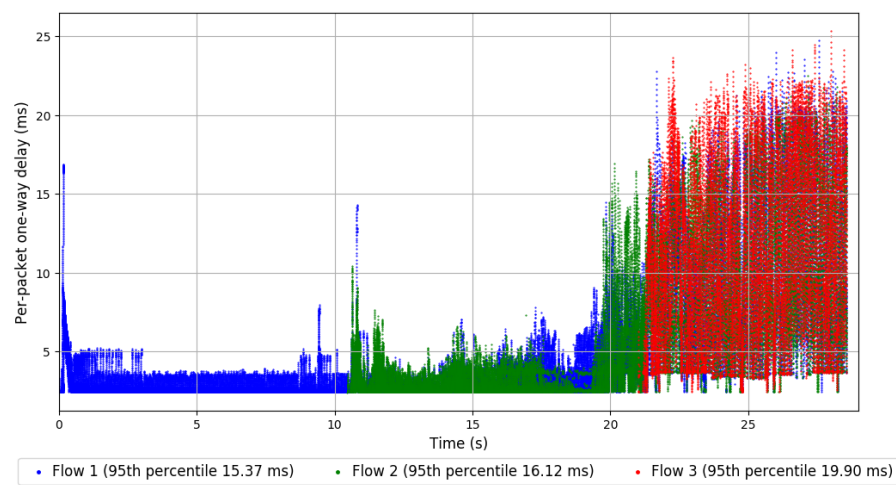
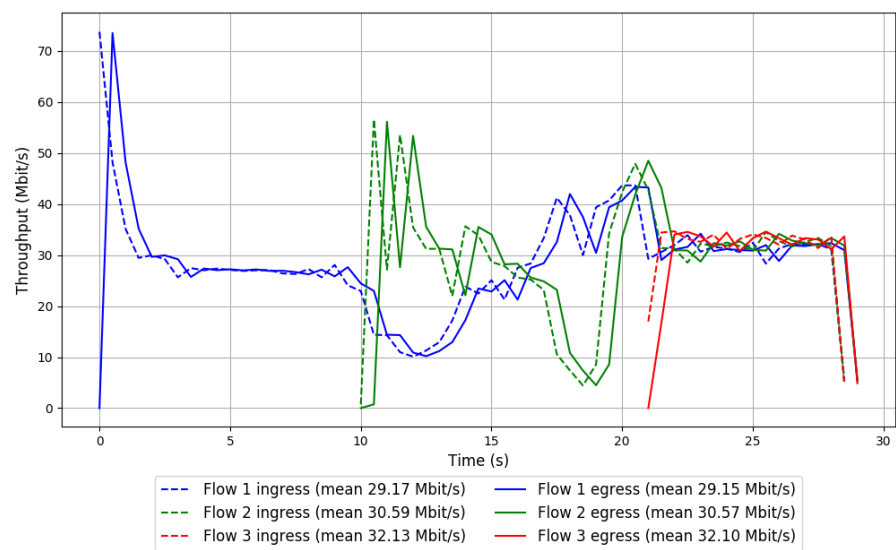
-- Flow 3:

Average throughput: 32.10 Mbit/s

95th percentile per-packet one-way delay: 19.901 ms

Loss rate: 0.21%

Run 5: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-05 18:29:32

End at: 2019-02-05 18:30:02

Local clock offset: -5.225 ms

Remote clock offset: 0.877 ms

Below is generated by plot.py at 2019-02-05 20:21:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 61.06 Mbit/s

95th percentile per-packet one-way delay: 3.874 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 40.26 Mbit/s

95th percentile per-packet one-way delay: 3.607 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 22.27 Mbit/s

95th percentile per-packet one-way delay: 4.376 ms

Loss rate: 0.00%

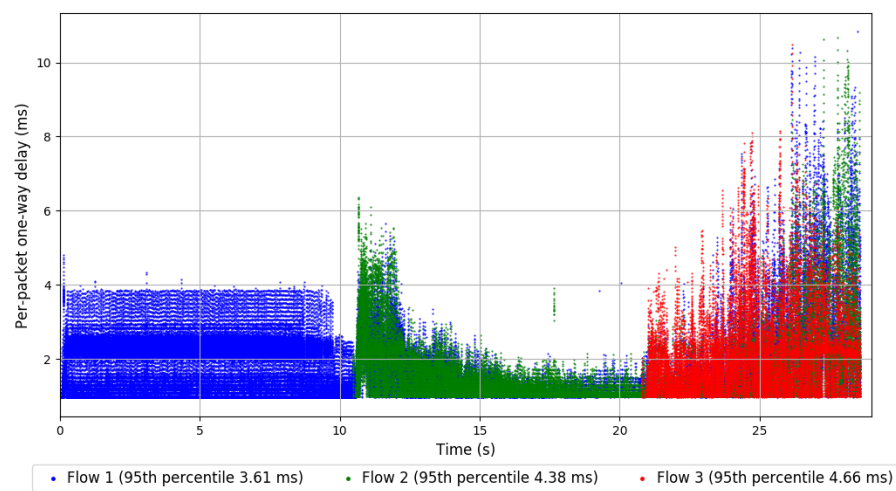
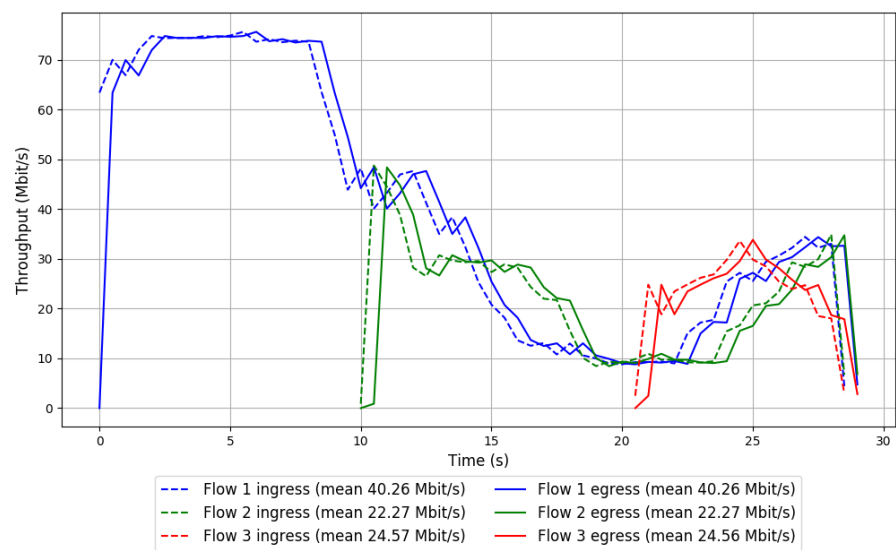
-- Flow 3:

Average throughput: 24.56 Mbit/s

95th percentile per-packet one-way delay: 4.656 ms

Loss rate: 0.07%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-05 18:53:42

End at: 2019-02-05 18:54:12

Local clock offset: -4.303 ms

Remote clock offset: 1.454 ms

Below is generated by plot.py at 2019-02-05 20:21:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 67.34 Mbit/s

95th percentile per-packet one-way delay: 11.940 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 41.00 Mbit/s

95th percentile per-packet one-way delay: 7.473 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 28.46 Mbit/s

95th percentile per-packet one-way delay: 12.781 ms

Loss rate: 0.02%

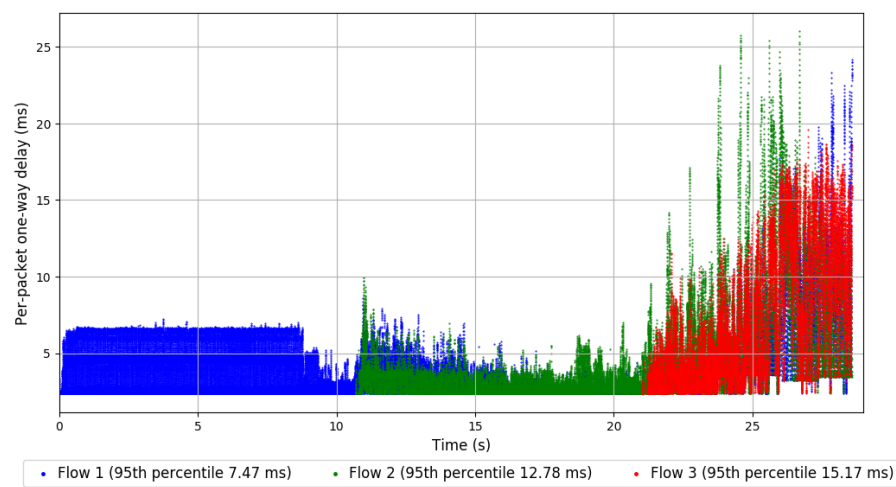
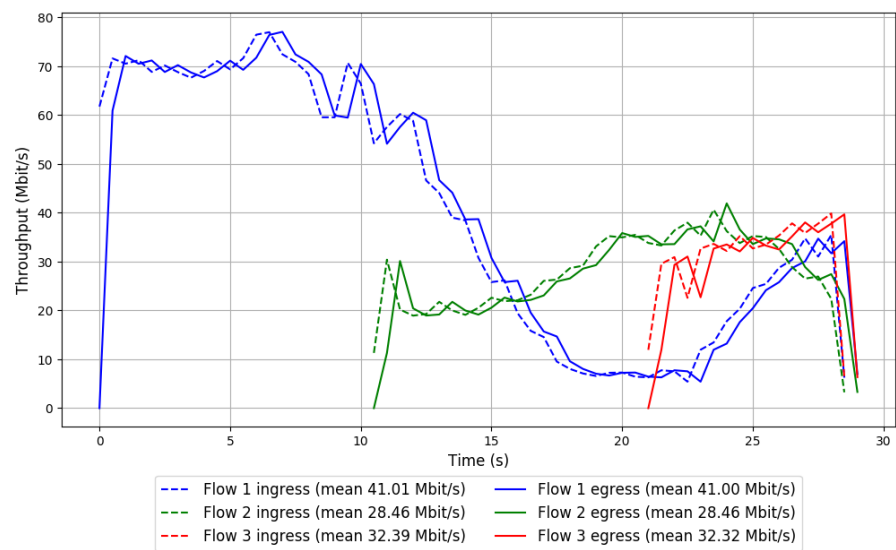
-- Flow 3:

Average throughput: 32.32 Mbit/s

95th percentile per-packet one-way delay: 15.167 ms

Loss rate: 0.22%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-05 19:17:51

End at: 2019-02-05 19:18:21

Local clock offset: -3.445 ms

Remote clock offset: 1.867 ms

Below is generated by plot.py at 2019-02-05 20:21:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 63.51 Mbit/s

95th percentile per-packet one-way delay: 41.961 ms

Loss rate: 0.60%

-- Flow 1:

Average throughput: 41.34 Mbit/s

95th percentile per-packet one-way delay: 20.043 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 20.05 Mbit/s

95th percentile per-packet one-way delay: 21.366 ms

Loss rate: 0.26%

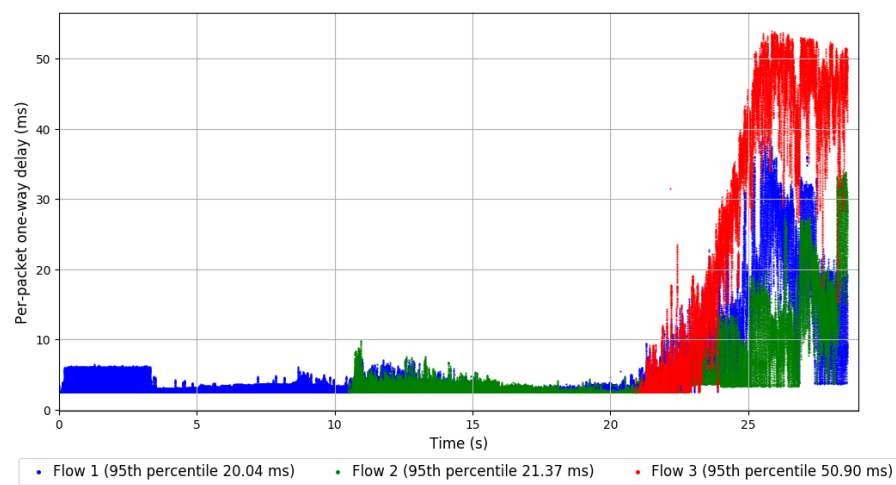
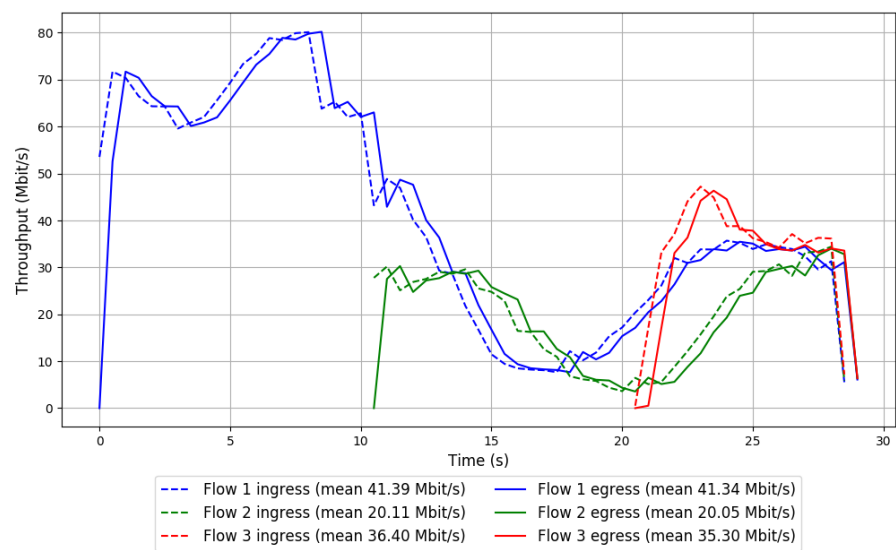
-- Flow 3:

Average throughput: 35.30 Mbit/s

95th percentile per-packet one-way delay: 50.895 ms

Loss rate: 3.04%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-05 19:42:03

End at: 2019-02-05 19:42:33

Local clock offset: -3.766 ms

Remote clock offset: 1.858 ms

Below is generated by plot.py at 2019-02-05 20:21:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 56.57 Mbit/s

95th percentile per-packet one-way delay: 41.029 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 30.83 Mbit/s

95th percentile per-packet one-way delay: 9.231 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 21.73 Mbit/s

95th percentile per-packet one-way delay: 10.111 ms

Loss rate: 0.06%

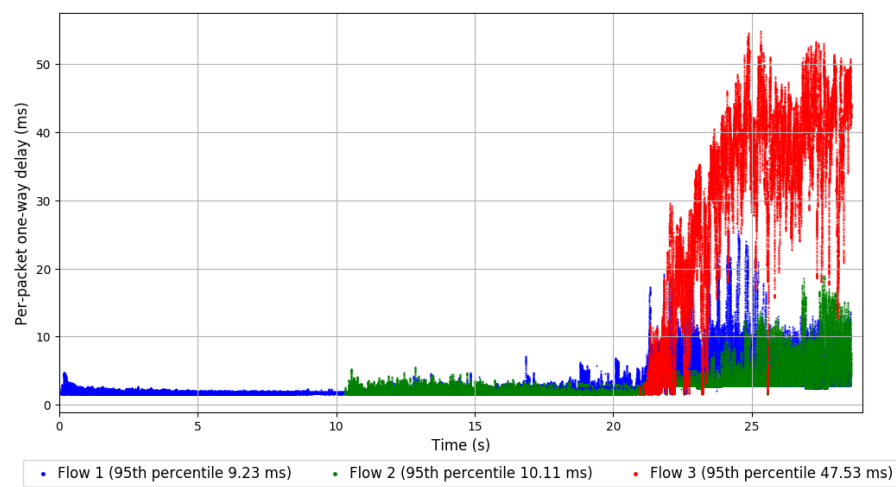
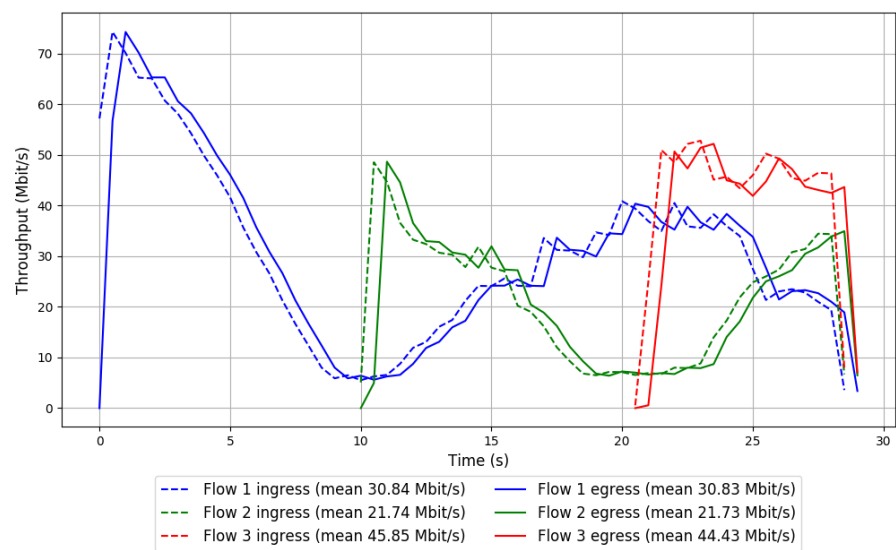
-- Flow 3:

Average throughput: 44.43 Mbit/s

95th percentile per-packet one-way delay: 47.531 ms

Loss rate: 3.12%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-05 20:06:13

End at: 2019-02-05 20:06:43

Local clock offset: -3.272 ms

Remote clock offset: 1.602 ms

Below is generated by plot.py at 2019-02-05 20:21:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 70.47 Mbit/s

95th percentile per-packet one-way delay: 53.808 ms

Loss rate: 0.83%

-- Flow 1:

Average throughput: 40.75 Mbit/s

95th percentile per-packet one-way delay: 10.920 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 29.98 Mbit/s

95th percentile per-packet one-way delay: 14.605 ms

Loss rate: 0.09%

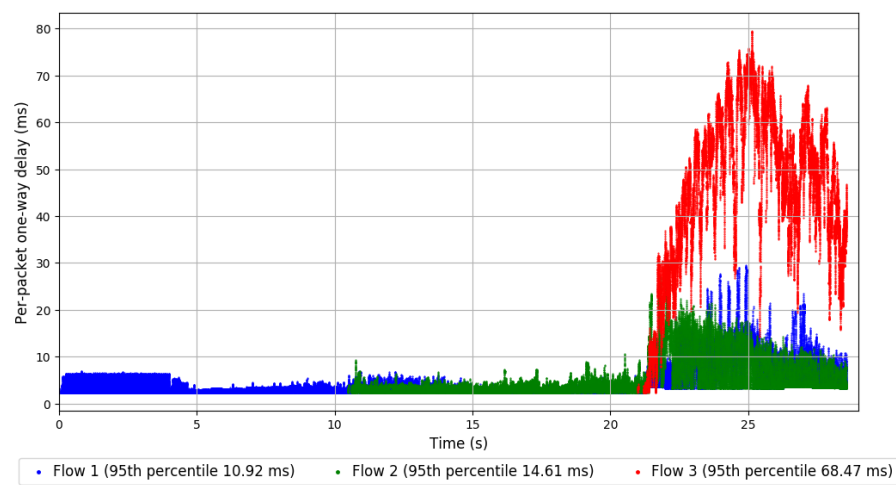
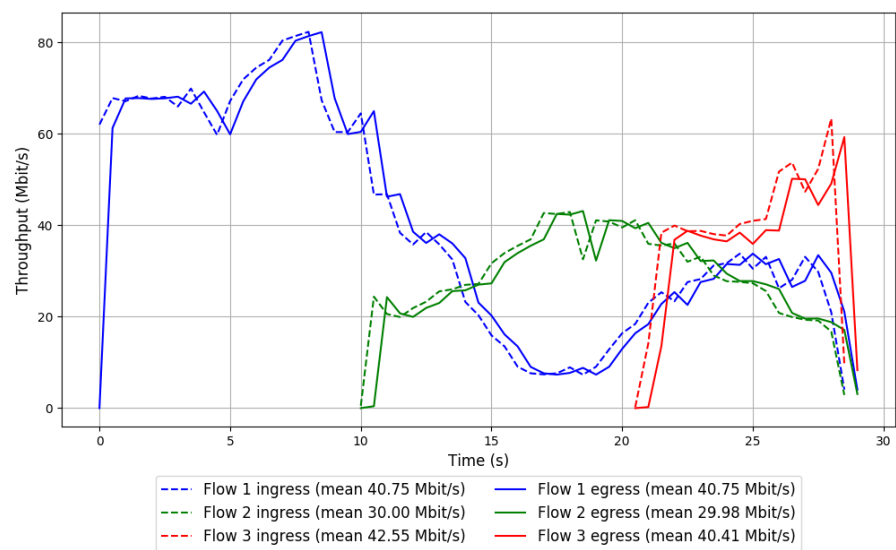
-- Flow 3:

Average throughput: 40.41 Mbit/s

95th percentile per-packet one-way delay: 68.465 ms

Loss rate: 5.05%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-05 18:21:37

End at: 2019-02-05 18:22:07

Local clock offset: -5.543 ms

Remote clock offset: 0.659 ms

Below is generated by plot.py at 2019-02-05 20:21:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.15 Mbit/s

95th percentile per-packet one-way delay: 6.086 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 50.99 Mbit/s

95th percentile per-packet one-way delay: 5.464 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 34.83 Mbit/s

95th percentile per-packet one-way delay: 6.665 ms

Loss rate: 0.03%

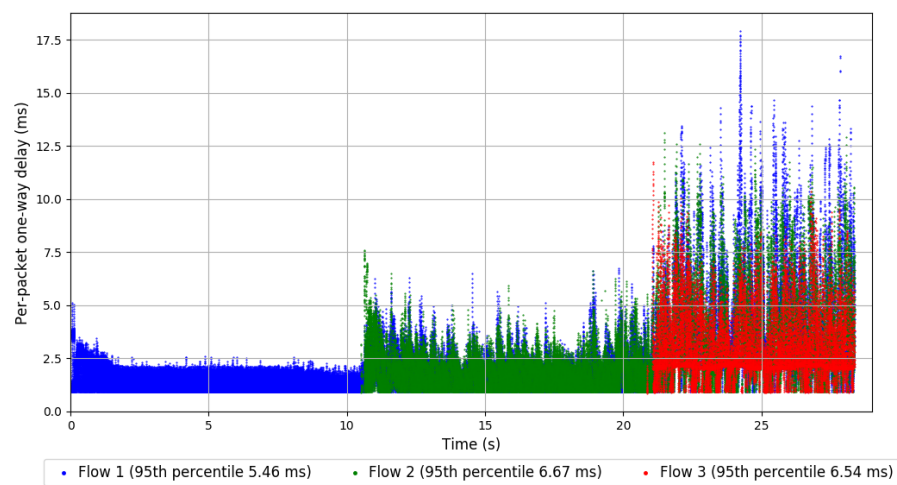
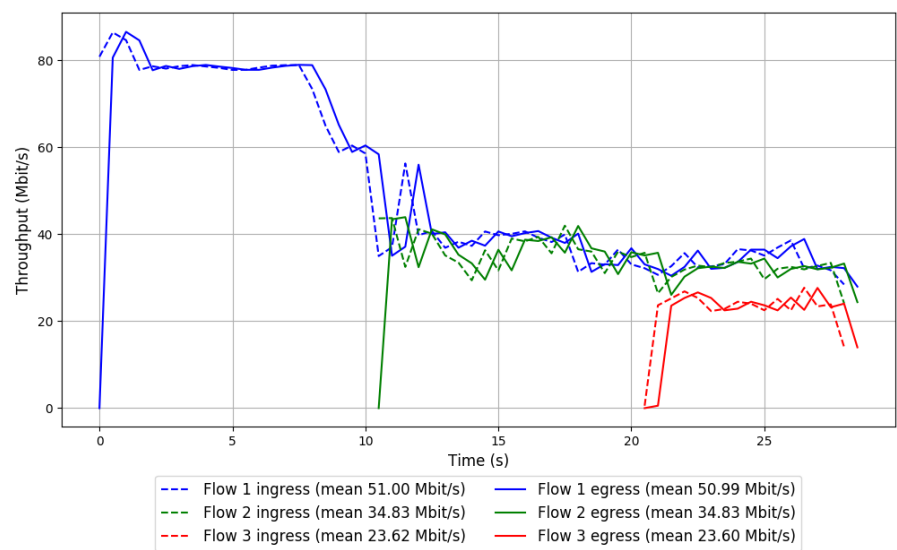
-- Flow 3:

Average throughput: 23.60 Mbit/s

95th percentile per-packet one-way delay: 6.544 ms

Loss rate: 0.05%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-05 18:45:33

End at: 2019-02-05 18:46:03

Local clock offset: -4.95 ms

Remote clock offset: 1.389 ms

Below is generated by plot.py at 2019-02-05 20:21:47

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.11 Mbit/s

95th percentile per-packet one-way delay: 14.778 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 51.39 Mbit/s

95th percentile per-packet one-way delay: 13.797 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 39.29 Mbit/s

95th percentile per-packet one-way delay: 16.968 ms

Loss rate: 0.08%

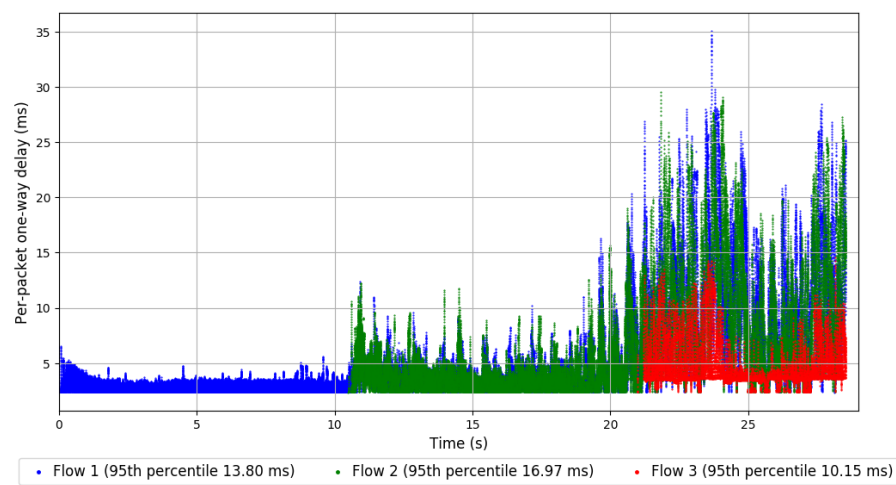
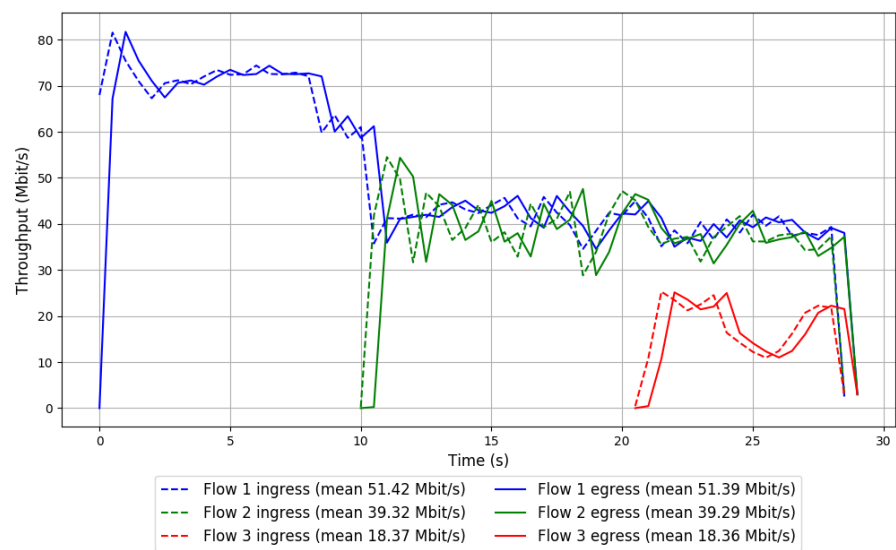
-- Flow 3:

Average throughput: 18.36 Mbit/s

95th percentile per-packet one-way delay: 10.146 ms

Loss rate: 0.12%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-05 19:09:44

End at: 2019-02-05 19:10:14

Local clock offset: -4.392 ms

Remote clock offset: 1.885 ms

Below is generated by plot.py at 2019-02-05 20:21:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.28 Mbit/s

95th percentile per-packet one-way delay: 14.819 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 53.79 Mbit/s

95th percentile per-packet one-way delay: 12.197 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 36.82 Mbit/s

