

Pantheon Report

Generated at 2018-09-07 16:33:59 (UTC).

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

Repeated the test of 18 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:

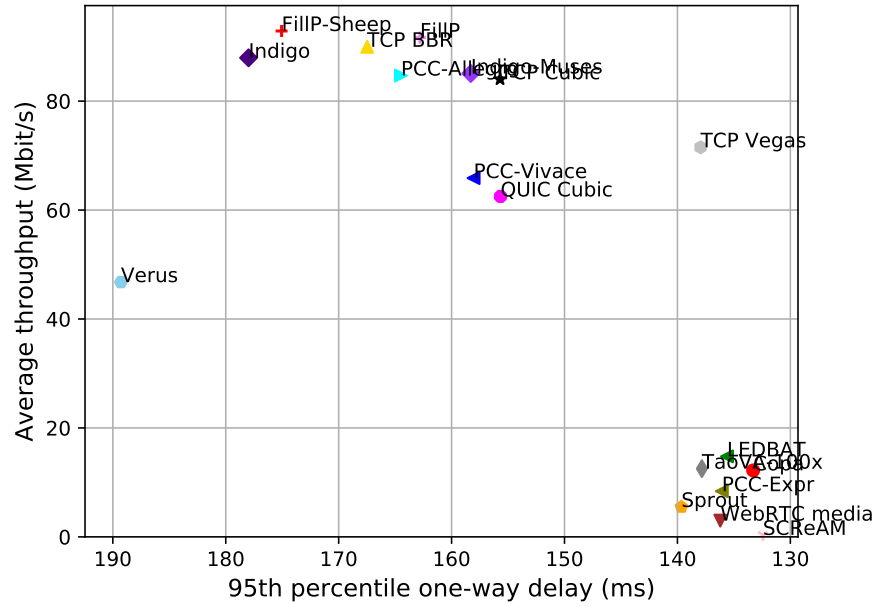
```
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 536870912 536870912 536870912
```

Git summary:

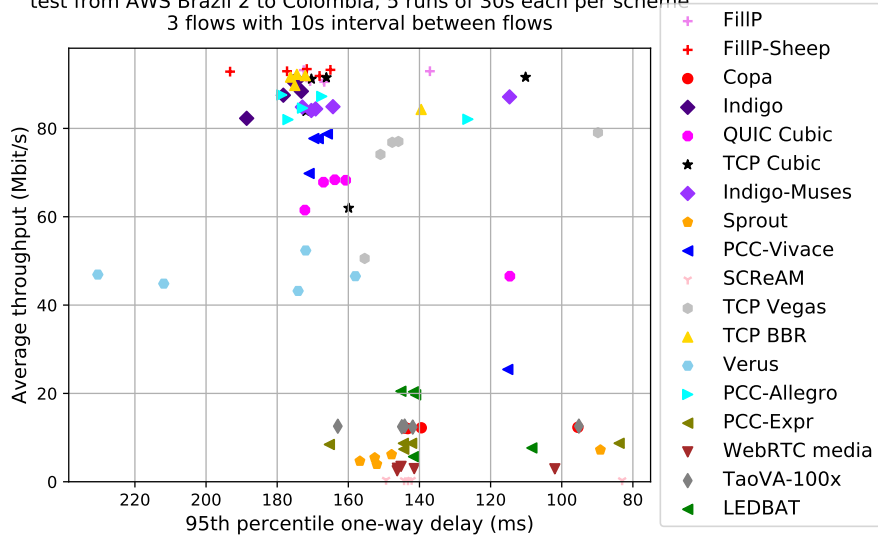
```
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd9f90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3
third_party/pantheon-tunnel @ cbfce6db5ff5740d4fe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
```

```
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



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



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	52.75	39.96	31.92	166.62	165.06	162.40	11.24	16.78	25.06
Copa	5	8.64	4.79	1.25	131.38	134.51	130.20	72.61	72.37	88.27
TCP Cubic	5	66.70	12.62	26.80	155.95	158.22	153.91	1.06	0.34	0.45
FillP	5	57.43	36.80	29.49	157.80	159.06	162.20	17.69	21.74	22.47
FillP-Sheep	5	54.07	41.12	34.65	173.63	169.98	177.61	15.31	26.54	31.82
Indigo	5	58.32	33.09	23.95	172.44	173.62	179.90	6.69	14.88	28.20
LEDBAT	5	9.57	6.18	3.32	131.58	136.62	136.66	0.12	0.64	0.20
Indigo-Muses	5	54.37	32.53	27.95	158.50	159.13	159.12	2.11	3.60	3.51
PCC-Allegro	5	72.49	15.29	6.17	163.46	161.06	170.01	3.67	4.25	5.63
PCC-Expr	5	0.01	8.07	9.15	131.72	136.13	136.59	86.07	56.22	39.85
QUIC Cubic	5	43.99	20.58	14.85	155.80	154.22	155.16	1.27	1.43	3.38
SCReAM	5	0.16	0.20	0.20	131.41	131.18	133.42	1.29	0.91	0.50
Sprout	5	2.96	2.65	2.34	137.74	140.38	141.63	0.51	0.78	1.07
TaoVA-100x	5	7.53	4.50	6.02	139.35	134.49	140.24	37.71	46.08	61.53
TCP Vegas	5	50.40	15.49	32.51	136.59	143.12	135.18	0.91	0.53	1.02
Verus	5	24.82	25.13	17.18	181.47	179.09	160.58	42.21	42.57	21.40
PCC-Vivace	5	49.93	16.30	15.45	156.83	157.28	156.94	0.85	0.84	0.70
WebRTC media	5	1.73	1.01	0.26	136.89	133.08	135.86	0.73	0.88	1.32

Run 1: Statistics of TCP BBR

Start at: 2018-09-07 14:38:24

End at: 2018-09-07 14:38:54

Local clock offset: 2.887 ms

Remote clock offset: 3.264 ms

Below is generated by plot.py at 2018-09-07 16:26:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 84.29 Mbit/s

95th percentile per-packet one-way delay: 139.523 ms

Loss rate: 14.94%

-- Flow 1:

Average throughput: 50.05 Mbit/s

95th percentile per-packet one-way delay: 139.968 ms

Loss rate: 12.06%

-- Flow 2:

Average throughput: 37.48 Mbit/s

95th percentile per-packet one-way delay: 118.933 ms

Loss rate: 16.71%

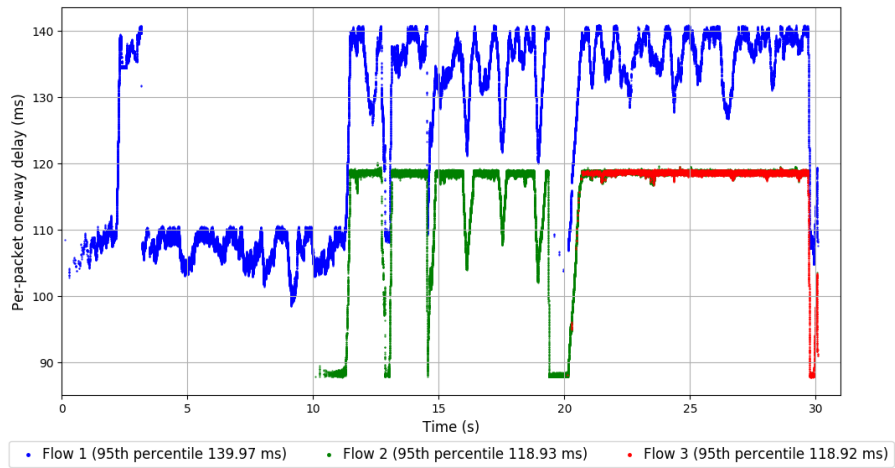
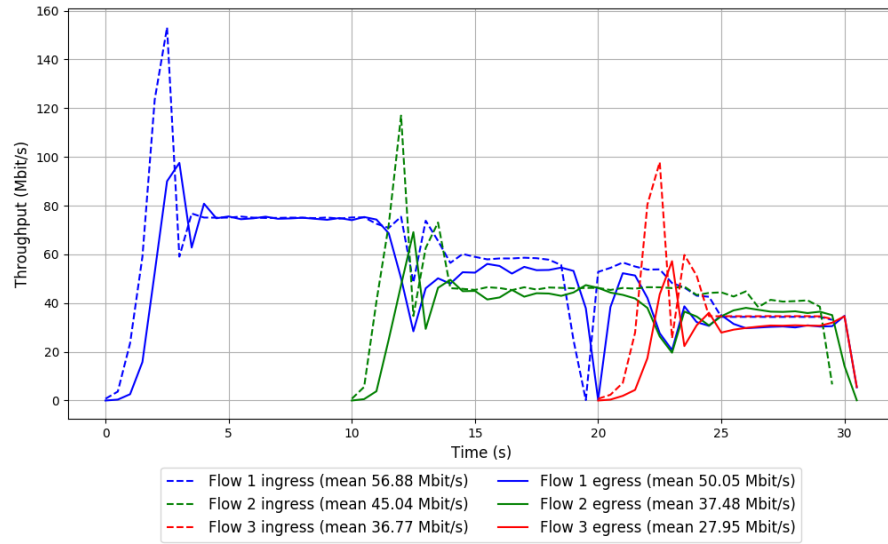
-- Flow 3:

Average throughput: 27.95 Mbit/s

95th percentile per-packet one-way delay: 118.921 ms

Loss rate: 23.96%

Run 1: Report of TCP BBR — Data Link

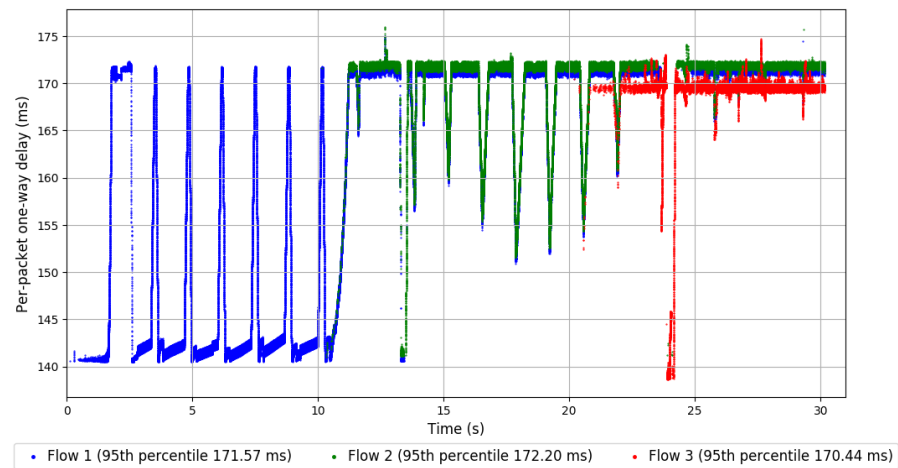
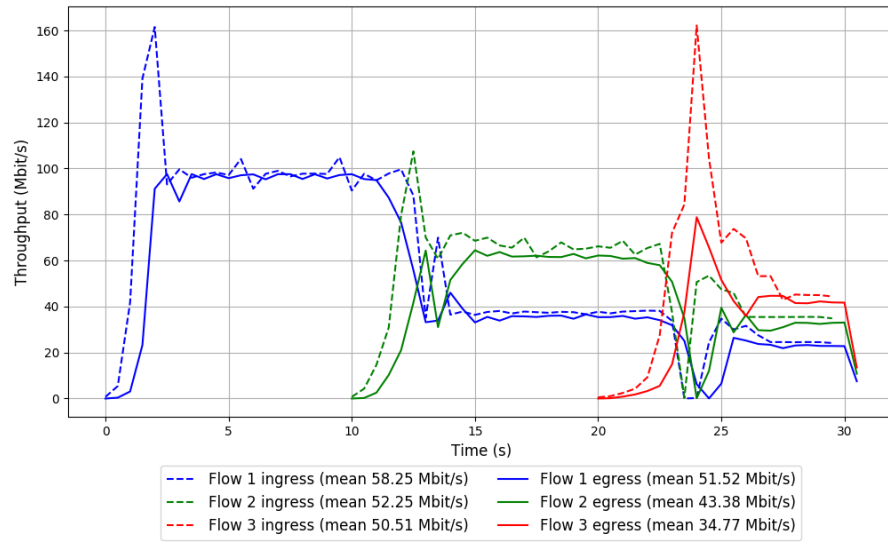


Run 2: Statistics of TCP BBR

Start at: 2018-09-07 15:01:59
End at: 2018-09-07 15:02:29
Local clock offset: -53.381 ms
Remote clock offset: -2.373 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.96 Mbit/s
95th percentile per-packet one-way delay: 172.092 ms
Loss rate: 16.22%
-- Flow 1:
Average throughput: 51.52 Mbit/s
95th percentile per-packet one-way delay: 171.568 ms
Loss rate: 11.46%
-- Flow 2:
Average throughput: 43.38 Mbit/s
95th percentile per-packet one-way delay: 172.198 ms
Loss rate: 16.97%
-- Flow 3:
Average throughput: 34.77 Mbit/s
95th percentile per-packet one-way delay: 170.444 ms
Loss rate: 31.17%

Run 2: Report of TCP BBR — Data Link

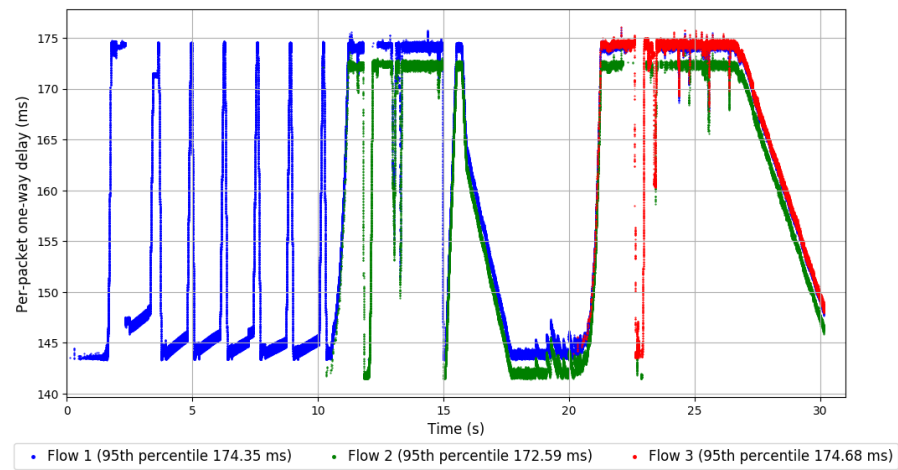
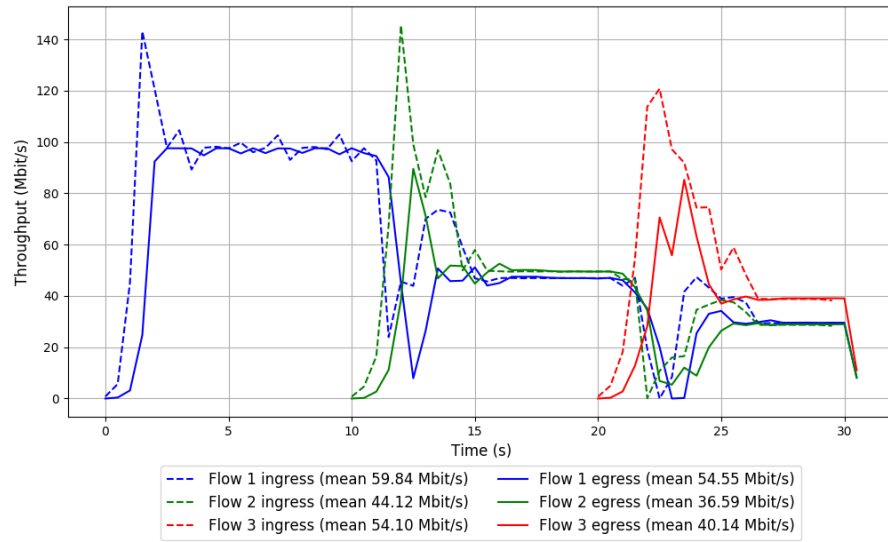


Run 3: Statistics of TCP BBR

Start at: 2018-09-07 15:25:00
End at: 2018-09-07 15:25:30
Local clock offset: -51.398 ms
Remote clock offset: 2.421 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.24 Mbit/s
95th percentile per-packet one-way delay: 174.476 ms
Loss rate: 13.96%
-- Flow 1:
Average throughput: 54.55 Mbit/s
95th percentile per-packet one-way delay: 174.353 ms
Loss rate: 8.83%
-- Flow 2:
Average throughput: 36.59 Mbit/s
95th percentile per-packet one-way delay: 172.594 ms
Loss rate: 17.16%
-- Flow 3:
Average throughput: 40.14 Mbit/s
95th percentile per-packet one-way delay: 174.684 ms
Loss rate: 25.76%

Run 3: Report of TCP BBR — Data Link

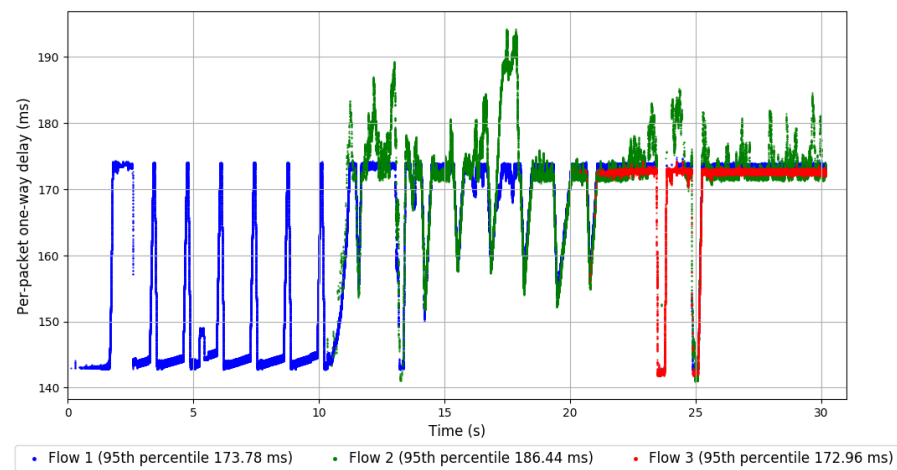
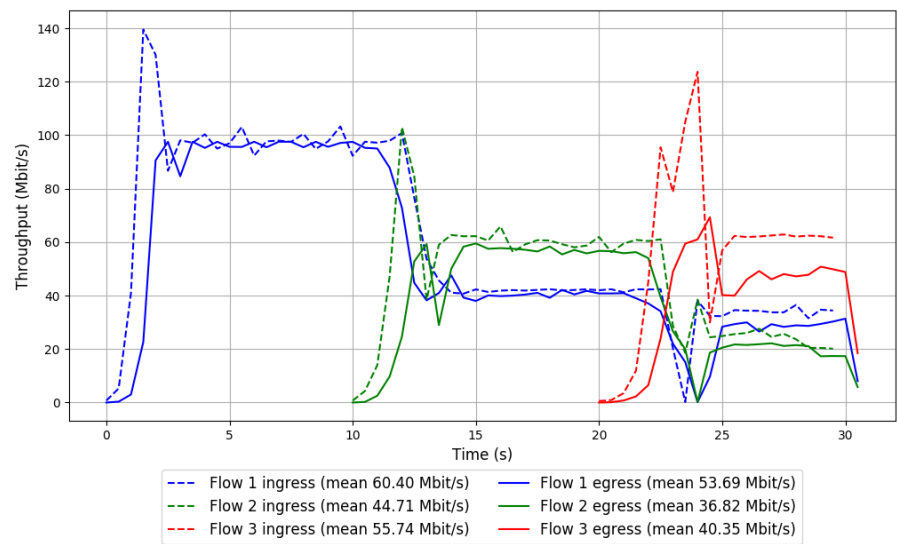


Run 4: Statistics of TCP BBR

Start at: 2018-09-07 15:47:47
End at: 2018-09-07 15:48:17
Local clock offset: -51.343 ms
Remote clock offset: 3.564 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.62 Mbit/s
95th percentile per-packet one-way delay: 176.246 ms
Loss rate: 15.65%
-- Flow 1:
Average throughput: 53.69 Mbit/s
95th percentile per-packet one-way delay: 173.783 ms
Loss rate: 11.02%
-- Flow 2:
Average throughput: 36.82 Mbit/s
95th percentile per-packet one-way delay: 186.443 ms
Loss rate: 17.57%
-- Flow 3:
Average throughput: 40.35 Mbit/s
95th percentile per-packet one-way delay: 172.963 ms
Loss rate: 27.63%

Run 4: Report of TCP BBR — Data Link

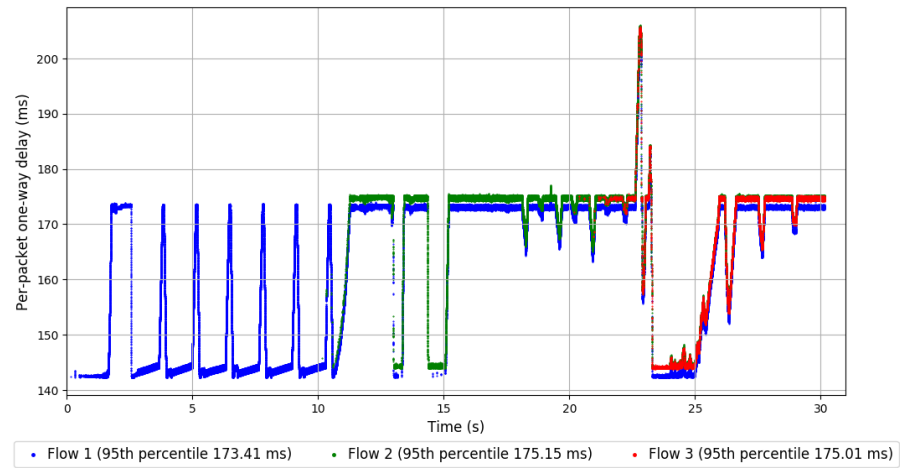
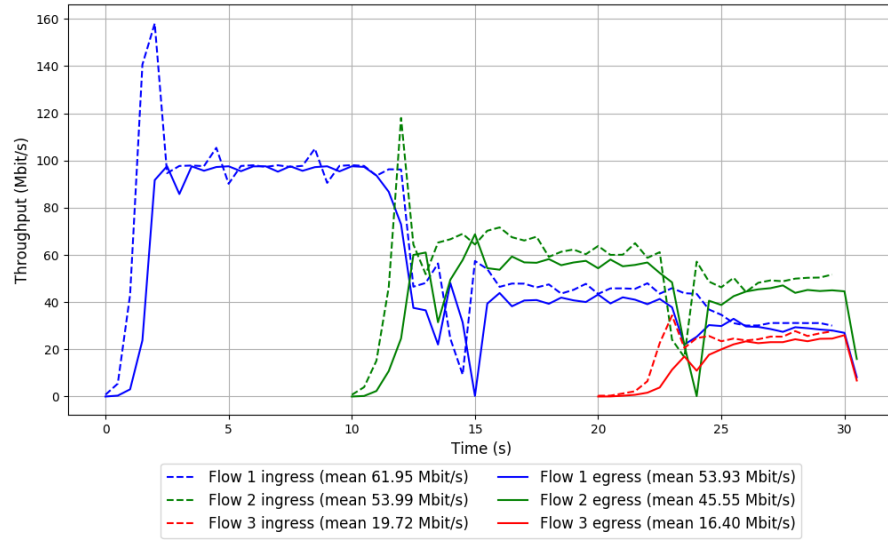


Run 5: Statistics of TCP BBR

Start at: 2018-09-07 16:11:14
End at: 2018-09-07 16:11:44
Local clock offset: -53.736 ms
Remote clock offset: 4.551 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.73 Mbit/s
95th percentile per-packet one-way delay: 175.046 ms
Loss rate: 14.01%
-- Flow 1:
Average throughput: 53.93 Mbit/s
95th percentile per-packet one-way delay: 173.411 ms
Loss rate: 12.85%
-- Flow 2:
Average throughput: 45.55 Mbit/s
95th percentile per-packet one-way delay: 175.145 ms
Loss rate: 15.51%
-- Flow 3:
Average throughput: 16.40 Mbit/s
95th percentile per-packet one-way delay: 175.011 ms
Loss rate: 16.79%

Run 5: Report of TCP BBR — Data Link

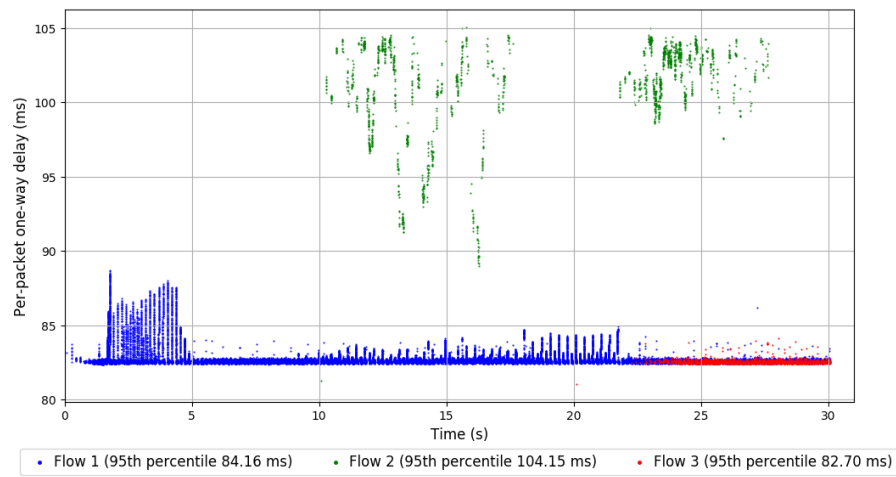
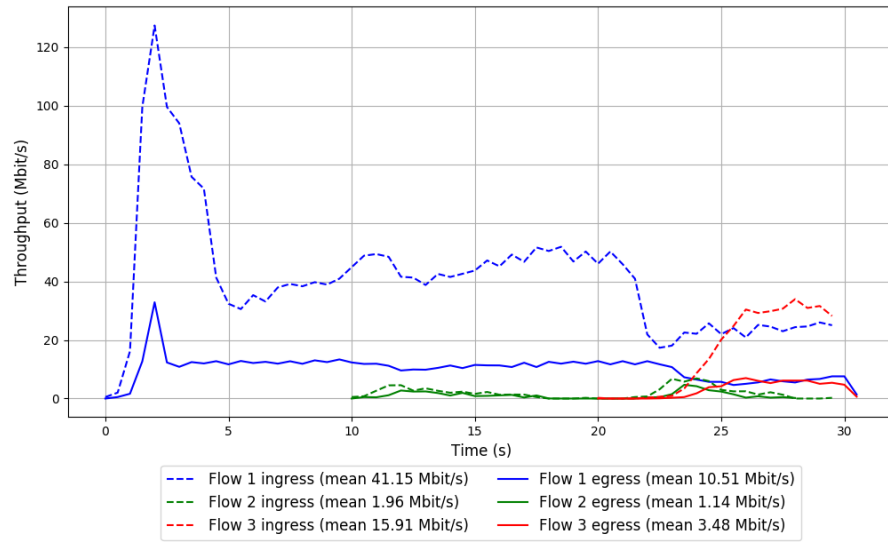


Run 1: Statistics of Copa

Start at: 2018-09-07 14:37:11
End at: 2018-09-07 14:37:41
Local clock offset: 2.908 ms
Remote clock offset: -2.029 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.33 Mbit/s
95th percentile per-packet one-way delay: 95.458 ms
Loss rate: 74.16%
-- Flow 1:
Average throughput: 10.51 Mbit/s
95th percentile per-packet one-way delay: 84.163 ms
Loss rate: 74.46%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 104.148 ms
Loss rate: 48.37%
-- Flow 3:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 82.704 ms
Loss rate: 78.11%

Run 1: Report of Copa — Data Link

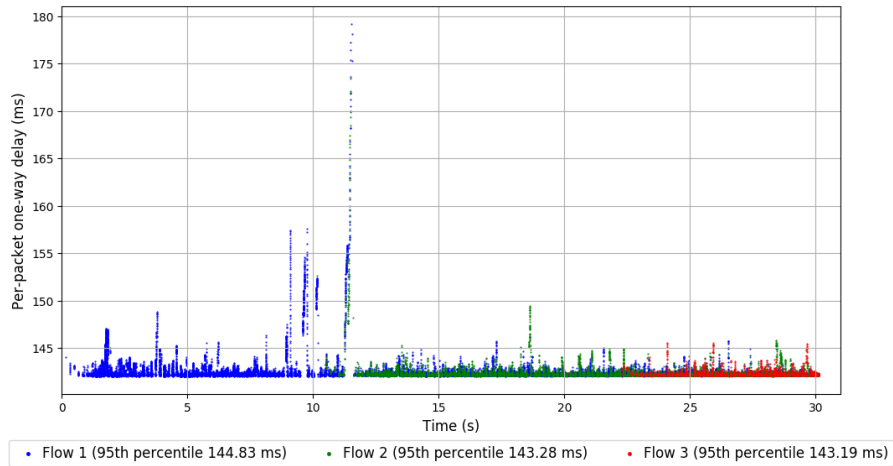
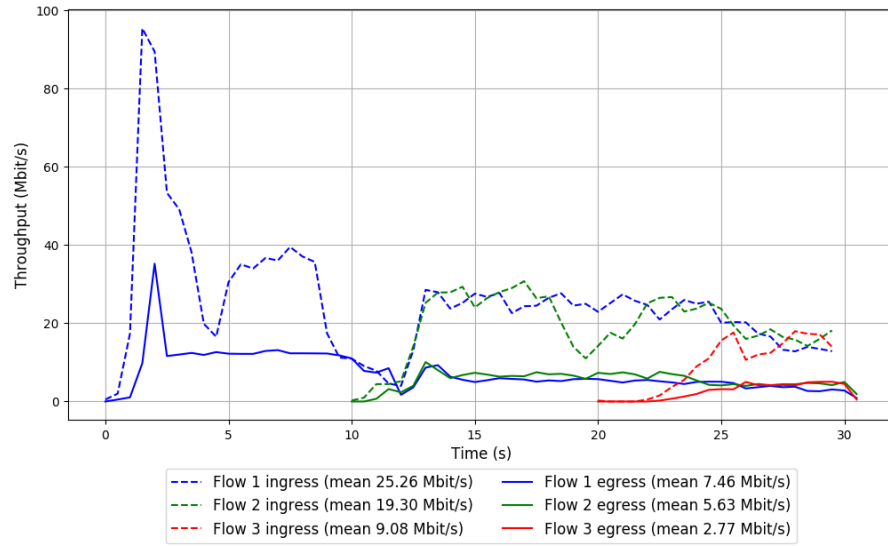


Run 2: Statistics of Copa

Start at: 2018-09-07 15:00:44
End at: 2018-09-07 15:01:14
Local clock offset: -53.227 ms
Remote clock offset: 1.874 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.12 Mbit/s
95th percentile per-packet one-way delay: 144.065 ms
Loss rate: 70.51%
-- Flow 1:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 144.829 ms
Loss rate: 70.47%
-- Flow 2:
Average throughput: 5.63 Mbit/s
95th percentile per-packet one-way delay: 143.279 ms
Loss rate: 70.83%
-- Flow 3:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 143.189 ms
Loss rate: 69.56%

Run 2: Report of Copa — Data Link

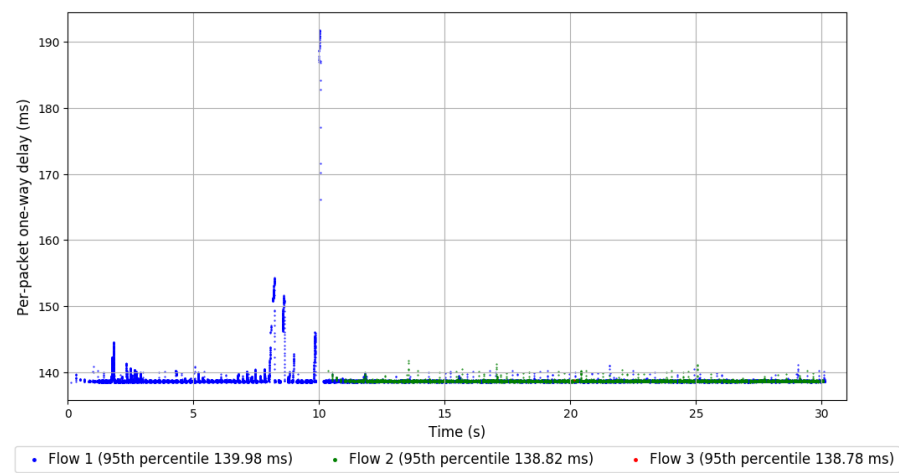
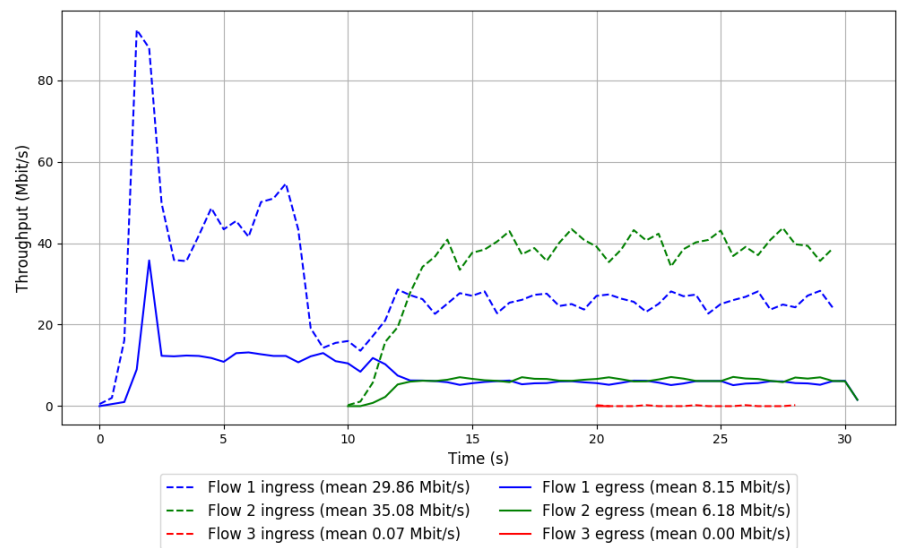


Run 3: Statistics of Copa

Start at: 2018-09-07 15:23:46
End at: 2018-09-07 15:24:16
Local clock offset: -52.504 ms
Remote clock offset: -3.135 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.22 Mbit/s
95th percentile per-packet one-way delay: 139.488 ms
Loss rate: 77.03%
-- Flow 1:
Average throughput: 8.15 Mbit/s
95th percentile per-packet one-way delay: 139.982 ms
Loss rate: 72.70%
-- Flow 2:
Average throughput: 6.18 Mbit/s
95th percentile per-packet one-way delay: 138.821 ms
Loss rate: 82.55%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 138.782 ms
Loss rate: 99.83%

Run 3: Report of Copa — Data Link

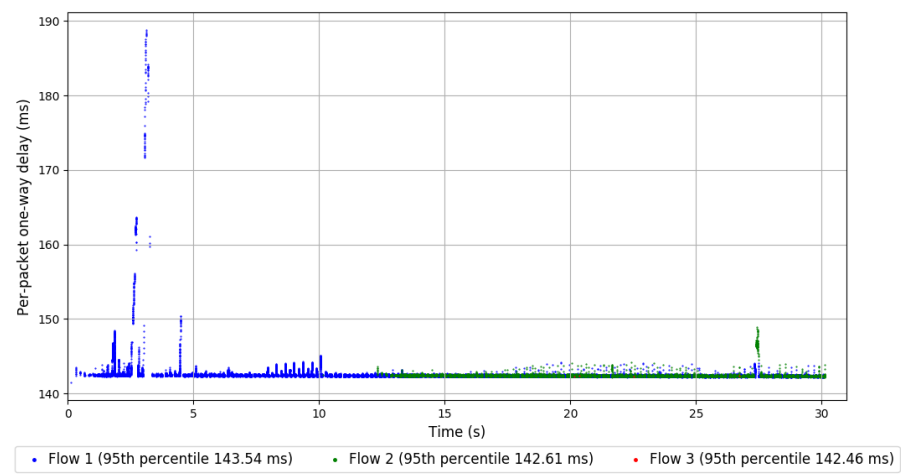
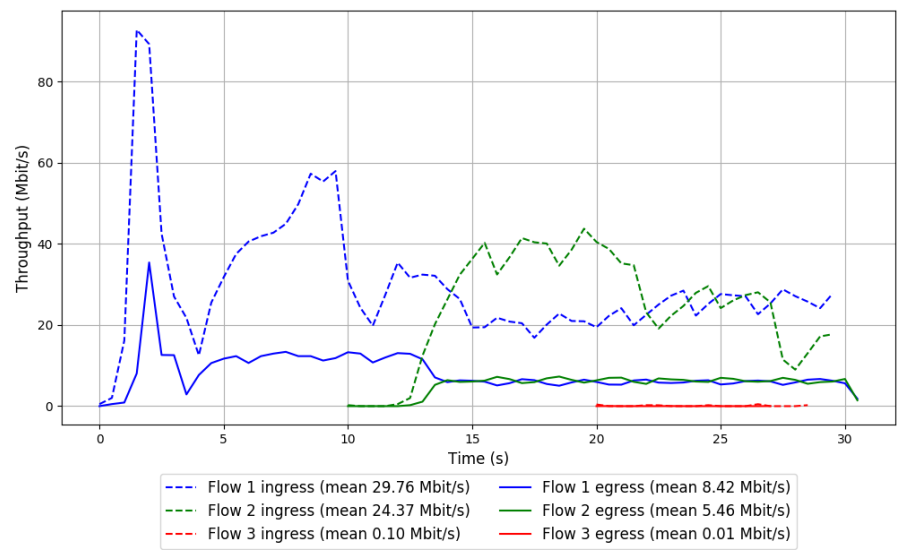


Run 4: Statistics of Copa

Start at: 2018-09-07 15:46:34
End at: 2018-09-07 15:47:04
Local clock offset: -51.185 ms
Remote clock offset: 2.855 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 143.284 ms
Loss rate: 73.81%
-- Flow 1:
Average throughput: 8.42 Mbit/s
95th percentile per-packet one-way delay: 143.538 ms
Loss rate: 71.72%
-- Flow 2:
Average throughput: 5.46 Mbit/s
95th percentile per-packet one-way delay: 142.609 ms
Loss rate: 77.60%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 142.458 ms
Loss rate: 95.95%

Run 4: Report of Copa — Data Link

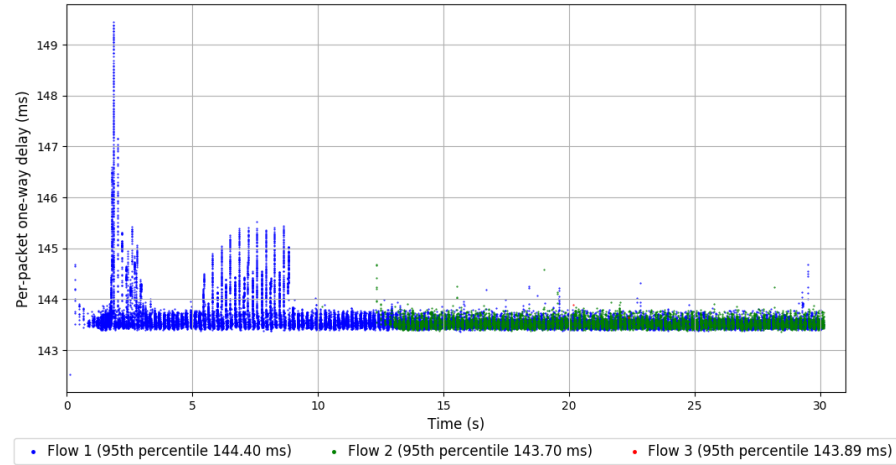
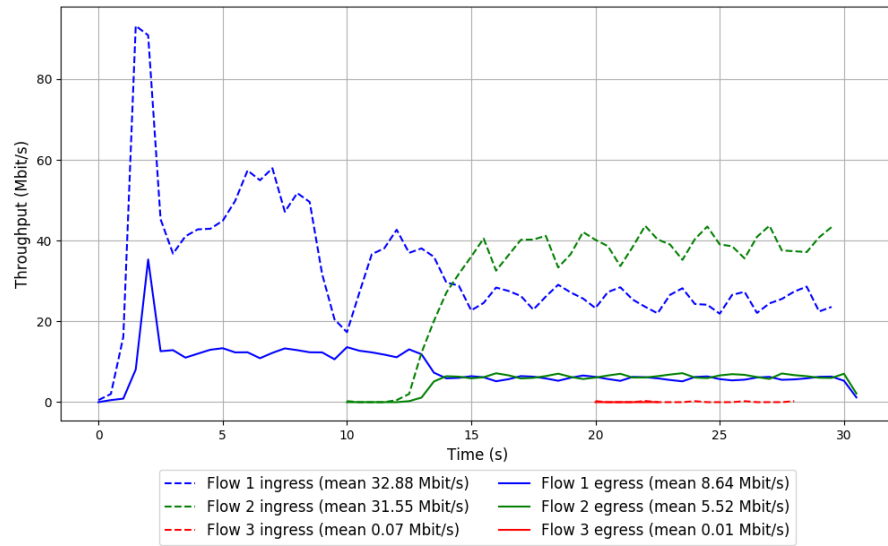


Run 5: Statistics of Copa

Start at: 2018-09-07 16:10:00
End at: 2018-09-07 16:10:30
Local clock offset: -53.352 ms
Remote clock offset: 4.457 ms

Below is generated by plot.py at 2018-09-07 16:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.32 Mbit/s
95th percentile per-packet one-way delay: 144.181 ms
Loss rate: 77.15%
-- Flow 1:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 144.395 ms
Loss rate: 73.71%
-- Flow 2:
Average throughput: 5.52 Mbit/s
95th percentile per-packet one-way delay: 143.699 ms
Loss rate: 82.50%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 143.892 ms
Loss rate: 97.92%

Run 5: Report of Copa — Data Link

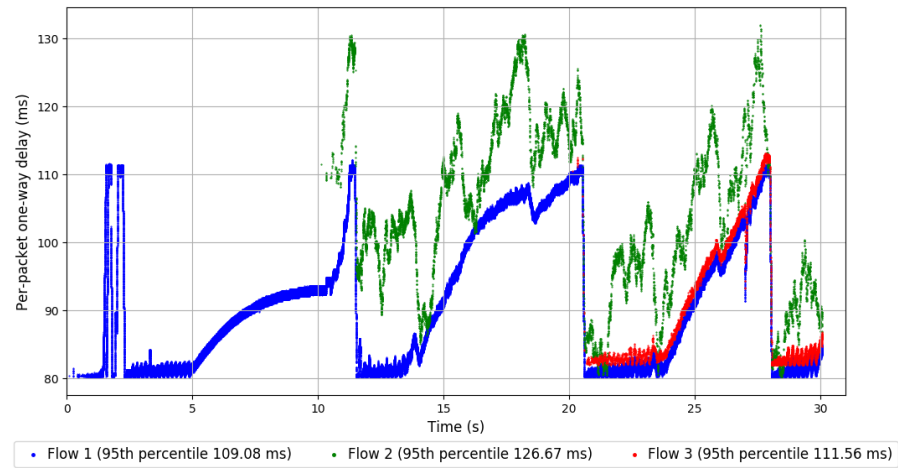
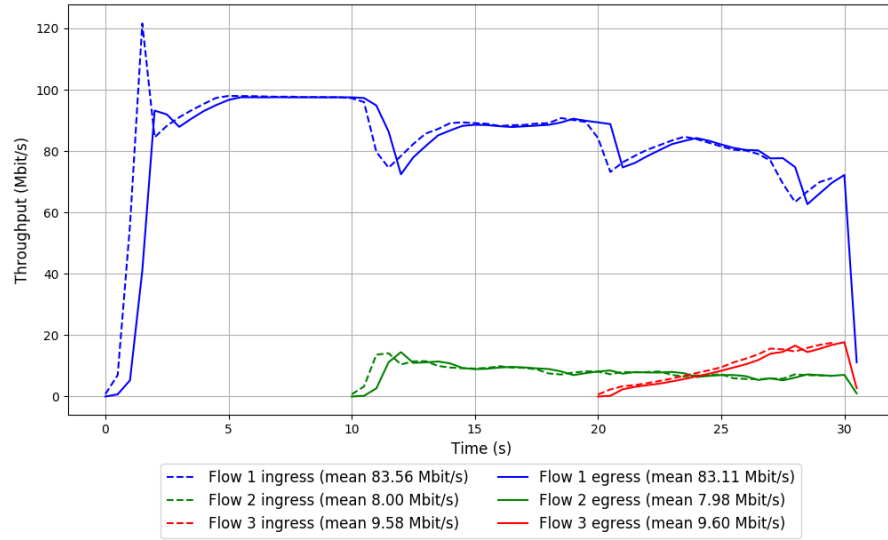


Run 1: Statistics of TCP Cubic

Start at: 2018-09-07 14:46:19
End at: 2018-09-07 14:46:49
Local clock offset: 3.648 ms
Remote clock offset: -2.546 ms

Below is generated by plot.py at 2018-09-07 16:27:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.60 Mbit/s
95th percentile per-packet one-way delay: 110.165 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 83.11 Mbit/s
95th percentile per-packet one-way delay: 109.083 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 126.667 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 111.558 ms
Loss rate: 0.06%

Run 1: Report of TCP Cubic — Data Link

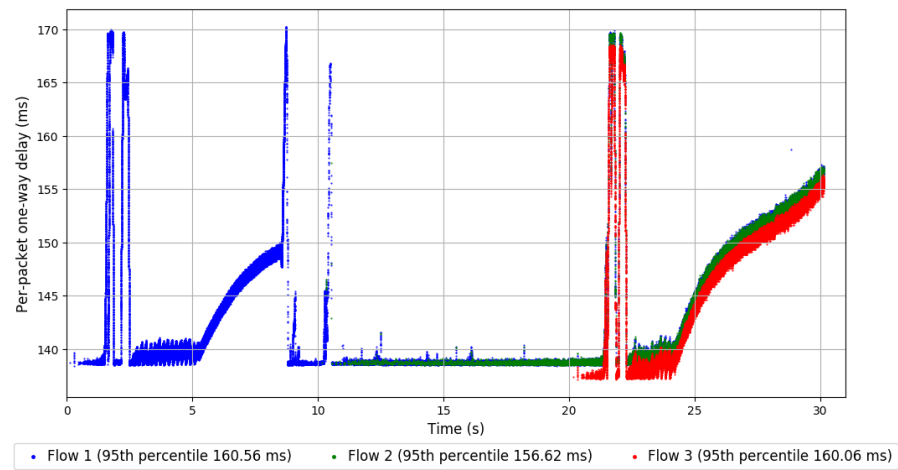
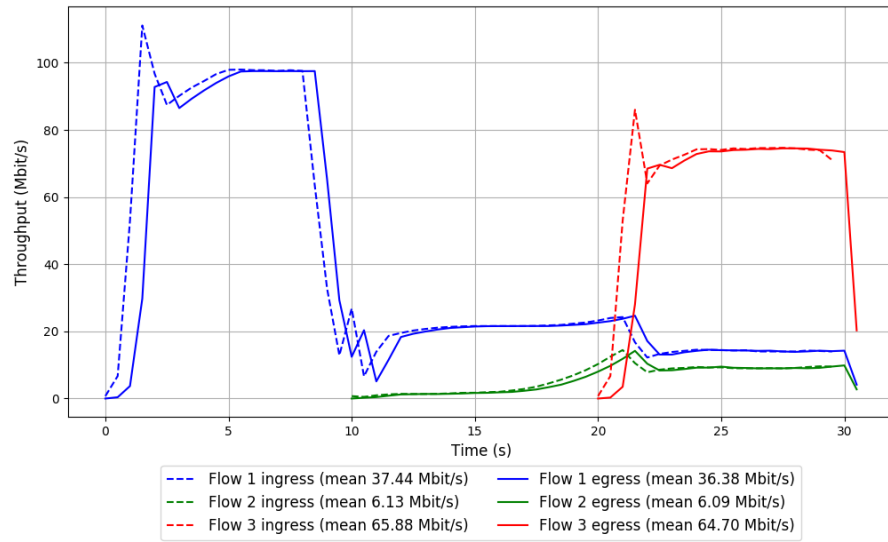


Run 2: Statistics of TCP Cubic

Start at: 2018-09-07 15:09:45
End at: 2018-09-07 15:10:15
Local clock offset: -52.084 ms
Remote clock offset: -2.239 ms

Below is generated by plot.py at 2018-09-07 16:27:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 61.96 Mbit/s
95th percentile per-packet one-way delay: 159.899 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 36.38 Mbit/s
95th percentile per-packet one-way delay: 160.560 ms
Loss rate: 2.78%
-- Flow 2:
Average throughput: 6.09 Mbit/s
95th percentile per-packet one-way delay: 156.616 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 64.70 Mbit/s
95th percentile per-packet one-way delay: 160.061 ms
Loss rate: 1.61%

Run 2: Report of TCP Cubic — Data Link

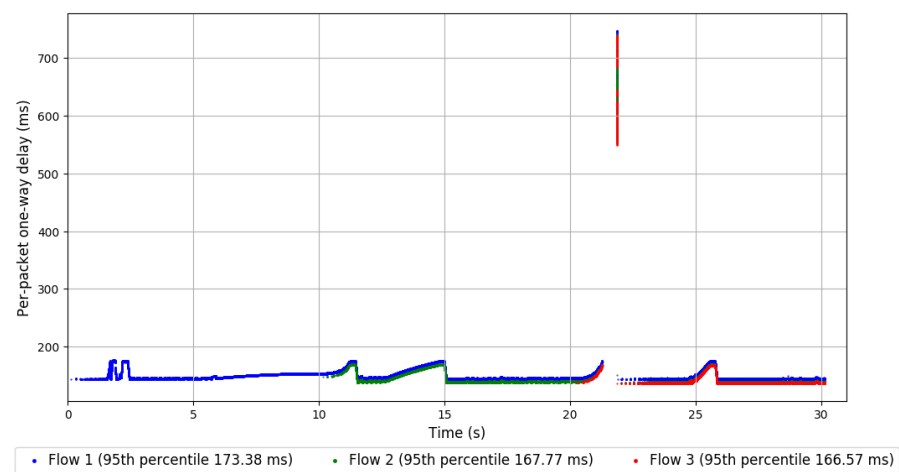
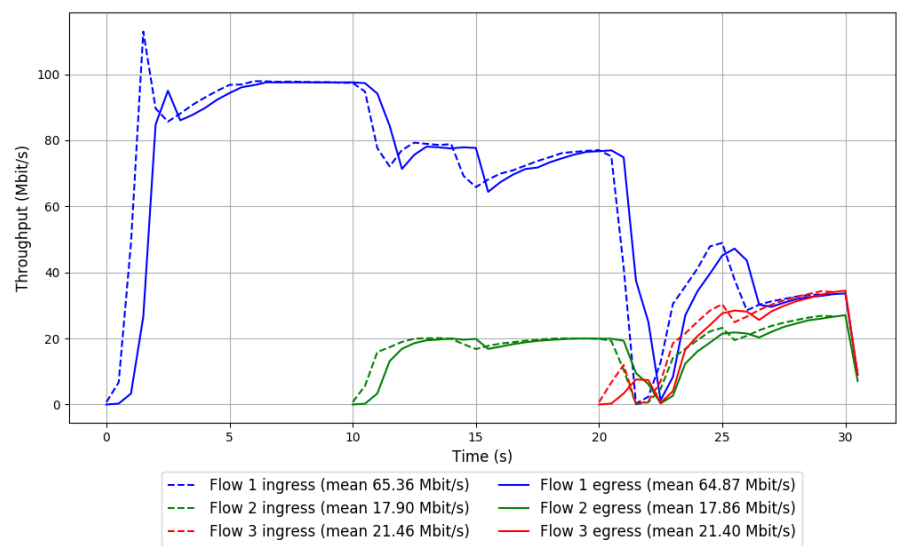


Run 3: Statistics of TCP Cubic

Start at: 2018-09-07 15:32:38
End at: 2018-09-07 15:33:08
Local clock offset: -50.473 ms
Remote clock offset: -1.726 ms

Below is generated by plot.py at 2018-09-07 16:27:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 83.88 Mbit/s
95th percentile per-packet one-way delay: 171.928 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 64.87 Mbit/s
95th percentile per-packet one-way delay: 173.385 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 17.86 Mbit/s
95th percentile per-packet one-way delay: 167.766 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 21.40 Mbit/s
95th percentile per-packet one-way delay: 166.568 ms
Loss rate: 0.30%

Run 3: Report of TCP Cubic — Data Link

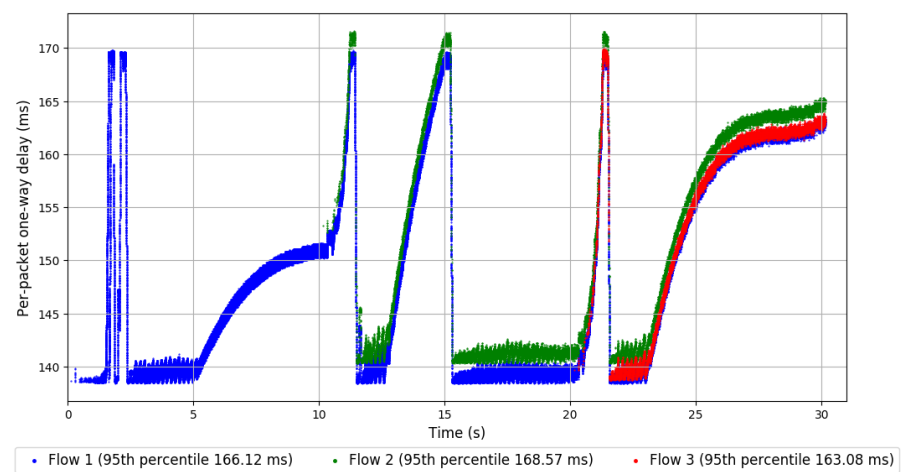
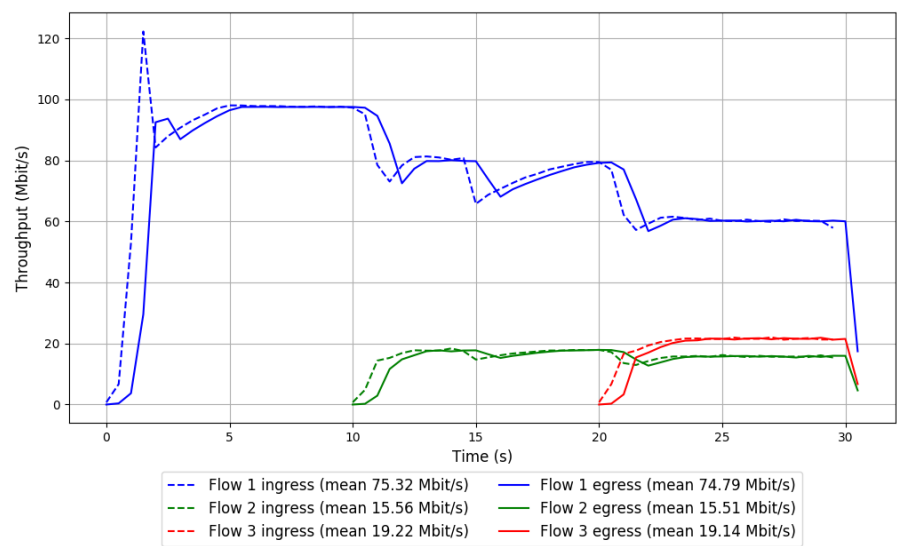


Run 4: Statistics of TCP Cubic

Start at: 2018-09-07 15:55:39
End at: 2018-09-07 15:56:09
Local clock offset: -51.951 ms
Remote clock offset: 0.195 ms

Below is generated by plot.py at 2018-09-07 16:27:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.49 Mbit/s
95th percentile per-packet one-way delay: 166.170 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 74.79 Mbit/s
