

Pantheon Report

Generated at 2018-09-11 04:44:04 (UTC).

Data path: AWS Korea on `ens5` (*local*) → China on `eno1` (*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 `ntp.nict.jp` and have been applied to correct the timestamps in logs.

System info:

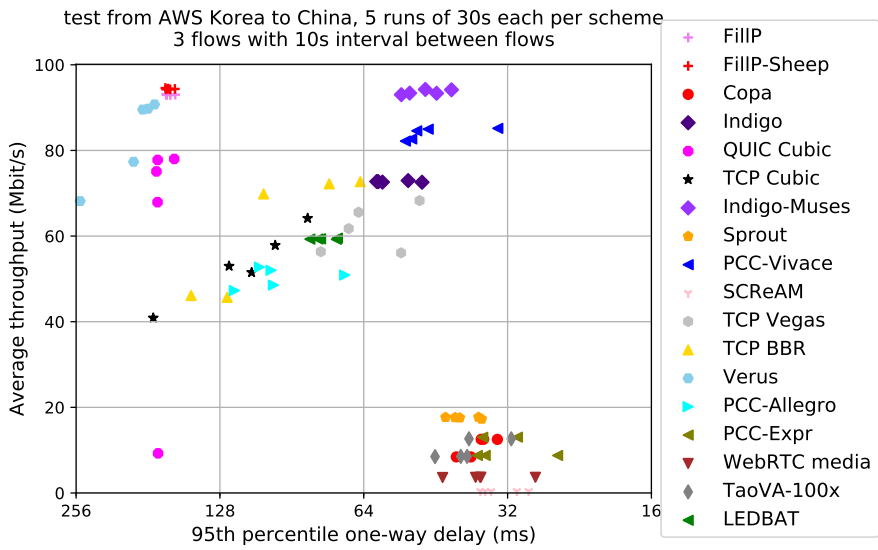
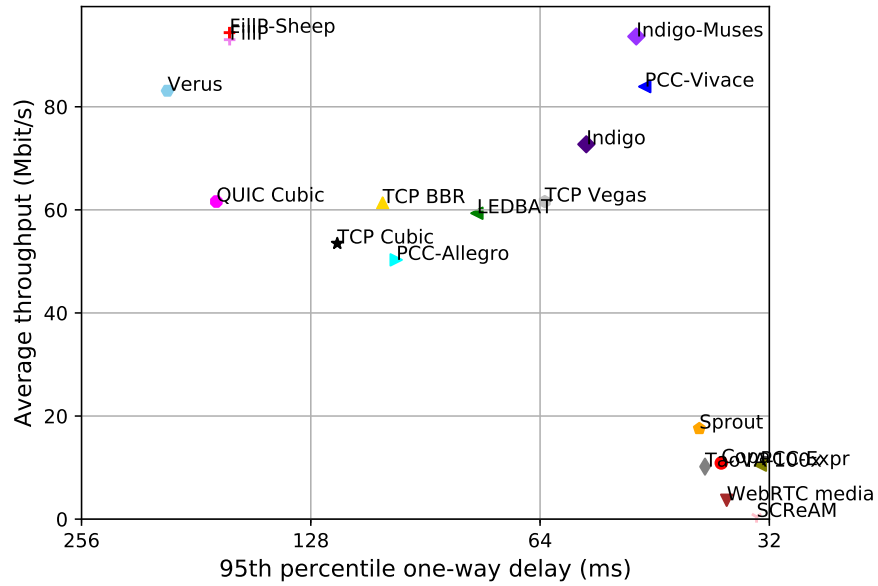
```
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 184101 245469 368202
```

Git summary:

```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
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 Korea to China, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	41.40	25.52	8.79	101.52	107.72	158.89	15.48	15.51	16.06
Copa	5	5.51	6.89	2.39	36.05	37.73	35.12	79.23	71.37	85.22
TCP Cubic	5	41.90	10.68	13.41	115.36	158.60	122.18	1.24	0.67	1.25
FillP	5	56.60	43.05	23.62	163.50	163.59	163.76	16.34	26.01	18.16
FillP-Sheep	5	55.55	39.33	38.47	163.42	163.69	164.05	8.24	14.69	28.91
Indigo	5	48.33	27.78	18.89	52.70	58.91	60.17	14.78	25.23	30.70
LEDBAT	5	40.56	24.29	7.82	76.77	78.06	79.24	0.01	0.00	0.00
Indigo-Muses	5	57.72	36.46	35.83	47.60	48.13	47.39	0.00	0.00	0.00
PCC-Allegro	5	60.11	29.56	16.28	84.69	86.13	97.84	11.12	25.04	51.46
PCC-Expr	5	3.18	8.14	5.72	32.97	32.87	32.64	70.92	45.49	33.79
QUIC Cubic	5	39.78	27.06	12.09	169.99	164.51	163.79	0.85	0.92	0.61
SCReAM	5	0.22	0.22	0.22	33.25	32.97	32.96	0.00	0.00	0.00
Sprout	5	8.86	8.86	8.56	39.59	39.46	39.55	0.00	0.00	0.00
TaoVA-100x	5	3.11	7.83	5.59	36.21	38.37	36.40	73.34	41.20	64.96
TCP Vegas	5	39.32	15.76	35.48	59.25	59.61	125.47	1.29	0.56	1.68
Verus	5	62.25	22.27	18.81	198.90	191.84	201.67	21.27	18.17	42.42
PCC-Vivace	5	67.70	19.73	9.37	46.18	45.91	46.71	0.00	0.00	0.00
WebRTC media	5	1.95	1.28	0.44	36.28	36.58	36.31	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-11 02:48:37

End at: 2018-09-11 02:49:07

Local clock offset: 1.255 ms

Remote clock offset: 7.075 ms

Below is generated by plot.py at 2018-09-11 04:36:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 69.84 Mbit/s

95th percentile per-packet one-way delay: 103.705 ms

Loss rate: 12.20%

-- Flow 1:

Average throughput: 51.20 Mbit/s

95th percentile per-packet one-way delay: 103.223 ms

Loss rate: 11.64%

-- Flow 2:

Average throughput: 24.88 Mbit/s

95th percentile per-packet one-way delay: 103.902 ms

Loss rate: 13.61%

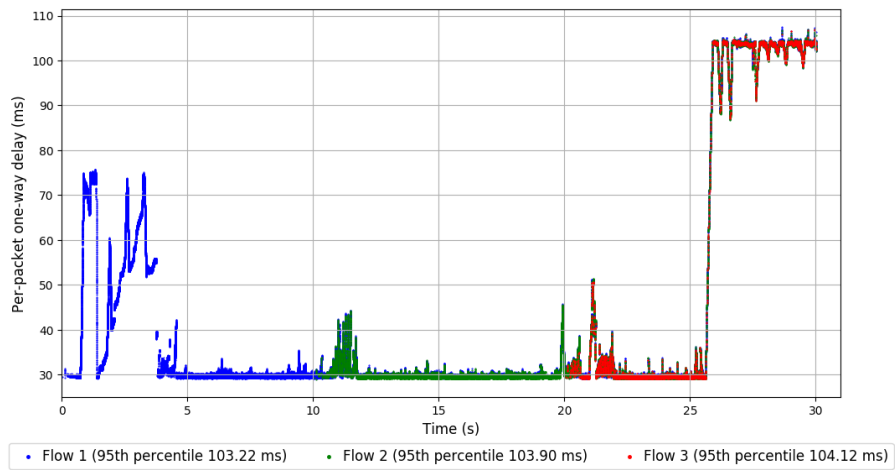
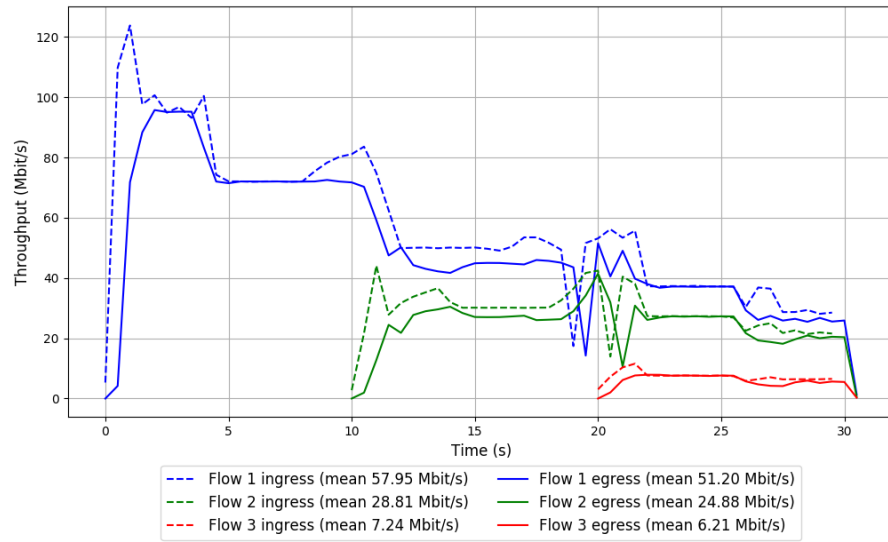
-- Flow 3:

Average throughput: 6.21 Mbit/s

95th percentile per-packet one-way delay: 104.120 ms

Loss rate: 14.24%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-11 03:11:49

End at: 2018-09-11 03:12:19

Local clock offset: 6.122 ms

Remote clock offset: 32.3 ms

Below is generated by plot.py at 2018-09-11 04:36:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.71 Mbit/s

95th percentile per-packet one-way delay: 65.067 ms

Loss rate: 16.19%

-- Flow 1:

Average throughput: 47.04 Mbit/s

95th percentile per-packet one-way delay: 70.300 ms

Loss rate: 14.34%

-- Flow 2:

Average throughput: 26.76 Mbit/s

95th percentile per-packet one-way delay: 40.772 ms

Loss rate: 17.22%

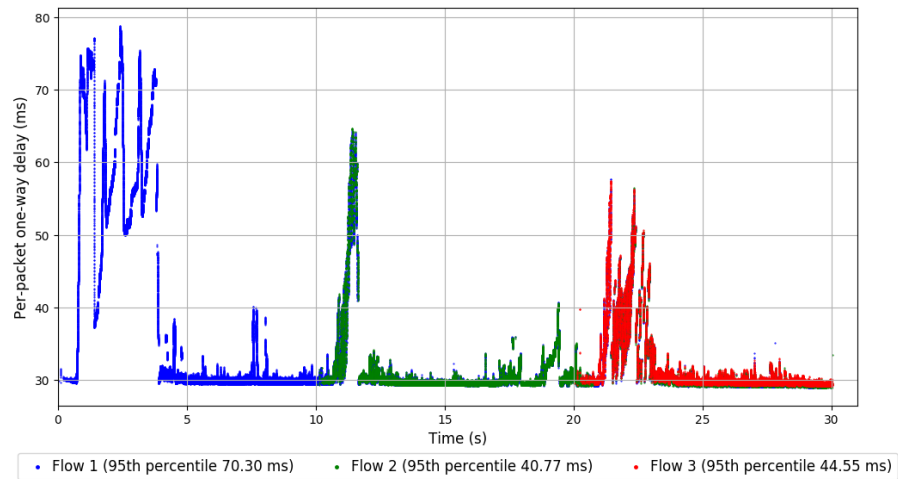
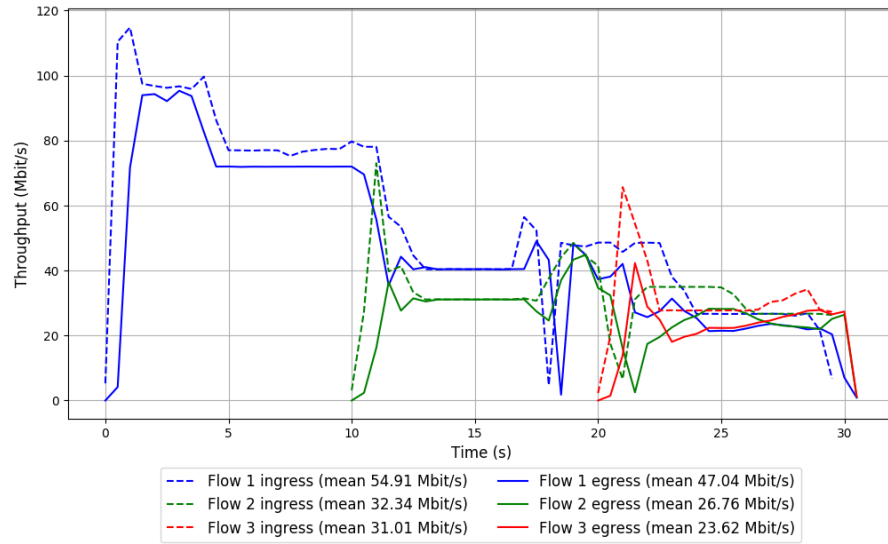
-- Flow 3:

Average throughput: 23.62 Mbit/s

95th percentile per-packet one-way delay: 44.547 ms

Loss rate: 23.83%

Run 2: Report of TCP BBR — Data Link