95th percentile per-packet one-way delay: 17.752 ms

Loss rate: 0.08%

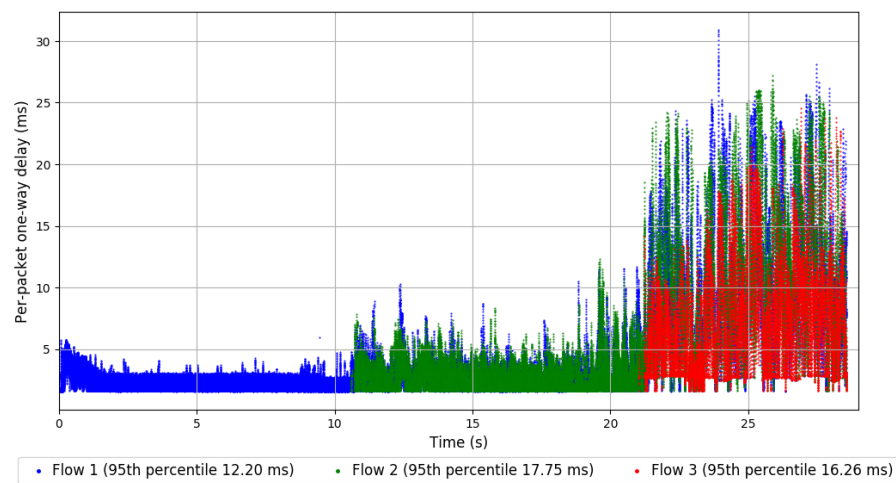
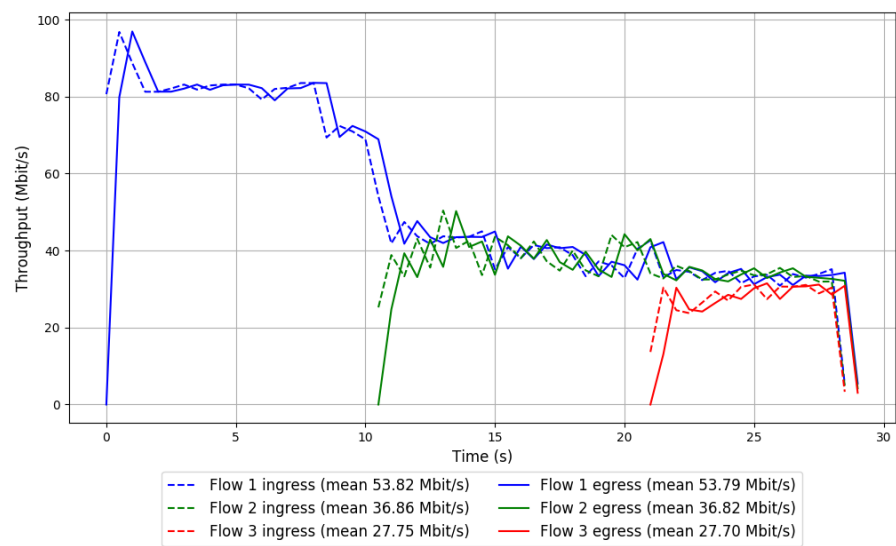
-- Flow 3:

Average throughput: 27.70 Mbit/s

95th percentile per-packet one-way delay: 16.257 ms

Loss rate: 0.11%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-05 19:33:54

End at: 2019-02-05 19:34:24

Local clock offset: -3.17 ms

Remote clock offset: 1.965 ms

Below is generated by plot.py at 2019-02-05 20:21:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.38 Mbit/s

95th percentile per-packet one-way delay: 14.036 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 52.06 Mbit/s

95th percentile per-packet one-way delay: 12.881 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 38.59 Mbit/s

95th percentile per-packet one-way delay: 15.785 ms

Loss rate: 0.02%

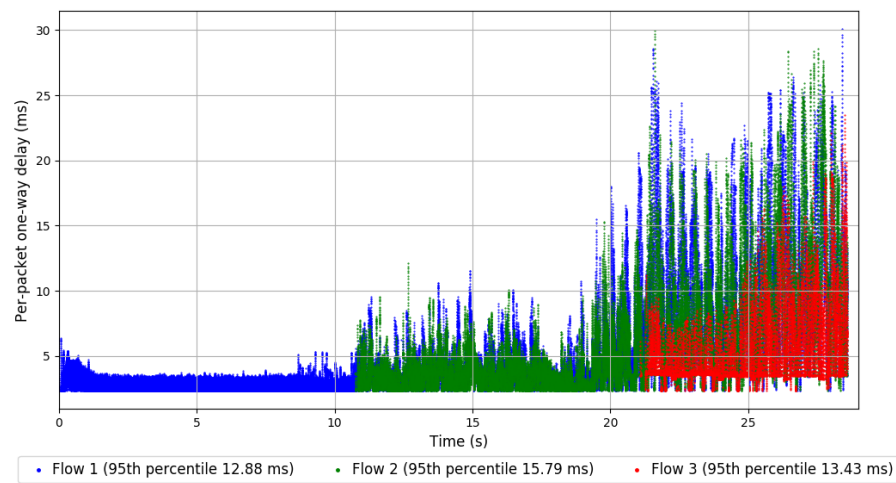
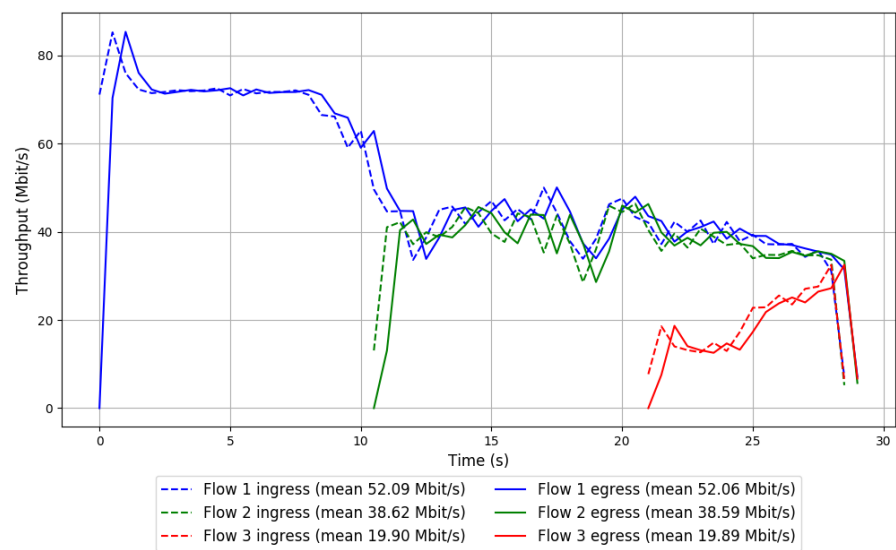
-- Flow 3:

Average throughput: 19.89 Mbit/s

95th percentile per-packet one-way delay: 13.429 ms

Loss rate: 0.19%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-05 19:58:05

End at: 2019-02-05 19:58:35

Local clock offset: -4.015 ms

Remote clock offset: 1.664 ms

Below is generated by plot.py at 2019-02-05 20:21:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.60 Mbit/s

95th percentile per-packet one-way delay: 12.818 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 54.90 Mbit/s

95th percentile per-packet one-way delay: 11.688 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 36.93 Mbit/s

95th percentile per-packet one-way delay: 15.171 ms

Loss rate: 0.00%

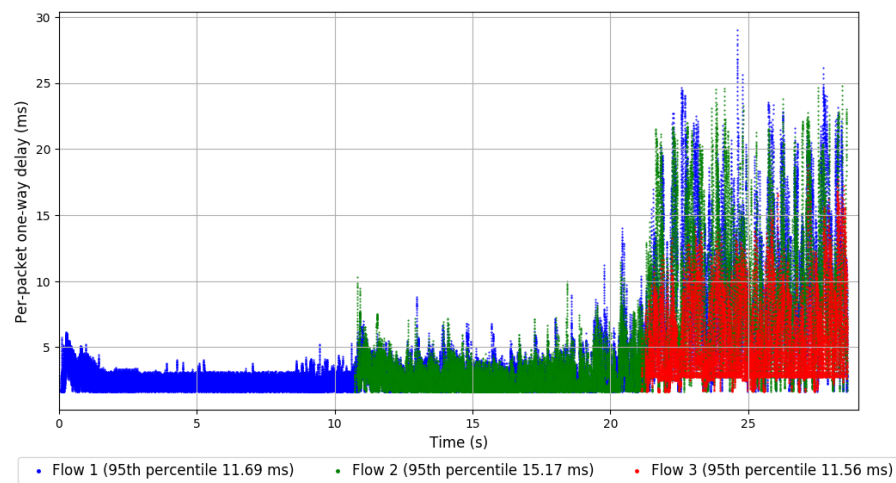
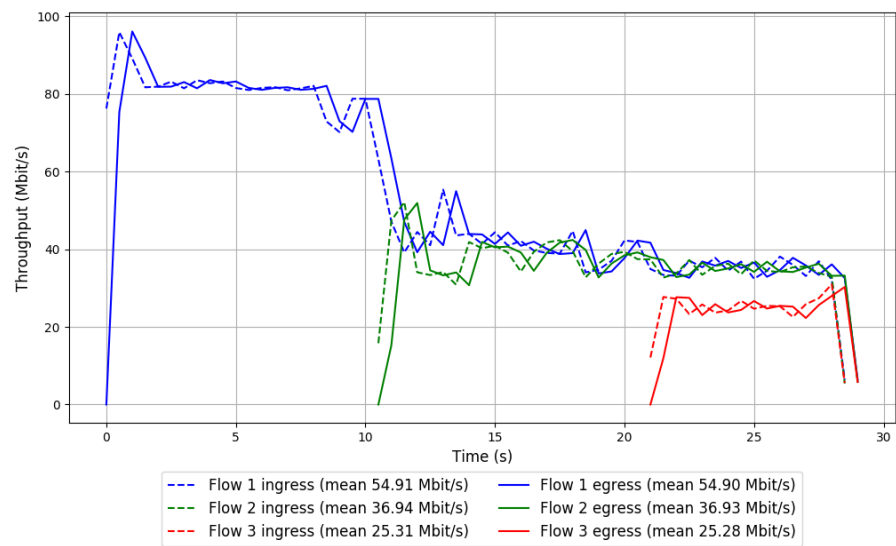
-- Flow 3:

Average throughput: 25.28 Mbit/s

95th percentile per-packet one-way delay: 11.565 ms

Loss rate: 0.11%

Run 5: Report of Indigo-MusesT — Data Link

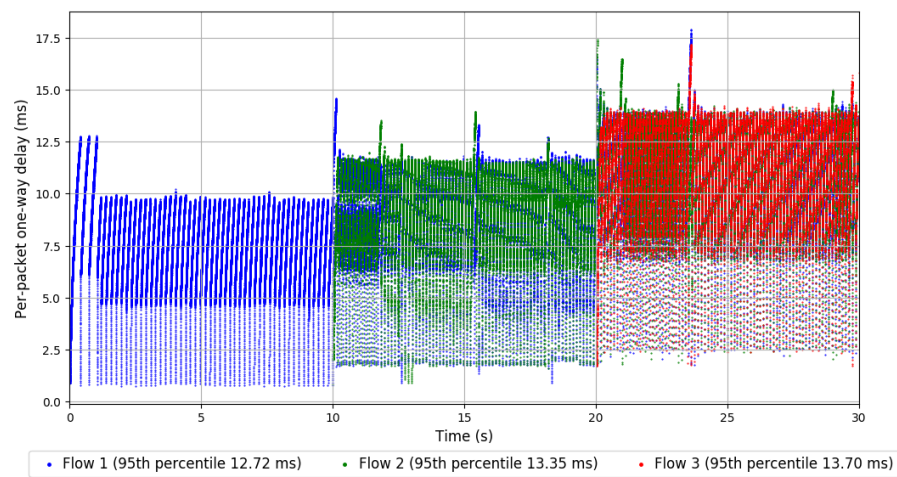
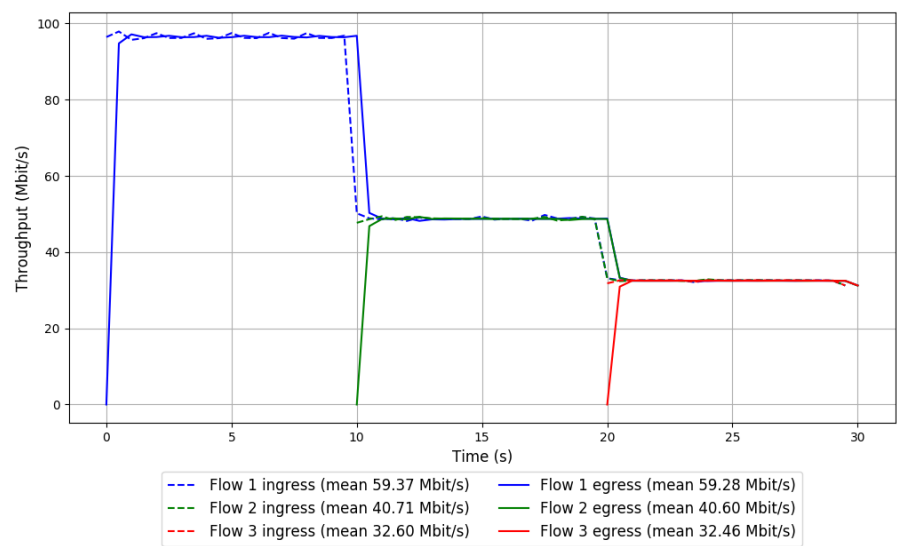


```
Run 1: Statistics of LEDBAT

Start at: 2019-02-05 18:19:18
End at: 2019-02-05 18:19:48
Local clock offset: -5.687 ms
Remote clock offset: 0.602 ms

# Below is generated by plot.py at 2019-02-05 20:22:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.12 Mbit/s
95th percentile per-packet one-way delay: 13.218 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 59.28 Mbit/s
95th percentile per-packet one-way delay: 12.722 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 13.347 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 32.46 Mbit/s
95th percentile per-packet one-way delay: 13.696 ms
Loss rate: 0.38%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-02-05 18:43:14

End at: 2019-02-05 18:43:44

Local clock offset: -5.723 ms

Remote clock offset: 1.373 ms

Below is generated by plot.py at 2019-02-05 20:22:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.55 Mbit/s

95th percentile per-packet one-way delay: 13.808 ms

Loss rate: 0.18%

-- Flow 1:

Average throughput: 58.71 Mbit/s

95th percentile per-packet one-way delay: 13.506 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 40.56 Mbit/s

95th percentile per-packet one-way delay: 14.063 ms

Loss rate: 0.20%

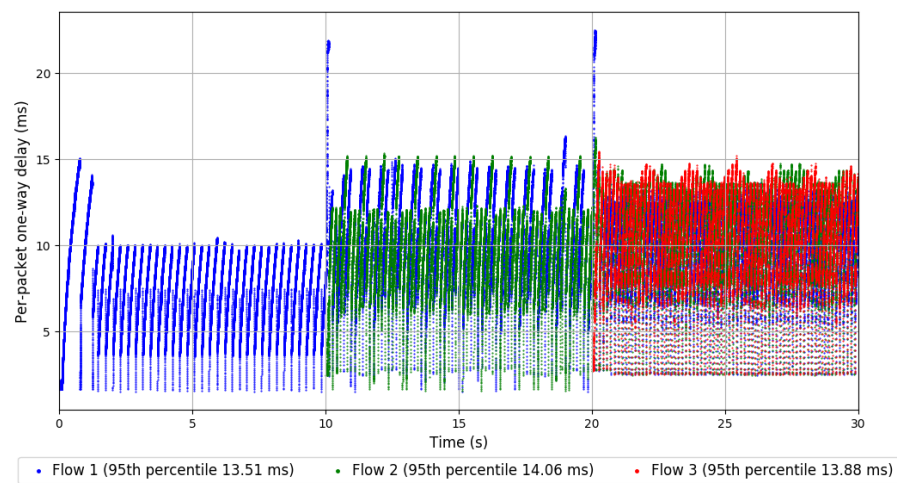
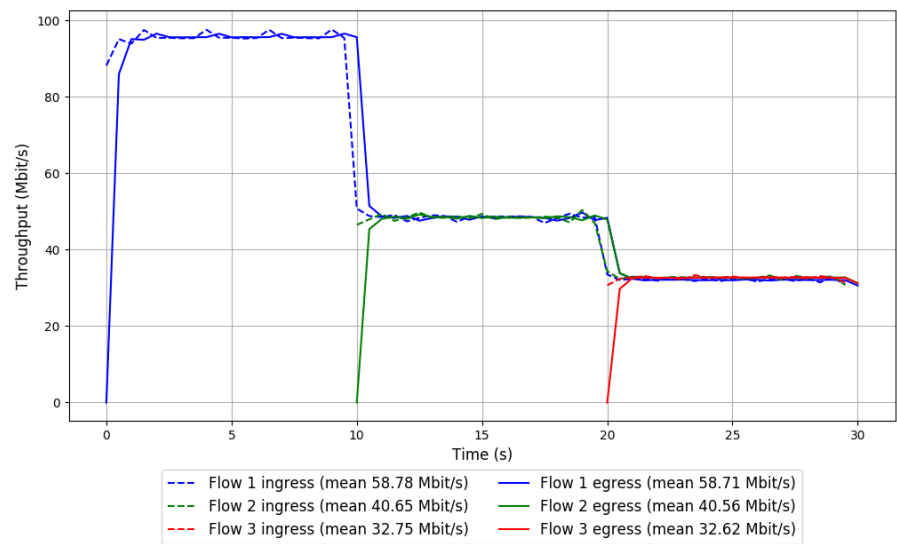
-- Flow 3:

Average throughput: 32.62 Mbit/s

95th percentile per-packet one-way delay: 13.881 ms

Loss rate: 0.42%

Run 2: Report of LEDBAT — Data Link

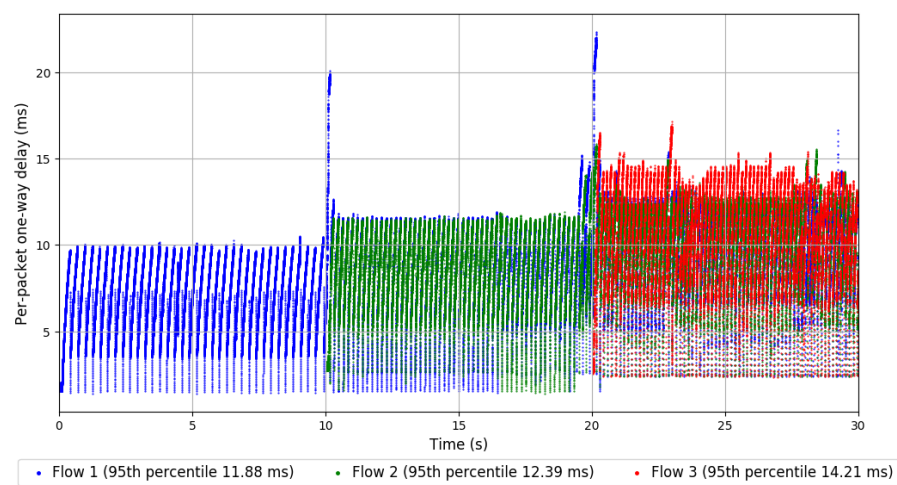
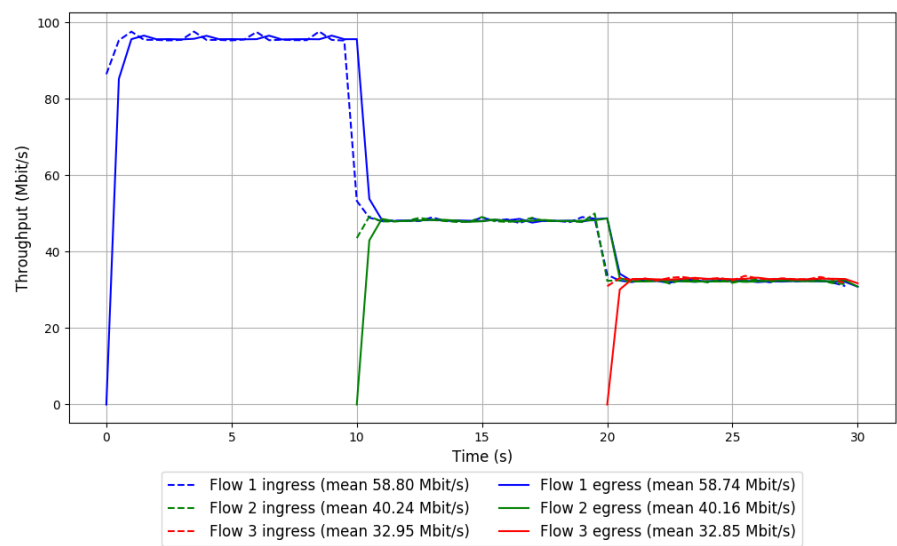


Run 3: Statistics of LEDBAT

Start at: 2019-02-05 19:07:25
End at: 2019-02-05 19:07:55
Local clock offset: -4.497 ms
Remote clock offset: 1.857 ms

```
# Below is generated by plot.py at 2019-02-05 20:22:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.39 Mbit/s
95th percentile per-packet one-way delay: 12.744 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 58.74 Mbit/s
95th percentile per-packet one-way delay: 11.880 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 40.16 Mbit/s
95th percentile per-packet one-way delay: 12.387 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 32.85 Mbit/s
95th percentile per-packet one-way delay: 14.207 ms
Loss rate: 0.35%
```

Run 3: Report of LEDBAT — Data Link

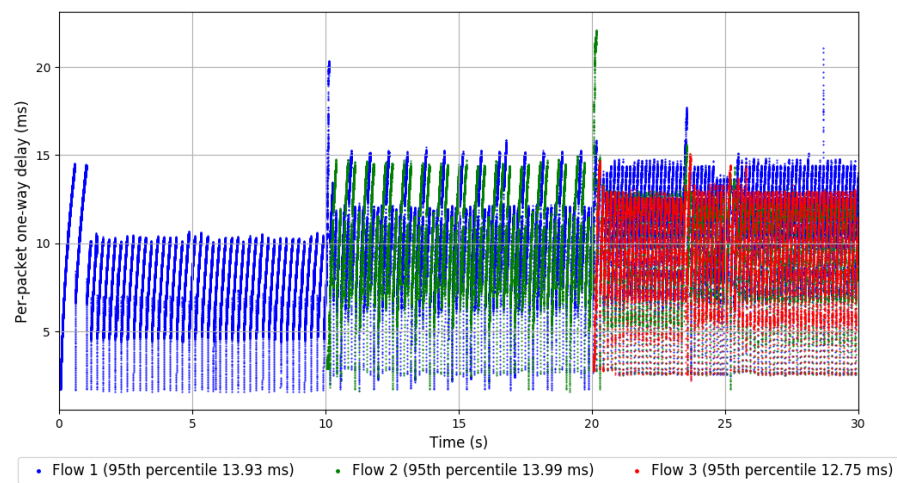
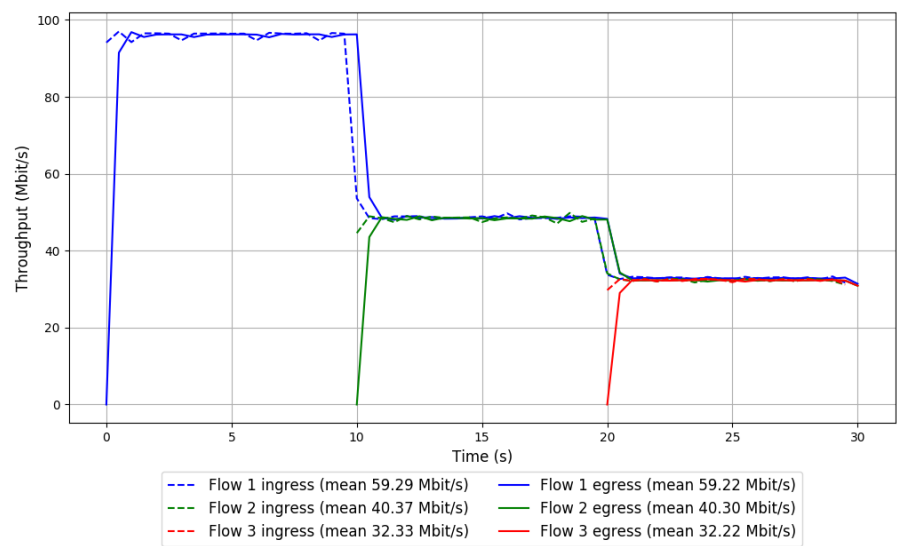


Run 4: Statistics of LEDBAT

Start at: 2019-02-05 19:31:35
End at: 2019-02-05 19:32:05
Local clock offset: -3.946 ms
Remote clock offset: 1.901 ms