95th percentile per-packet one-way delay: 166.122 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 15.51 Mbit/s
95th percentile per-packet one-way delay: 168.566 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 19.14 Mbit/s
95th percentile per-packet one-way delay: 163.082 ms
Loss rate: 0.18%

Run 4: Report of TCP Cubic — Data Link

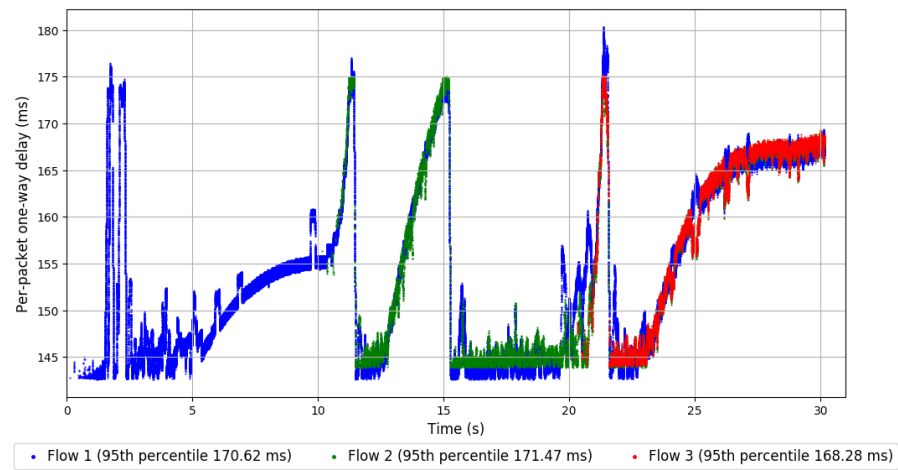
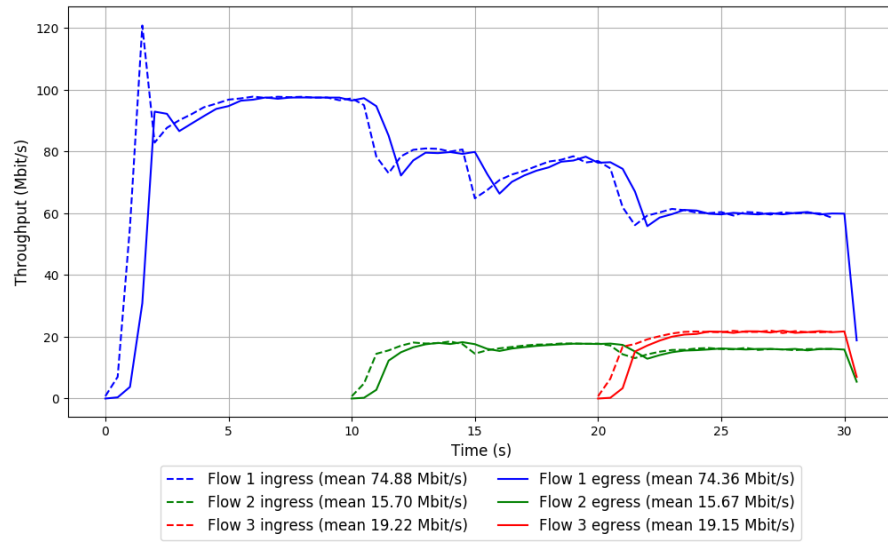


Run 5: Statistics of TCP Cubic

Start at: 2018-09-07 16:18:52
End at: 2018-09-07 16:19:22
Local clock offset: -53.738 ms
Remote clock offset: 4.711 ms

Below is generated by plot.py at 2018-09-07 16:27:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.17 Mbit/s
95th percentile per-packet one-way delay: 170.379 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 74.36 Mbit/s
95th percentile per-packet one-way delay: 170.618 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 15.67 Mbit/s
95th percentile per-packet one-way delay: 171.475 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 19.15 Mbit/s
95th percentile per-packet one-way delay: 168.281 ms
Loss rate: 0.09%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-09-07 14:41:05

End at: 2018-09-07 14:41:35

Local clock offset: 2.973 ms

Remote clock offset: 4.216 ms

Below is generated by plot.py at 2018-09-07 16:28:18

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.95 Mbit/s

95th percentile per-packet one-way delay: 137.065 ms

Loss rate: 19.53%

-- Flow 1:

Average throughput: 59.23 Mbit/s

95th percentile per-packet one-way delay: 116.883 ms

Loss rate: 16.49%

-- Flow 2:

Average throughput: 33.05 Mbit/s

95th percentile per-packet one-way delay: 117.937 ms

Loss rate: 22.35%

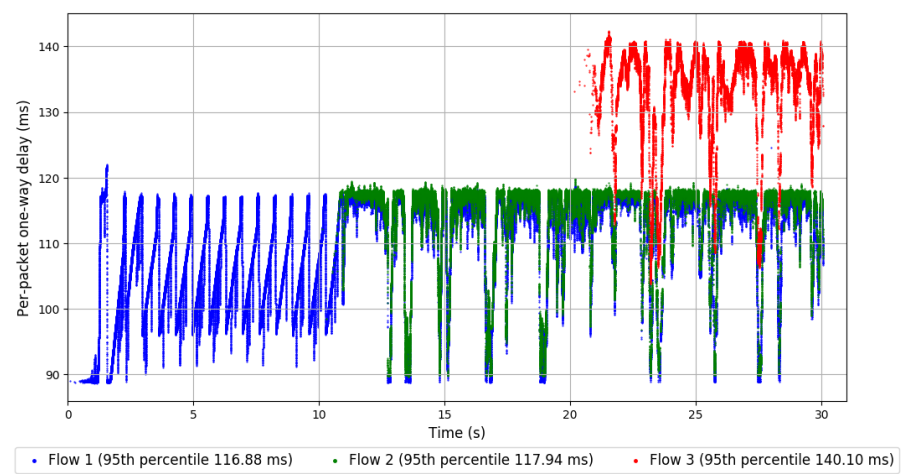
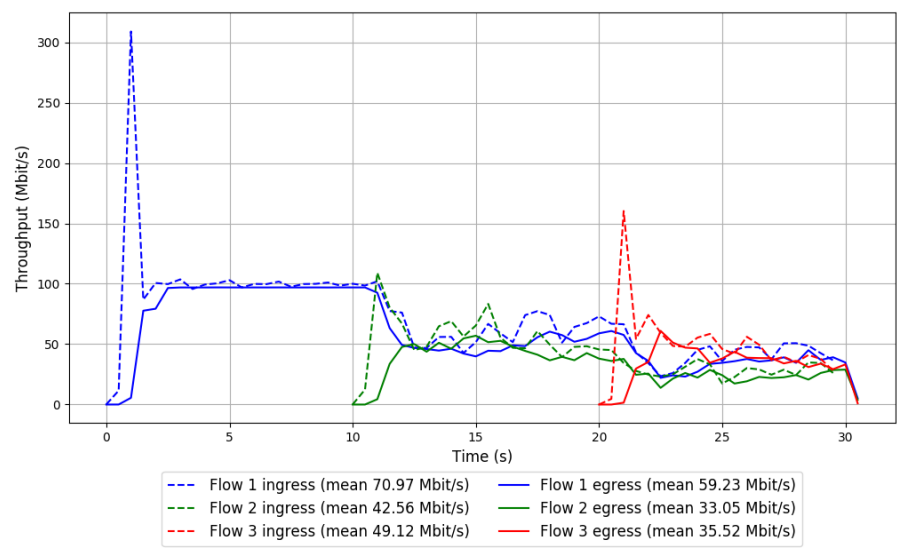
-- Flow 3:

Average throughput: 35.52 Mbit/s

95th percentile per-packet one-way delay: 140.099 ms

Loss rate: 27.87%

Run 1: Report of FillP — Data Link

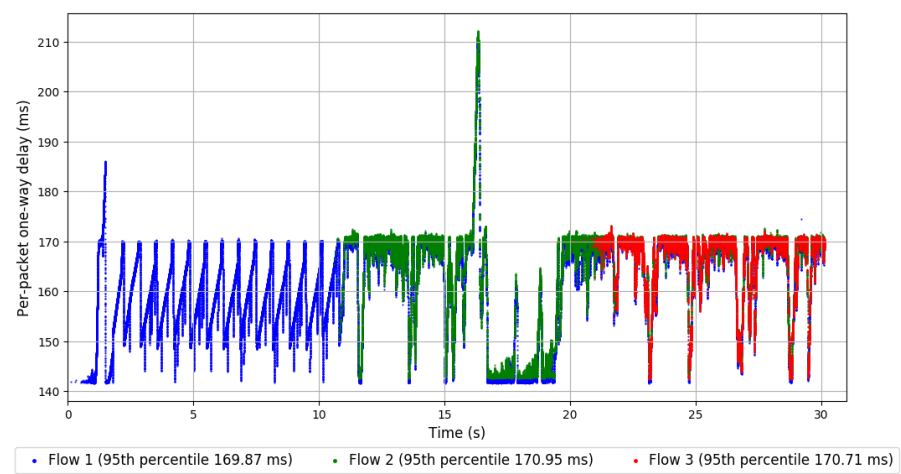
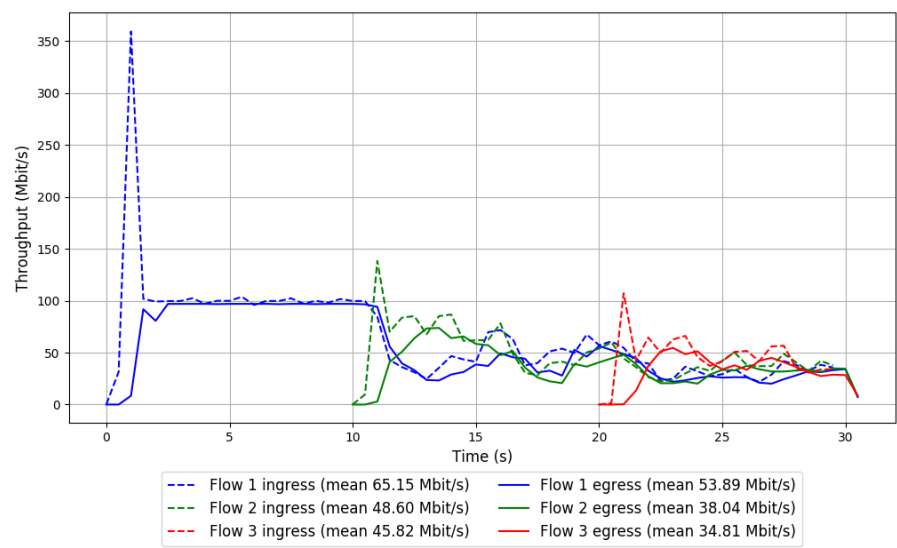


Run 2: Statistics of FillP

Start at: 2018-09-07 15:04:38
End at: 2018-09-07 15:05:08
Local clock offset: -52.084 ms
Remote clock offset: 1.674 ms

Below is generated by plot.py at 2018-09-07 16:28:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.72 Mbit/s
95th percentile per-packet one-way delay: 170.745 ms
Loss rate: 19.41%
-- Flow 1:
Average throughput: 53.89 Mbit/s
95th percentile per-packet one-way delay: 169.869 ms
Loss rate: 17.22%
-- Flow 2:
Average throughput: 38.04 Mbit/s
95th percentile per-packet one-way delay: 170.954 ms
Loss rate: 21.67%
-- Flow 3:
Average throughput: 34.81 Mbit/s
95th percentile per-packet one-way delay: 170.705 ms
Loss rate: 24.04%

Run 2: Report of FillP — Data Link

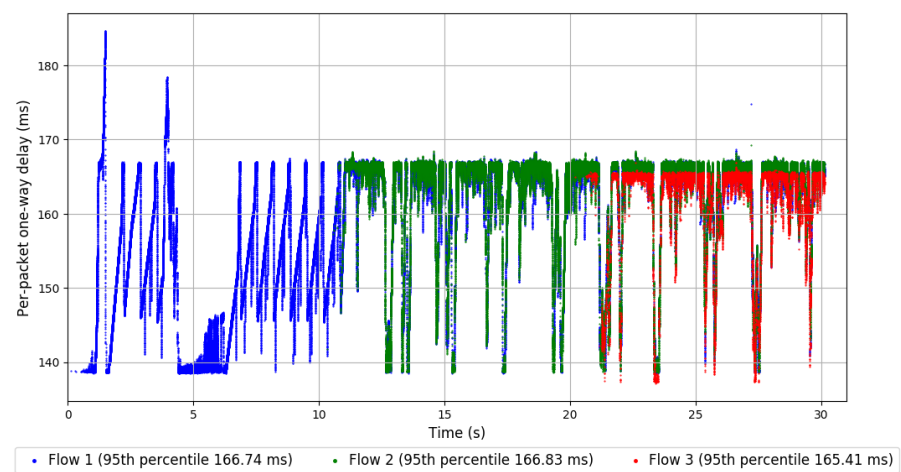
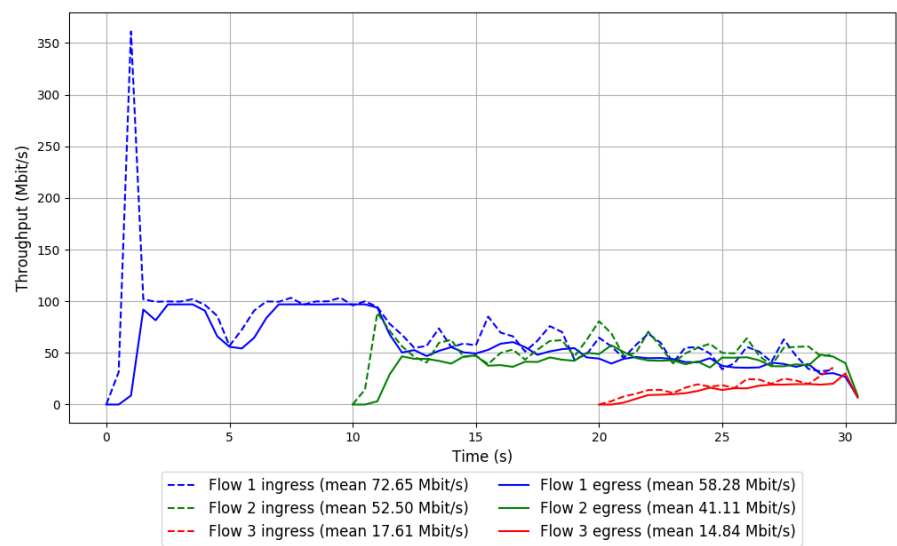


Run 3: Statistics of FillP

Start at: 2018-09-07 15:27:33
End at: 2018-09-07 15:28:03
Local clock offset: -51.206 ms
Remote clock offset: -1.79 ms

Below is generated by plot.py at 2018-09-07 16:28:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.54 Mbit/s
95th percentile per-packet one-way delay: 166.780 ms
Loss rate: 20.11%
-- Flow 1:
Average throughput: 58.28 Mbit/s
95th percentile per-packet one-way delay: 166.736 ms
Loss rate: 19.71%
-- Flow 2:
Average throughput: 41.11 Mbit/s
95th percentile per-packet one-way delay: 166.829 ms
Loss rate: 21.66%
-- Flow 3:
Average throughput: 14.84 Mbit/s
95th percentile per-packet one-way delay: 165.405 ms
Loss rate: 15.74%

Run 3: Report of FillP — Data Link

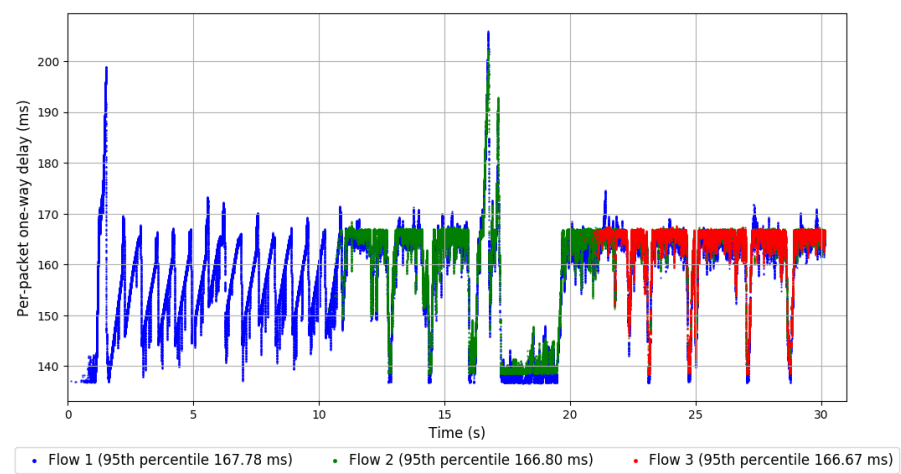
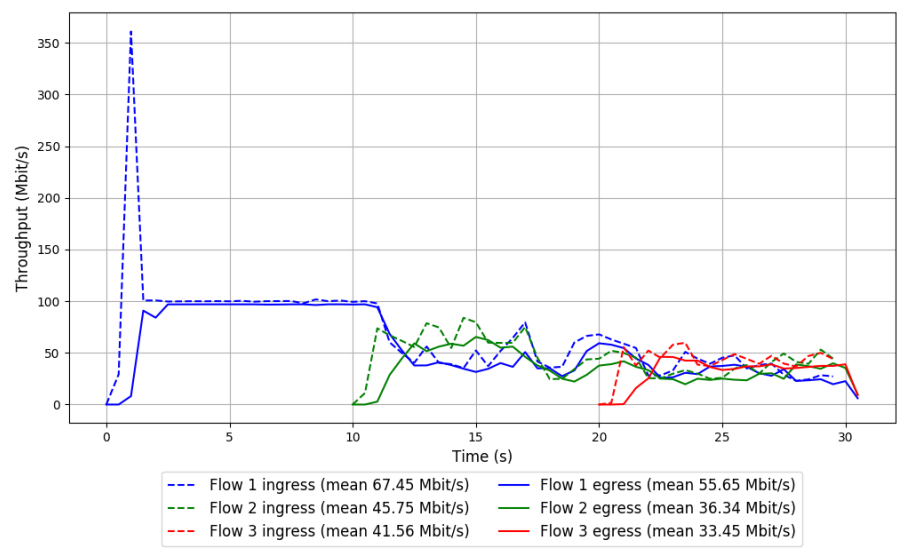


Run 4: Statistics of FillP

Start at: 2018-09-07 15:50:20
End at: 2018-09-07 15:50:50
Local clock offset: -51.635 ms
Remote clock offset: -0.269 ms

Below is generated by plot.py at 2018-09-07 16:28:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.92 Mbit/s
95th percentile per-packet one-way delay: 166.873 ms
Loss rate: 18.53%
-- Flow 1:
Average throughput: 55.65 Mbit/s
95th percentile per-packet one-way delay: 167.784 ms
Loss rate: 17.41%
-- Flow 2:
Average throughput: 36.34 Mbit/s
95th percentile per-packet one-way delay: 166.802 ms
Loss rate: 20.57%
-- Flow 3:
Average throughput: 33.45 Mbit/s
95th percentile per-packet one-way delay: 166.666 ms
Loss rate: 19.48%

Run 4: Report of FillP — Data Link

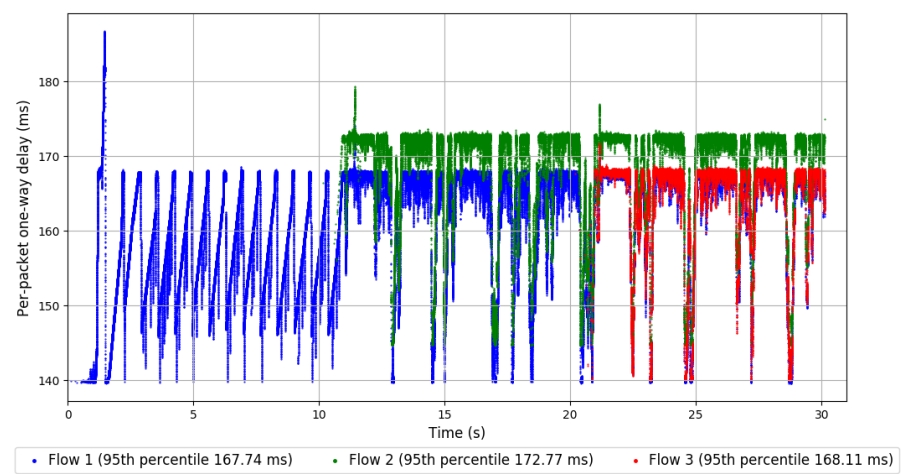
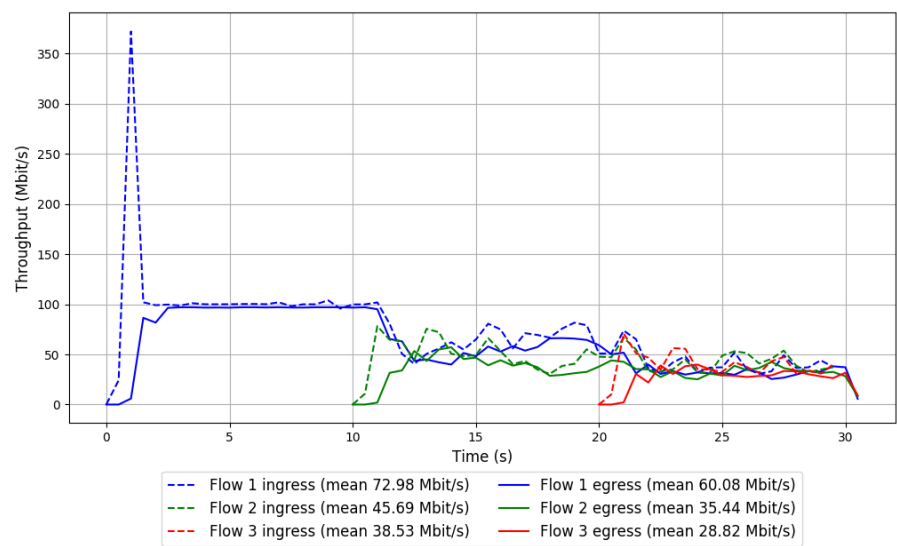


Run 5: Statistics of FillP

Start at: 2018-09-07 16:13:45
End at: 2018-09-07 16:14:15
Local clock offset: -52.722 ms
Remote clock offset: 0.759 ms

Below is generated by plot.py at 2018-09-07 16:28:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.19 Mbit/s
95th percentile per-packet one-way delay: 172.541 ms
Loss rate: 19.71%
-- Flow 1:
Average throughput: 60.08 Mbit/s
95th percentile per-packet one-way delay: 167.740 ms
Loss rate: 17.61%
-- Flow 2:
Average throughput: 35.44 Mbit/s
95th percentile per-packet one-way delay: 172.768 ms
Loss rate: 22.43%
-- Flow 3:
Average throughput: 28.82 Mbit/s
95th percentile per-packet one-way delay: 168.108 ms
Loss rate: 25.24%

Run 5: Report of FillP — Data Link

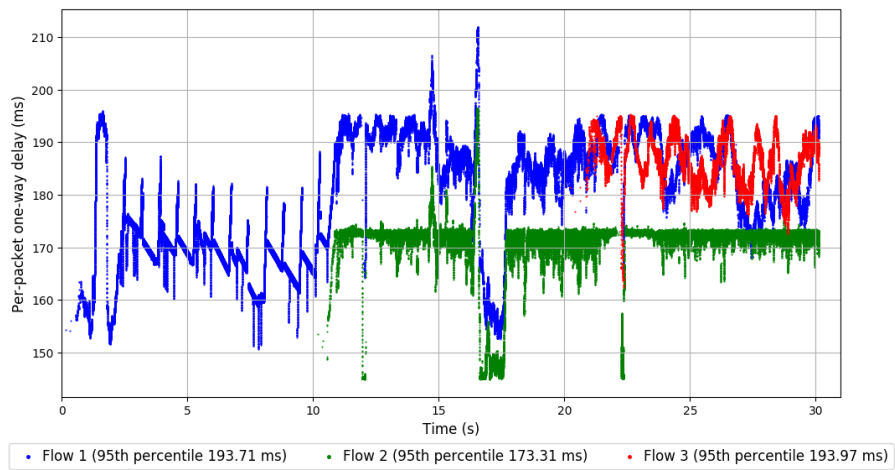
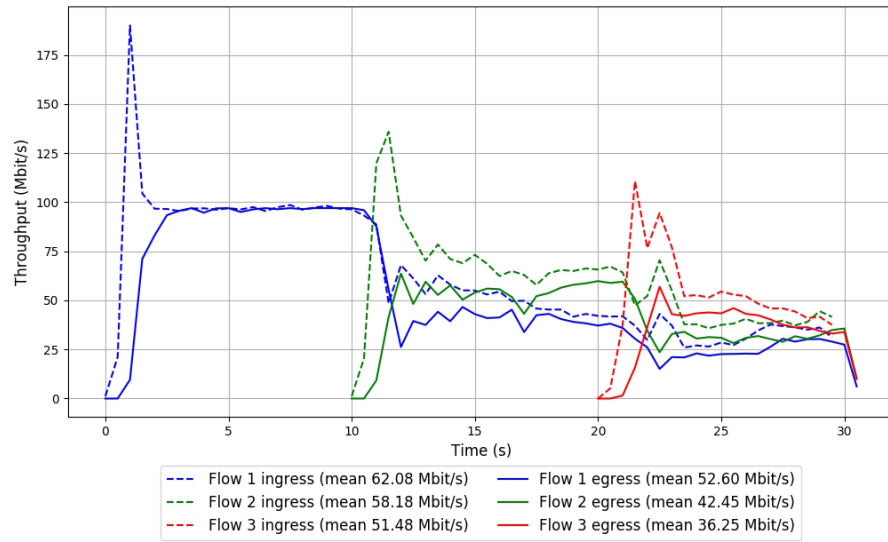


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-07 14:32:40
End at: 2018-09-07 14:33:10
Local clock offset: -53.278 ms
Remote clock offset: 4.786 ms

Below is generated by plot.py at 2018-09-07 16:28:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 193.243 ms
Loss rate: 21.16%
-- Flow 1:
Average throughput: 52.60 Mbit/s
95th percentile per-packet one-way delay: 193.713 ms
Loss rate: 15.22%
-- Flow 2:
Average throughput: 42.45 Mbit/s
95th percentile per-packet one-way delay: 173.305 ms
Loss rate: 26.97%
-- Flow 3:
Average throughput: 36.25 Mbit/s
95th percentile per-packet one-way delay: 193.970 ms
Loss rate: 29.58%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-07 14:56:54

End at: 2018-09-07 14:57:24

Local clock offset: -53.11 ms

Remote clock offset: 2.046 ms

Below is generated by plot.py at 2018-09-07 16:29:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 92.94 Mbit/s

95th percentile per-packet one-way delay: 177.232 ms

Loss rate: 22.62%

-- Flow 1:

Average throughput: 54.05 Mbit/s

95th percentile per-packet one-way delay: 171.298 ms

Loss rate: 15.63%

-- Flow 2:

Average throughput: 39.65 Mbit/s

95th percentile per-packet one-way delay: 172.950 ms

Loss rate: 27.61%

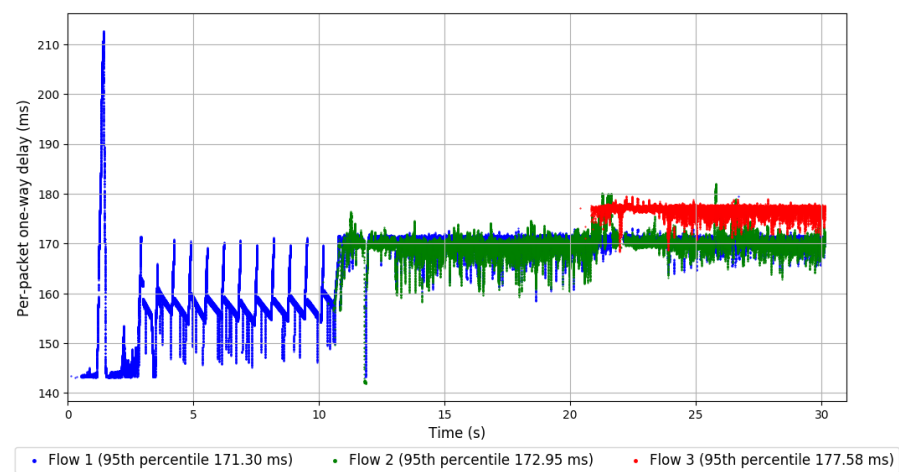
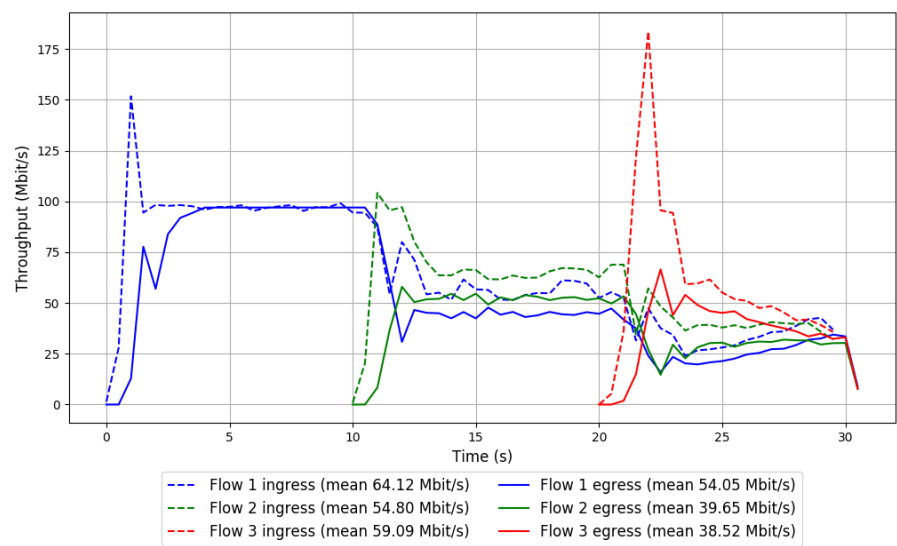
-- Flow 3:

Average throughput: 38.52 Mbit/s

95th percentile per-packet one-way delay: 177.579 ms

Loss rate: 36.16%

Run 2: Report of FillP-Sheep — Data Link

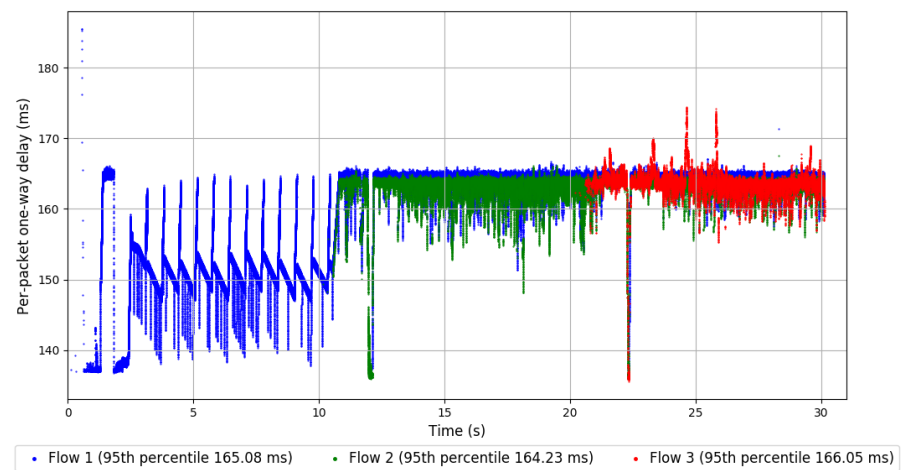
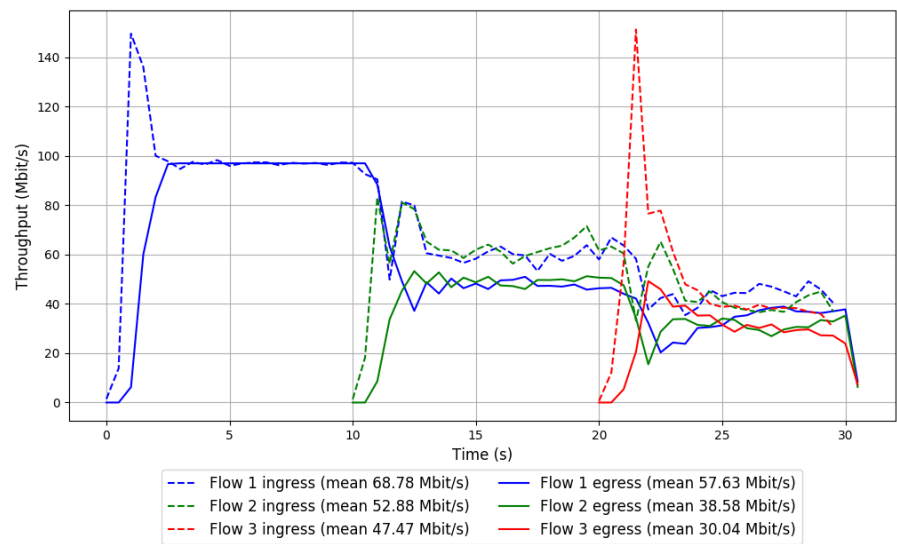


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-07 15:19:55
End at: 2018-09-07 15:20:25
Local clock offset: -51.656 ms
Remote clock offset: -3.108 ms

Below is generated by plot.py at 2018-09-07 16:29:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.25 Mbit/s
95th percentile per-packet one-way delay: 165.034 ms
Loss rate: 22.03%
-- Flow 1:
Average throughput: 57.63 Mbit/s
95th percentile per-packet one-way delay: 165.084 ms
Loss rate: 16.13%
-- Flow 2:
Average throughput: 38.58 Mbit/s
95th percentile per-packet one-way delay: 164.232 ms
Loss rate: 26.99%
-- Flow 3:
Average throughput: 30.04 Mbit/s
95th percentile per-packet one-way delay: 166.048 ms
Loss rate: 36.74%

Run 3: Report of FillP-Sheep — Data Link

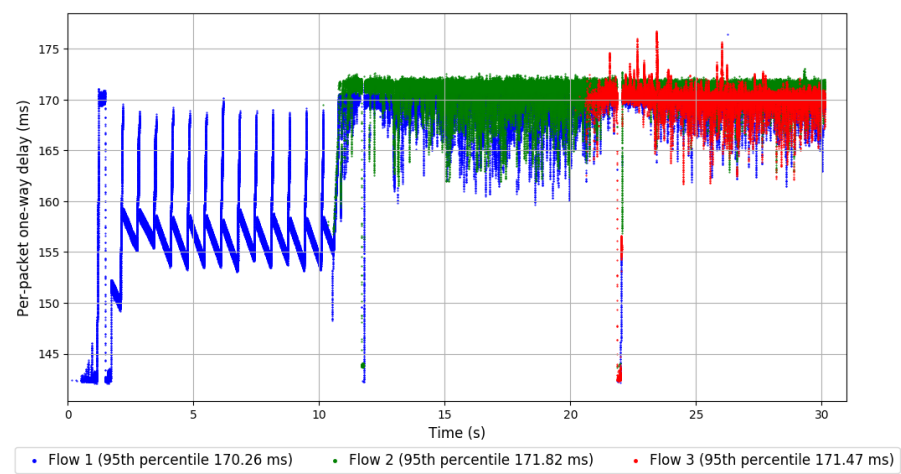
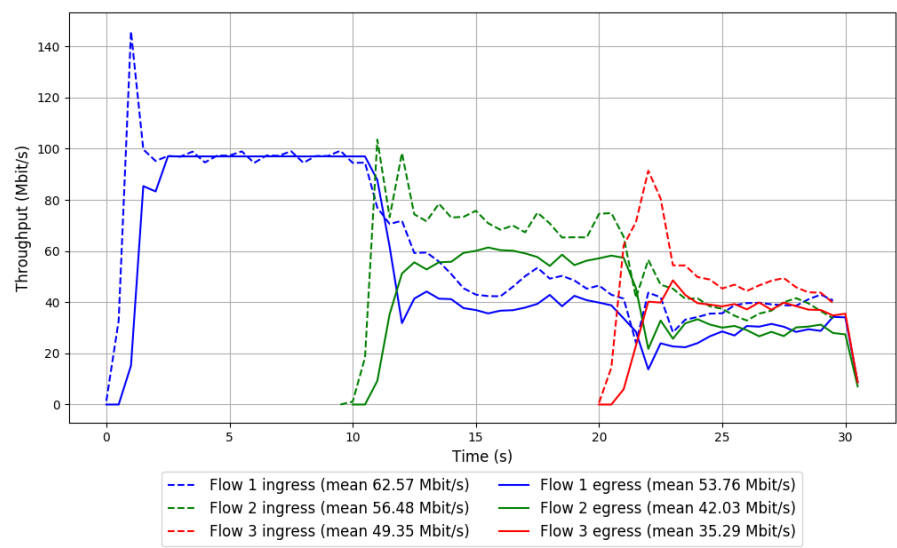


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-07 15:42:45
End at: 2018-09-07 15:43:15
Local clock offset: -51.772 ms
Remote clock offset: 2.725 ms

Below is generated by plot.py at 2018-09-07 16:29:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.44 Mbit/s
95th percentile per-packet one-way delay: 171.674 ms
Loss rate: 19.77%
-- Flow 1:
Average throughput: 53.76 Mbit/s
95th percentile per-packet one-way delay: 170.261 ms
Loss rate: 14.00%
-- Flow 2:
Average throughput: 42.03 Mbit/s
95th percentile per-packet one-way delay: 171.821 ms
Loss rate: 25.58%
-- Flow 3:
Average throughput: 35.29 Mbit/s
95th percentile per-packet one-way delay: 171.474 ms
Loss rate: 28.50%

Run 4: Report of FillP-Sheep — Data Link

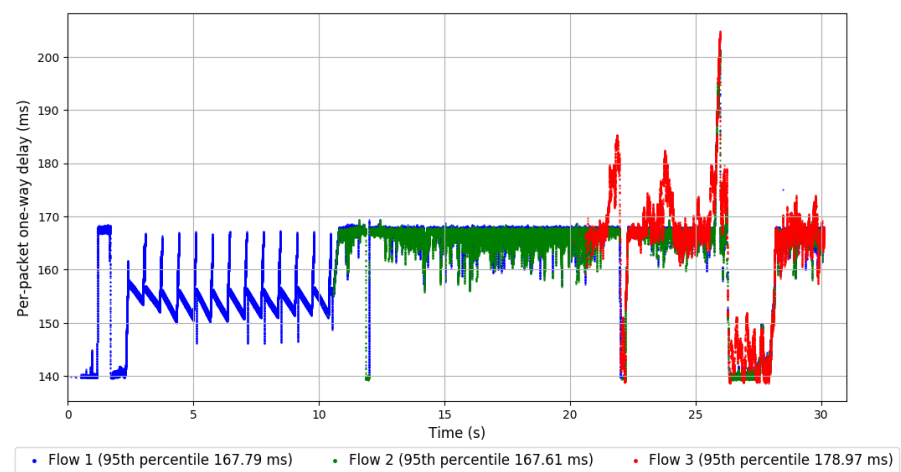
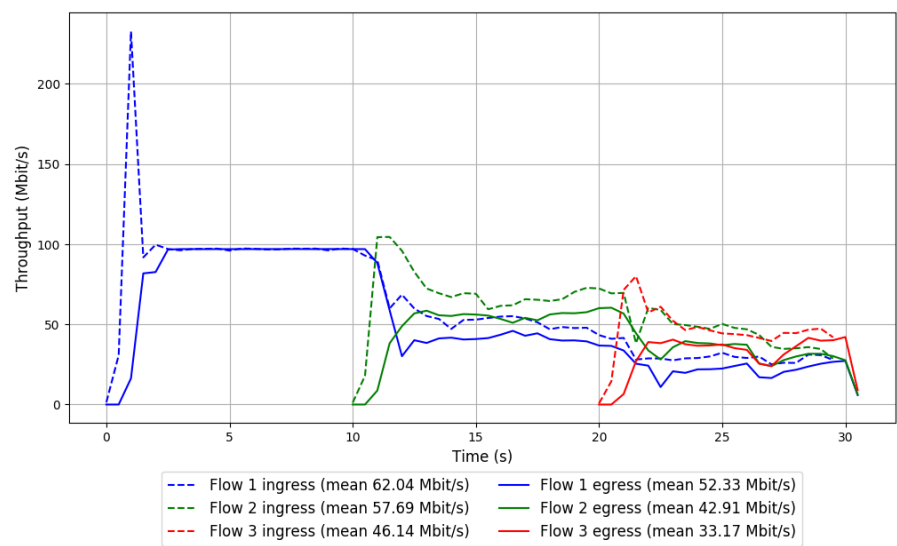


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-07 16:06:11
End at: 2018-09-07 16:06:41
Local clock offset: -53.429 ms
Remote clock offset: 0.399 ms

Below is generated by plot.py at 2018-09-07 16:29:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.87 Mbit/s
95th percentile per-packet one-way delay: 168.088 ms
Loss rate: 20.55%
-- Flow 1:
Average throughput: 52.33 Mbit/s
95th percentile per-packet one-way delay: 167.795 ms
Loss rate: 15.58%
-- Flow 2:
Average throughput: 42.91 Mbit/s
95th percentile per-packet one-way delay: 167.607 ms
Loss rate: 25.57%
-- Flow 3:
Average throughput: 33.17 Mbit/s
95th percentile per-packet one-way delay: 178.971 ms
Loss rate: 28.11%

Run 5: Report of FillP-Sheep — Data Link

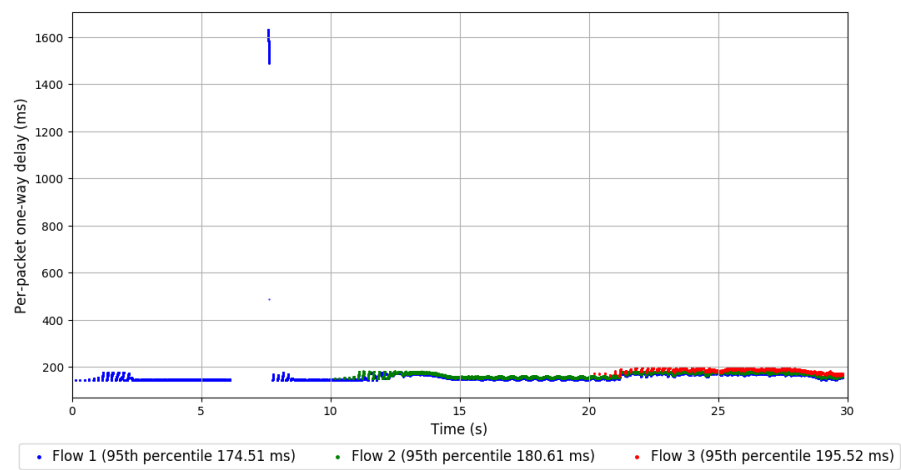
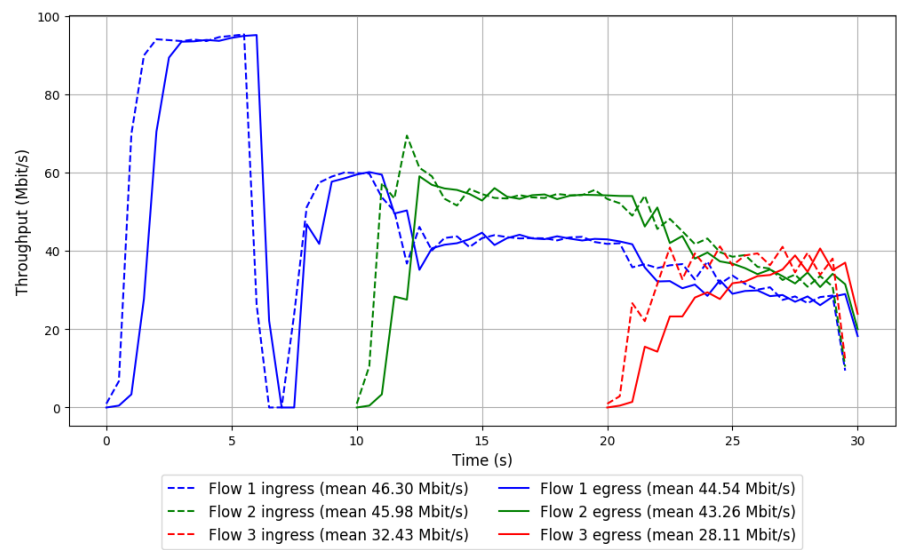


Run 1: Statistics of Indigo

Start at: 2018-09-07 14:31:20
End at: 2018-09-07 14:31:50
Local clock offset: -52.248 ms
Remote clock offset: 4.787 ms

Below is generated by plot.py at 2018-09-07 16:29:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 82.28 Mbit/s
95th percentile per-packet one-way delay: 188.583 ms
Loss rate: 5.67%
-- Flow 1:
Average throughput: 44.54 Mbit/s
95th percentile per-packet one-way delay: 174.515 ms
Loss rate: 3.75%
-- Flow 2:
Average throughput: 43.26 Mbit/s
95th percentile per-packet one-way delay: 180.614 ms
Loss rate: 5.91%
-- Flow 3:
Average throughput: 28.11 Mbit/s
95th percentile per-packet one-way delay: 195.524 ms
Loss rate: 13.41%

Run 1: Report of Indigo — Data Link

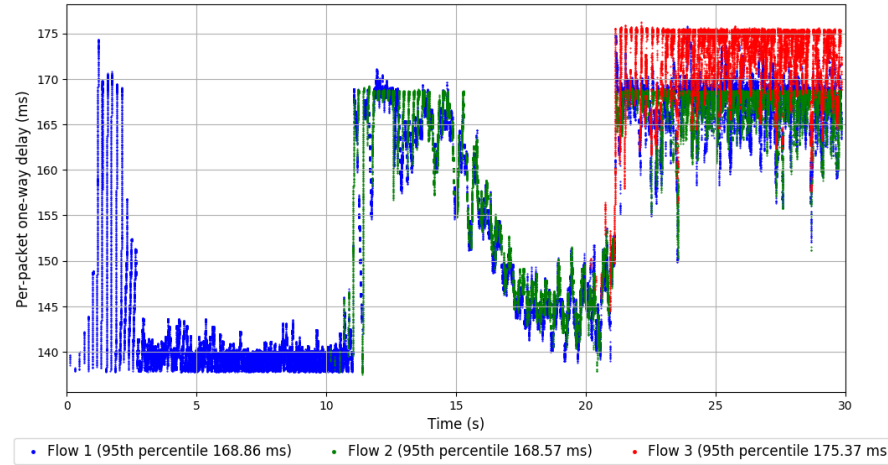
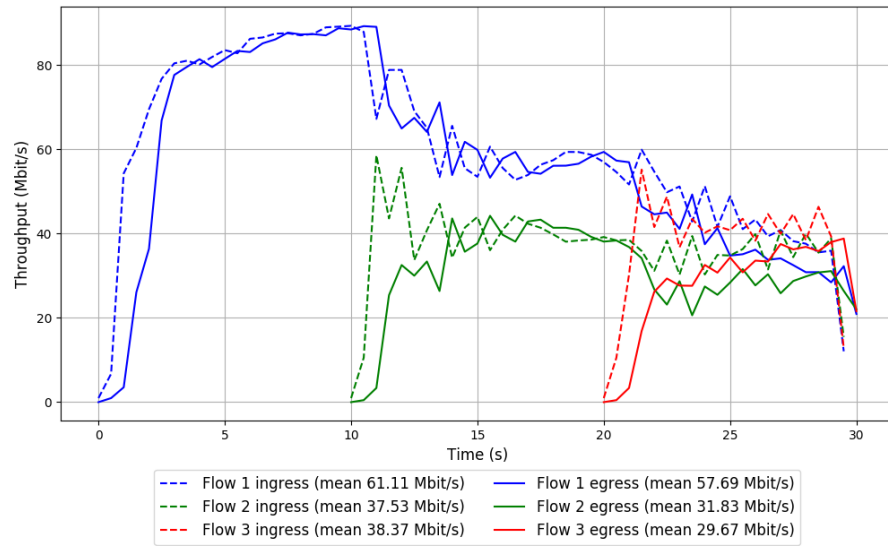


Run 2: Statistics of Indigo

Start at: 2018-09-07 14:55:23
End at: 2018-09-07 14:55:53
Local clock offset: -53.047 ms
Remote clock offset: -3.192 ms

Below is generated by plot.py at 2018-09-07 16:29:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.40 Mbit/s
95th percentile per-packet one-way delay: 173.208 ms
Loss rate: 10.08%
-- Flow 1:
Average throughput: 57.69 Mbit/s
95th percentile per-packet one-way delay: 168.860 ms
Loss rate: 5.51%
-- Flow 2:
Average throughput: 31.83 Mbit/s
95th percentile per-packet one-way delay: 168.574 ms
Loss rate: 15.08%
-- Flow 3:
Average throughput: 29.67 Mbit/s
95th percentile per-packet one-way delay: 175.373 ms
Loss rate: 22.54%

Run 2: Report of Indigo — Data Link

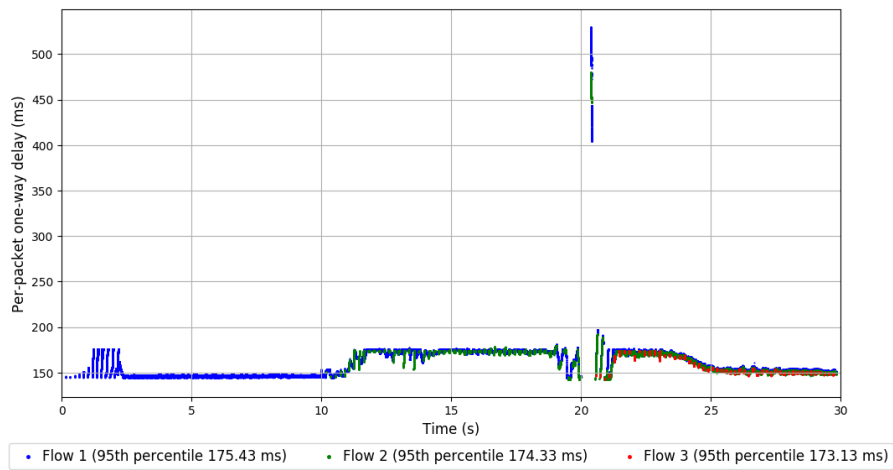
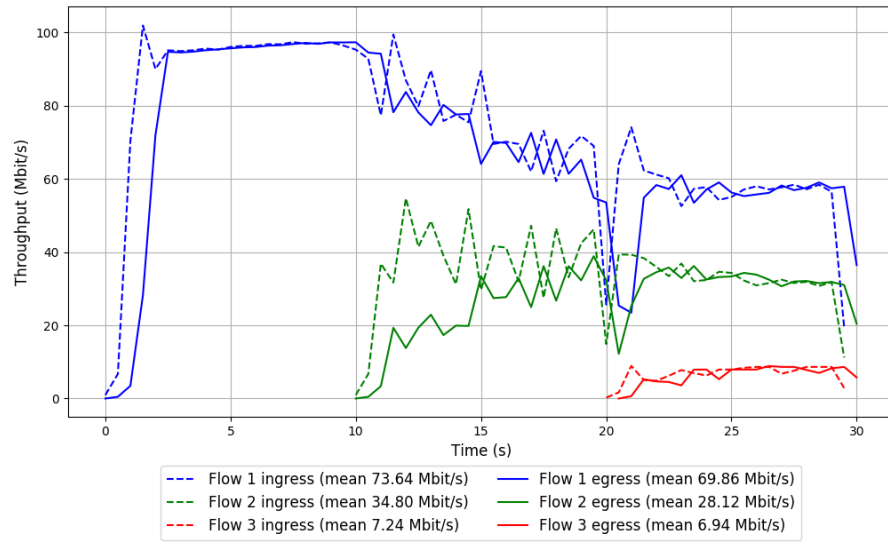


Run 3: Statistics of Indigo

Start at: 2018-09-07 15:18:35
End at: 2018-09-07 15:19:05
Local clock offset: -52.913 ms
Remote clock offset: 2.197 ms

Below is generated by plot.py at 2018-09-07 16:29:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.60 Mbit/s
95th percentile per-packet one-way delay: 175.421 ms
Loss rate: 8.38%
-- Flow 1:
Average throughput: 69.86 Mbit/s
95th percentile per-packet one-way delay: 175.432 ms
Loss rate: 5.12%
-- Flow 2:
Average throughput: 28.12 Mbit/s
95th percentile per-packet one-way delay: 174.331 ms
Loss rate: 19.19%
-- Flow 3:
Average throughput: 6.94 Mbit/s
95th percentile per-packet one-way delay: 173.131 ms
Loss rate: 4.14%

Run 3: Report of Indigo — Data Link

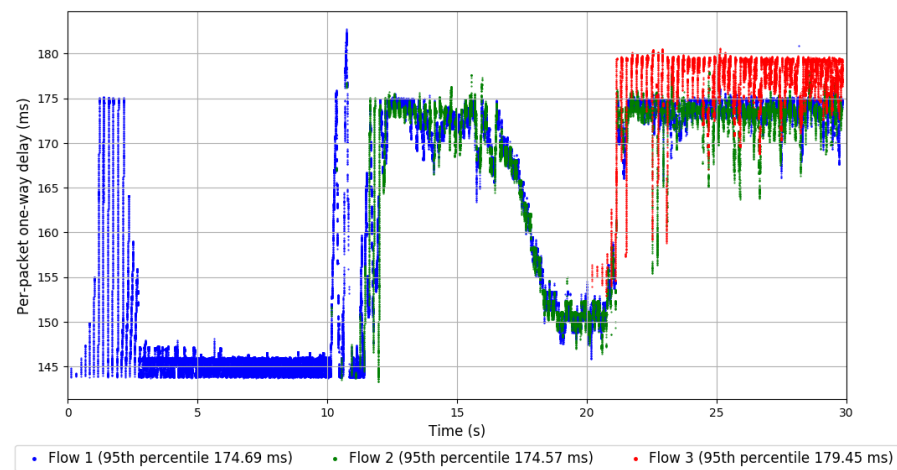
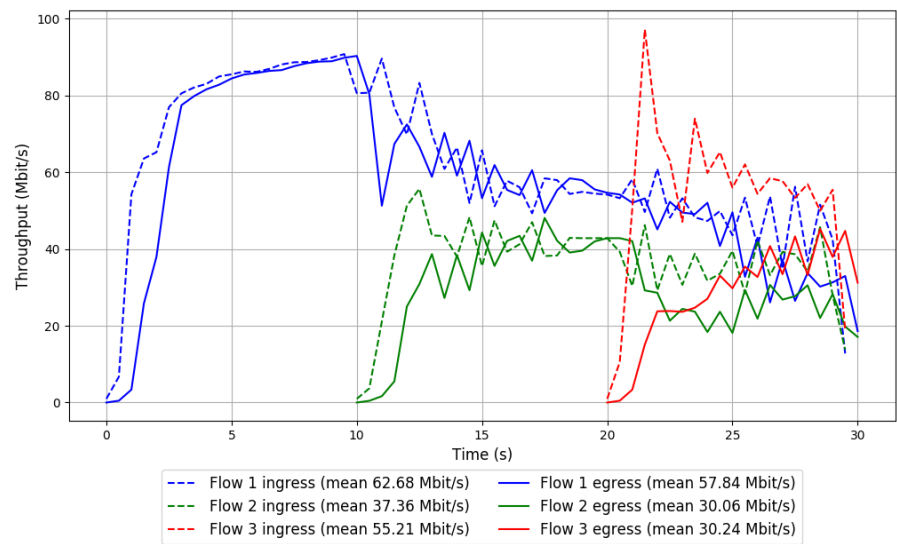


Run 4: Statistics of Indigo

Start at: 2018-09-07 15:41:26
End at: 2018-09-07 15:41:56
Local clock offset: -51.893 ms
Remote clock offset: 2.568 ms

