

Pantheon Report

Generated at 2018-08-01 07:15:09 (UTC).

Data path: AWS Brazil 2 Ethernet (*local*) → Colombia ppp0 ppp0 (*remote*).

Repeated the test of 17 congestion control schemes 3 times.

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

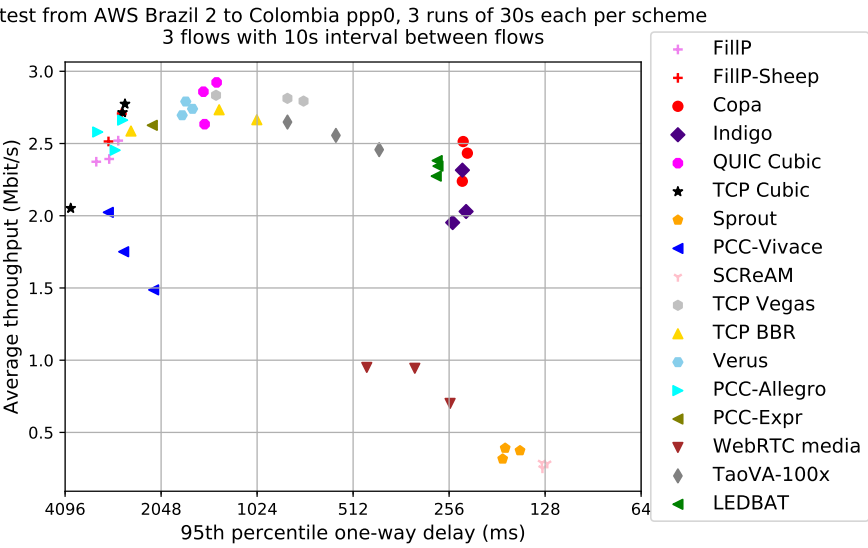
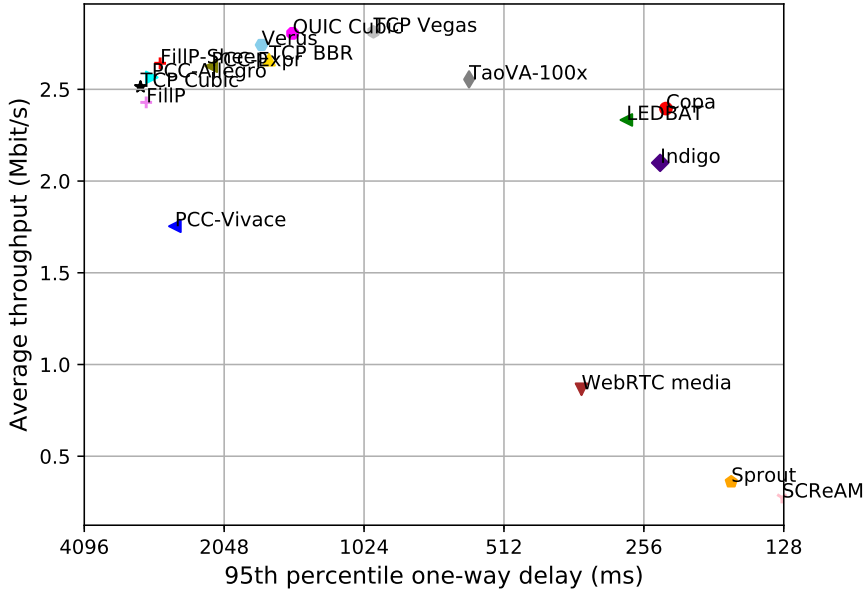
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