```
# Below is generated by plot.py at 2019-02-05 20:22:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.76 Mbit/s
95th percentile per-packet one-way delay: 13.890 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: 13.931 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 40.30 Mbit/s
95th percentile per-packet one-way delay: 13.993 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 32.22 Mbit/s
95th percentile per-packet one-way delay: 12.754 ms
Loss rate: 0.38%
```

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-02-05 19:55:46

End at: 2019-02-05 19:56:16

Local clock offset: -3.303 ms

Remote clock offset: 1.698 ms

Below is generated by plot.py at 2019-02-05 20:22:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 14.438 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 59.25 Mbit/s

95th percentile per-packet one-way delay: 13.943 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 41.42 Mbit/s

95th percentile per-packet one-way delay: 14.955 ms

Loss rate: 0.24%

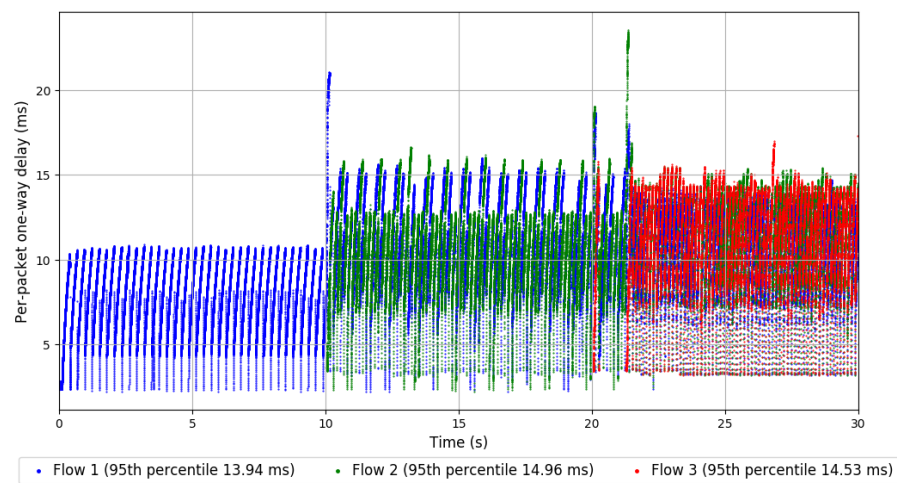
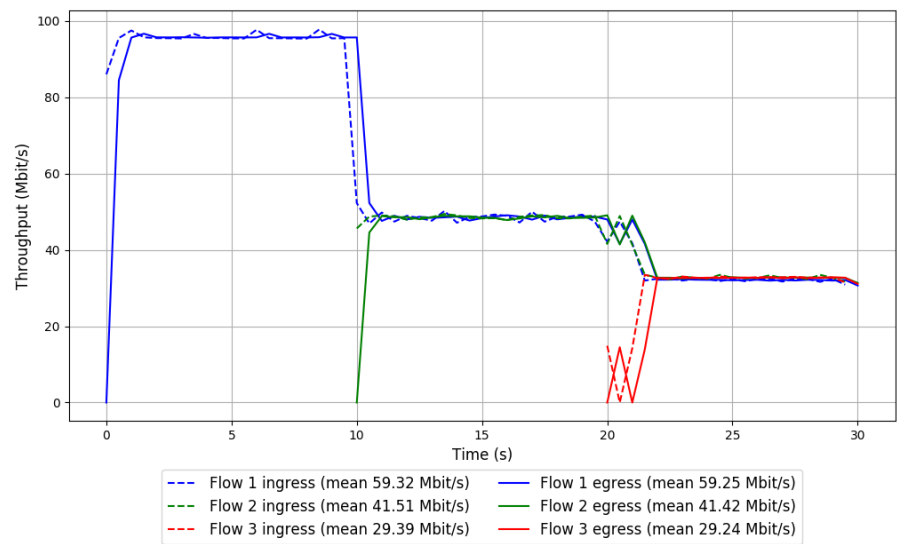
-- Flow 3:

Average throughput: 29.24 Mbit/s

95th percentile per-packet one-way delay: 14.531 ms

Loss rate: 0.51%

Run 5: Report of LEDBAT — Data Link

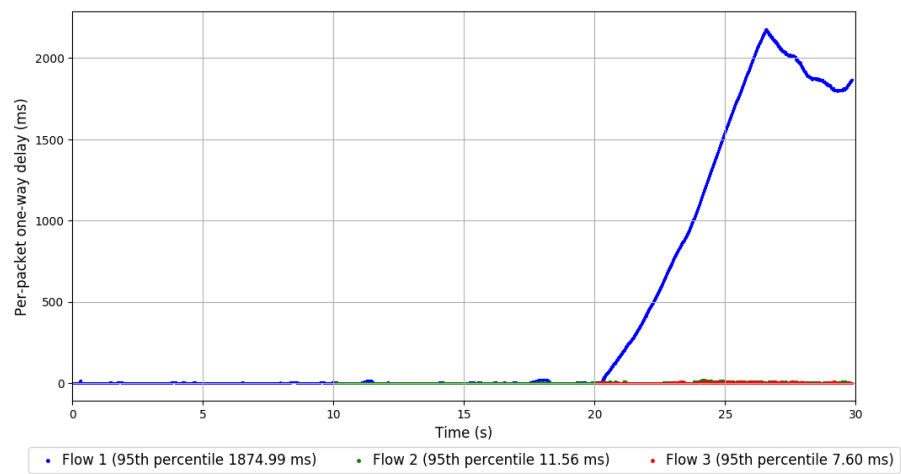
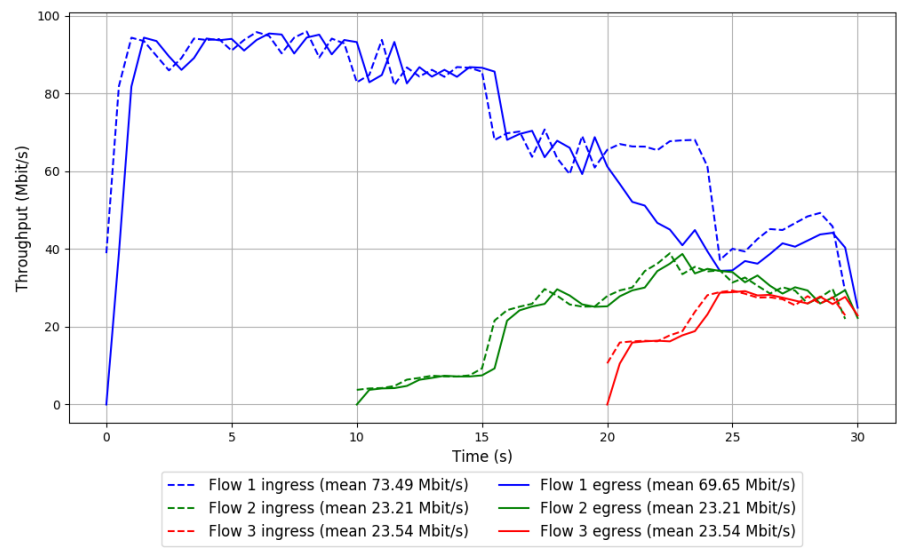


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-05 18:27:16
End at: 2019-02-05 18:27:46
Local clock offset: -5.279 ms
Remote clock offset: 0.806 ms

# Below is generated by plot.py at 2019-02-05 20:23:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.82 Mbit/s
95th percentile per-packet one-way delay: 1832.885 ms
Loss rate: 3.98%
-- Flow 1:
Average throughput: 69.65 Mbit/s
95th percentile per-packet one-way delay: 1874.993 ms
Loss rate: 5.22%
-- Flow 2:
Average throughput: 23.21 Mbit/s
95th percentile per-packet one-way delay: 11.559 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 23.54 Mbit/s
95th percentile per-packet one-way delay: 7.602 ms
Loss rate: 0.03%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-02-05 18:51:21

End at: 2019-02-05 18:51:51

Local clock offset: -5.148 ms

Remote clock offset: 1.458 ms

Below is generated by plot.py at 2019-02-05 20:23:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.97 Mbit/s

95th percentile per-packet one-way delay: 1623.491 ms

Loss rate: 6.91%

-- Flow 1:

Average throughput: 64.36 Mbit/s

95th percentile per-packet one-way delay: 1636.945 ms

Loss rate: 9.58%

-- Flow 2:

Average throughput: 36.34 Mbit/s

95th percentile per-packet one-way delay: 7.248 ms

Loss rate: 0.03%

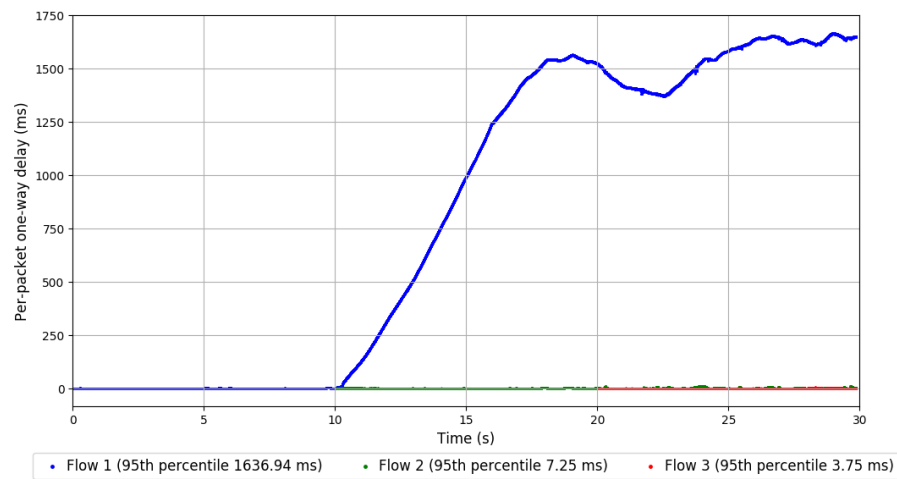
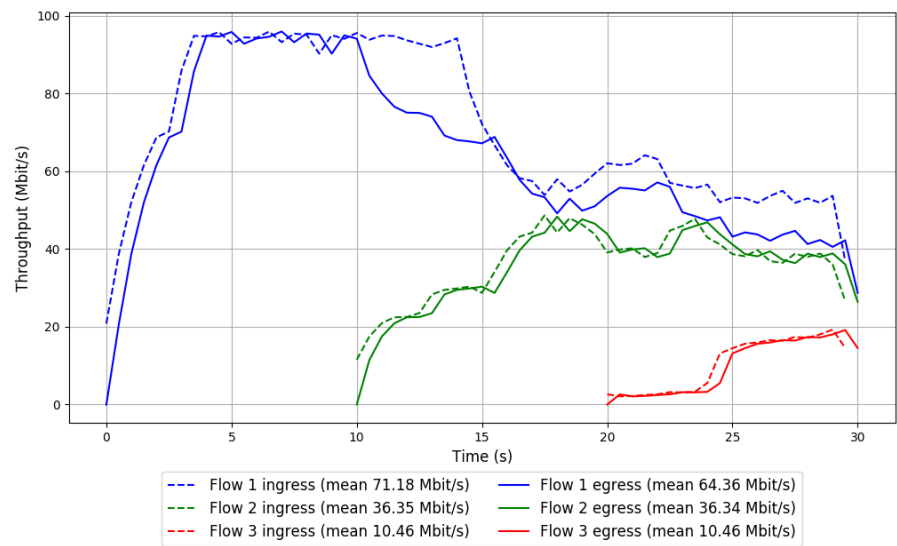
-- Flow 3:

Average throughput: 10.46 Mbit/s

95th percentile per-packet one-way delay: 3.755 ms

Loss rate: 0.07%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-02-05 19:15:29

End at: 2019-02-05 19:15:59

Local clock offset: -3.49 ms

Remote clock offset: 1.938 ms

Below is generated by plot.py at 2019-02-05 20:23:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.11 Mbit/s

95th percentile per-packet one-way delay: 1782.998 ms

Loss rate: 6.70%

-- Flow 1:

Average throughput: 62.08 Mbit/s

95th percentile per-packet one-way delay: 1808.616 ms

Loss rate: 9.86%

-- Flow 2:

Average throughput: 38.20 Mbit/s

95th percentile per-packet one-way delay: 16.498 ms

Loss rate: 0.09%

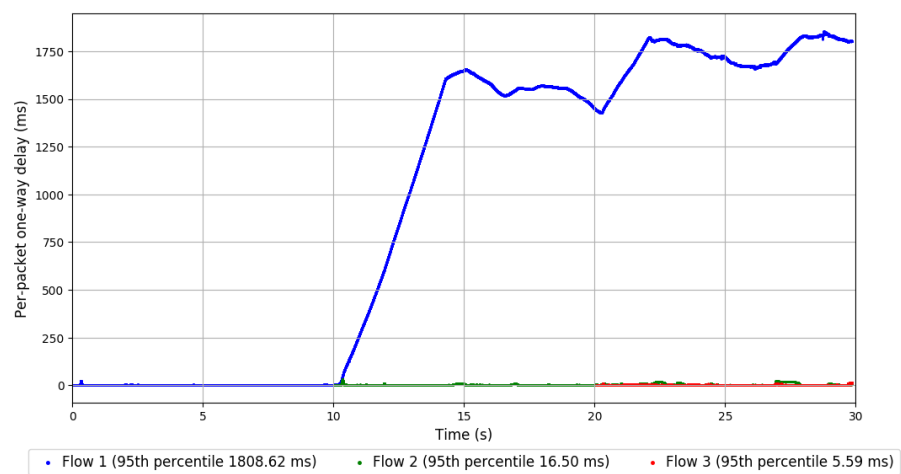
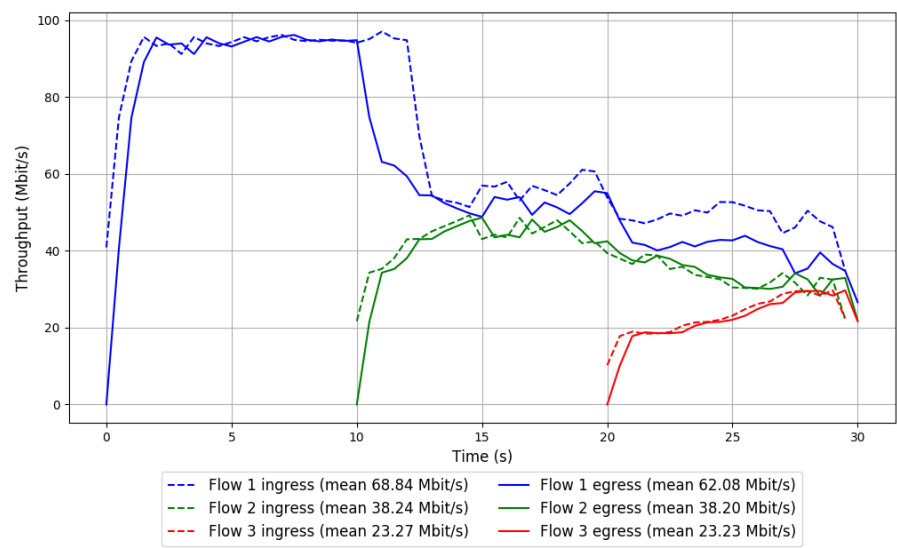
-- Flow 3:

Average throughput: 23.23 Mbit/s

95th percentile per-packet one-way delay: 5.591 ms

Loss rate: 0.21%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-02-05 19:39:42

End at: 2019-02-05 19:40:12

Local clock offset: -3.866 ms

Remote clock offset: 1.799 ms

Below is generated by plot.py at 2019-02-05 20:23:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.70 Mbit/s

95th percentile per-packet one-way delay: 2001.486 ms

Loss rate: 8.22%

-- Flow 1:

Average throughput: 63.77 Mbit/s

95th percentile per-packet one-way delay: 2013.402 ms

Loss rate: 9.61%

-- Flow 2:

Average throughput: 33.00 Mbit/s

95th percentile per-packet one-way delay: 551.702 ms

Loss rate: 7.18%

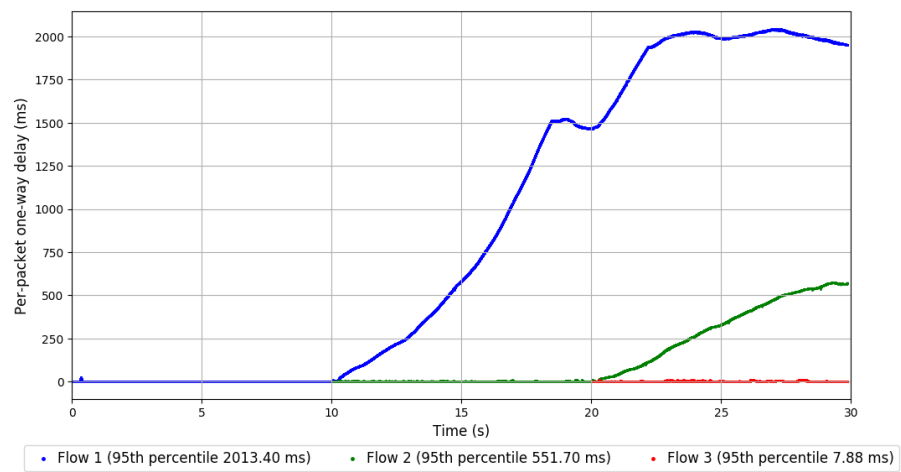
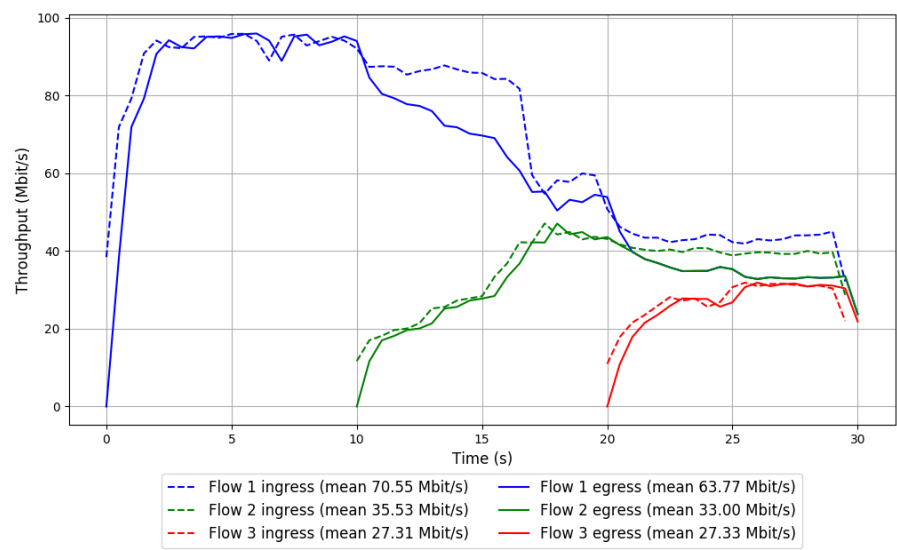
-- Flow 3:

Average throughput: 27.33 Mbit/s

95th percentile per-packet one-way delay: 7.877 ms

Loss rate: 0.07%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-02-05 20:03:52

End at: 2019-02-05 20:04:22

Local clock offset: -3.269 ms

Remote clock offset: 1.592 ms

Below is generated by plot.py at 2019-02-05 20:23:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.55 Mbit/s

95th percentile per-packet one-way delay: 1901.402 ms

Loss rate: 6.85%

-- Flow 1:

Average throughput: 64.34 Mbit/s

95th percentile per-packet one-way delay: 1907.959 ms

Loss rate: 9.60%

-- Flow 2:

Average throughput: 32.72 Mbit/s

95th percentile per-packet one-way delay: 27.198 ms

Loss rate: 0.52%

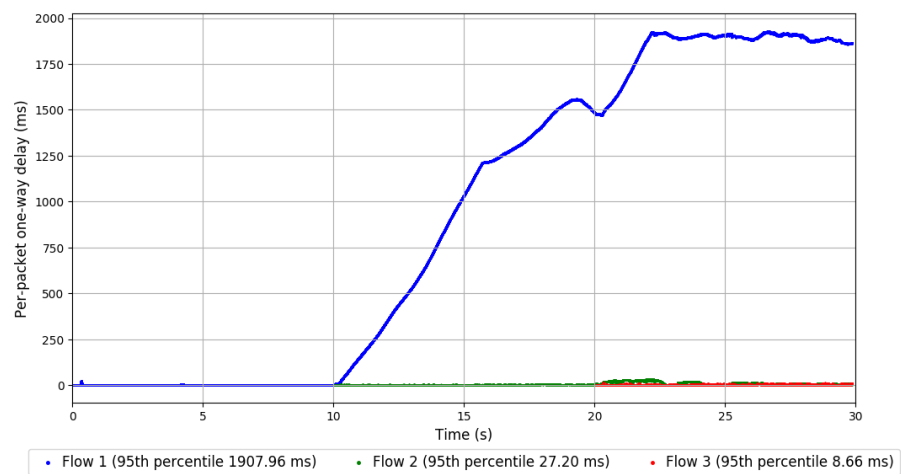
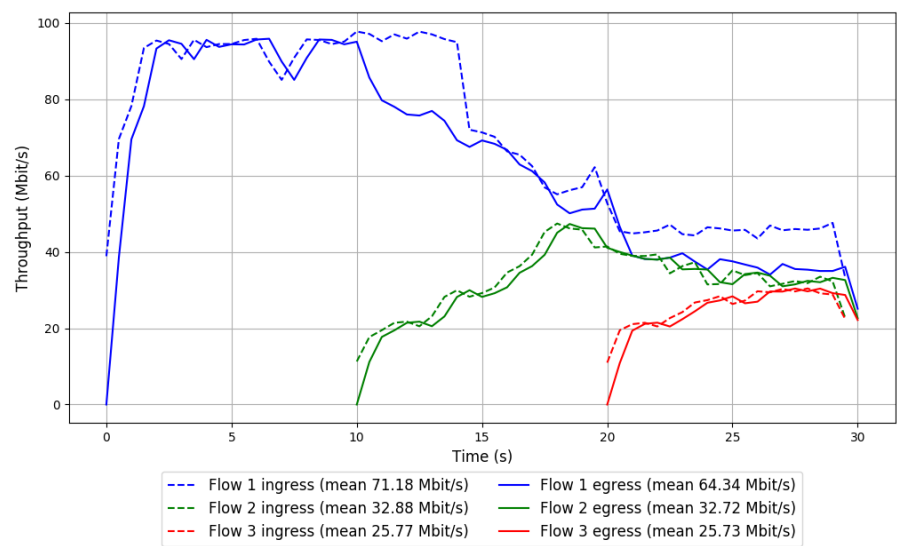
-- Flow 3:

Average throughput: 25.73 Mbit/s

95th percentile per-packet one-way delay: 8.662 ms

Loss rate: 0.11%

Run 5: Report of PCC-Allegro — Data Link

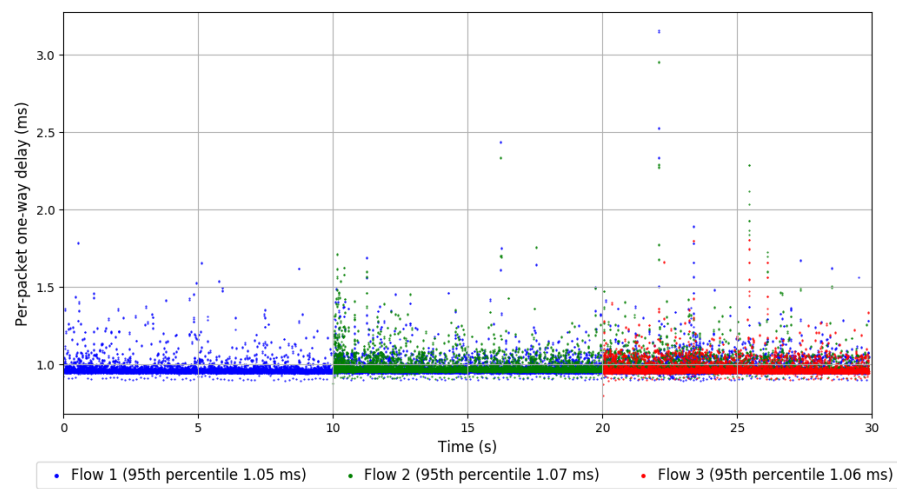
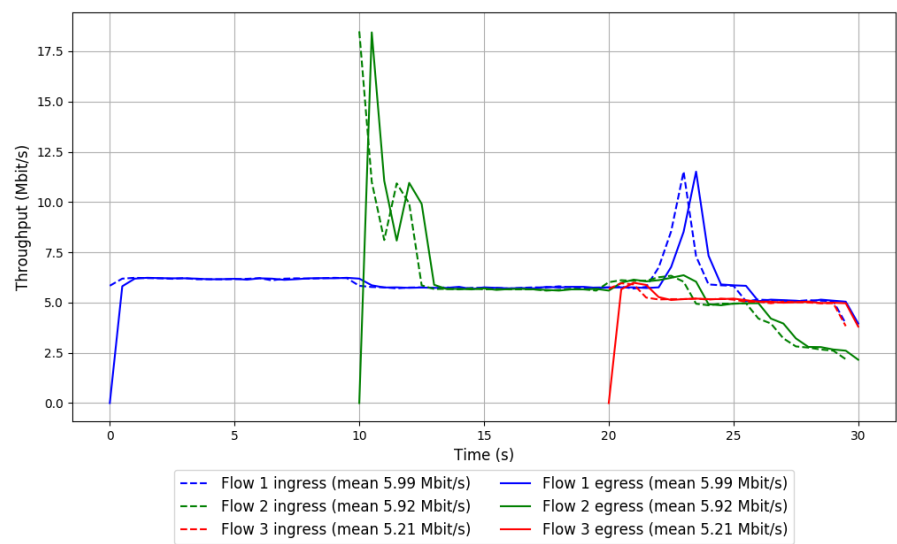



```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-05 18:25:02
End at: 2019-02-05 18:25:32
Local clock offset: -5.359 ms
Remote clock offset: 0.743 ms

# Below is generated by plot.py at 2019-02-05 20:23:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.99 Mbit/s
95th percentile per-packet one-way delay: 1.054 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 5.92 Mbit/s
95th percentile per-packet one-way delay: 1.074 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 5.21 Mbit/s
95th percentile per-packet one-way delay: 1.061 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-02-05 18:48:59

End at: 2019-02-05 18:49:29

Local clock offset: -4.603 ms

Remote clock offset: 1.492 ms

Below is generated by plot.py at 2019-02-05 20:24:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.73 Mbit/s

95th percentile per-packet one-way delay: 893.168 ms

Loss rate: 19.71%

-- Flow 1:

Average throughput: 54.43 Mbit/s

95th percentile per-packet one-way delay: 895.810 ms

Loss rate: 25.61%

-- Flow 2:

Average throughput: 36.67 Mbit/s

95th percentile per-packet one-way delay: 697.903 ms

Loss rate: 9.53%

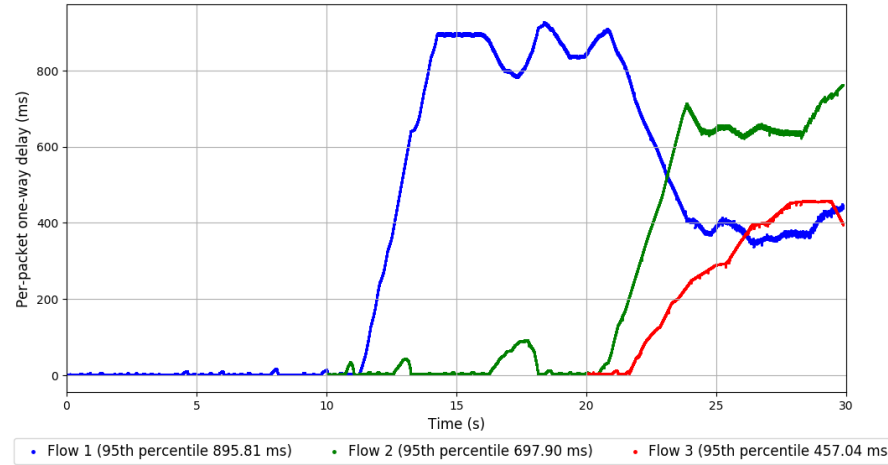
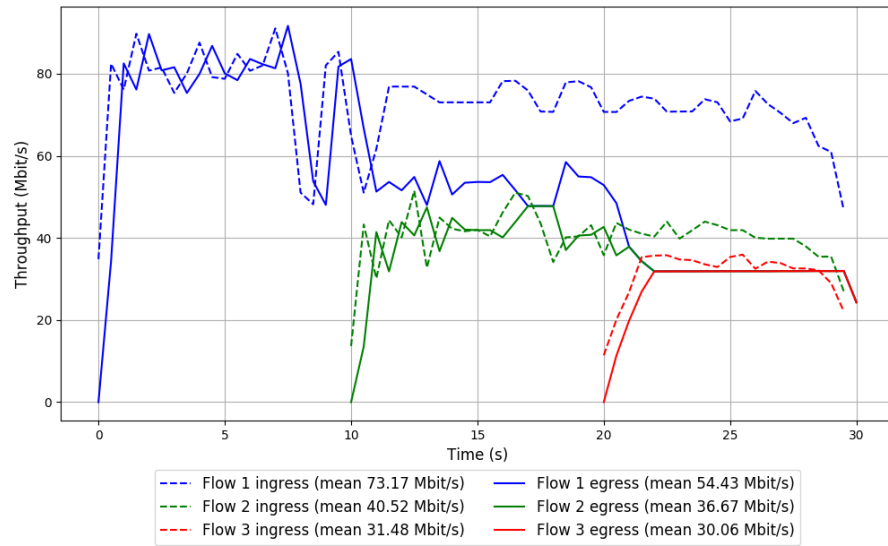
-- Flow 3:

Average throughput: 30.06 Mbit/s

95th percentile per-packet one-way delay: 457.042 ms

Loss rate: 4.59%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-02-05 19:13:09

End at: 2019-02-05 19:13:39

Local clock offset: -4.3 ms

Remote clock offset: 1.822 ms

Below is generated by plot.py at 2019-02-05 20:24:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.64 Mbit/s

95th percentile per-packet one-way delay: 789.762 ms

Loss rate: 4.31%

-- Flow 1:

Average throughput: 49.96 Mbit/s

95th percentile per-packet one-way delay: 13.893 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 38.85 Mbit/s

95th percentile per-packet one-way delay: 572.681 ms

Loss rate: 2.80%

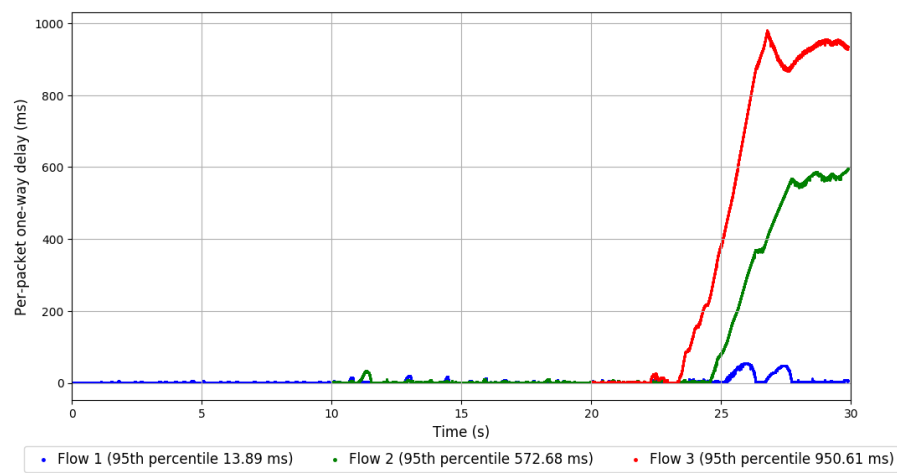
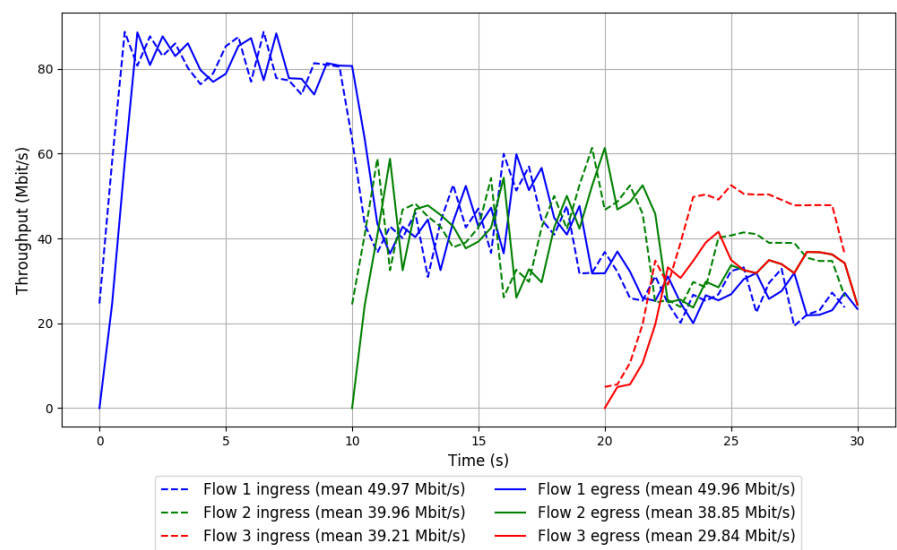
-- Flow 3:

Average throughput: 29.84 Mbit/s

95th percentile per-packet one-way delay: 950.605 ms

Loss rate: 23.93%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-02-05 19:37:21

End at: 2019-02-05 19:37:51

Local clock offset: -3.938 ms

Remote clock offset: 1.869 ms

Below is generated by plot.py at 2019-02-05 20:24:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 88.64 Mbit/s

95th percentile per-packet one-way delay: 798.826 ms

Loss rate: 8.32%

-- Flow 1:

Average throughput: 52.43 Mbit/s

95th percentile per-packet one-way delay: 756.654 ms

Loss rate: 5.79%

-- Flow 2:

Average throughput: 41.31 Mbit/s

95th percentile per-packet one-way delay: 829.597 ms

Loss rate: 14.90%

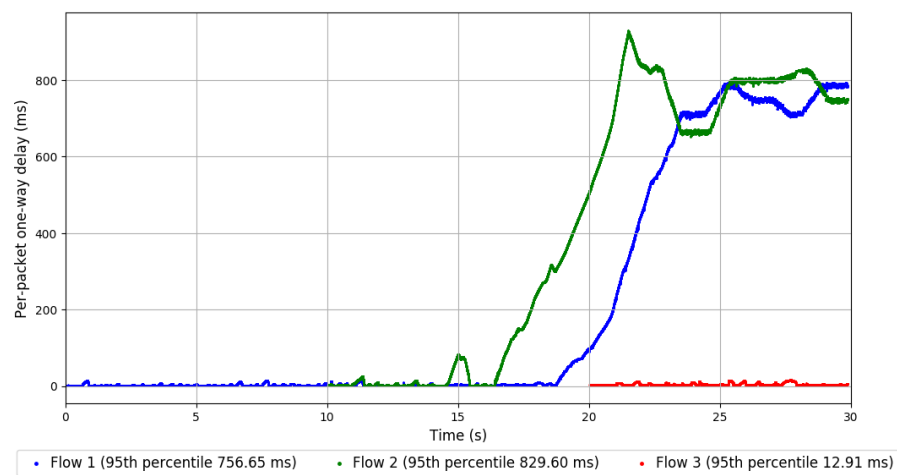
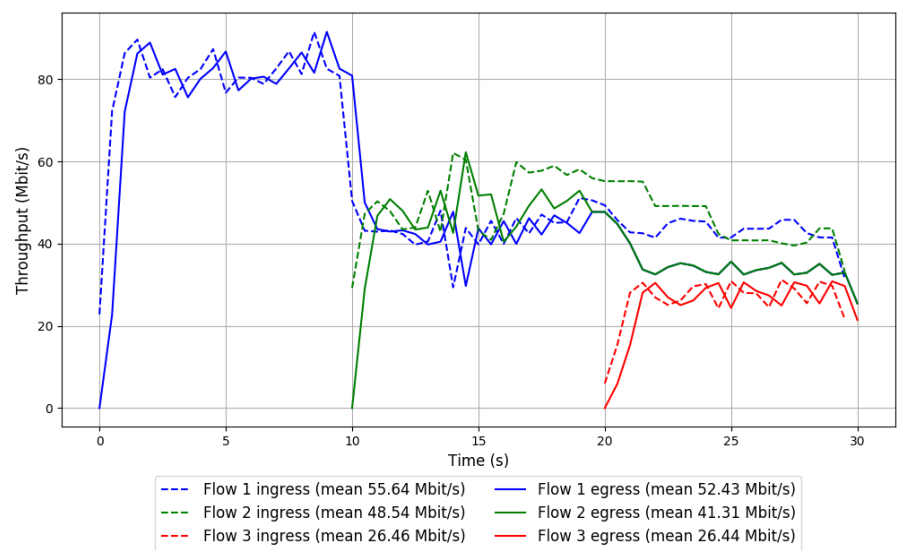
-- Flow 3:

Average throughput: 26.44 Mbit/s

95th percentile per-packet one-way delay: 12.909 ms

Loss rate: 0.09%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-02-05 20:01:31

End at: 2019-02-05 20:02:01

Local clock offset: -4.103 ms

Remote clock offset: 1.563 ms

Below is generated by plot.py at 2019-02-05 20:24:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.72 Mbit/s

95th percentile per-packet one-way delay: 1113.562 ms

Loss rate: 4.25%

-- Flow 1:

Average throughput: 55.94 Mbit/s

95th percentile per-packet one-way delay: 1311.602 ms

Loss rate: 6.47%

-- Flow 2:

Average throughput: 37.37 Mbit/s

95th percentile per-packet one-way delay: 626.852 ms

Loss rate: 0.38%

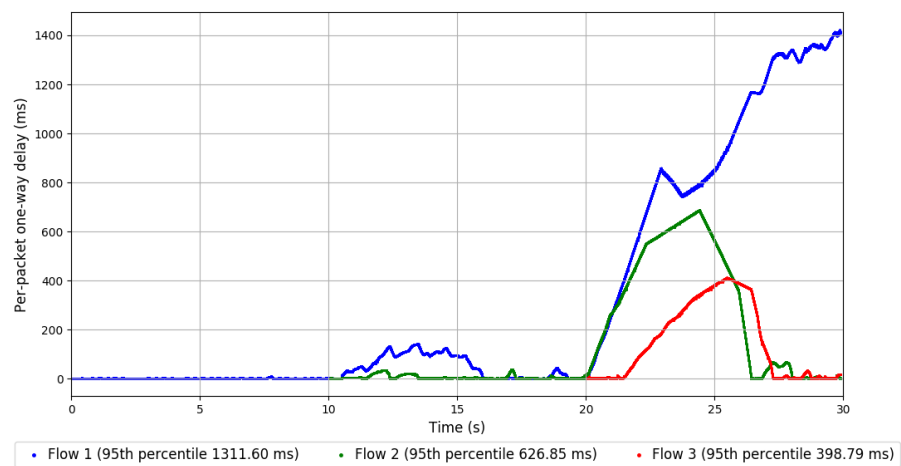
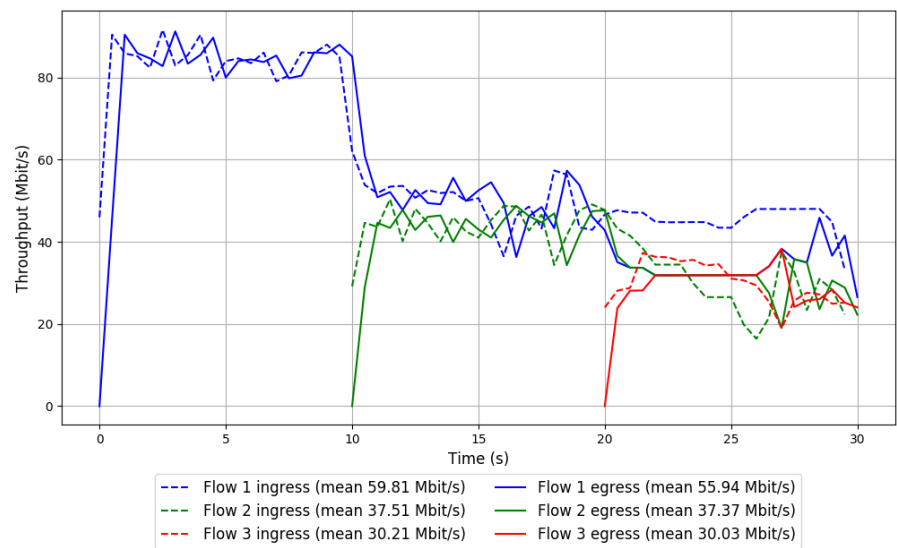
-- Flow 3:

Average throughput: 30.03 Mbit/s

95th percentile per-packet one-way delay: 398.785 ms

Loss rate: 0.63%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-02-05 18:15:52

End at: 2019-02-05 18:16:22

Local clock offset: -6.003 ms

Remote clock offset: 0.56 ms

Below is generated by plot.py at 2019-02-05 20:24:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.46 Mbit/s

95th percentile per-packet one-way delay: 12.330 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 53.46 Mbit/s

95th percentile per-packet one-way delay: 12.181 ms

Loss rate: 0.20%

-- Flow 2:

Average throughput: 40.13 Mbit/s

95th percentile per-packet one-way delay: 12.342 ms

Loss rate: 0.40%

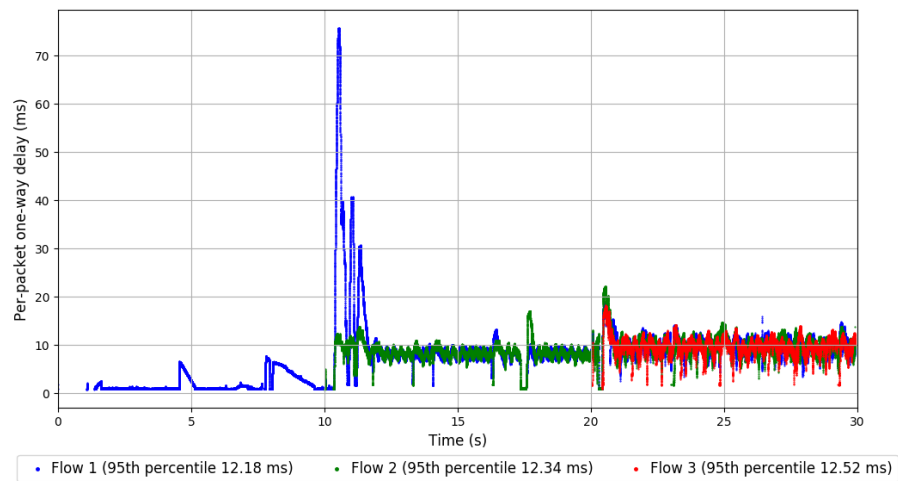
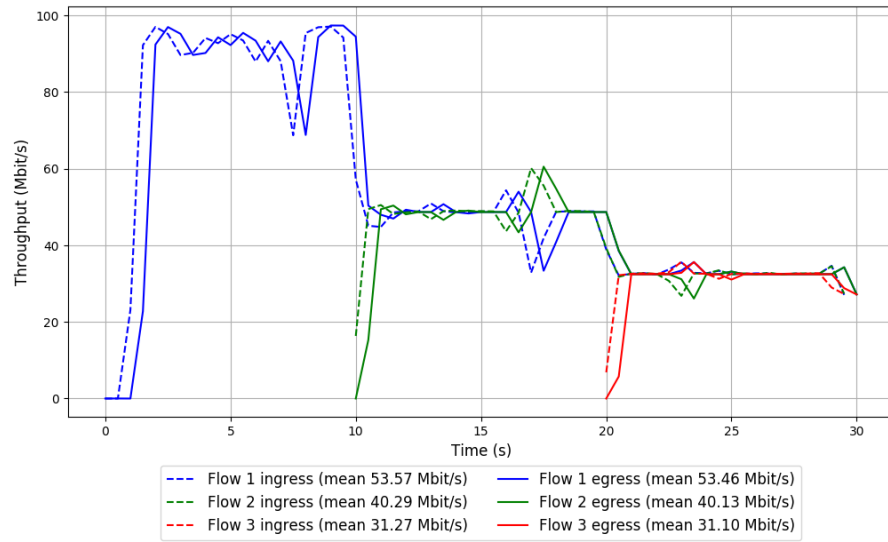
-- Flow 3:

Average throughput: 31.10 Mbit/s

95th percentile per-packet one-way delay: 12.519 ms

Loss rate: 0.57%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-02-05 18:39:48

End at: 2019-02-05 18:40:18

Local clock offset: -4.998 ms

Remote clock offset: 1.249 ms

Below is generated by plot.py at 2019-02-05 20:24:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.73 Mbit/s

95th percentile per-packet one-way delay: 13.421 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 53.78 Mbit/s

95th percentile per-packet one-way delay: 13.243 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 40.14 Mbit/s

95th percentile per-packet one-way delay: 13.324 ms

Loss rate: 0.29%

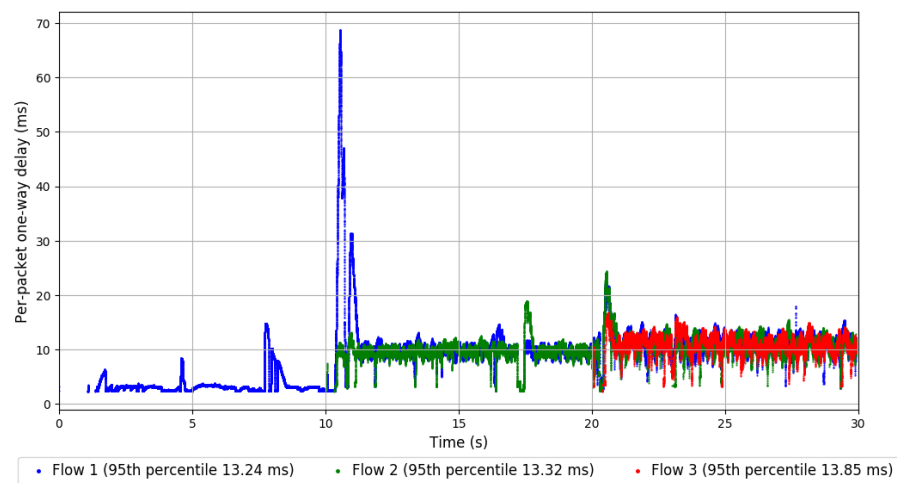
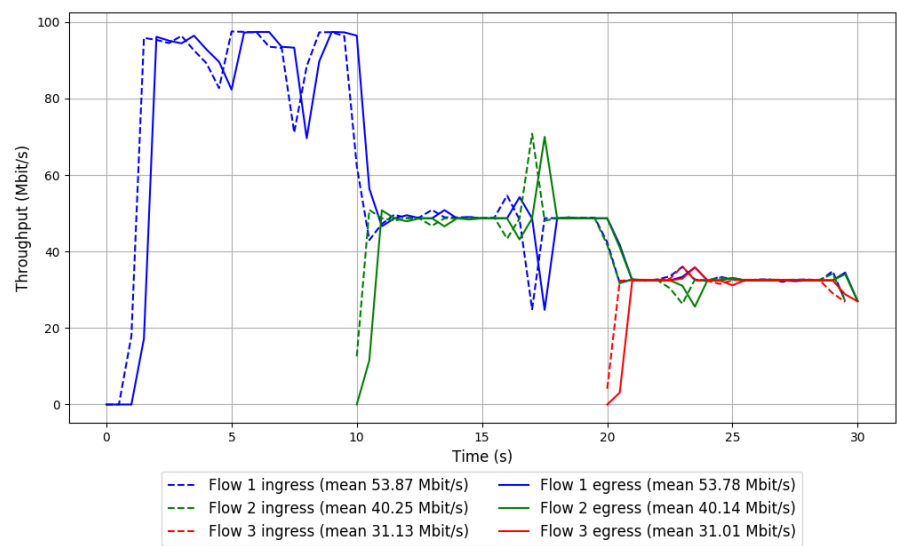
-- Flow 3:

Average throughput: 31.01 Mbit/s

95th percentile per-packet one-way delay: 13.846 ms

Loss rate: 0.42%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-02-05 19:03:59

End at: 2019-02-05 19:04:29

Local clock offset: -3.78 ms

Remote clock offset: 1.735 ms

Below is generated by plot.py at 2019-02-05 20:24:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.67 Mbit/s

95th percentile per-packet one-way delay: 13.824 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 53.57 Mbit/s

95th percentile per-packet one-way delay: 13.800 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 40.25 Mbit/s

95th percentile per-packet one-way delay: 13.630 ms

Loss rate: 0.28%

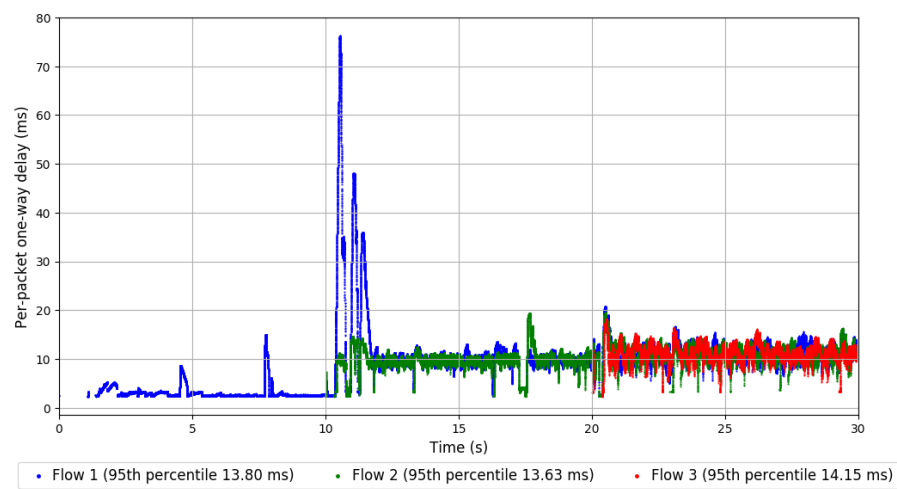
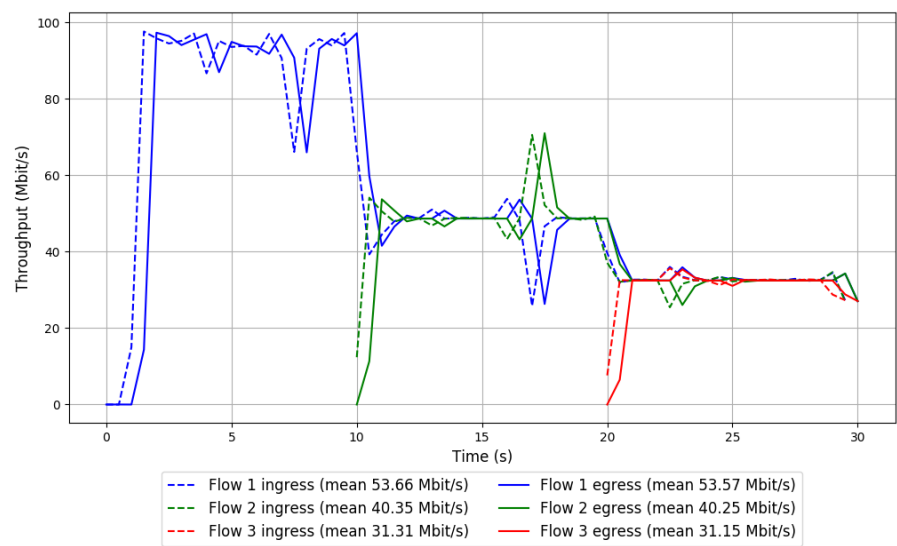
-- Flow 3:

Average throughput: 31.15 Mbit/s

95th percentile per-packet one-way delay: 14.151 ms

Loss rate: 0.55%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-02-05 19:28:09

End at: 2019-02-05 19:28:39

Local clock offset: -3.269 ms

Remote clock offset: 1.849 ms

Below is generated by plot.py at 2019-02-05 20:24:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.81 Mbit/s

95th percentile per-packet one-way delay: 13.446 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 54.83 Mbit/s

95th percentile per-packet one-way delay: 13.003 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 40.12 Mbit/s

95th percentile per-packet one-way delay: 13.614 ms

Loss rate: 0.33%

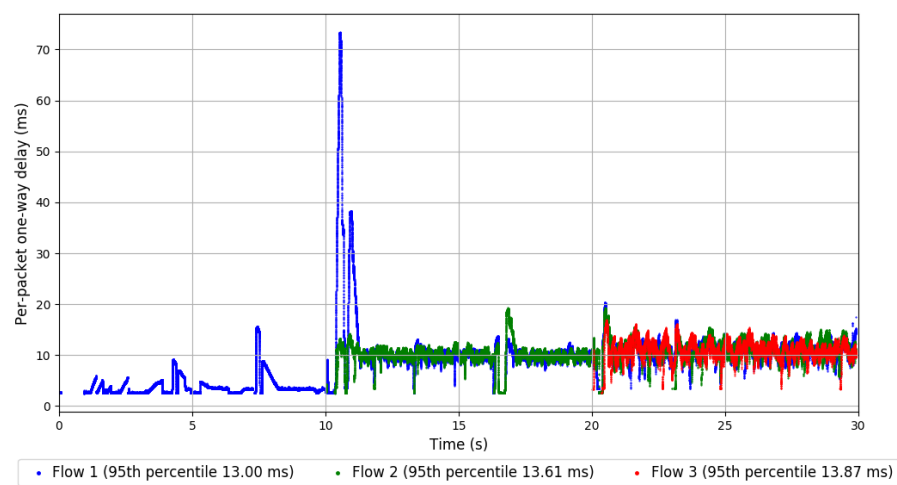
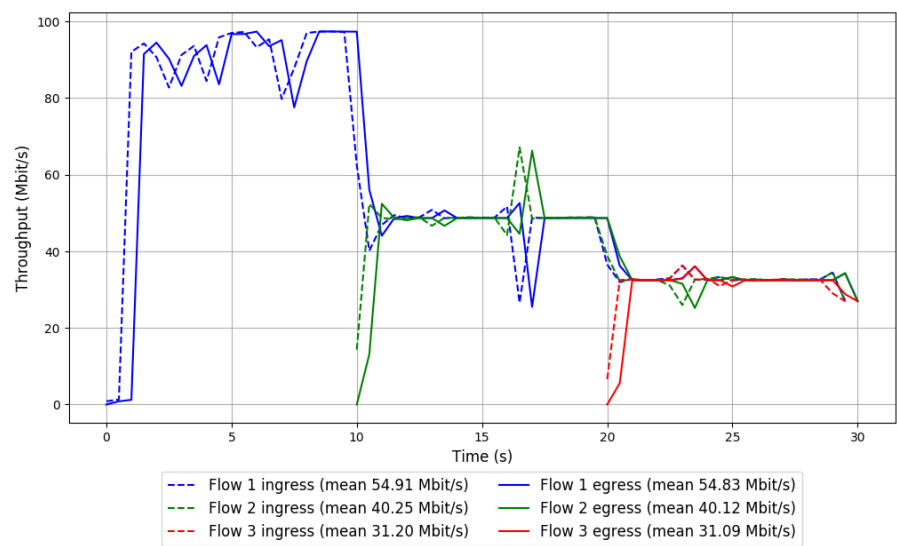
-- Flow 3:

Average throughput: 31.09 Mbit/s

95th percentile per-packet one-way delay: 13.873 ms

Loss rate: 0.49%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-02-05 19:52:20

End at: 2019-02-05 19:52:50

Local clock offset: -3.95 ms

Remote clock offset: 1.766 ms

Below is generated by plot.py at 2019-02-05 20:25:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.20 Mbit/s

95th percentile per-packet one-way delay: 12.881 ms

Loss rate: 0.23%

-- Flow 1:

Average throughput: 55.13 Mbit/s

95th percentile per-packet one-way delay: 12.639 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 40.29 Mbit/s

95th percentile per-packet one-way delay: 12.417 ms

Loss rate: 0.30%

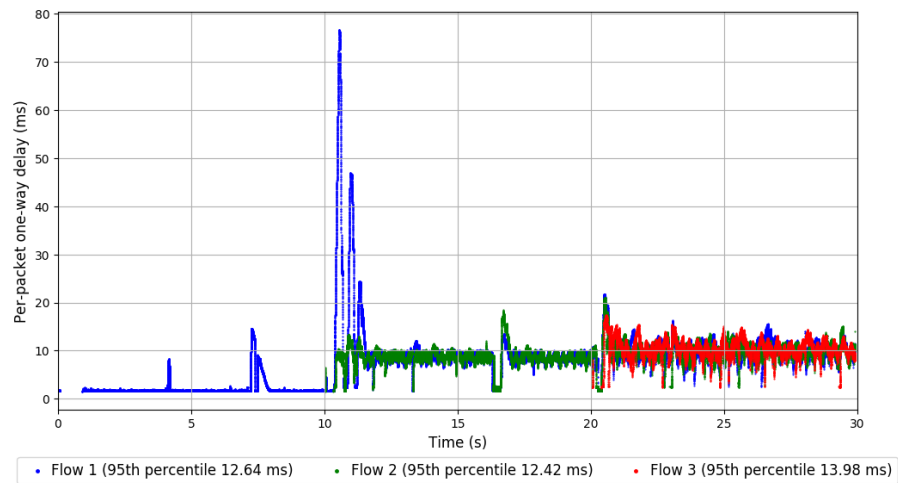
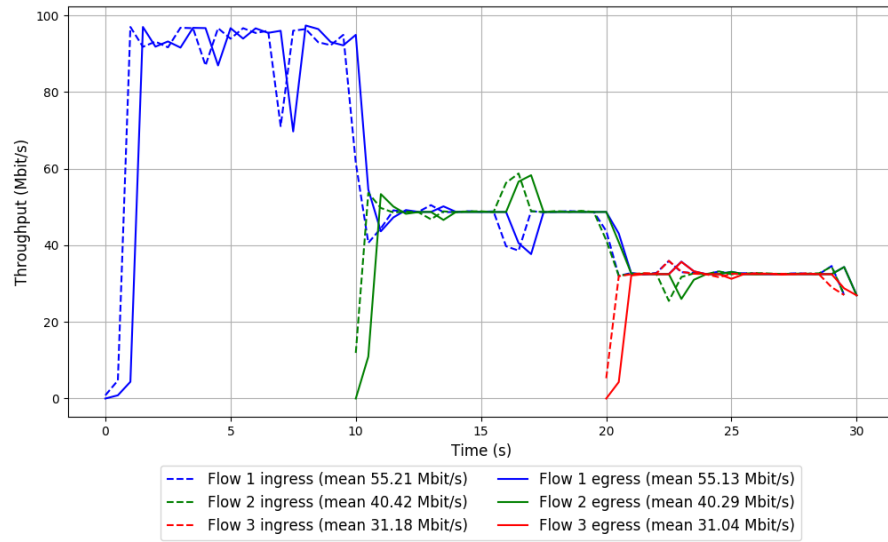
-- Flow 3:

Average throughput: 31.04 Mbit/s

95th percentile per-packet one-way delay: 13.981 ms

Loss rate: 0.49%

Run 5: Report of QUIC Cubic — Data Link

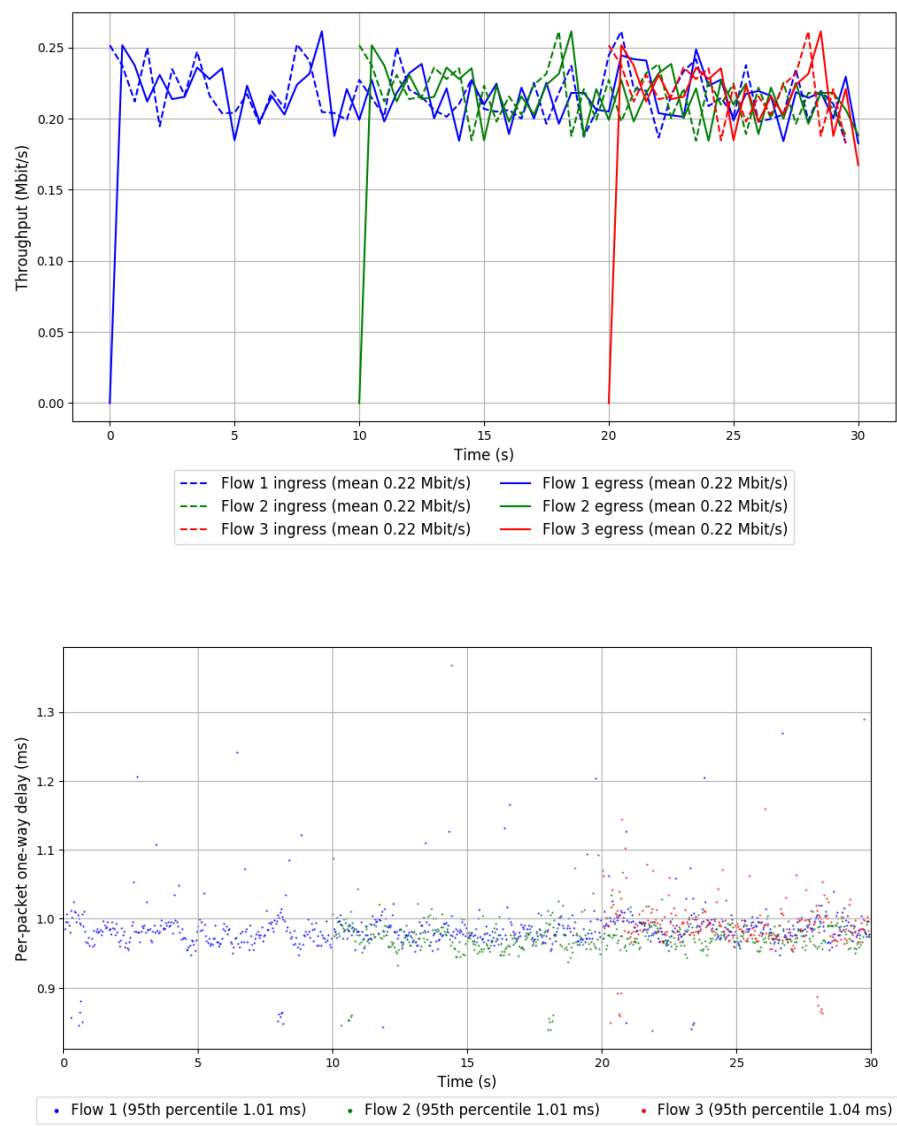


```
Run 1: Statistics of SReAM

Start at: 2019-02-05 18:31:47
End at: 2019-02-05 18:32:17
Local clock offset: -5.171 ms
Remote clock offset: 0.96 ms

# Below is generated by plot.py at 2019-02-05 20:25:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.018 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.008 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.043 ms
Loss rate: 0.35%
```