```
# Below is generated by plot.py at 2018-09-07 16:29:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.52 Mbit/s
95th percentile per-packet one-way delay: 178.272 ms
Loss rate: 16.77%
-- Flow 1:
Average throughput: 57.84 Mbit/s
95th percentile per-packet one-way delay: 174.692 ms
Loss rate: 7.64%
-- Flow 2:
Average throughput: 30.06 Mbit/s
95th percentile per-packet one-way delay: 174.571 ms
Loss rate: 19.44%
-- Flow 3:
Average throughput: 30.24 Mbit/s
95th percentile per-packet one-way delay: 179.452 ms
Loss rate: 45.11%
```

Run 4: Report of Indigo — Data Link

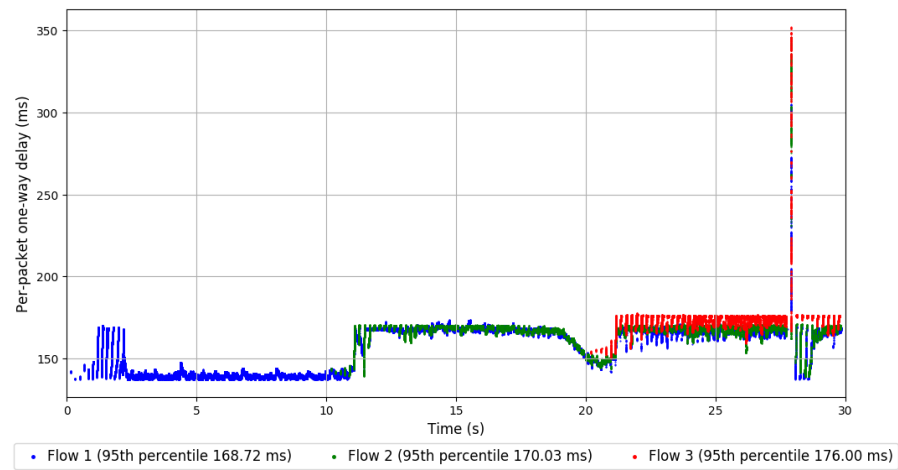
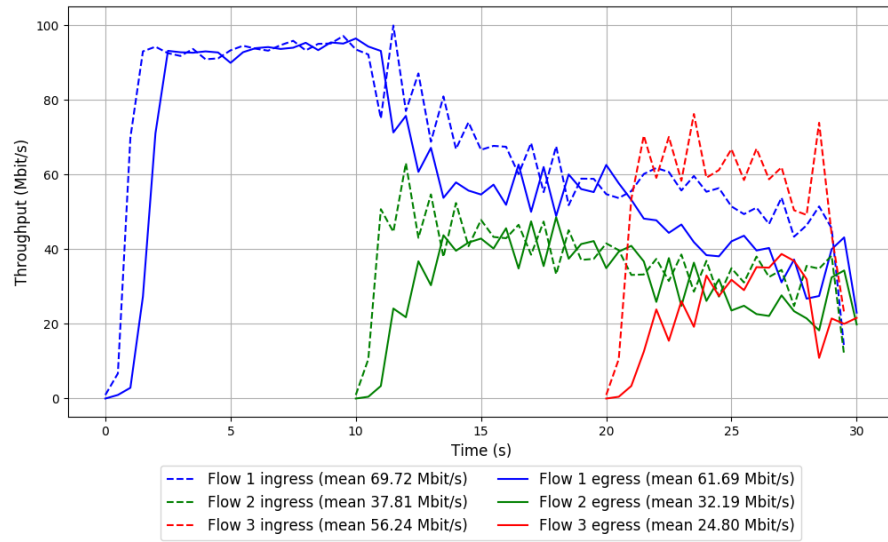


Run 5: Statistics of Indigo

Start at: 2018-09-07 16:04:41
End at: 2018-09-07 16:05:11
Local clock offset: -52.401 ms
Remote clock offset: 0.771 ms

Below is generated by plot.py at 2018-09-07 16:30:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.96 Mbit/s
95th percentile per-packet one-way delay: 174.424 ms
Loss rate: 19.29%
-- Flow 1:
Average throughput: 61.69 Mbit/s
95th percentile per-packet one-way delay: 168.716 ms
Loss rate: 11.44%
-- Flow 2:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 170.032 ms
Loss rate: 14.77%
-- Flow 3:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 176.001 ms
Loss rate: 55.80%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of LEDBAT

Start at: 2018-09-07 14:43:44

End at: 2018-09-07 14:44:14

Local clock offset: 3.574 ms

Remote clock offset: 2.956 ms

Below is generated by plot.py at 2018-09-07 16:30:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 7.66 Mbit/s

95th percentile per-packet one-way delay: 108.404 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 4.73 Mbit/s

95th percentile per-packet one-way delay: 90.923 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 3.06 Mbit/s

95th percentile per-packet one-way delay: 109.043 ms

Loss rate: 0.37%

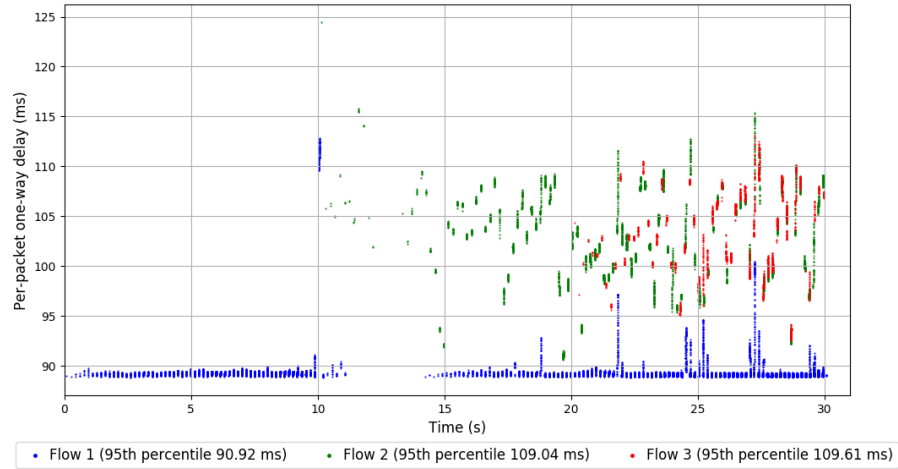
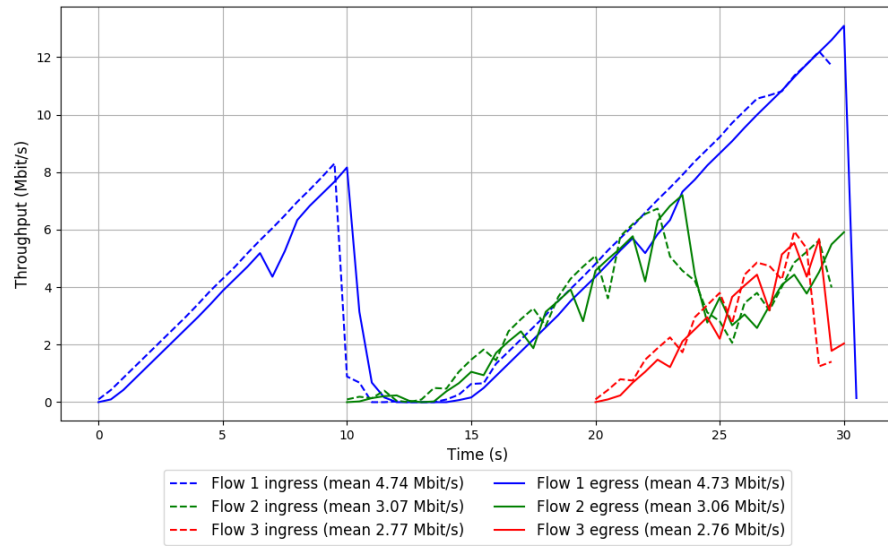
-- Flow 3:

Average throughput: 2.76 Mbit/s

95th percentile per-packet one-way delay: 109.606 ms

Loss rate: 0.13%

Run 1: Report of LEDBAT — Data Link

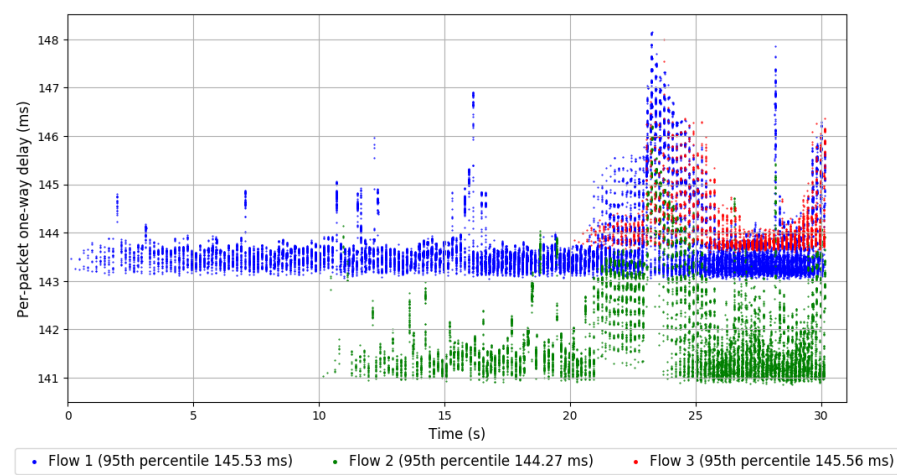
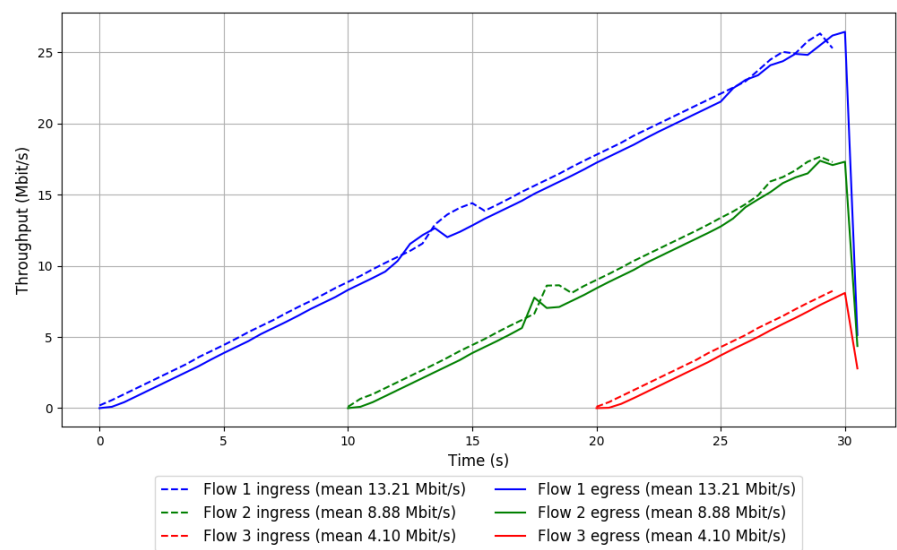


Run 2: Statistics of LEDBAT

Start at: 2018-09-07 15:07:14
End at: 2018-09-07 15:07:44
Local clock offset: -53.095 ms
Remote clock offset: 0.786 ms

Below is generated by plot.py at 2018-09-07 16:30:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 20.49 Mbit/s
95th percentile per-packet one-way delay: 145.226 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.21 Mbit/s
95th percentile per-packet one-way delay: 145.531 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 8.88 Mbit/s
95th percentile per-packet one-way delay: 144.270 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 145.560 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

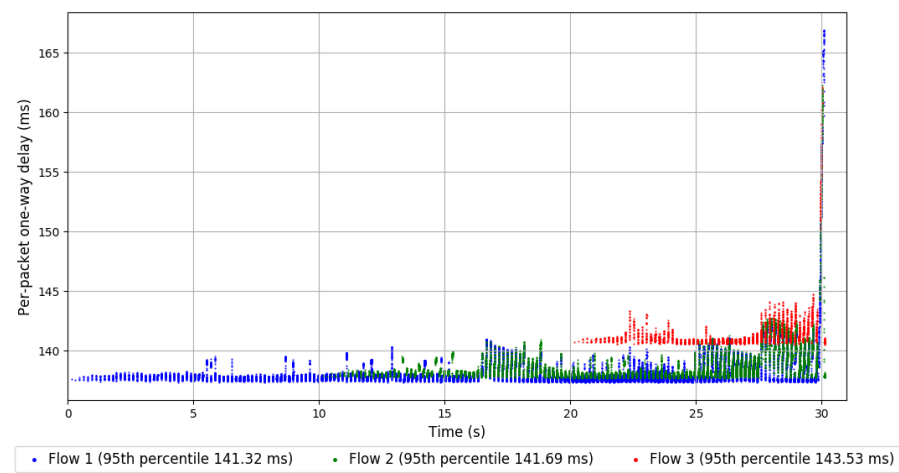
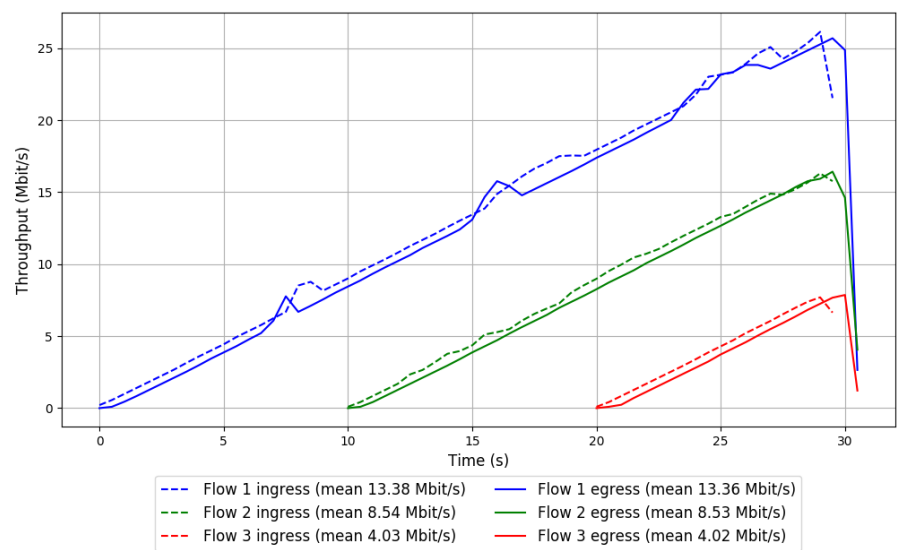


Run 3: Statistics of LEDBAT

Start at: 2018-09-07 15:30:06
End at: 2018-09-07 15:30:36
Local clock offset: -51.207 ms
Remote clock offset: -1.824 ms

Below is generated by plot.py at 2018-09-07 16:30:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 20.37 Mbit/s
95th percentile per-packet one-way delay: 141.679 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 13.36 Mbit/s
95th percentile per-packet one-way delay: 141.320 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 8.53 Mbit/s
95th percentile per-packet one-way delay: 141.692 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 143.528 ms
Loss rate: 0.12%

Run 3: Report of LEDBAT — Data Link

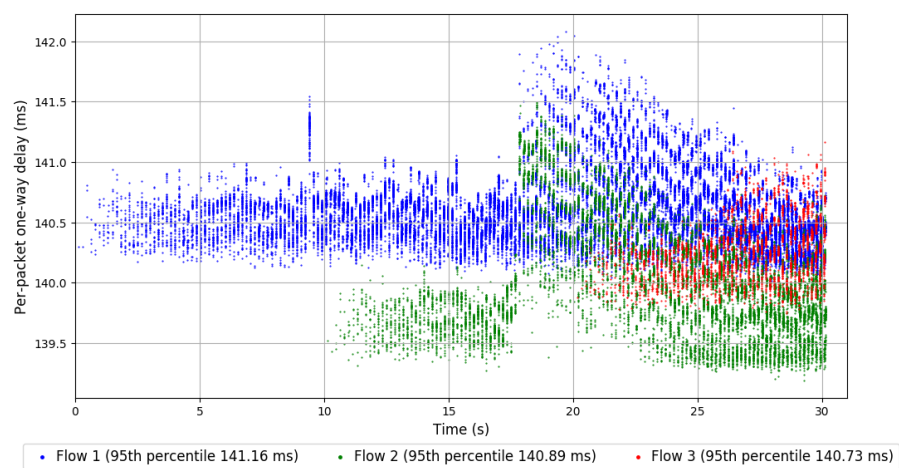
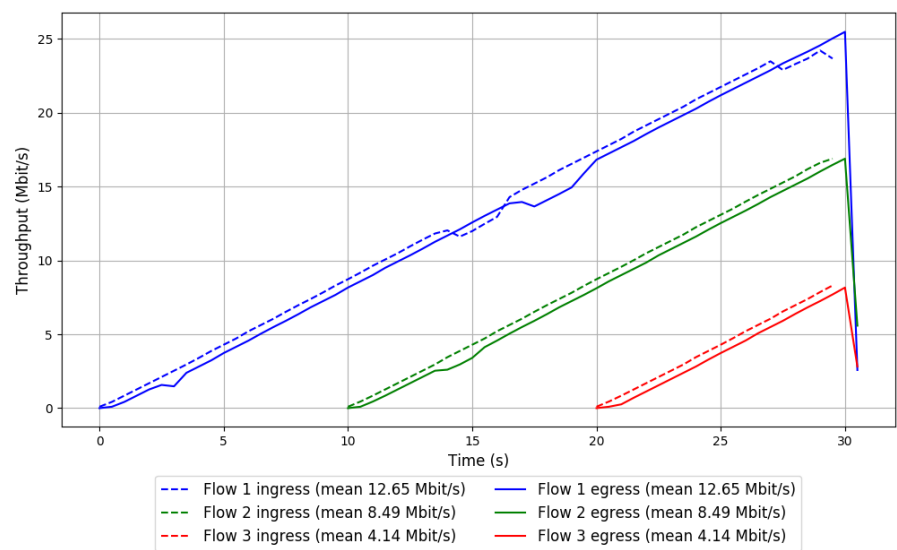


Run 4: Statistics of LEDBAT

Start at: 2018-09-07 15:53:05
End at: 2018-09-07 15:53:35
Local clock offset: -53.097 ms
Remote clock offset: -0.052 ms

Below is generated by plot.py at 2018-09-07 16:30:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.68 Mbit/s
95th percentile per-packet one-way delay: 141.080 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 12.65 Mbit/s
95th percentile per-packet one-way delay: 141.162 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 8.49 Mbit/s
95th percentile per-packet one-way delay: 140.894 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 140.727 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

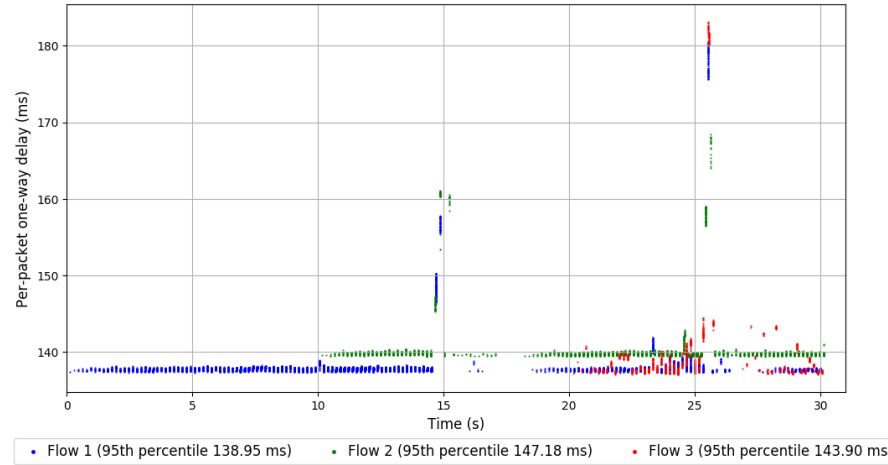
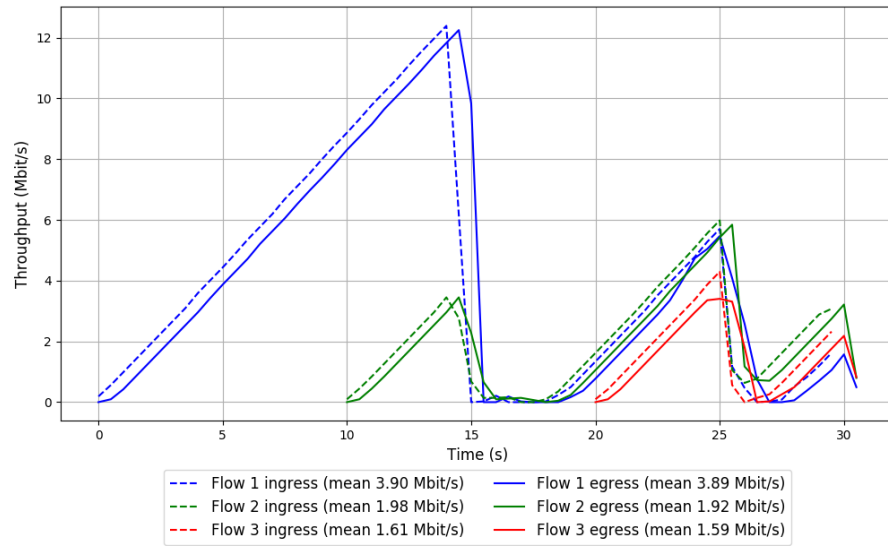


Run 5: Statistics of LEDBAT

Start at: 2018-09-07 16:16:22
End at: 2018-09-07 16:16:52
Local clock offset: -52.609 ms
Remote clock offset: 0.648 ms

Below is generated by plot.py at 2018-09-07 16:30:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.68 Mbit/s
95th percentile per-packet one-way delay: 141.678 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 138.952 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 147.179 ms
Loss rate: 2.79%
-- Flow 3:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 143.895 ms
Loss rate: 0.74%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-09-07 14:44:59

End at: 2018-09-07 14:45:29

Local clock offset: 3.644 ms

Remote clock offset: 2.863 ms

Below is generated by plot.py at 2018-09-07 16:30:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.14 Mbit/s

95th percentile per-packet one-way delay: 114.676 ms

Loss rate: 1.43%

-- Flow 1:

Average throughput: 58.47 Mbit/s

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

Loss rate: 1.12%

-- Flow 2:

Average throughput: 36.87 Mbit/s

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

Loss rate: 1.86%

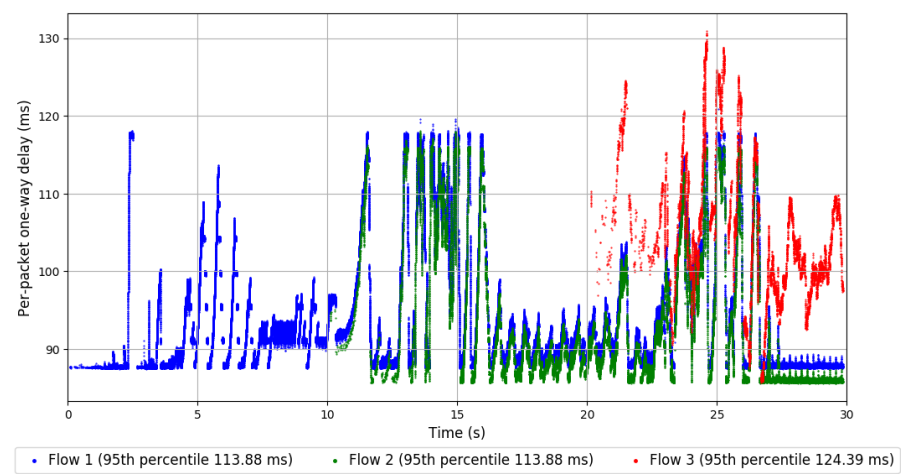
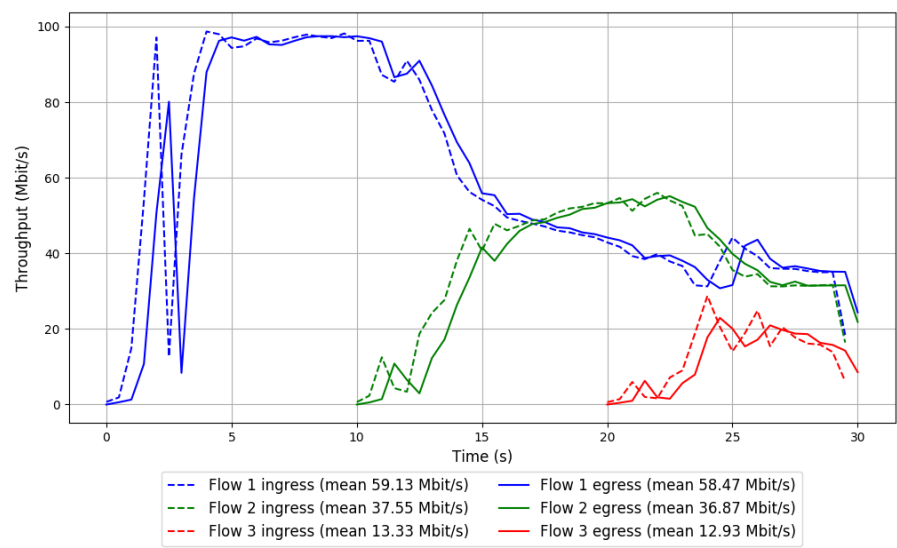
-- Flow 3:

Average throughput: 12.93 Mbit/s

95th percentile per-packet one-way delay: 124.395 ms

Loss rate: 3.22%

Run 1: Report of Indigo-Muses — Data Link

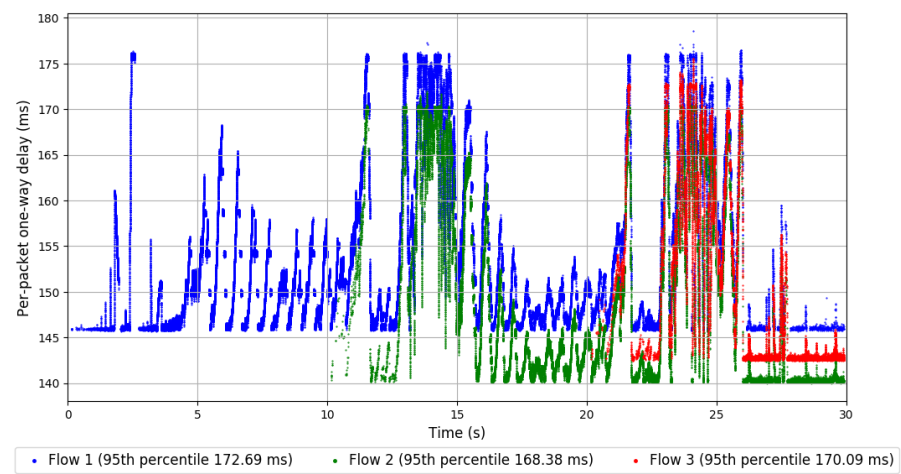
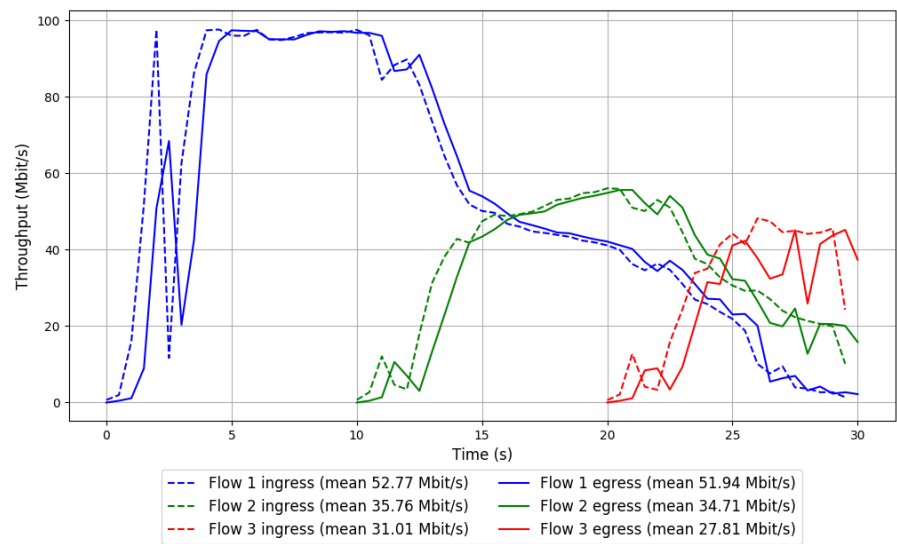


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-07 15:08:28
End at: 2018-09-07 15:08:58
Local clock offset: -52.077 ms
Remote clock offset: 0.732 ms

Below is generated by plot.py at 2018-09-07 16:30:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.05 Mbit/s
95th percentile per-packet one-way delay: 170.399 ms
Loss rate: 2.98%
-- Flow 1:
Average throughput: 51.94 Mbit/s
95th percentile per-packet one-way delay: 172.687 ms
Loss rate: 1.59%
-- Flow 2:
Average throughput: 34.71 Mbit/s
95th percentile per-packet one-way delay: 168.380 ms
Loss rate: 2.93%
-- Flow 3:
Average throughput: 27.81 Mbit/s
95th percentile per-packet one-way delay: 170.092 ms
Loss rate: 10.32%

Run 2: Report of Indigo-Muses — Data Link

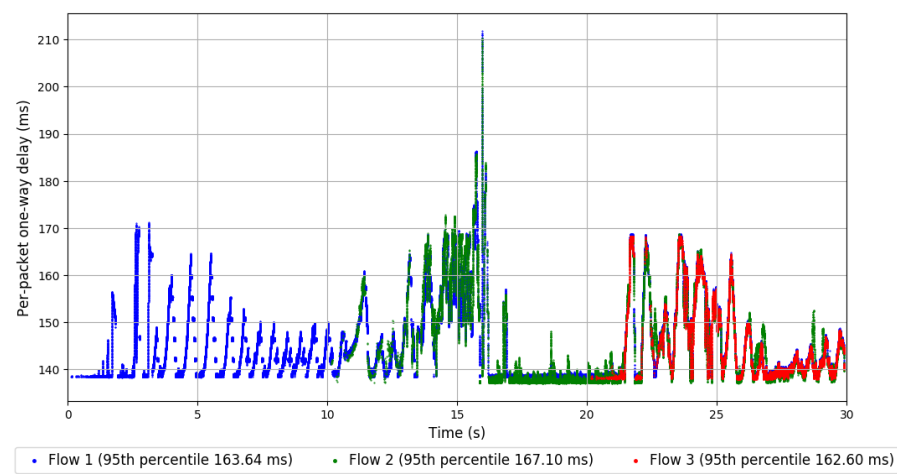
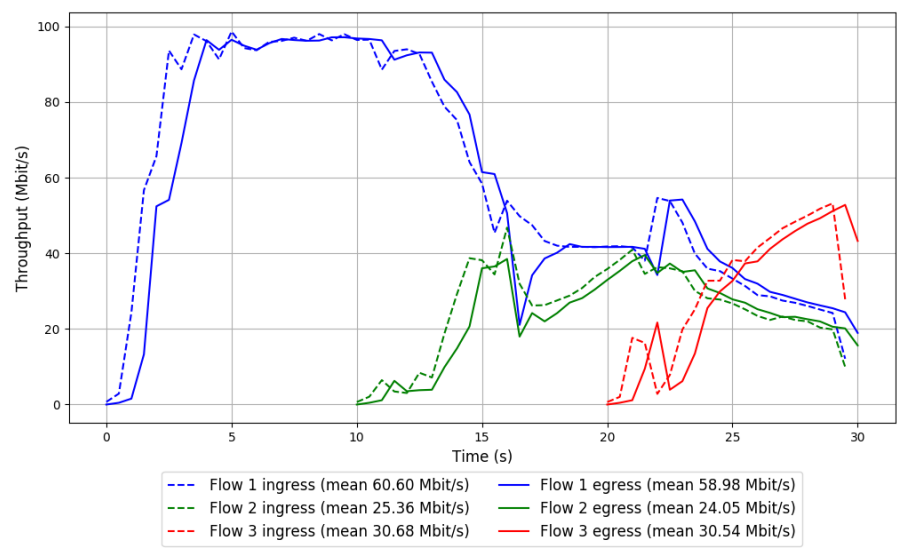


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-07 15:31:21
End at: 2018-09-07 15:31:51
Local clock offset: -51.458 ms
Remote clock offset: -2.87 ms

Below is generated by plot.py at 2018-09-07 16:30:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.92 Mbit/s
95th percentile per-packet one-way delay: 164.320 ms
Loss rate: 2.89%
-- Flow 1:
Average throughput: 58.98 Mbit/s
95th percentile per-packet one-way delay: 163.643 ms
Loss rate: 2.67%
-- Flow 2:
Average throughput: 24.05 Mbit/s
95th percentile per-packet one-way delay: 167.102 ms
Loss rate: 5.19%
-- Flow 3:
Average throughput: 30.54 Mbit/s
95th percentile per-packet one-way delay: 162.603 ms
Loss rate: 0.41%

Run 3: Report of Indigo-Muses — Data Link

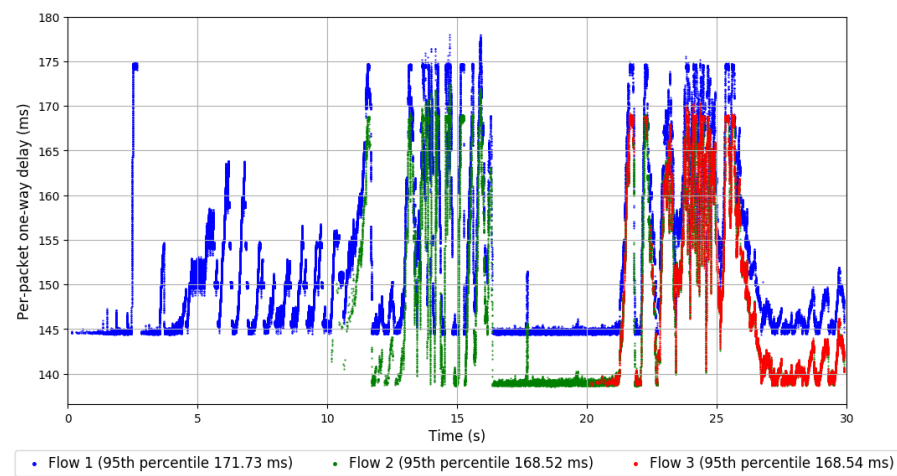
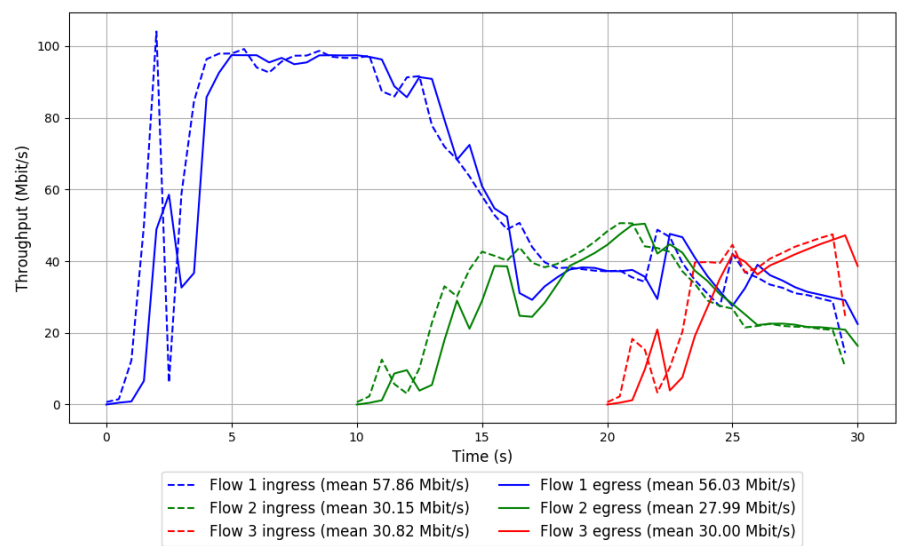


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-07 15:54:20
End at: 2018-09-07 15:54:50
Local clock offset: -53.059 ms
Remote clock offset: 0.614 ms