Git summary:

```
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf90c077e64d
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webRTC @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS Brazil 2 to Colombia ppp0, 3 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	3	1.65	1.28	0.54	1624.93	1670.38	1507.55	1.32	3.35	9.38
Copa	3	1.44	0.91	1.04	225.73	222.53	240.88	0.15	0.44	1.10
TCP Cubic	3	2.35	0.23	0.07	3103.18	2984.10	3117.22	14.24	19.76	39.03
FillP	3	1.89	0.87	0.19	3014.26	2863.96	2676.13	83.76	69.28	68.59
FillP-Sheep	3	1.71	1.33	0.40	2790.11	2826.49	2845.87	29.87	49.43	87.29
Indigo	3	1.20	0.90	0.94	232.69	241.76	239.05	0.14	0.43	0.55
LEDBAT	3	1.88	0.47	0.41	276.05	279.90	298.42	0.61	0.85	2.63
PCC-Allegro	3	2.22	0.51	0.00	2926.95	2912.58	2940.50	37.94	21.47	9.58
PCC-Expr	1	2.63	0.00	0.00	2183.15	2130.84	2152.84	53.42	36.23	55.81
QUIC Cubic	3	2.03	1.00	0.27	1441.74	1478.93	1528.08	3.88	7.11	21.75
SCReAM	3	0.08	0.19	0.19	128.98	129.24	132.42	0.13	0.19	0.43
Sprout	3	0.17	0.19	0.20	179.28	162.48	165.28	0.09	0.36	0.61
TaoVA-100x	3	1.43	1.21	0.97	717.43	539.72	474.38	0.50	0.91	3.49
TCP Vegas	3	2.23	0.55	0.76	964.66	980.91	988.31	2.08	2.73	10.50
Verus	3	2.73	0.01	0.01	1701.63	1724.51	1711.26	4.96	6.28	10.00
PCC-Vivace	3	0.37	1.69	0.80	2343.12	2592.85	2631.85	7.92	12.76	24.90
WebRTC media	3	0.35	0.39	0.13	266.88	353.13	386.50	0.13	0.33	2.50

Run 1: Statistics of TCP BBR

Start at: 2018-08-01 06:31:56

End at: 2018-08-01 06:32:26

Local clock offset: -3.603 ms

Remote clock offset: 3.777 ms

Below is generated by plot.py at 2018-08-01 07:14:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.73 Mbit/s

95th percentile per-packet one-way delay: 1346.843 ms

Loss rate: 2.15%

-- Flow 1:

Average throughput: 1.66 Mbit/s

95th percentile per-packet one-way delay: 1328.812 ms

Loss rate: 1.13%

-- Flow 2:

Average throughput: 1.28 Mbit/s

95th percentile per-packet one-way delay: 1364.266 ms

Loss rate: 3.24%

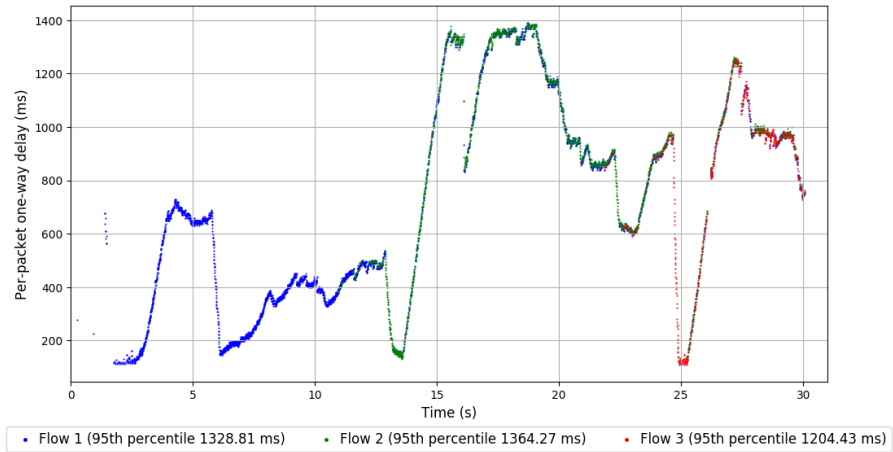
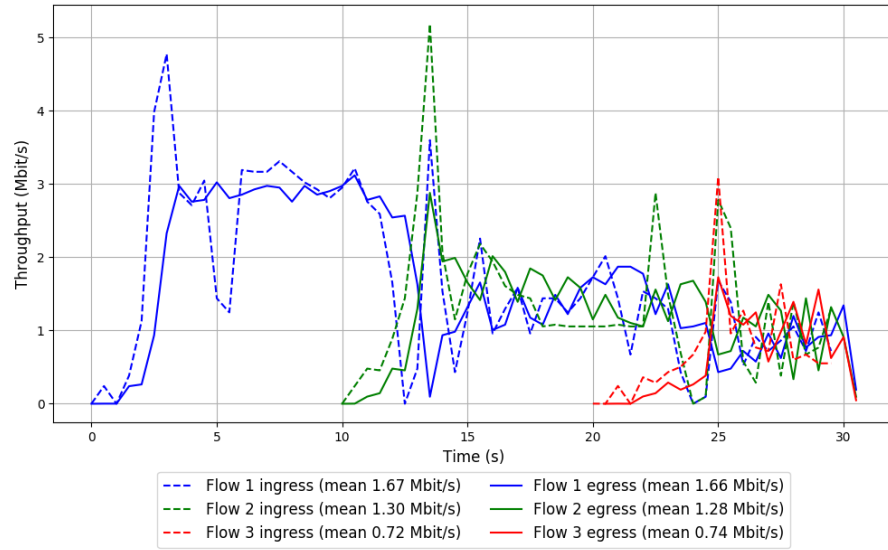
-- Flow 3:

Average throughput: 0.74 Mbit/s

95th percentile per-packet one-way delay: 1204.434 ms

Loss rate: 5.37%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-08-01 06:52:14

End at: 2018-08-01 06:52:44

Local clock offset: -3.379 ms

Remote clock offset: 3.927 ms

Below is generated by plot.py at 2018-08-01 07:14:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.59 Mbit/s

95th percentile per-packet one-way delay: 2545.886 ms

Loss rate: 2.58%

-- Flow 1:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 2535.224 ms

Loss rate: 1.53%

-- Flow 2:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 2588.741 ms

Loss rate: 3.73%

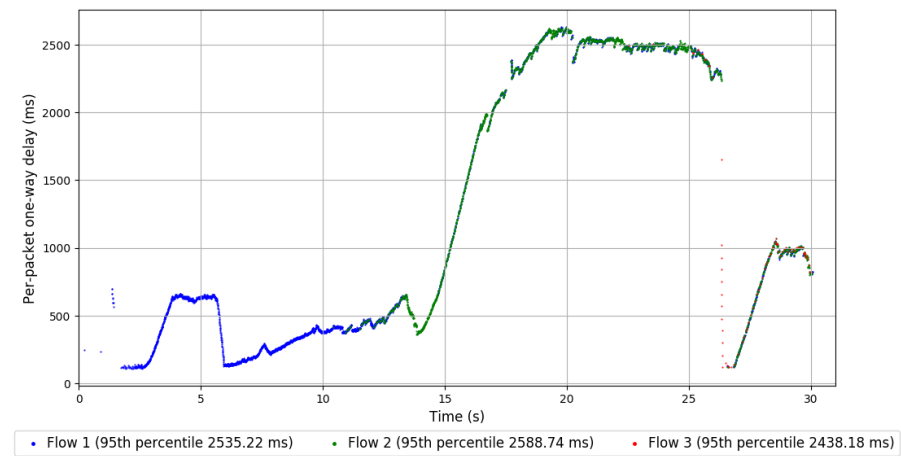
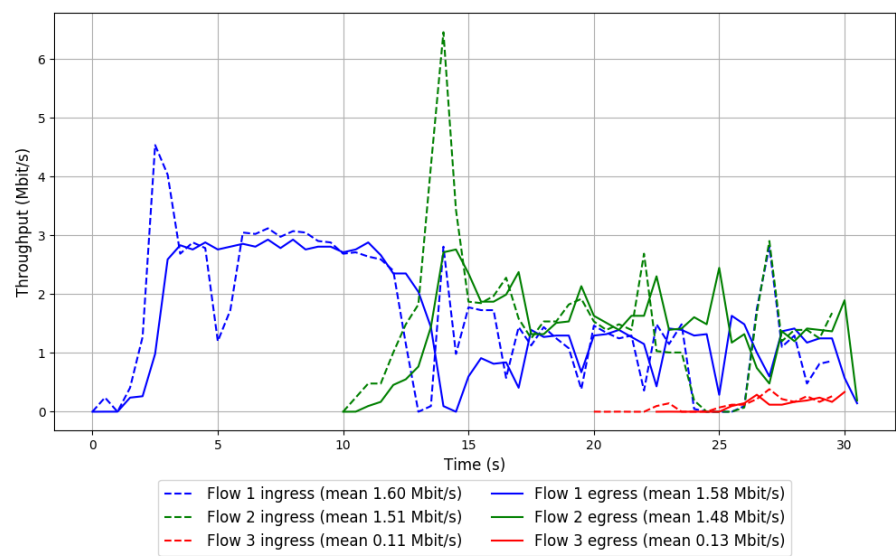
-- Flow 3:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 2438.175 ms

Loss rate: 16.08%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-08-01 07:12:32

End at: 2018-08-01 07:13:02

Local clock offset: -4.877 ms

Remote clock offset: 4.341 ms

Below is generated by plot.py at 2018-08-01 07:14:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.66 Mbit/s

95th percentile per-packet one-way delay: 1025.986 ms

Loss rate: 2.26%

-- Flow 1:

Average throughput: 1.72 Mbit/s

95th percentile per-packet one-way delay: 1010.764 ms

Loss rate: 1.29%

-- Flow 2:

Average throughput: 1.08 Mbit/s

95th percentile per-packet one-way delay: 1058.143 ms

Loss rate: 3.07%

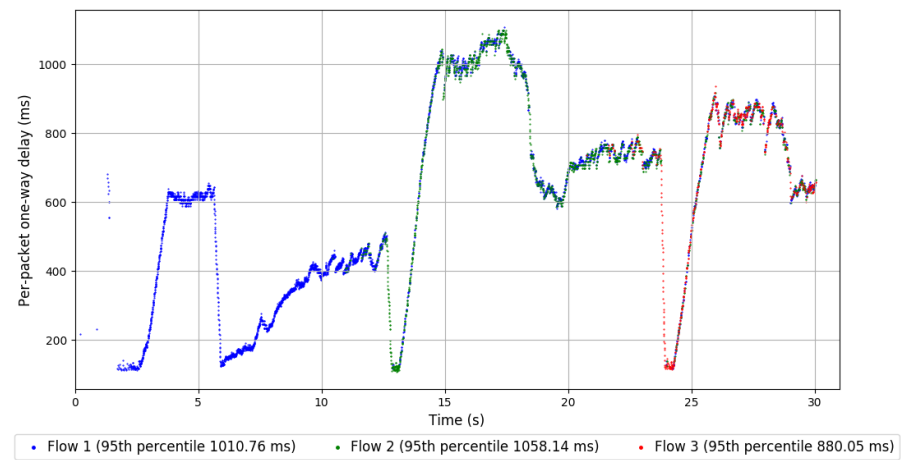
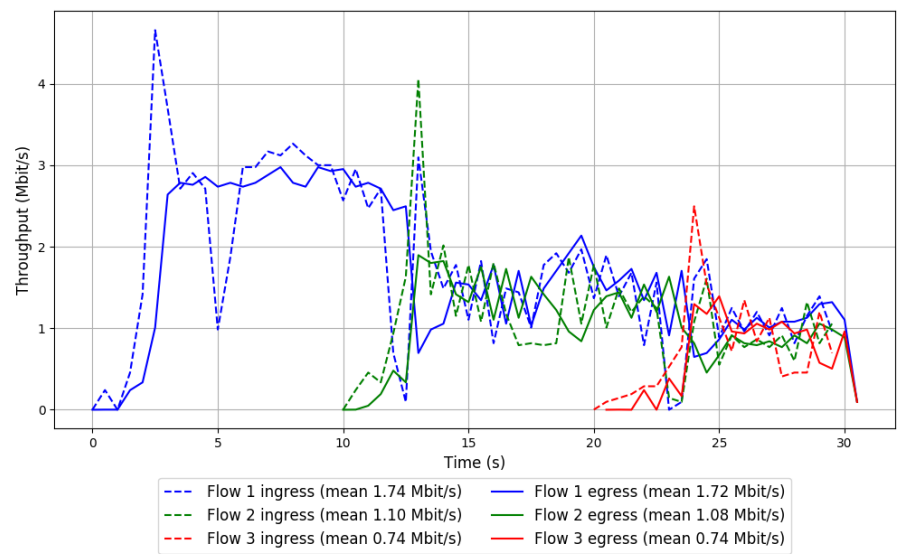
-- Flow 3:

Average throughput: 0.74 Mbit/s

95th percentile per-packet one-way delay: 880.048 ms

Loss rate: 6.69%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-08-01 06:21:11

End at: 2018-08-01 06:21:41

Local clock offset: -3.577 ms

Remote clock offset: 8.497 ms

Below is generated by plot.py at 2018-08-01 07:14:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 232.718 ms

Loss rate: 0.23%

-- Flow 1:

Average throughput: 1.11 Mbit/s

95th percentile per-packet one-way delay: 222.634 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 1.11 Mbit/s

95th percentile per-packet one-way delay: 236.760 ms

Loss rate: 0.23%

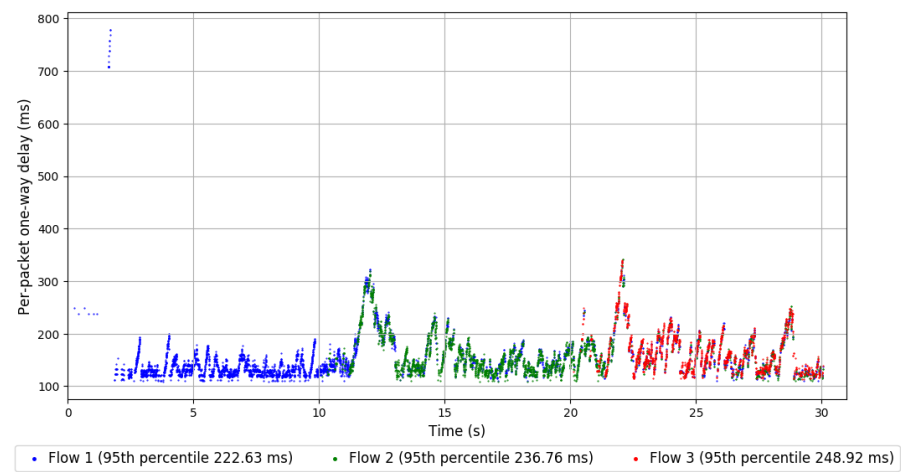
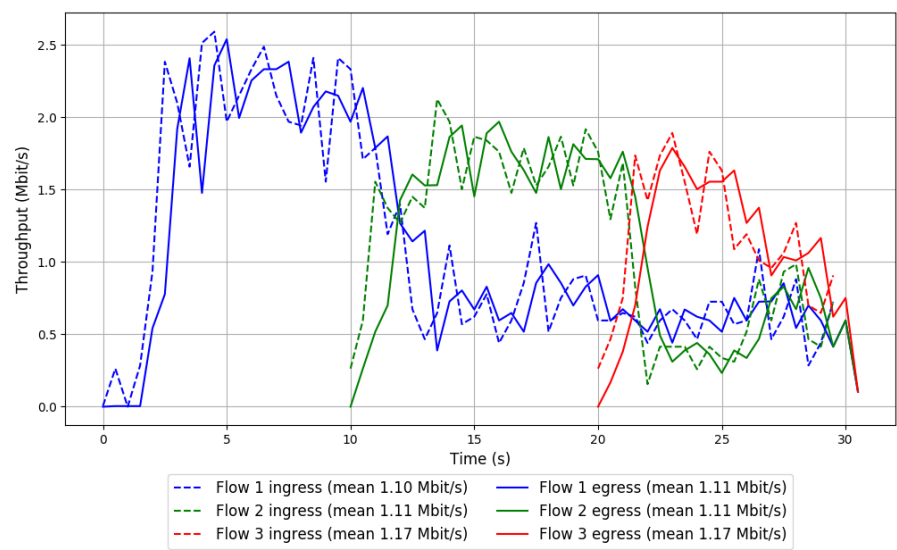
-- Flow 3:

Average throughput: 1.17 Mbit/s

95th percentile per-packet one-way delay: 248.922 ms

Loss rate: 0.56%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-08-01 06:41:29

End at: 2018-08-01 06:41:59

Local clock offset: -3.497 ms

Remote clock offset: 3.916 ms

Below is generated by plot.py at 2018-08-01 07:14:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 224.382 ms

Loss rate: 0.36%

-- Flow 1:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 226.454 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 0.75 Mbit/s

95th percentile per-packet one-way delay: 204.461 ms

Loss rate: 0.43%

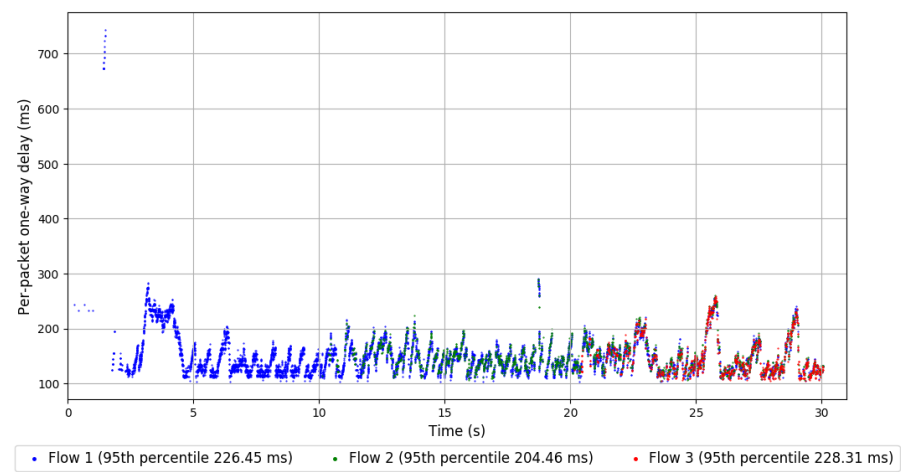
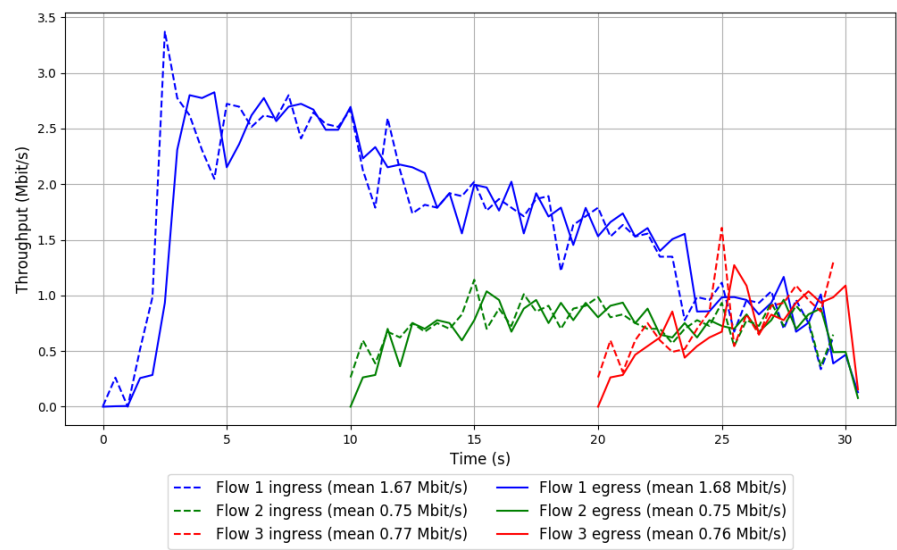
-- Flow 3:

Average throughput: 0.76 Mbit/s

95th percentile per-packet one-way delay: 228.309 ms

Loss rate: 1.86%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-08-01 07:01:47

End at: 2018-08-01 07:02:17

Local clock offset: -4.437 ms

Remote clock offset: 4.352 ms

Below is generated by plot.py at 2018-08-01 07:14:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.51 Mbit/s

95th percentile per-packet one-way delay: 231.278 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 1.53 Mbit/s

95th percentile per-packet one-way delay: 228.106 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 226.369 ms

Loss rate: 0.66%

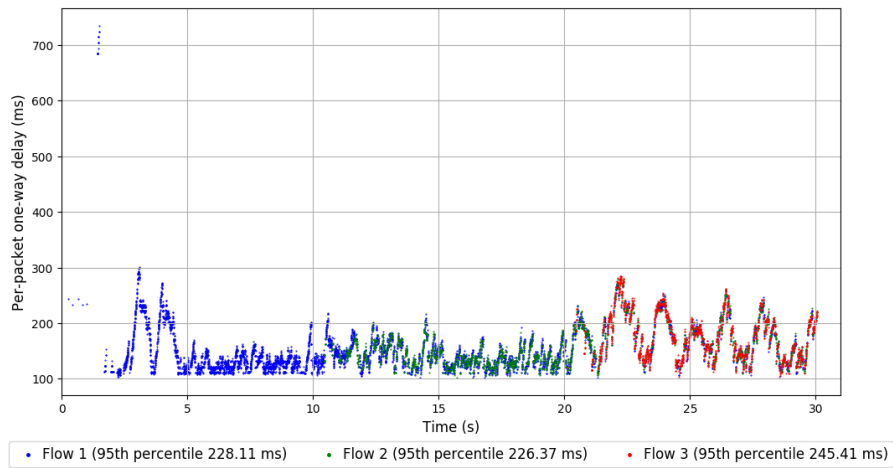
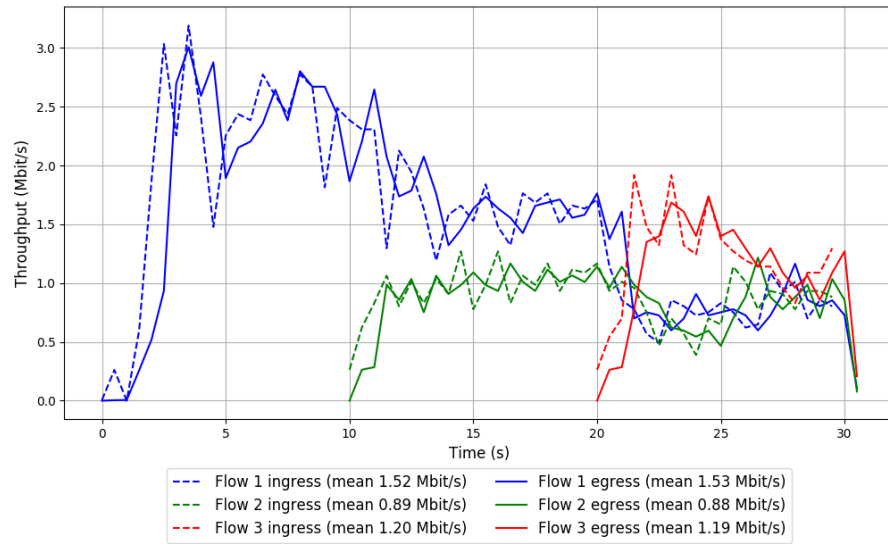
-- Flow 3:

Average throughput: 1.19 Mbit/s

95th percentile per-packet one-way delay: 245.415 ms

Loss rate: 0.87%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-08-01 06:15:13

End at: 2018-08-01 06:15:43

Local clock offset: -3.825 ms

Remote clock offset: 3.047 ms

Below is generated by plot.py at 2018-08-01 07:14:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.05 Mbit/s

95th percentile per-packet one-way delay: 3934.304 ms

Loss rate: 15.97%

-- Flow 1:

Average throughput: 1.99 Mbit/s

95th percentile per-packet one-way delay: 3943.371 ms

Loss rate: 15.67%

-- Flow 2:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 3704.143 ms

Loss rate: 23.56%

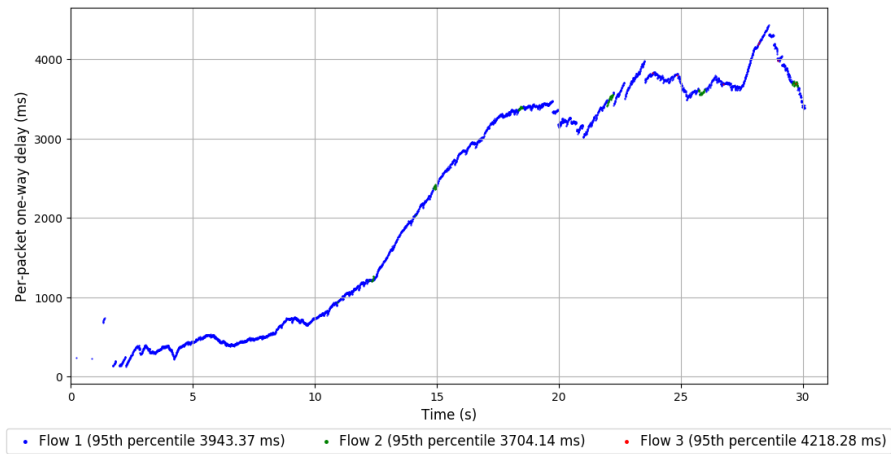
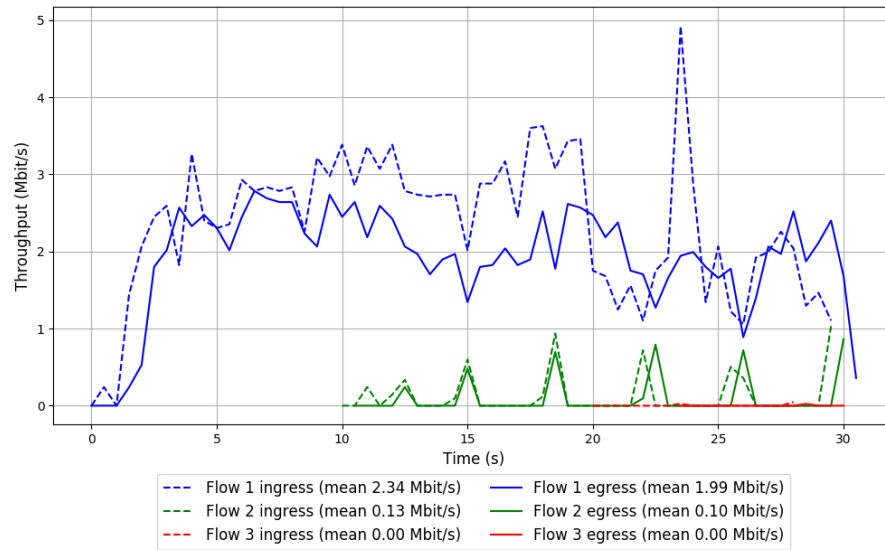
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4218.283 ms

Loss rate: 60.08%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-08-01 06:35:31

End at: 2018-08-01 06:36:01

Local clock offset: -3.576 ms

Remote clock offset: 3.784 ms

Below is generated by plot.py at 2018-08-01 07:14:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.77 Mbit/s

95th percentile per-packet one-way delay: 2658.093 ms

Loss rate: 14.33%

-- Flow 1:

Average throughput: 2.55 Mbit/s

95th percentile per-packet one-way delay: 2658.810 ms

Loss rate: 14.07%

-- Flow 2:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 2568.429 ms

Loss rate: 15.19%

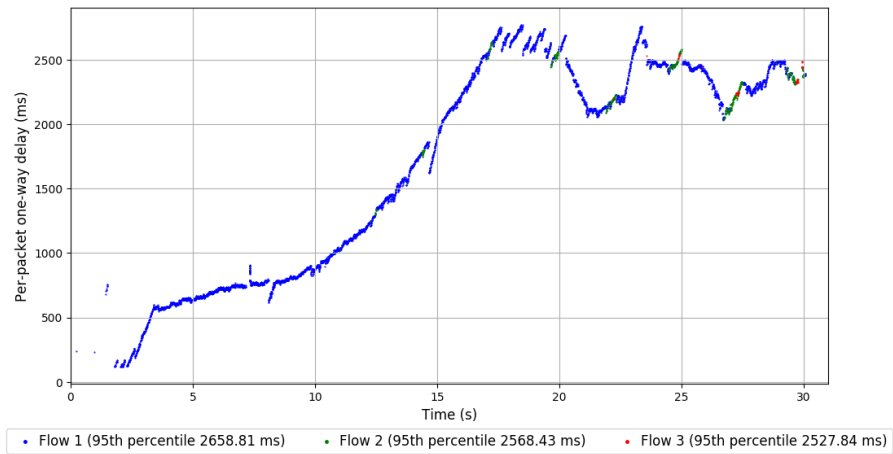
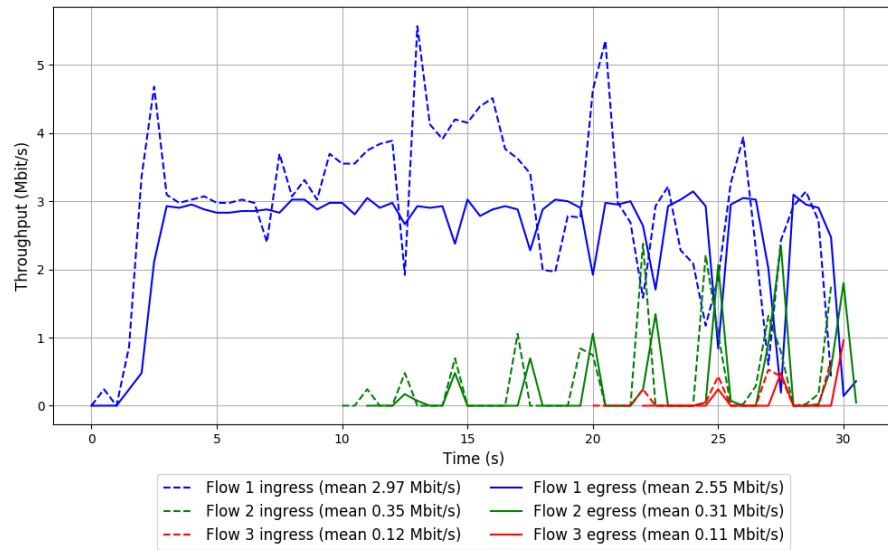
-- Flow 3:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 2527.839 ms

Loss rate: 28.50%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-08-01 06:55:49

End at: 2018-08-01 06:56:19

Local clock offset: -3.854 ms

Remote clock offset: 8.978 ms

Below is generated by plot.py at 2018-08-01 07:14:32

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.71 Mbit/s

95th percentile per-packet one-way delay: 2706.725 ms

Loss rate: 13.71%

-- Flow 1:

Average throughput: 2.51 Mbit/s

95th percentile per-packet one-way delay: 2707.348 ms

Loss rate: 12.98%

-- Flow 2:

Average throughput: 0.29 Mbit/s

95th percentile per-packet one-way delay: 2679.718 ms

Loss rate: 20.53%

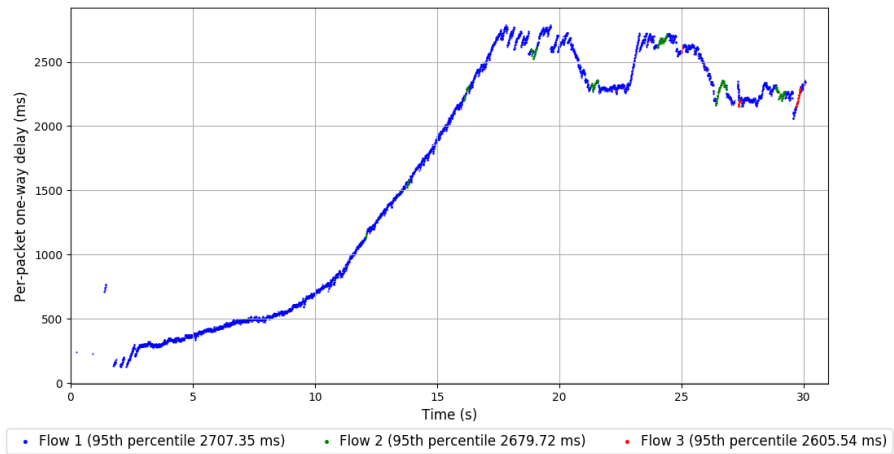
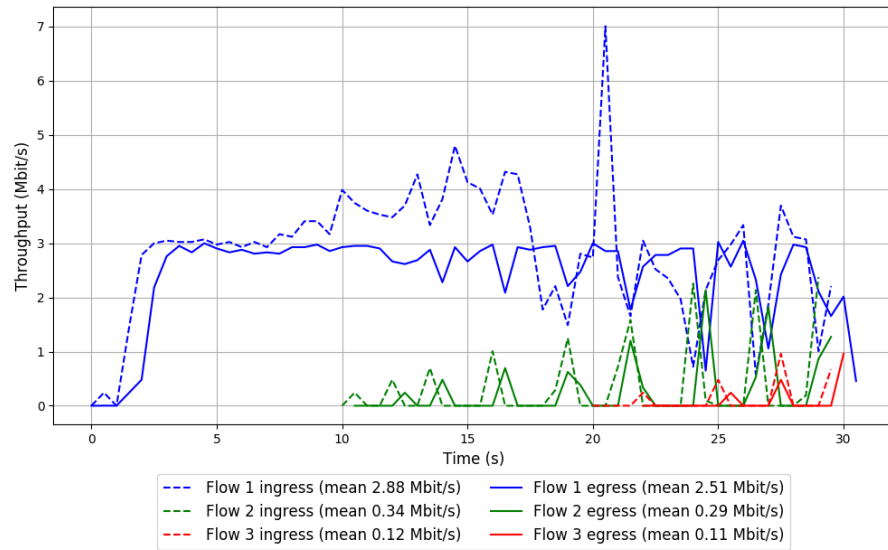
-- Flow 3:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 2605.537 ms

Loss rate: 28.50%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-08-01 06:22:24

End at: 2018-08-01 06:22:54

Local clock offset: -3.551 ms

Remote clock offset: 8.543 ms

Below is generated by plot.py at 2018-08-01 07:14:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 2978.995 ms

Loss rate: 81.67%

-- Flow 1:

Average throughput: 1.78 Mbit/s

95th percentile per-packet one-way delay: 2969.462 ms

Loss rate: 83.34%

-- Flow 2:

Average throughput: 1.05 Mbit/s

95th percentile per-packet one-way delay: 2988.557 ms

Loss rate: 74.69%

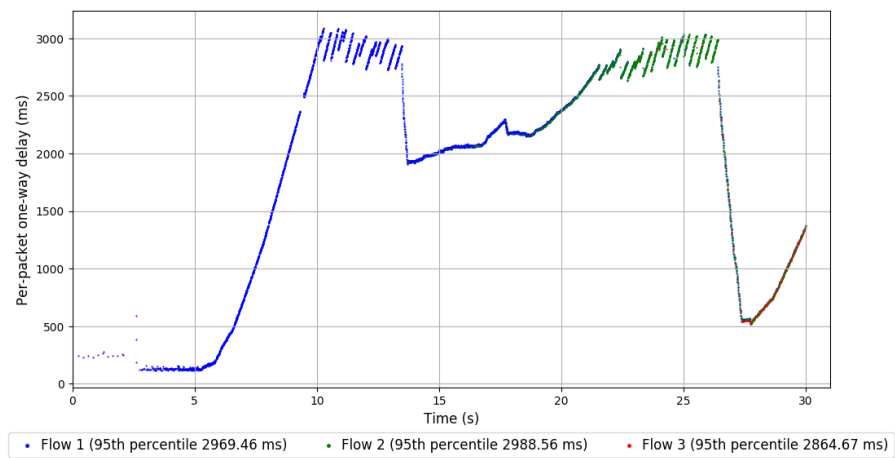
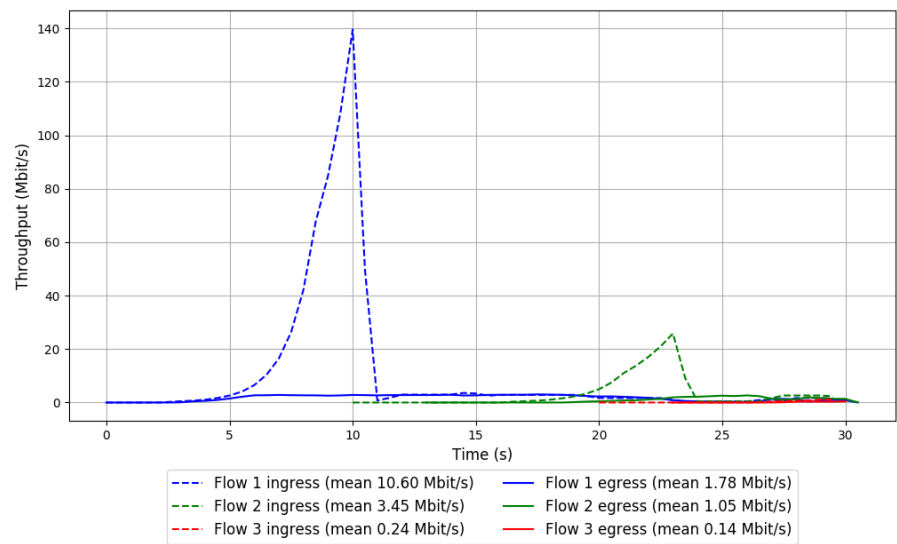
-- Flow 3:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 2864.670 ms

Loss rate: 59.79%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-08-01 06:42:41

End at: 2018-08-01 06:43:11

Local clock offset: -3.505 ms

Remote clock offset: 3.859 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.52 Mbit/s

95th percentile per-packet one-way delay: 2791.008 ms

Loss rate: 84.70%

-- Flow 1:

Average throughput: 1.99 Mbit/s

95th percentile per-packet one-way delay: 2793.046 ms

Loss rate: 86.58%

-- Flow 2:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 2788.627 ms

Loss rate: 65.78%

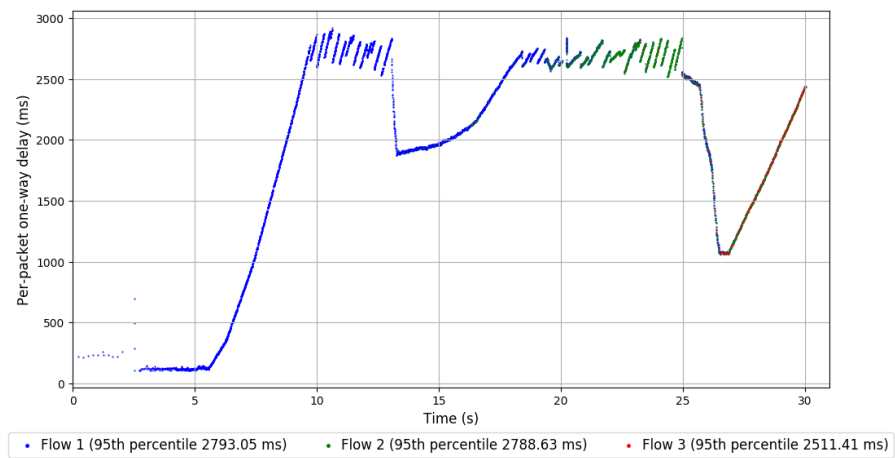
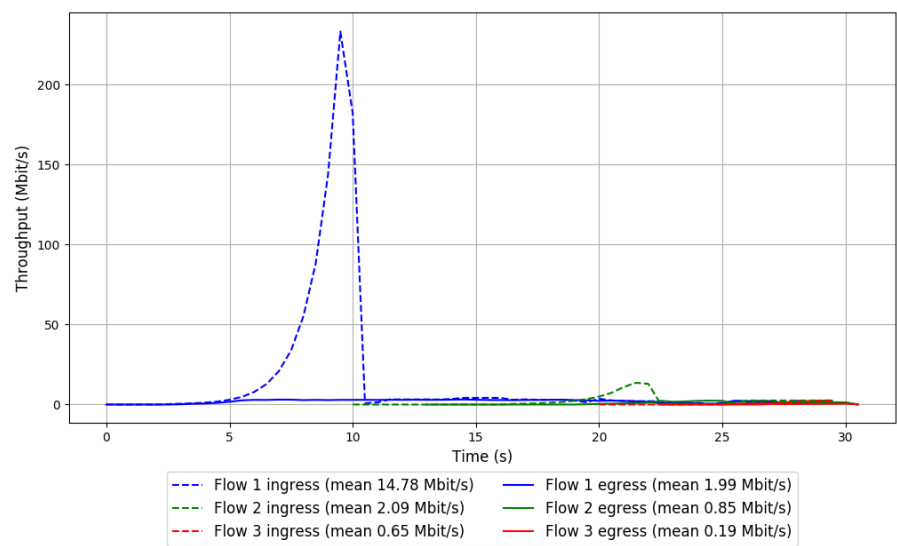
-- Flow 3:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 2511.415 ms

Loss rate: 78.38%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-08-01 07:02:59

End at: 2018-08-01 07:03:29

Local clock offset: -4.583 ms

Remote clock offset: 9.172 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.37 Mbit/s

95th percentile per-packet one-way delay: 3270.339 ms

Loss rate: 79.63%

-- Flow 1:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 3280.264 ms

Loss rate: 81.35%

-- Flow 2:

Average throughput: 0.71 Mbit/s

95th percentile per-packet one-way delay: 2814.693 ms

Loss rate: 67.37%

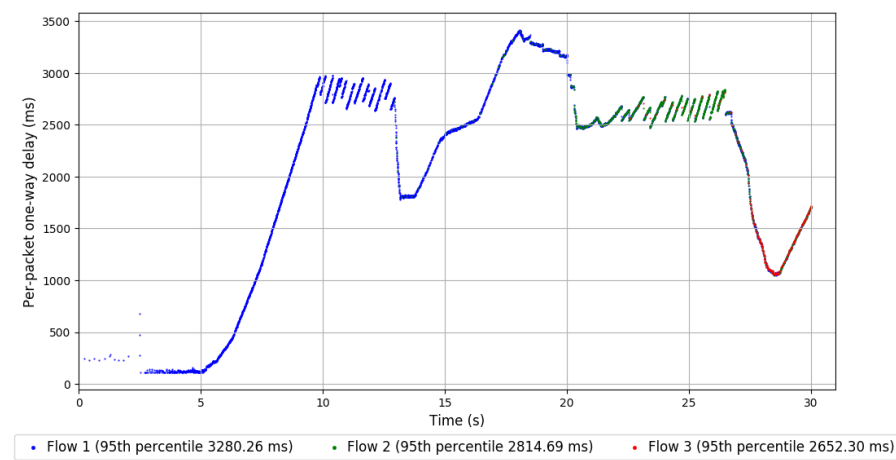
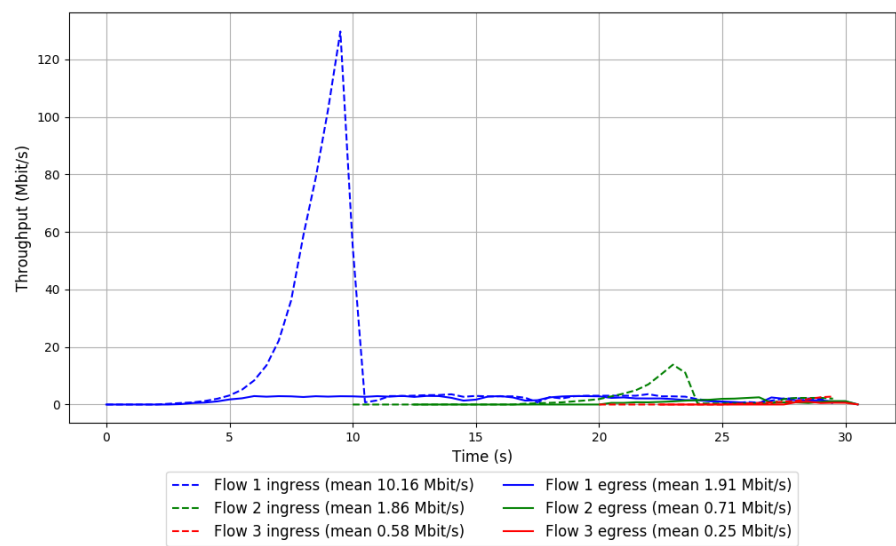
-- Flow 3:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 2652.299 ms

Loss rate: 67.59%

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-08-01 06:23:36

End at: 2018-08-01 06:24:06

Local clock offset: -3.545 ms

Remote clock offset: 8.635 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.51 Mbit/s

95th percentile per-packet one-way delay: 2994.336 ms

Loss rate: 46.63%

-- Flow 1:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 2956.440 ms

Loss rate: 31.92%

-- Flow 2:

Average throughput: 1.35 Mbit/s

95th percentile per-packet one-way delay: 3019.459 ms

Loss rate: 48.44%

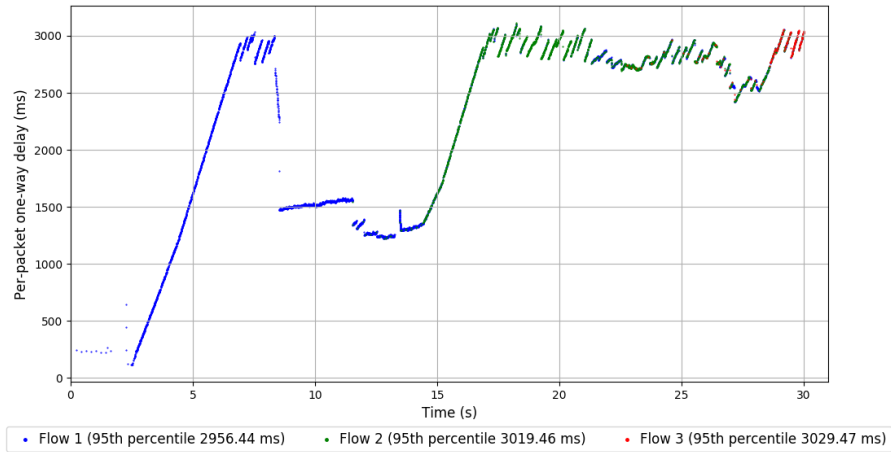
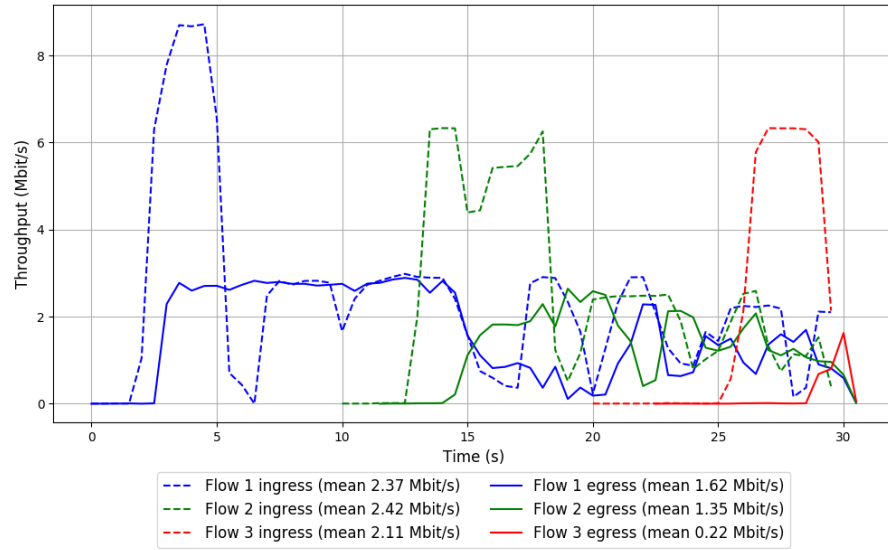
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3029.475 ms

Loss rate: 92.25%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-08-01 06:43:53

End at: 2018-08-01 06:44:23

Local clock offset: -3.478 ms

Remote clock offset: 8.654 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.70 Mbit/s

95th percentile per-packet one-way delay: 2720.367 ms

Loss rate: 45.85%

-- Flow 1:

Average throughput: 1.76 Mbit/s

95th percentile per-packet one-way delay: 2706.880 ms

Loss rate: 29.57%

-- Flow 2:

Average throughput: 1.31 Mbit/s

95th percentile per-packet one-way delay: 2719.020 ms

Loss rate: 51.16%

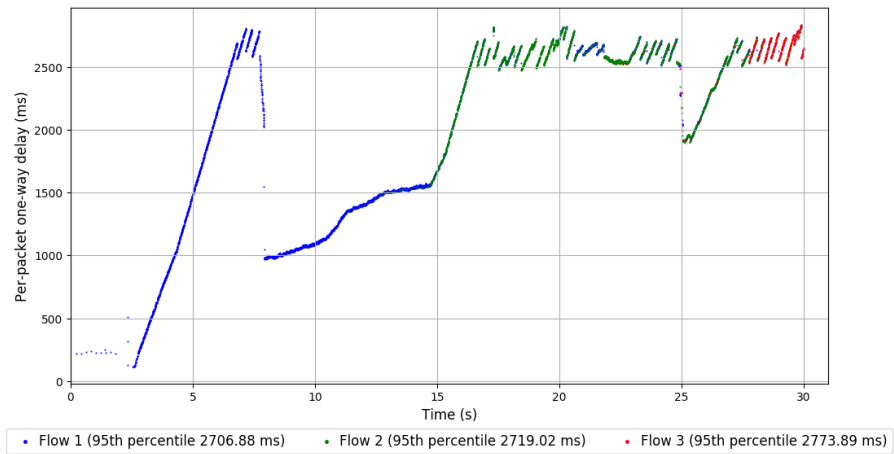
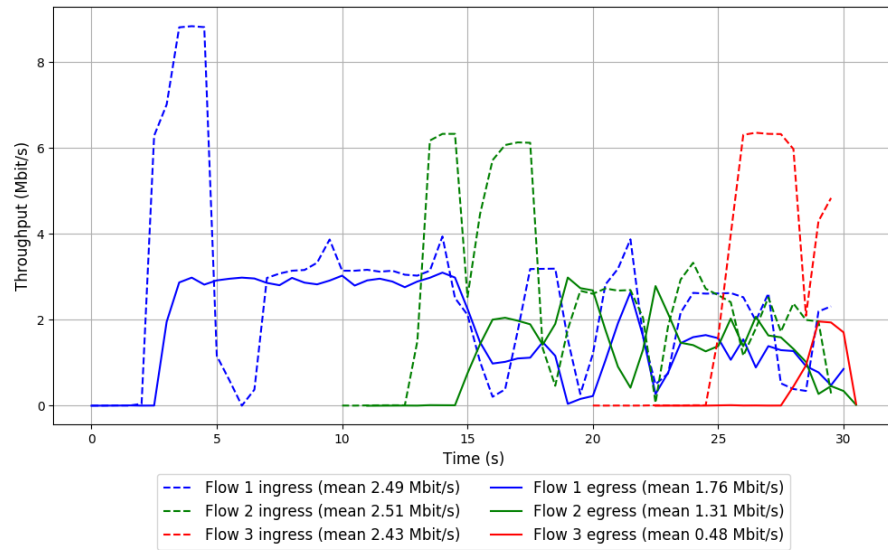
-- Flow 3:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 2773.886 ms

Loss rate: 85.27%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-08-01 07:04:11

End at: 2018-08-01 07:04:41

Local clock offset: -4.622 ms

Remote clock offset: 4.222 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.71 Mbit/s

95th percentile per-packet one-way delay: 2722.060 ms

Loss rate: 44.27%

-- Flow 1:

Average throughput: 1.75 Mbit/s

95th percentile per-packet one-way delay: 2707.005 ms

Loss rate: 28.12%

-- Flow 2:

Average throughput: 1.34 Mbit/s

95th percentile per-packet one-way delay: 2741.006 ms

Loss rate: 48.68%

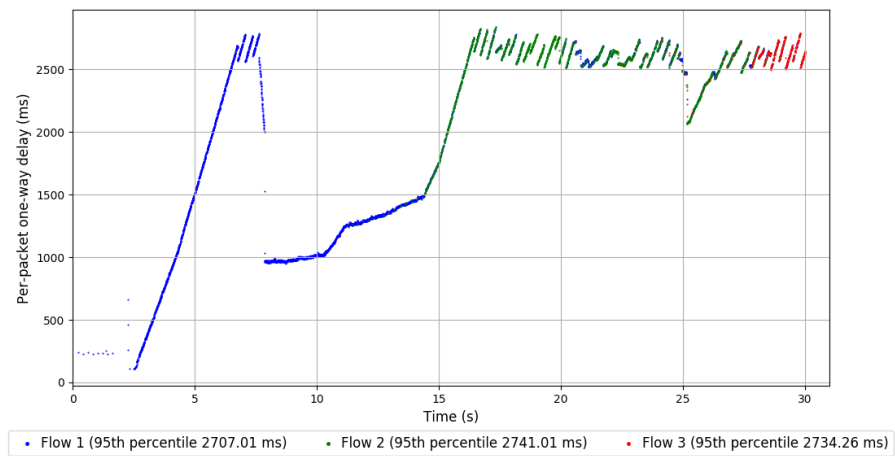
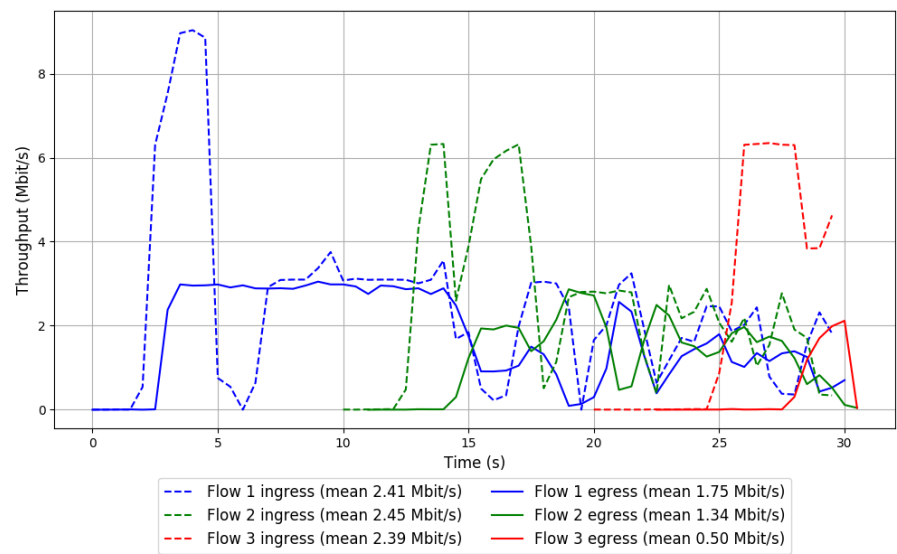
-- Flow 3:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 2734.261 ms

Loss rate: 84.35%

Run 3: Report of FillP-Sheep — Data Link

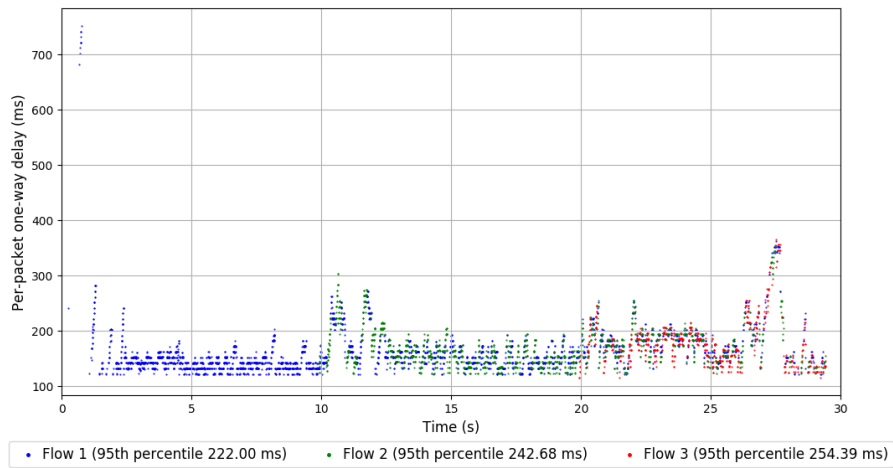
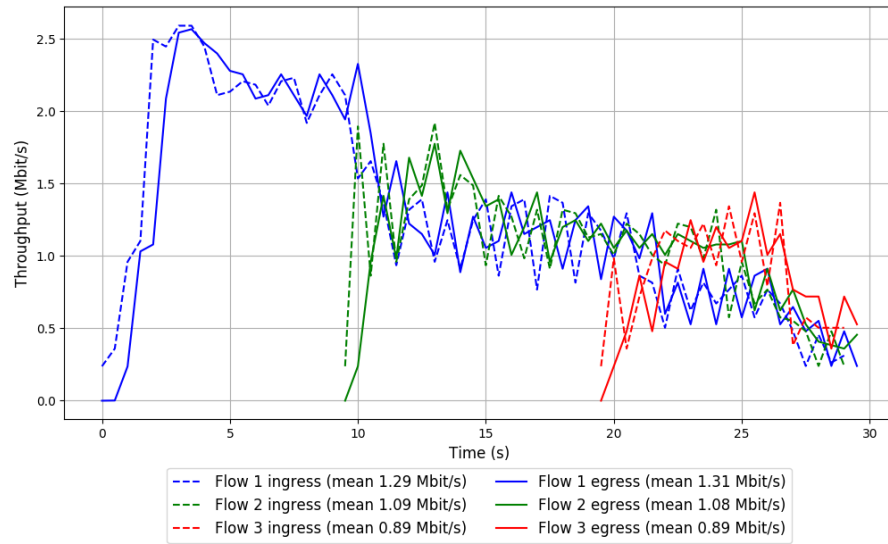