Run 1: Report of SReAM — Data Link

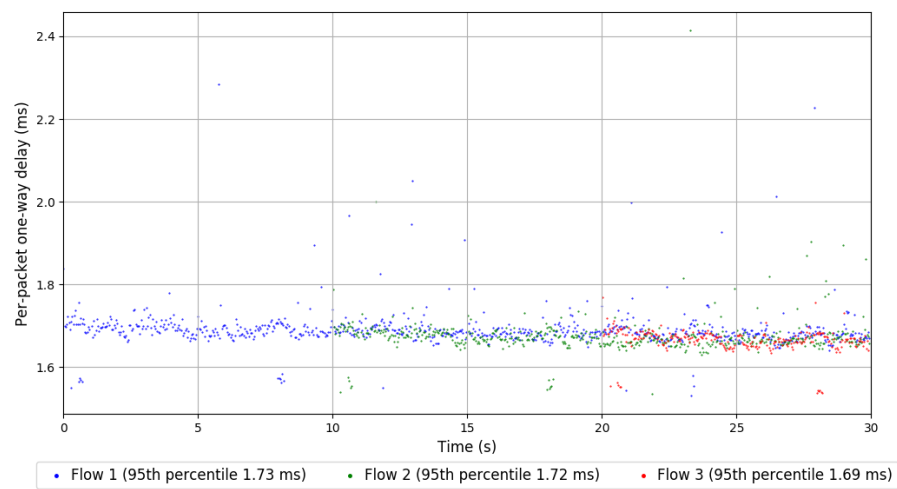
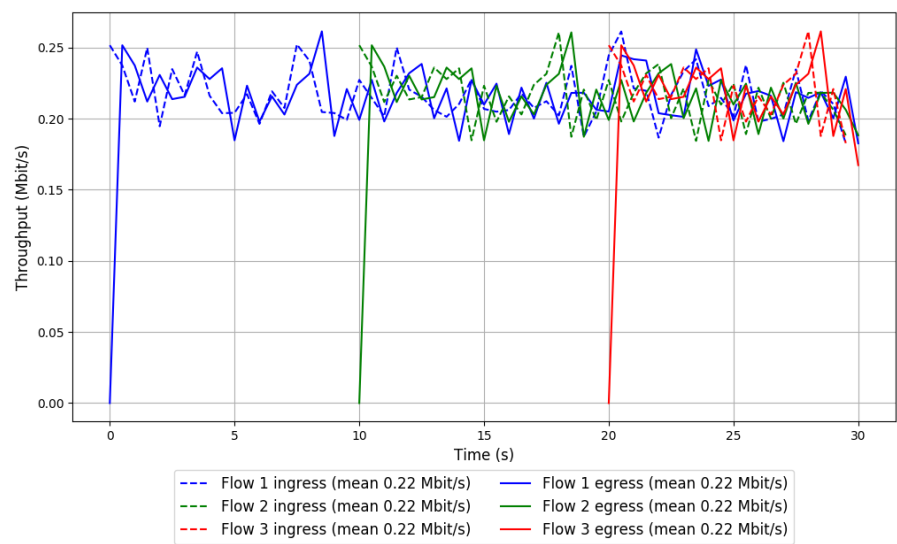


Run 2: Statistics of SReAM

Start at: 2019-02-05 18:55:58
End at: 2019-02-05 18:56:28
Local clock offset: -4.859 ms
Remote clock offset: 1.532 ms

Below is generated by plot.py at 2019-02-05 20:25:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.725 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.734 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.719 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.693 ms
Loss rate: 0.35%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SReAM

Start at: 2019-02-05 19:20:07

End at: 2019-02-05 19:20:37

Local clock offset: -3.401 ms

Remote clock offset: 1.991 ms

Below is generated by plot.py at 2019-02-05 20:25:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 2.415 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.425 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.407 ms

Loss rate: 0.00%

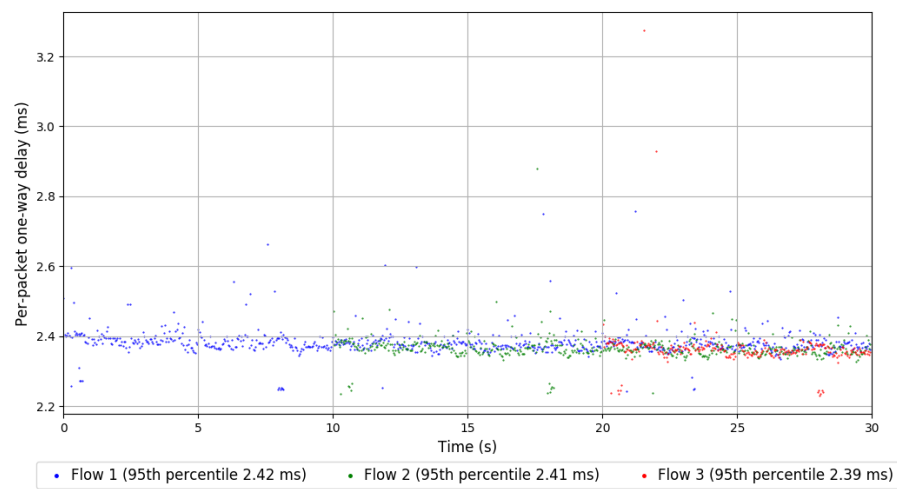
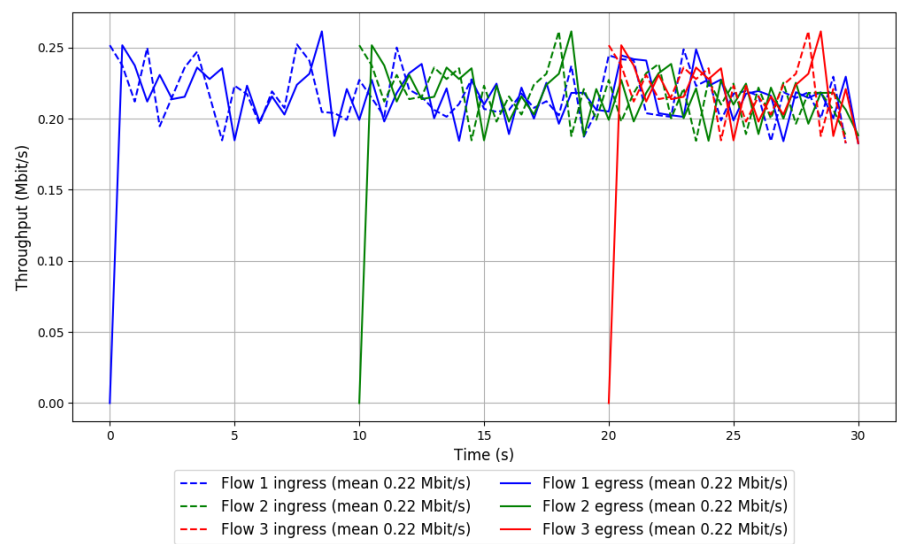
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.387 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

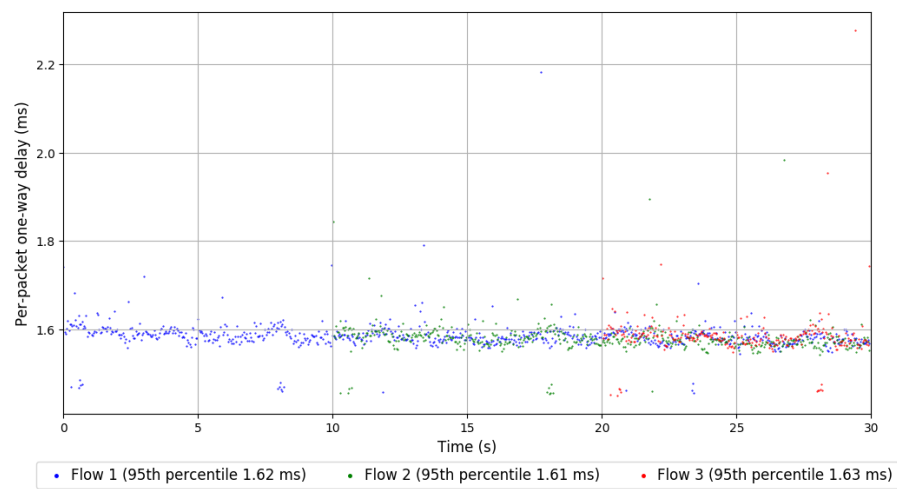
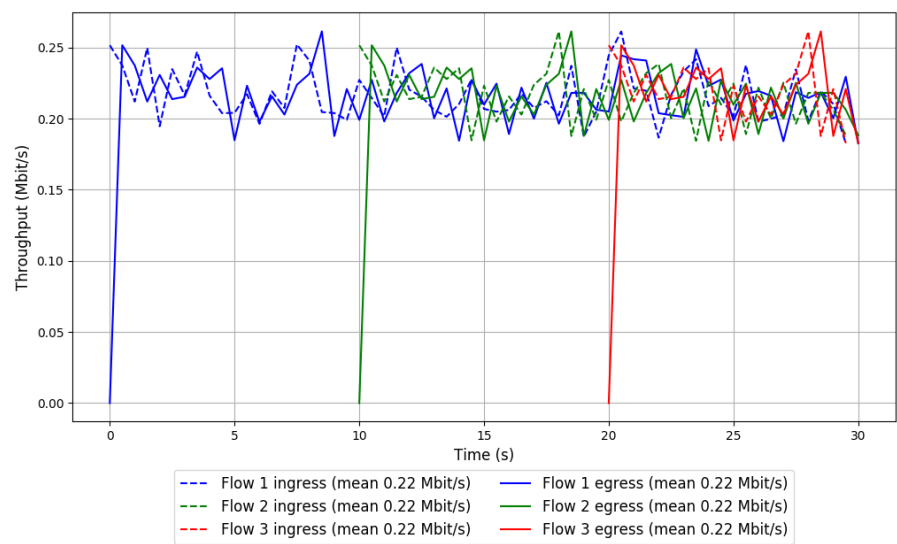


Run 4: Statistics of SReAM

Start at: 2019-02-05 19:44:19
End at: 2019-02-05 19:44:49
Local clock offset: -3.794 ms
Remote clock offset: 1.789 ms

Below is generated by plot.py at 2019-02-05 20:25:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.614 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.616 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.610 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.629 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-02-05 20:08:29

End at: 2019-02-05 20:08:59

Local clock offset: -4.026 ms

Remote clock offset: 1.603 ms

Below is generated by plot.py at 2019-02-05 20:25:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 1.671 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.671 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.672 ms

Loss rate: 0.00%

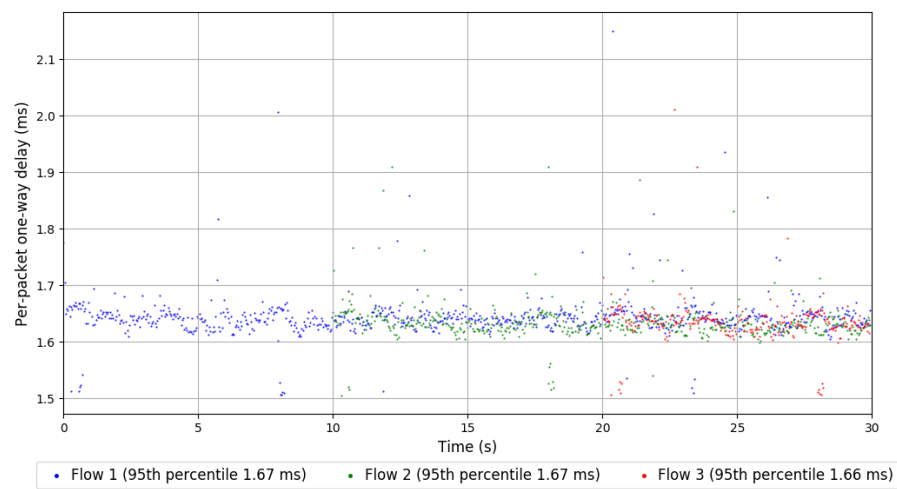
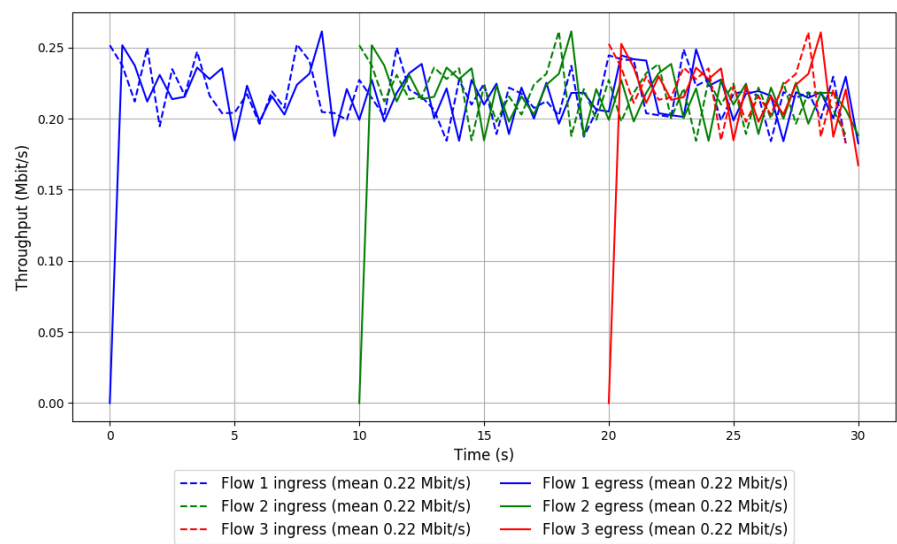
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.663 ms

Loss rate: 0.35%

Run 5: Report of SReAM — Data Link

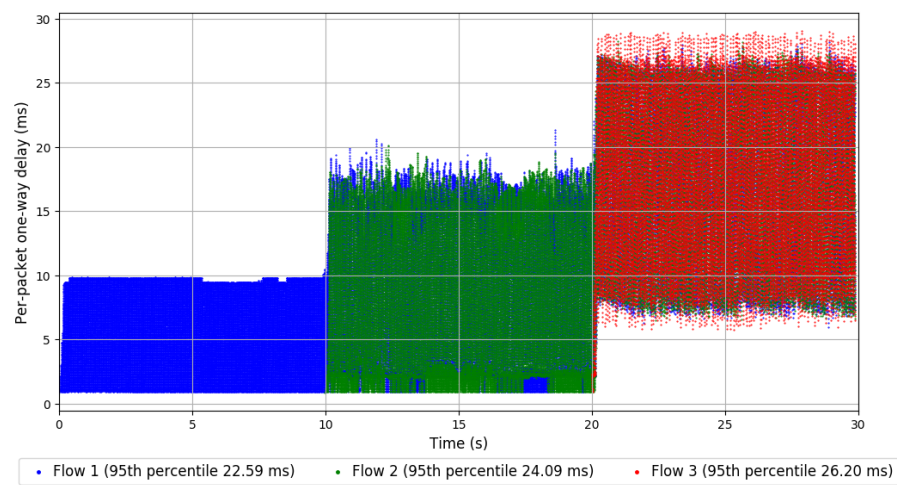
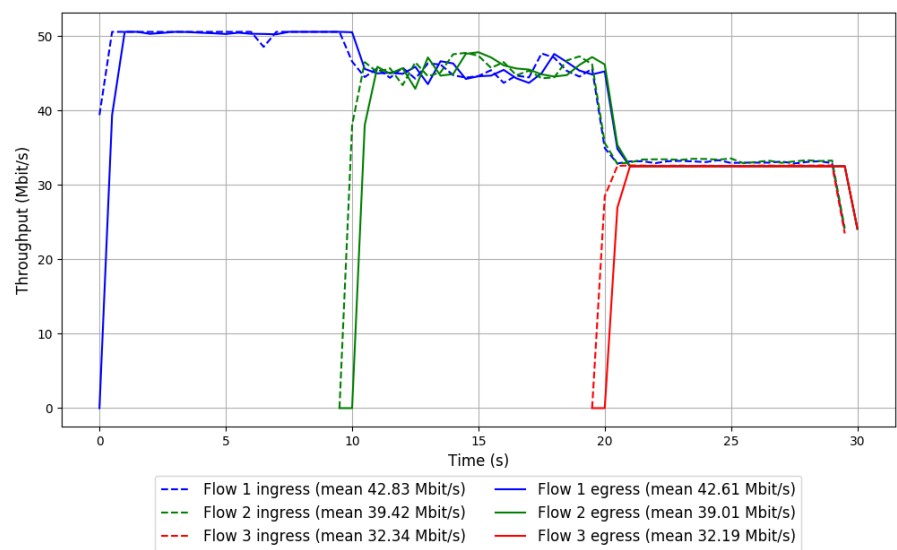


Run 1: Statistics of Sprout

Start at: 2019-02-05 18:18:11
End at: 2019-02-05 18:18:41
Local clock offset: -5.854 ms
Remote clock offset: 0.49 ms

Below is generated by plot.py at 2019-02-05 20:25:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 79.23 Mbit/s
95th percentile per-packet one-way delay: 24.261 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 42.61 Mbit/s
95th percentile per-packet one-way delay: 22.587 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 24.091 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 26.198 ms
Loss rate: 0.35%

Run 1: Report of Sprout — Data Link

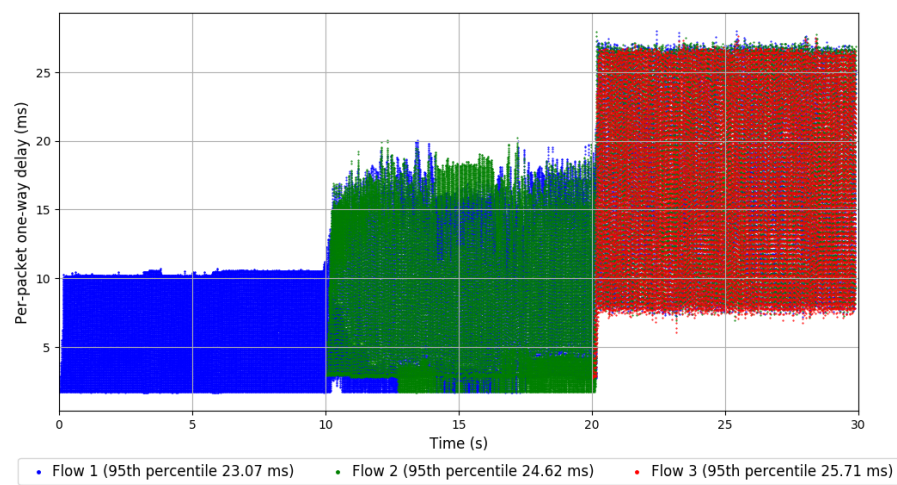
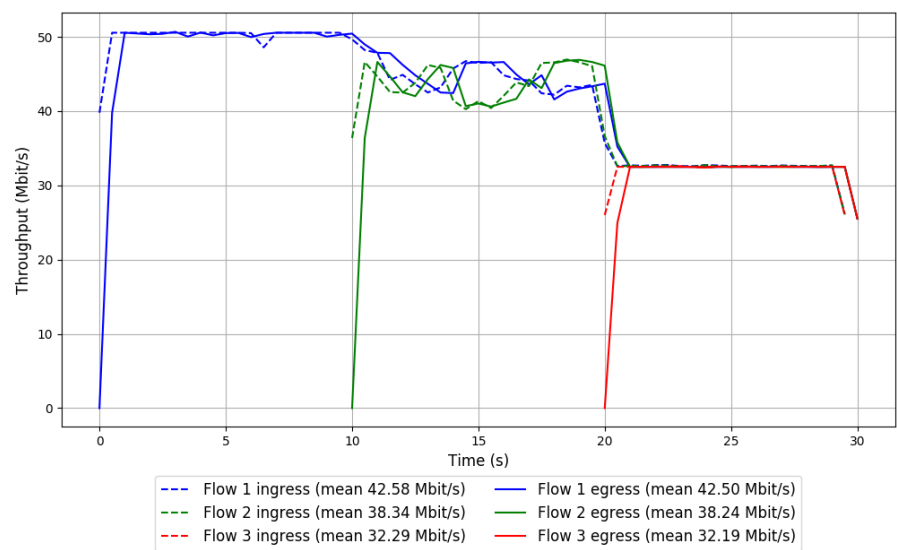


Run 2: Statistics of Sprout

Start at: 2019-02-05 18:42:06
End at: 2019-02-05 18:42:36
Local clock offset: -5.744 ms
Remote clock offset: 1.317 ms

Below is generated by plot.py at 2019-02-05 20:25:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 78.55 Mbit/s
95th percentile per-packet one-way delay: 24.455 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 42.50 Mbit/s
95th percentile per-packet one-way delay: 23.067 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 38.24 Mbit/s
95th percentile per-packet one-way delay: 24.616 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 25.707 ms
Loss rate: 0.32%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2019-02-05 19:06:18

End at: 2019-02-05 19:06:48

Local clock offset: -4.454 ms

Remote clock offset: 1.7 ms

Below is generated by plot.py at 2019-02-05 20:25:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.74 Mbit/s

95th percentile per-packet one-way delay: 23.886 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 42.33 Mbit/s

95th percentile per-packet one-way delay: 21.541 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 40.24 Mbit/s

95th percentile per-packet one-way delay: 24.570 ms

Loss rate: 0.21%

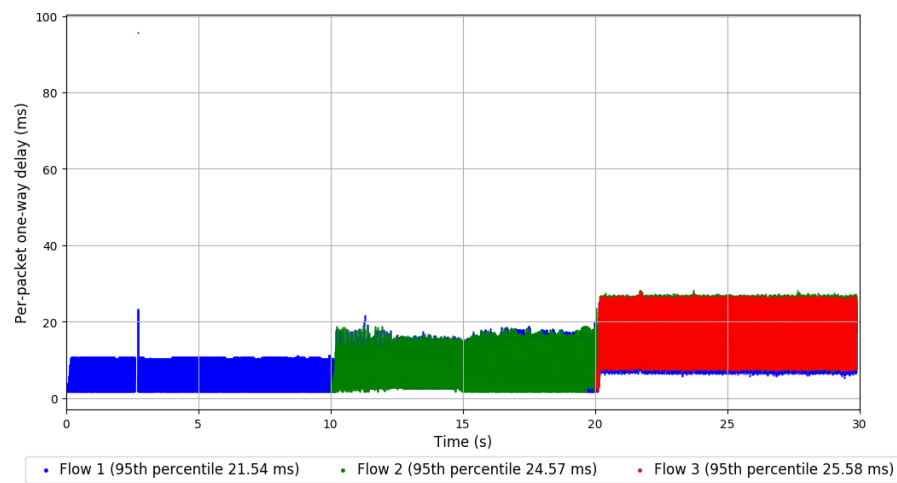
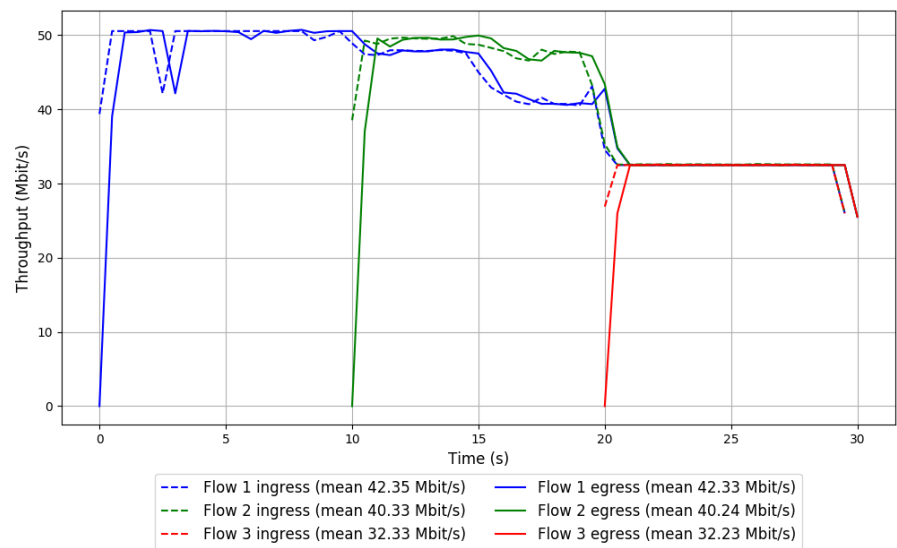
-- Flow 3:

Average throughput: 32.23 Mbit/s

95th percentile per-packet one-way delay: 25.577 ms

Loss rate: 0.26%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2019-02-05 19:30:27

End at: 2019-02-05 19:30:57

Local clock offset: -3.213 ms

Remote clock offset: 1.9 ms

Below is generated by plot.py at 2019-02-05 20:25:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.82 Mbit/s

95th percentile per-packet one-way delay: 24.747 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 42.93 Mbit/s

95th percentile per-packet one-way delay: 23.871 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 39.48 Mbit/s

95th percentile per-packet one-way delay: 25.398 ms

Loss rate: 0.21%

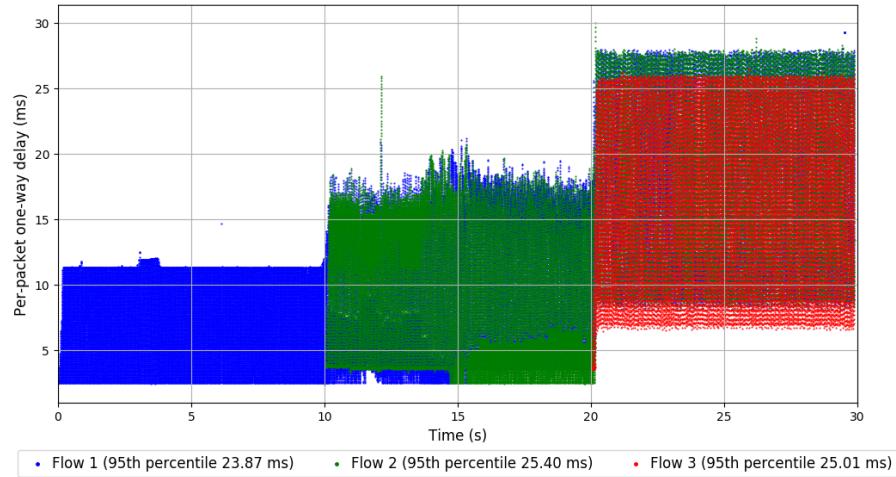
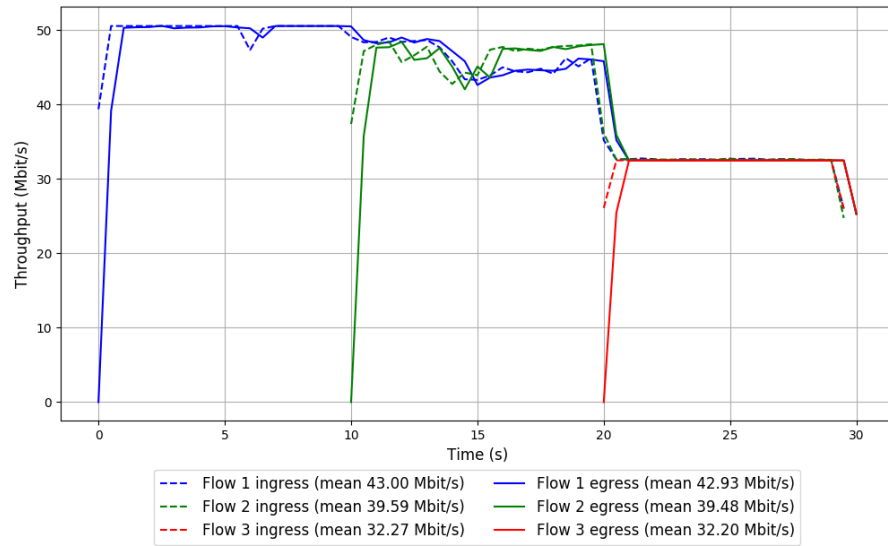
-- Flow 3:

Average throughput: 32.20 Mbit/s

95th percentile per-packet one-way delay: 25.013 ms

Loss rate: 0.21%

Run 4: Report of Sprout — Data Link

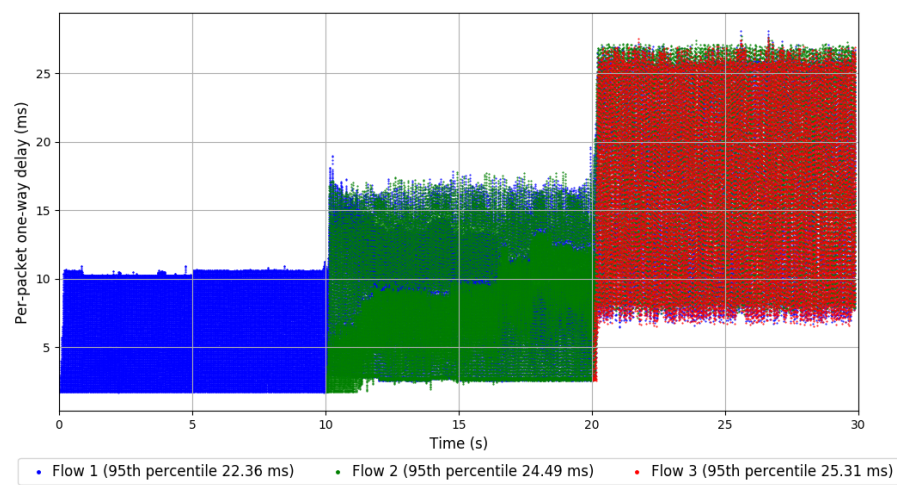
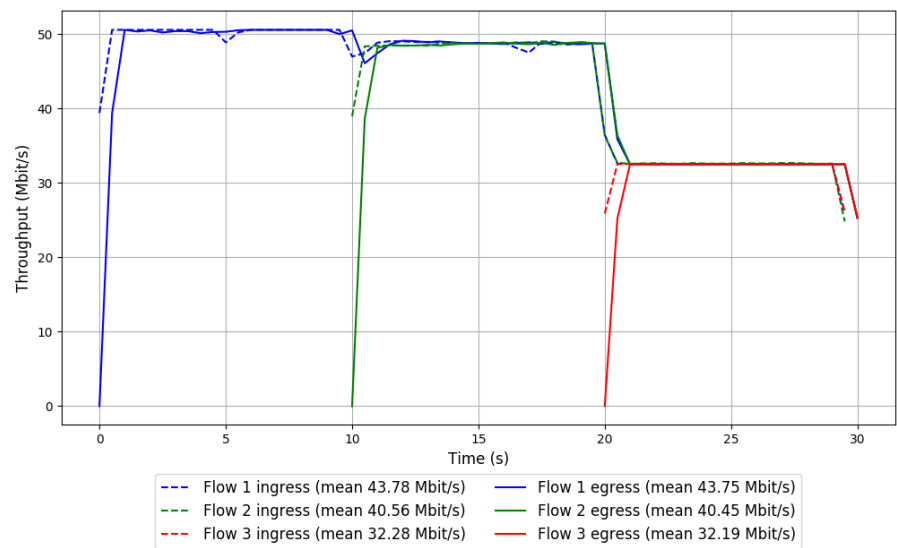