```
# Below is generated by plot.py at 2018-09-07 16:30:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.41 Mbit/s
95th percentile per-packet one-way delay: 169.190 ms
Loss rate: 4.02%
-- Flow 1:
Average throughput: 56.03 Mbit/s
95th percentile per-packet one-way delay: 171.734 ms
Loss rate: 3.17%
-- Flow 2:
Average throughput: 27.99 Mbit/s
95th percentile per-packet one-way delay: 168.518 ms
Loss rate: 7.17%
-- Flow 3:
Average throughput: 30.00 Mbit/s
95th percentile per-packet one-way delay: 168.539 ms
Loss rate: 2.63%
```

Run 4: Report of Indigo-Muses — Data Link

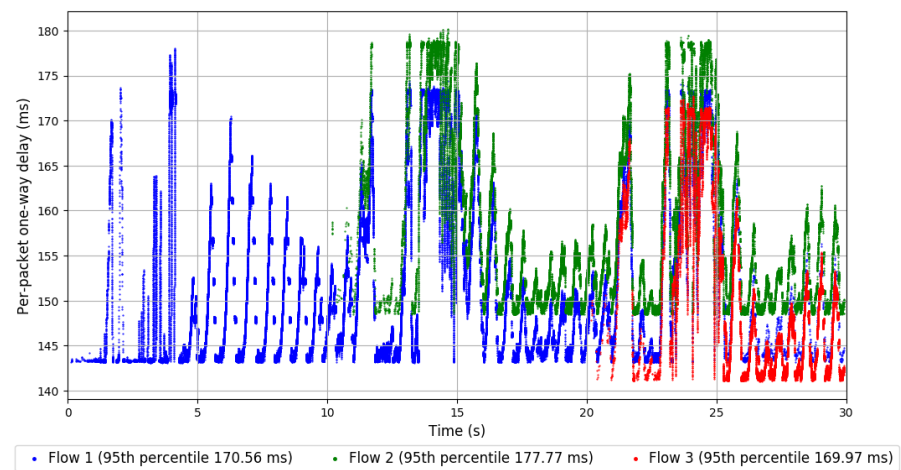
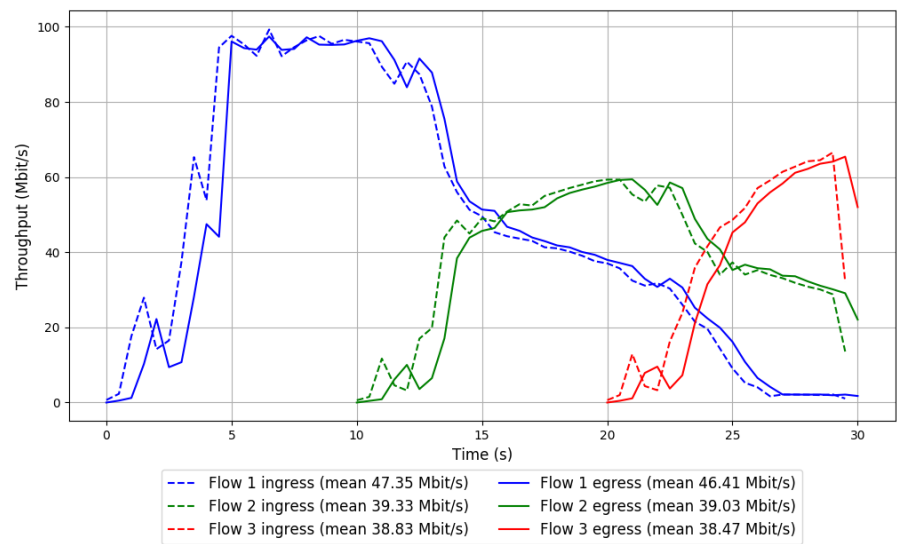


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-07 16:17:35
End at: 2018-09-07 16:18:05
Local clock offset: -52.443 ms
Remote clock offset: 4.762 ms