```
Run 1: Statistics of Indigo

Start at: 2018-08-01 06:29:33
End at: 2018-08-01 06:30:03
Local clock offset: -3.599 ms
Remote clock offset: 8.762 ms

# Below is generated by plot.py at 2018-08-01 07:14:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 232.561 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 221.997 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 242.679 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 254.392 ms
Loss rate: 0.56%
```

Run 1: Report of Indigo — Data Link

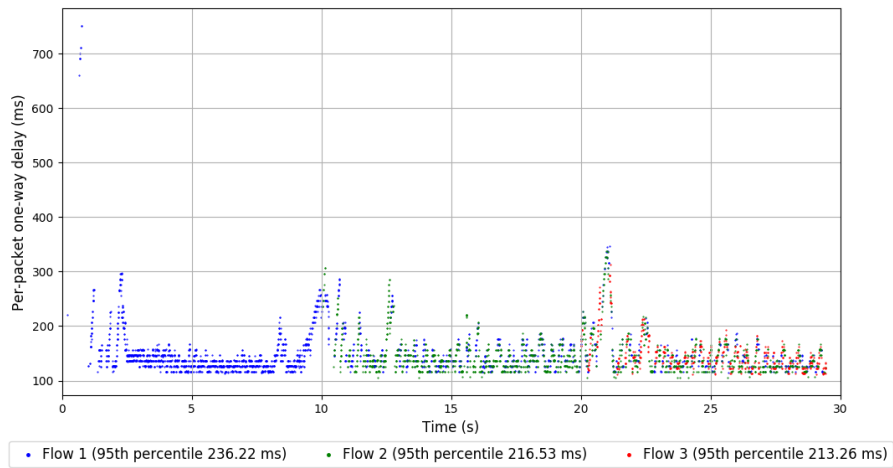
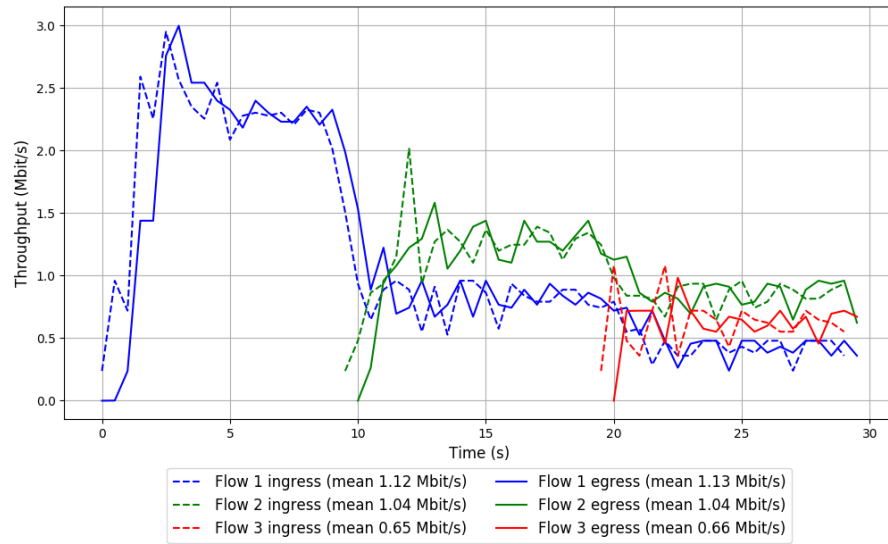


Run 2: Statistics of Indigo

Start at: 2018-08-01 06:49:51
End at: 2018-08-01 06:50:21
Local clock offset: -3.408 ms
Remote clock offset: 3.871 ms

Below is generated by plot.py at 2018-08-01 07:14:44
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 226.447 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 236.225 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 216.532 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 213.262 ms
Loss rate: 0.38%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-08-01 07:10:09

End at: 2018-08-01 07:10:39

Local clock offset: -4.866 ms

Remote clock offset: 9.234 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.95 Mbit/s

95th percentile per-packet one-way delay: 249.515 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 1.15 Mbit/s

95th percentile per-packet one-way delay: 239.860 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 266.071 ms

Loss rate: 0.41%

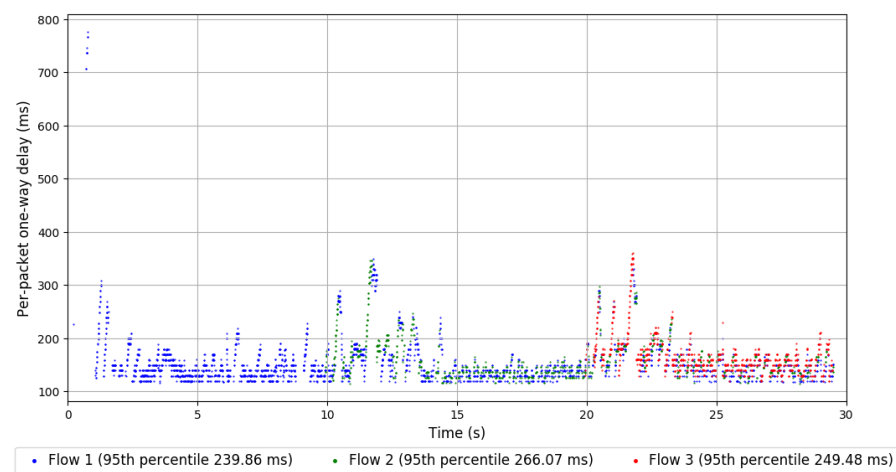
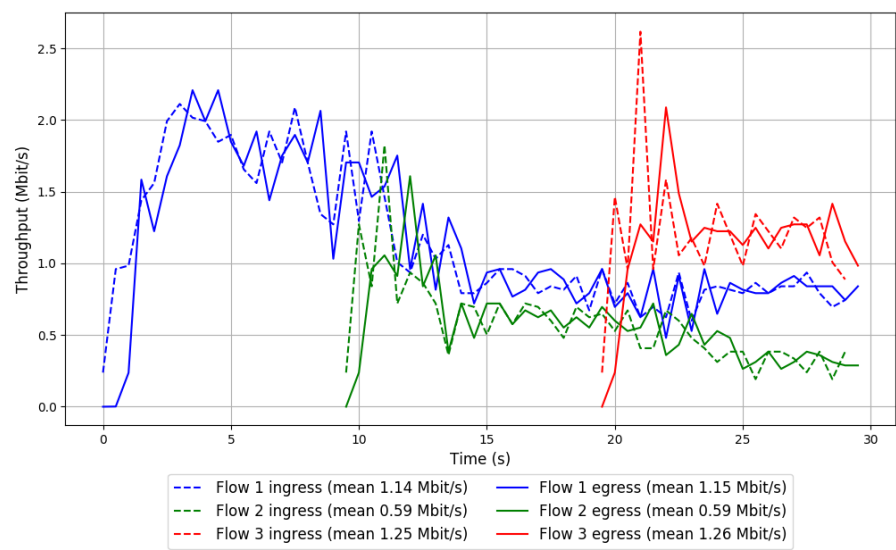
-- Flow 3:

Average throughput: 1.26 Mbit/s

95th percentile per-packet one-way delay: 249.483 ms

Loss rate: 0.70%

Run 3: Report of Indigo — Data Link



Run 1: Statistics of LEDBAT

Start at: 2018-08-01 06:27:10

End at: 2018-08-01 06:27:40

Local clock offset: -3.596 ms

Remote clock offset: 8.731 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 279.096 ms

Loss rate: 0.79%

-- Flow 1:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 278.845 ms

Loss rate: 0.73%

-- Flow 2:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 279.495 ms

Loss rate: 0.33%

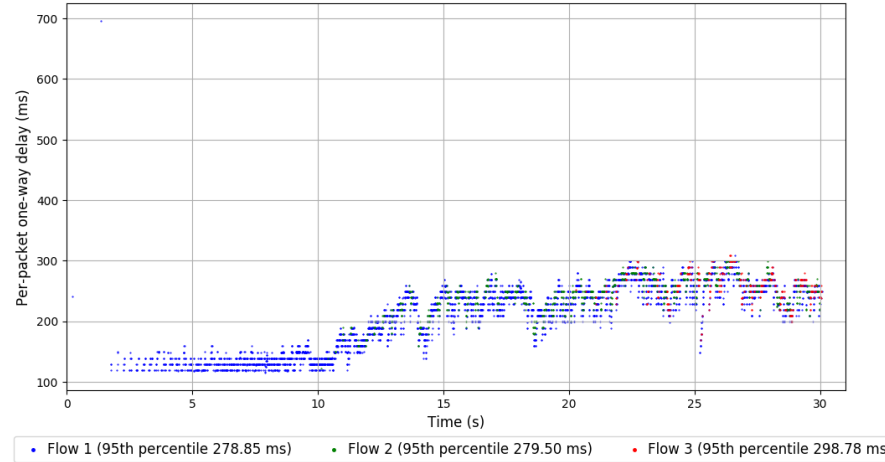
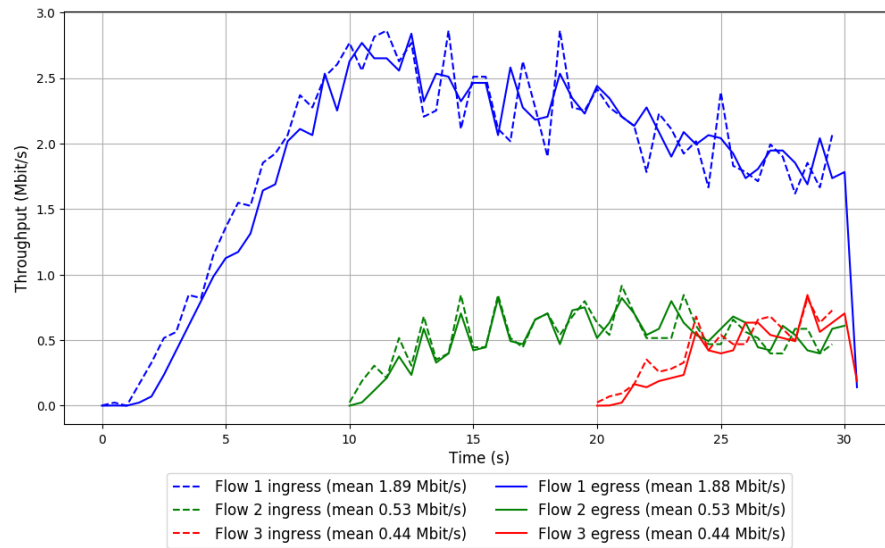
-- Flow 3:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 298.776 ms

Loss rate: 2.68%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-08-01 06:47:27

End at: 2018-08-01 06:47:57

Local clock offset: -3.455 ms

Remote clock offset: 8.797 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 277.534 ms

Loss rate: 0.77%

-- Flow 1:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 277.331 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 279.063 ms

Loss rate: 1.23%

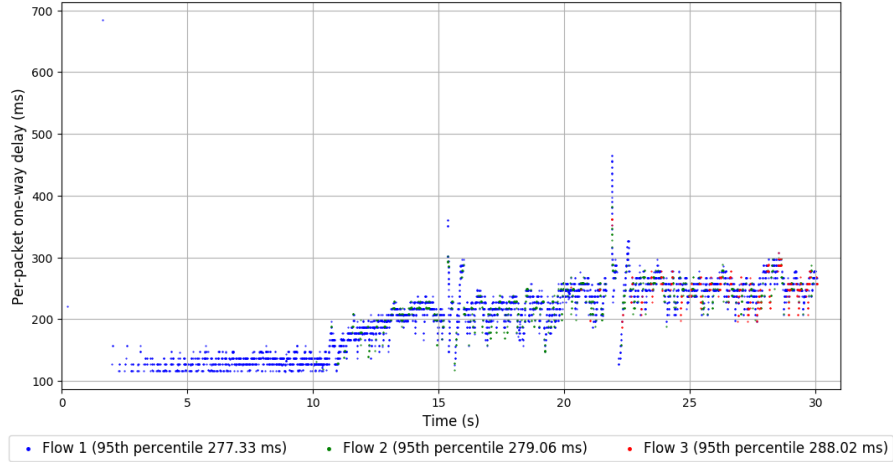
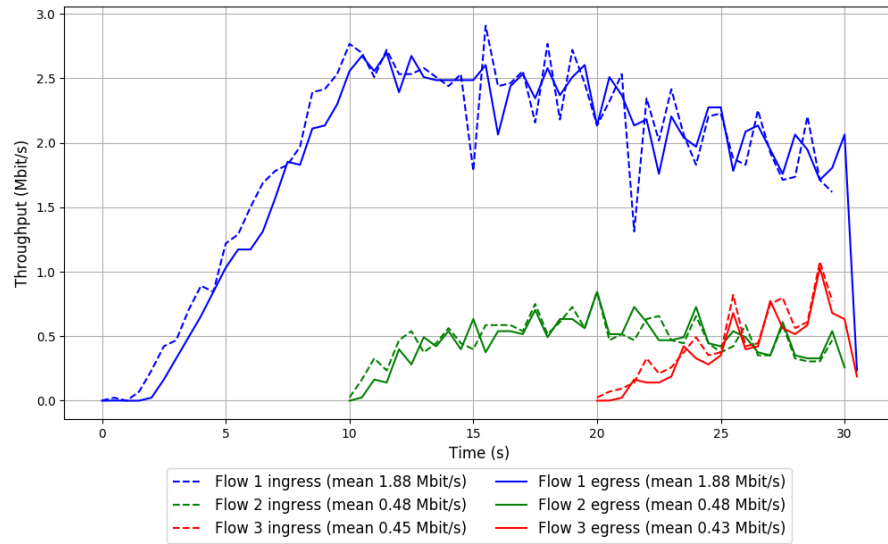
-- Flow 3:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 288.017 ms

Loss rate: 5.22%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-08-01 07:07:46

End at: 2018-08-01 07:08:16

Local clock offset: -4.724 ms

Remote clock offset: 9.252 ms

Below is generated by plot.py at 2018-08-01 07:14:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.27 Mbit/s

95th percentile per-packet one-way delay: 281.035 ms

Loss rate: 0.76%

-- Flow 1:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 271.978 ms

Loss rate: 0.77%

-- Flow 2:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 281.142 ms

Loss rate: 0.99%

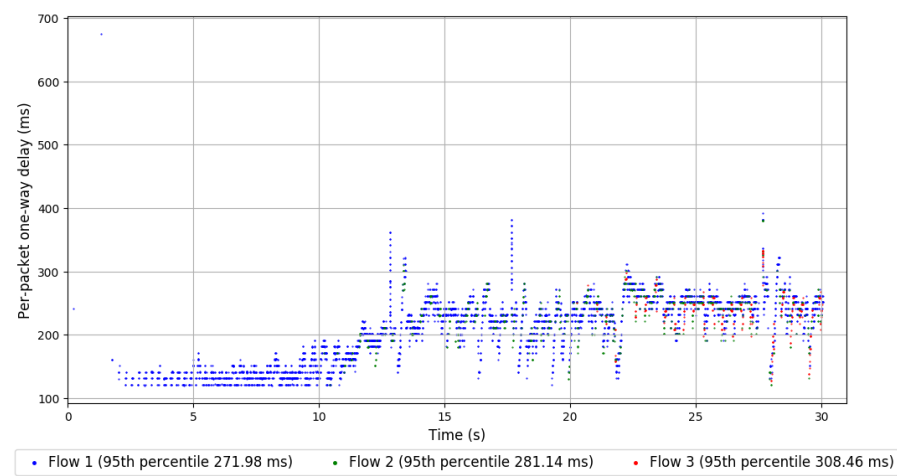
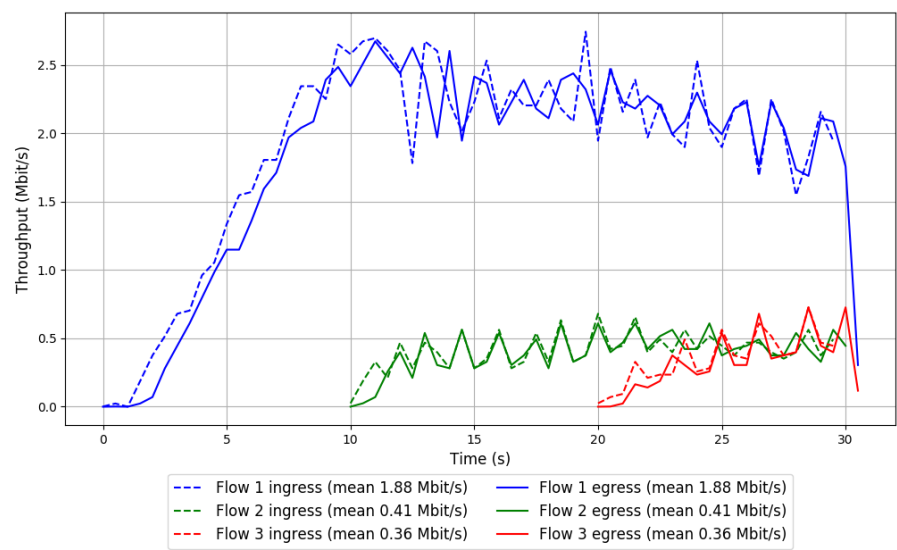
-- Flow 3:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 308.461 ms

Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

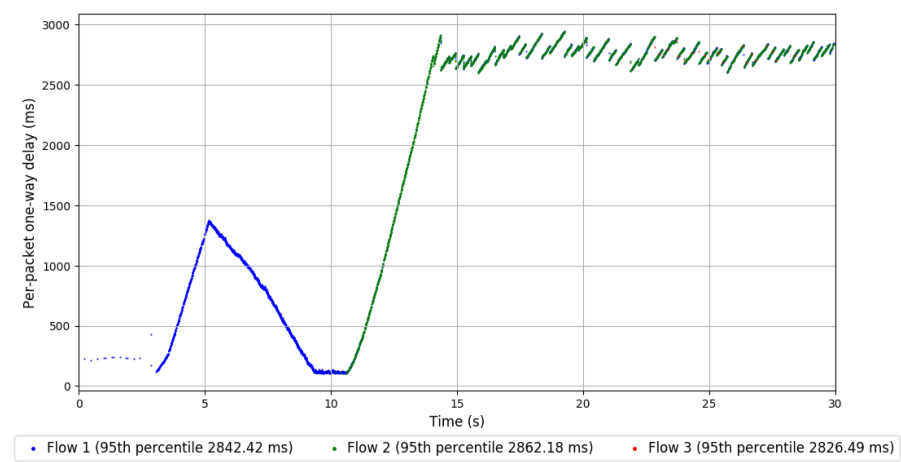
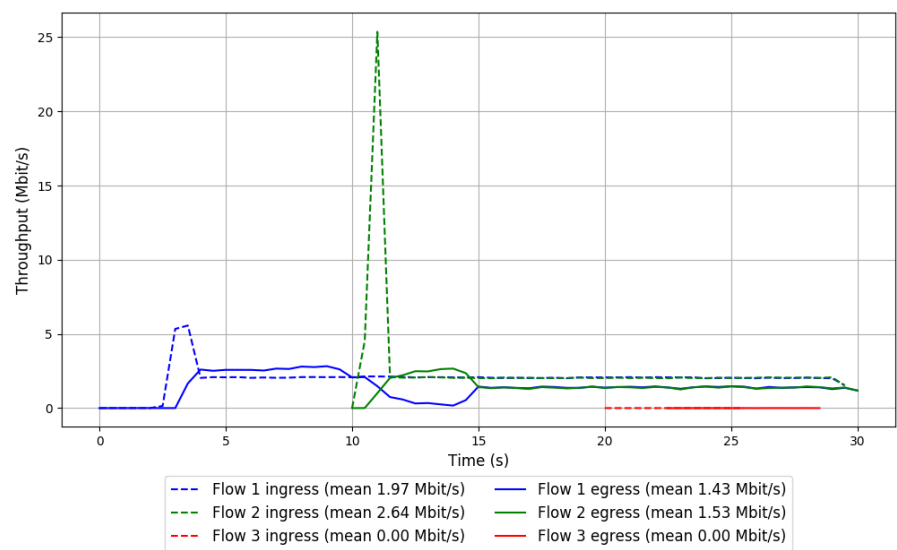


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-08-01 06:14:01
End at: 2018-08-01 06:14:31
Local clock offset: -3.942 ms
Remote clock offset: 3.185 ms

# Below is generated by plot.py at 2018-08-01 07:14:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 2852.969 ms
Loss rate: 34.62%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 2842.424 ms
Loss rate: 27.75%
-- Flow 2:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 2862.179 ms
Loss rate: 42.35%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2826.489 ms
Loss rate: 4.40%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-08-01 06:34:19

End at: 2018-08-01 06:34:49

Local clock offset: -3.587 ms

Remote clock offset: 3.853 ms

Below is generated by plot.py at 2018-08-01 07:14:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.66 Mbit/s

95th percentile per-packet one-way delay: 2703.623 ms

Loss rate: 41.95%

-- Flow 1:

Average throughput: 2.66 Mbit/s

95th percentile per-packet one-way delay: 2703.623 ms

Loss rate: 41.97%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2710.158 ms

Loss rate: 11.29%

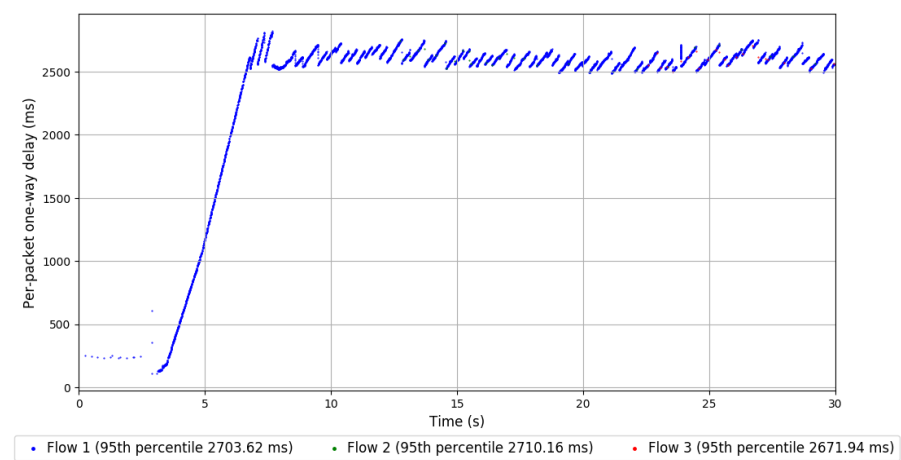
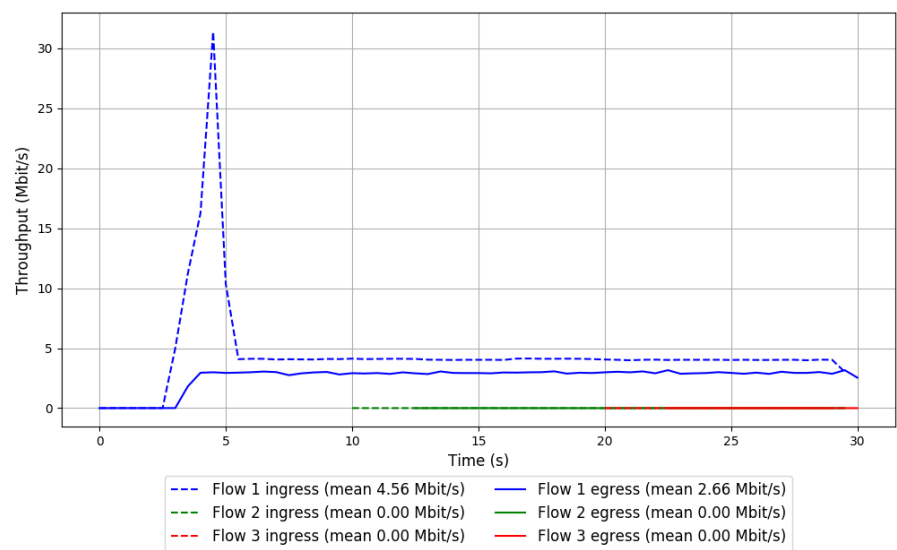
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2671.937 ms

Loss rate: 7.67%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-08-01 06:54:37

End at: 2018-08-01 06:55:07

Local clock offset: -3.761 ms

Remote clock offset: 8.931 ms

Below is generated by plot.py at 2018-08-01 07:14:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.58 Mbit/s

95th percentile per-packet one-way delay: 3235.858 ms

Loss rate: 44.10%

-- Flow 1:

Average throughput: 2.58 Mbit/s

95th percentile per-packet one-way delay: 3234.792 ms

Loss rate: 44.11%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3165.408 ms

Loss rate: 10.76%

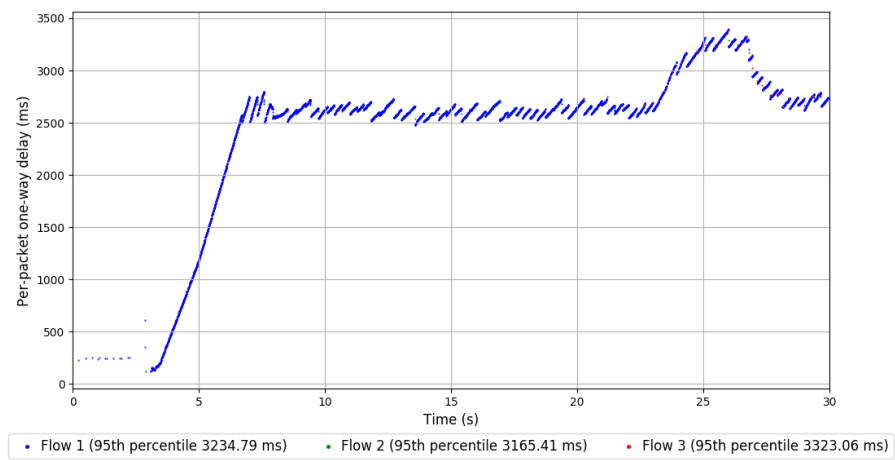
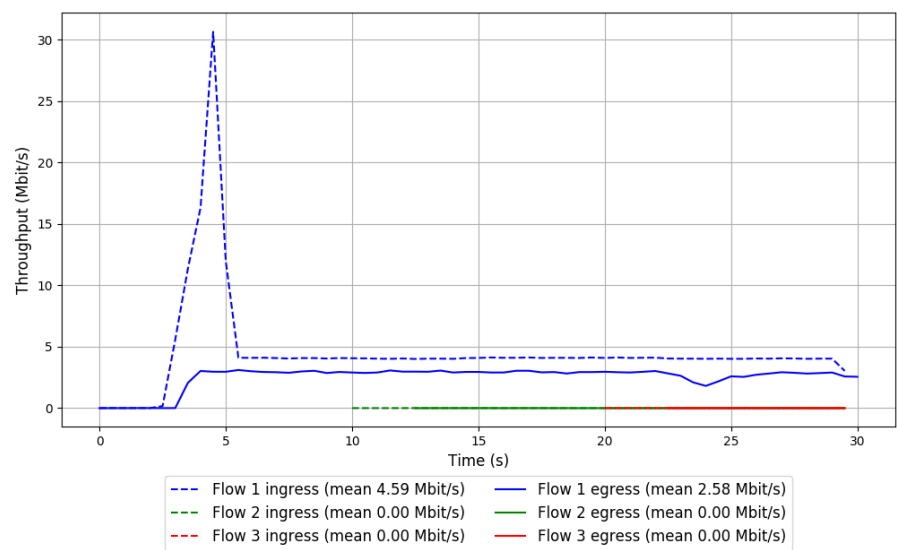
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3323.062 ms

Loss rate: 16.67%

Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

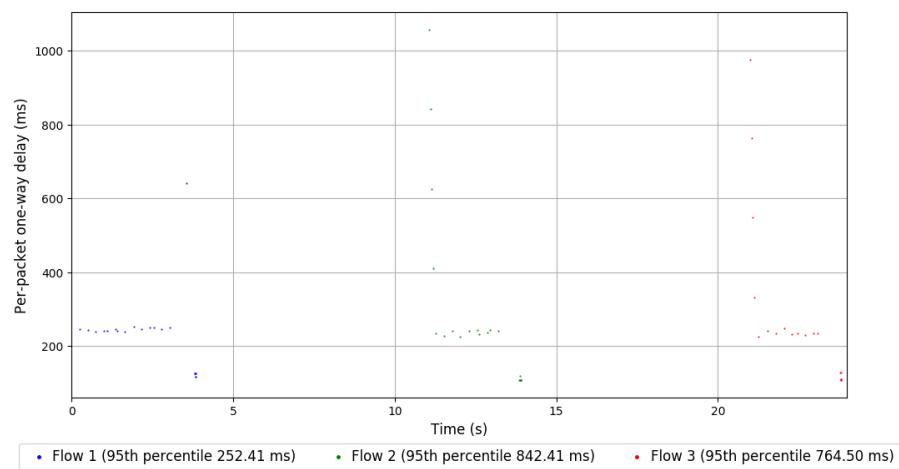
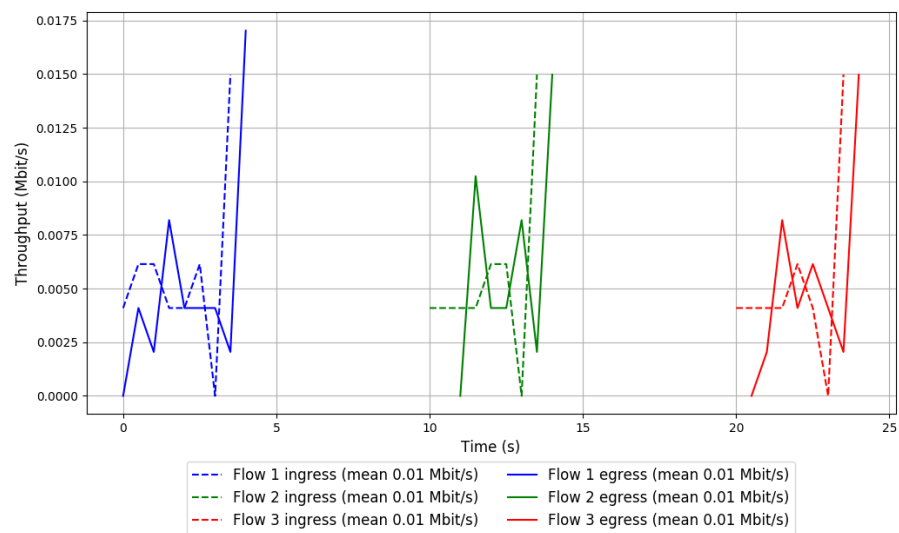
Start at: 2018-08-01 06:24:47

End at: 2018-08-01 06:25:17

Local clock offset: -3.635 ms

Remote clock offset: 3.664 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

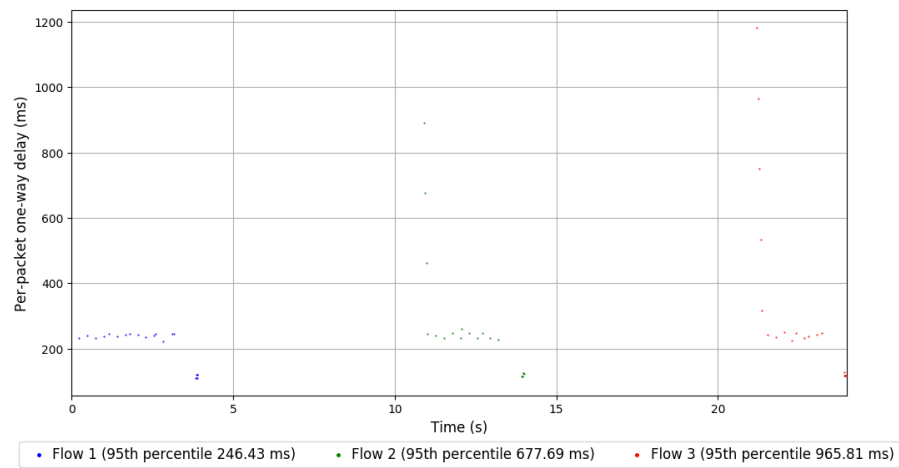
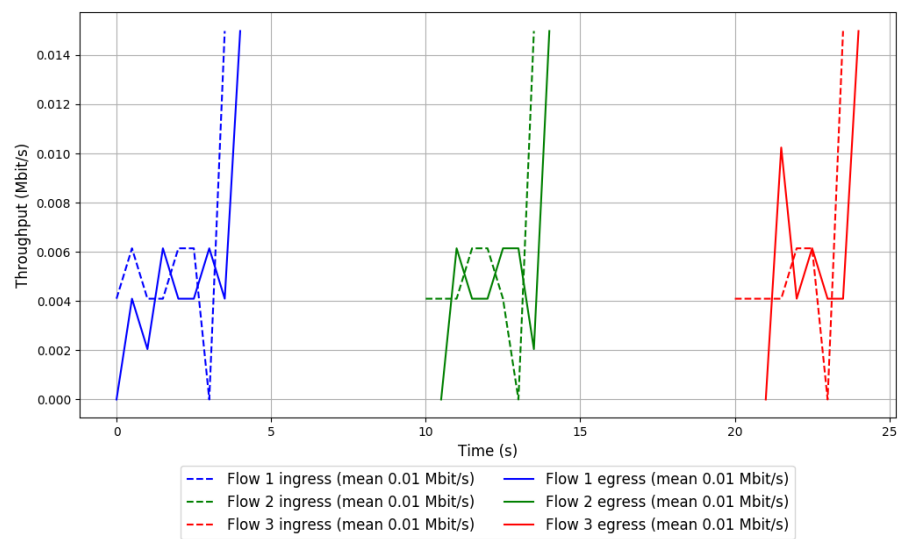
Start at: 2018-08-01 06:45:05

End at: 2018-08-01 06:45:35

Local clock offset: -3.532 ms

Remote clock offset: 8.761 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-08-01 07:05:23

End at: 2018-08-01 07:05:53

Local clock offset: -4.64 ms

Remote clock offset: 4.413 ms

Below is generated by plot.py at 2018-08-01 07:14:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.63 Mbit/s

95th percentile per-packet one-way delay: 2183.118 ms

Loss rate: 53.42%

-- Flow 1:

Average throughput: 2.63 Mbit/s

95th percentile per-packet one-way delay: 2183.147 ms

Loss rate: 53.42%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2130.839 ms

Loss rate: 36.23%

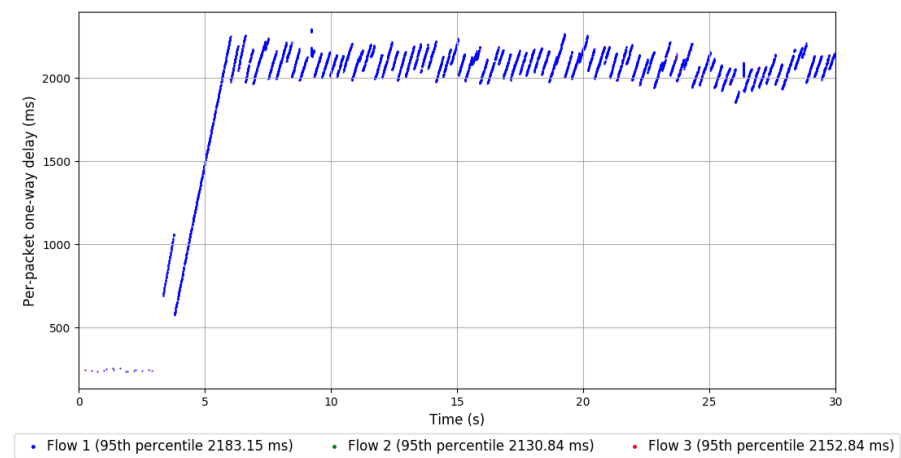
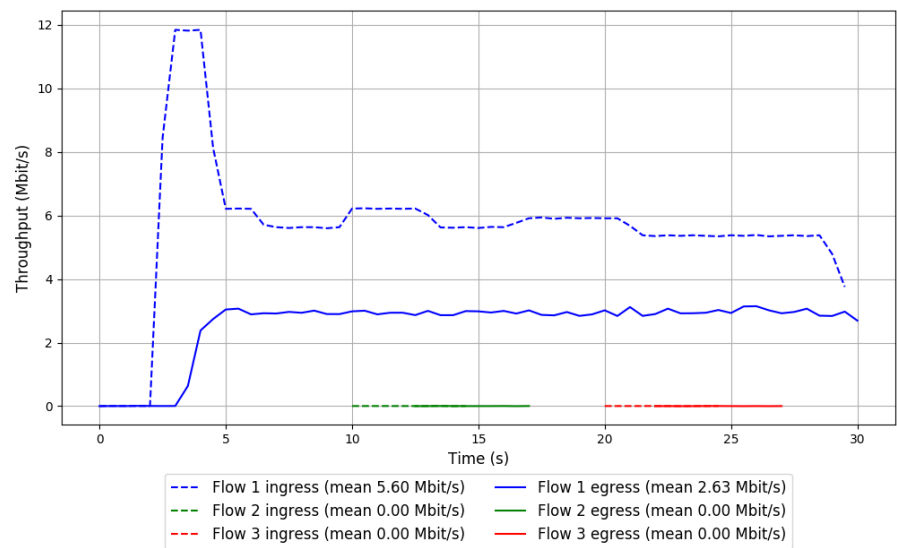
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2152.845 ms

Loss rate: 55.81%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-08-01 06:17:36

End at: 2018-08-01 06:18:06

Local clock offset: -3.695 ms

Remote clock offset: 8.167 ms

Below is generated by plot.py at 2018-08-01 07:14:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.63 Mbit/s

95th percentile per-packet one-way delay: 1495.851 ms

Loss rate: 5.54%

-- Flow 1:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 1483.421 ms

Loss rate: 3.95%

-- Flow 2:

Average throughput: 0.98 Mbit/s

95th percentile per-packet one-way delay: 1516.441 ms

Loss rate: 7.41%

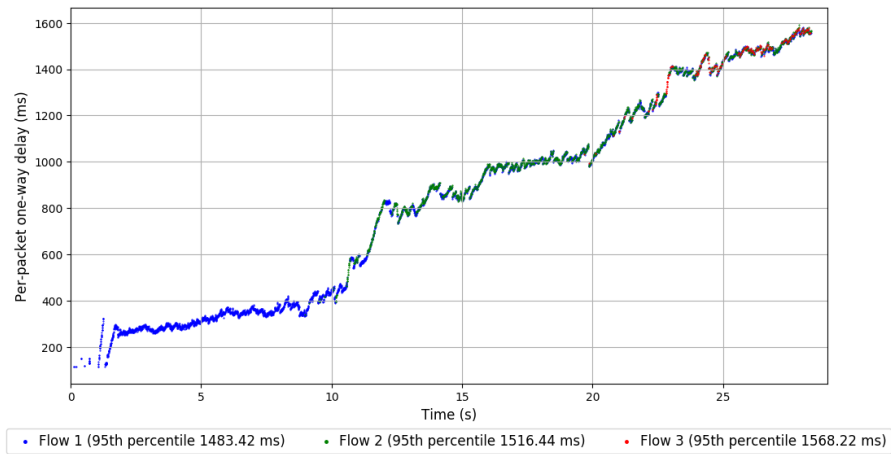
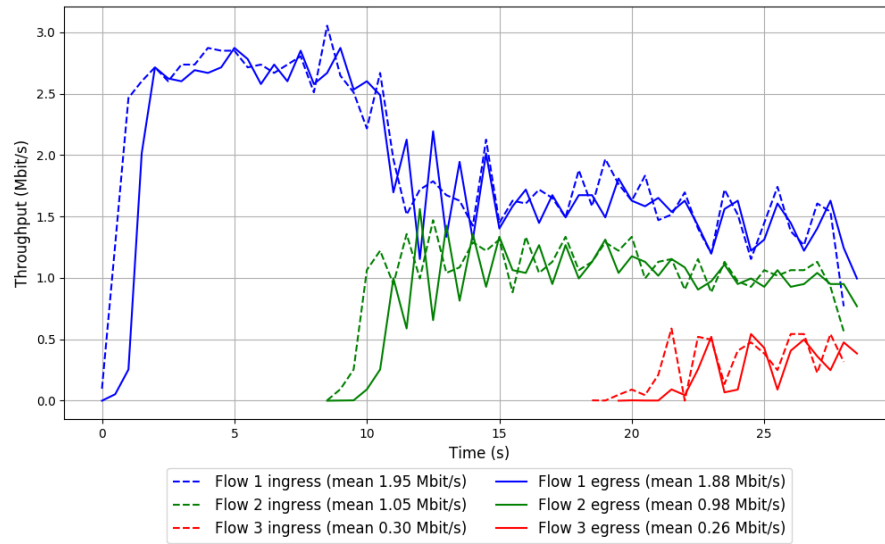
-- Flow 3:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 1568.217 ms

Loss rate: 22.51%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-08-01 06:37:54

End at: 2018-08-01 06:38:24

Local clock offset: -3.56 ms

Remote clock offset: 8.812 ms

Below is generated by plot.py at 2018-08-01 07:14:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.86 Mbit/s

95th percentile per-packet one-way delay: 1508.844 ms

Loss rate: 5.48%

-- Flow 1:

Average throughput: 2.08 Mbit/s

95th percentile per-packet one-way delay: 1491.969 ms

Loss rate: 4.01%

-- Flow 2:

Average throughput: 1.01 Mbit/s

95th percentile per-packet one-way delay: 1528.208 ms

Loss rate: 7.11%

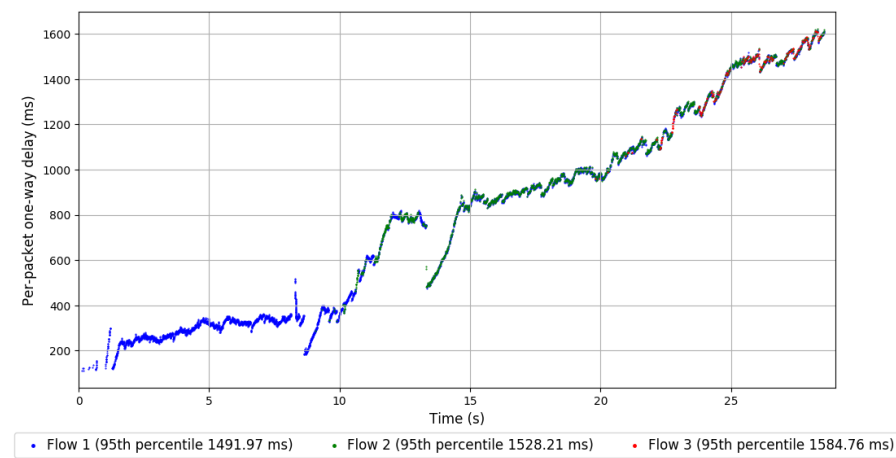
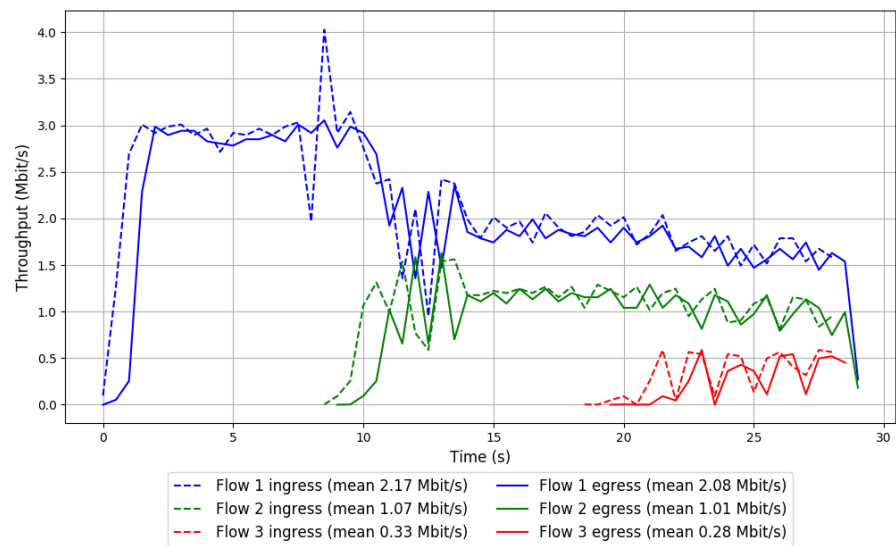
-- Flow 3:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 1584.755 ms

Loss rate: 23.08%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-08-01 06:58:12

End at: 2018-08-01 06:58:42

Local clock offset: -4.129 ms

Remote clock offset: 9.128 ms

Below is generated by plot.py at 2018-08-01 07:14:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.92 Mbit/s

95th percentile per-packet one-way delay: 1371.608 ms

Loss rate: 4.98%

-- Flow 1:

Average throughput: 2.14 Mbit/s

95th percentile per-packet one-way delay: 1349.841 ms

Loss rate: 3.67%

-- Flow 2:

Average throughput: 1.01 Mbit/s

95th percentile per-packet one-way delay: 1392.142 ms

Loss rate: 6.81%

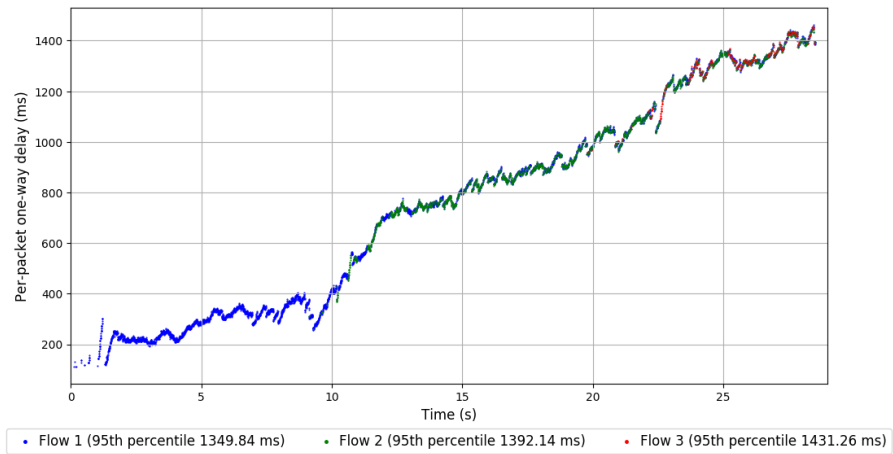
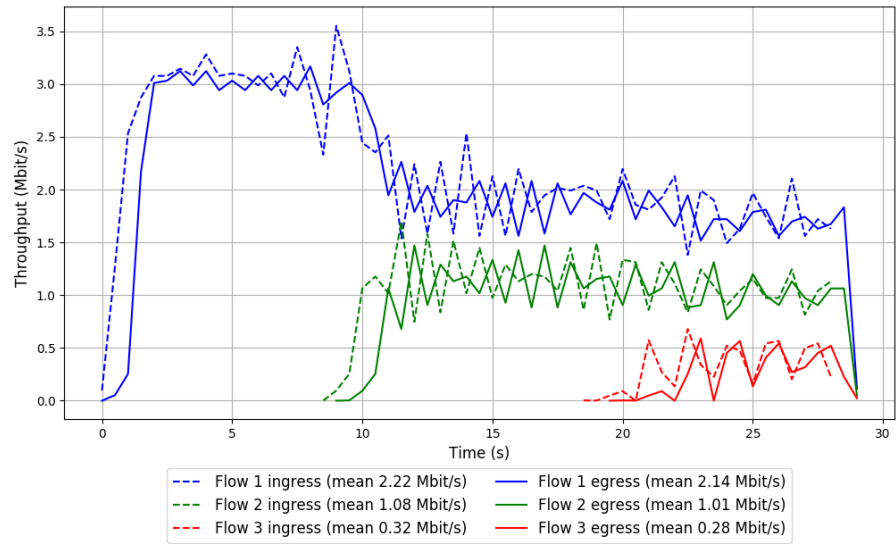
-- Flow 3:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 1431.264 ms

Loss rate: 19.66%

Run 3: Report of QUIC Cubic — Data Link

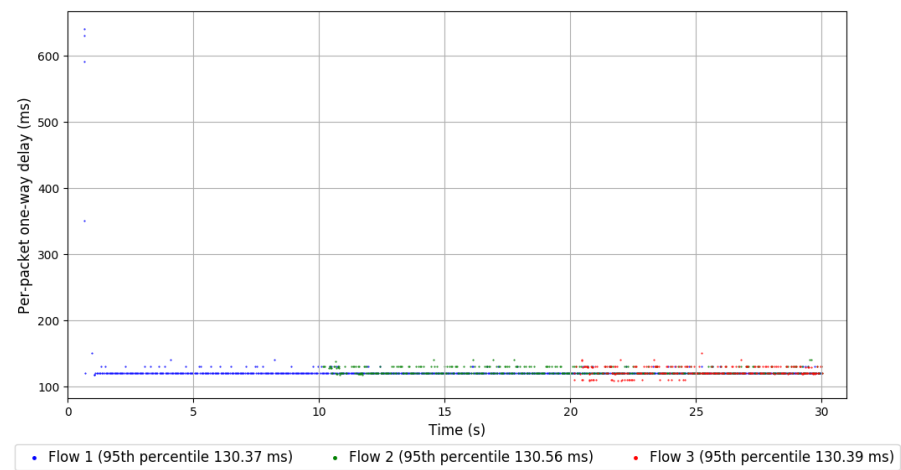
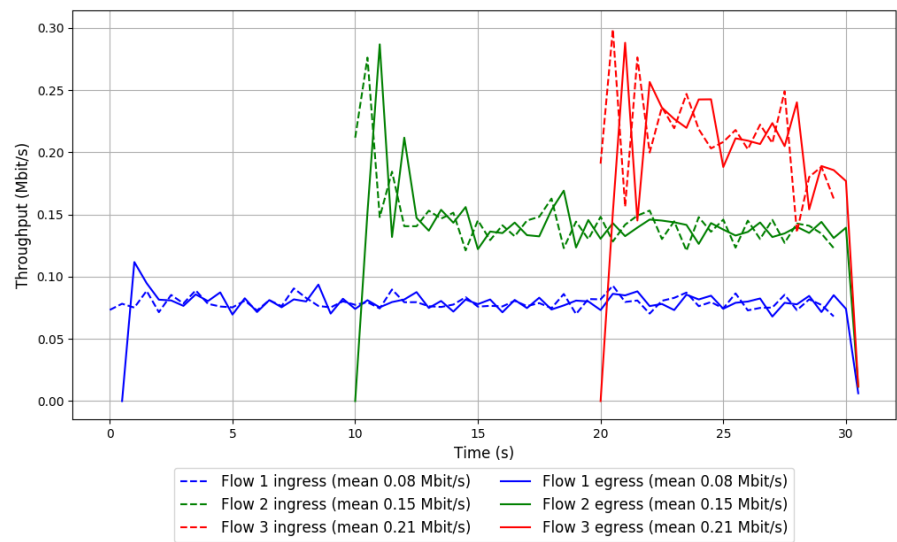