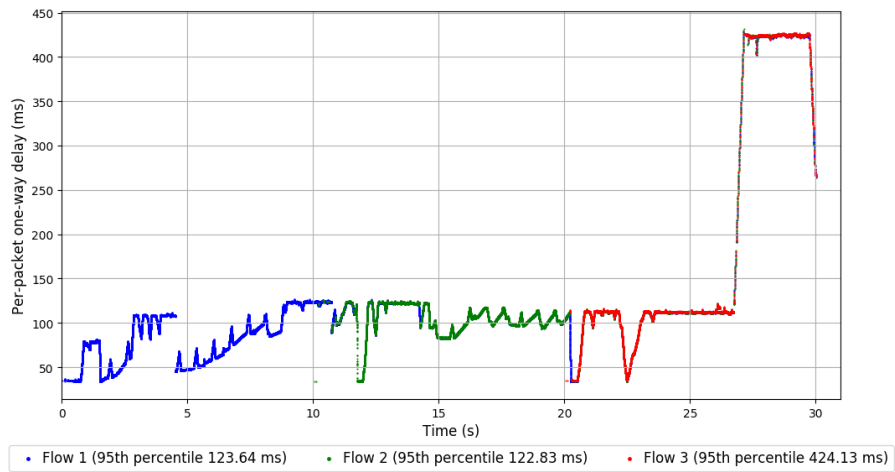
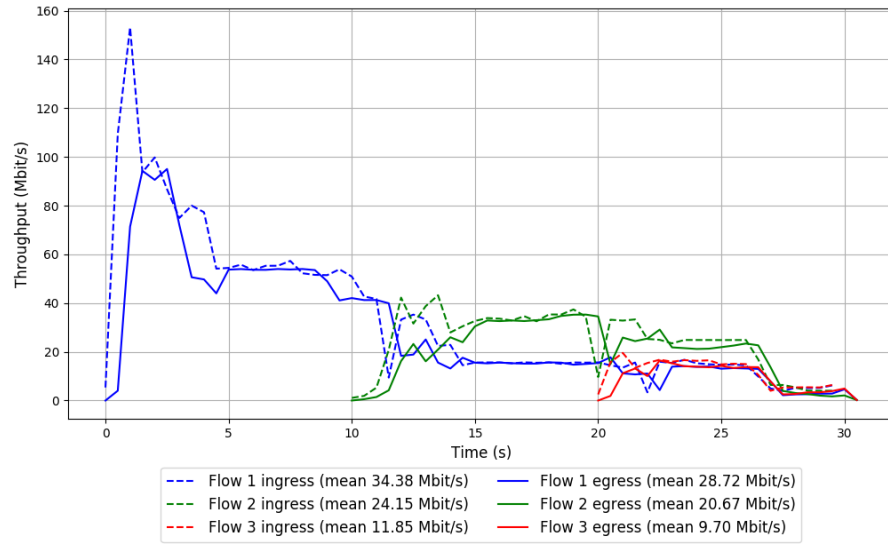


Run 3: Statistics of TCP BBR

Start at: 2018-09-11 03:34:51
End at: 2018-09-11 03:35:21
Local clock offset: 3.582 ms
Remote clock offset: 57.595 ms

Below is generated by plot.py at 2018-09-11 04:36:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 45.70 Mbit/s
95th percentile per-packet one-way delay: 123.591 ms
Loss rate: 15.98%
-- Flow 1:
Average throughput: 28.72 Mbit/s
95th percentile per-packet one-way delay: 123.639 ms
Loss rate: 16.47%
-- Flow 2:
Average throughput: 20.67 Mbit/s
95th percentile per-packet one-way delay: 122.833 ms
Loss rate: 14.42%
-- Flow 3:
Average throughput: 9.70 Mbit/s
95th percentile per-packet one-way delay: 424.129 ms
Loss rate: 18.04%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-11 03:57:46

End at: 2018-09-11 03:58:16

Local clock offset: -1.154 ms

Remote clock offset: 88.77 ms

Below is generated by plot.py at 2018-09-11 04:36:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.20 Mbit/s

95th percentile per-packet one-way delay: 75.587 ms

Loss rate: 13.07%

-- Flow 1:

Average throughput: 46.03 Mbit/s

95th percentile per-packet one-way delay: 75.950 ms

Loss rate: 11.72%

-- Flow 2:

Average throughput: 38.54 Mbit/s

95th percentile per-packet one-way delay: 75.162 ms

Loss rate: 15.44%

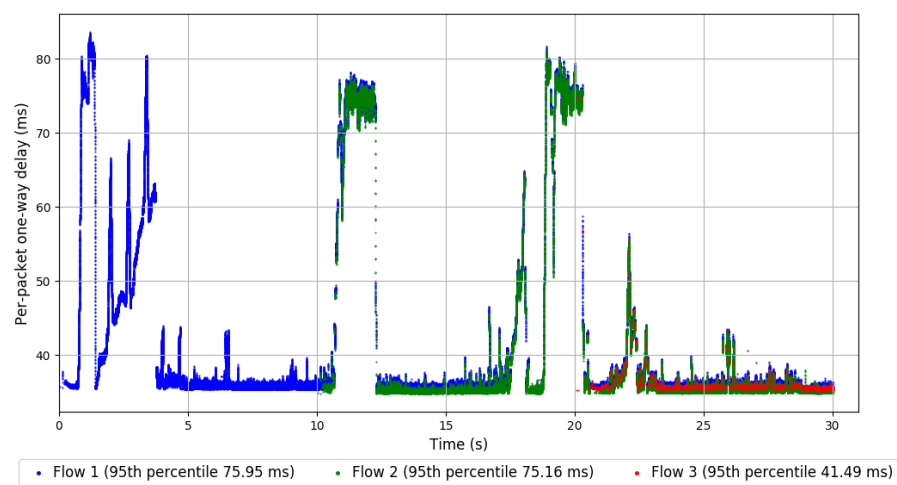
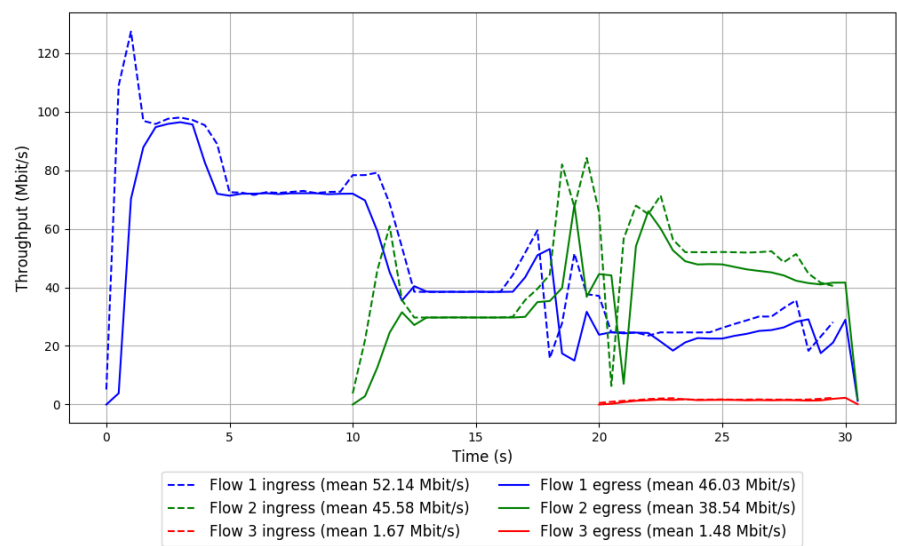
-- Flow 3:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 41.489 ms

Loss rate: 11.23%

Run 4: Report of TCP BBR — Data Link

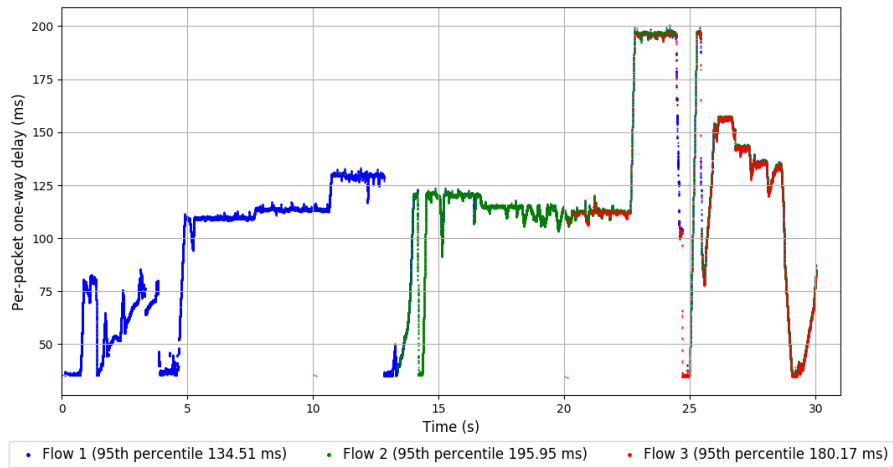
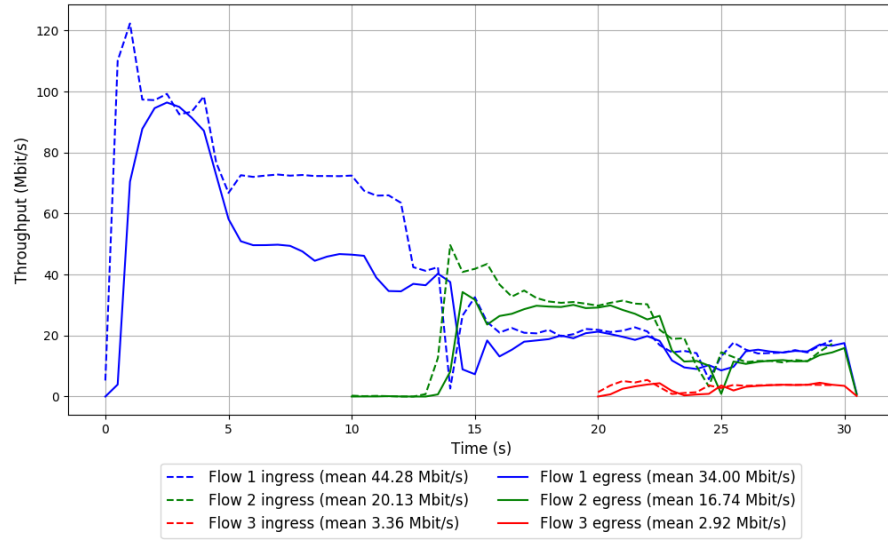


Run 5: Statistics of TCP BBR

Start at: 2018-09-11 04:20:52
End at: 2018-09-11 04:21:22
Local clock offset: 7.579 ms
Remote clock offset: 107.377 ms

Below is generated by plot.py at 2018-09-11 04:36:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 46.12 Mbit/s
95th percentile per-packet one-way delay: 147.078 ms
Loss rate: 21.56%
-- Flow 1:
Average throughput: 34.00 Mbit/s
95th percentile per-packet one-way delay: 134.512 ms
Loss rate: 23.21%
-- Flow 2:
Average throughput: 16.74 Mbit/s
95th percentile per-packet one-way delay: 195.946 ms
Loss rate: 16.84%
-- Flow 3:
Average throughput: 2.92 Mbit/s
95th percentile per-packet one-way delay: 180.168 ms
Loss rate: 12.97%

Run 5: Report of TCP BBR — Data Link

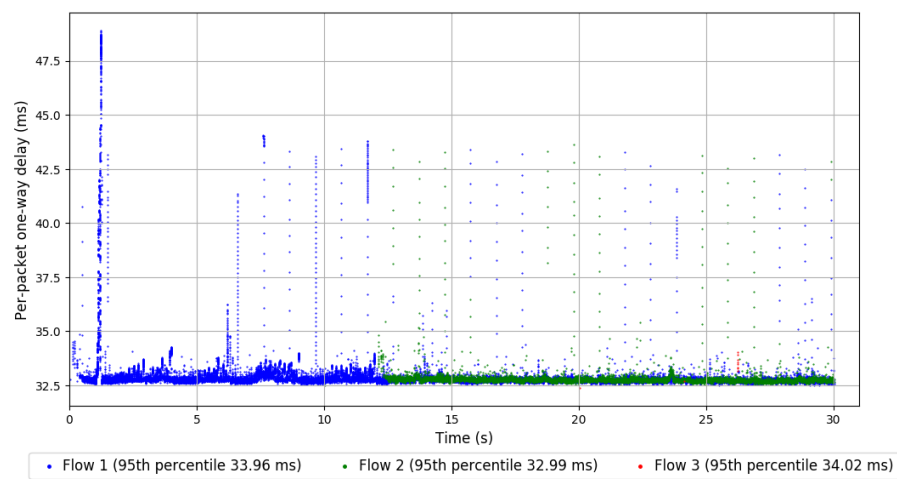
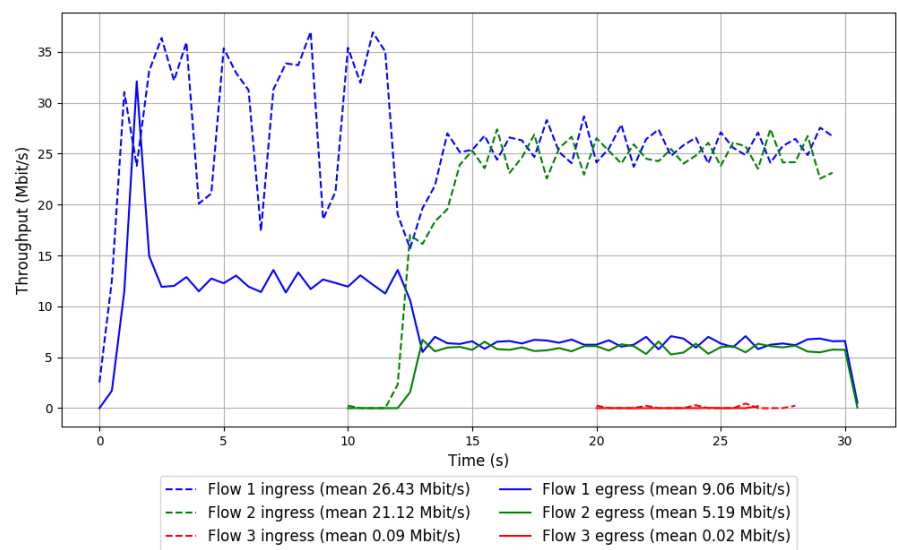


Run 1: Statistics of Copa

Start at: 2018-09-11 02:52:38
End at: 2018-09-11 02:53:08
Local clock offset: 1.121 ms
Remote clock offset: 10.915 ms

Below is generated by plot.py at 2018-09-11 04:36:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 33.616 ms
Loss rate: 69.11%
-- Flow 1:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 33.958 ms
Loss rate: 65.74%
-- Flow 2:
Average throughput: 5.19 Mbit/s
95th percentile per-packet one-way delay: 32.994 ms
Loss rate: 75.42%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 34.023 ms
Loss rate: 85.13%

Run 1: Report of Copa — Data Link

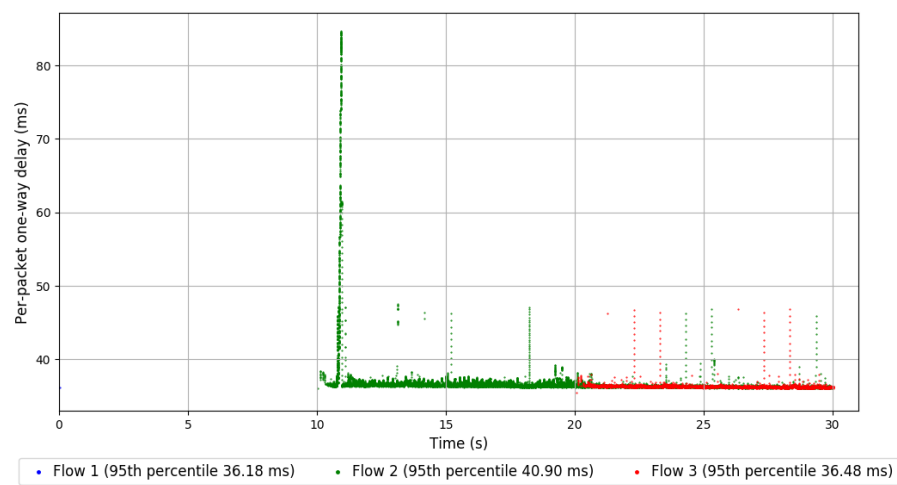
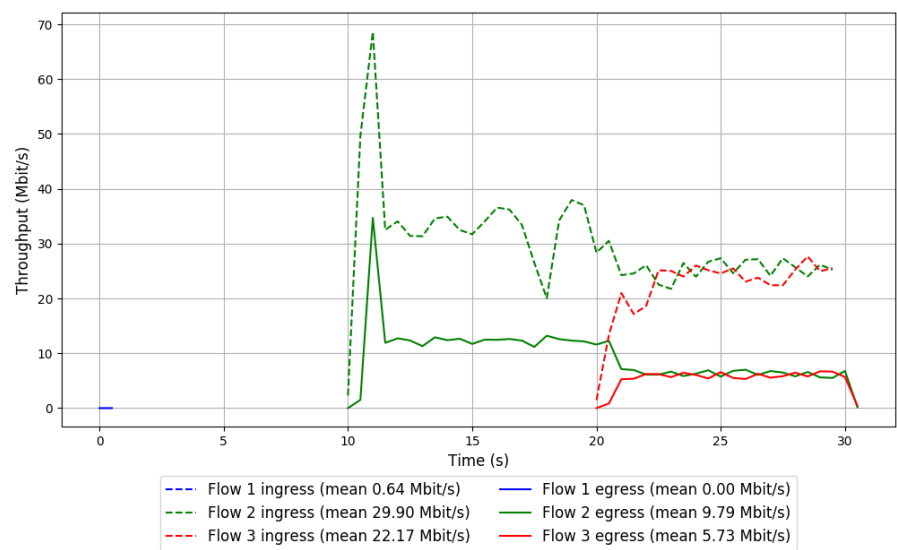


Run 2: Statistics of Copa

Start at: 2018-09-11 03:15:48
End at: 2018-09-11 03:16:18
Local clock offset: 6.514 ms
Remote clock offset: 43.585 ms