Run 5: Statistics of Sprout

Start at: 2019-02-05 19:54:39
End at: 2019-02-05 19:55:09
Local clock offset: -3.972 ms
Remote clock offset: 1.684 ms

```
# Below is generated by plot.py at 2019-02-05 20:25:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.29 Mbit/s
95th percentile per-packet one-way delay: 24.052 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 43.75 Mbit/s
95th percentile per-packet one-way delay: 22.365 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 24.491 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 25.310 ms
Loss rate: 0.26%
```

Run 5: Report of Sprout — Data Link

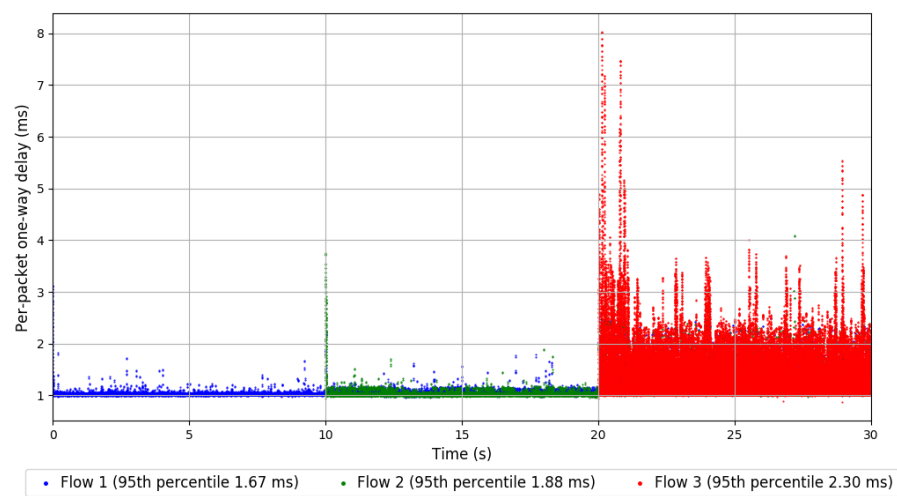
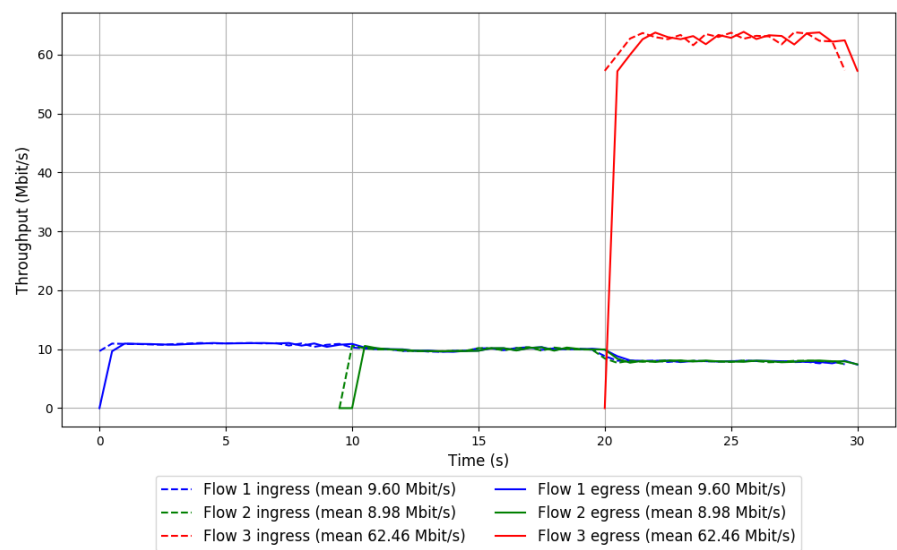



```
Run 1: Statistics of TaoVA-100x

Start at: 2019-02-05 18:28:24
End at: 2019-02-05 18:28:54
Local clock offset: -5.248 ms
Remote clock offset: 0.813 ms

# Below is generated by plot.py at 2019-02-05 20:25:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.35 Mbit/s
95th percentile per-packet one-way delay: 2.128 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 1.668 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 8.98 Mbit/s
95th percentile per-packet one-way delay: 1.881 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 62.46 Mbit/s
95th percentile per-packet one-way delay: 2.296 ms
Loss rate: 0.02%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-02-05 18:52:29

End at: 2019-02-05 18:52:59

Local clock offset: -5.076 ms

Remote clock offset: 1.434 ms

Below is generated by plot.py at 2019-02-05 20:27:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.03 Mbit/s

95th percentile per-packet one-way delay: 155.014 ms

Loss rate: 0.92%

-- Flow 1:

Average throughput: 55.41 Mbit/s

95th percentile per-packet one-way delay: 153.419 ms

Loss rate: 0.52%

-- Flow 2:

Average throughput: 39.14 Mbit/s

95th percentile per-packet one-way delay: 155.168 ms

Loss rate: 1.01%

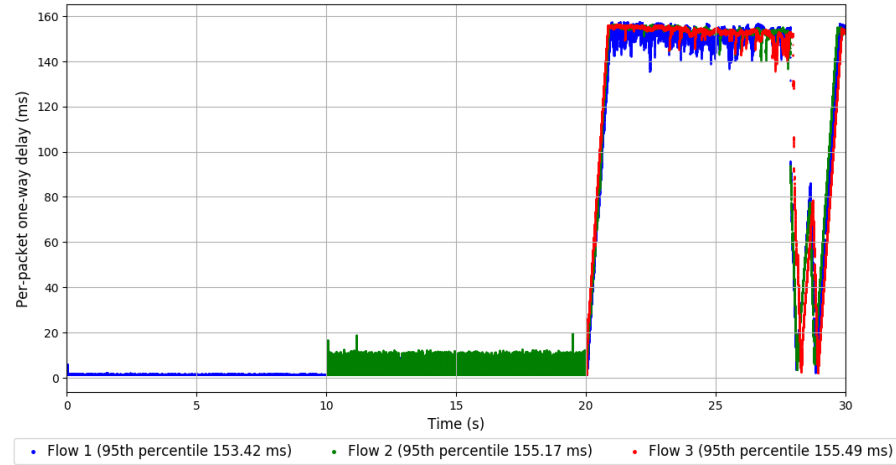
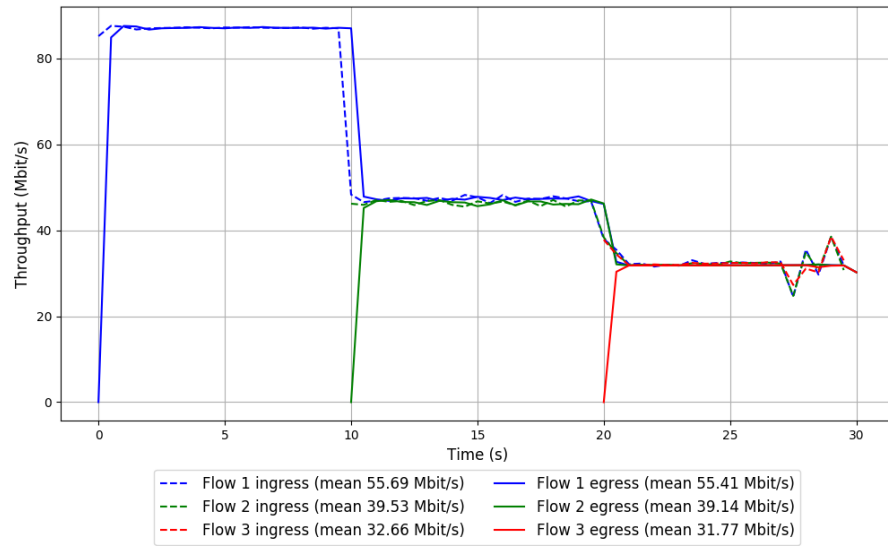
-- Flow 3:

Average throughput: 31.77 Mbit/s

95th percentile per-packet one-way delay: 155.488 ms

Loss rate: 2.76%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-02-05 19:16:38

End at: 2019-02-05 19:17:08

Local clock offset: -3.464 ms

Remote clock offset: 1.887 ms

Below is generated by plot.py at 2019-02-05 20:27:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.98 Mbit/s

95th percentile per-packet one-way delay: 156.197 ms

Loss rate: 0.96%

-- Flow 1:

Average throughput: 55.31 Mbit/s

95th percentile per-packet one-way delay: 156.330 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 39.16 Mbit/s

95th percentile per-packet one-way delay: 155.560 ms

Loss rate: 1.08%

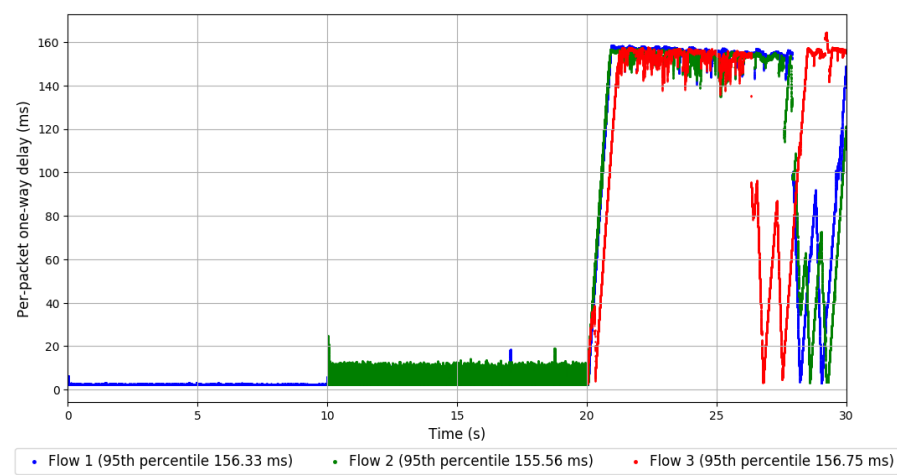
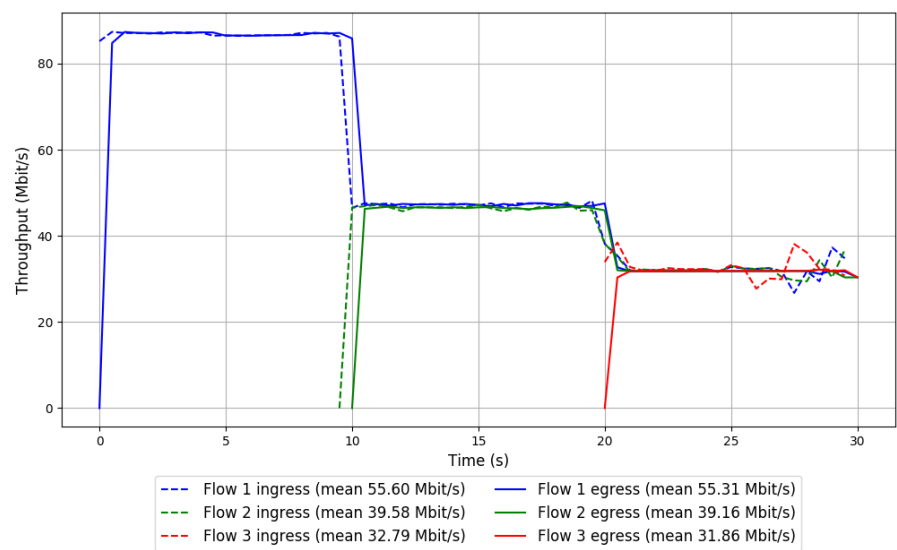
-- Flow 3:

Average throughput: 31.86 Mbit/s

95th percentile per-packet one-way delay: 156.748 ms

Loss rate: 2.88%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-02-05 19:40:51

End at: 2019-02-05 19:41:21

Local clock offset: -3.802 ms

Remote clock offset: 1.775 ms

Below is generated by plot.py at 2019-02-05 20:27:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.09 Mbit/s

95th percentile per-packet one-way delay: 155.269 ms

Loss rate: 0.88%

-- Flow 1:

Average throughput: 55.14 Mbit/s

95th percentile per-packet one-way delay: 154.424 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 39.59 Mbit/s

95th percentile per-packet one-way delay: 156.270 ms

Loss rate: 1.07%

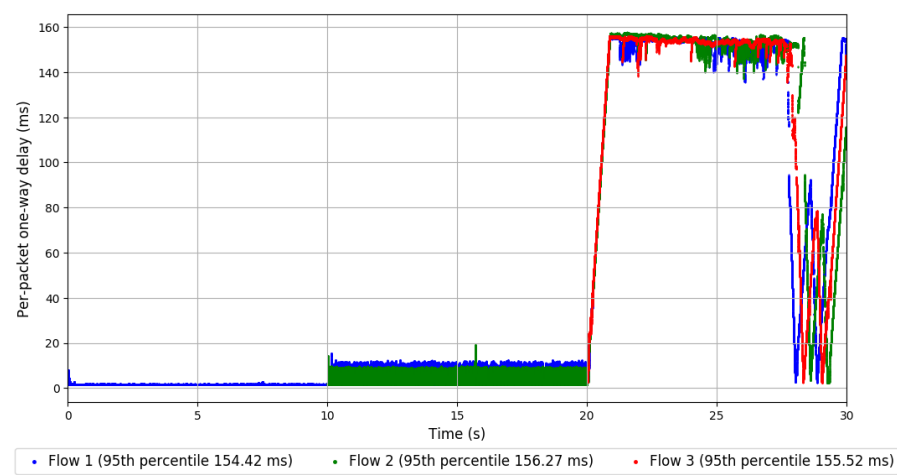
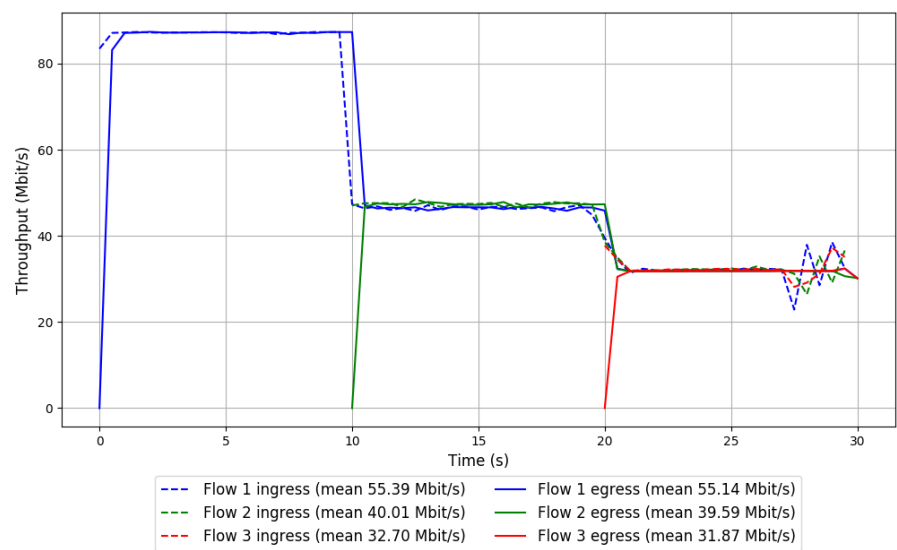
-- Flow 3:

Average throughput: 31.87 Mbit/s

95th percentile per-packet one-way delay: 155.517 ms

Loss rate: 2.58%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-02-05 20:05:00

End at: 2019-02-05 20:05:30

Local clock offset: -4.035 ms

Remote clock offset: 1.567 ms

Below is generated by plot.py at 2019-02-05 20:27:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.03 Mbit/s

95th percentile per-packet one-way delay: 155.322 ms

Loss rate: 0.92%

-- Flow 1:

Average throughput: 56.36 Mbit/s

95th percentile per-packet one-way delay: 154.639 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 37.73 Mbit/s

95th percentile per-packet one-way delay: 156.322 ms

Loss rate: 1.09%

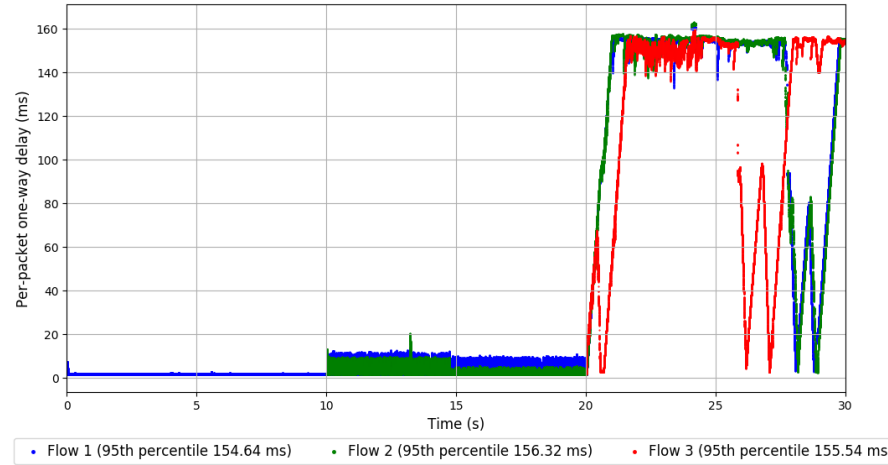
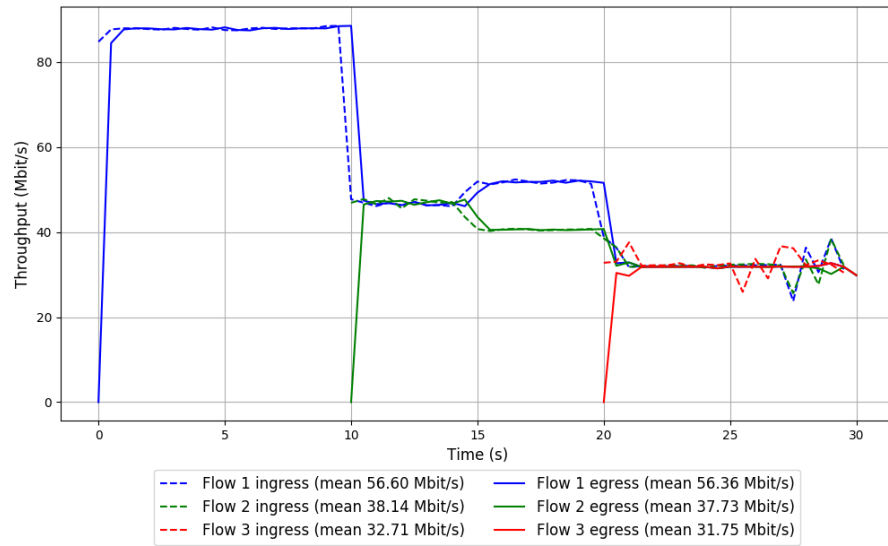
-- Flow 3:

Average throughput: 31.75 Mbit/s

95th percentile per-packet one-way delay: 155.543 ms

Loss rate: 3.02%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-02-05 18:14:43

End at: 2019-02-05 18:15:13

Local clock offset: -5.964 ms

Remote clock offset: 0.439 ms

Below is generated by plot.py at 2019-02-05 20:27:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.35 Mbit/s

95th percentile per-packet one-way delay: 2.188 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 53.94 Mbit/s

95th percentile per-packet one-way delay: 2.118 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 43.21 Mbit/s

95th percentile per-packet one-way delay: 2.171 ms

Loss rate: 0.01%

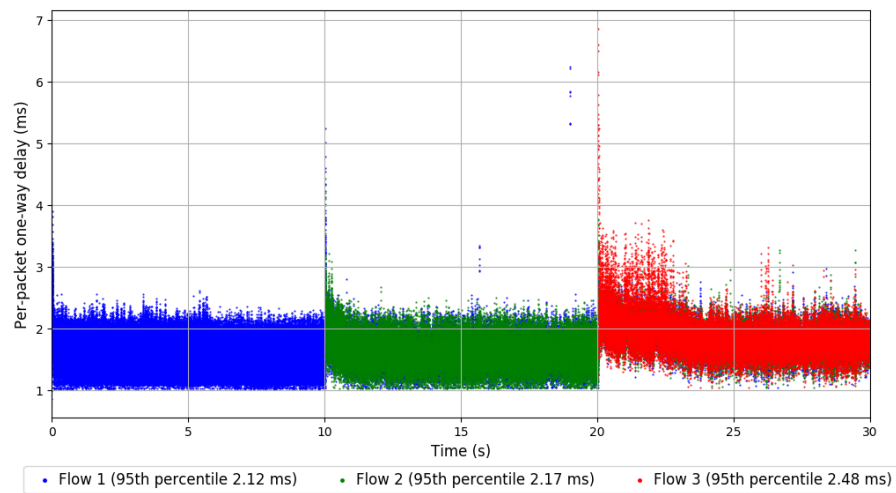
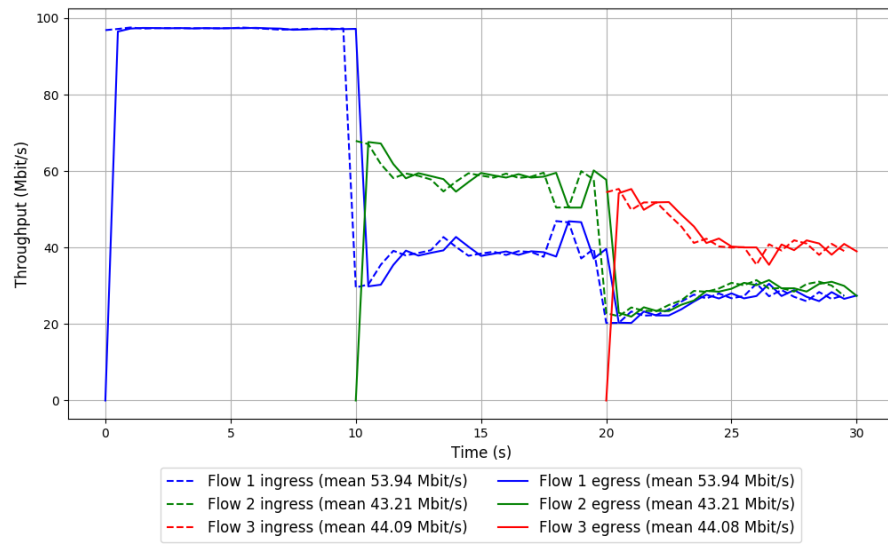
-- Flow 3:

Average throughput: 44.08 Mbit/s

95th percentile per-packet one-way delay: 2.482 ms

Loss rate: 0.02%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-02-05 18:38:39

End at: 2019-02-05 18:39:09

Local clock offset: -5.791 ms

Remote clock offset: 1.183 ms

Below is generated by plot.py at 2019-02-05 20:27:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.28 Mbit/s

95th percentile per-packet one-way delay: 3.979 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 48.12 Mbit/s

95th percentile per-packet one-way delay: 2.884 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 54.60 Mbit/s

95th percentile per-packet one-way delay: 3.857 ms