```
Run 1: Statistics of SCReAM

Start at: 2018-08-01 06:25:59
End at: 2018-08-01 06:26:29
Local clock offset: -3.583 ms
Remote clock offset: 8.54 ms

# Below is generated by plot.py at 2018-08-01 07:14:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 130.506 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 130.365 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 130.563 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 130.388 ms
Loss rate: 0.26%
```


Run 1: Report of SCSReAM — Data Link

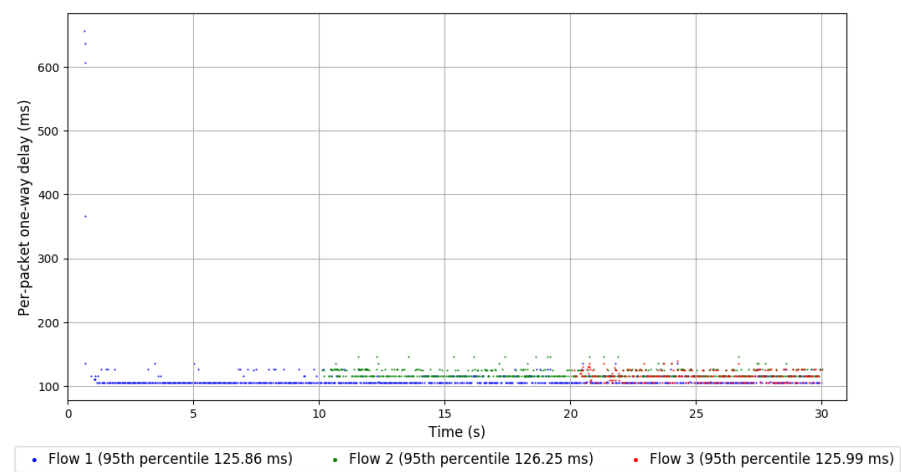
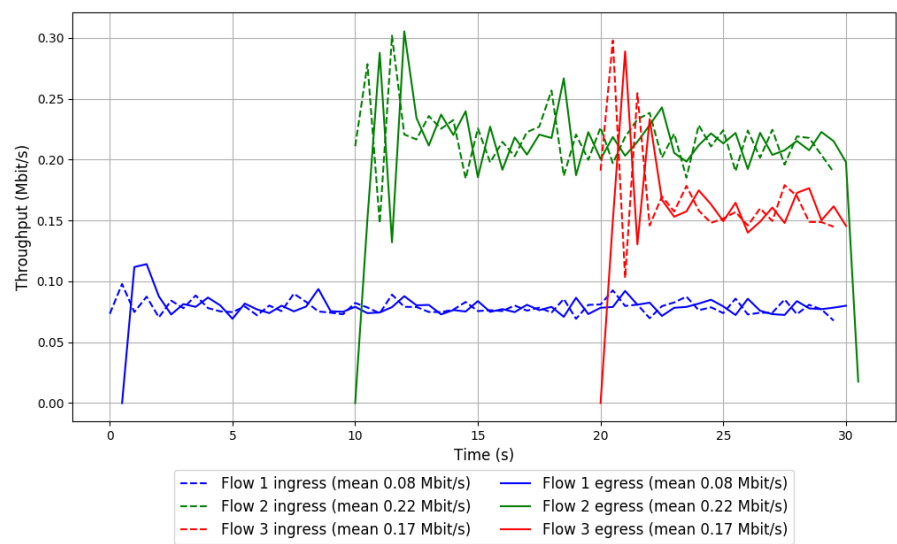


Run 2: Statistics of SReAM

Start at: 2018-08-01 06:46:16
End at: 2018-08-01 06:46:46
Local clock offset: -3.531 ms
Remote clock offset: 3.936 ms

Below is generated by plot.py at 2018-08-01 07:14:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 126.000 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 125.855 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 126.245 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 125.994 ms
Loss rate: 0.67%

Run 2: Report of SReAM — Data Link

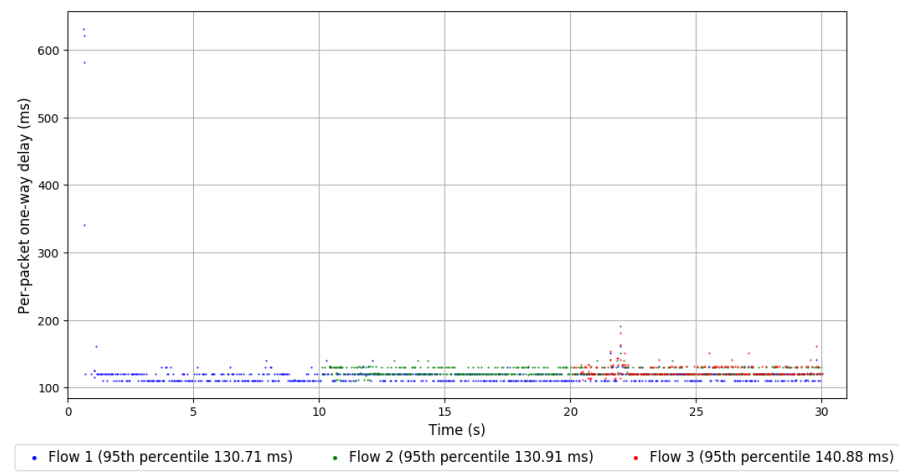
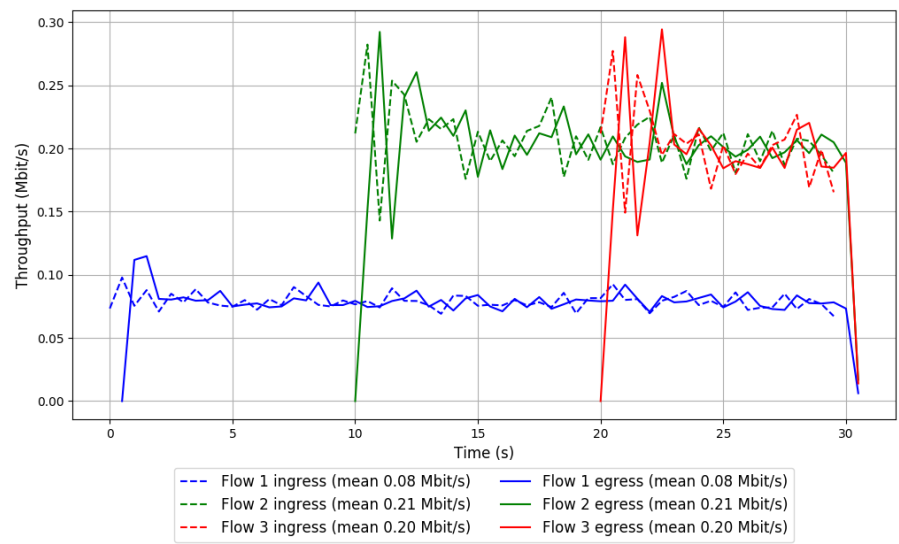


Run 3: Statistics of SReAM

Start at: 2018-08-01 07:06:35
End at: 2018-08-01 07:07:05
Local clock offset: -4.675 ms
Remote clock offset: 9.312 ms

Below is generated by plot.py at 2018-08-01 07:14:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 131.005 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 130.708 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 130.911 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 140.882 ms
Loss rate: 0.35%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-08-01 06:16:25

End at: 2018-08-01 06:16:55

Local clock offset: -3.775 ms

Remote clock offset: 8.02 ms

Below is generated by plot.py at 2018-08-01 07:14:55

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.32 Mbit/s

95th percentile per-packet one-way delay: 173.888 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 183.663 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 174.010 ms

Loss rate: 0.76%

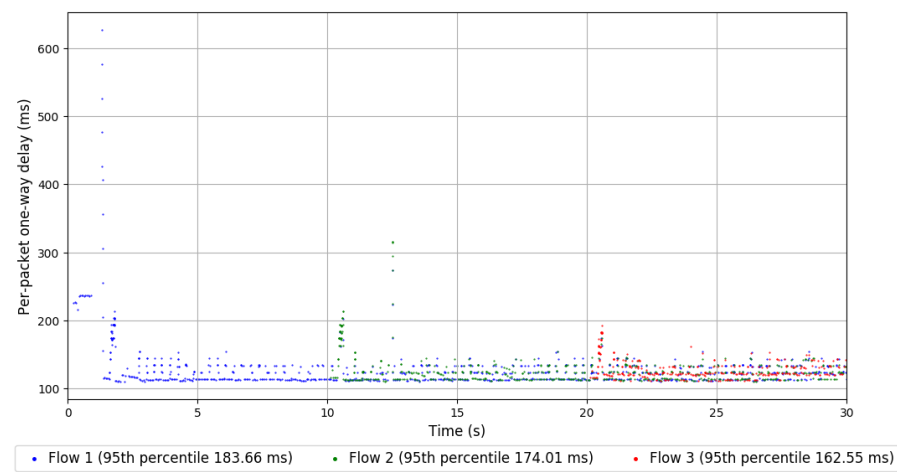
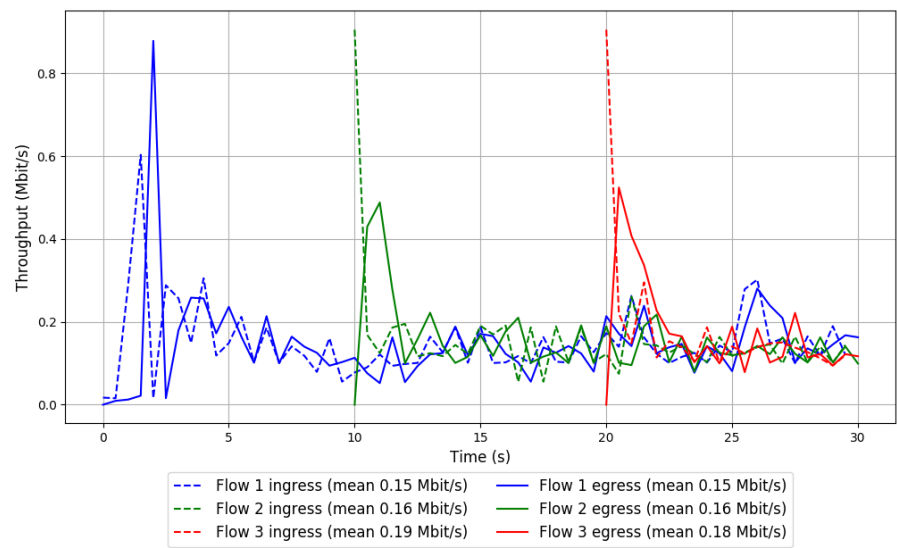
-- Flow 3:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 162.548 ms

Loss rate: 0.65%

Run 1: Report of Sprout — Data Link

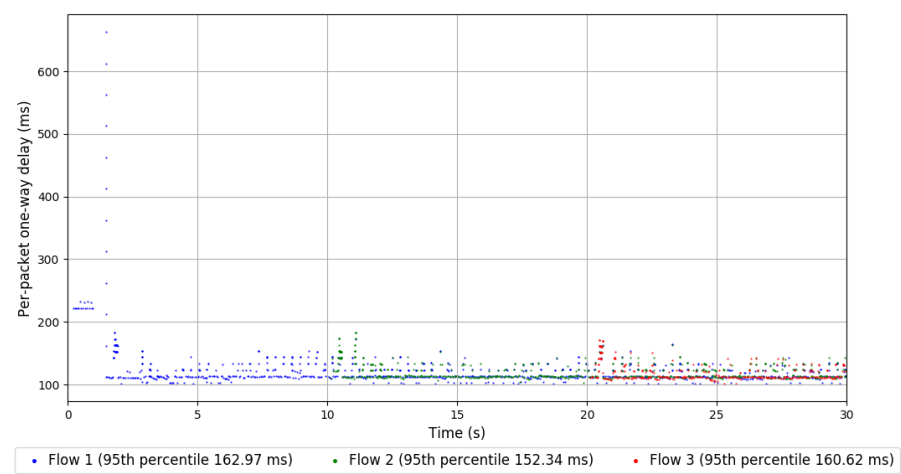
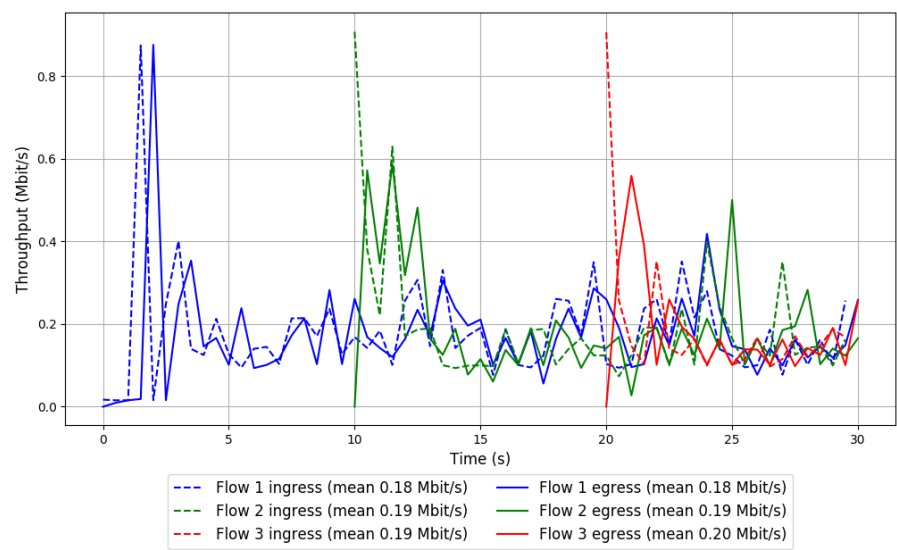


Run 2: Statistics of Sprout

Start at: 2018-08-01 06:36:43
End at: 2018-08-01 06:37:13
Local clock offset: -3.615 ms
Remote clock offset: 3.908 ms

```
# Below is generated by plot.py at 2018-08-01 07:14:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 153.448 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 162.973 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 152.343 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 160.623 ms
Loss rate: 0.04%
```


Run 2: Report of Sprout — Data Link

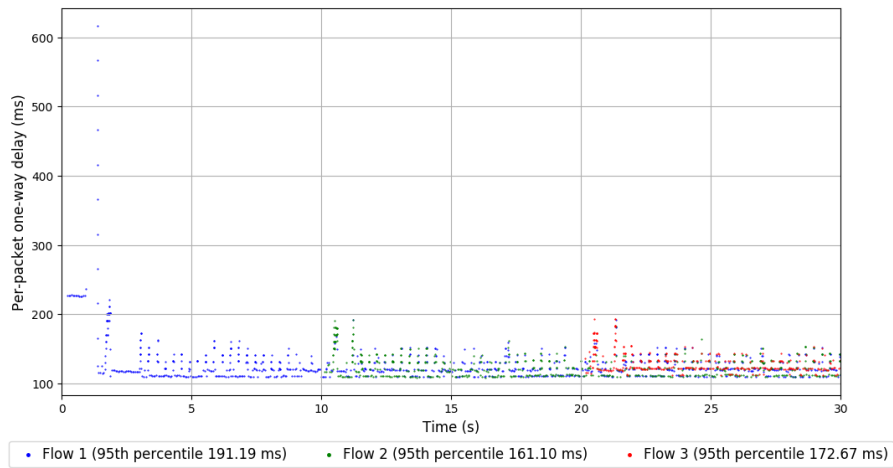
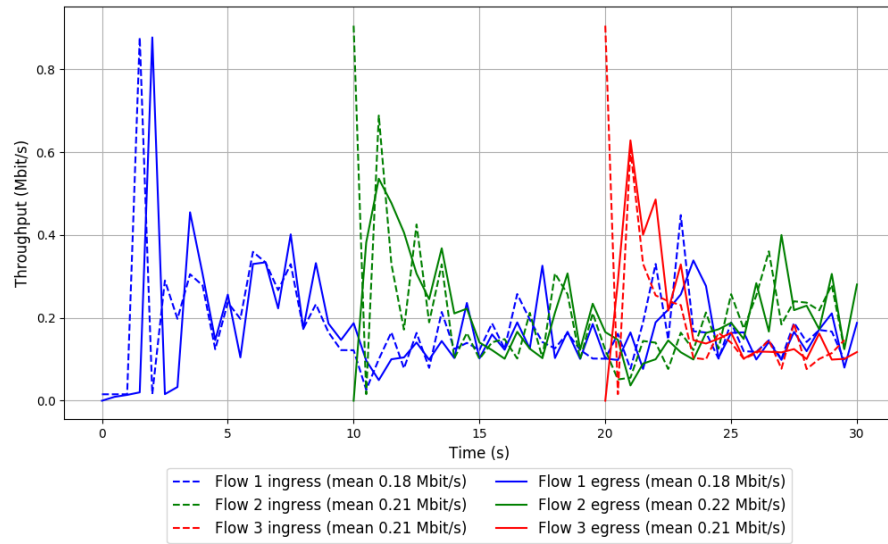


Run 3: Statistics of Sprout

Start at: 2018-08-01 06:57:00
End at: 2018-08-01 06:57:30
Local clock offset: -4.053 ms
Remote clock offset: 9.037 ms