Below is generated by plot.py at 2018-09-11 04:36:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.42 Mbit/s
95th percentile per-packet one-way delay: 38.191 ms
Loss rate: 69.12%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 36.177 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 9.79 Mbit/s
95th percentile per-packet one-way delay: 40.897 ms
Loss rate: 67.26%
-- Flow 3:
Average throughput: 5.73 Mbit/s
95th percentile per-packet one-way delay: 36.483 ms
Loss rate: 74.15%

Run 2: Report of Copa — Data Link

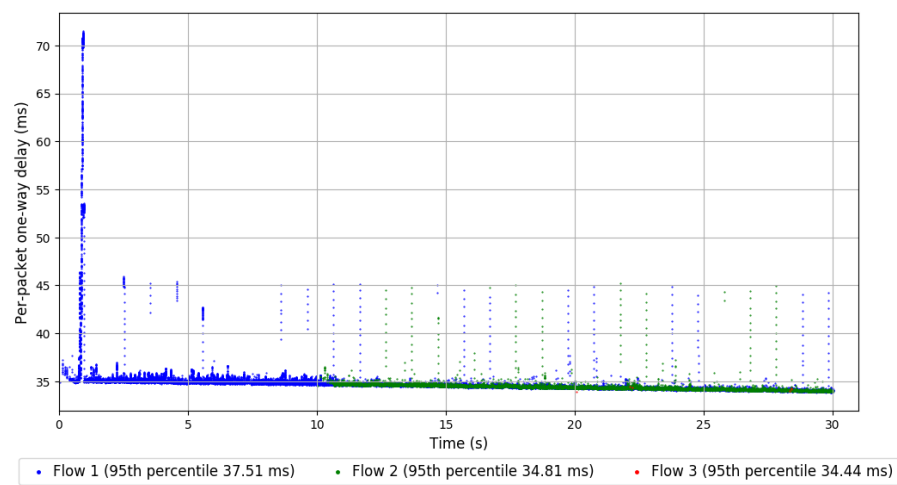
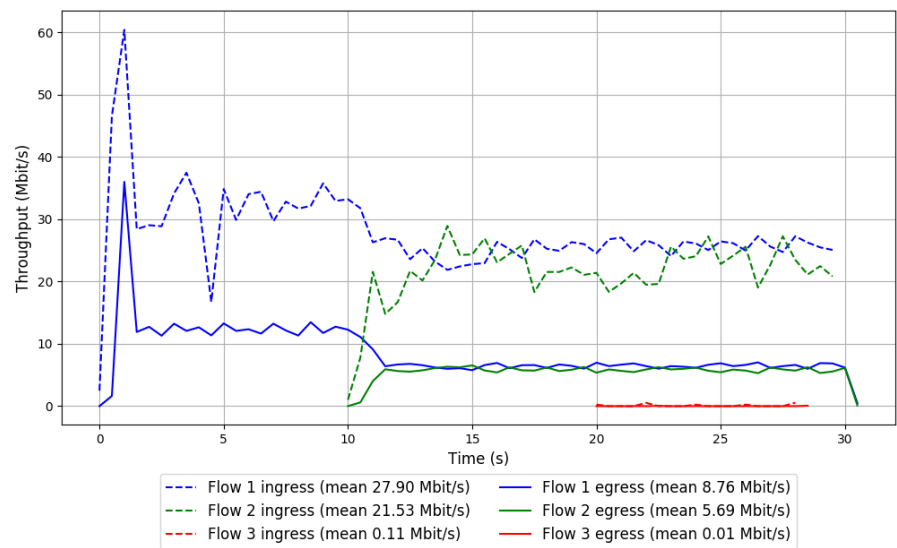


Run 3: Statistics of Copa

Start at: 2018-09-11 03:38:49
End at: 2018-09-11 03:39:19
Local clock offset: 1.804 ms
Remote clock offset: 64.435 ms

Below is generated by plot.py at 2018-09-11 04:36:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 35.923 ms
Loss rate: 70.30%
-- Flow 1:
Average throughput: 8.76 Mbit/s
95th percentile per-packet one-way delay: 37.511 ms
Loss rate: 68.59%
-- Flow 2:
Average throughput: 5.69 Mbit/s
95th percentile per-packet one-way delay: 34.806 ms
Loss rate: 73.56%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 34.444 ms
Loss rate: 93.23%

Run 3: Report of Copa — Data Link

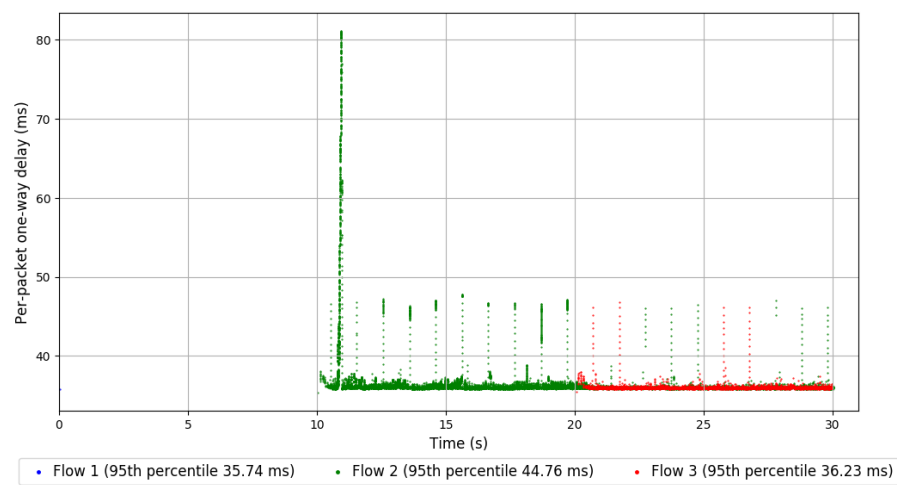
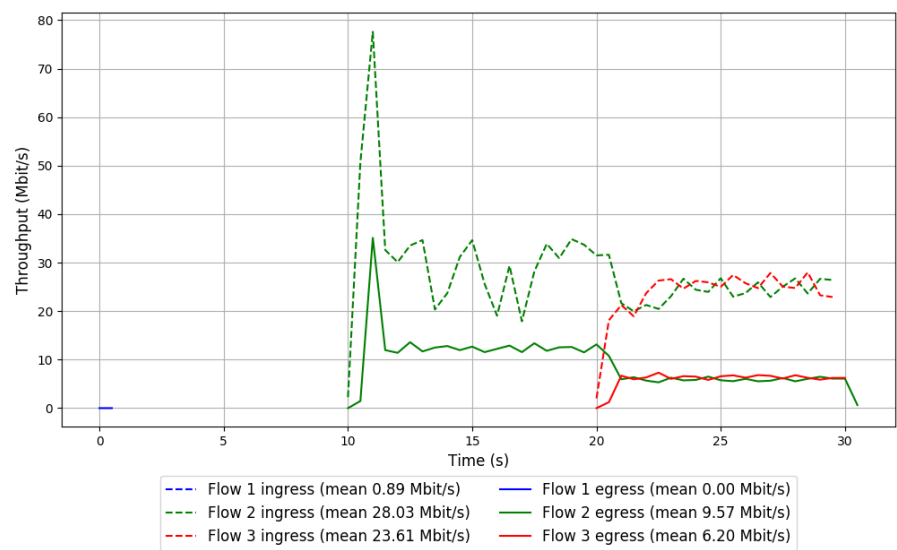


Run 4: Statistics of Copa

Start at: 2018-09-11 04:01:48
End at: 2018-09-11 04:02:18
Local clock offset: 1.731 ms
Remote clock offset: 92.234 ms

Below is generated by plot.py at 2018-09-11 04:36:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 40.966 ms
Loss rate: 68.19%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 35.738 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 9.57 Mbit/s
95th percentile per-packet one-way delay: 44.758 ms
Loss rate: 65.86%
-- Flow 3:
Average throughput: 6.20 Mbit/s
95th percentile per-packet one-way delay: 36.228 ms
Loss rate: 73.74%

Run 4: Report of Copa — Data Link

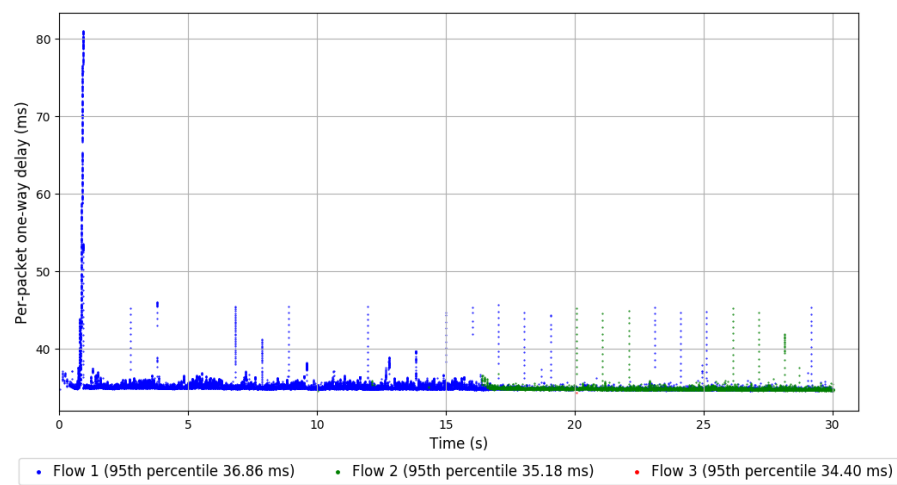
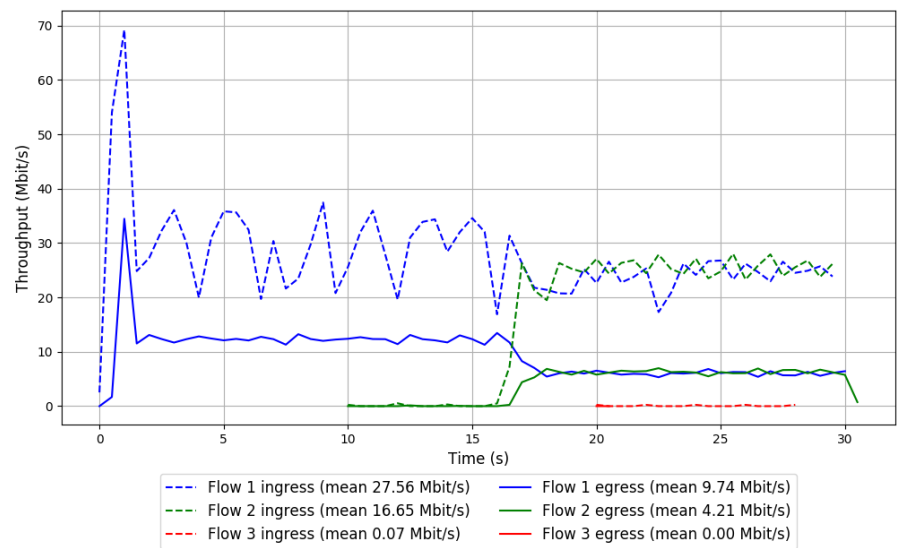


Run 5: Statistics of Copa

Start at: 2018-09-11 04:24:46
End at: 2018-09-11 04:25:16
Local clock offset: 7.812 ms
Remote clock offset: 110.132 ms

Below is generated by plot.py at 2018-09-11 04:36:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 36.340 ms
Loss rate: 67.59%
-- Flow 1:
Average throughput: 9.74 Mbit/s
95th percentile per-packet one-way delay: 36.862 ms
Loss rate: 64.68%
-- Flow 2:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 35.183 ms
Loss rate: 74.73%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 34.404 ms
Loss rate: 99.83%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-11 02:44:47

End at: 2018-09-11 02:45:17

Local clock offset: 1.794 ms

Remote clock offset: 9.134 ms

Below is generated by plot.py at 2018-09-11 04:36:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 64.16 Mbit/s

95th percentile per-packet one-way delay: 83.881 ms

Loss rate: 1.39%

-- Flow 1:

Average throughput: 46.80 Mbit/s

95th percentile per-packet one-way delay: 81.117 ms

Loss rate: 1.33%

-- Flow 2:

Average throughput: 10.84 Mbit/s

95th percentile per-packet one-way delay: 85.364 ms

Loss rate: 0.96%

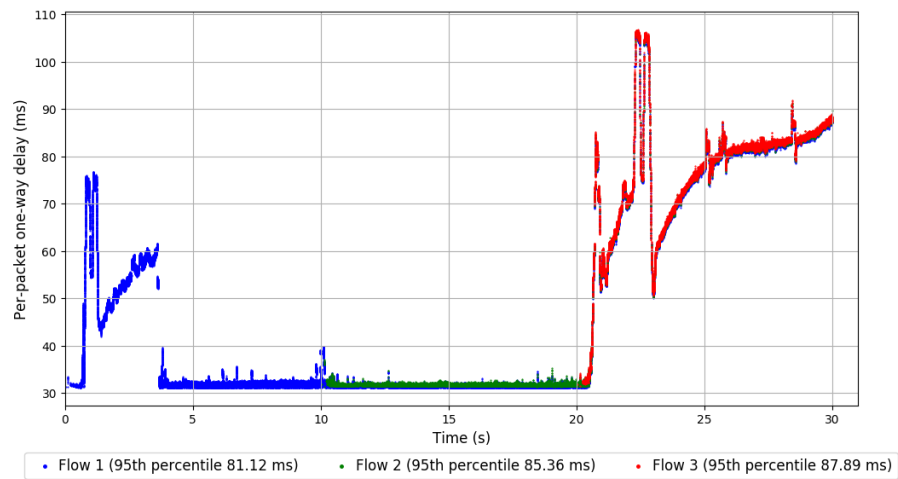
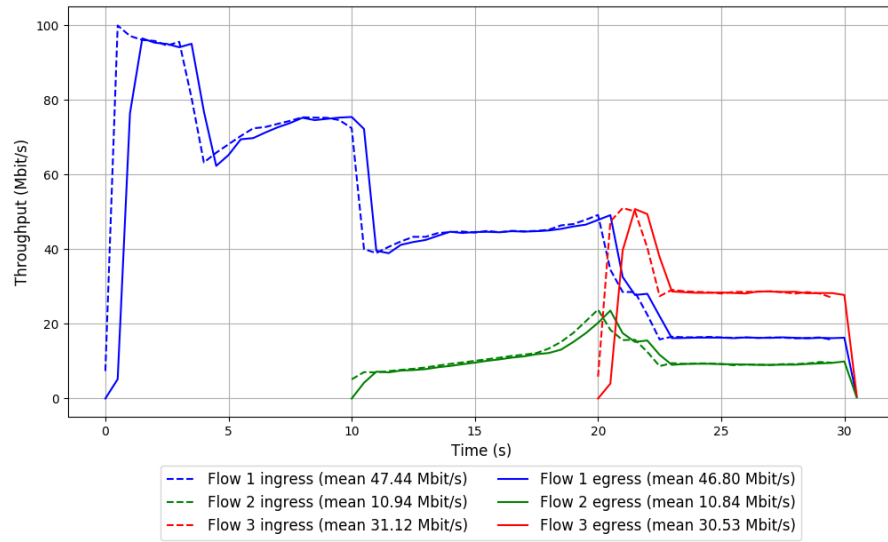
-- Flow 3:

Average throughput: 30.53 Mbit/s

95th percentile per-packet one-way delay: 87.887 ms