Loss rate: 0.01%

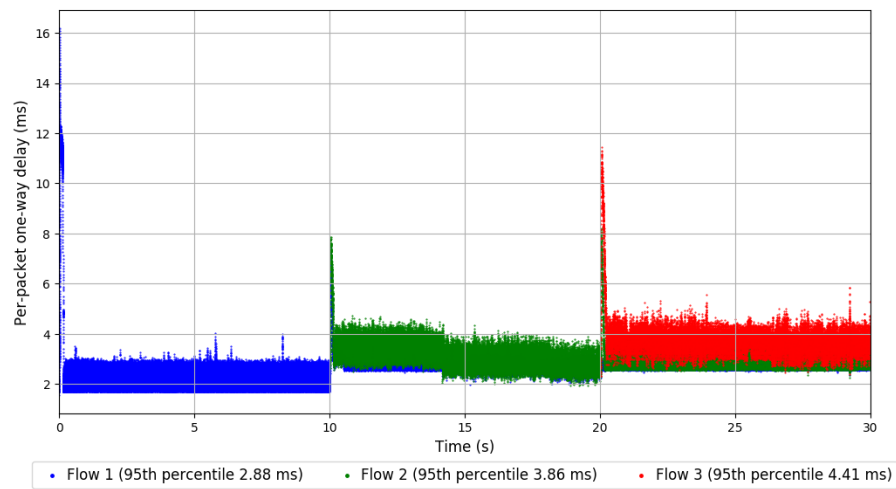
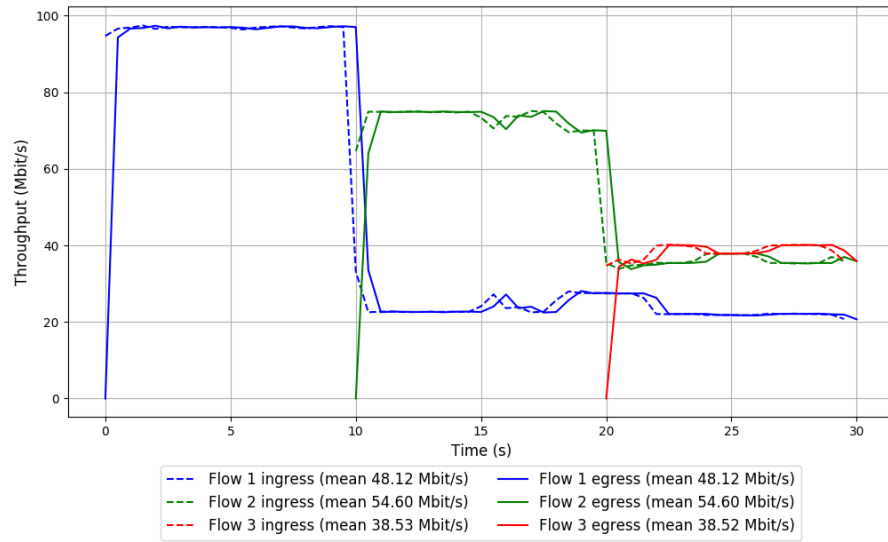
-- Flow 3:

Average throughput: 38.52 Mbit/s

95th percentile per-packet one-way delay: 4.407 ms

Loss rate: 0.04%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-02-05 19:02:50

End at: 2019-02-05 19:03:20

Local clock offset: -4.579 ms

Remote clock offset: 1.733 ms

Below is generated by plot.py at 2019-02-05 20:27:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 4.131 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 52.33 Mbit/s

95th percentile per-packet one-way delay: 3.053 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 50.59 Mbit/s

95th percentile per-packet one-way delay: 3.868 ms

Loss rate: 0.02%

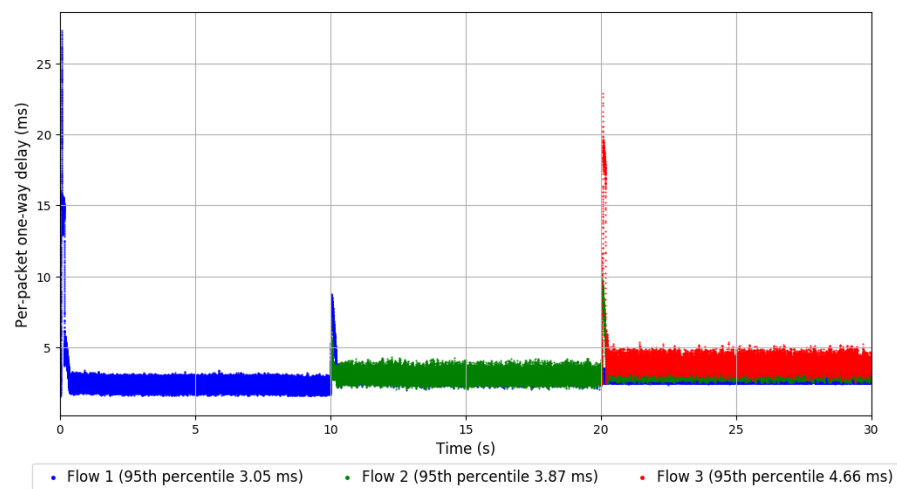
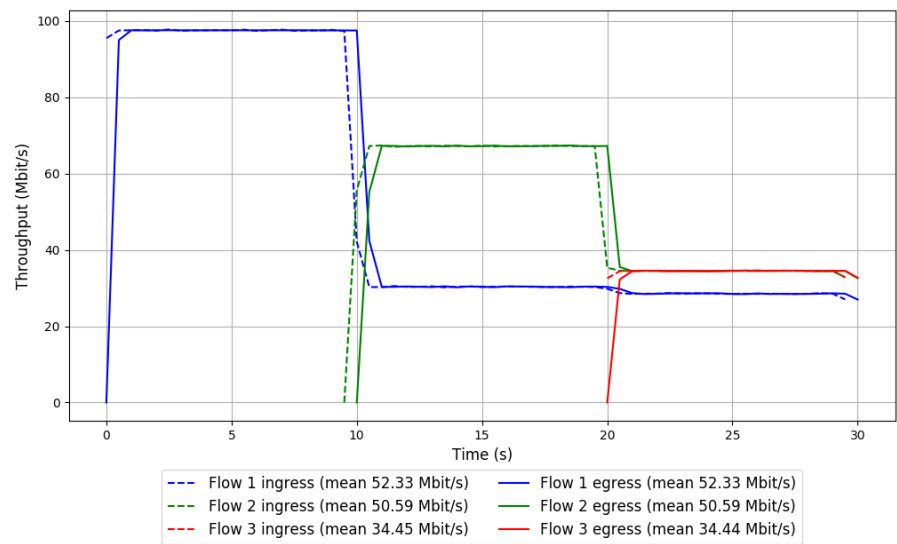
-- Flow 3:

Average throughput: 34.44 Mbit/s

95th percentile per-packet one-way delay: 4.655 ms

Loss rate: 0.06%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-02-05 19:27:00

End at: 2019-02-05 19:27:30

Local clock offset: -4.039 ms

Remote clock offset: 1.911 ms

Below is generated by plot.py at 2019-02-05 20:27:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 3.904 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 50.20 Mbit/s

95th percentile per-packet one-way delay: 3.019 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 47.25 Mbit/s

95th percentile per-packet one-way delay: 3.540 ms

Loss rate: 0.01%

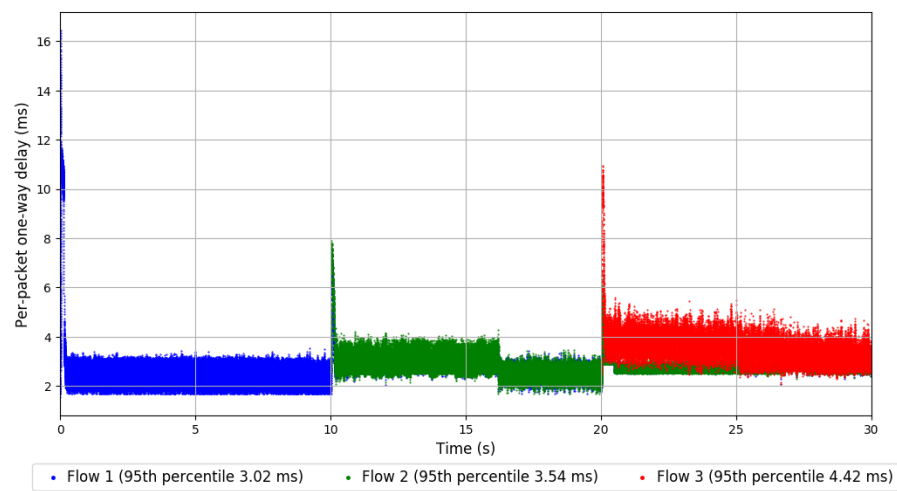
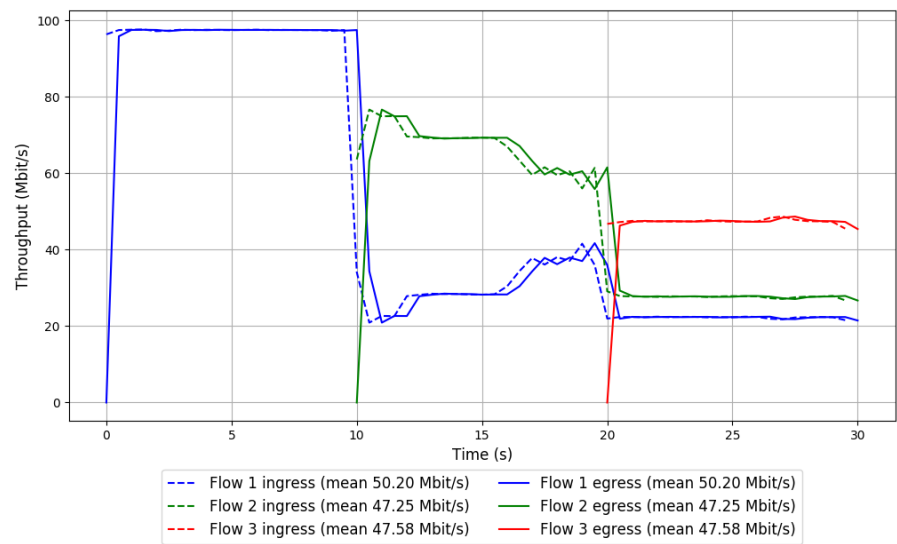
-- Flow 3:

Average throughput: 47.58 Mbit/s

95th percentile per-packet one-way delay: 4.421 ms

Loss rate: 0.04%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-02-05 19:51:11

End at: 2019-02-05 19:51:41

Local clock offset: -3.977 ms

Remote clock offset: 1.739 ms

Below is generated by plot.py at 2019-02-05 20:27:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 4.239 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 55.54 Mbit/s

95th percentile per-packet one-way delay: 3.229 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 46.21 Mbit/s

95th percentile per-packet one-way delay: 4.239 ms

Loss rate: 0.02%

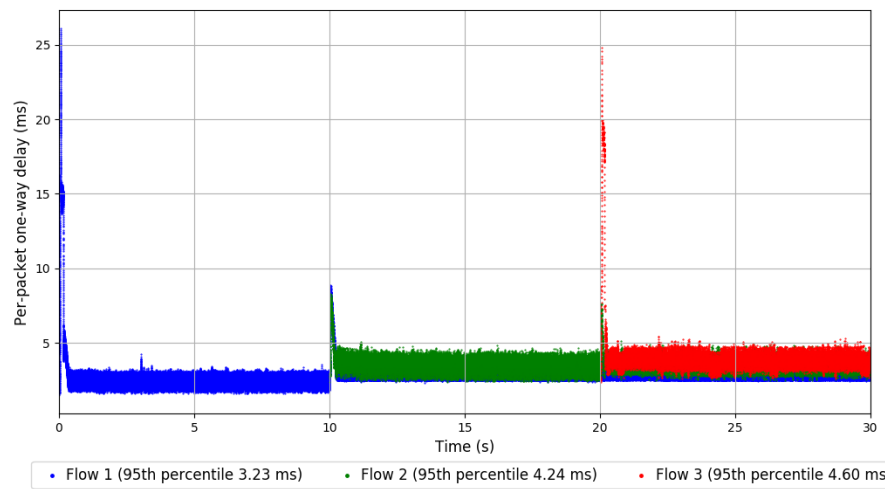
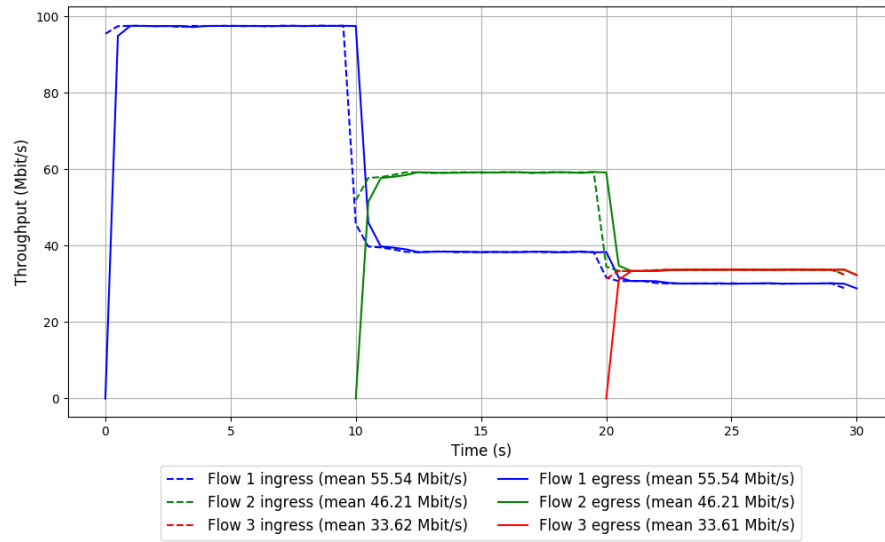
-- Flow 3:

Average throughput: 33.61 Mbit/s

95th percentile per-packet one-way delay: 4.601 ms

Loss rate: 0.06%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-02-05 18:32:52

End at: 2019-02-05 18:33:22

Local clock offset: -5.154 ms

Remote clock offset: 0.995 ms

Below is generated by plot.py at 2019-02-05 20:27:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 67.73 Mbit/s

95th percentile per-packet one-way delay: 84.967 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 40.39 Mbit/s

95th percentile per-packet one-way delay: 27.576 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 26.26 Mbit/s

95th percentile per-packet one-way delay: 60.414 ms

Loss rate: 0.03%

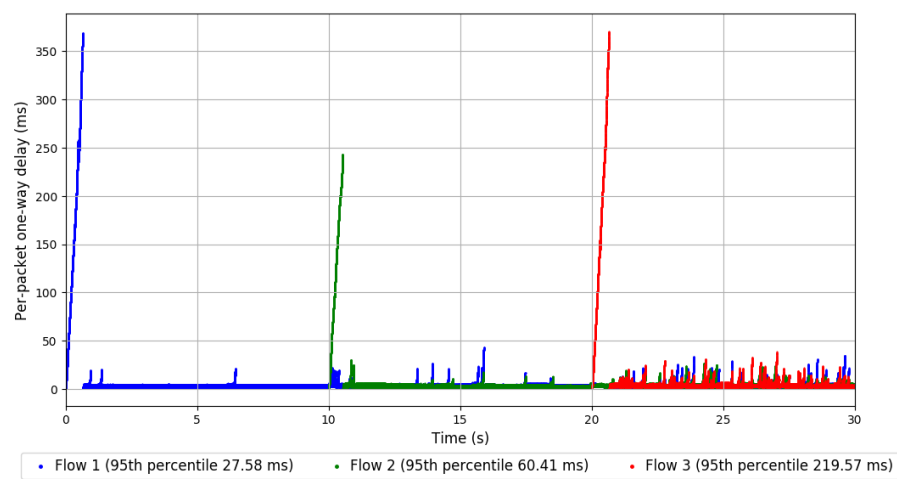
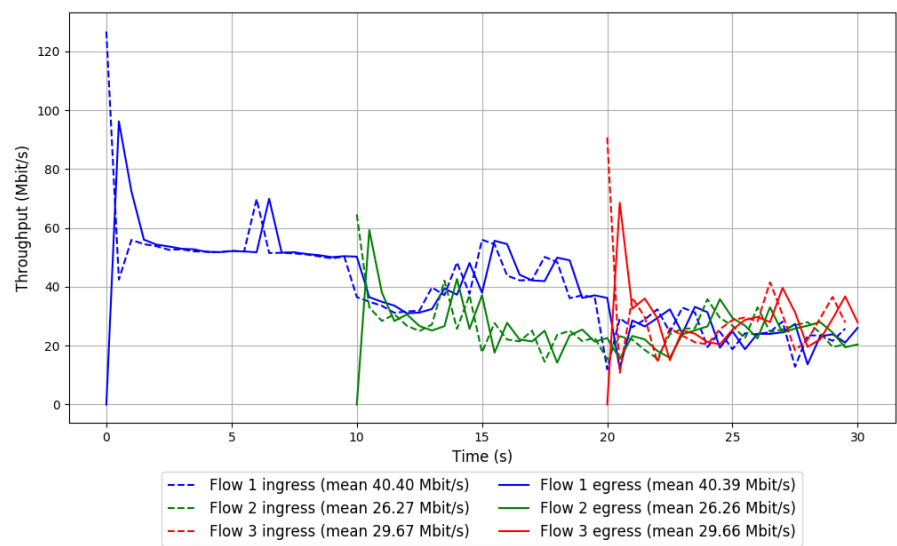
-- Flow 3:

Average throughput: 29.66 Mbit/s

95th percentile per-packet one-way delay: 219.573 ms

Loss rate: 0.05%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-02-05 18:57:03

End at: 2019-02-05 18:57:33

Local clock offset: -4.04 ms

Remote clock offset: 1.592 ms

Below is generated by plot.py at 2019-02-05 20:27:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 75.33 Mbit/s

95th percentile per-packet one-way delay: 27.576 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 39.10 Mbit/s

95th percentile per-packet one-way delay: 24.072 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 38.20 Mbit/s

95th percentile per-packet one-way delay: 23.233 ms

Loss rate: 0.02%

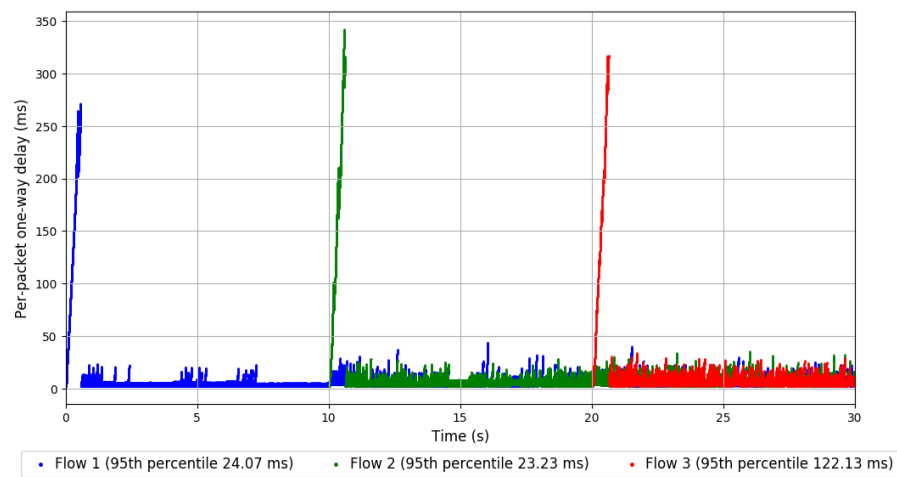
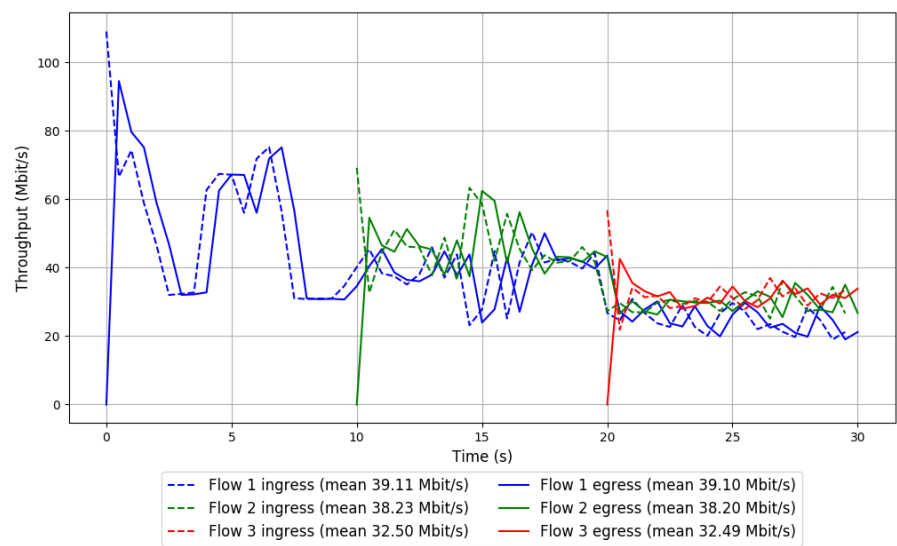
-- Flow 3:

Average throughput: 32.49 Mbit/s

95th percentile per-packet one-way delay: 122.130 ms

Loss rate: 0.04%

Run 2: Report of Verus — Data Link

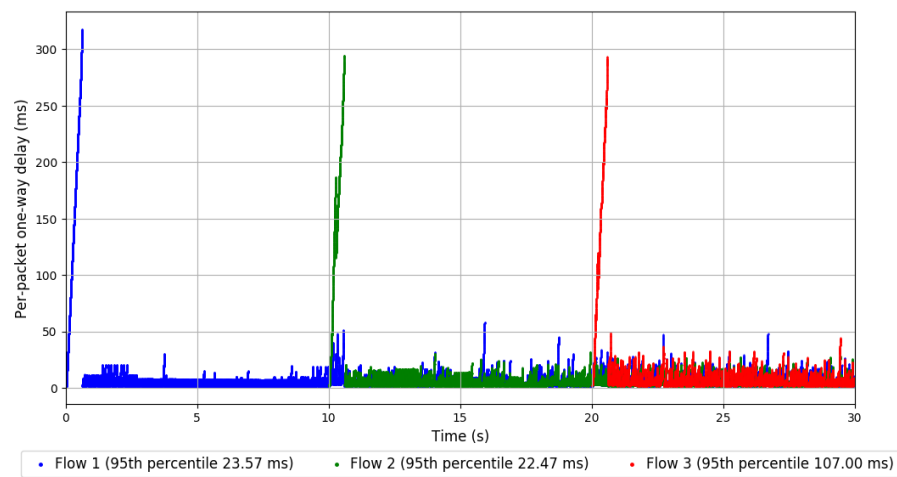
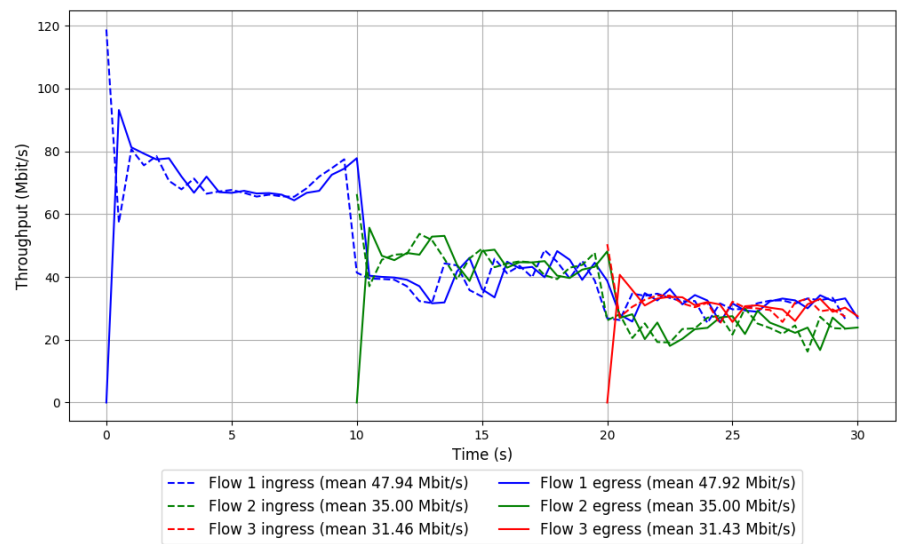


Run 3: Statistics of Verus

Start at: 2019-02-05 19:21:12
End at: 2019-02-05 19:21:42
Local clock offset: -4.132 ms
Remote clock offset: 1.921 ms

Below is generated by plot.py at 2019-02-05 20:28:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 81.67 Mbit/s
95th percentile per-packet one-way delay: 27.295 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 47.92 Mbit/s
95th percentile per-packet one-way delay: 23.575 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 35.00 Mbit/s
95th percentile per-packet one-way delay: 22.473 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 31.43 Mbit/s
95th percentile per-packet one-way delay: 106.998 ms
Loss rate: 0.07%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-02-05 19:45:25

End at: 2019-02-05 19:45:55

Local clock offset: -3.772 ms

Remote clock offset: 1.833 ms

Below is generated by plot.py at 2019-02-05 20:28:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 67.14 Mbit/s

95th percentile per-packet one-way delay: 88.929 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 34.69 Mbit/s

95th percentile per-packet one-way delay: 37.245 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 34.71 Mbit/s

95th percentile per-packet one-way delay: 30.872 ms

Loss rate: 0.04%

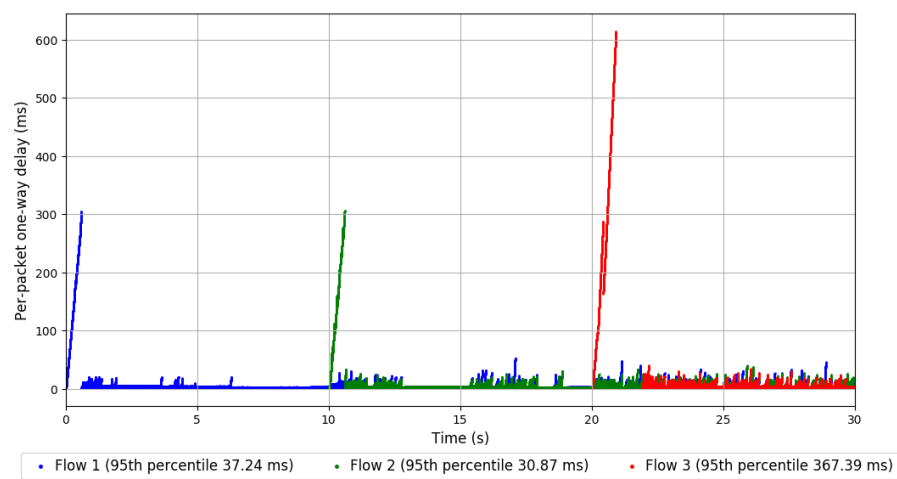
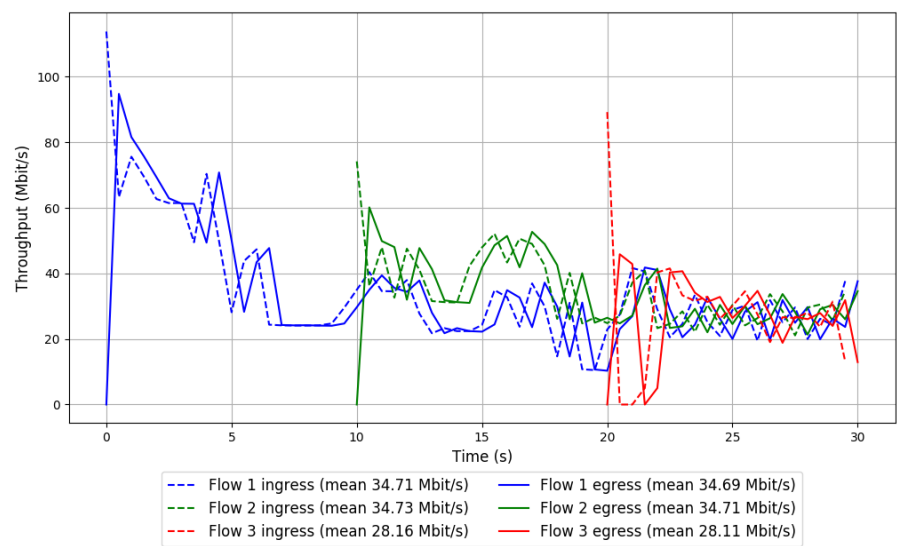
-- Flow 3:

Average throughput: 28.11 Mbit/s

95th percentile per-packet one-way delay: 367.391 ms

Loss rate: 0.13%

Run 4: Report of Verus — Data Link

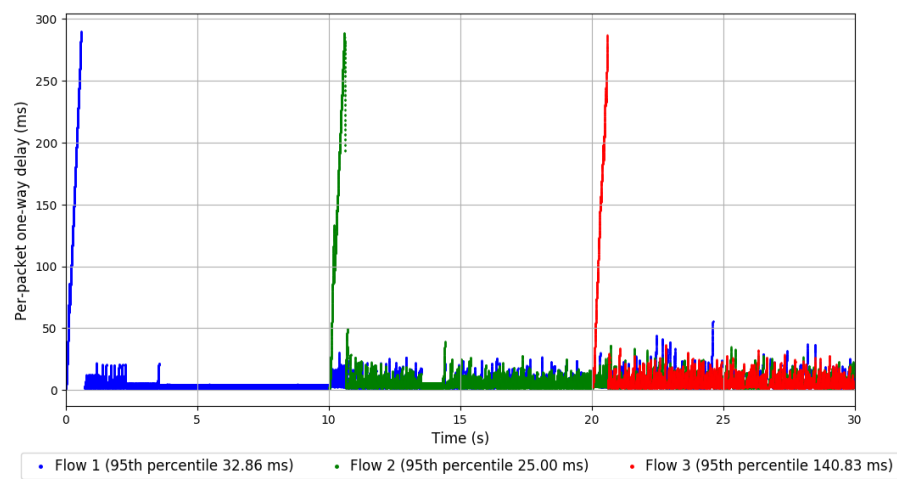
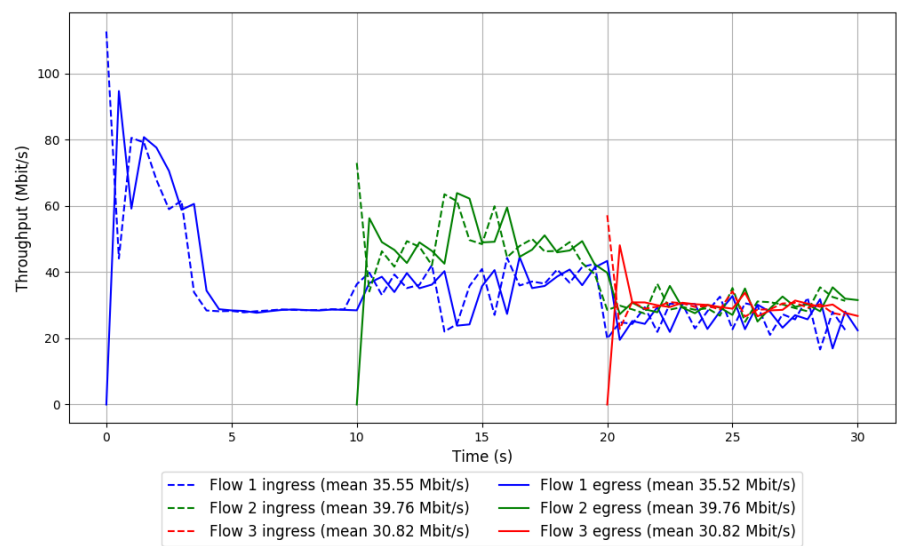


Run 5: Statistics of Verus

Start at: 2019-02-05 20:09:35
End at: 2019-02-05 20:10:05
Local clock offset: -4.017 ms
Remote clock offset: 1.566 ms