```
# Below is generated by plot.py at 2018-08-01 07:14:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 170.779 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 191.195 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.099 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 172.672 ms
Loss rate: 1.15%
```

Run 3: Report of Sprout — Data Link

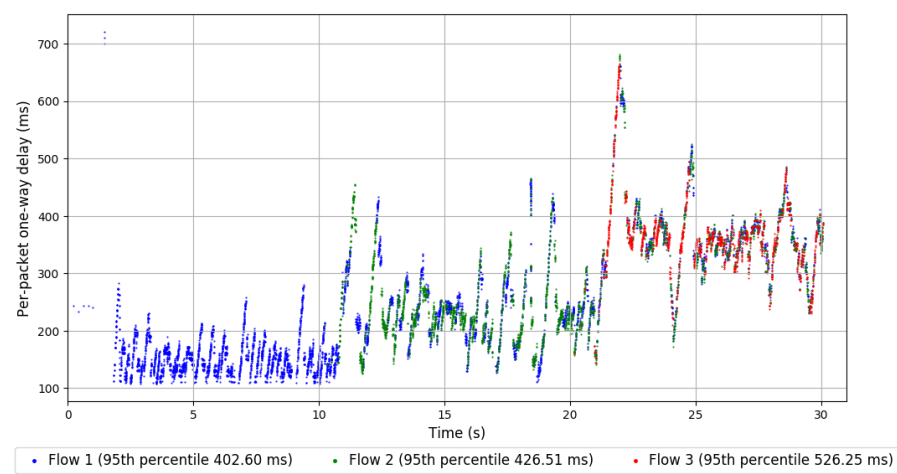
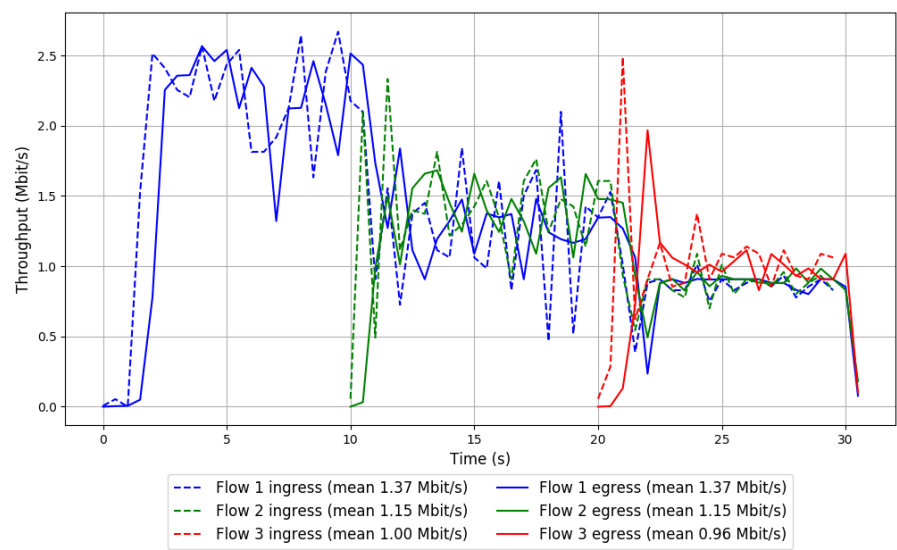


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-08-01 06:18:48
End at: 2018-08-01 06:19:18
Local clock offset: -3.716 ms
Remote clock offset: 3.43 ms

# Below is generated by plot.py at 2018-08-01 07:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 424.148 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 402.599 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 426.509 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 526.246 ms
Loss rate: 4.43%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-08-01 06:39:06

End at: 2018-08-01 06:39:36

Local clock offset: -3.546 ms

Remote clock offset: 3.861 ms

Below is generated by plot.py at 2018-08-01 07:15:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.56 Mbit/s

95th percentile per-packet one-way delay: 579.663 ms

Loss rate: 0.88%

-- Flow 1:

Average throughput: 1.44 Mbit/s

95th percentile per-packet one-way delay: 569.841 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 1.23 Mbit/s

95th percentile per-packet one-way delay: 636.739 ms

Loss rate: 0.94%

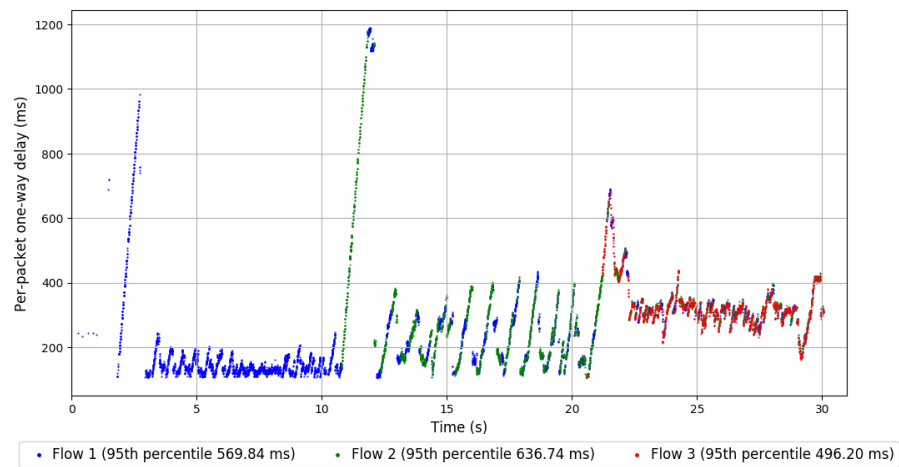
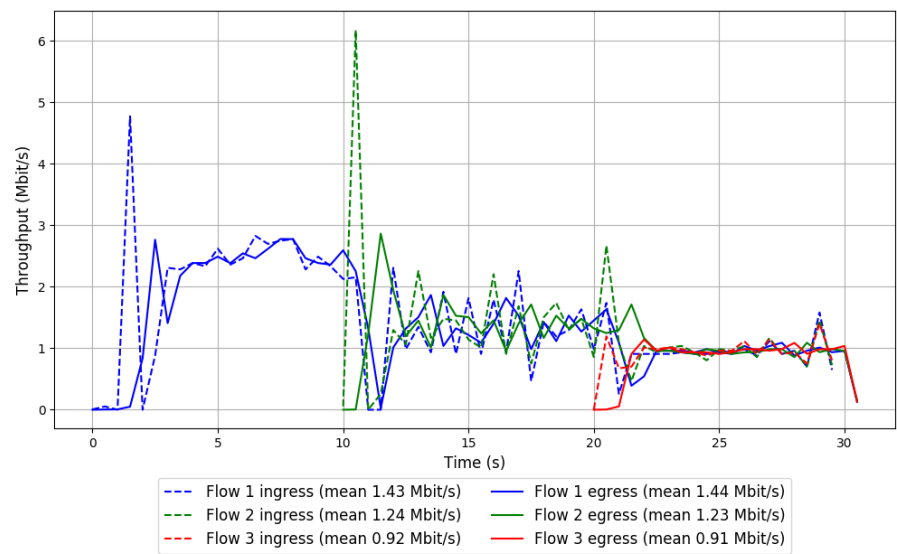
-- Flow 3:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 496.200 ms

Loss rate: 2.70%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-08-01 06:59:23

End at: 2018-08-01 06:59:53

Local clock offset: -4.258 ms

Remote clock offset: 9.191 ms

Below is generated by plot.py at 2018-08-01 07:15:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.65 Mbit/s

95th percentile per-packet one-way delay: 822.386 ms

Loss rate: 1.05%

-- Flow 1:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 1179.849 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 1.25 Mbit/s

95th percentile per-packet one-way delay: 555.897 ms

Loss rate: 1.18%

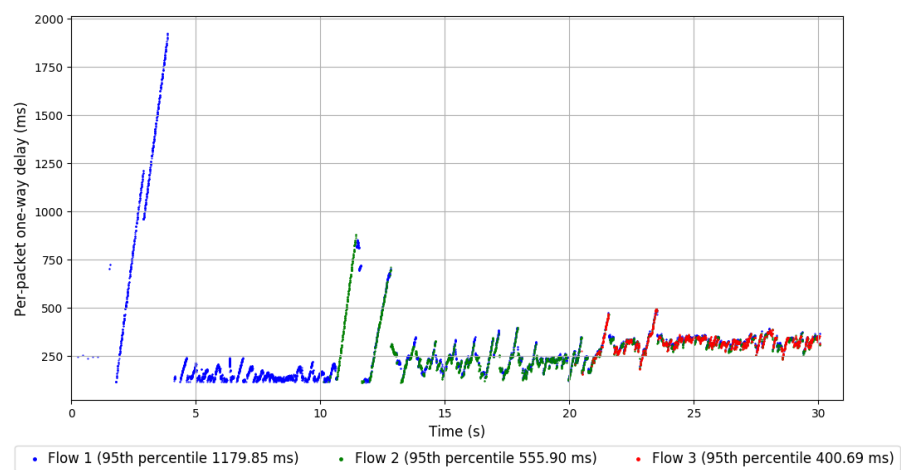
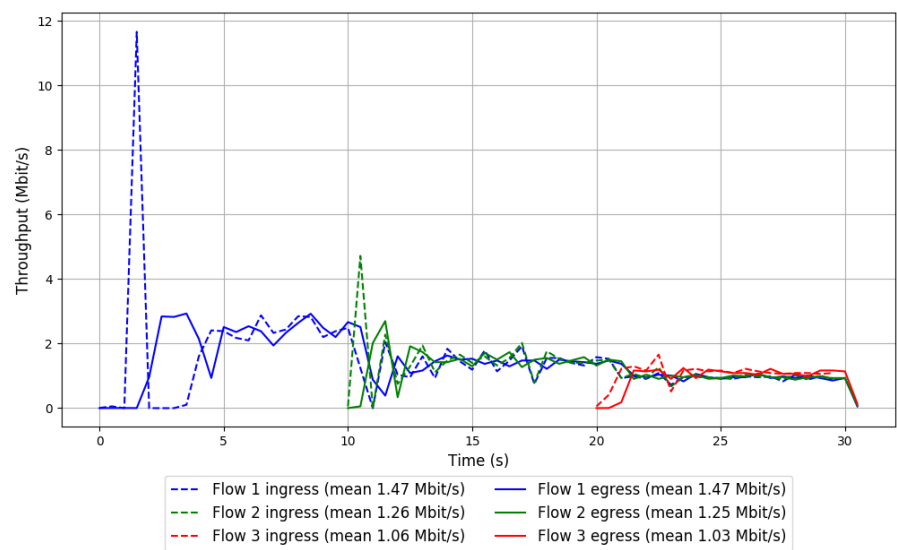
-- Flow 3:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 400.694 ms

Loss rate: 3.33%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-08-01 06:28:21

End at: 2018-08-01 06:28:51

Local clock offset: -3.588 ms

Remote clock offset: 3.873 ms

Below is generated by plot.py at 2018-08-01 07:15:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.81 Mbit/s

95th percentile per-packet one-way delay: 822.659 ms

Loss rate: 2.43%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 812.728 ms

Loss rate: 1.22%

-- Flow 2:

Average throughput: 0.86 Mbit/s

95th percentile per-packet one-way delay: 831.196 ms

Loss rate: 2.99%

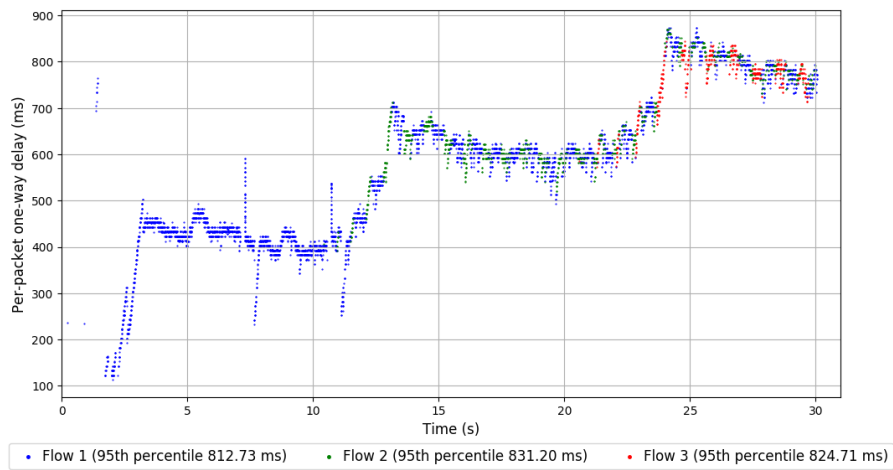
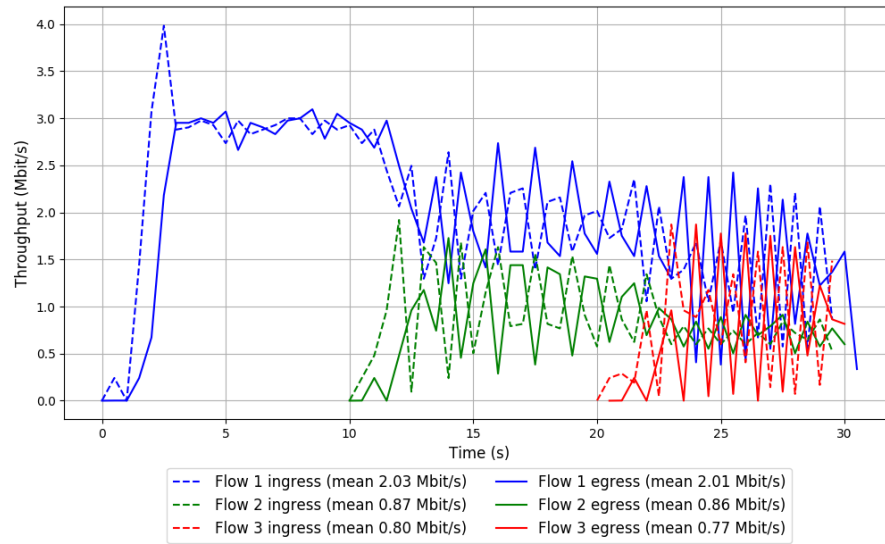
-- Flow 3:

Average throughput: 0.77 Mbit/s

95th percentile per-packet one-way delay: 824.710 ms

Loss rate: 10.52%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-08-01 06:48:39

End at: 2018-08-01 06:49:09

Local clock offset: -3.439 ms

Remote clock offset: 8.615 ms

Below is generated by plot.py at 2018-08-01 07:15:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.83 Mbit/s

95th percentile per-packet one-way delay: 1377.362 ms

Loss rate: 4.36%

-- Flow 1:

Average throughput: 2.46 Mbit/s

95th percentile per-packet one-way delay: 1366.812 ms

Loss rate: 3.52%

-- Flow 2:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 1377.551 ms

Loss rate: 5.06%

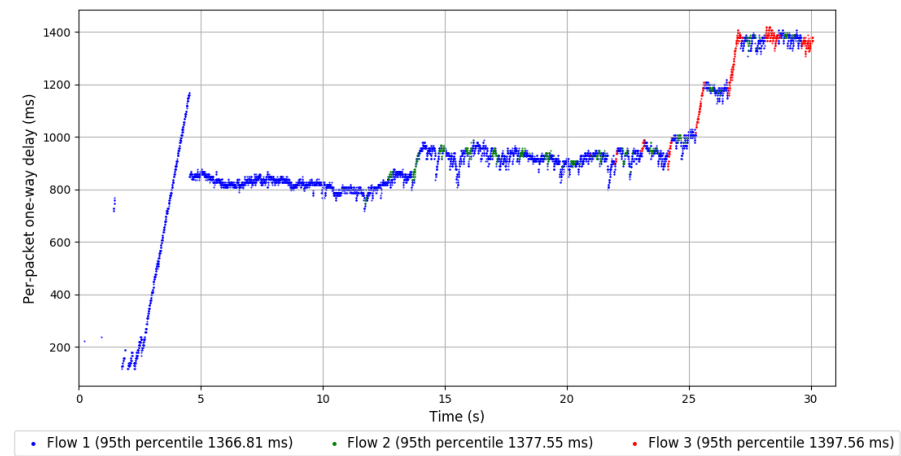
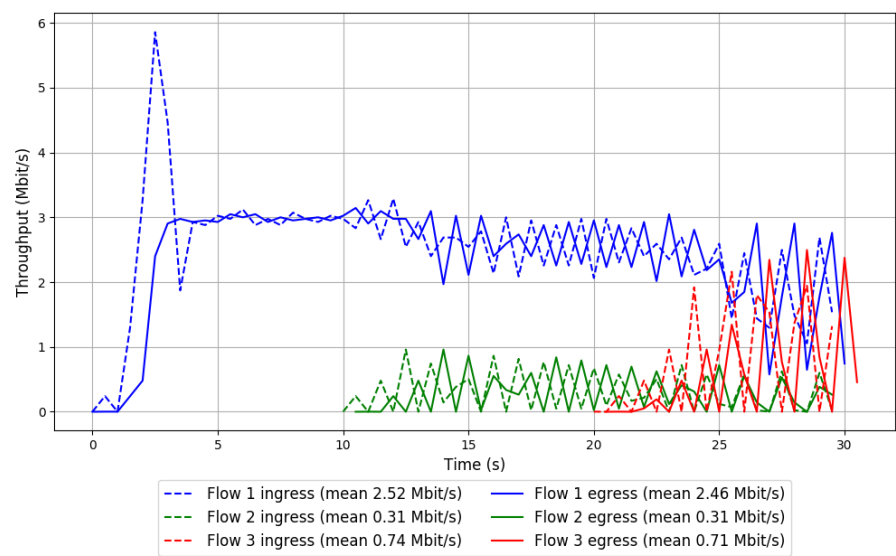
-- Flow 3:

Average throughput: 0.71 Mbit/s

95th percentile per-packet one-way delay: 1397.562 ms

Loss rate: 12.26%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-08-01 07:08:57

End at: 2018-08-01 07:09:27

Local clock offset: -4.774 ms

Remote clock offset: 9.345 ms

Below is generated by plot.py at 2018-08-01 07:15:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.79 Mbit/s

95th percentile per-packet one-way delay: 732.299 ms

Loss rate: 2.05%

-- Flow 1:

Average throughput: 2.23 Mbit/s

95th percentile per-packet one-way delay: 714.428 ms

Loss rate: 1.49%

-- Flow 2:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 733.973 ms

Loss rate: 0.13%

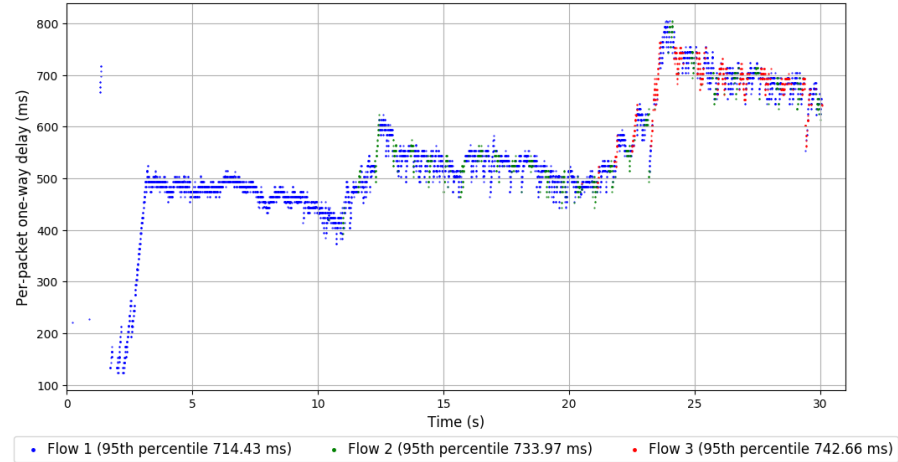
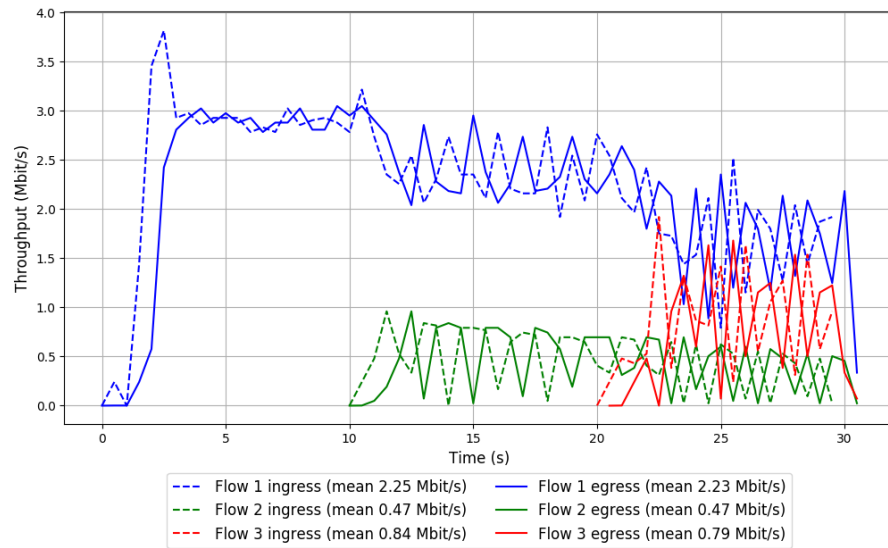
-- Flow 3:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 742.664 ms

Loss rate: 8.71%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-08-01 06:33:08

End at: 2018-08-01 06:33:38

Local clock offset: -3.593 ms

Remote clock offset: 3.95 ms

Below is generated by plot.py at 2018-08-01 07:15:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.79 Mbit/s

95th percentile per-packet one-way delay: 1713.962 ms

Loss rate: 4.98%

-- Flow 1:

Average throughput: 2.78 Mbit/s

95th percentile per-packet one-way delay: 1713.902 ms

Loss rate: 4.98%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1774.895 ms

Loss rate: 4.76%

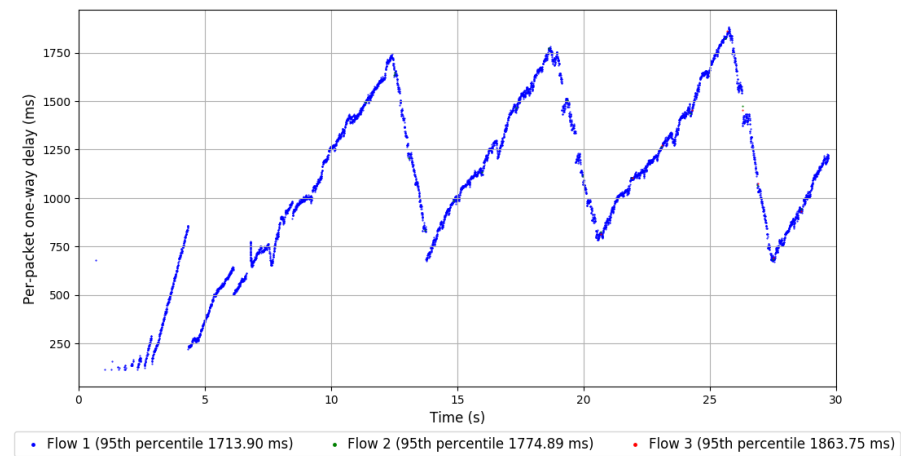
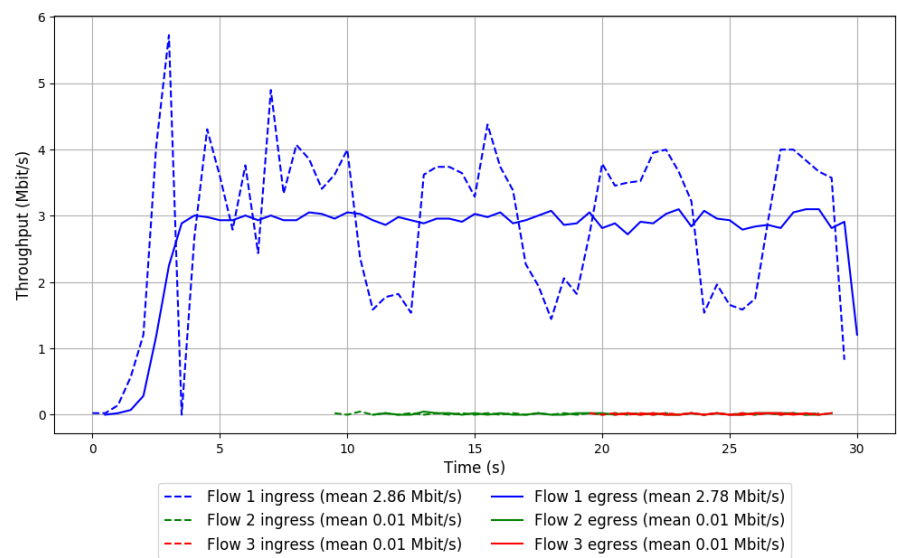
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1863.746 ms

Loss rate: 10.00%

Run 1: Report of Verus — Data Link

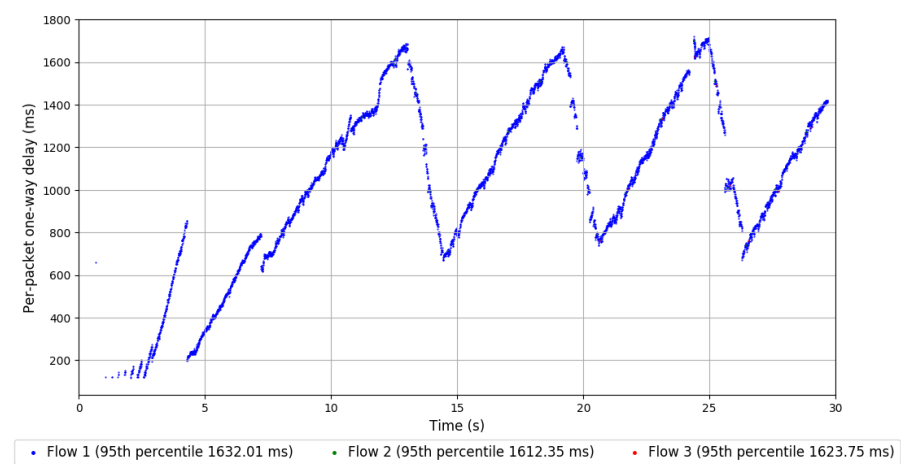
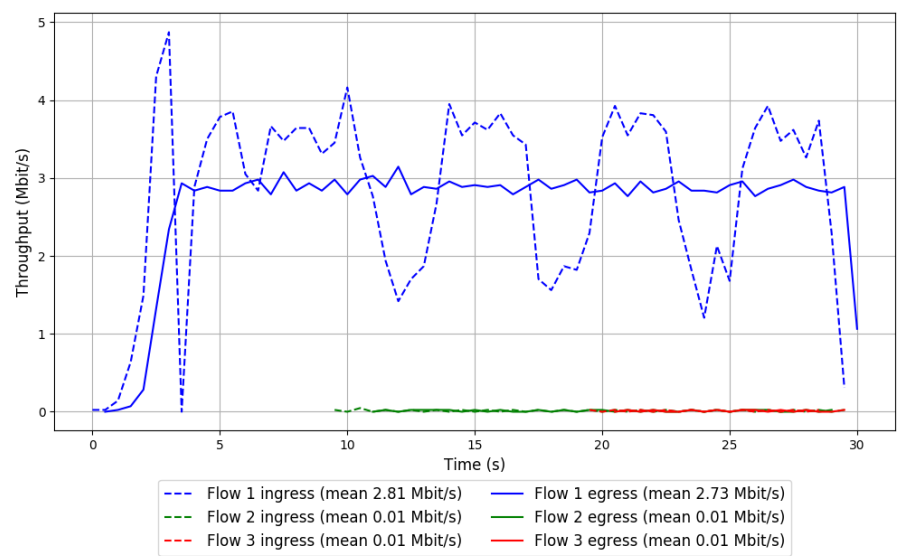


Run 2: Statistics of Verus