Loss rate: 1.92%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-11 03:07:59

End at: 2018-09-11 03:08:29

Local clock offset: 5.064 ms

Remote clock offset: 23.87 ms

Below is generated by plot.py at 2018-09-11 04:36:49

Datalink statistics

-- Total of 3 flows:

Average throughput: 57.84 Mbit/s

95th percentile per-packet one-way delay: 98.055 ms

Loss rate: 0.33%

-- Flow 1:

Average throughput: 46.29 Mbit/s

95th percentile per-packet one-way delay: 98.085 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 15.43 Mbit/s

95th percentile per-packet one-way delay: 97.623 ms

Loss rate: 0.28%

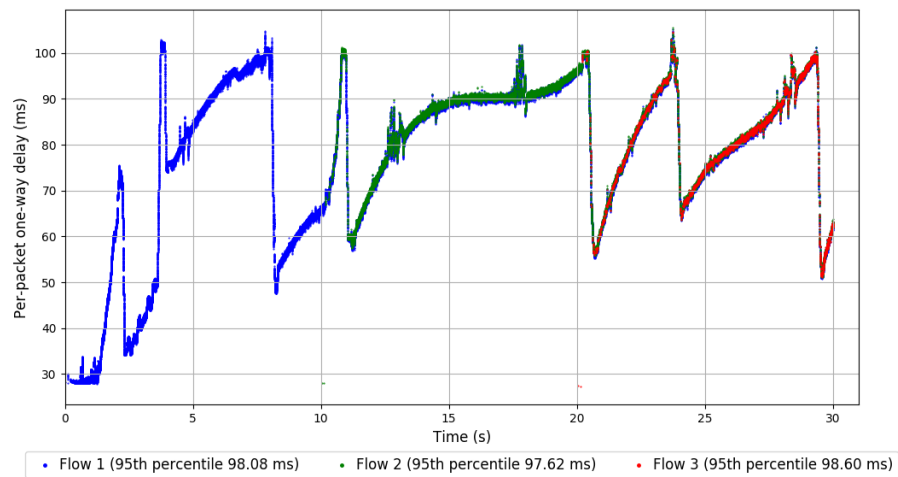
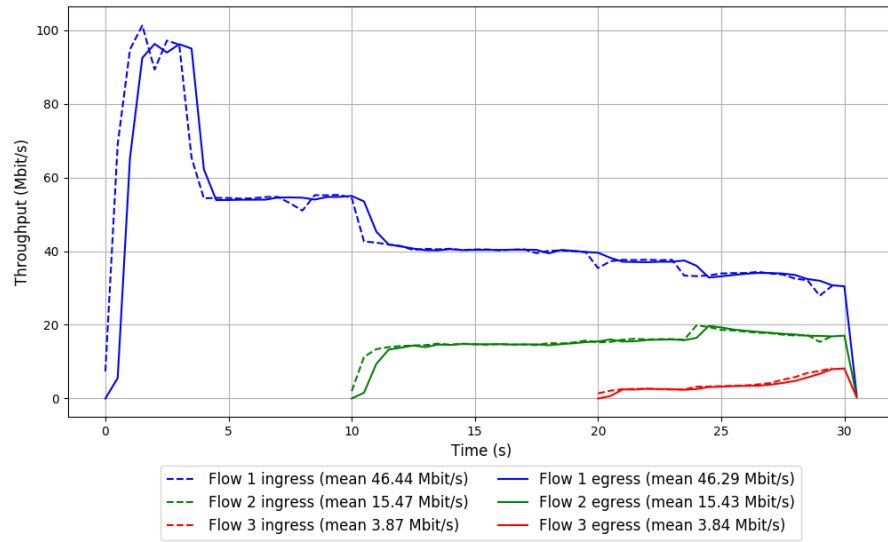
-- Flow 3:

Average throughput: 3.84 Mbit/s

95th percentile per-packet one-way delay: 98.596 ms

Loss rate: 0.93%

Run 2: Report of TCP Cubic — Data Link

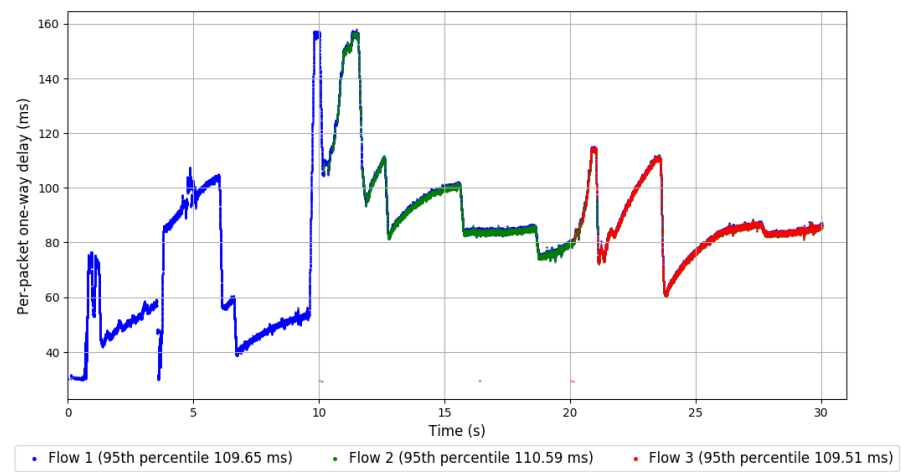
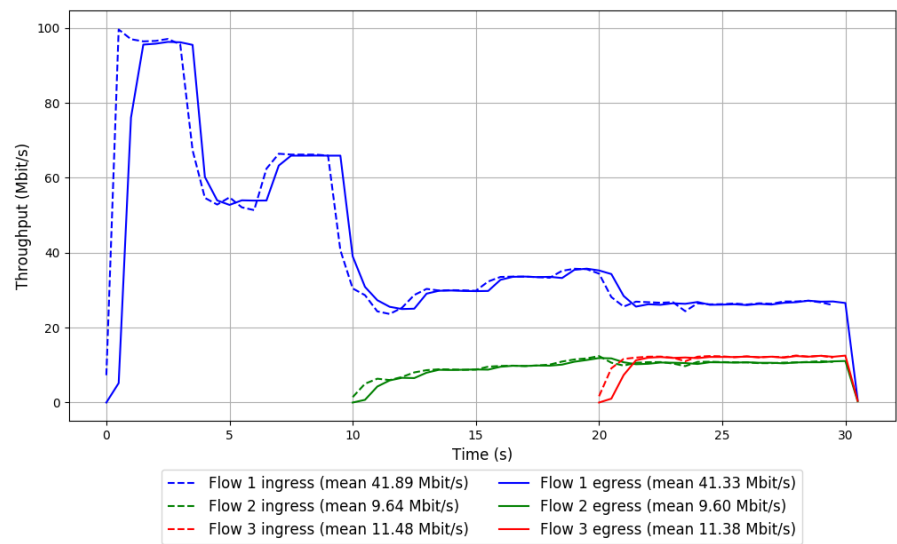


Run 3: Statistics of TCP Cubic

Start at: 2018-09-11 03:31:02
End at: 2018-09-11 03:31:32
Local clock offset: 5.842 ms
Remote clock offset: 50.587 ms

Below is generated by plot.py at 2018-09-11 04:36:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 51.51 Mbit/s
95th percentile per-packet one-way delay: 109.872 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 41.33 Mbit/s
95th percentile per-packet one-way delay: 109.652 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 110.594 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 11.38 Mbit/s
95th percentile per-packet one-way delay: 109.509 ms
Loss rate: 0.92%

Run 3: Report of TCP Cubic — Data Link

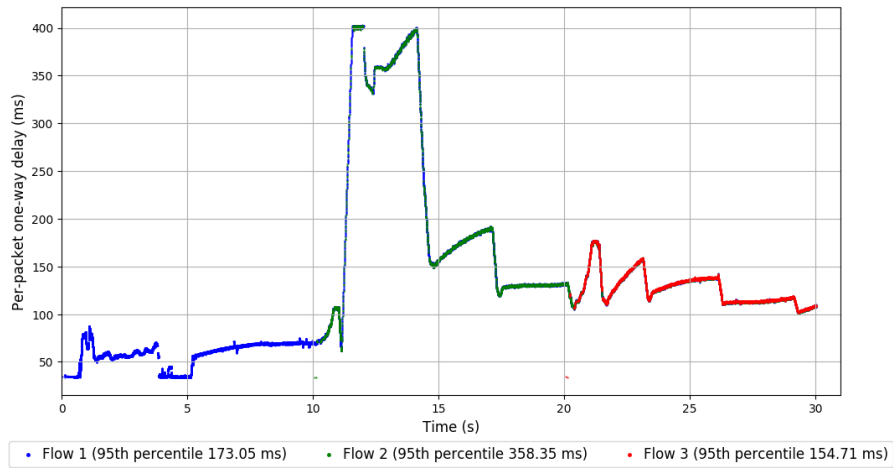
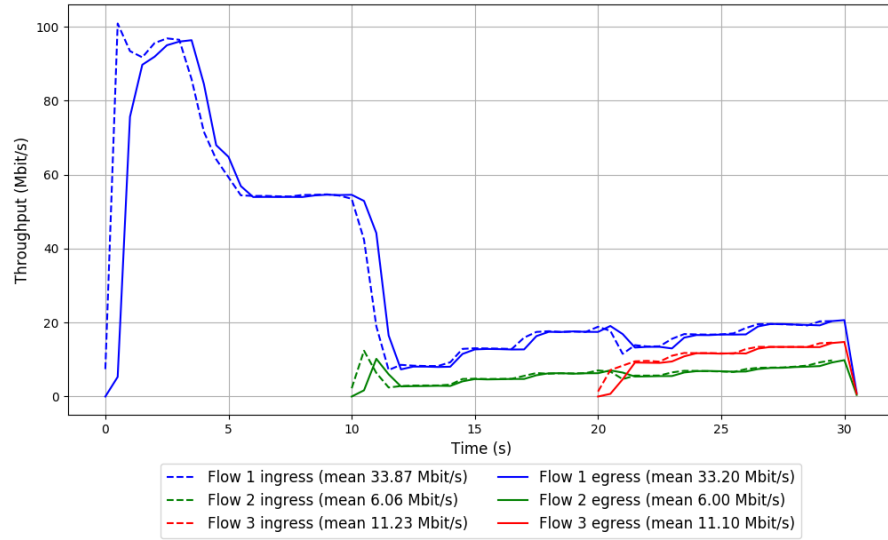


Run 4: Statistics of TCP Cubic

Start at: 2018-09-11 03:53:58
End at: 2018-09-11 03:54:28
Local clock offset: -0.608 ms
Remote clock offset: 84.631 ms

Below is generated by plot.py at 2018-09-11 04:36:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 40.89 Mbit/s
95th percentile per-packet one-way delay: 176.488 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 33.20 Mbit/s
95th percentile per-packet one-way delay: 173.048 ms
Loss rate: 1.97%
-- Flow 2:
Average throughput: 6.00 Mbit/s
95th percentile per-packet one-way delay: 358.352 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 11.10 Mbit/s
95th percentile per-packet one-way delay: 154.706 ms
Loss rate: 1.15%

Run 4: Report of TCP Cubic — Data Link

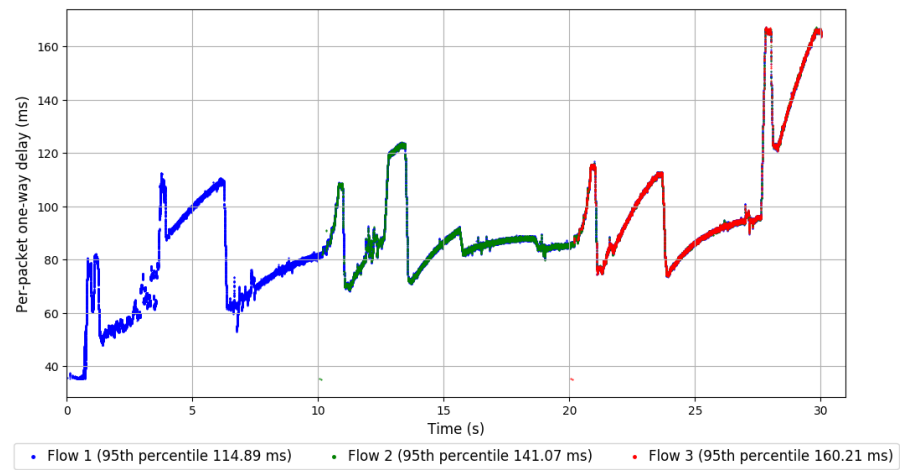
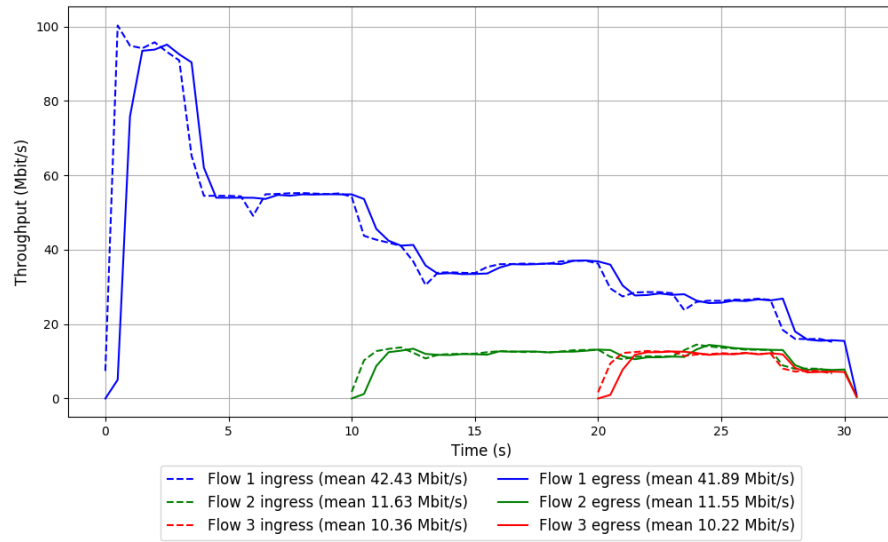


Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 04:17:05
End at: 2018-09-11 04:17:35
Local clock offset: 7.078 ms
Remote clock offset: 104.895 ms

Below is generated by plot.py at 2018-09-11 04:37:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 52.99 Mbit/s
95th percentile per-packet one-way delay: 122.477 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 41.89 Mbit/s
95th percentile per-packet one-way delay: 114.886 ms
Loss rate: 1.26%
-- Flow 2:
Average throughput: 11.55 Mbit/s
95th percentile per-packet one-way delay: 141.070 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 10.22 Mbit/s
95th percentile per-packet one-way delay: 160.214 ms
Loss rate: 1.34%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-09-11 02:47:15

End at: 2018-09-11 02:47:45

Local clock offset: 1.539 ms

Remote clock offset: 5.875 ms