```
# Below is generated by plot.py at 2018-09-07 16:30:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 172.908 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 46.41 Mbit/s
95th percentile per-packet one-way delay: 170.555 ms
Loss rate: 1.98%
-- Flow 2:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 177.773 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 38.47 Mbit/s
95th percentile per-packet one-way delay: 169.966 ms
Loss rate: 0.98%
```

Run 5: Report of Indigo-Muses — Data Link

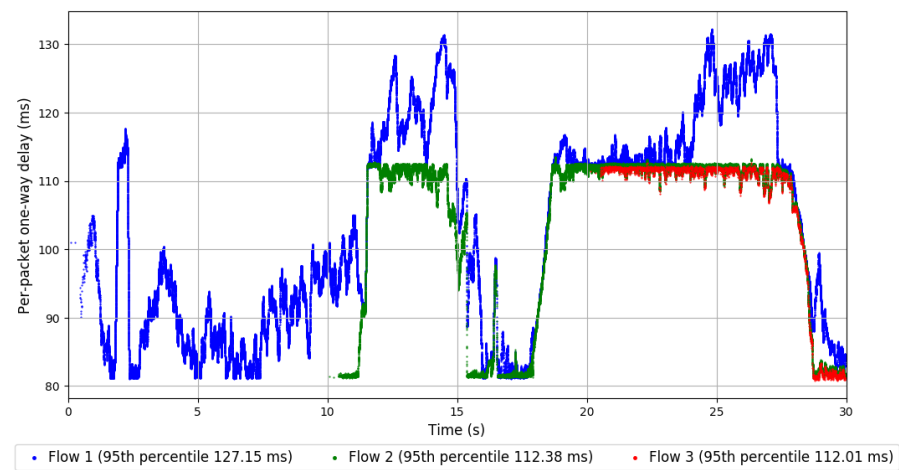
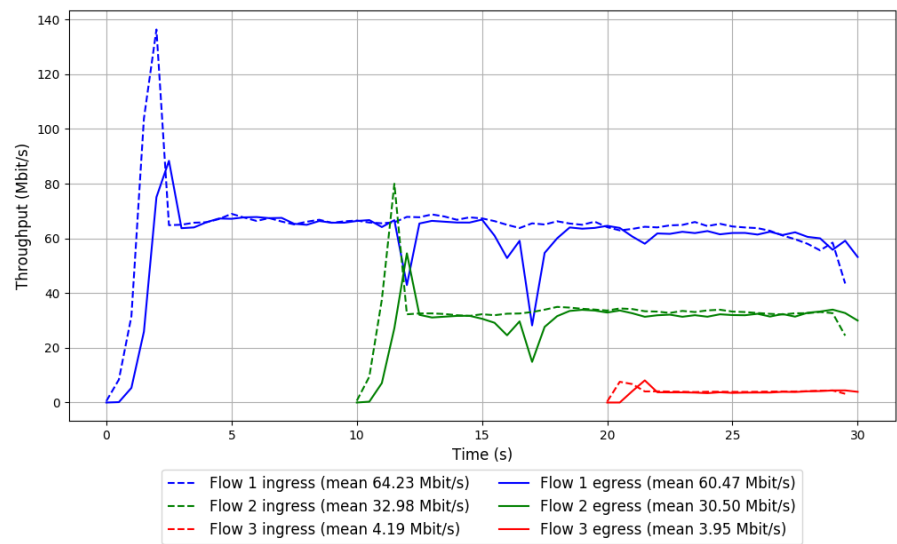


Run 1: Statistics of PCC-Allegro

Start at: 2018-09-07 14:51:39
End at: 2018-09-07 14:52:09
Local clock offset: 2.963 ms
Remote clock offset: -2.935 ms

Below is generated by plot.py at 2018-09-07 16:30:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 82.07 Mbit/s
95th percentile per-packet one-way delay: 126.382 ms
Loss rate: 6.30%
-- Flow 1:
Average throughput: 60.47 Mbit/s
95th percentile per-packet one-way delay: 127.149 ms
Loss rate: 5.90%
-- Flow 2:
Average throughput: 30.50 Mbit/s
95th percentile per-packet one-way delay: 112.381 ms
Loss rate: 7.50%
-- Flow 3:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 112.007 ms
Loss rate: 6.08%

Run 1: Report of PCC-Allegro — Data Link

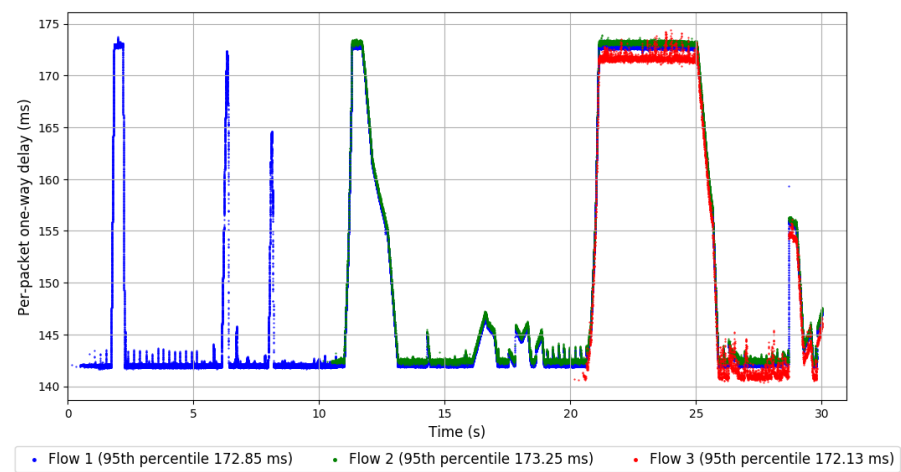
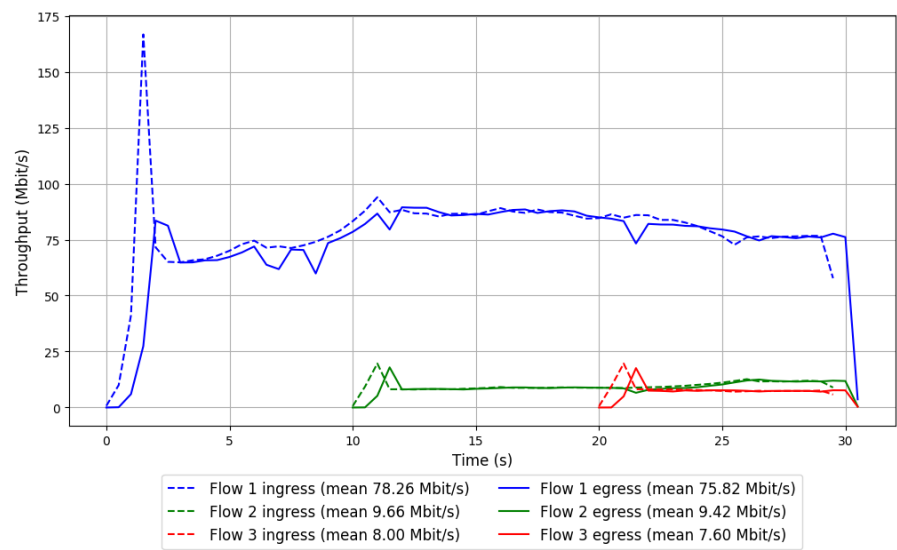


Run 2: Statistics of PCC-Allegro

Start at: 2018-09-07 15:14:48
End at: 2018-09-07 15:15:18
Local clock offset: -52.065 ms
Remote clock offset: 1.147 ms

Below is generated by plot.py at 2018-09-07 16:31:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.59 Mbit/s
95th percentile per-packet one-way delay: 172.877 ms
Loss rate: 3.11%
-- Flow 1:
Average throughput: 75.82 Mbit/s
95th percentile per-packet one-way delay: 172.854 ms
Loss rate: 3.10%
-- Flow 2:
Average throughput: 9.42 Mbit/s
95th percentile per-packet one-way delay: 173.252 ms
Loss rate: 2.44%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 172.131 ms
Loss rate: 4.90%

Run 2: Report of PCC-Allegro — Data Link

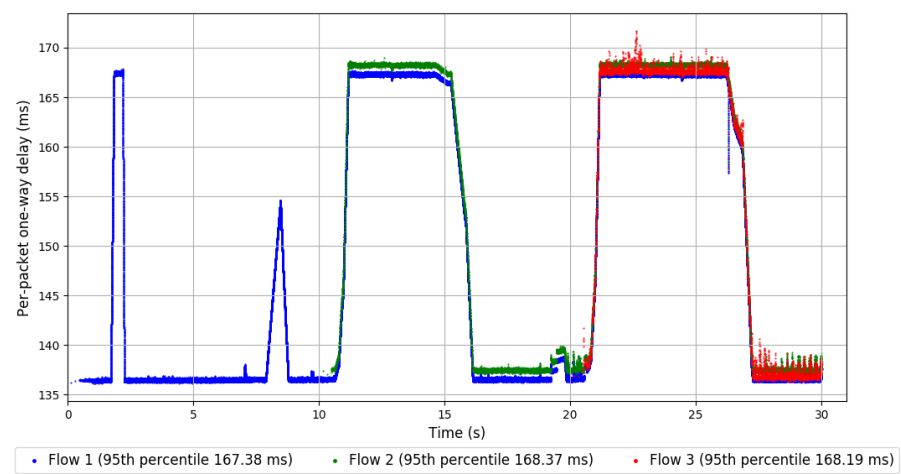
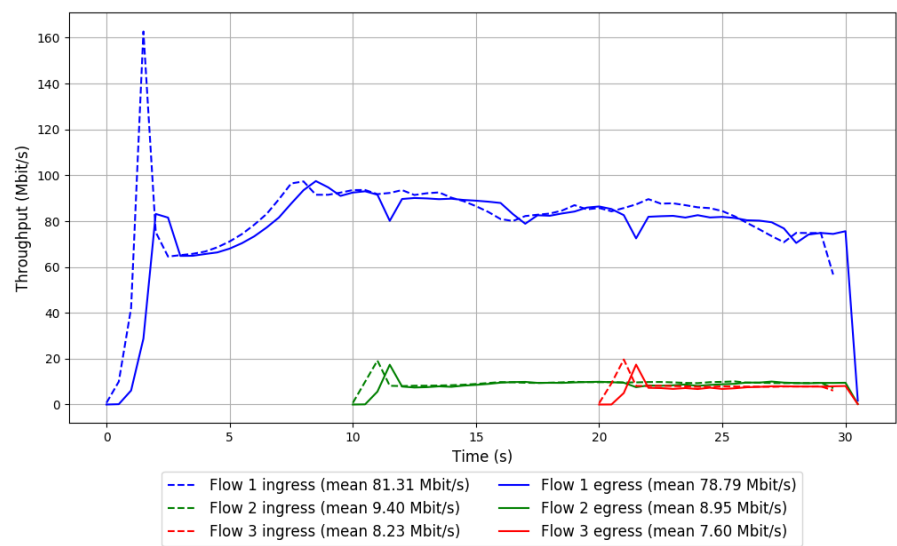


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-07 15:37:43
End at: 2018-09-07 15:38:13
Local clock offset: -50.673 ms
Remote clock offset: -2.731 ms

Below is generated by plot.py at 2018-09-07 16:31:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.25 Mbit/s
95th percentile per-packet one-way delay: 167.470 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 78.79 Mbit/s
95th percentile per-packet one-way delay: 167.385 ms
Loss rate: 3.09%
-- Flow 2:
Average throughput: 8.95 Mbit/s
95th percentile per-packet one-way delay: 168.369 ms
Loss rate: 4.78%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 168.194 ms
Loss rate: 7.57%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-07 16:00:56

End at: 2018-09-07 16:01:26

Local clock offset: -53.6 ms

Remote clock offset: 0.619 ms

Below is generated by plot.py at 2018-09-07 16:31:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 81.99 Mbit/s

95th percentile per-packet one-way delay: 176.964 ms

Loss rate: 3.24%

-- Flow 1:

Average throughput: 66.49 Mbit/s

95th percentile per-packet one-way delay: 176.991 ms

Loss rate: 3.40%

-- Flow 2:

Average throughput: 19.56 Mbit/s

95th percentile per-packet one-way delay: 171.267 ms

Loss rate: 1.95%

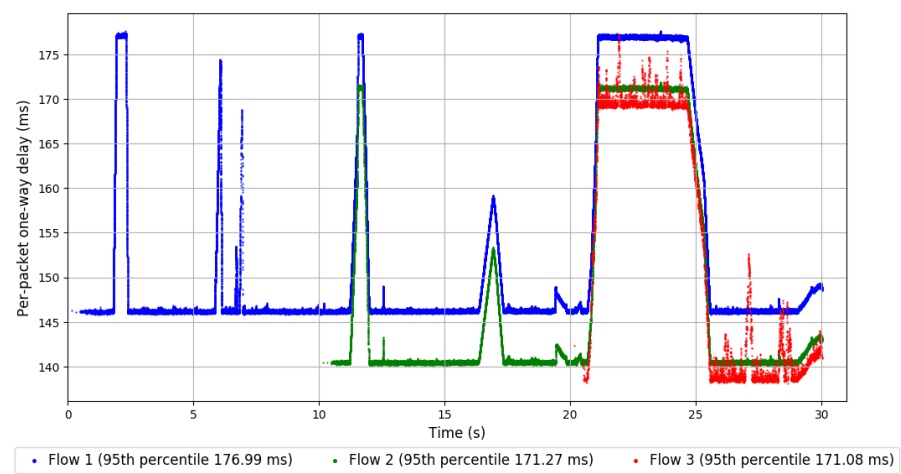
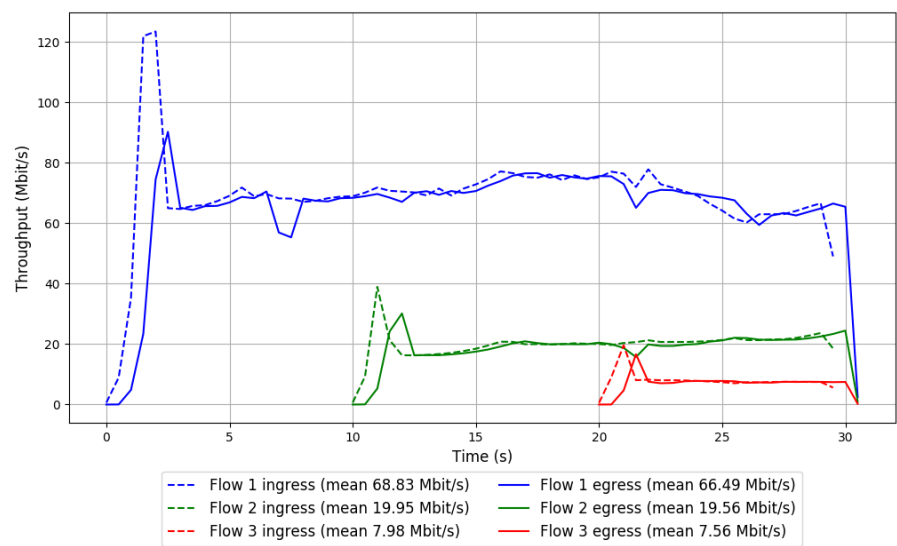
-- Flow 3:

Average throughput: 7.56 Mbit/s

95th percentile per-packet one-way delay: 171.078 ms

Loss rate: 5.30%

Run 4: Report of PCC-Allegro — Data Link

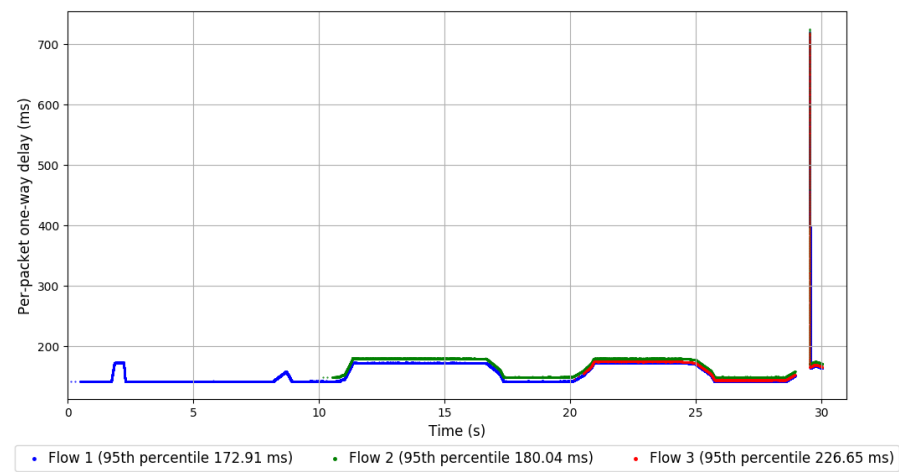
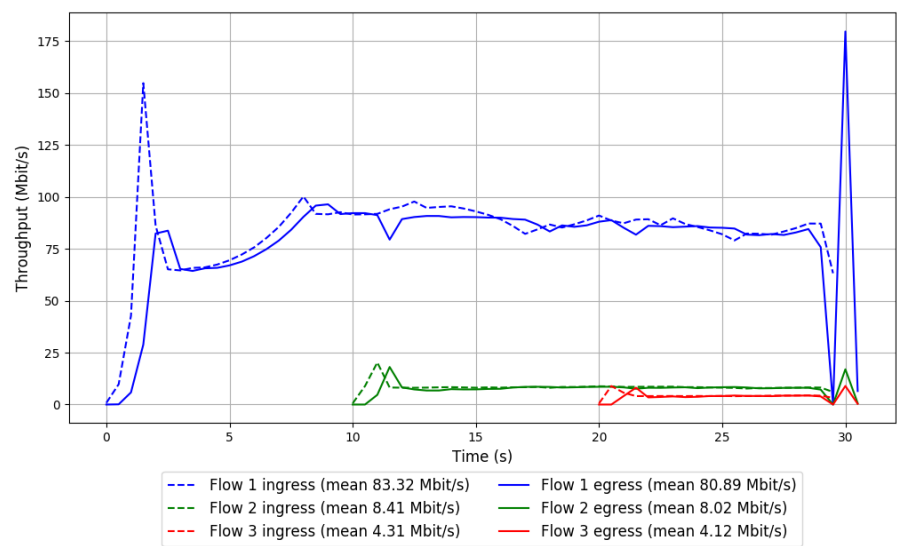


Run 5: Statistics of PCC-Allegro

Start at: 2018-09-07 16:23:55
End at: 2018-09-07 16:24:25
Local clock offset: -53.128 ms
Remote clock offset: 4.739 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.58 Mbit/s
95th percentile per-packet one-way delay: 178.729 ms
Loss rate: 2.98%
-- Flow 1:
Average throughput: 80.89 Mbit/s
95th percentile per-packet one-way delay: 172.913 ms
Loss rate: 2.85%
-- Flow 2:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 180.045 ms
Loss rate: 4.57%
-- Flow 3:
Average throughput: 4.12 Mbit/s
95th percentile per-packet one-way delay: 226.649 ms
Loss rate: 4.30%

Run 5: Report of PCC-Allegro — Data Link

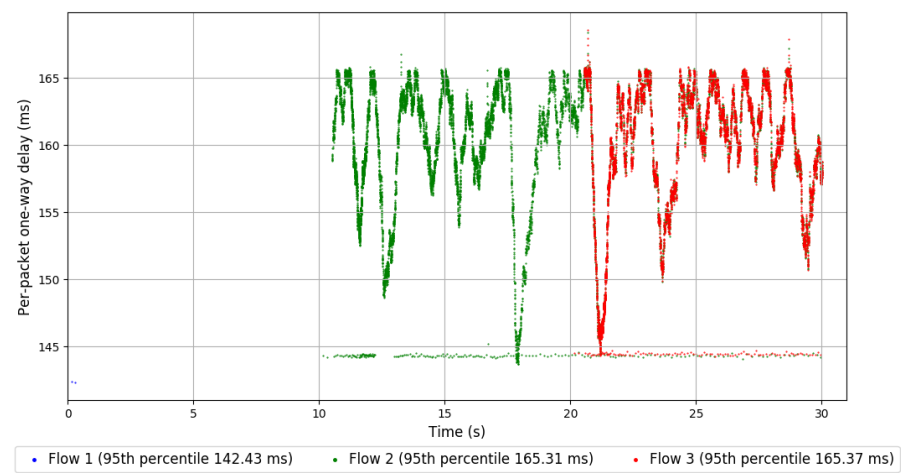
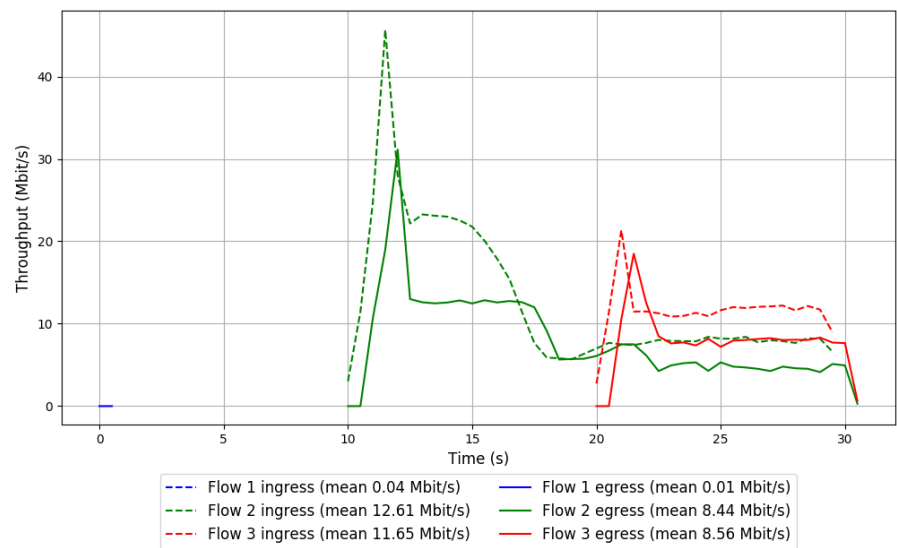


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-07 14:28:51
End at: 2018-09-07 14:29:21
Local clock offset: -53.044 ms
Remote clock offset: 3.714 ms

# Below is generated by plot.py at 2018-09-07 16:32:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.44 Mbit/s
95th percentile per-packet one-way delay: 165.336 ms
Loss rate: 31.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 142.434 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 8.44 Mbit/s
95th percentile per-packet one-way delay: 165.314 ms
Loss rate: 33.03%
-- Flow 3:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 165.370 ms
Loss rate: 26.57%
```

Run 1: Report of PCC-Expr — Data Link

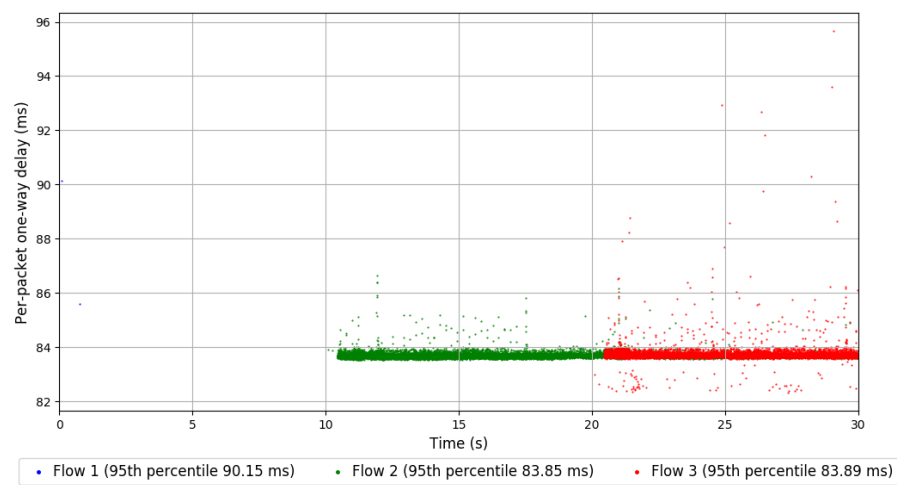
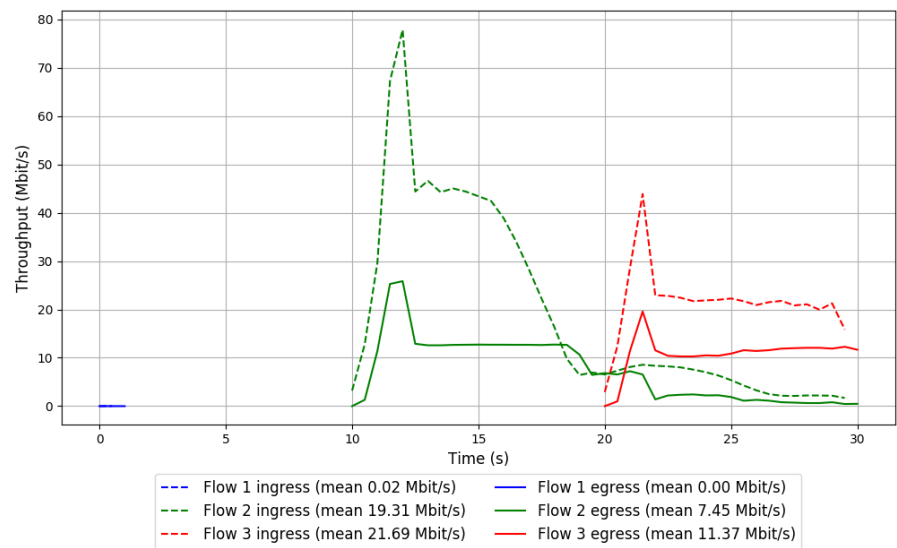


Run 2: Statistics of PCC-Expr

Start at: 2018-09-07 14:52:56
End at: 2018-09-07 14:53:26
Local clock offset: 2.9 ms
Remote clock offset: -1.863 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.71 Mbit/s
95th percentile per-packet one-way delay: 83.870 ms
Loss rate: 56.50%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 90.149 ms
Loss rate: 87.50%
-- Flow 2:
Average throughput: 7.45 Mbit/s
95th percentile per-packet one-way delay: 83.852 ms
Loss rate: 61.47%
-- Flow 3:
Average throughput: 11.37 Mbit/s
95th percentile per-packet one-way delay: 83.890 ms
Loss rate: 47.57%

Run 2: Report of PCC-Expr — Data Link

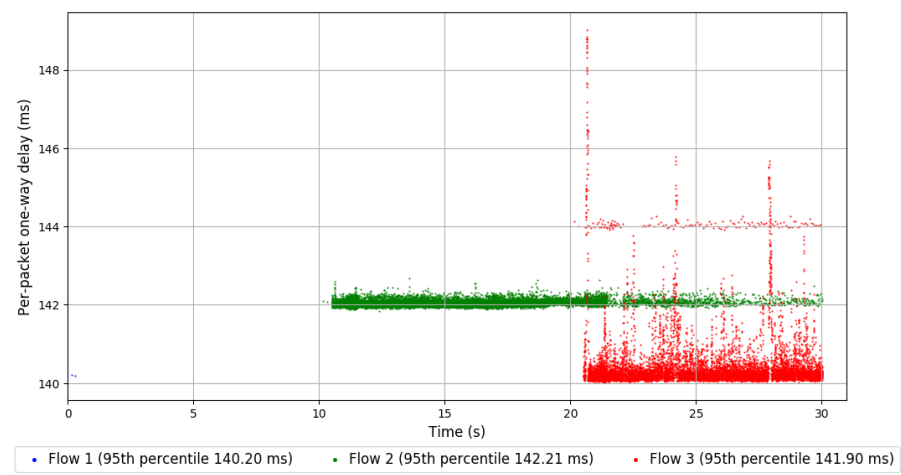
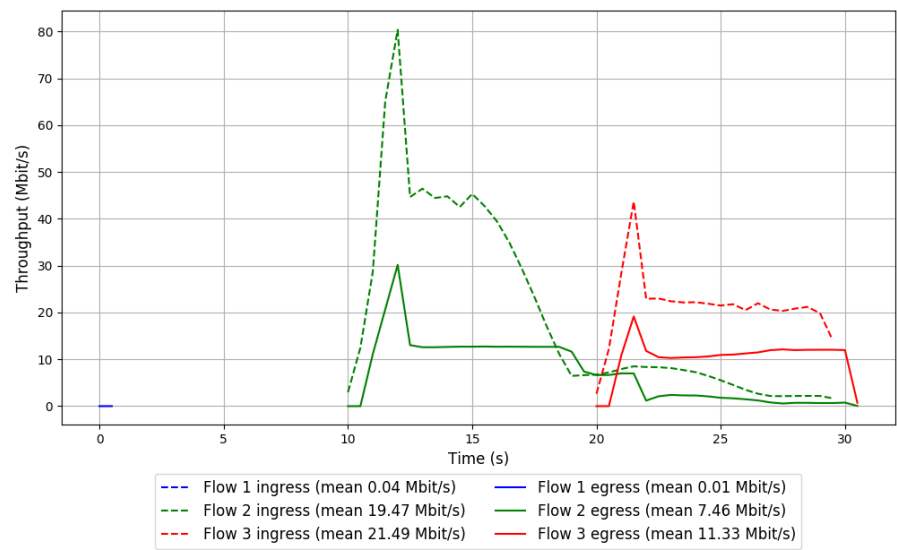


Run 3: Statistics of PCC-Expr

Start at: 2018-09-07 15:16:05
End at: 2018-09-07 15:16:35
Local clock offset: -52.011 ms
Remote clock offset: 1.25 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.70 Mbit/s
95th percentile per-packet one-way delay: 142.200 ms
Loss rate: 56.59%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 140.199 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 142.206 ms
Loss rate: 61.67%
-- Flow 3:
Average throughput: 11.33 Mbit/s
95th percentile per-packet one-way delay: 141.897 ms
Loss rate: 47.31%

Run 3: Report of PCC-Expr — Data Link

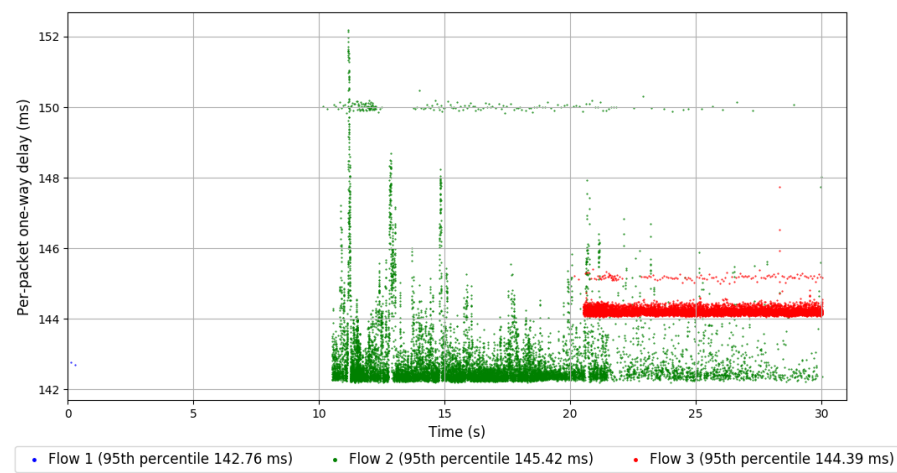
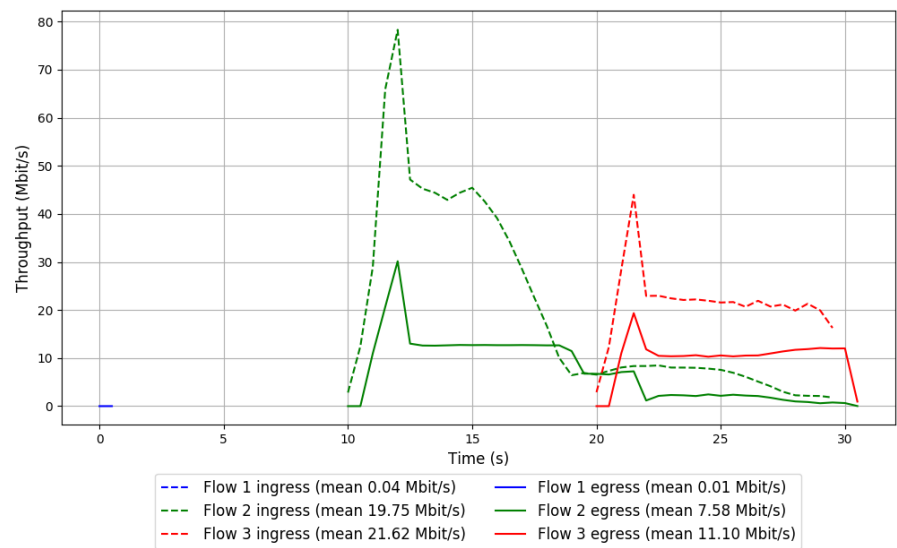


Run 4: Statistics of PCC-Expr

Start at: 2018-09-07 15:38:59
End at: 2018-09-07 15:39:29
Local clock offset: -51.069 ms
Remote clock offset: 3.663 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.70 Mbit/s
95th percentile per-packet one-way delay: 144.529 ms
Loss rate: 57.10%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 142.765 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 145.416 ms
Loss rate: 61.68%
-- Flow 3:
Average throughput: 11.10 Mbit/s
95th percentile per-packet one-way delay: 144.392 ms
Loss rate: 48.67%

Run 4: Report of PCC-Expr — Data Link

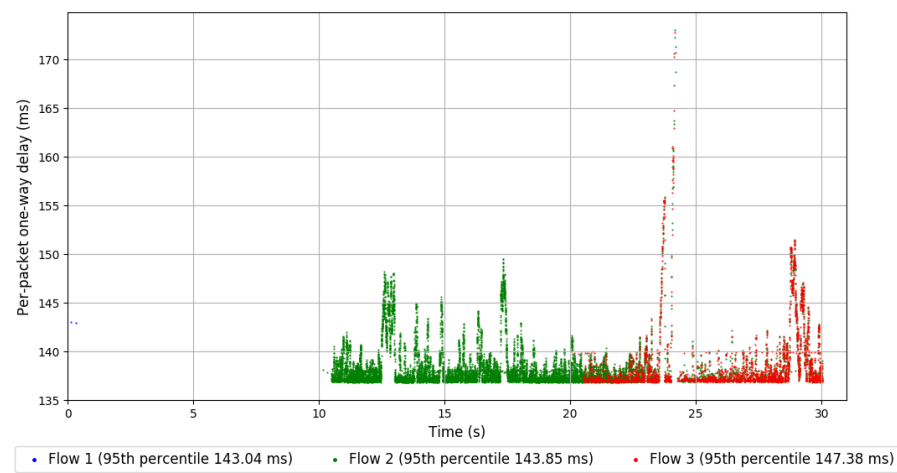
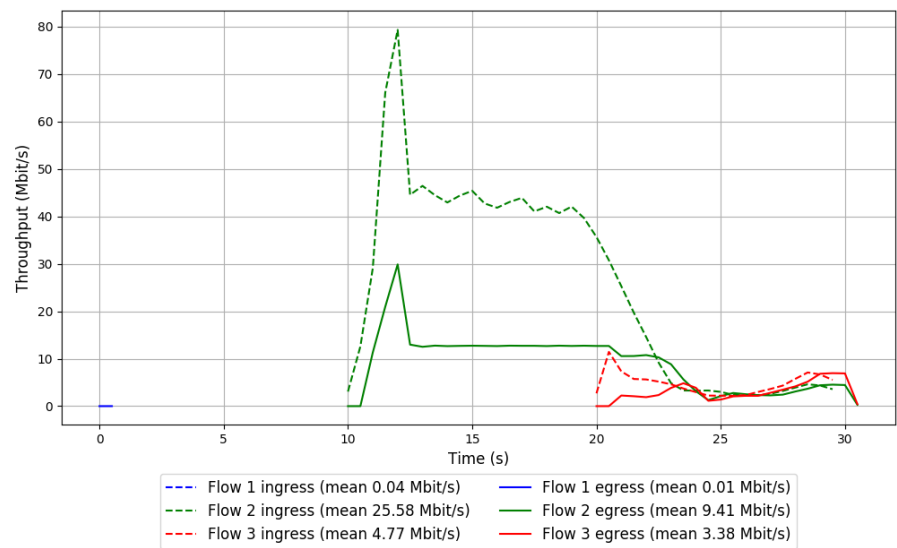


Run 5: Statistics of PCC-Expr

Start at: 2018-09-07 16:02:13
End at: 2018-09-07 16:02:43
Local clock offset: -52.232 ms
Remote clock offset: 0.639 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 144.415 ms
Loss rate: 60.34%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 143.041 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.41 Mbit/s
95th percentile per-packet one-way delay: 143.851 ms
Loss rate: 63.23%
-- Flow 3:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 147.382 ms
Loss rate: 29.13%

Run 5: Report of PCC-Expr — Data Link

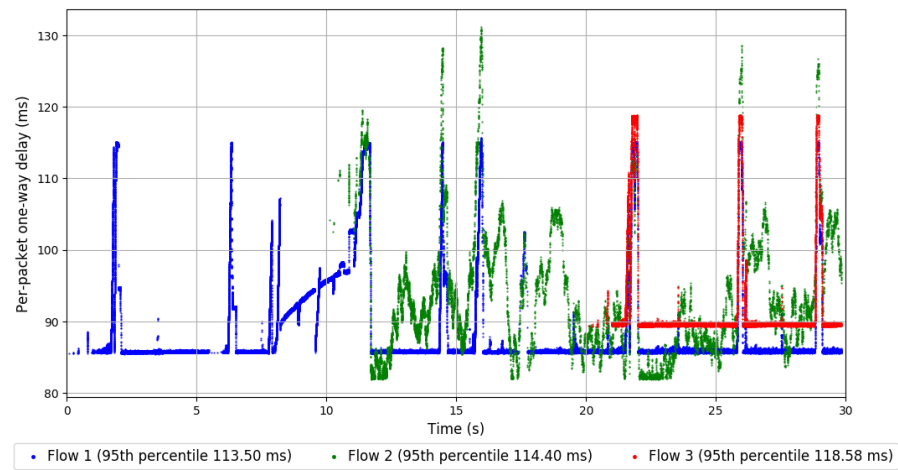
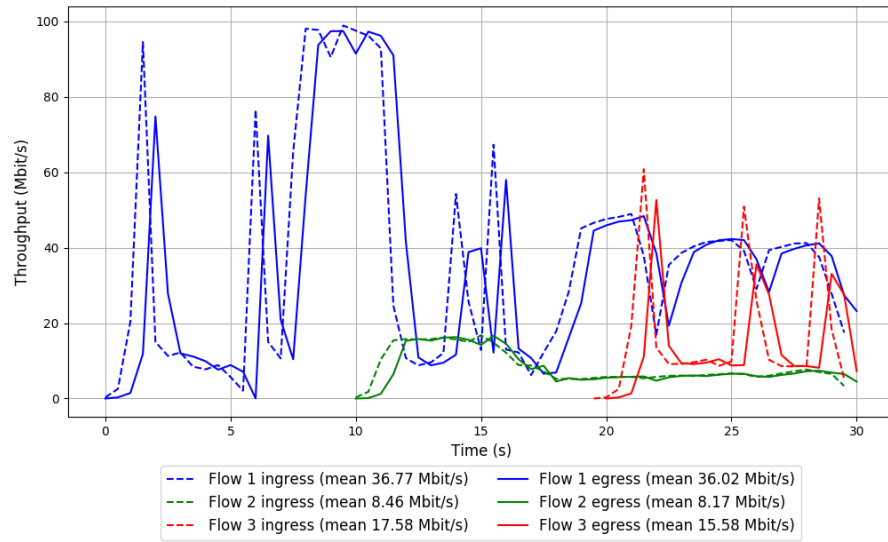


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-07 14:47:38
End at: 2018-09-07 14:48:08
Local clock offset: 2.922 ms
Remote clock offset: -1.486 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 46.54 Mbit/s
95th percentile per-packet one-way delay: 114.587 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 36.02 Mbit/s
95th percentile per-packet one-way delay: 113.498 ms
Loss rate: 2.05%
-- Flow 2:
Average throughput: 8.17 Mbit/s
95th percentile per-packet one-way delay: 114.398 ms
Loss rate: 3.53%
-- Flow 3:
Average throughput: 15.58 Mbit/s
95th percentile per-packet one-way delay: 118.580 ms
Loss rate: 11.45%

Run 1: Report of QUIC Cubic — Data Link

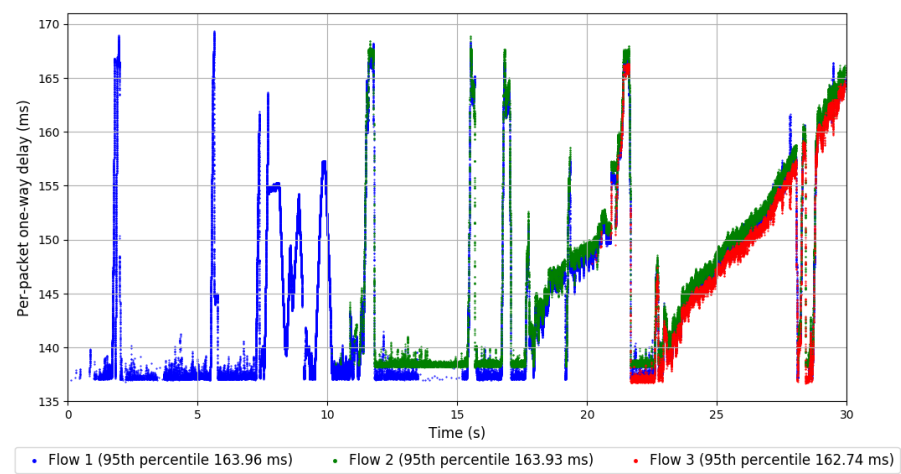
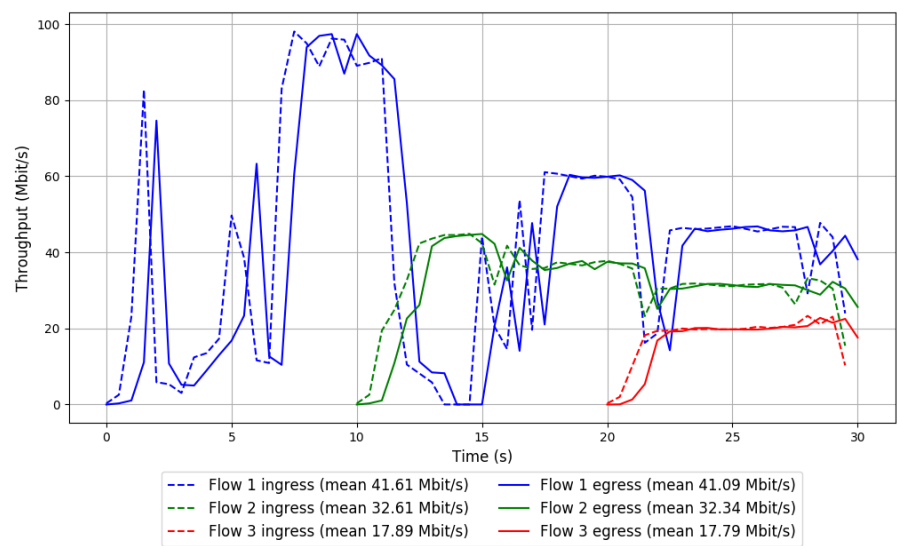


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-07 15:11:01
End at: 2018-09-07 15:11:31
Local clock offset: -53.199 ms
Remote clock offset: -3.463 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 68.38 Mbit/s
95th percentile per-packet one-way delay: 163.808 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 41.09 Mbit/s
95th percentile per-packet one-way delay: 163.959 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 32.34 Mbit/s
95th percentile per-packet one-way delay: 163.933 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 17.79 Mbit/s
95th percentile per-packet one-way delay: 162.740 ms
Loss rate: 0.38%

Run 2: Report of QUIC Cubic — Data Link

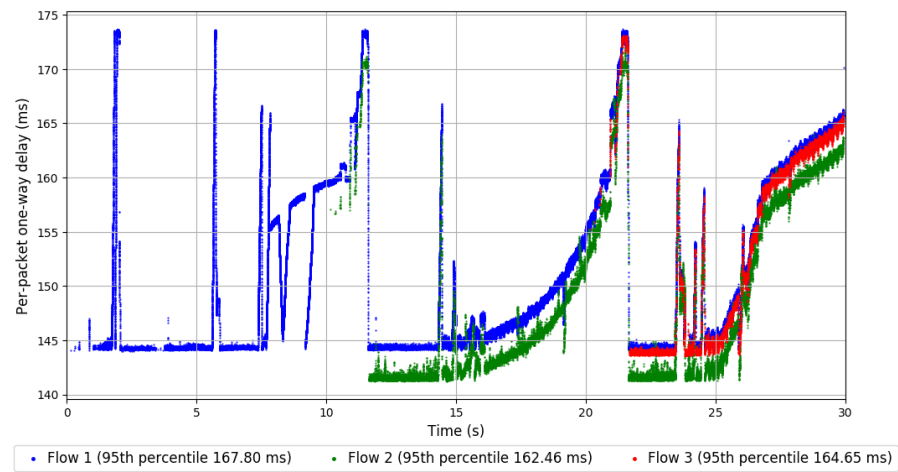
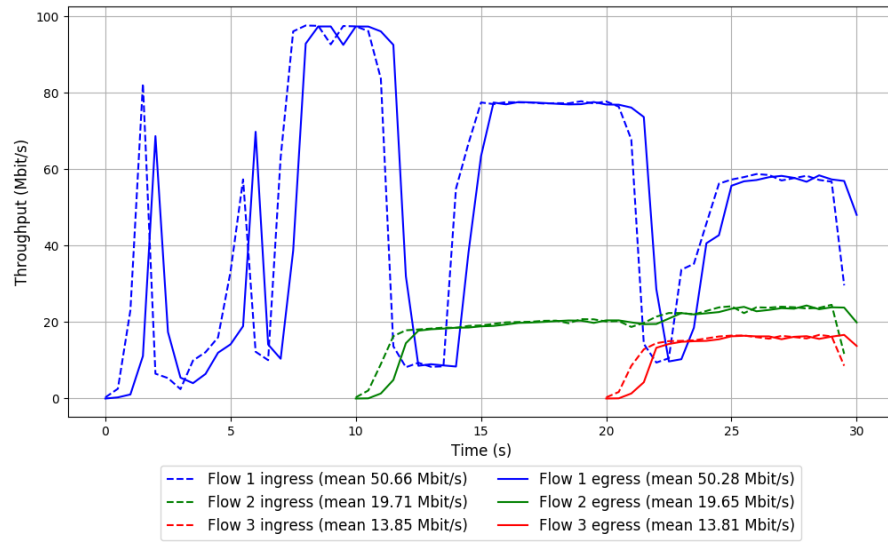


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-07 15:33:56
End at: 2018-09-07 15:34:26
Local clock offset: -51.358 ms
Remote clock offset: 2.451 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 67.82 Mbit/s
95th percentile per-packet one-way delay: 166.986 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 50.28 Mbit/s
95th percentile per-packet one-way delay: 167.797 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 19.65 Mbit/s
95th percentile per-packet one-way delay: 162.455 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 13.81 Mbit/s
95th percentile per-packet one-way delay: 164.652 ms
Loss rate: 0.21%

Run 3: Report of QUIC Cubic — Data Link

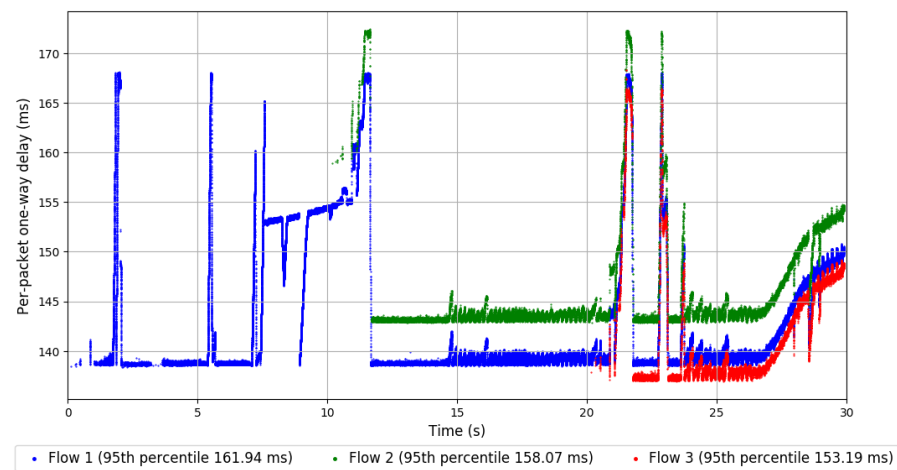
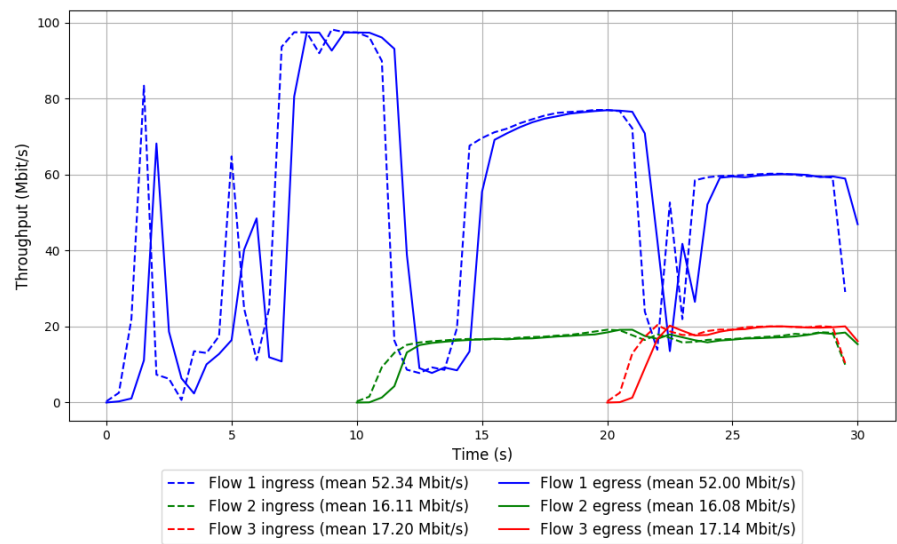


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-07 15:56:58
End at: 2018-09-07 15:57:28
Local clock offset: -52.193 ms
Remote clock offset: 0.103 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 68.26 Mbit/s
95th percentile per-packet one-way delay: 160.740 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 52.00 Mbit/s
95th percentile per-packet one-way delay: 161.938 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 16.08 Mbit/s
95th percentile per-packet one-way delay: 158.074 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 17.14 Mbit/s
95th percentile per-packet one-way delay: 153.192 ms
Loss rate: 0.26%