Start at: 2018-08-01 06:53:25
End at: 2018-08-01 06:53:55
Local clock offset: -3.584 ms
Remote clock offset: 8.914 ms

Below is generated by plot.py at 2018-08-01 07:15:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 1632.006 ms
Loss rate: 4.73%
-- Flow 1:
Average throughput: 2.73 Mbit/s
95th percentile per-packet one-way delay: 1632.006 ms
Loss rate: 4.71%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1612.345 ms
Loss rate: 9.09%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1623.746 ms
Loss rate: 10.00%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-08-01 07:13:43

End at: 2018-08-01 07:14:13

Local clock offset: -4.897 ms

Remote clock offset: 9.364 ms

Below is generated by plot.py at 2018-08-01 07:15:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.70 Mbit/s

95th percentile per-packet one-way delay: 1759.029 ms

Loss rate: 5.18%

-- Flow 1:

Average throughput: 2.68 Mbit/s

95th percentile per-packet one-way delay: 1758.979 ms

Loss rate: 5.18%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1786.278 ms

Loss rate: 5.00%

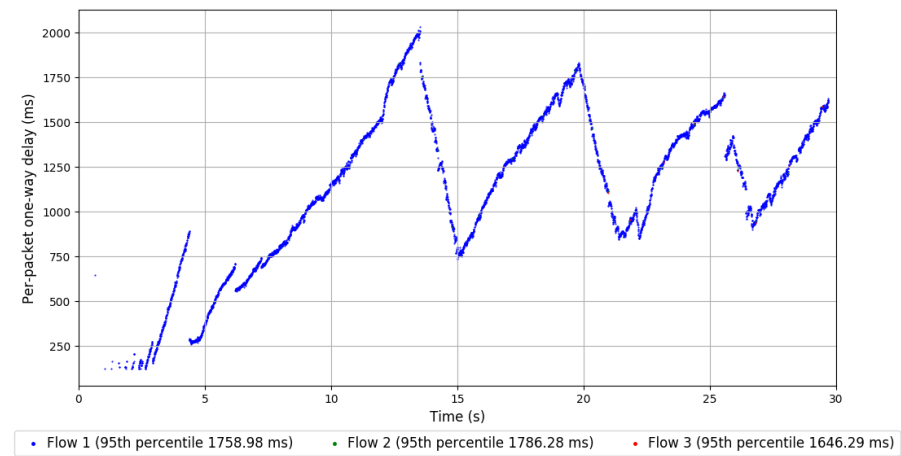
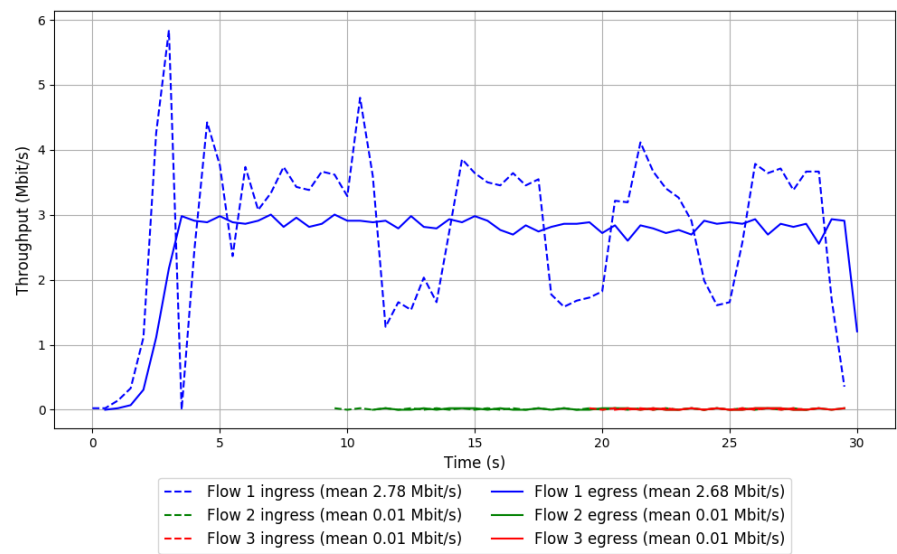
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1646.289 ms

Loss rate: 10.00%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-08-01 06:20:00

End at: 2018-08-01 06:20:30

Local clock offset: -3.687 ms

Remote clock offset: 3.559 ms

Below is generated by plot.py at 2018-08-01 07:15:06

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.49 Mbit/s

95th percentile per-packet one-way delay: 2161.313 ms

Loss rate: 11.42%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2030.412 ms

Loss rate: 4.41%

-- Flow 2:

Average throughput: 1.54 Mbit/s

95th percentile per-packet one-way delay: 2151.627 ms

Loss rate: 8.50%

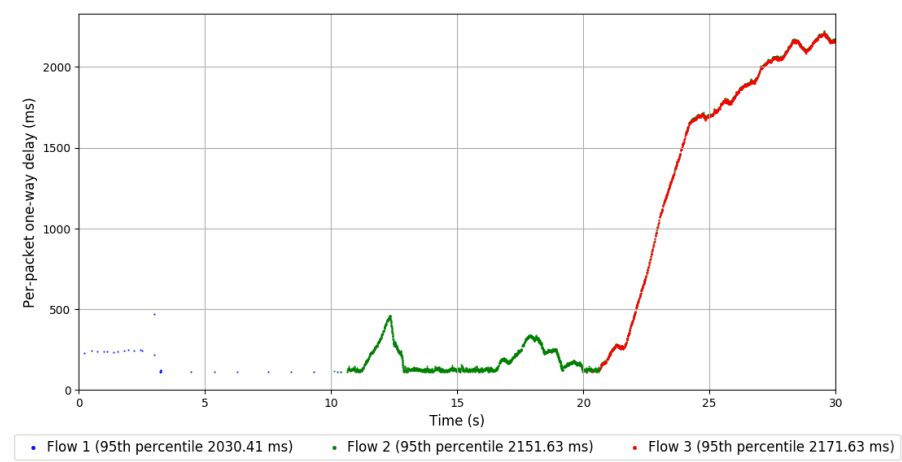
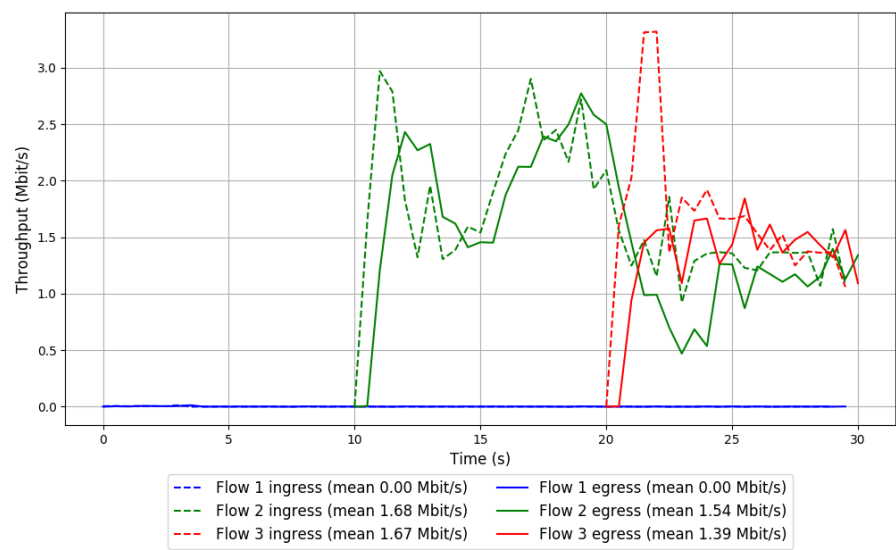
-- Flow 3:

Average throughput: 1.39 Mbit/s

95th percentile per-packet one-way delay: 2171.631 ms

Loss rate: 17.34%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-08-01 06:40:18

End at: 2018-08-01 06:40:48

Local clock offset: -3.533 ms

Remote clock offset: 3.864 ms

Below is generated by plot.py at 2018-08-01 07:15:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.75 Mbit/s

95th percentile per-packet one-way delay: 2683.944 ms

Loss rate: 21.58%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2007.505 ms

Loss rate: 6.45%

-- Flow 2:

Average throughput: 2.16 Mbit/s

95th percentile per-packet one-way delay: 2615.940 ms

Loss rate: 13.34%

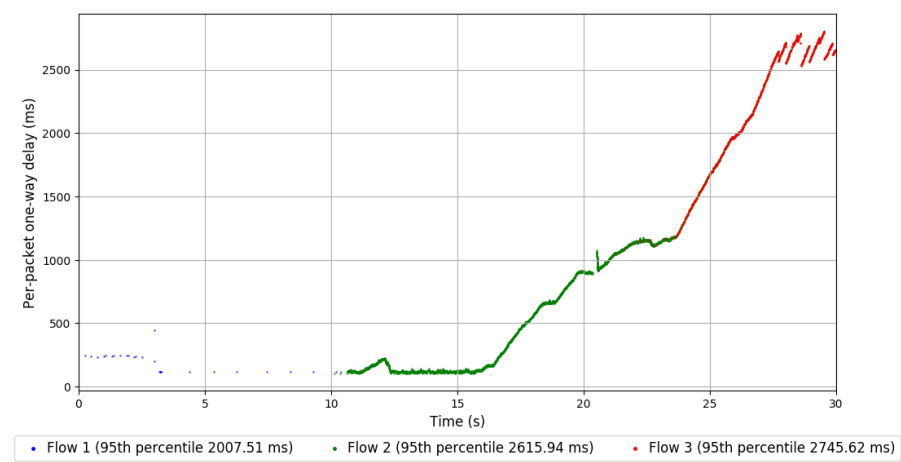
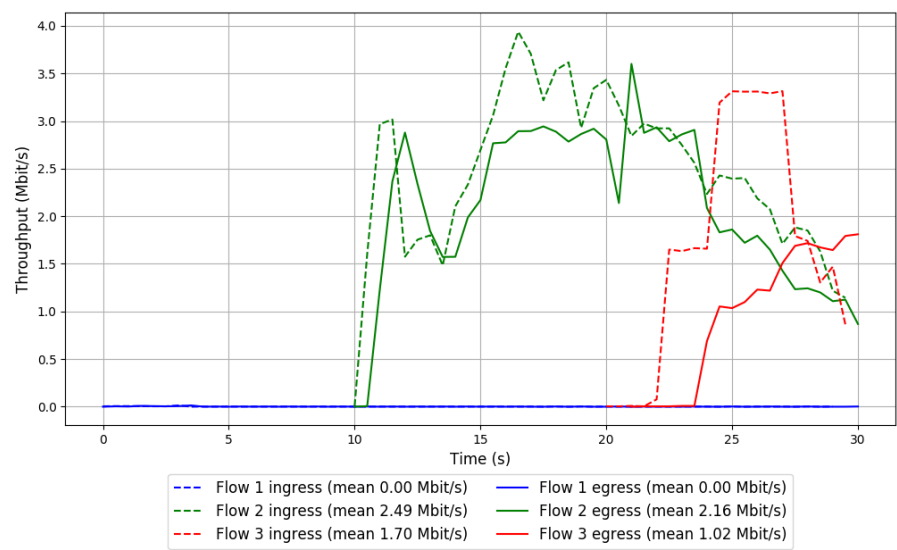
-- Flow 3:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 2745.624 ms

Loss rate: 45.87%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-08-01 07:00:35

End at: 2018-08-01 07:01:05

Local clock offset: -4.348 ms

Remote clock offset: 4.274 ms

Below is generated by plot.py at 2018-08-01 07:15:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.02 Mbit/s

95th percentile per-packet one-way delay: 2998.561 ms

Loss rate: 14.52%

-- Flow 1:

Average throughput: 1.11 Mbit/s

95th percentile per-packet one-way delay: 2991.431 ms

Loss rate: 12.89%

-- Flow 2:

Average throughput: 1.36 Mbit/s

95th percentile per-packet one-way delay: 3010.976 ms

Loss rate: 16.44%

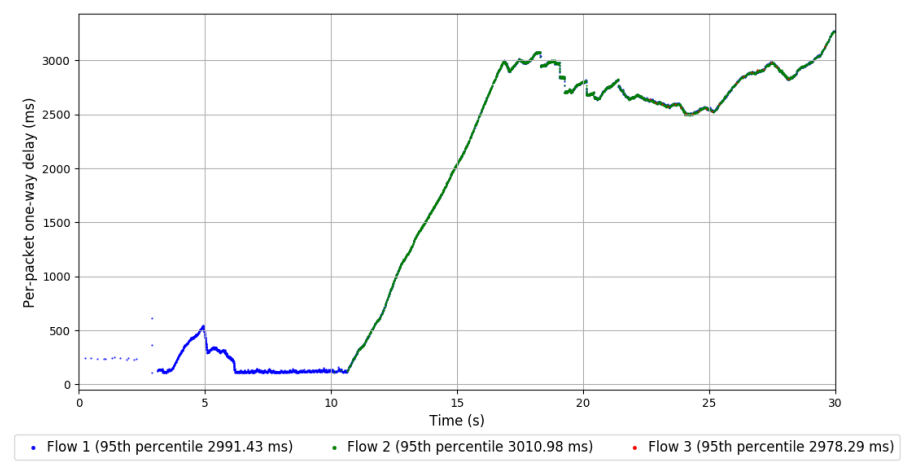
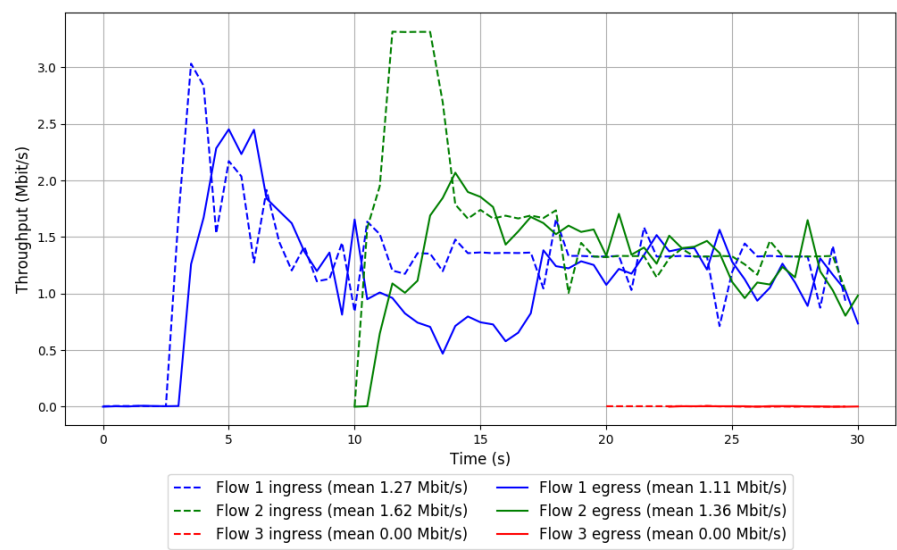
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2978.292 ms

Loss rate: 11.49%

Run 3: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-08-01 06:30:44

End at: 2018-08-01 06:31:14

Local clock offset: -3.594 ms

Remote clock offset: 3.822 ms

Below is generated by plot.py at 2018-08-01 07:15:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.70 Mbit/s

95th percentile per-packet one-way delay: 254.200 ms

Loss rate: 0.69%

-- Flow 1:

Average throughput: 0.29 Mbit/s

95th percentile per-packet one-way delay: 256.311 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 251.620 ms

Loss rate: 0.24%

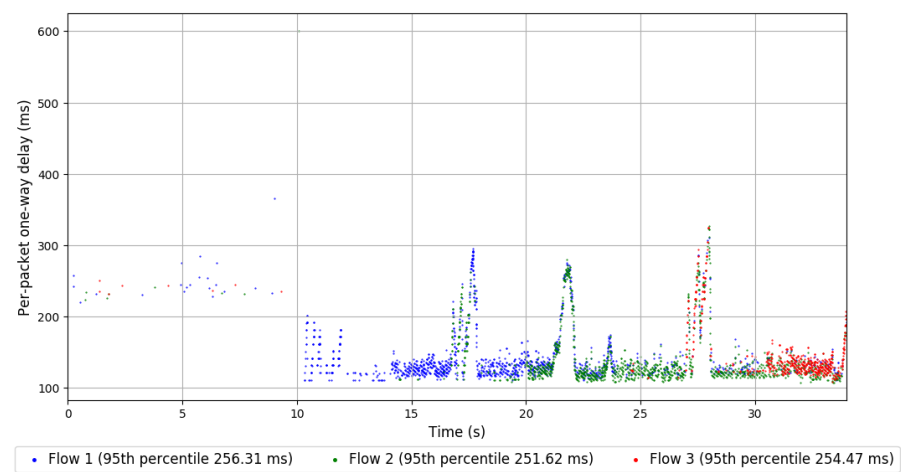
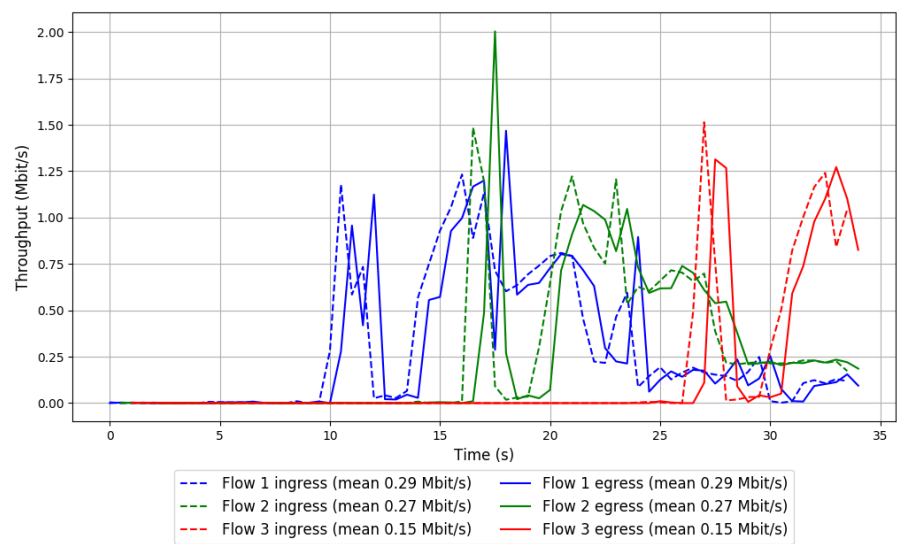
-- Flow 3:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 254.468 ms

Loss rate: 2.61%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-08-01 06:51:02

End at: 2018-08-01 06:51:32

Local clock offset: -3.406 ms

Remote clock offset: 8.902 ms

Below is generated by plot.py at 2018-08-01 07:15:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 327.914 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 0.45 Mbit/s

95th percentile per-packet one-way delay: 290.802 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 326.832 ms

Loss rate: 0.35%

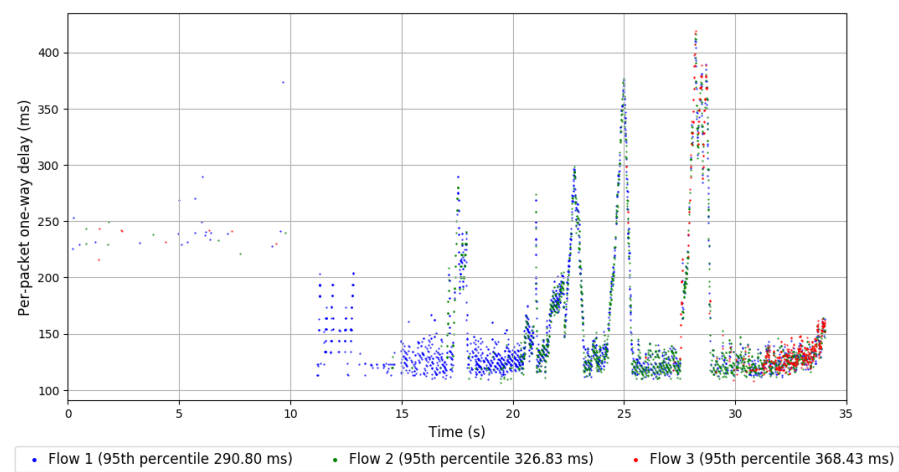
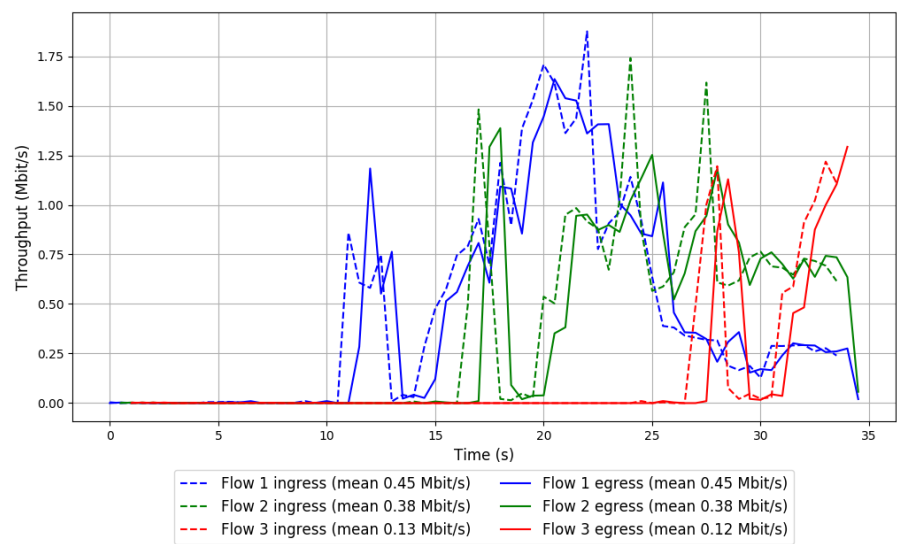
-- Flow 3:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 368.433 ms

Loss rate: 2.39%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-08-01 07:11:21

End at: 2018-08-01 07:11:51

Local clock offset: -4.855 ms

Remote clock offset: 9.305 ms

Below is generated by plot.py at 2018-08-01 07:15:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.95 Mbit/s

95th percentile per-packet one-way delay: 463.900 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 0.32 Mbit/s

95th percentile per-packet one-way delay: 253.512 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 480.926 ms

Loss rate: 0.40%

-- Flow 3:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 536.598 ms

Loss rate: 2.49%

Run 3: Report of WebRTC media — Data Link