Below is generated by plot.py at 2018-09-11 04:38:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.02 Mbit/s

95th percentile per-packet one-way delay: 158.744 ms

Loss rate: 21.25%

-- Flow 1:

Average throughput: 56.01 Mbit/s

95th percentile per-packet one-way delay: 158.612 ms

Loss rate: 17.29%

-- Flow 2:

Average throughput: 41.67 Mbit/s

95th percentile per-packet one-way delay: 158.786 ms

Loss rate: 28.44%

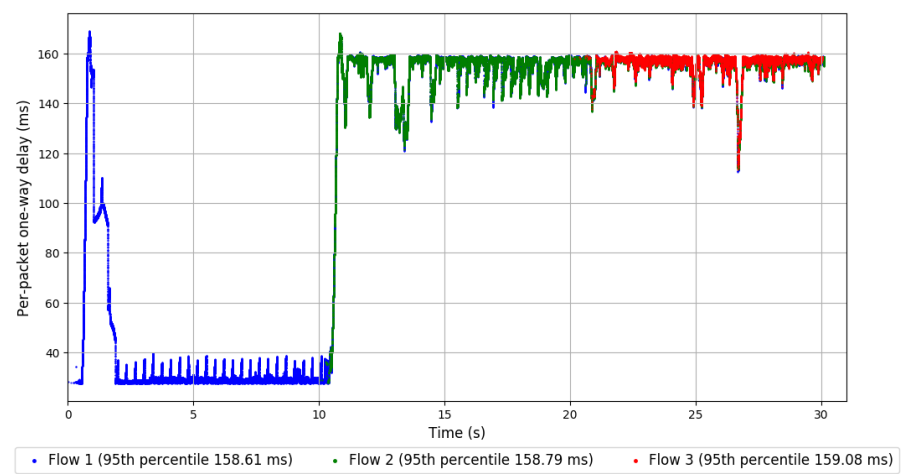
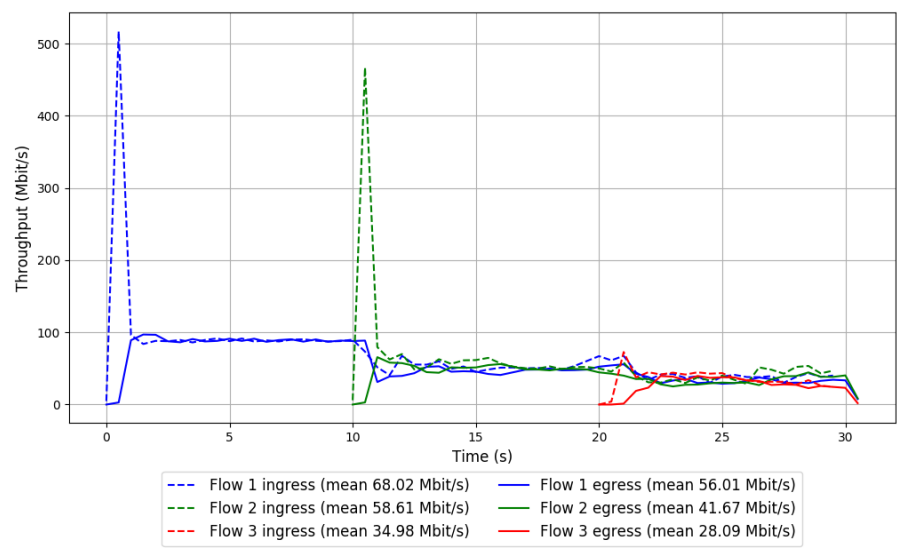
-- Flow 3:

Average throughput: 28.09 Mbit/s

95th percentile per-packet one-way delay: 159.078 ms

Loss rate: 20.24%

Run 1: Report of FillP — Data Link

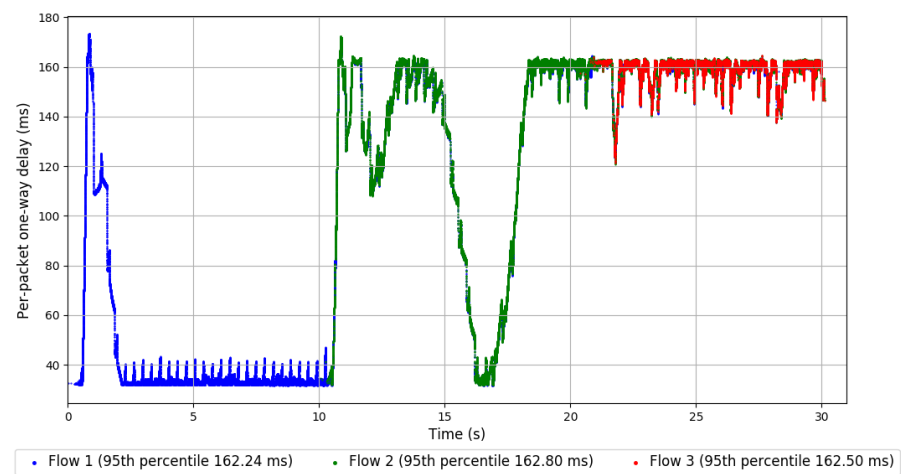
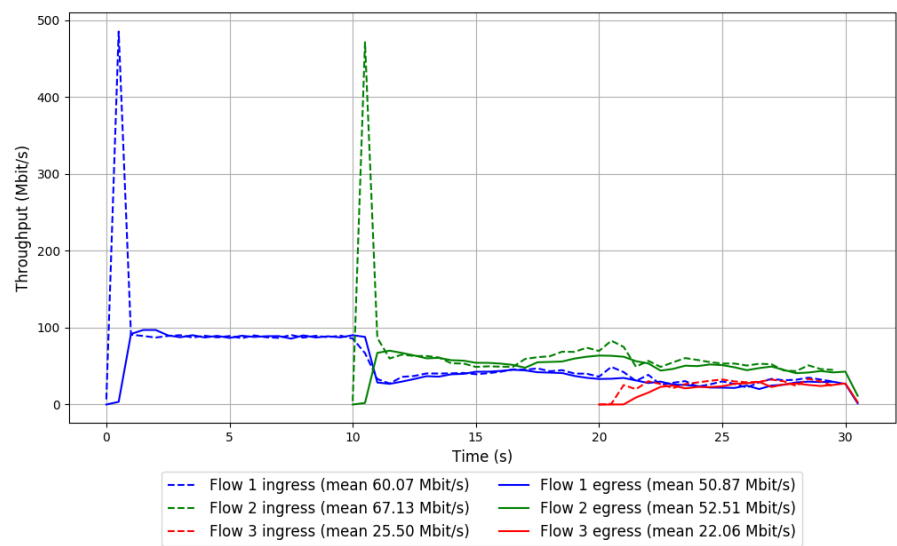


Run 2: Statistics of FillP

Start at: 2018-09-11 03:10:27
End at: 2018-09-11 03:10:57
Local clock offset: 5.949 ms
Remote clock offset: 33.333 ms

Below is generated by plot.py at 2018-09-11 04:38:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.92 Mbit/s
95th percentile per-packet one-way delay: 162.571 ms
Loss rate: 17.62%
-- Flow 1:
Average throughput: 50.87 Mbit/s
95th percentile per-packet one-way delay: 162.242 ms
Loss rate: 15.18%
-- Flow 2:
Average throughput: 52.51 Mbit/s
95th percentile per-packet one-way delay: 162.804 ms
Loss rate: 21.34%
-- Flow 3:
Average throughput: 22.06 Mbit/s
95th percentile per-packet one-way delay: 162.498 ms
Loss rate: 15.33%

Run 2: Report of FillP — Data Link

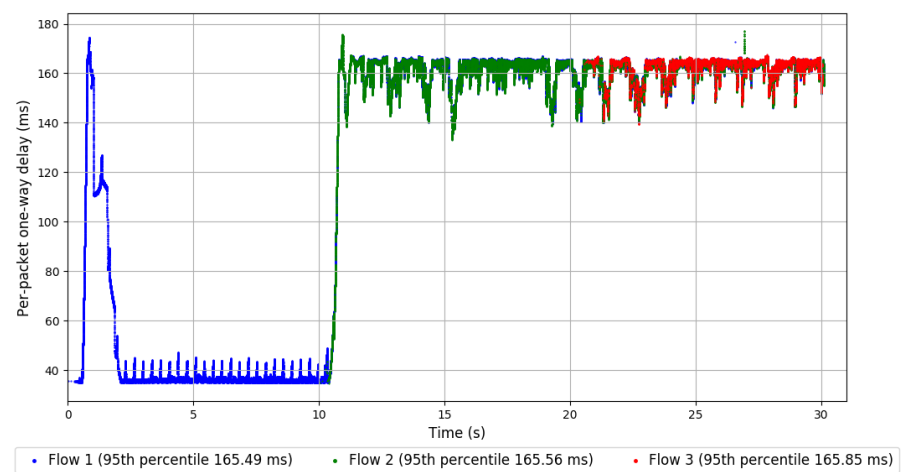
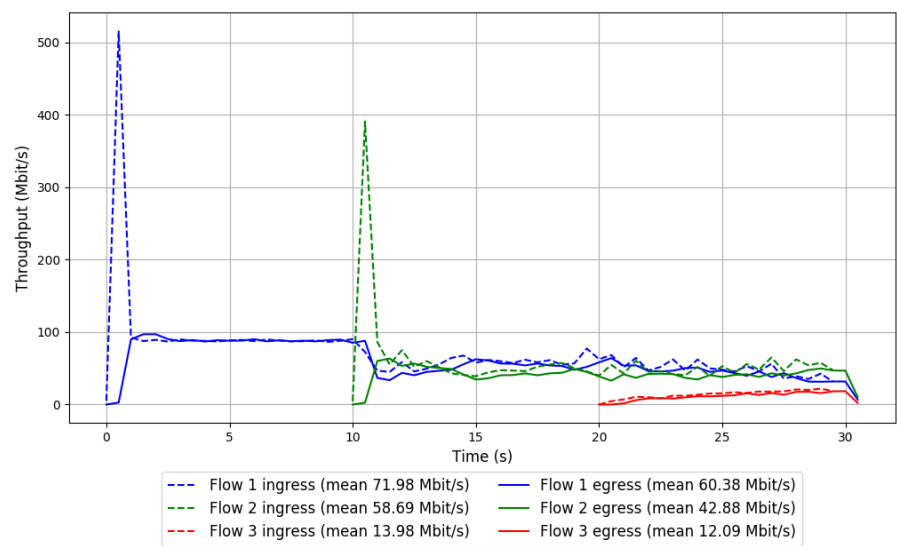


Run 3: Statistics of FillP

Start at: 2018-09-11 03:33:29
End at: 2018-09-11 03:33:59
Local clock offset: 4.015 ms
Remote clock offset: 57.352 ms

Below is generated by plot.py at 2018-09-11 04:38:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.96 Mbit/s
95th percentile per-packet one-way delay: 165.534 ms
Loss rate: 19.33%
-- Flow 1:
Average throughput: 60.38 Mbit/s
95th percentile per-packet one-way delay: 165.489 ms
Loss rate: 15.78%
-- Flow 2:
Average throughput: 42.88 Mbit/s
95th percentile per-packet one-way delay: 165.562 ms
Loss rate: 26.48%
-- Flow 3:
Average throughput: 12.09 Mbit/s
95th percentile per-packet one-way delay: 165.848 ms
Loss rate: 14.15%

Run 3: Report of FillP — Data Link

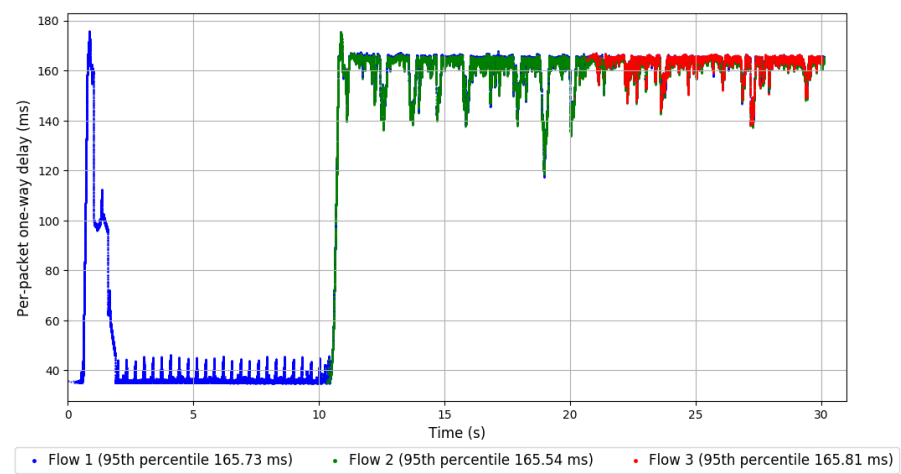
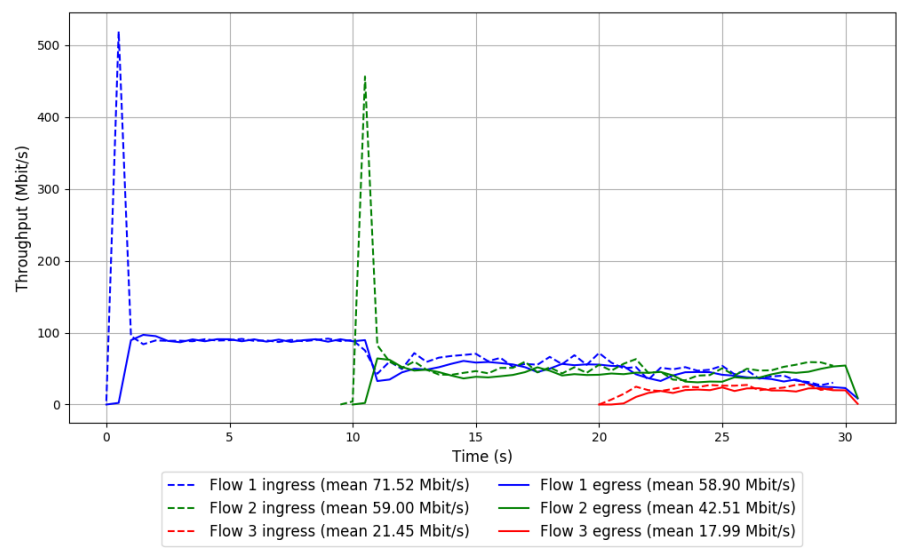


Run 4: Statistics of FillP

Start at: 2018-09-11 03:56:24
End at: 2018-09-11 03:56:54
Local clock offset: -0.888 ms
Remote clock offset: 87.784 ms

Below is generated by plot.py at 2018-09-11 04:38:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.17 Mbit/s
95th percentile per-packet one-way delay: 165.690 ms
Loss rate: 20.66%
-- Flow 1:
Average throughput: 58.90 Mbit/s
95th percentile per-packet one-way delay: 165.728 ms
Loss rate: 17.29%
-- Flow 2:
Average throughput: 42.51 Mbit/s
95th percentile per-packet one-way delay: 165.544 ms
Loss rate: 27.51%
-- Flow 3:
Average throughput: 17.99 Mbit/s
95th percentile per-packet one-way delay: 165.806 ms
Loss rate: 16.72%

Run 4: Report of FillP — Data Link

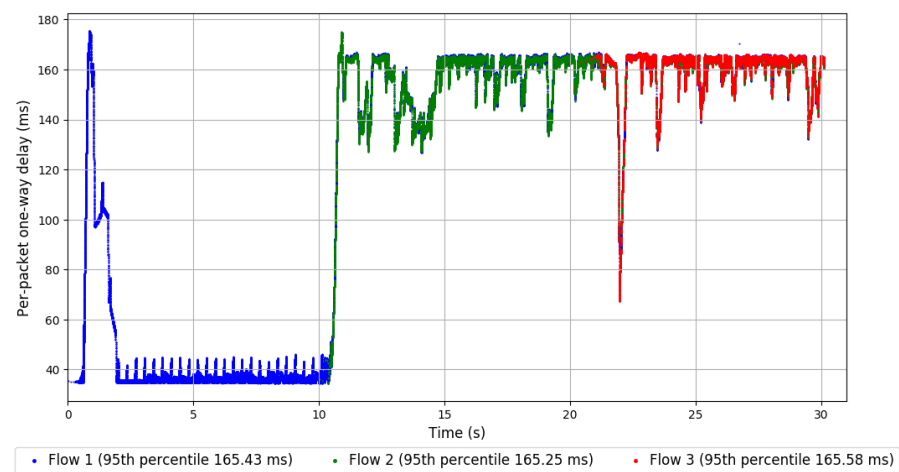
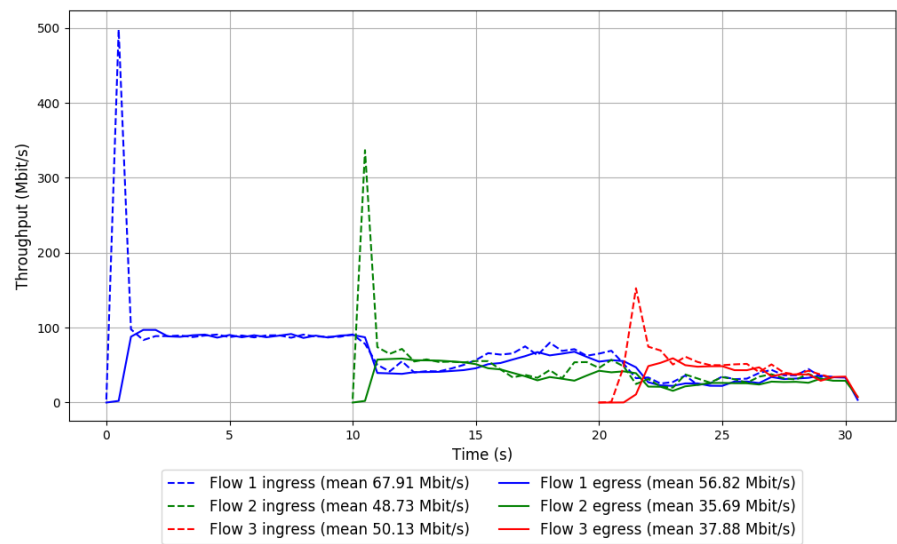


Run 5: Statistics of FillP

Start at: 2018-09-11 04:19:32
End at: 2018-09-11 04:20:02
Local clock offset: 7.307 ms
Remote clock offset: 106.207 ms

Below is generated by plot.py at 2018-09-11 04:38:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.02 Mbit/s