Run 4: Report of QUIC Cubic — Data Link

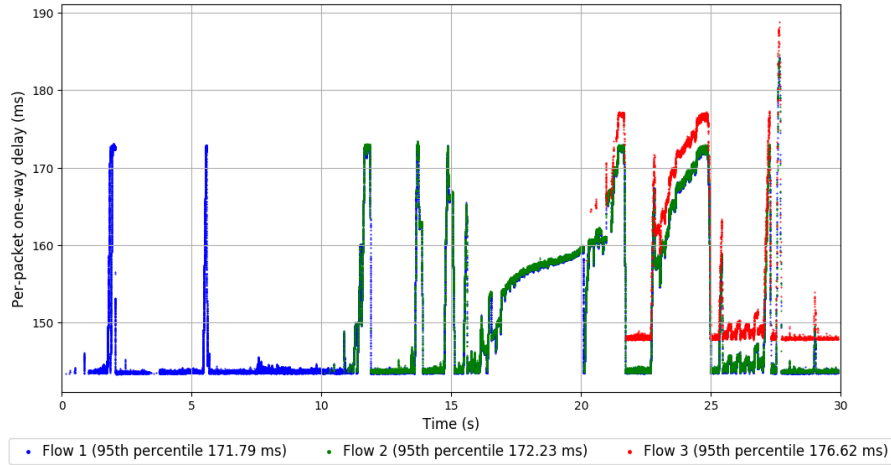
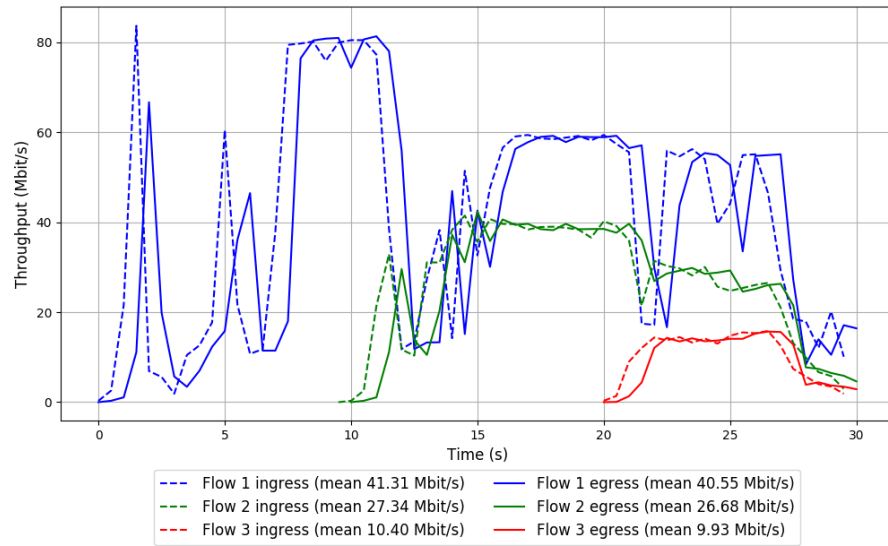


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-07 16:20:09
End at: 2018-09-07 16:20:39
Local clock offset: -53.748 ms
Remote clock offset: 4.298 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 61.51 Mbit/s
95th percentile per-packet one-way delay: 172.217 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 40.55 Mbit/s
95th percentile per-packet one-way delay: 171.794 ms
Loss rate: 1.84%
-- Flow 2:
Average throughput: 26.68 Mbit/s
95th percentile per-packet one-way delay: 172.227 ms
Loss rate: 2.41%
-- Flow 3:
Average throughput: 9.93 Mbit/s
95th percentile per-packet one-way delay: 176.624 ms
Loss rate: 4.61%

Run 5: Report of QUIC Cubic — Data Link

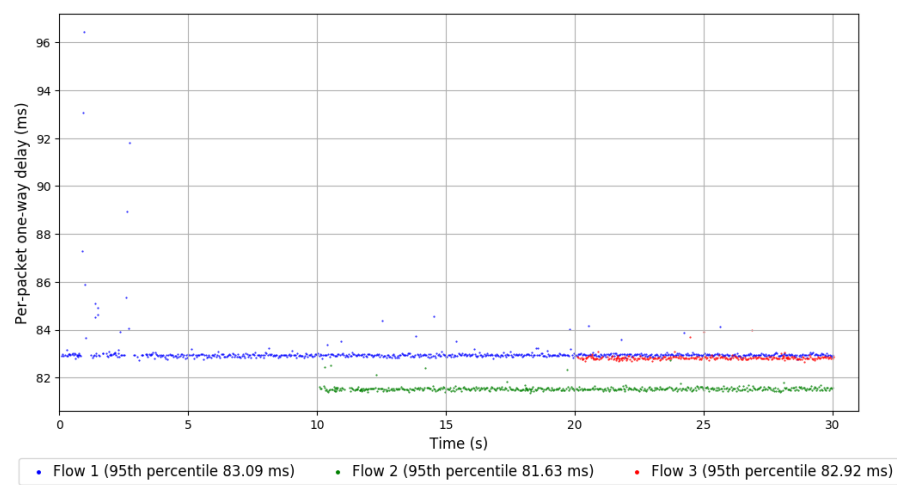
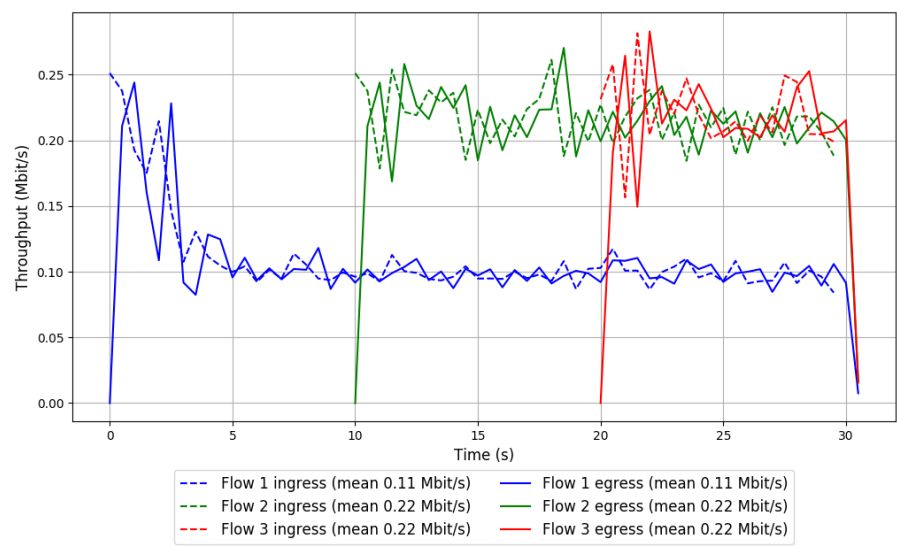


```
Run 1: Statistics of SCReAM

Start at: 2018-09-07 14:39:53
End at: 2018-09-07 14:40:23
Local clock offset: 3.718 ms
Remote clock offset: -1.135 ms

# Below is generated by plot.py at 2018-09-07 16:32:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 83.019 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 83.095 ms
Loss rate: 2.58%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.626 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 82.925 ms
Loss rate: 0.00%
```

Run 1: Report of SCSReAM — Data Link

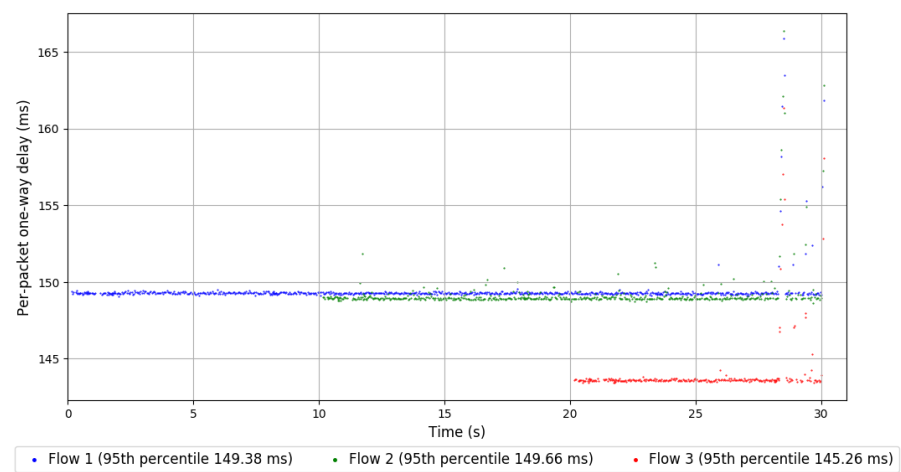
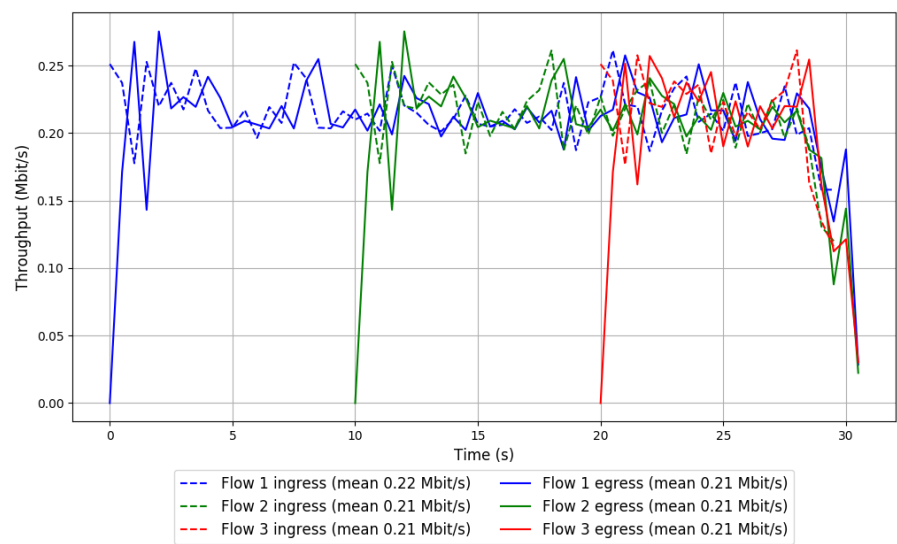


Run 2: Statistics of SReAM

Start at: 2018-09-07 15:03:26
End at: 2018-09-07 15:03:56
Local clock offset: -53.018 ms
Remote clock offset: 2.83 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 149.393 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 149.380 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 149.661 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 145.262 ms
Loss rate: 1.82%

Run 2: Report of SReAM — Data Link

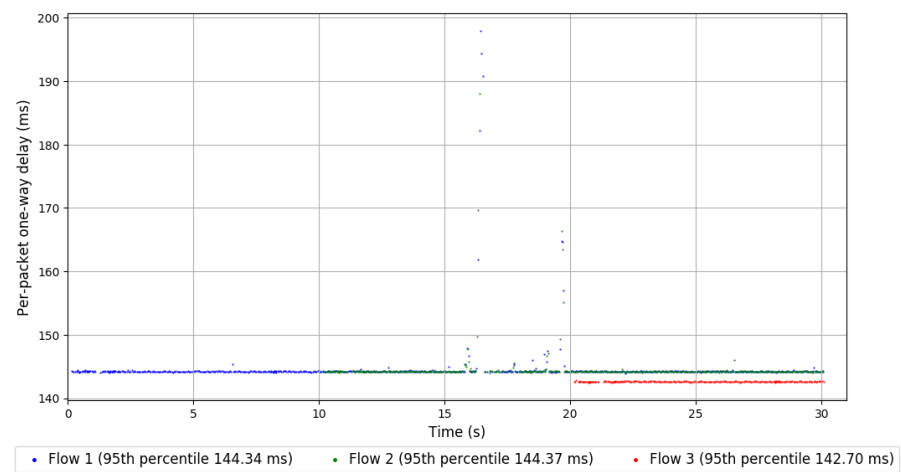
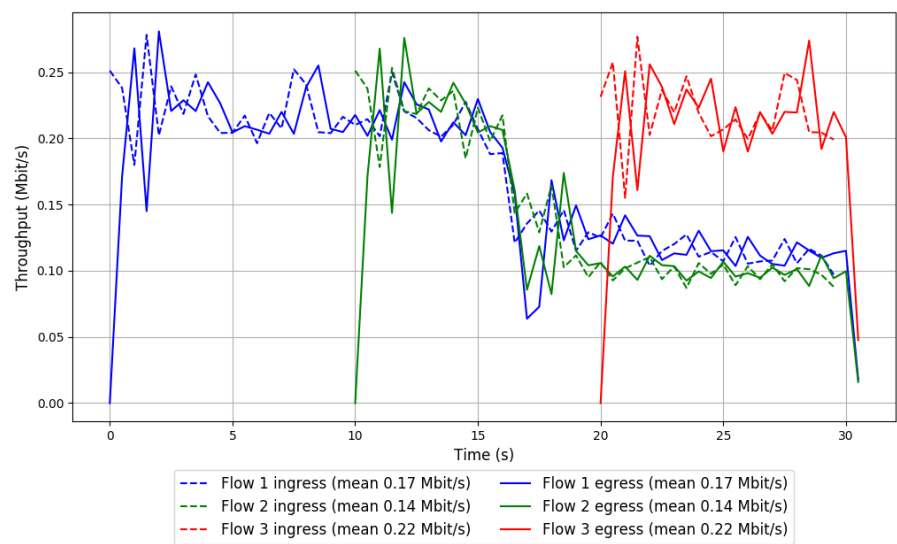


Run 3: Statistics of SCReAM

Start at: 2018-09-07 15:26:20
End at: 2018-09-07 15:26:51
Local clock offset: -52.424 ms
Remote clock offset: 2.334 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 144.324 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 144.335 ms
Loss rate: 1.46%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 144.369 ms
Loss rate: 3.60%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 142.701 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

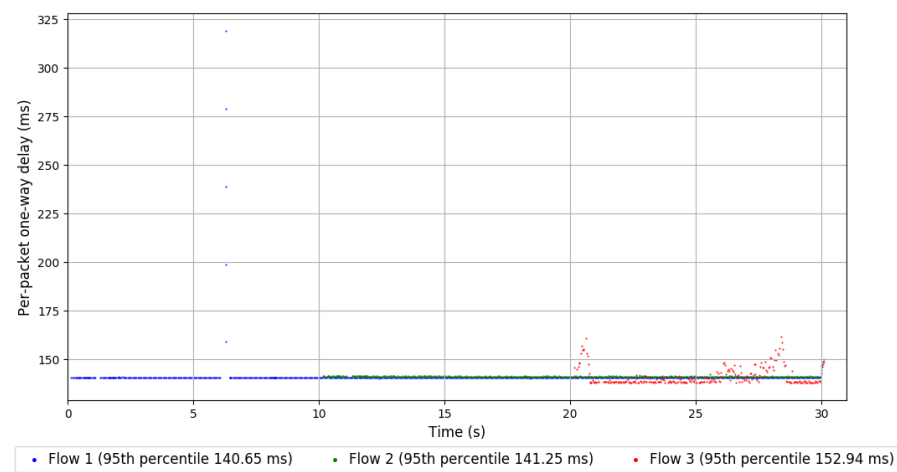
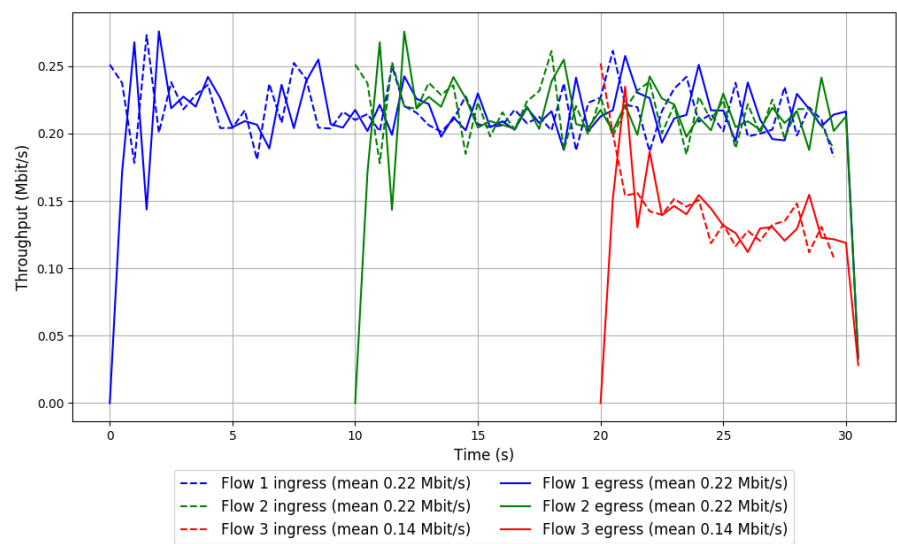


Run 4: Statistics of SReAM

Start at: 2018-09-07 15:49:06
End at: 2018-09-07 15:49:36
Local clock offset: -52.493 ms
Remote clock offset: -0.14 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 142.199 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.653 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 141.253 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 152.937 ms
Loss rate: 0.70%

Run 4: Report of SReAM — Data Link

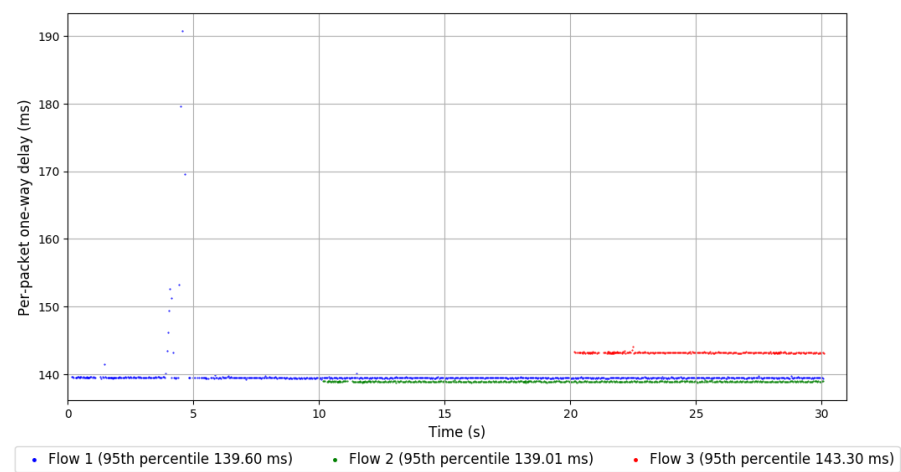
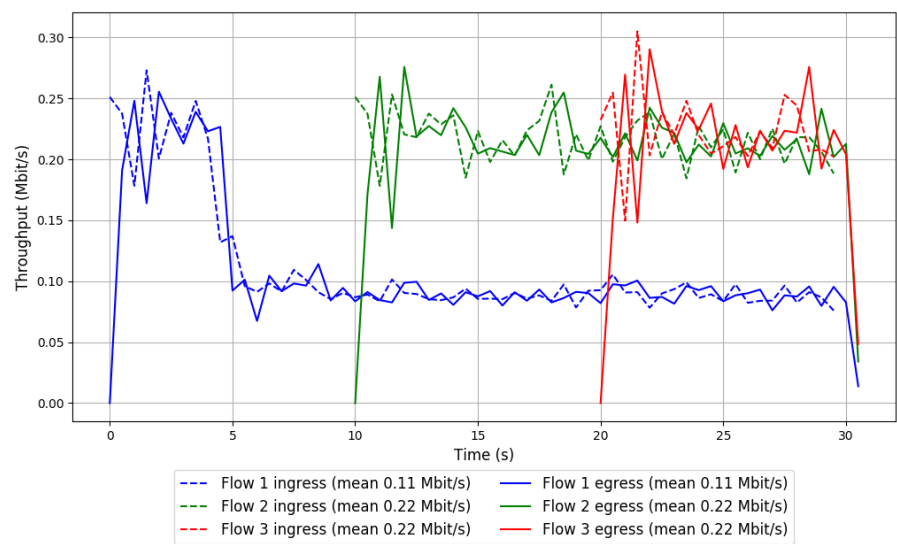


Run 5: Statistics of SReAM

Start at: 2018-09-07 16:12:33
End at: 2018-09-07 16:13:03
Local clock offset: -52.45 ms
Remote clock offset: 0.752 ms

```
# Below is generated by plot.py at 2018-09-07 16:32:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 143.231 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 139.597 ms
Loss rate: 2.02%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 139.011 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 143.299 ms
Loss rate: 0.00%
```

Run 5: Report of SReAM — Data Link

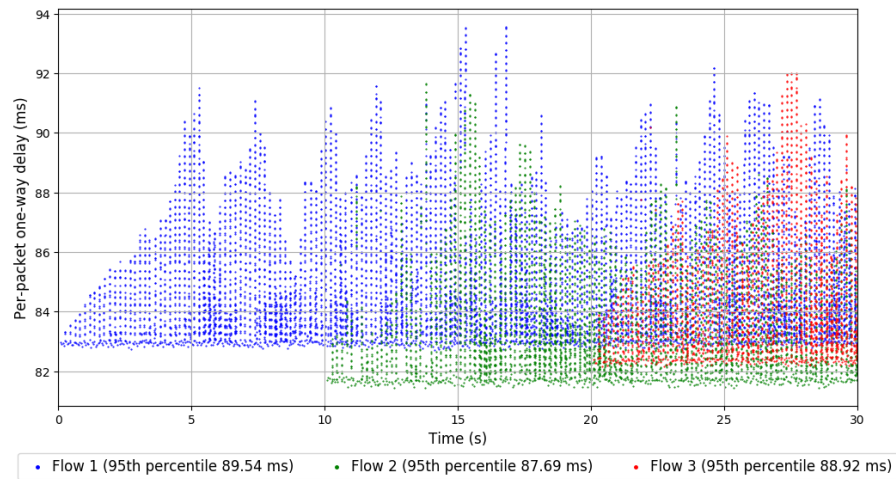
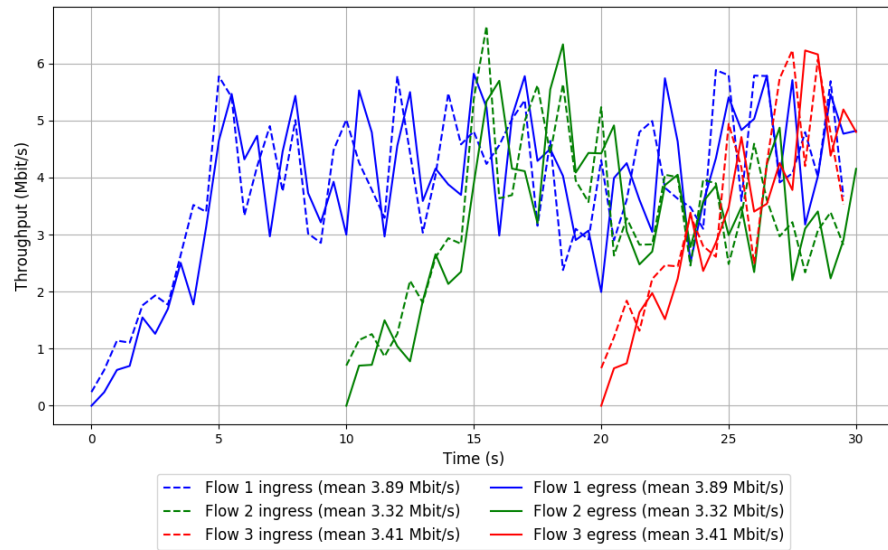


Run 1: Statistics of Sprout

Start at: 2018-09-07 14:35:58
End at: 2018-09-07 14:36:28
Local clock offset: 3.831 ms
Remote clock offset: -0.989 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.22 Mbit/s
95th percentile per-packet one-way delay: 89.128 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 89.537 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 87.691 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 88.925 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

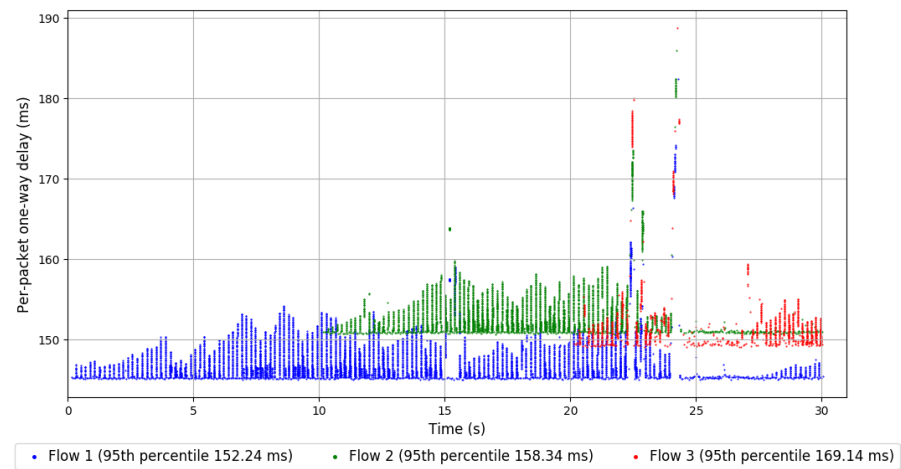
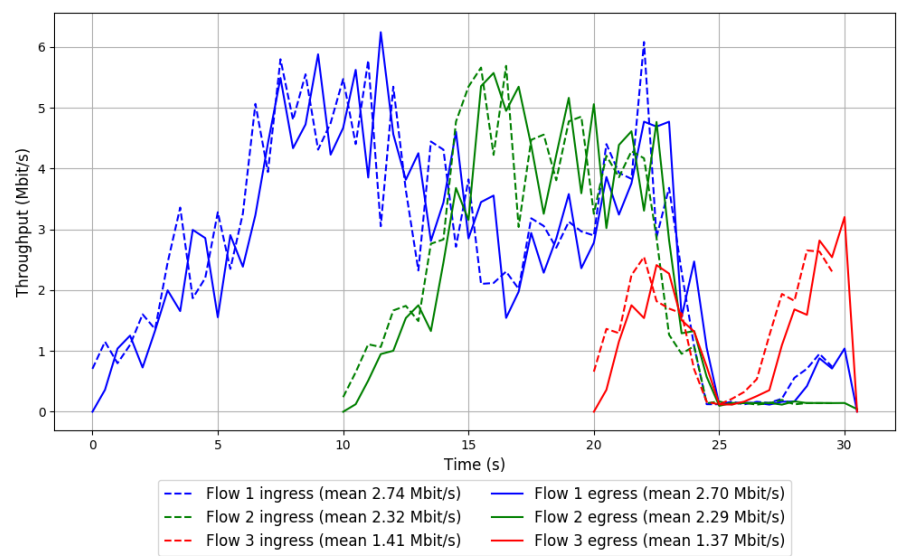


Run 2: Statistics of Sprout

Start at: 2018-09-07 14:59:32
End at: 2018-09-07 15:00:02
Local clock offset: -53.237 ms
Remote clock offset: 3.078 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 4.68 Mbit/s
95th percentile per-packet one-way delay: 156.744 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 152.243 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 158.339 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 169.141 ms
Loss rate: 3.22%

Run 2: Report of Sprout — Data Link

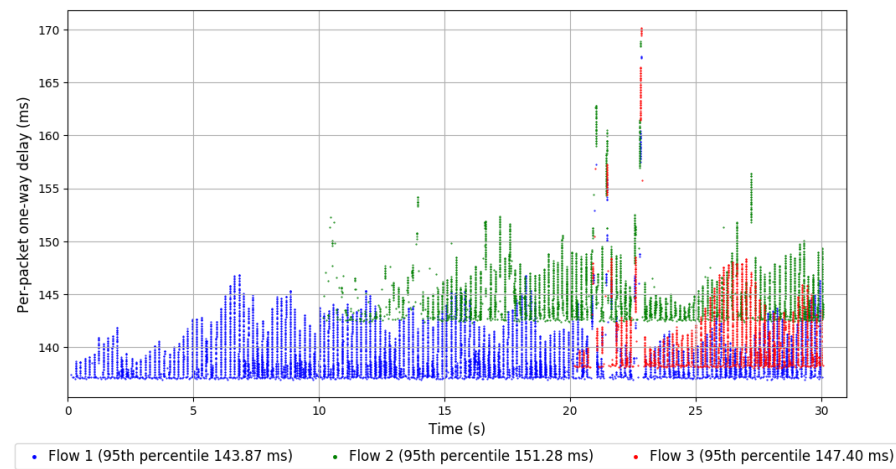
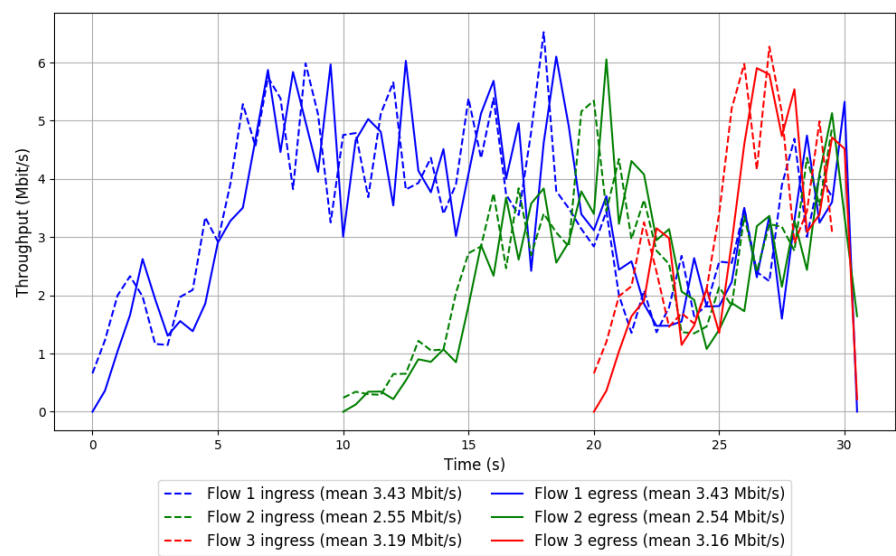


Run 3: Statistics of Sprout

Start at: 2018-09-07 15:22:33
End at: 2018-09-07 15:23:03
Local clock offset: -51.324 ms
Remote clock offset: -1.85 ms

Below is generated by plot.py at 2018-09-07 16:32:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 6.16 Mbit/s
95th percentile per-packet one-way delay: 147.832 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 143.866 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 151.282 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 3.16 Mbit/s
95th percentile per-packet one-way delay: 147.403 ms
Loss rate: 0.72%

Run 3: Report of Sprout — Data Link

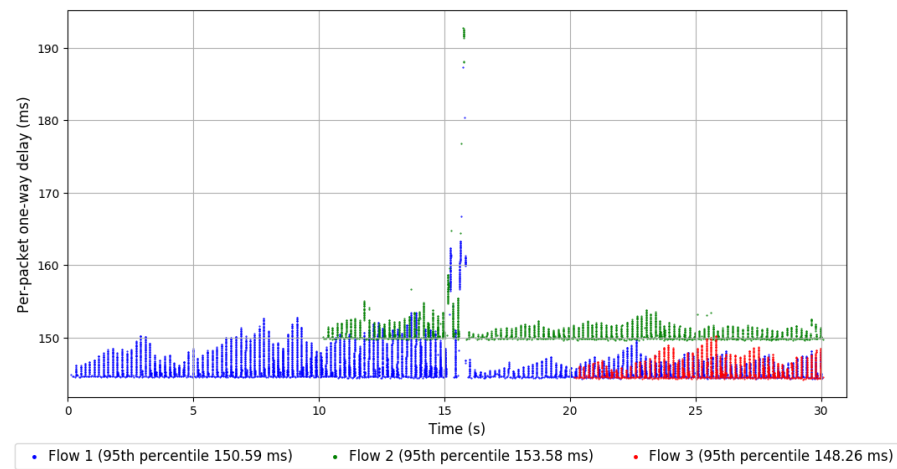
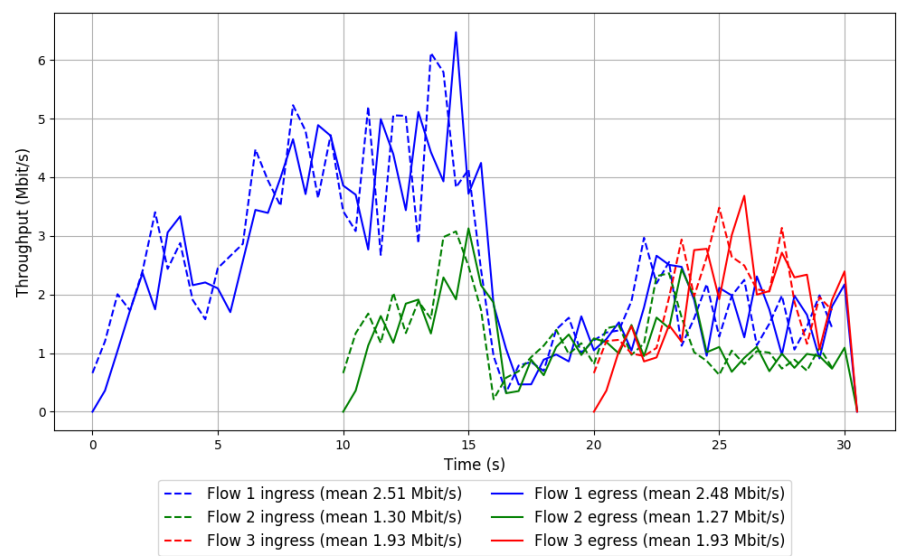


Run 4: Statistics of Sprout

Start at: 2018-09-07 15:45:21
End at: 2018-09-07 15:45:51
Local clock offset: -51.945 ms
Remote clock offset: 3.459 ms

```
# Below is generated by plot.py at 2018-09-07 16:32:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 151.988 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 150.594 ms
Loss rate: 1.23%
-- Flow 2:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 153.577 ms
Loss rate: 2.15%
-- Flow 3:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 148.257 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

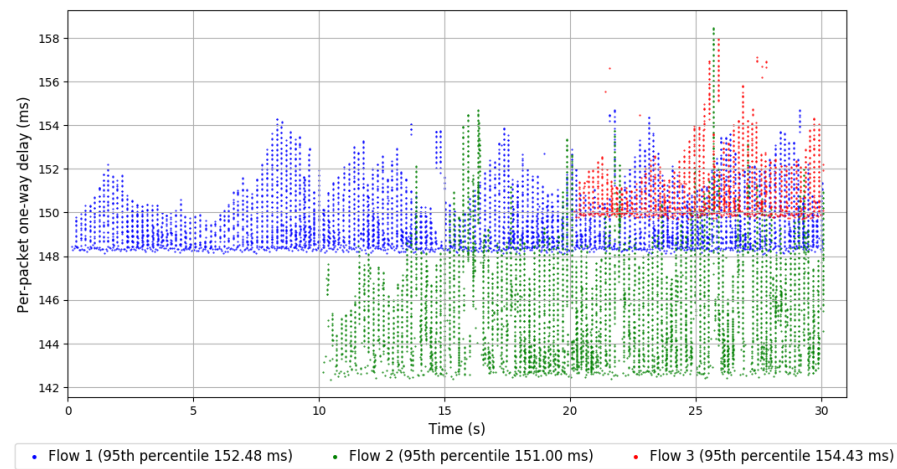
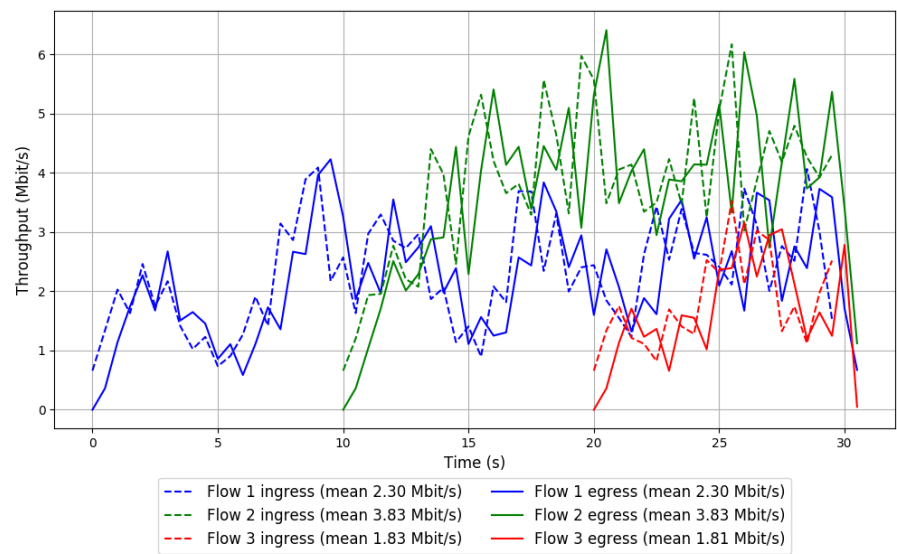


Run 5: Statistics of Sprout

Start at: 2018-09-07 16:08:47
End at: 2018-09-07 16:09:17
Local clock offset: -53.487 ms
Remote clock offset: 5.046 ms