```
# Below is generated by plot.py at 2019-02-05 20:28:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.21 Mbit/s
95th percentile per-packet one-way delay: 36.131 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 35.52 Mbit/s
95th percentile per-packet one-way delay: 32.862 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 39.76 Mbit/s
95th percentile per-packet one-way delay: 25.002 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 30.82 Mbit/s
95th percentile per-packet one-way delay: 140.830 ms
Loss rate: 0.07%
```

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-02-05 18:22:46

End at: 2019-02-05 18:23:16

Local clock offset: -5.452 ms

Remote clock offset: 0.654 ms

Below is generated by plot.py at 2019-02-05 20:28:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 62.18 Mbit/s

95th percentile per-packet one-way delay: 653.381 ms

Loss rate: 3.67%

-- Flow 1:

Average throughput: 32.96 Mbit/s

95th percentile per-packet one-way delay: 588.975 ms

Loss rate: 3.12%

-- Flow 2:

Average throughput: 31.69 Mbit/s

95th percentile per-packet one-way delay: 733.789 ms

Loss rate: 5.84%

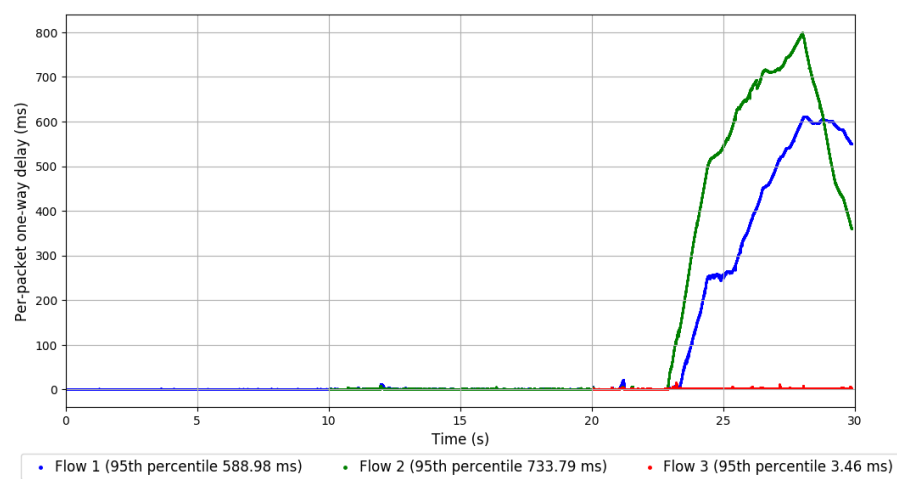
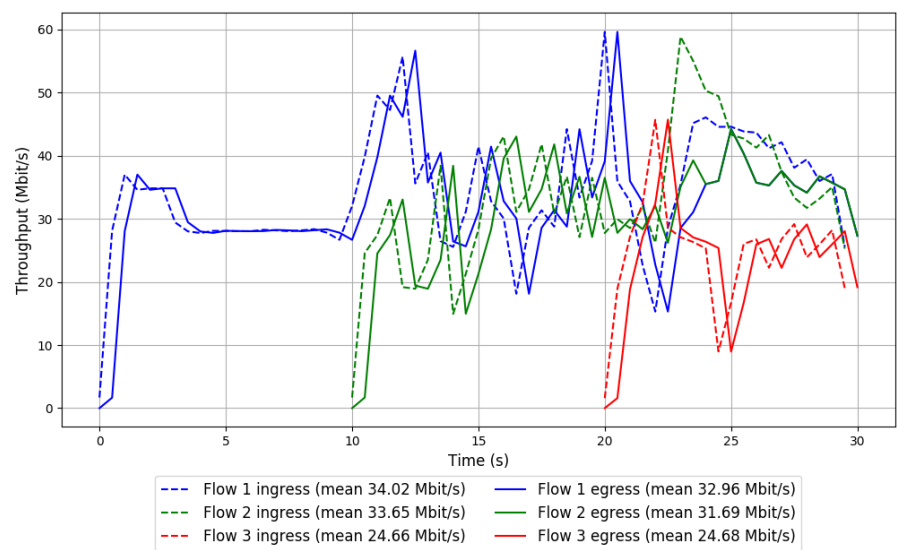
-- Flow 3:

Average throughput: 24.68 Mbit/s

95th percentile per-packet one-way delay: 3.463 ms

Loss rate: 0.02%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-02-05 18:46:41

End at: 2019-02-05 18:47:11

Local clock offset: -5.618 ms

Remote clock offset: 1.459 ms

Below is generated by plot.py at 2019-02-05 20:28:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.25 Mbit/s

95th percentile per-packet one-way delay: 1316.115 ms

Loss rate: 4.17%

-- Flow 1:

Average throughput: 40.89 Mbit/s

95th percentile per-packet one-way delay: 2.972 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 45.05 Mbit/s

95th percentile per-packet one-way delay: 1760.323 ms

Loss rate: 10.28%

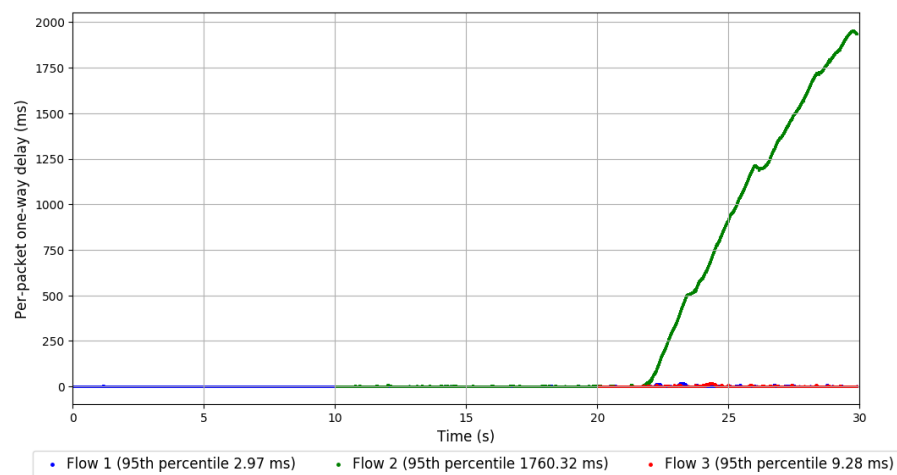
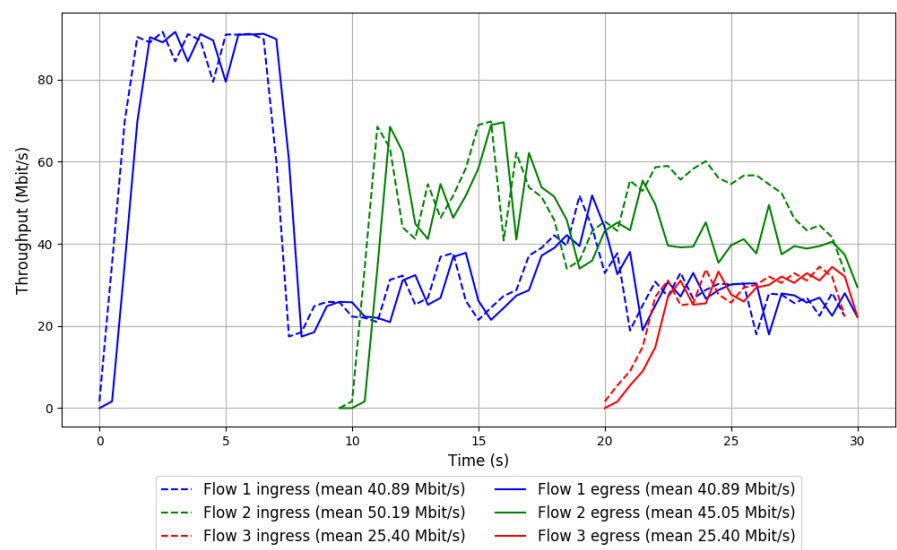
-- Flow 3:

Average throughput: 25.40 Mbit/s

95th percentile per-packet one-way delay: 9.280 ms

Loss rate: 0.06%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-02-05 19:10:53

End at: 2019-02-05 19:11:23

Local clock offset: -4.346 ms

Remote clock offset: 1.825 ms

Below is generated by plot.py at 2019-02-05 20:28:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 55.81 Mbit/s

95th percentile per-packet one-way delay: 207.282 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 24.25 Mbit/s

95th percentile per-packet one-way delay: 4.865 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 31.25 Mbit/s

95th percentile per-packet one-way delay: 11.090 ms

Loss rate: 0.03%

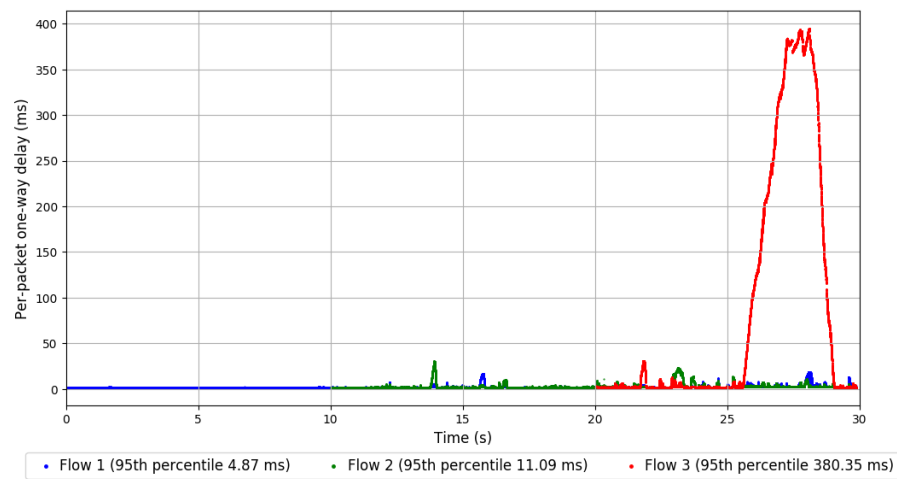
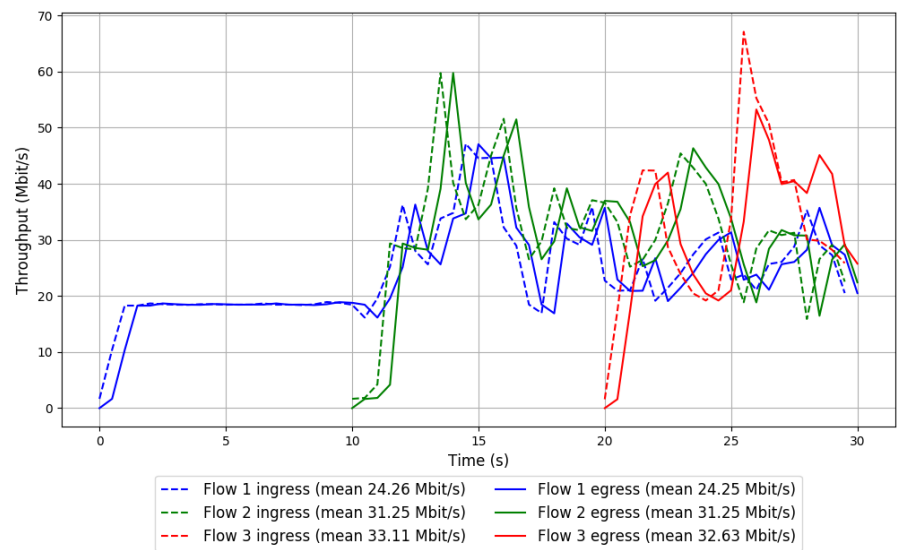
-- Flow 3:

Average throughput: 32.63 Mbit/s

95th percentile per-packet one-way delay: 380.353 ms

Loss rate: 1.46%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-02-05 19:35:03

End at: 2019-02-05 19:35:33

Local clock offset: -3.137 ms

Remote clock offset: 1.883 ms

Below is generated by plot.py at 2019-02-05 20:28:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 89.23 Mbit/s

95th percentile per-packet one-way delay: 1294.463 ms

Loss rate: 2.57%

-- Flow 1:

Average throughput: 49.71 Mbit/s

95th percentile per-packet one-way delay: 4.280 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 46.51 Mbit/s

95th percentile per-packet one-way delay: 1370.599 ms

Loss rate: 7.02%

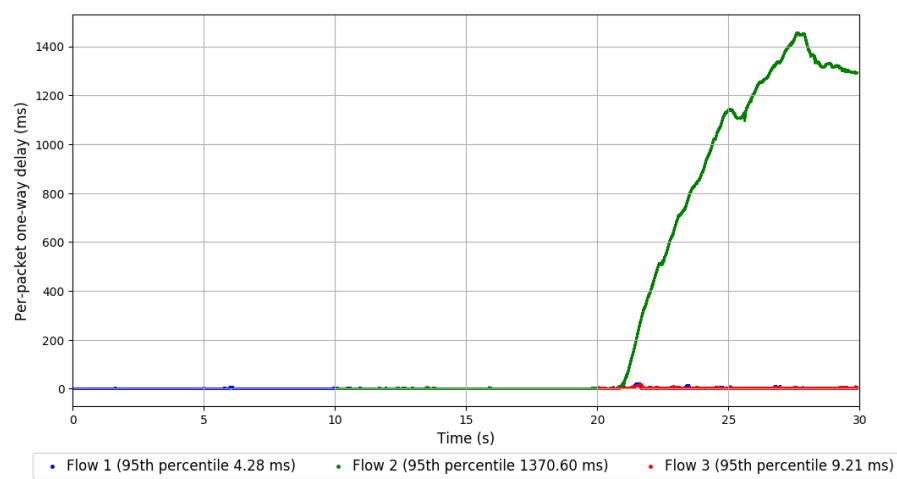
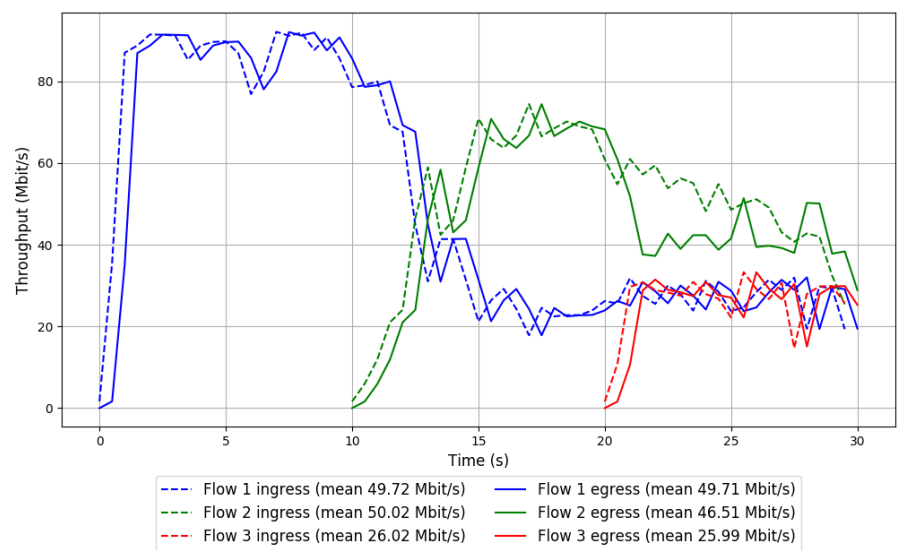
-- Flow 3:

Average throughput: 25.99 Mbit/s

95th percentile per-packet one-way delay: 9.206 ms

Loss rate: 0.13%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-02-05 19:59:14

End at: 2019-02-05 19:59:44

Local clock offset: -3.26 ms

Remote clock offset: 1.624 ms

Below is generated by plot.py at 2019-02-05 20:28:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 68.50 Mbit/s

95th percentile per-packet one-way delay: 1867.398 ms

Loss rate: 3.96%

-- Flow 1:

Average throughput: 39.44 Mbit/s

95th percentile per-packet one-way delay: 1922.137 ms

Loss rate: 6.67%

-- Flow 2:

Average throughput: 29.88 Mbit/s

95th percentile per-packet one-way delay: 8.205 ms

Loss rate: 0.02%

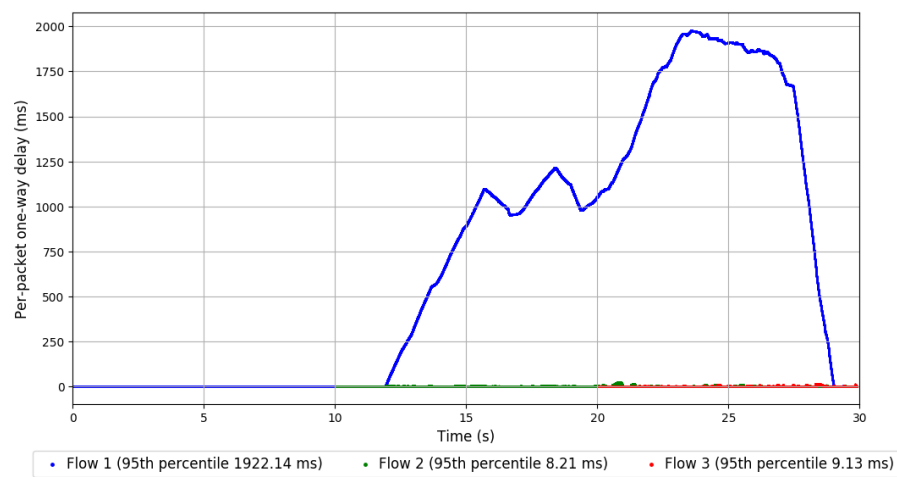
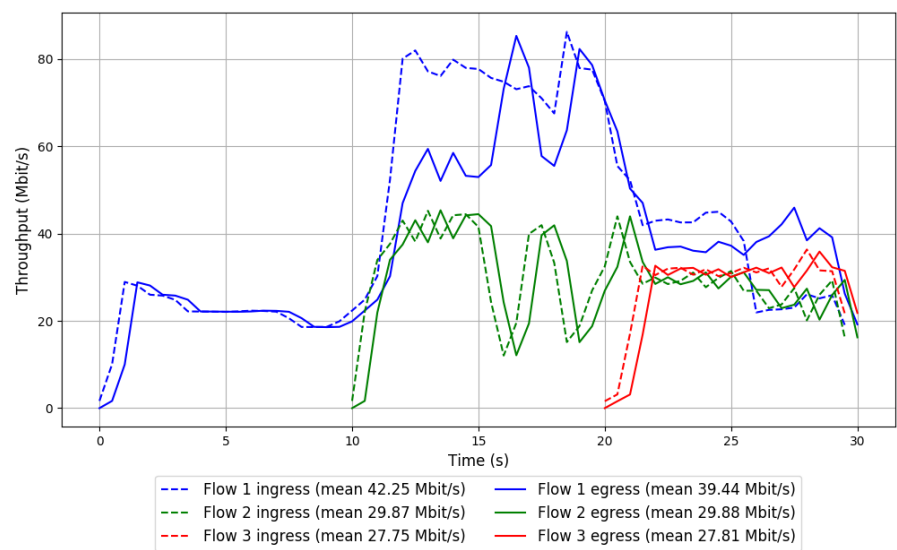
-- Flow 3:

Average throughput: 27.81 Mbit/s

95th percentile per-packet one-way delay: 9.129 ms

Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-02-05 18:13:37

End at: 2019-02-05 18:14:07

Local clock offset: -5.97 ms

Remote clock offset: 0.47 ms

Below is generated by plot.py at 2019-02-05 20:28:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.68 Mbit/s

95th percentile per-packet one-way delay: 1.733 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.53 Mbit/s

95th percentile per-packet one-way delay: 1.719 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 1.790 ms

Loss rate: 0.00%

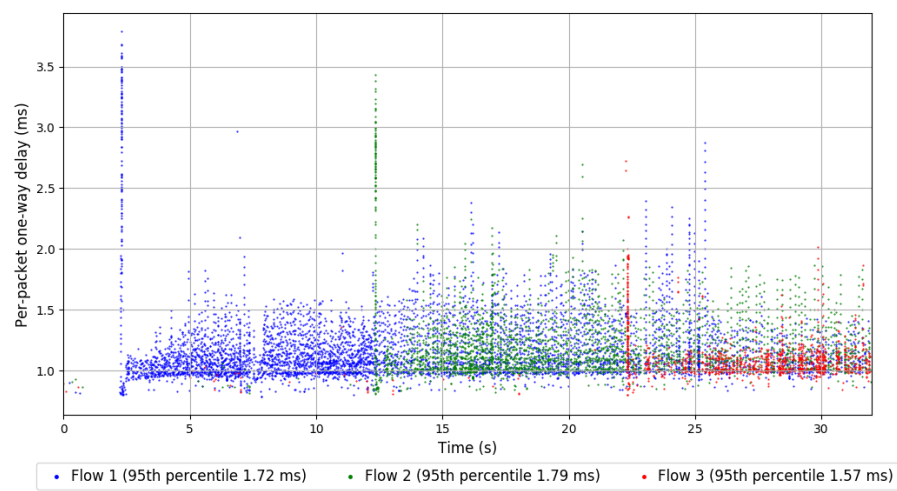
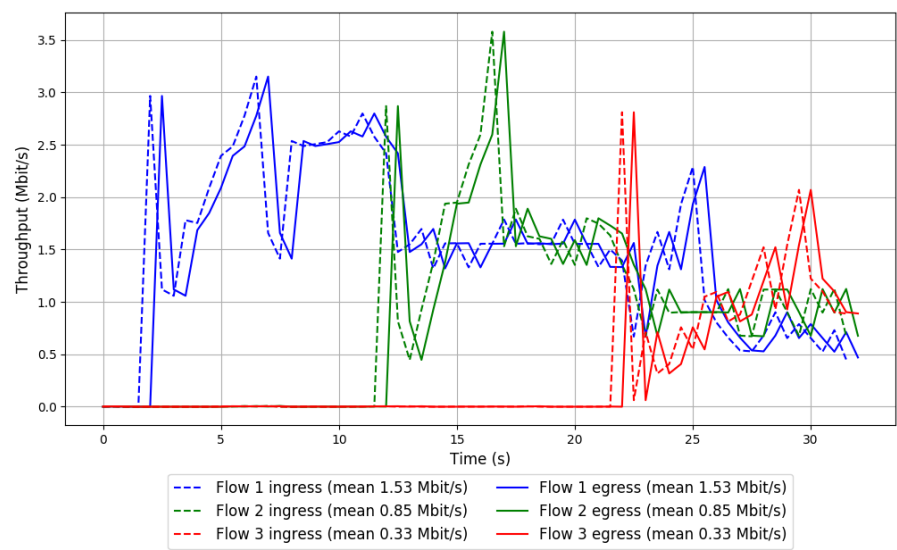
-- Flow 3:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 1.567 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-02-05 18:37:33

End at: 2019-02-05 18:38:03

Local clock offset: -5.017 ms

Remote clock offset: 1.249 ms

Below is generated by plot.py at 2019-02-05 20:28:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.74 Mbit/s

95th percentile per-packet one-way delay: 3.067 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.55 Mbit/s

95th percentile per-packet one-way delay: 3.055 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.78 Mbit/s

95th percentile per-packet one-way delay: 2.938 ms

Loss rate: 0.00%

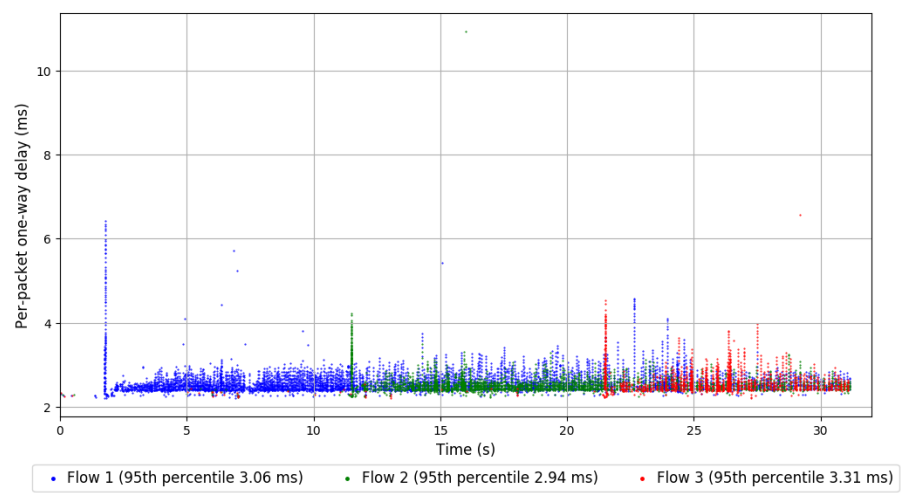
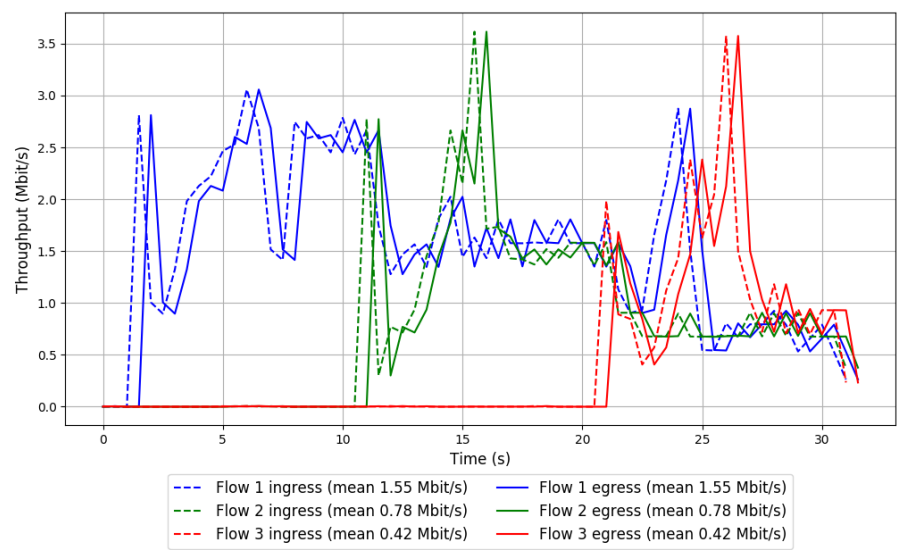
-- Flow 3:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 3.310 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-02-05 19:01:45

End at: 2019-02-05 19:02:15

Local clock offset: -3.841 ms

Remote clock offset: 1.747 ms

Below is generated by plot.py at 2019-02-05 20:28:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.77 Mbit/s

95th percentile per-packet one-way delay: 3.147 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.49 Mbit/s

95th percentile per-packet one-way delay: 3.104 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.87 Mbit/s

95th percentile per-packet one-way delay: 3.140 ms

Loss rate: 0.00%

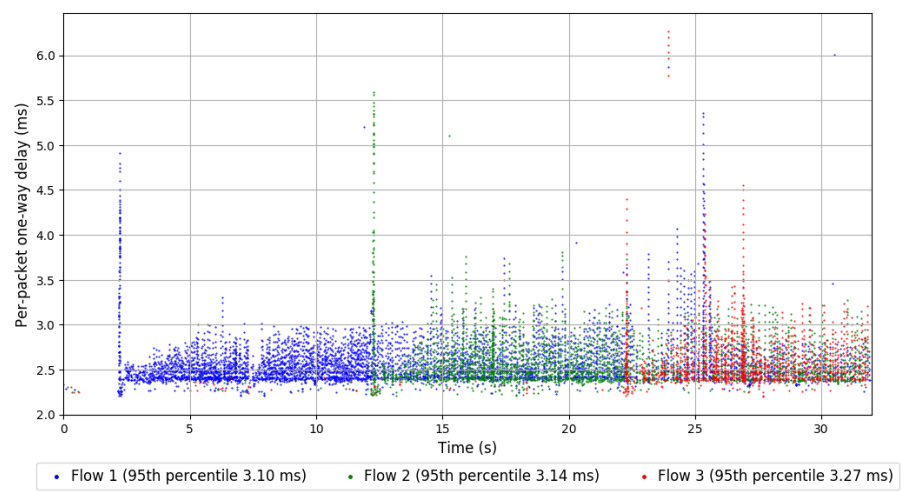
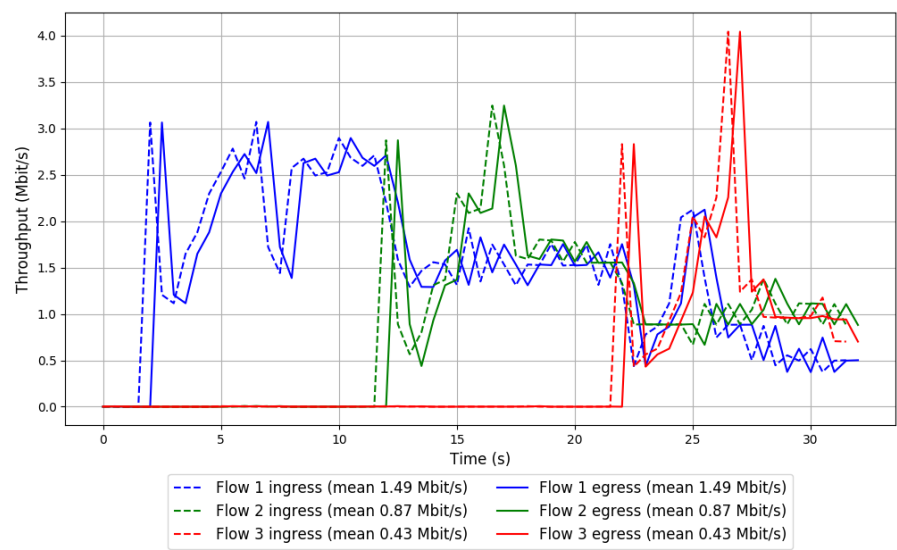
-- Flow 3:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 3.266 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-02-05 19:25:54

End at: 2019-02-05 19:26:24

Local clock offset: -4.058 ms

Remote clock offset: 1.9 ms

Below is generated by plot.py at 2019-02-05 20:28:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.67 Mbit/s

95th percentile per-packet one-way delay: 2.412 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.46 Mbit/s

95th percentile per-packet one-way delay: 2.455 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.81 Mbit/s

95th percentile per-packet one-way delay: 2.158 ms

Loss rate: 0.00%

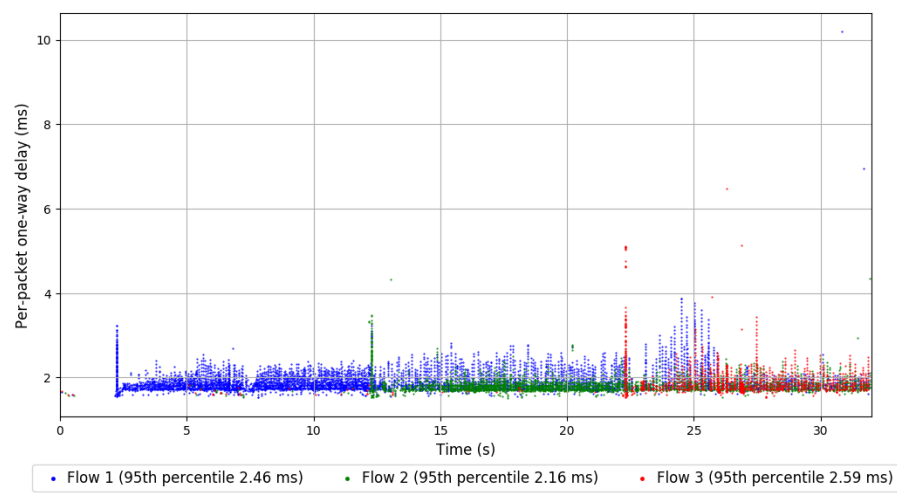
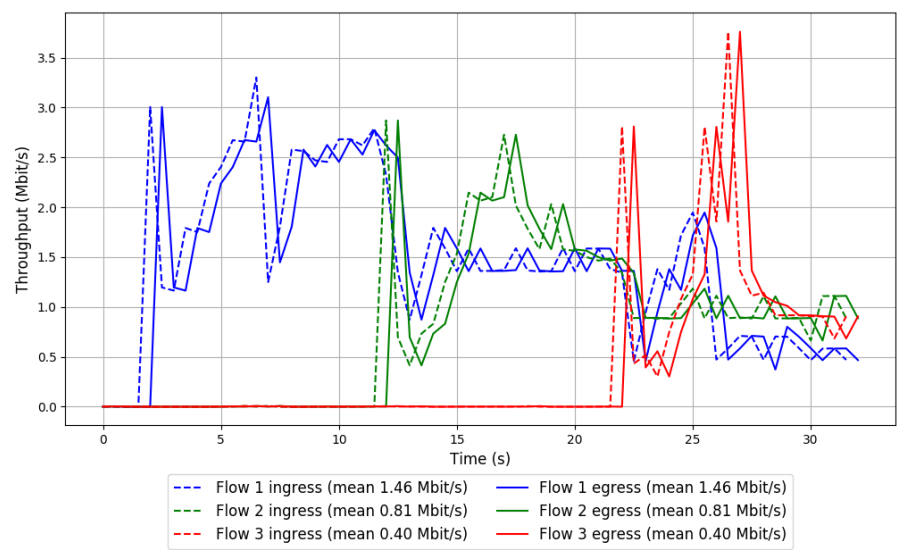
-- Flow 3:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 2.594 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-02-05 19:50:06

End at: 2019-02-05 19:50:36

Local clock offset: -3.129 ms

Remote clock offset: 1.752 ms

Below is generated by plot.py at 2019-02-05 20:28:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.49 Mbit/s

95th percentile per-packet one-way delay: 3.074 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.55 Mbit/s

95th percentile per-packet one-way delay: 3.086 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.64 Mbit/s

95th percentile per-packet one-way delay: 2.944 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.32 Mbit/s

95th percentile per-packet one-way delay: 3.267 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