95th percentile per-packet one-way delay: 165.408 ms
Loss rate: 20.13%
-- Flow 1:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 165.425 ms
Loss rate: 16.16%
-- Flow 2:
Average throughput: 35.69 Mbit/s
95th percentile per-packet one-way delay: 165.251 ms
Loss rate: 26.28%
-- Flow 3:
Average throughput: 37.88 Mbit/s
95th percentile per-packet one-way delay: 165.583 ms
Loss rate: 24.37%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-11 02:49:56

End at: 2018-09-11 02:50:26

Local clock offset: 1.398 ms

Remote clock offset: 6.656 ms

Below is generated by plot.py at 2018-09-11 04:38:19

Datalink statistics

-- Total of 3 flows:

Average throughput: 94.37 Mbit/s

95th percentile per-packet one-way delay: 159.042 ms

Loss rate: 12.83%

-- Flow 1:

Average throughput: 53.70 Mbit/s

95th percentile per-packet one-way delay: 158.714 ms

Loss rate: 7.68%

-- Flow 2:

Average throughput: 39.08 Mbit/s

95th percentile per-packet one-way delay: 158.944 ms

Loss rate: 12.17%

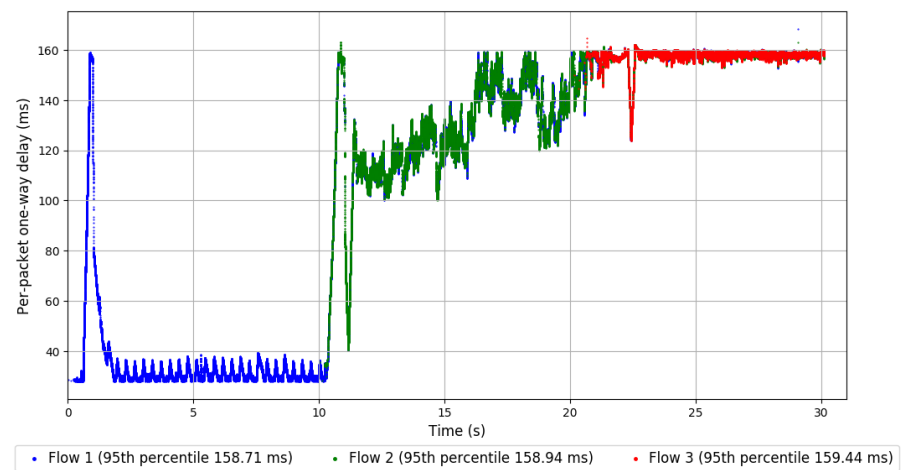
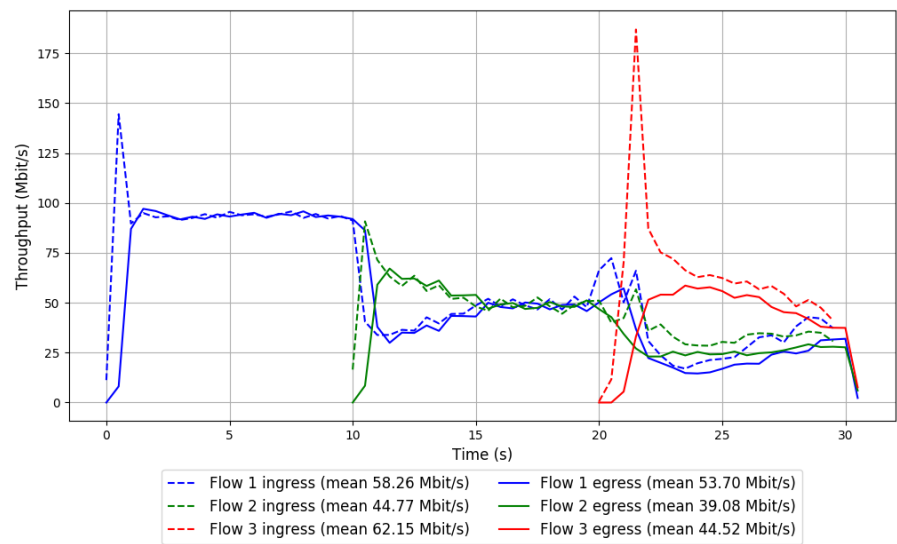
-- Flow 3:

Average throughput: 44.52 Mbit/s

95th percentile per-packet one-way delay: 159.443 ms

Loss rate: 28.31%

Run 1: Report of FillP-Sheep — Data Link

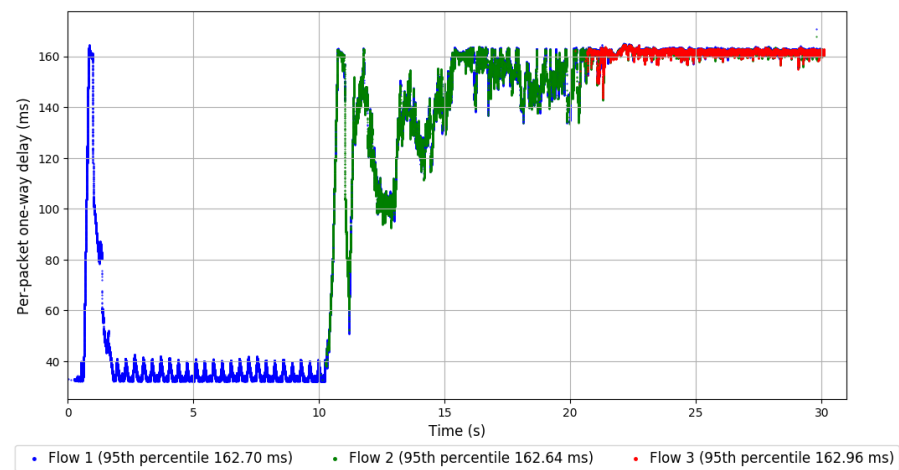
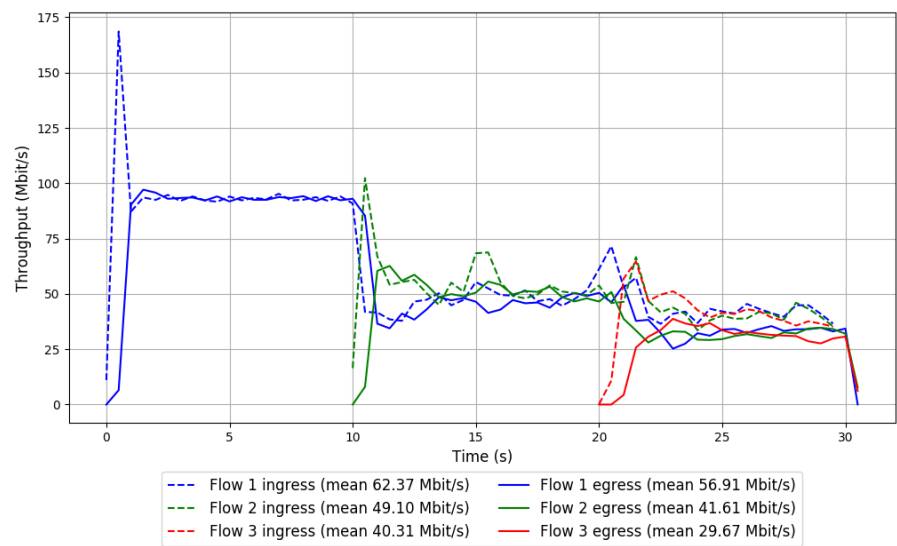


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-11 03:13:09
End at: 2018-09-11 03:13:39
Local clock offset: 6.407 ms
Remote clock offset: 36.938 ms

Below is generated by plot.py at 2018-09-11 04:38:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.25 Mbit/s
95th percentile per-packet one-way delay: 162.723 ms
Loss rate: 12.68%
-- Flow 1:
Average throughput: 56.91 Mbit/s
95th percentile per-packet one-way delay: 162.704 ms
Loss rate: 8.68%
-- Flow 2:
Average throughput: 41.61 Mbit/s
95th percentile per-packet one-way delay: 162.638 ms
Loss rate: 14.71%
-- Flow 3:
Average throughput: 29.67 Mbit/s
95th percentile per-packet one-way delay: 162.956 ms
Loss rate: 26.39%

Run 2: Report of FillP-Sheep — Data Link

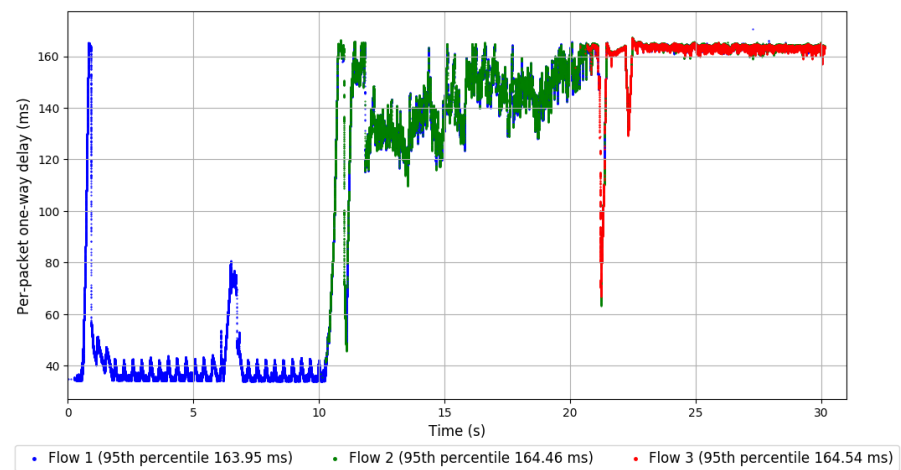
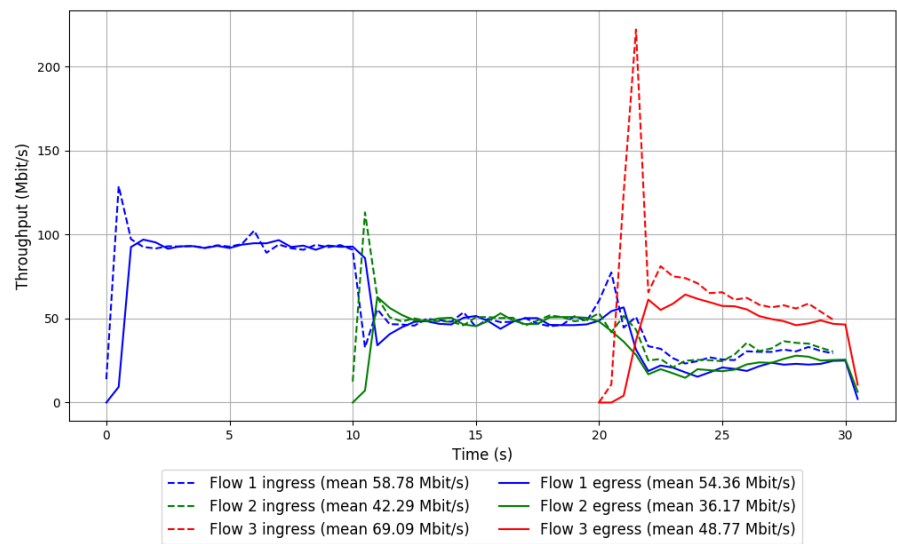


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-11 03:36:07
End at: 2018-09-11 03:36:37
Local clock offset: 3.015 ms
Remote clock offset: 59.101 ms

Below is generated by plot.py at 2018-09-11 04:38:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.44 Mbit/s
95th percentile per-packet one-way delay: 164.294 ms
Loss rate: 13.63%
-- Flow 1:
Average throughput: 54.36 Mbit/s
95th percentile per-packet one-way delay: 163.949 ms
Loss rate: 7.37%
-- Flow 2:
Average throughput: 36.17 Mbit/s
95th percentile per-packet one-way delay: 164.457 ms
Loss rate: 13.92%
-- Flow 3:
Average throughput: 48.77 Mbit/s
95th percentile per-packet one-way delay: 164.536 ms
Loss rate: 29.36%

Run 3: Report of FillP-Sheep — Data Link

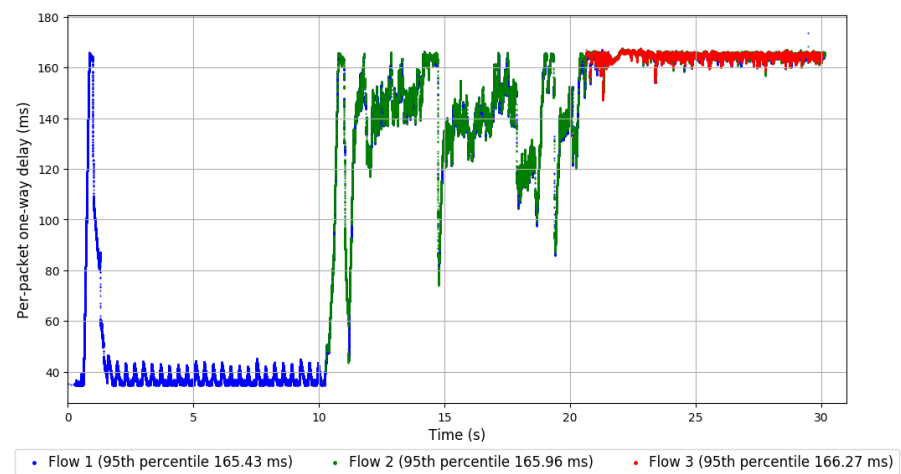
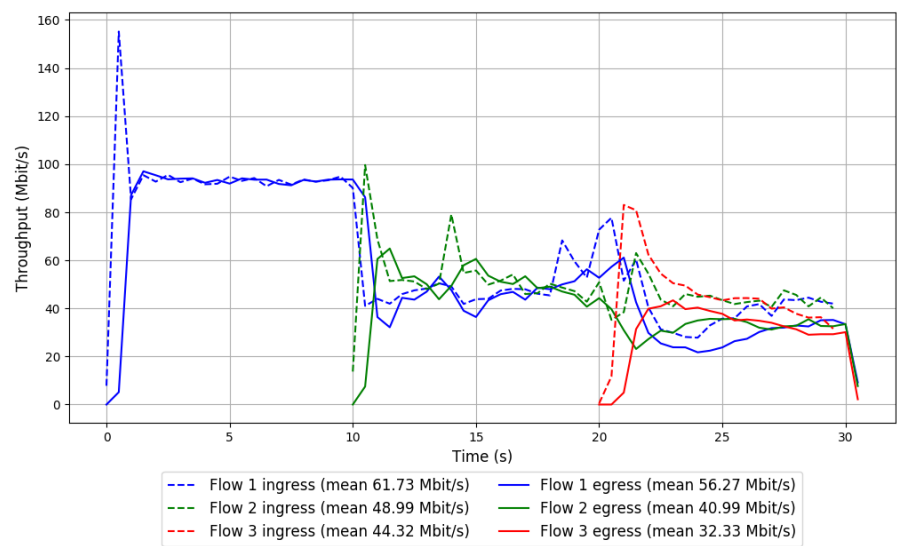


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-11 03:59:05
End at: 2018-09-11 03:59:35
Local clock offset: -0.57 ms
Remote clock offset: 89.483 ms

Below is generated by plot.py at 2018-09-11 04:39:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.26 Mbit/s
95th percentile per-packet one-way delay: 165.784 ms
Loss rate: 13.20%
-- Flow 1:
Average throughput: 56.27 Mbit/s
95th percentile per-packet one-way delay: 165.426 ms
Loss rate: 8.45%
-- Flow 2:
Average throughput: 40.99 Mbit/s
95th percentile per-packet one-way delay: 165.961 ms
Loss rate: 15.78%
-- Flow 3:
Average throughput: 32.33 Mbit/s
95th percentile per-packet one-way delay: 166.270 ms
Loss rate: 27.38%

Run 4: Report of FillP-Sheep — Data Link

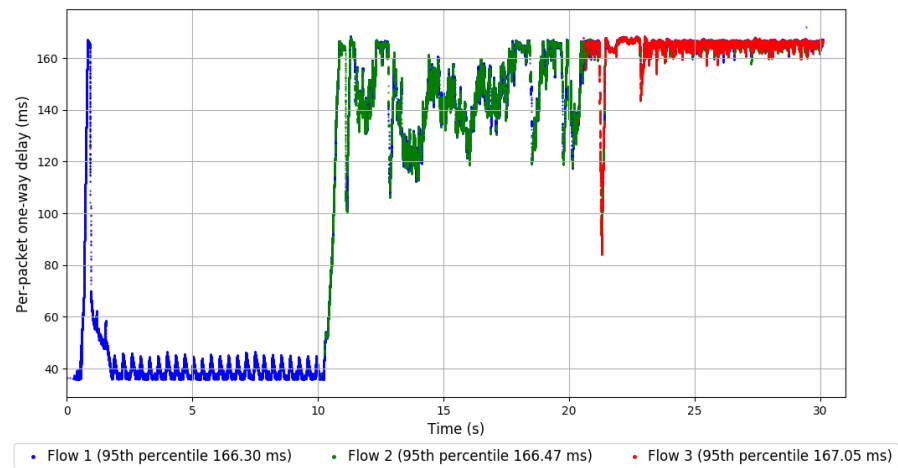
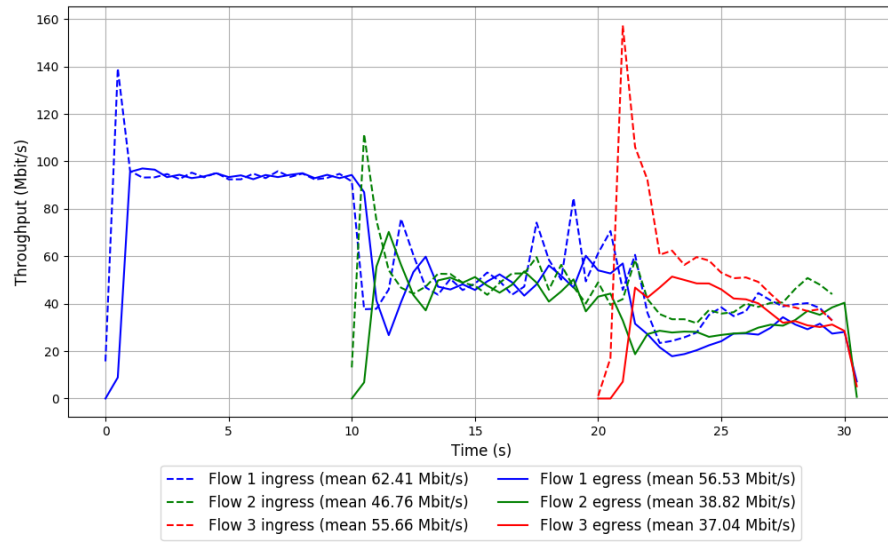


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 04:22:08
End at: 2018-09-11 04:22:38
Local clock offset: 7.419 ms
Remote clock offset: 109.273 ms

Below is generated by plot.py at 2018-09-11 04:39:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.58 Mbit/s
95th percentile per-packet one-way delay: 166.495 ms
Loss rate: 15.16%
-- Flow 1:
Average throughput: 56.53 Mbit/s
95th percentile per-packet one-way delay: 166.304 ms
Loss rate: 9.02%
-- Flow 2:
Average throughput: 38.82 Mbit/s
95th percentile per-packet one-way delay: 166.466 ms
Loss rate: 16.85%
-- Flow 3:
Average throughput: 37.04 Mbit/s
95th percentile per-packet one-way delay: 167.047 ms
Loss rate: 33.13%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-09-11 02:51:18

End at: 2018-09-11 02:51:48

Local clock offset: 1.097 ms

Remote clock offset: 8.055 ms

Below is generated by plot.py at 2018-09-11 04:39:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.96 Mbit/s

95th percentile per-packet one-way delay: 51.677 ms

Loss rate: 19.40%

-- Flow 1:

Average throughput: 53.32 Mbit/s

95th percentile per-packet one-way delay: 48.855 ms

Loss rate: 16.39%

-- Flow 2:

Average throughput: 22.13 Mbit/s

95th percentile per-packet one-way delay: 53.820 ms

Loss rate: 23.78%

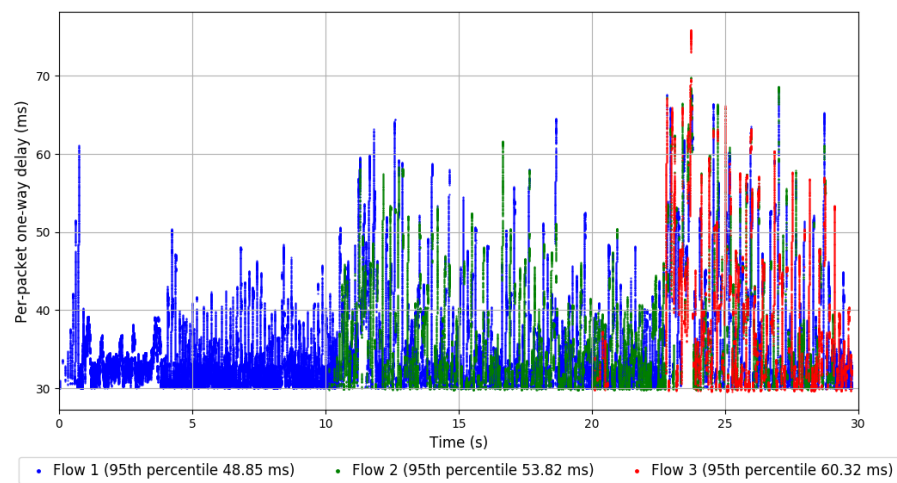
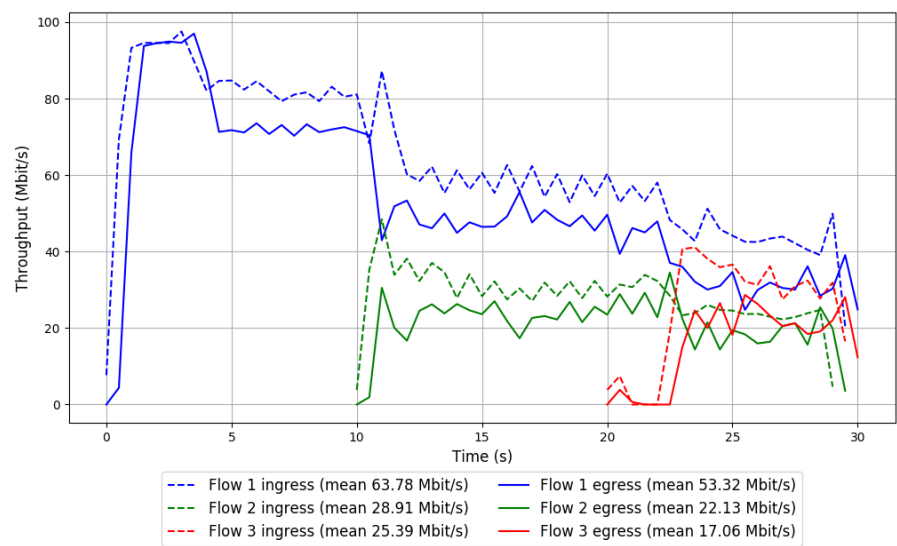
-- Flow 3:

Average throughput: 17.06 Mbit/s

95th percentile per-packet one-way delay: 60.324 ms

Loss rate: 32.80%

Run 1: Report of Indigo — Data Link

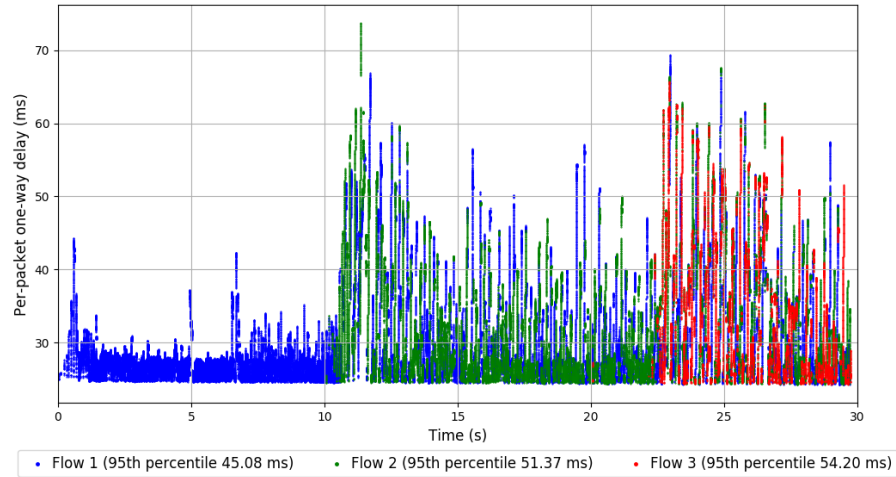
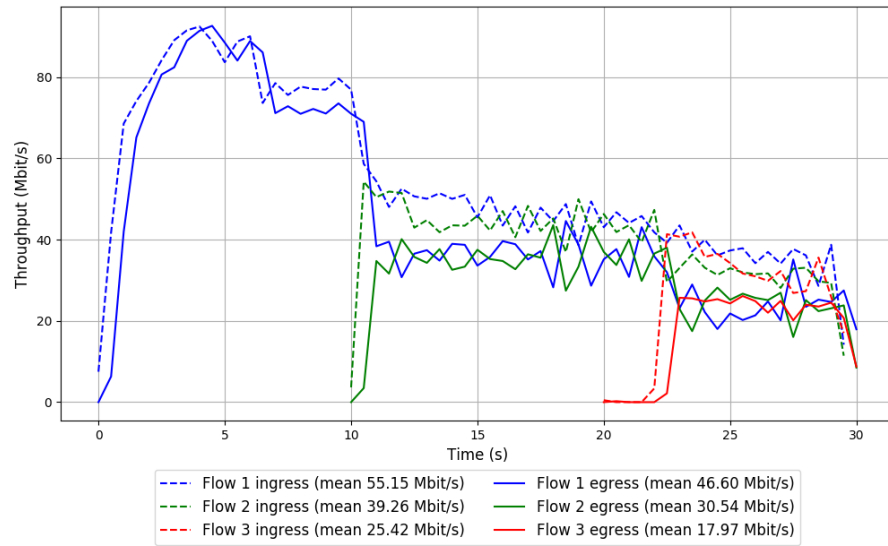


Run 2: Statistics of Indigo

Start at: 2018-09-11 03:14:30
End at: 2018-09-11 03:15:00
Local clock offset: 6.321 ms
Remote clock offset: 30.887 ms

Below is generated by plot.py at 2018-09-11 04:39:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 72.57 Mbit/s
95th percentile per-packet one-way delay: 48.328 ms
Loss rate: 18.72%
-- Flow 1:
Average throughput: 46.60 Mbit/s
95th percentile per-packet one-way delay: 45.077 ms
Loss rate: 15.50%
-- Flow 2:
Average throughput: 30.54 Mbit/s
95th percentile per-packet one-way delay: 51.373 ms
Loss rate: 22.18%
-- Flow 3:
Average throughput: 17.97 Mbit/s
95th percentile per-packet one-way delay: 54.198 ms
Loss rate: 29.31%

Run 2: Report of Indigo — Data Link

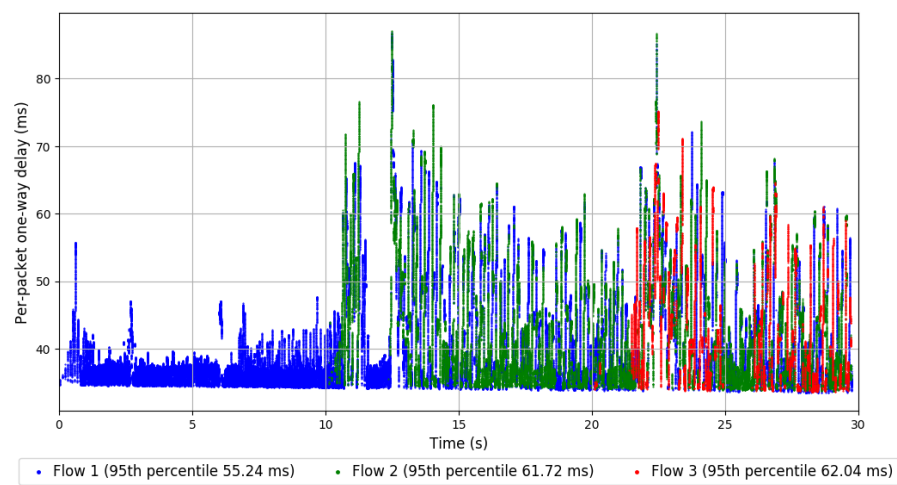
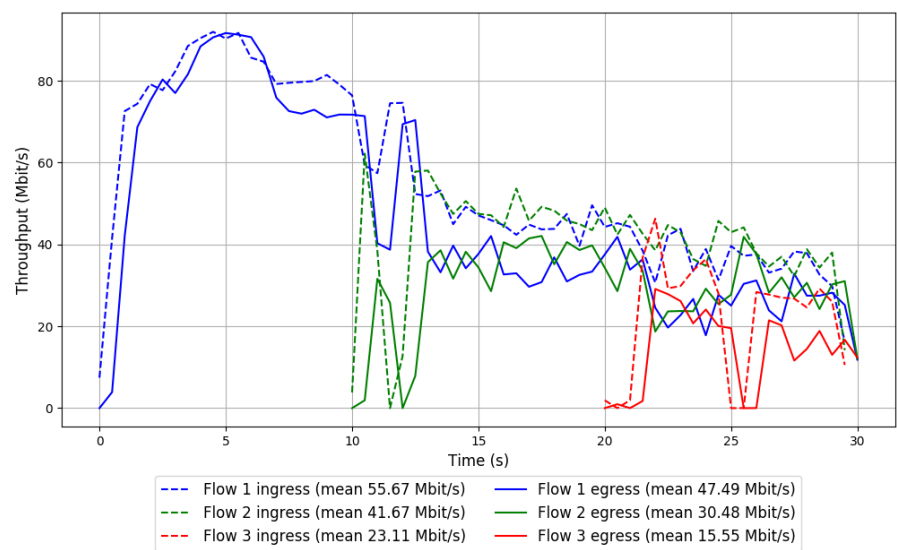


Run 3: Statistics of Indigo

Start at: 2018-09-11 03:37:29
End at: 2018-09-11 03:37:59
Local clock offset: 2.348 ms
Remote clock offset: 62.028 ms

Below is generated by plot.py at 2018-09-11 04:39:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 72.61 Mbit/s
95th percentile per-packet one-way delay: 58.485 ms
Loss rate: 19.86%
-- Flow 1:
Average throughput: 47.49 Mbit/s
95th percentile per-packet one-way delay: 55.245 ms
Loss rate: 14.68%
-- Flow 2:
Average throughput: 30.48 Mbit/s