```
# Below is generated by plot.py at 2018-09-07 16:32:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.44 Mbit/s
95th percentile per-packet one-way delay: 152.574 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 152.484 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 150.996 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 154.434 ms
Loss rate: 1.40%
```

Run 5: Report of Sprout — Data Link

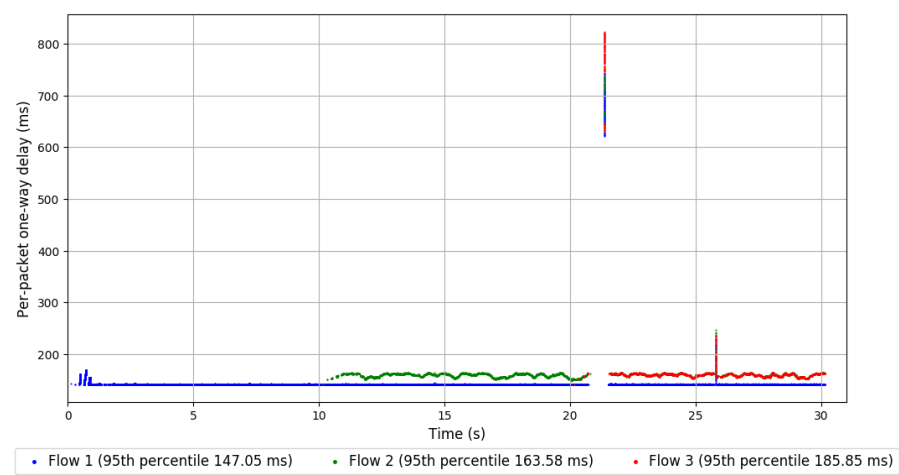
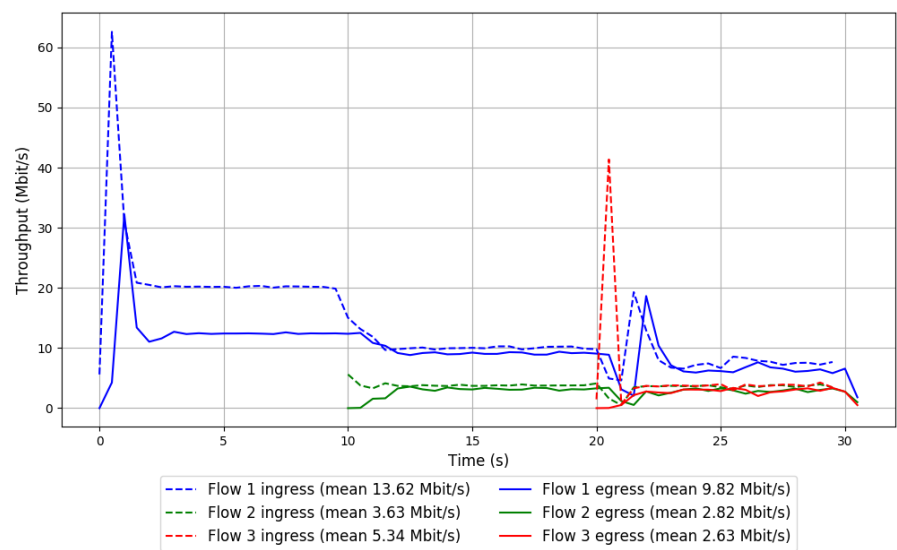


Run 1: Statistics of TaoVA-100x

Start at: 2018-09-07 14:30:05
End at: 2018-09-07 14:30:35
Local clock offset: -52.254 ms
Remote clock offset: 2.547 ms

Below is generated by plot.py at 2018-09-07 16:32:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.57 Mbit/s
95th percentile per-packet one-way delay: 162.960 ms
Loss rate: 29.43%
-- Flow 1:
Average throughput: 9.82 Mbit/s
95th percentile per-packet one-way delay: 147.047 ms
Loss rate: 27.92%
-- Flow 2:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 163.576 ms
Loss rate: 22.33%
-- Flow 3:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 185.849 ms
Loss rate: 50.73%

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

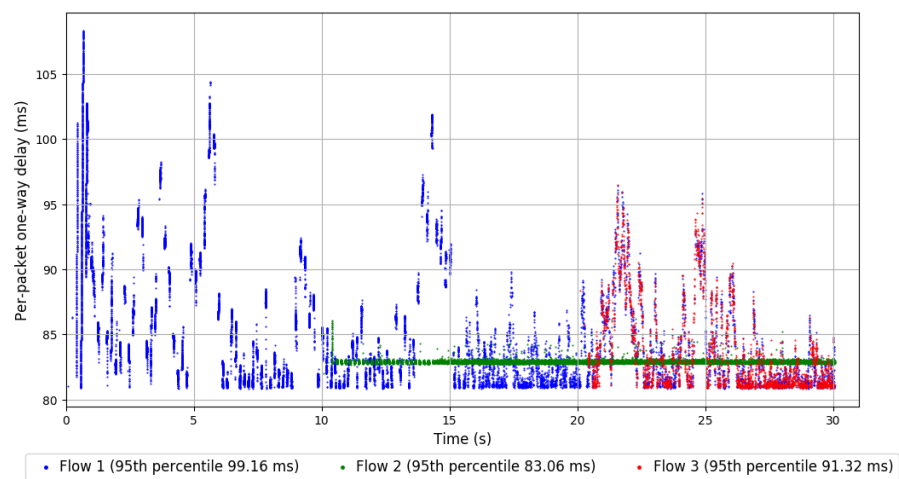
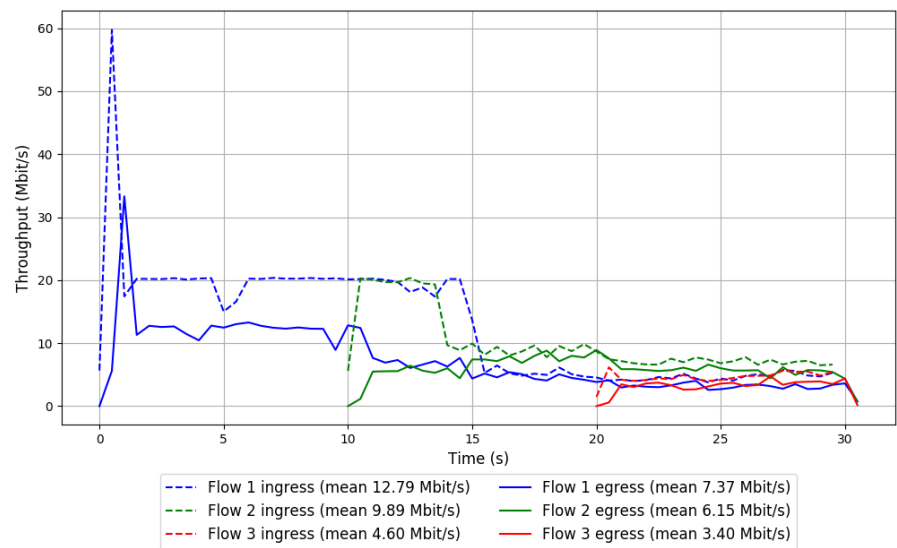


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-07 14:54:09
End at: 2018-09-07 14:54:39
Local clock offset: 3.627 ms
Remote clock offset: -2.053 ms

Below is generated by plot.py at 2018-09-07 16:32:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 95.184 ms
Loss rate: 39.76%
-- Flow 1:
Average throughput: 7.37 Mbit/s
95th percentile per-packet one-way delay: 99.157 ms
Loss rate: 42.40%
-- Flow 2:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 83.059 ms
Loss rate: 37.79%
-- Flow 3:
Average throughput: 3.40 Mbit/s
95th percentile per-packet one-way delay: 91.322 ms
Loss rate: 26.20%

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

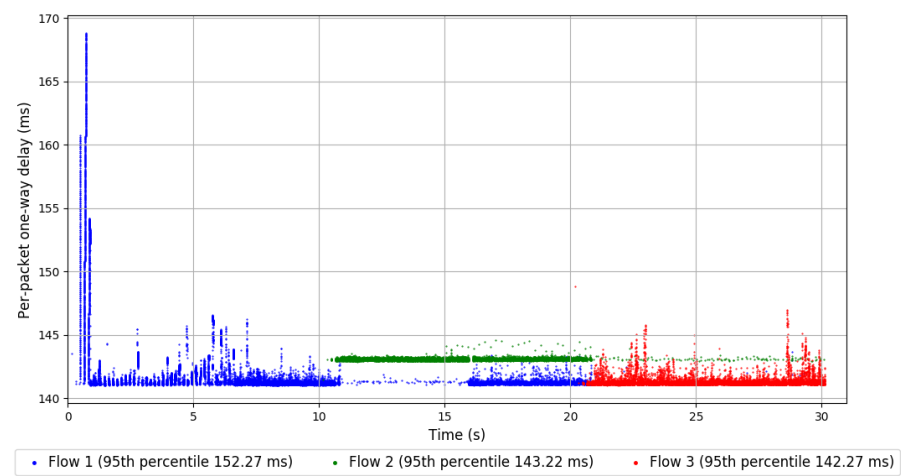
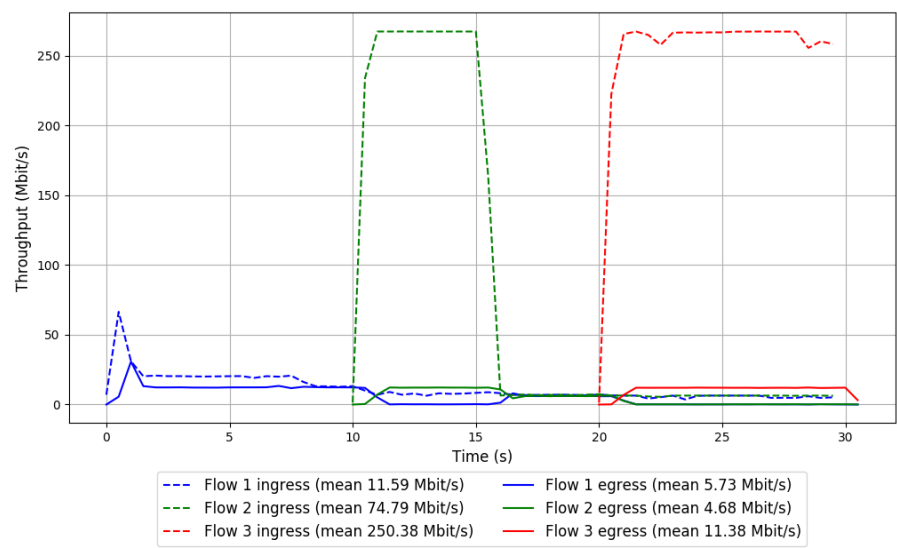


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-07 15:17:19
End at: 2018-09-07 15:17:49
Local clock offset: -52.036 ms
Remote clock offset: 2.117 ms

Below is generated by plot.py at 2018-09-07 16:32:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 144.172 ms
Loss rate: 91.29%
-- Flow 1:
Average throughput: 5.73 Mbit/s
95th percentile per-packet one-way delay: 152.269 ms
Loss rate: 50.75%
-- Flow 2:
Average throughput: 4.68 Mbit/s
95th percentile per-packet one-way delay: 143.221 ms
Loss rate: 93.75%
-- Flow 3:
Average throughput: 11.38 Mbit/s
95th percentile per-packet one-way delay: 142.270 ms
Loss rate: 95.46%

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

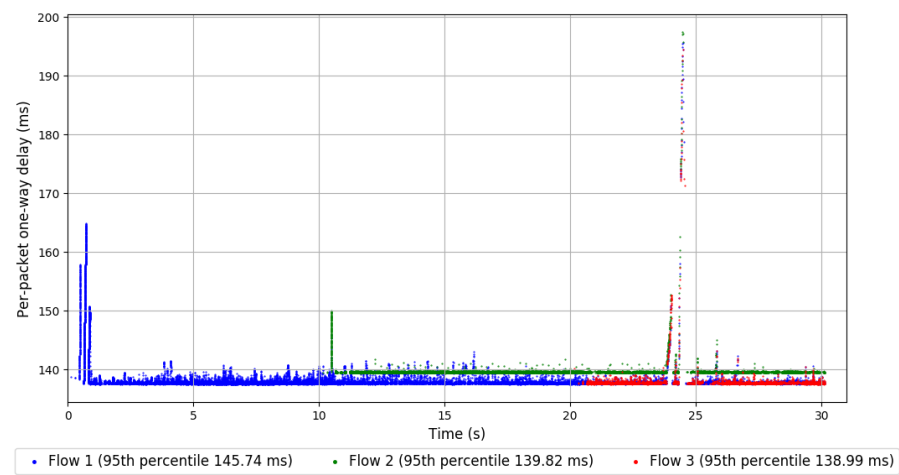
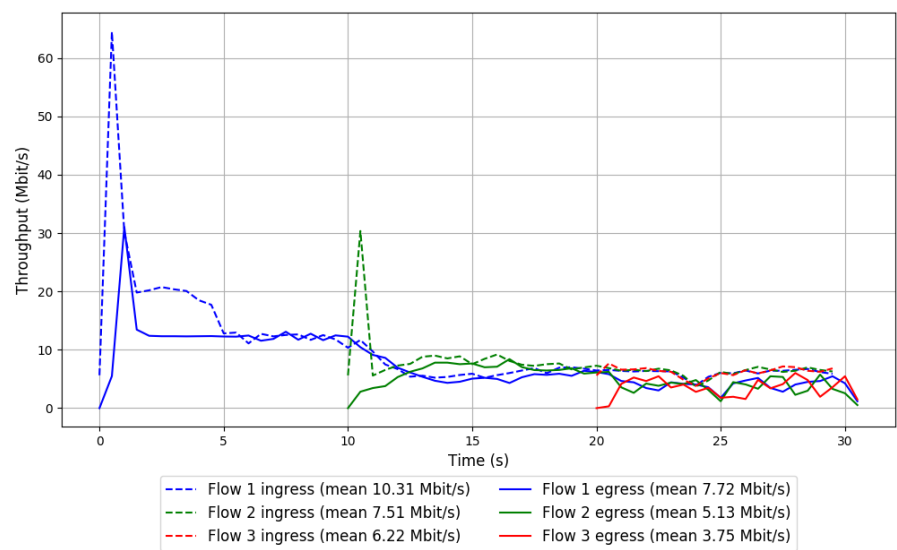


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-07 15:40:12
End at: 2018-09-07 15:40:42
Local clock offset: -51.699 ms
Remote clock offset: -1.632 ms

Below is generated by plot.py at 2018-09-07 16:32:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.38 Mbit/s
95th percentile per-packet one-way delay: 141.896 ms
Loss rate: 28.77%
-- Flow 1:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 145.736 ms
Loss rate: 25.15%
-- Flow 2:
Average throughput: 5.13 Mbit/s
95th percentile per-packet one-way delay: 139.824 ms
Loss rate: 31.66%
-- Flow 3:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 138.989 ms
Loss rate: 39.77%

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

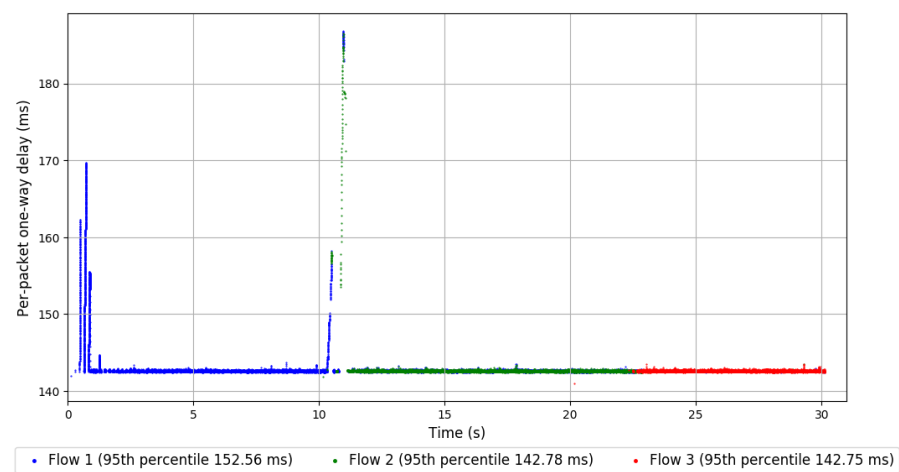
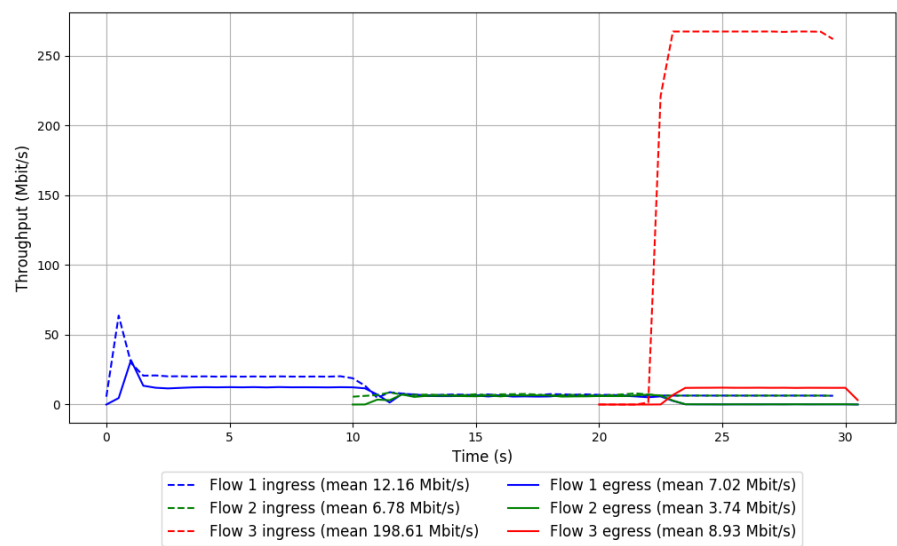


Run 5: Statistics of TaoVA-100x

Start at: 2018-09-07 16:03:26
End at: 2018-09-07 16:03:56
Local clock offset: -52.552 ms
Remote clock offset: 4.075 ms

Below is generated by plot.py at 2018-09-07 16:32:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 144.959 ms
Loss rate: 84.92%
-- Flow 1:
Average throughput: 7.02 Mbit/s
95th percentile per-packet one-way delay: 152.558 ms
Loss rate: 42.33%
-- Flow 2:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 142.781 ms
Loss rate: 44.86%
-- Flow 3:
Average throughput: 8.93 Mbit/s
95th percentile per-packet one-way delay: 142.753 ms
Loss rate: 95.50%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-07 14:42:24

End at: 2018-09-07 14:42:54

Local clock offset: 2.836 ms

Remote clock offset: -2.37 ms

Below is generated by plot.py at 2018-09-07 16:32:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 79.04 Mbit/s

95th percentile per-packet one-way delay: 89.812 ms

Loss rate: 0.69%

-- Flow 1:

Average throughput: 67.22 Mbit/s

95th percentile per-packet one-way delay: 84.998 ms

Loss rate: 0.65%

-- Flow 2:

Average throughput: 2.08 Mbit/s

95th percentile per-packet one-way delay: 105.021 ms

Loss rate: 0.49%

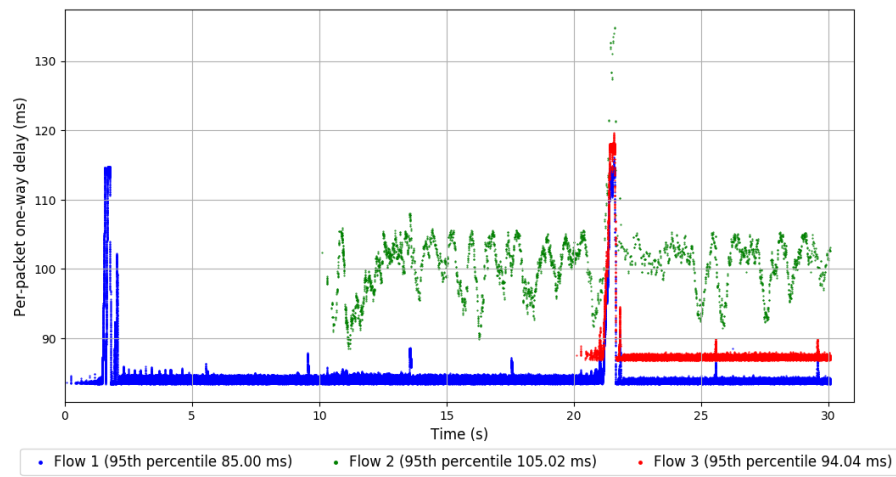
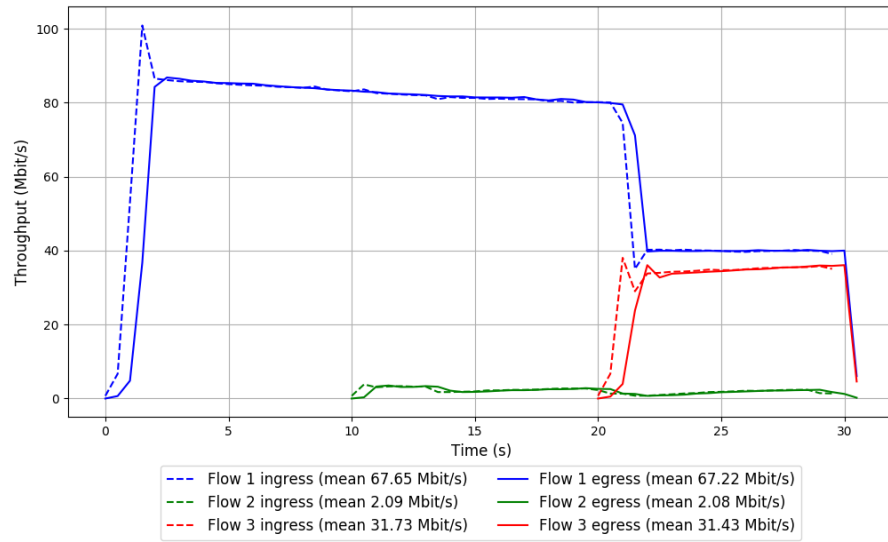
-- Flow 3:

Average throughput: 31.43 Mbit/s

95th percentile per-packet one-way delay: 94.042 ms

Loss rate: 1.00%

Run 1: Report of TCP Vegas — Data Link

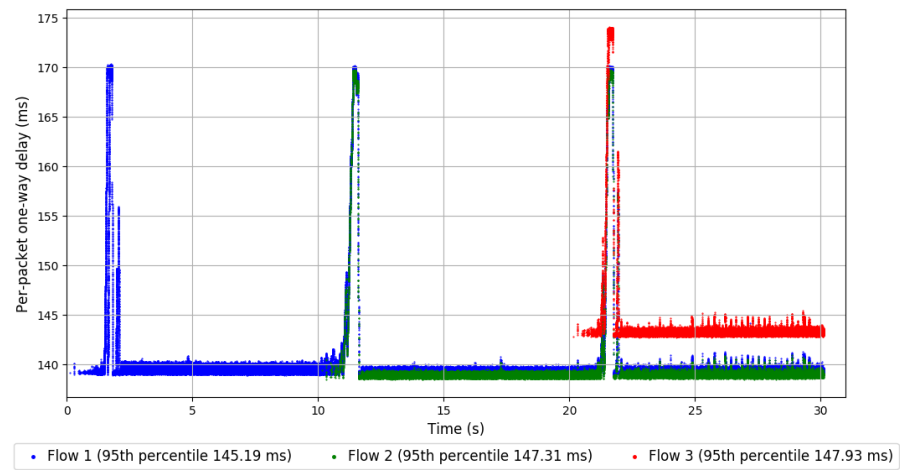
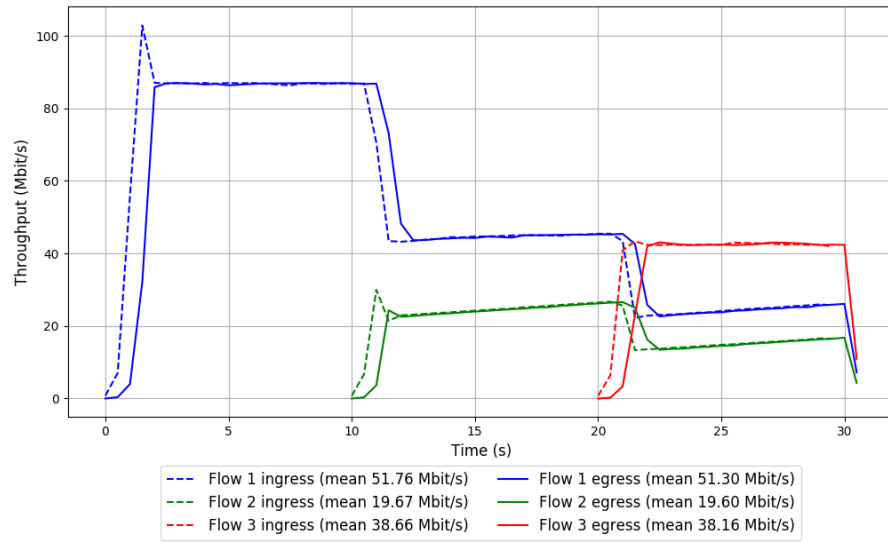


Run 2: Statistics of TCP Vegas

Start at: 2018-09-07 15:05:57
End at: 2018-09-07 15:06:27
Local clock offset: -52.088 ms
Remote clock offset: -2.473 ms

Below is generated by plot.py at 2018-09-07 16:32:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.04 Mbit/s
95th percentile per-packet one-way delay: 145.927 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 51.30 Mbit/s
95th percentile per-packet one-way delay: 145.194 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 19.60 Mbit/s
95th percentile per-packet one-way delay: 147.313 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 38.16 Mbit/s
95th percentile per-packet one-way delay: 147.931 ms
Loss rate: 1.34%

Run 2: Report of TCP Vegas — Data Link

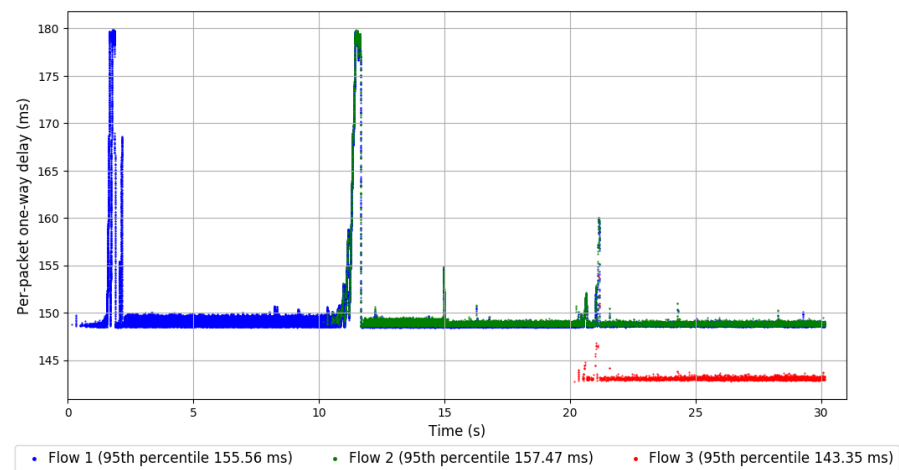
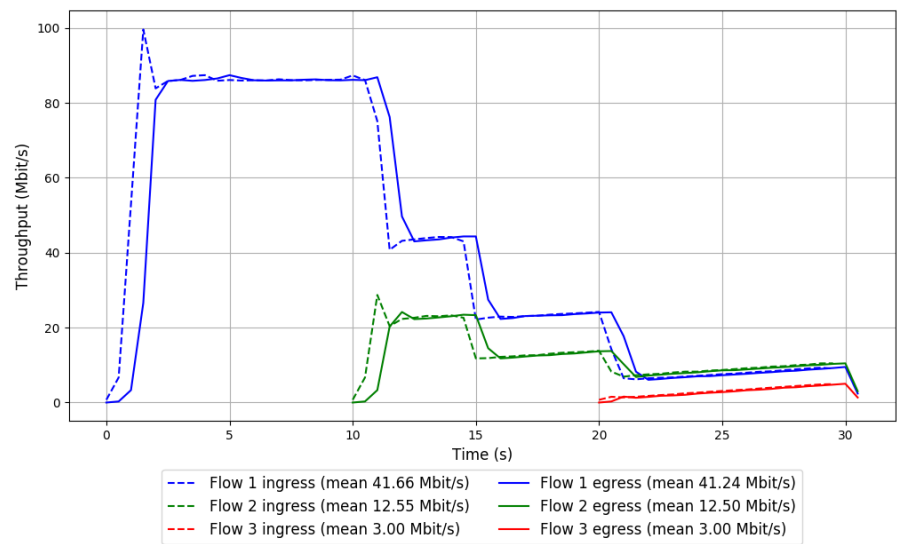


Run 3: Statistics of TCP Vegas

Start at: 2018-09-07 15:28:51
End at: 2018-09-07 15:29:21
Local clock offset: -51.171 ms
Remote clock offset: 2.396 ms

Below is generated by plot.py at 2018-09-07 16:32:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 50.56 Mbit/s
95th percentile per-packet one-way delay: 155.404 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 41.24 Mbit/s
95th percentile per-packet one-way delay: 155.562 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 12.50 Mbit/s
95th percentile per-packet one-way delay: 157.468 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 143.353 ms
Loss rate: 0.04%

Run 3: Report of TCP Vegas — Data Link

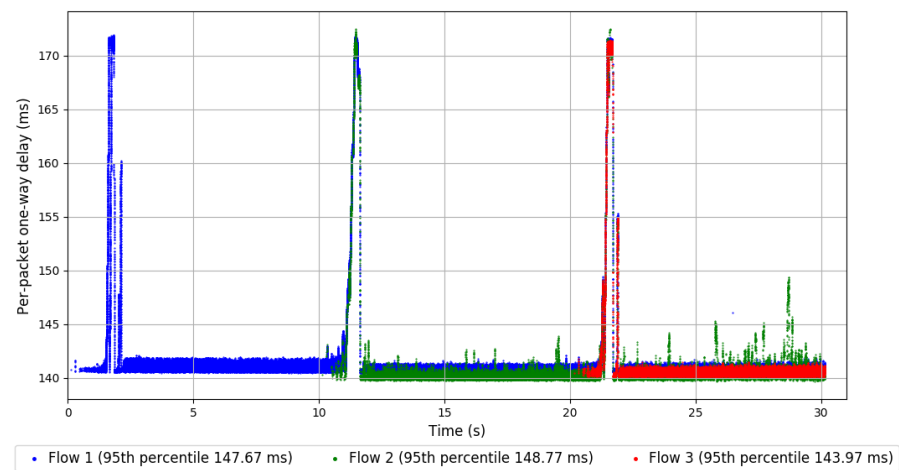
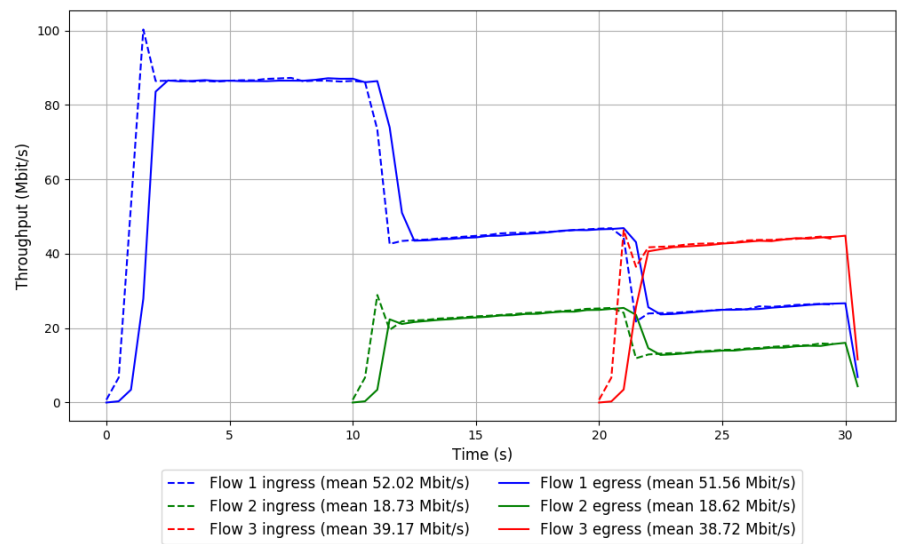


Run 4: Statistics of TCP Vegas

Start at: 2018-09-07 15:51:47
End at: 2018-09-07 15:52:17
Local clock offset: -52.799 ms
Remote clock offset: -0.077 ms

Below is generated by plot.py at 2018-09-07 16:33:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 76.85 Mbit/s
95th percentile per-packet one-way delay: 147.646 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 51.56 Mbit/s
95th percentile per-packet one-way delay: 147.672 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 18.62 Mbit/s
95th percentile per-packet one-way delay: 148.766 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 38.72 Mbit/s
95th percentile per-packet one-way delay: 143.972 ms
Loss rate: 1.14%

Run 4: Report of TCP Vegas — Data Link

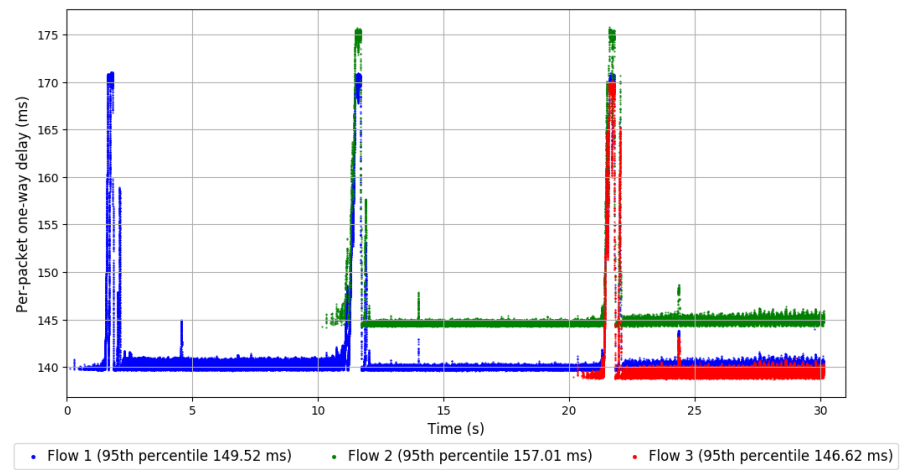
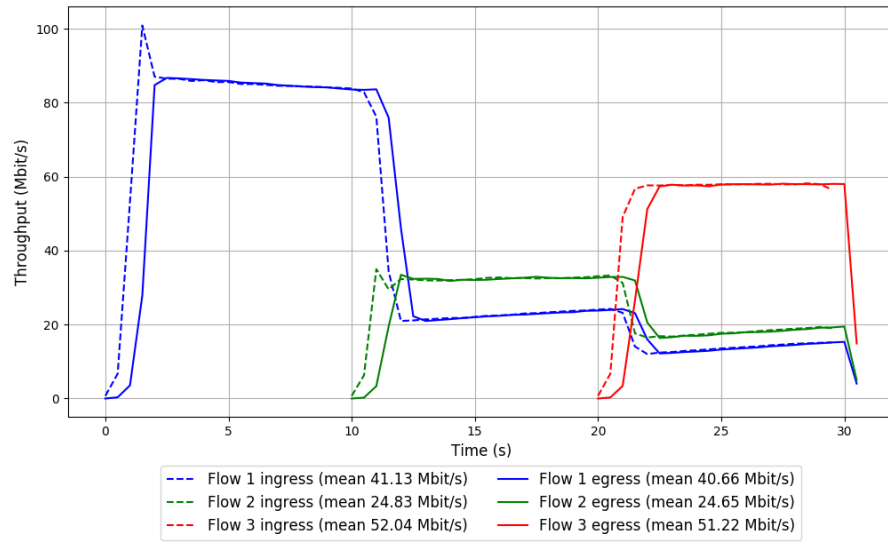


Run 5: Statistics of TCP Vegas

Start at: 2018-09-07 16:15:03
End at: 2018-09-07 16:15:33
Local clock offset: -52.654 ms
Remote clock offset: 0.435 ms

Below is generated by plot.py at 2018-09-07 16:33:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 74.11 Mbit/s
95th percentile per-packet one-way delay: 150.970 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 40.66 Mbit/s
95th percentile per-packet one-way delay: 149.517 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 24.65 Mbit/s
95th percentile per-packet one-way delay: 157.012 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 51.22 Mbit/s
95th percentile per-packet one-way delay: 146.624 ms
Loss rate: 1.57%

Run 5: Report of TCP Vegas — Data Link

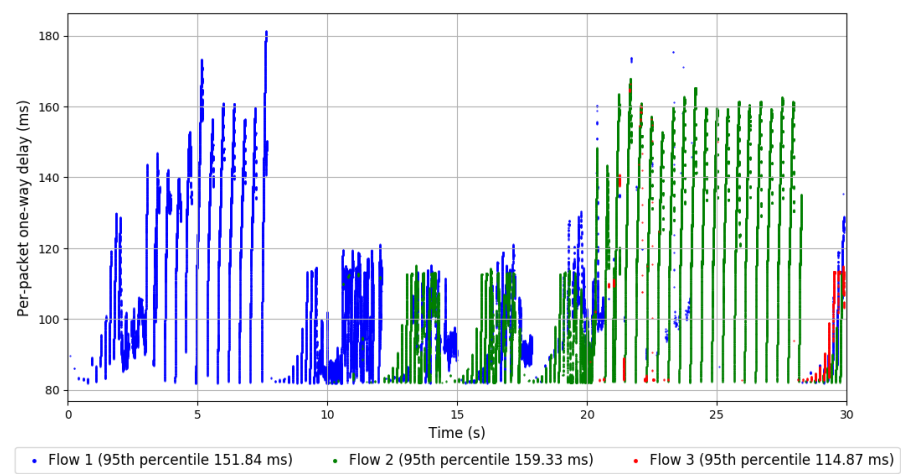
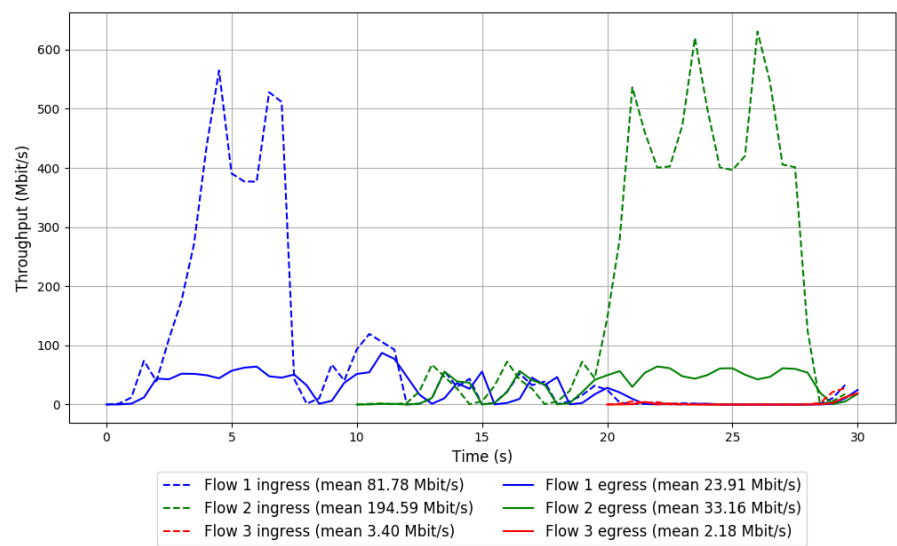


Run 1: Statistics of Verus

Start at: 2018-09-07 14:49:00
End at: 2018-09-07 14:49:30
Local clock offset: 2.842 ms
Remote clock offset: -1.767 ms

Below is generated by plot.py at 2018-09-07 16:33:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 46.54 Mbit/s
95th percentile per-packet one-way delay: 158.014 ms
Loss rate: 77.97%
-- Flow 1:
Average throughput: 23.91 Mbit/s
95th percentile per-packet one-way delay: 151.844 ms
Loss rate: 70.73%
-- Flow 2:
Average throughput: 33.16 Mbit/s
95th percentile per-packet one-way delay: 159.334 ms
Loss rate: 82.93%
-- Flow 3:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 114.867 ms
Loss rate: 35.88%

Run 1: Report of Verus — Data Link

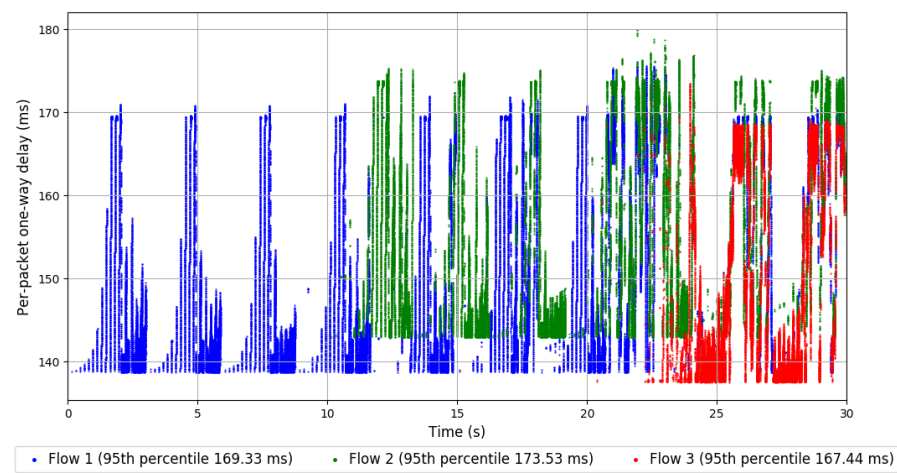
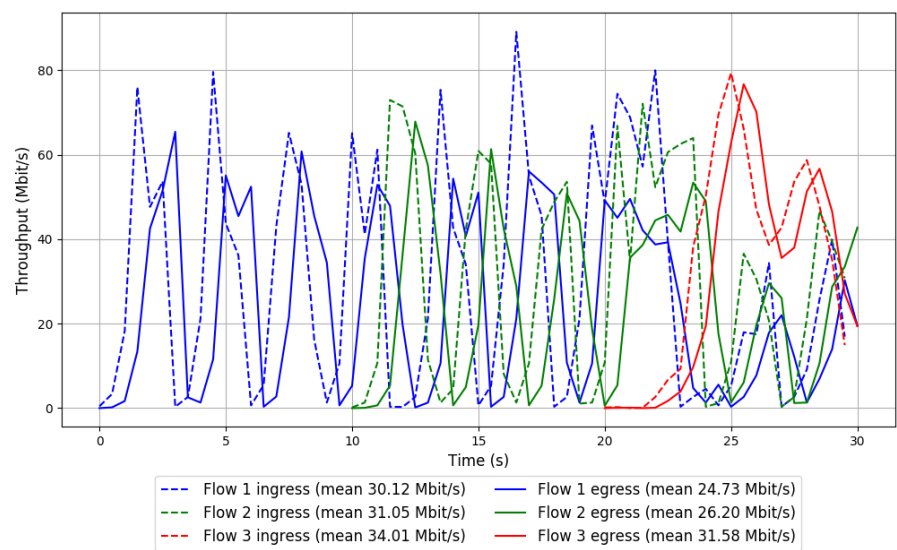


Run 2: Statistics of Verus

Start at: 2018-09-07 15:12:18
End at: 2018-09-07 15:12:48
Local clock offset: -52.306 ms
Remote clock offset: -2.317 ms

Below is generated by plot.py at 2018-09-07 16:33:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 52.36 Mbit/s
95th percentile per-packet one-way delay: 171.981 ms
Loss rate: 15.14%
-- Flow 1:
Average throughput: 24.73 Mbit/s
95th percentile per-packet one-way delay: 169.331 ms
Loss rate: 17.82%
-- Flow 2:
Average throughput: 26.20 Mbit/s
95th percentile per-packet one-way delay: 173.529 ms
Loss rate: 15.57%
-- Flow 3:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 167.441 ms
Loss rate: 7.11%

Run 2: Report of Verus — Data Link

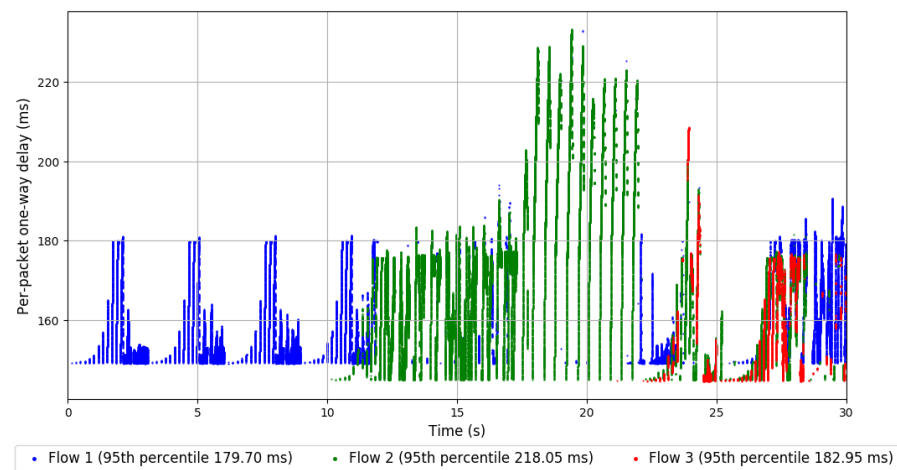
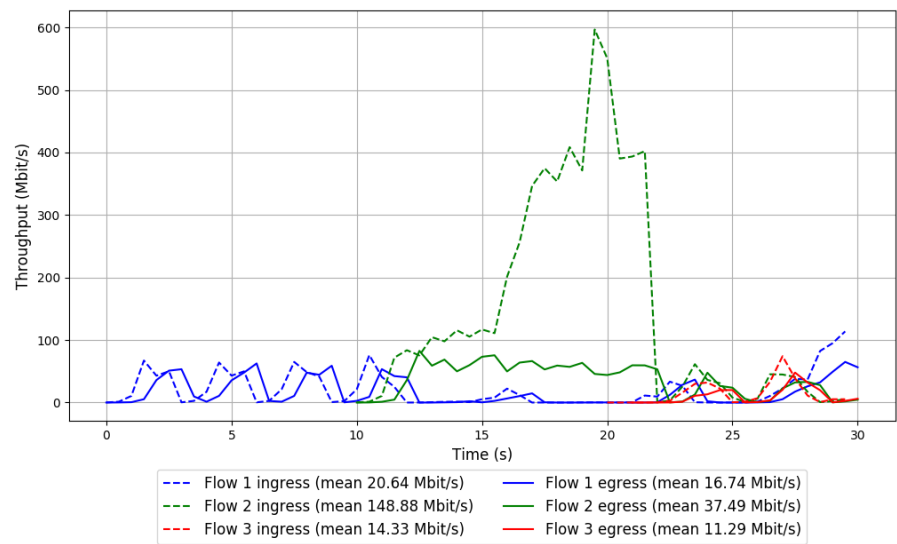


Run 3: Statistics of Verus

Start at: 2018-09-07 15:35:12
End at: 2018-09-07 15:35:42
Local clock offset: -51.821 ms
Remote clock offset: 3.596 ms

Below is generated by plot.py at 2018-09-07 16:33:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 44.85 Mbit/s
95th percentile per-packet one-way delay: 211.892 ms
Loss rate: 63.74%
-- Flow 1:
Average throughput: 16.74 Mbit/s
95th percentile per-packet one-way delay: 179.701 ms
Loss rate: 18.82%
-- Flow 2:
Average throughput: 37.49 Mbit/s
95th percentile per-packet one-way delay: 218.046 ms
Loss rate: 74.81%
-- Flow 3:
Average throughput: 11.29 Mbit/s
95th percentile per-packet one-way delay: 182.954 ms
Loss rate: 29.08%

Run 3: Report of Verus — Data Link

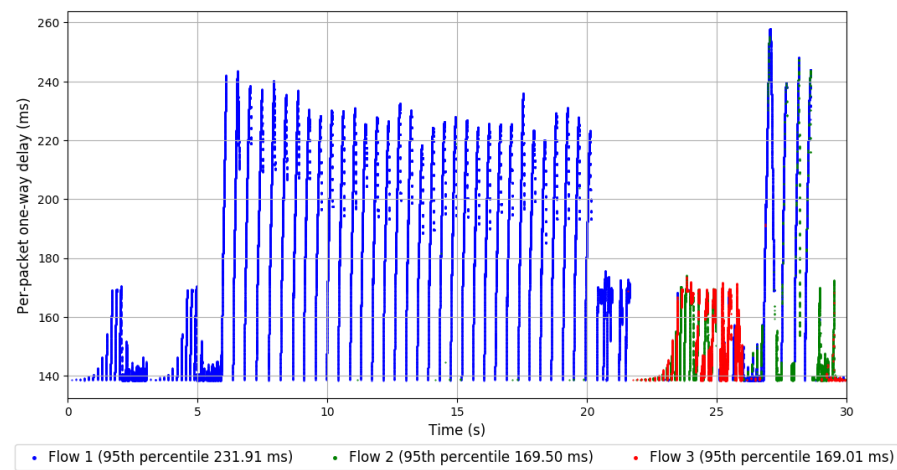
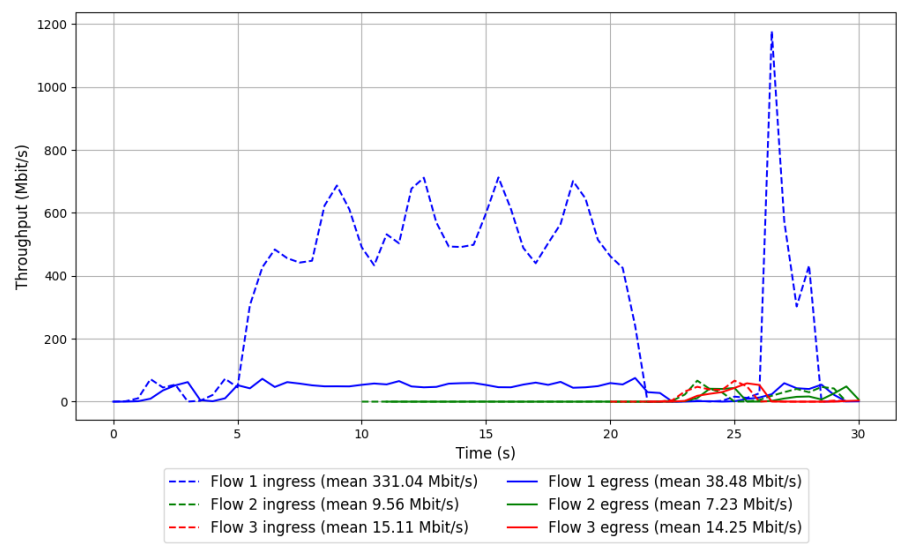


Run 4: Statistics of Verus

Start at: 2018-09-07 15:58:16
End at: 2018-09-07 15:58:46
Local clock offset: -52.151 ms
Remote clock offset: 0.206 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 46.91 Mbit/s
95th percentile per-packet one-way delay: 230.427 ms
Loss rate: 86.25%
-- Flow 1:
Average throughput: 38.48 Mbit/s
95th percentile per-packet one-way delay: 231.911 ms
Loss rate: 88.38%
-- Flow 2:
Average throughput: 7.23 Mbit/s
95th percentile per-packet one-way delay: 169.497 ms
Loss rate: 28.21%
-- Flow 3:
Average throughput: 14.25 Mbit/s
95th percentile per-packet one-way delay: 169.007 ms
Loss rate: 16.04%

Run 4: Report of Verus — Data Link

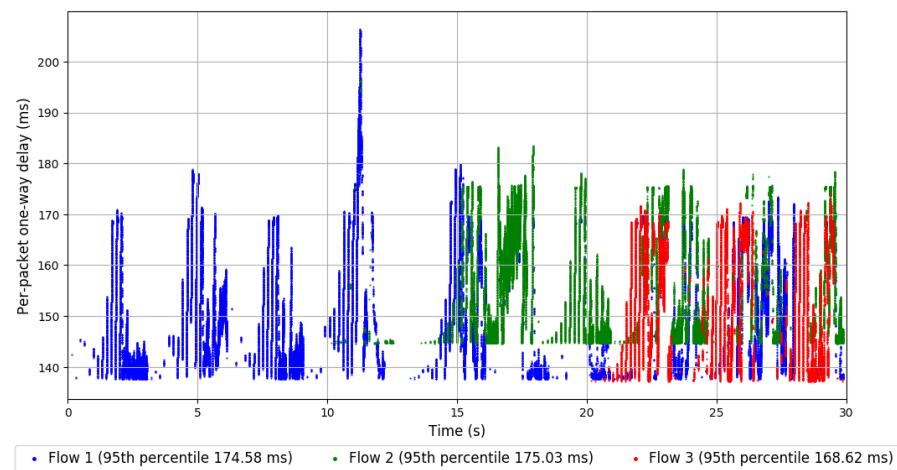
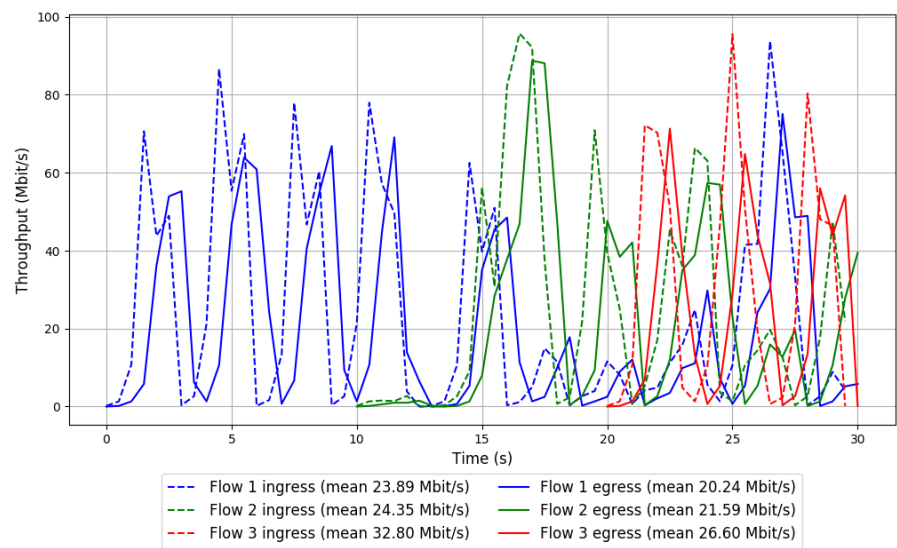


Run 5: Statistics of Verus

Start at: 2018-09-07 16:21:25
End at: 2018-09-07 16:21:55
Local clock offset: -52.709 ms
Remote clock offset: 0.771 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 43.20 Mbit/s
95th percentile per-packet one-way delay: 174.110 ms
Loss rate: 14.78%
-- Flow 1:
Average throughput: 20.24 Mbit/s
95th percentile per-packet one-way delay: 174.580 ms
Loss rate: 15.29%
-- Flow 2:
Average throughput: 21.59 Mbit/s
95th percentile per-packet one-way delay: 175.035 ms
Loss rate: 11.32%
-- Flow 3:
Average throughput: 26.60 Mbit/s
95th percentile per-packet one-way delay: 168.615 ms
Loss rate: 18.89%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-07 14:34:43

End at: 2018-09-07 14:35:13

Remote clock offset: -0.87 ms

Below is generated by plot.py at 2018-09-07 16:33:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 25.43 Mbit/s

95th percentile per-packet one-way delay: 115.170 ms

Loss rate: 1.31%

-- Flow 1:

Average throughput: 4.29 Mbit/s

95th percentile per-packet one-way delay: 110.719 ms

Loss rate: 1.01%

-- Flow 2:

Average throughput: 8.97 Mbit/s

95th percentile per-packet one-way delay: 109.025 ms

Loss rate: 1.24%

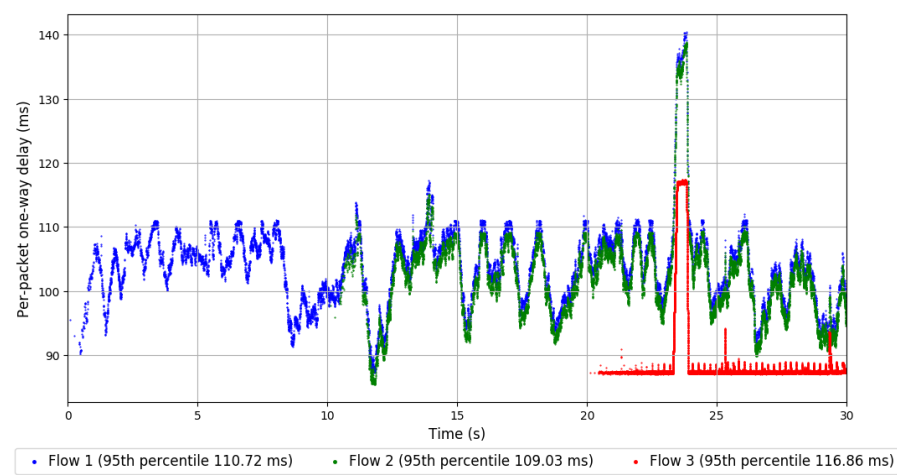
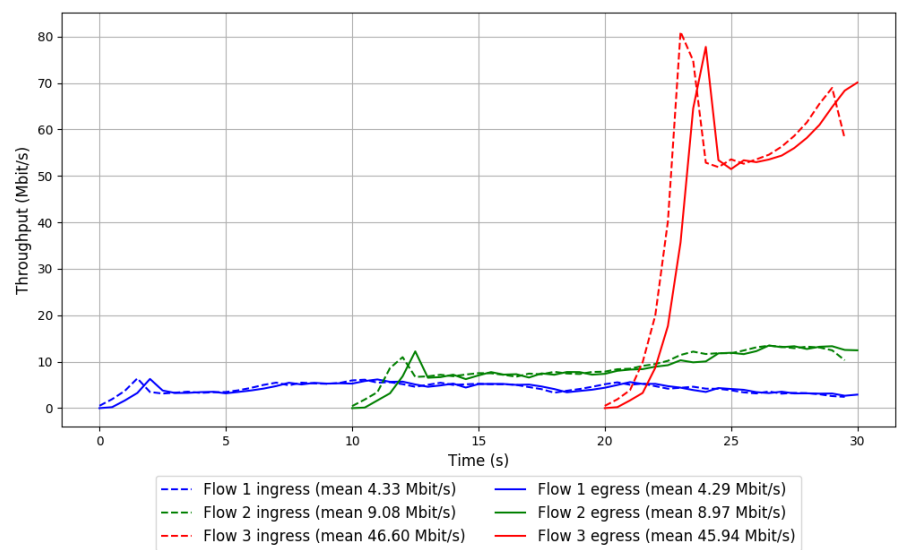
-- Flow 3:

Average throughput: 45.94 Mbit/s

95th percentile per-packet one-way delay: 116.865 ms

Loss rate: 1.42%

Run 1: Report of PCC-Vivace — Data Link

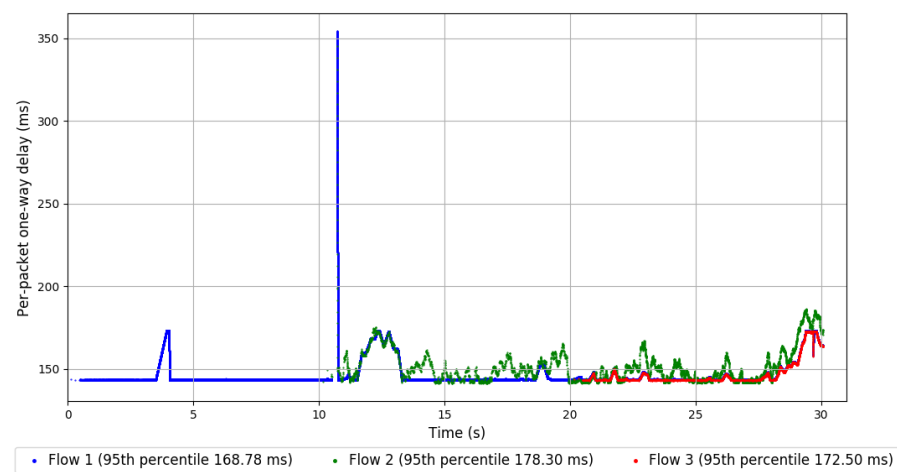
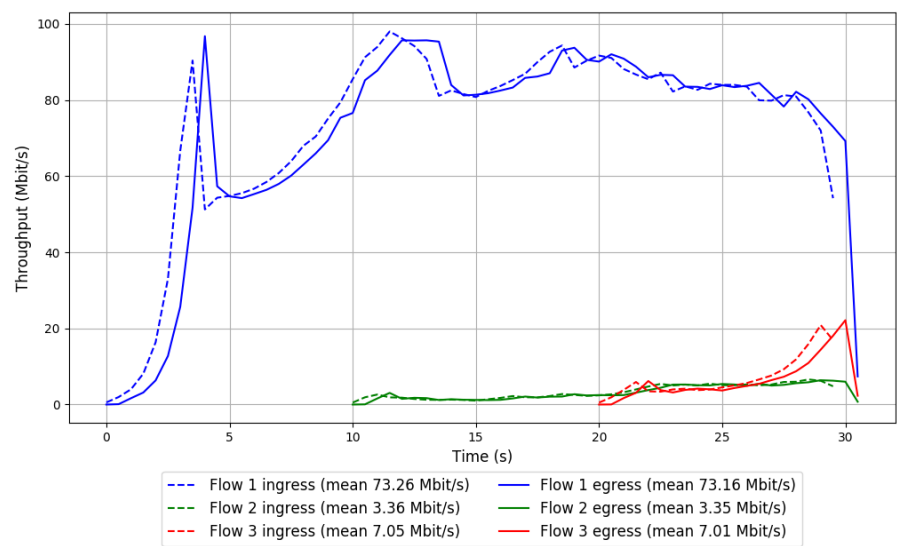


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-07 14:58:13
End at: 2018-09-07 14:58:43
Local clock offset: -52.265 ms
Remote clock offset: 2.012 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.71 Mbit/s
95th percentile per-packet one-way delay: 169.705 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 73.16 Mbit/s
95th percentile per-packet one-way delay: 168.782 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 178.296 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 7.01 Mbit/s
95th percentile per-packet one-way delay: 172.505 ms
Loss rate: 0.31%

Run 2: Report of PCC-Vivace — Data Link

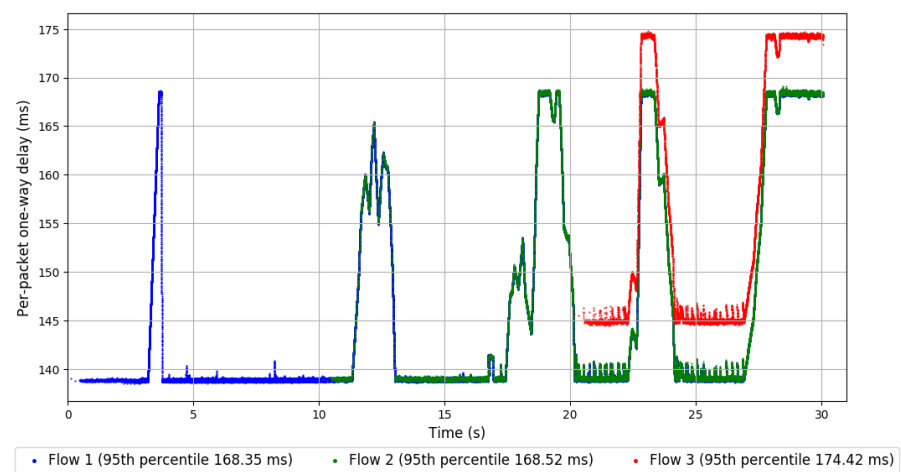
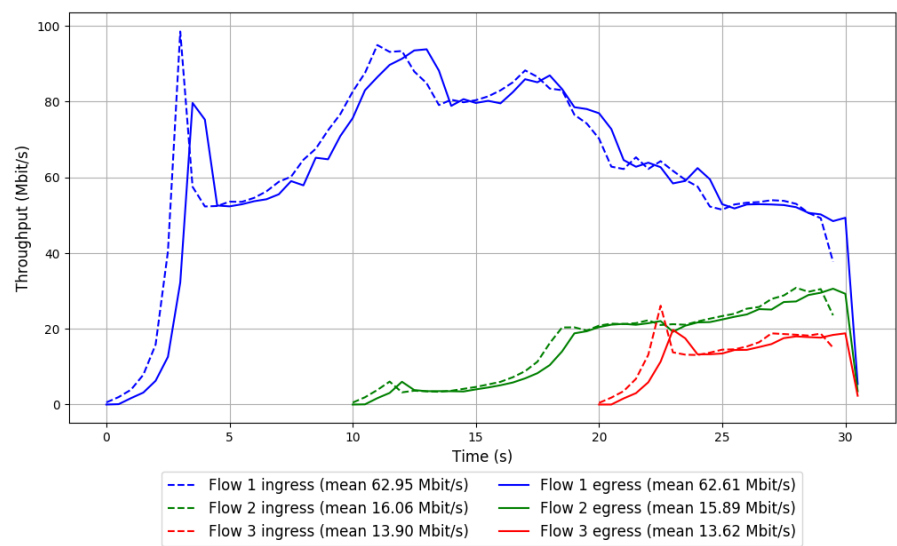


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-07 15:21:14
End at: 2018-09-07 15:21:44
Local clock offset: -52.673 ms
Remote clock offset: -2.942 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.69 Mbit/s
95th percentile per-packet one-way delay: 168.461 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 62.61 Mbit/s
95th percentile per-packet one-way delay: 168.351 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 15.89 Mbit/s
95th percentile per-packet one-way delay: 168.522 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 13.62 Mbit/s
95th percentile per-packet one-way delay: 174.423 ms
Loss rate: 1.72%

Run 3: Report of PCC-Vivace — Data Link

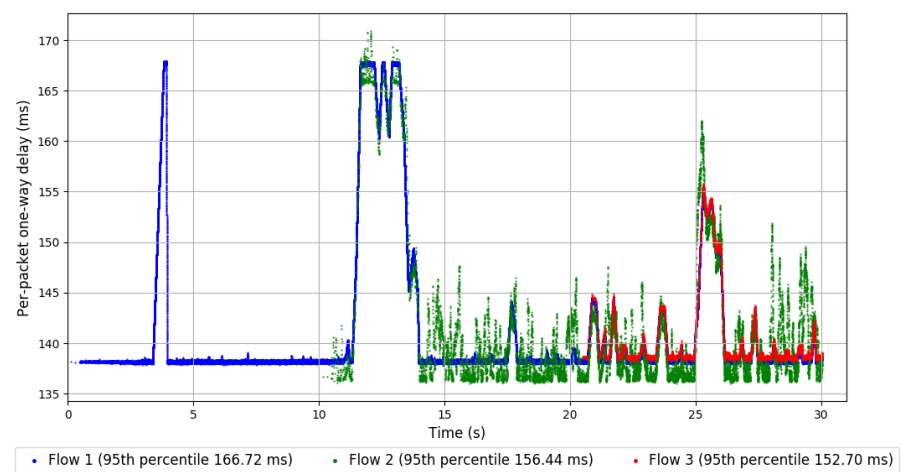
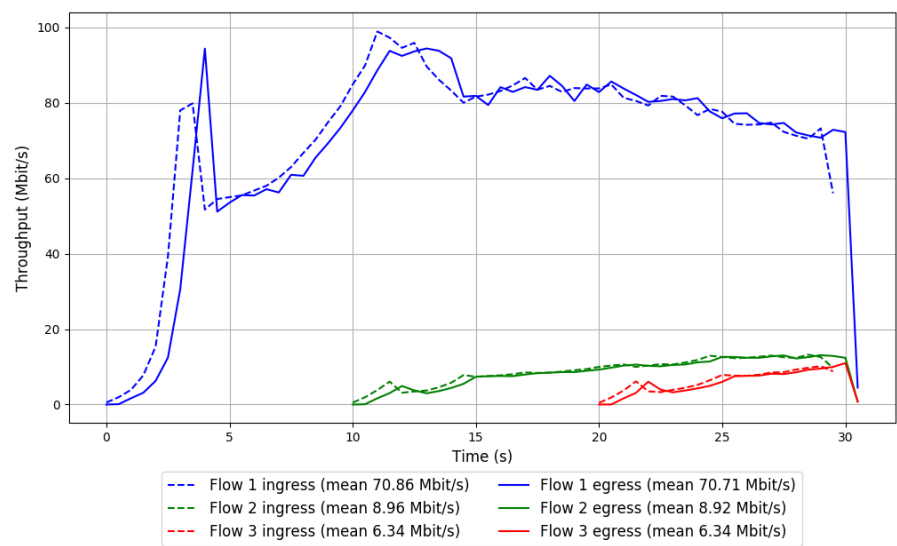


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-07 15:44:03
End at: 2018-09-07 15:44:33
Local clock offset: -50.247 ms
Remote clock offset: -1.363 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 78.74 Mbit/s
95th percentile per-packet one-way delay: 165.901 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 70.71 Mbit/s
95th percentile per-packet one-way delay: 166.718 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 8.92 Mbit/s
95th percentile per-packet one-way delay: 156.435 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 6.34 Mbit/s
95th percentile per-packet one-way delay: 152.700 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

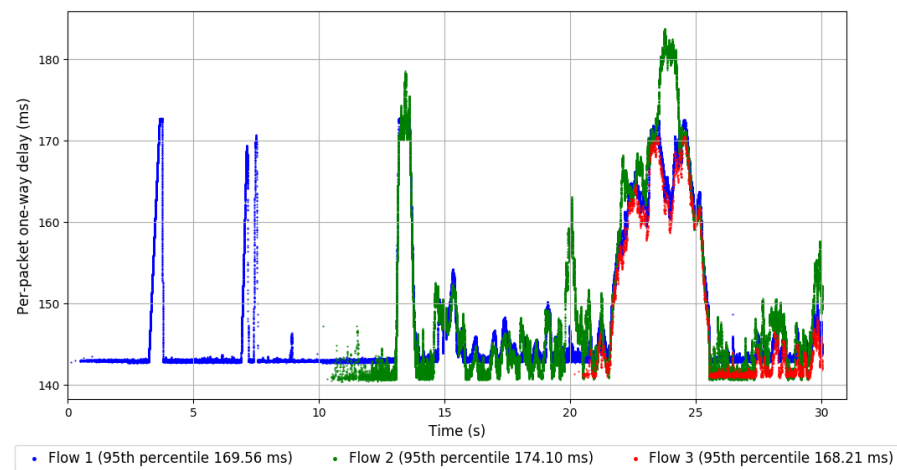
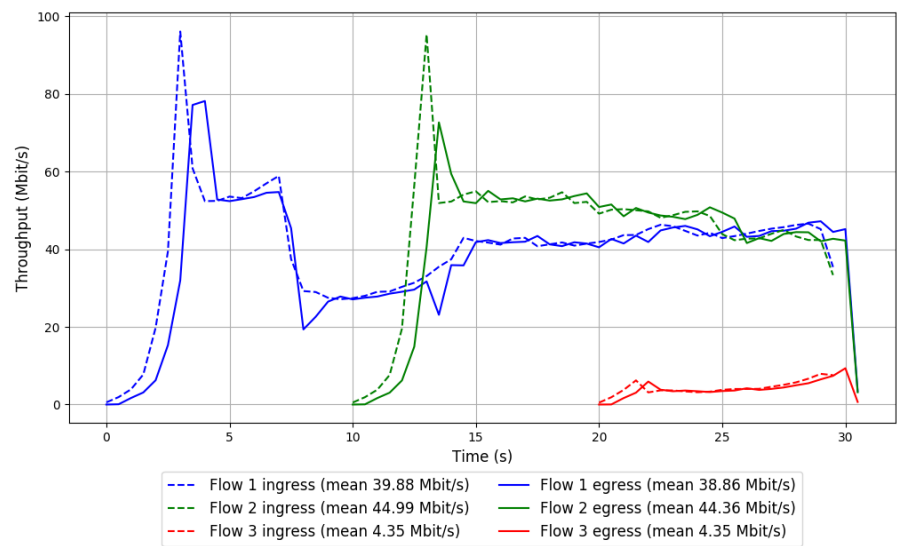


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-07 16:07:29
End at: 2018-09-07 16:07:59
Local clock offset: -52.503 ms
Remote clock offset: 4.23 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 69.80 Mbit/s
95th percentile per-packet one-way delay: 171.031 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 38.86 Mbit/s
95th percentile per-packet one-way delay: 169.559 ms
Loss rate: 2.54%
-- Flow 2:
Average throughput: 44.36 Mbit/s
95th percentile per-packet one-way delay: 174.100 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 168.212 ms
Loss rate: 0.03%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-07 14:50:26

End at: 2018-09-07 14:50:56

Local clock offset: 2.836 ms

Remote clock offset: 2.459 ms

Below is generated by plot.py at 2018-09-07 16:33:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 101.940 ms

Loss rate: 2.84%

-- Flow 1:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 104.658 ms

Loss rate: 1.88%

-- Flow 2:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 90.615 ms

Loss rate: 3.67%

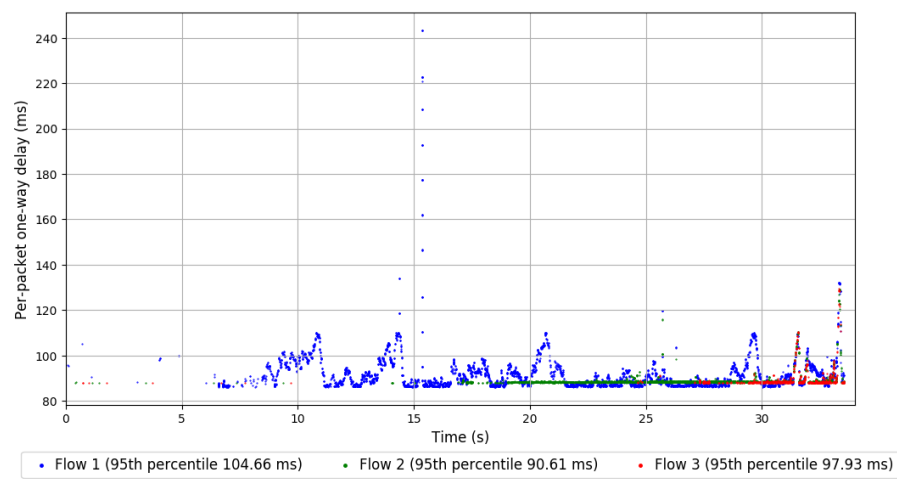
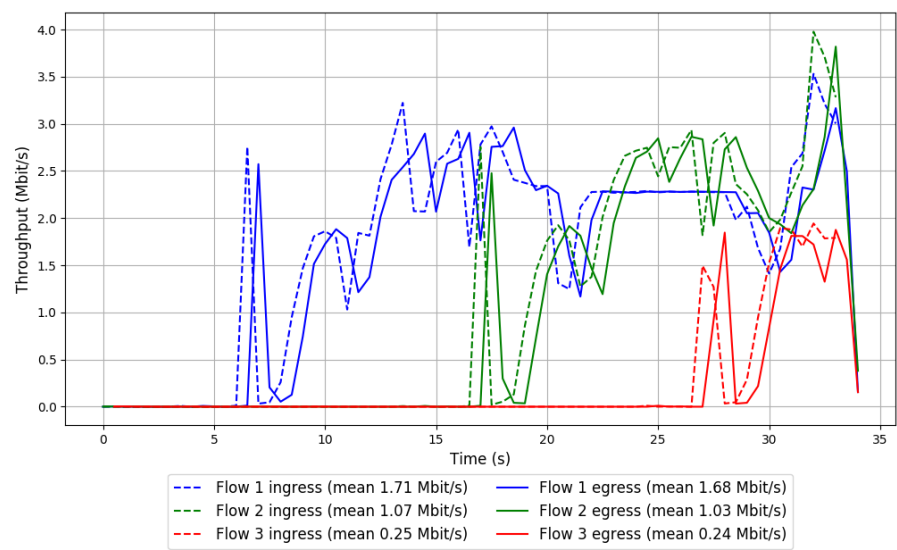
-- Flow 3:

Average throughput: 0.24 Mbit/s

95th percentile per-packet one-way delay: 97.926 ms

Loss rate: 5.93%

Run 1: Report of WebRTC media — Data Link

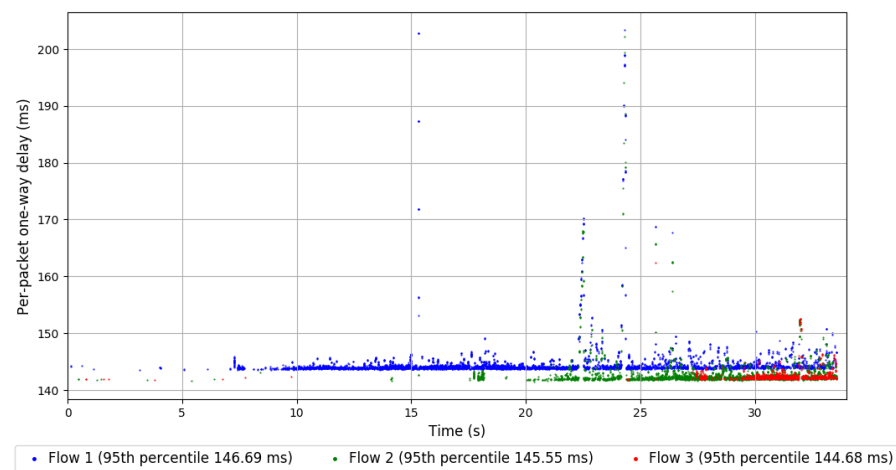
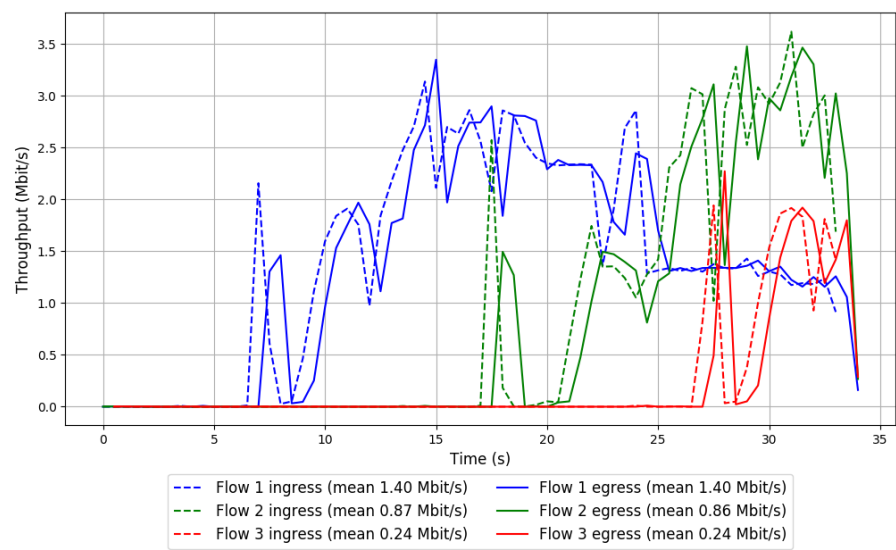


Run 2: Statistics of WebRTC media

Start at: 2018-09-07 15:13:35
End at: 2018-09-07 15:14:05
Local clock offset: -53.031 ms
Remote clock offset: 2.047 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 146.247 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 146.693 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 145.550 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 144.676 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

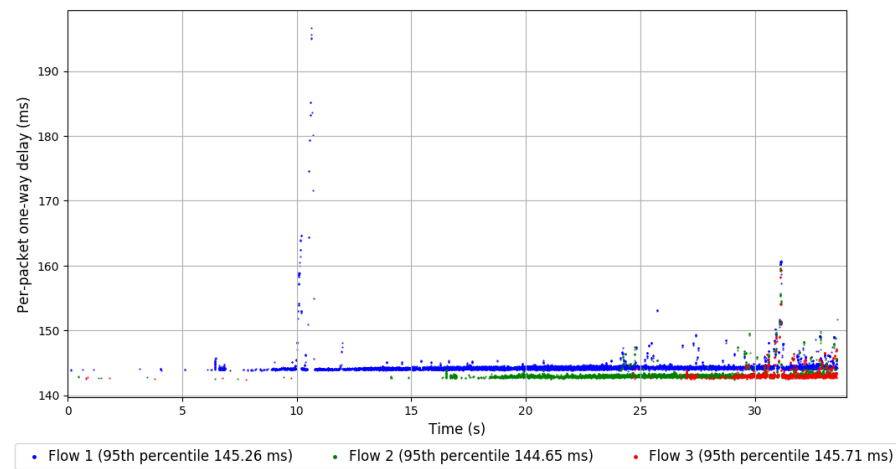
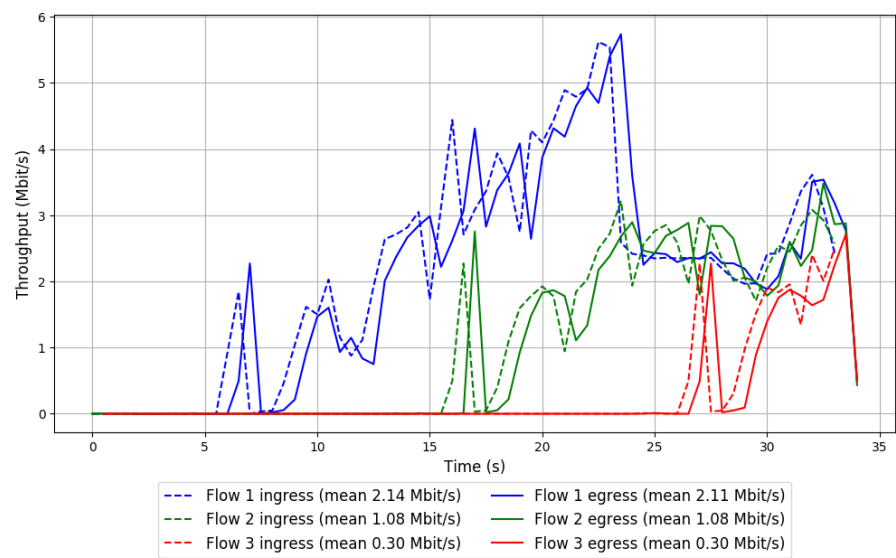


Run 3: Statistics of WebRTC media

Start at: 2018-09-07 15:36:30
End at: 2018-09-07 15:37:00
Local clock offset: -52.047 ms
Remote clock offset: 2.487 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 145.175 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 145.258 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 144.653 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 145.712 ms
Loss rate: 0.68%

Run 3: Report of WebRTC media — Data Link

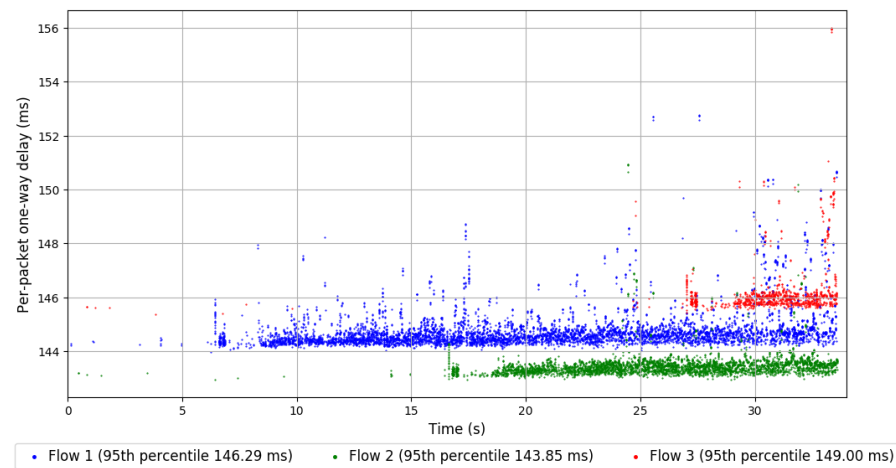
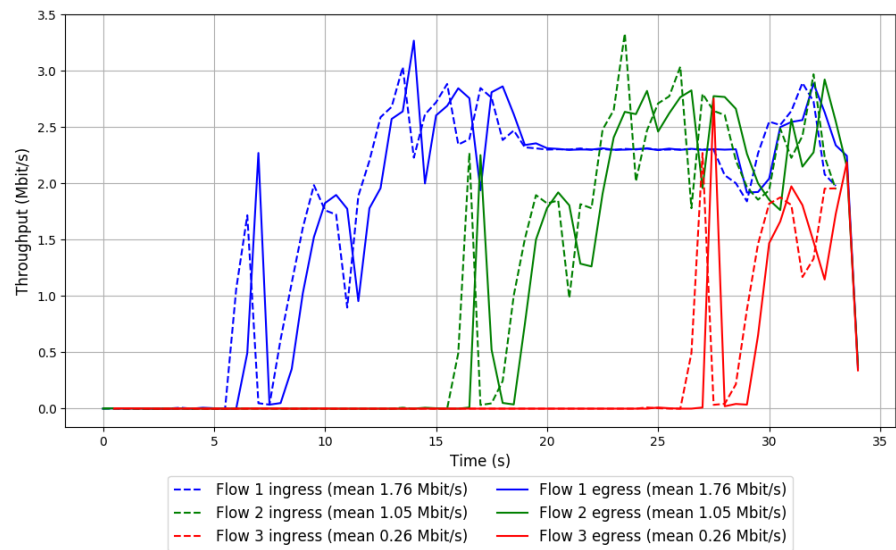


Run 4: Statistics of WebRTC media

Start at: 2018-09-07 15:59:43
End at: 2018-09-07 16:00:13
Local clock offset: -53.279 ms
Remote clock offset: 4.54 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 146.195 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 146.290 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 143.846 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 149.003 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-07 16:22:42
End at: 2018-09-07 16:23:12
Local clock offset: -53.925 ms
Remote clock offset: 0.807 ms

Below is generated by plot.py at 2018-09-07 16:33:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 141.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 141.568 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 140.753 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 141.974 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