95th percentile per-packet one-way delay: 61.719 ms
Loss rate: 26.85%
-- Flow 3:
Average throughput: 15.55 Mbit/s
95th percentile per-packet one-way delay: 62.040 ms
Loss rate: 32.71%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-11 04:00:27

End at: 2018-09-11 04:00:57

Local clock offset: 0.761 ms

Remote clock offset: 91.55 ms

Below is generated by plot.py at 2018-09-11 04:39:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 72.71 Mbit/s

95th percentile per-packet one-way delay: 59.669 ms

Loss rate: 18.68%

-- Flow 1:

Average throughput: 49.13 Mbit/s

95th percentile per-packet one-way delay: 56.925 ms

Loss rate: 12.07%

-- Flow 2:

Average throughput: 23.59 Mbit/s

95th percentile per-packet one-way delay: 64.767 ms

Loss rate: 30.30%

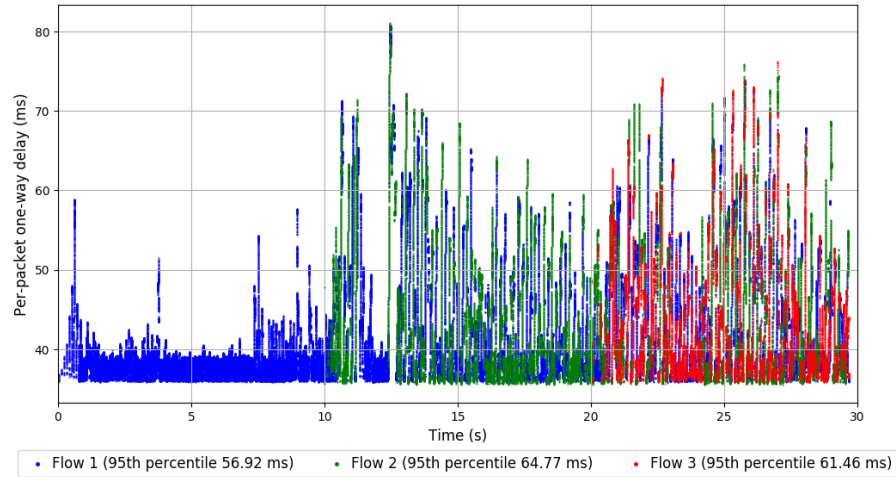
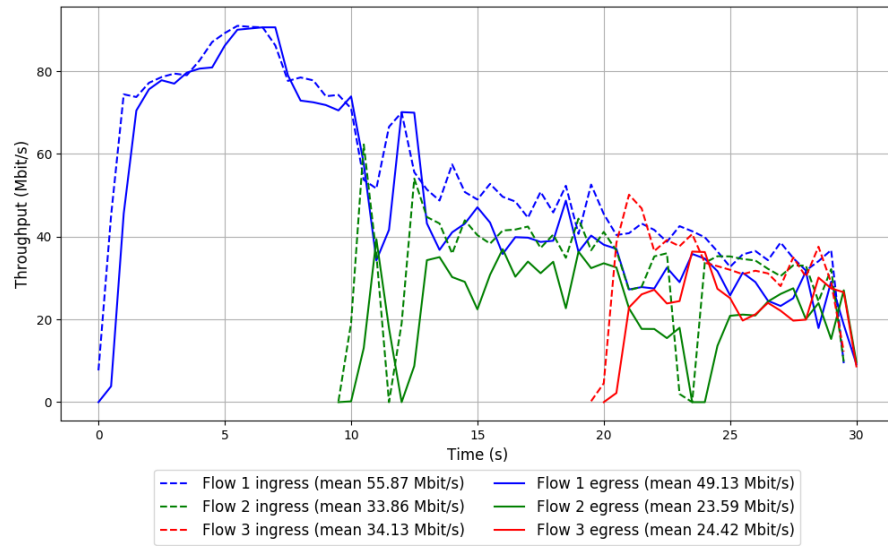
-- Flow 3:

Average throughput: 24.42 Mbit/s

95th percentile per-packet one-way delay: 61.458 ms

Loss rate: 28.45%

Run 4: Report of Indigo — Data Link

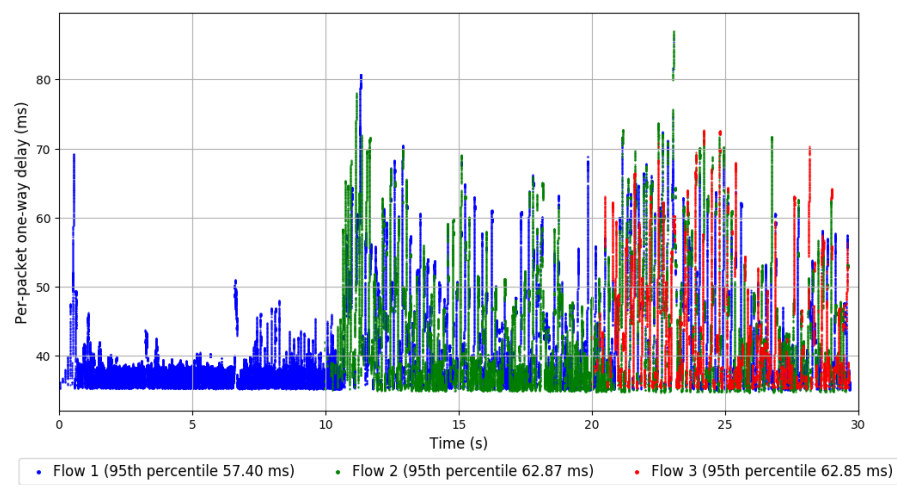
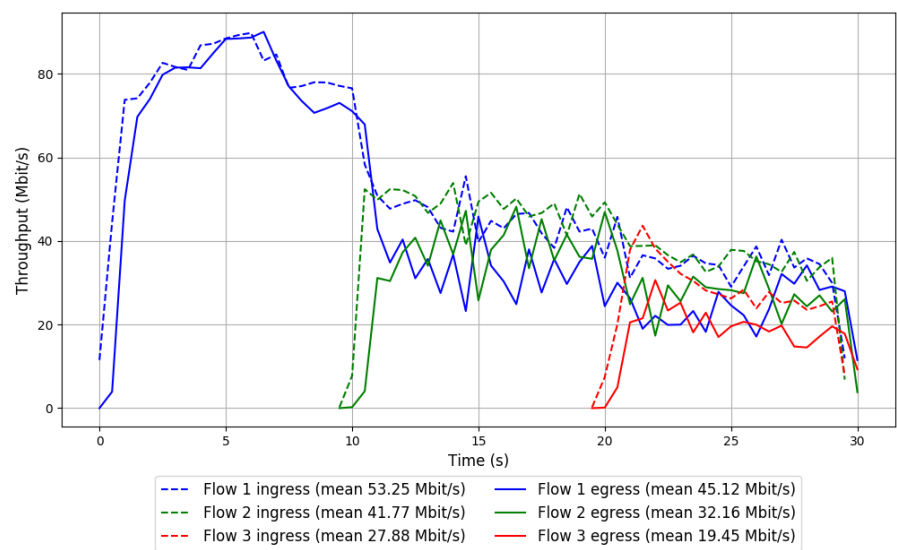


Run 5: Statistics of Indigo

Start at: 2018-09-11 04:23:28
End at: 2018-09-11 04:23:58
Local clock offset: 7.697 ms
Remote clock offset: 109.583 ms

Below is generated by plot.py at 2018-09-11 04:39:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 72.75 Mbit/s
95th percentile per-packet one-way delay: 60.120 ms
Loss rate: 19.17%
-- Flow 1:
Average throughput: 45.12 Mbit/s
95th percentile per-packet one-way delay: 57.404 ms
Loss rate: 15.27%
-- Flow 2:
Average throughput: 32.16 Mbit/s
95th percentile per-packet one-way delay: 62.872 ms
Loss rate: 23.02%
-- Flow 3:
Average throughput: 19.45 Mbit/s
95th percentile per-packet one-way delay: 62.852 ms
Loss rate: 30.25%

Run 5: Report of Indigo — Data Link

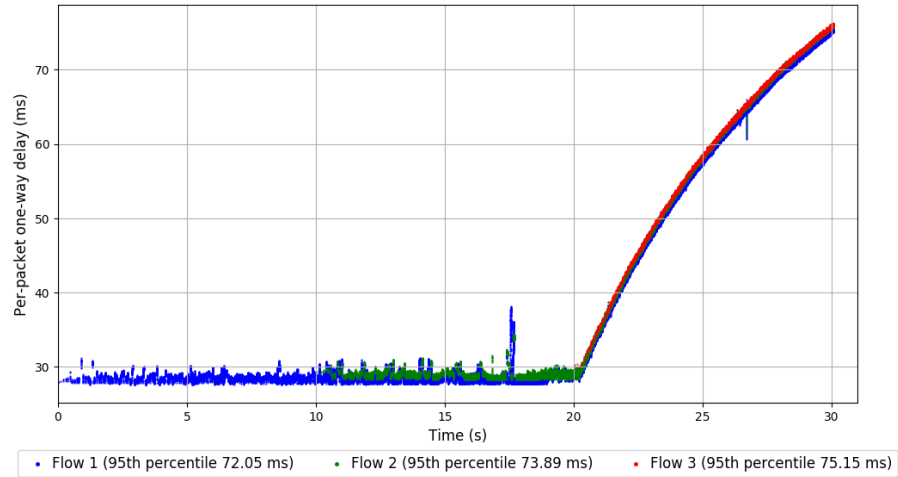
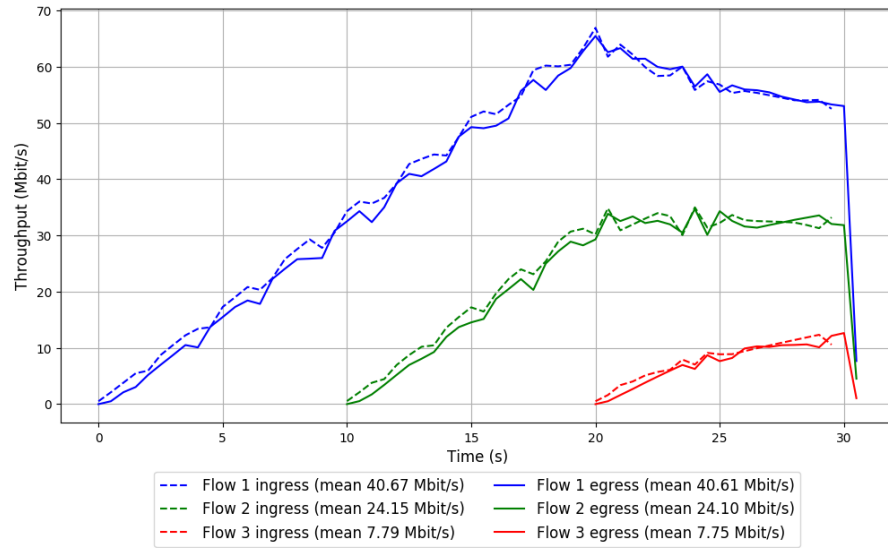


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-11 03:00:14
End at: 2018-09-11 03:00:44
Local clock offset: 1.688 ms
Remote clock offset: 6.511 ms

# Below is generated by plot.py at 2018-09-11 04:39:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.25 Mbit/s
95th percentile per-packet one-way delay: 73.060 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.61 Mbit/s
95th percentile per-packet one-way delay: 72.054 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.10 Mbit/s
95th percentile per-packet one-way delay: 73.891 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 75.154 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

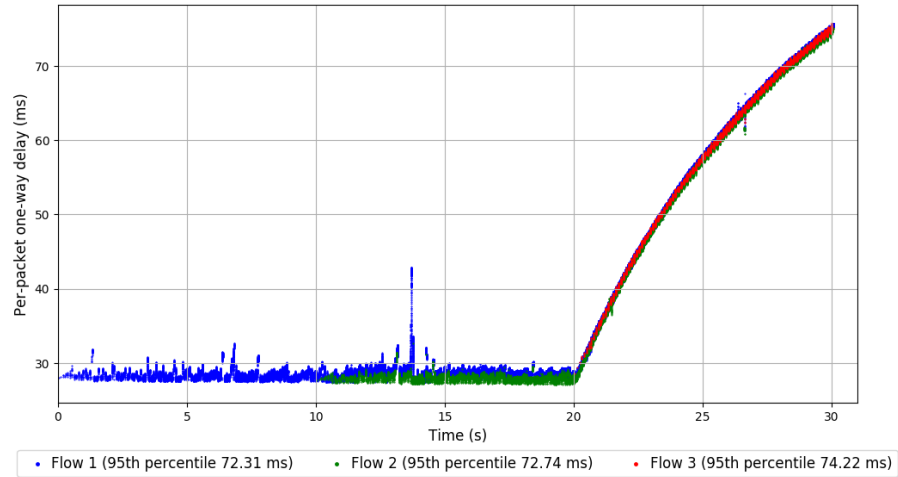
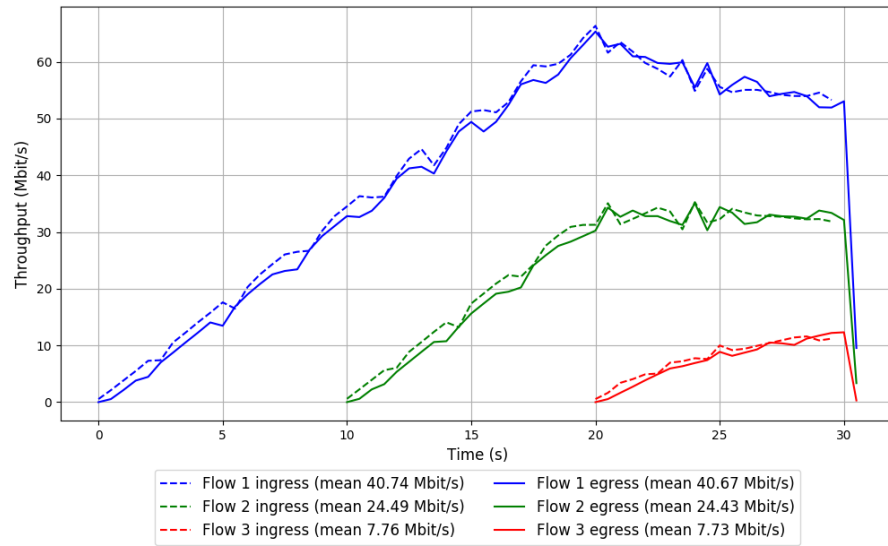


Run 2: Statistics of LEDBAT

Start at: 2018-09-11 03:23:24
End at: 2018-09-11 03:23:54
Local clock offset: 7.206 ms
Remote clock offset: 42.568 ms

Below is generated by plot.py at 2018-09-11 04:39:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 59.52 Mbit/s
95th percentile per-packet one-way delay: 72.675 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.67 Mbit/s
95th percentile per-packet one-way delay: 72.306 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.43 Mbit/s
95th percentile per-packet one-way delay: 72.740 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 74.225 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

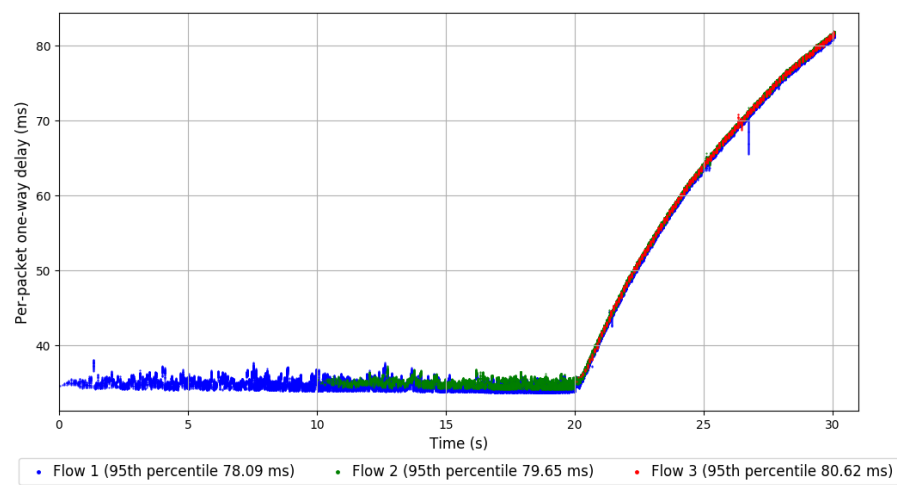
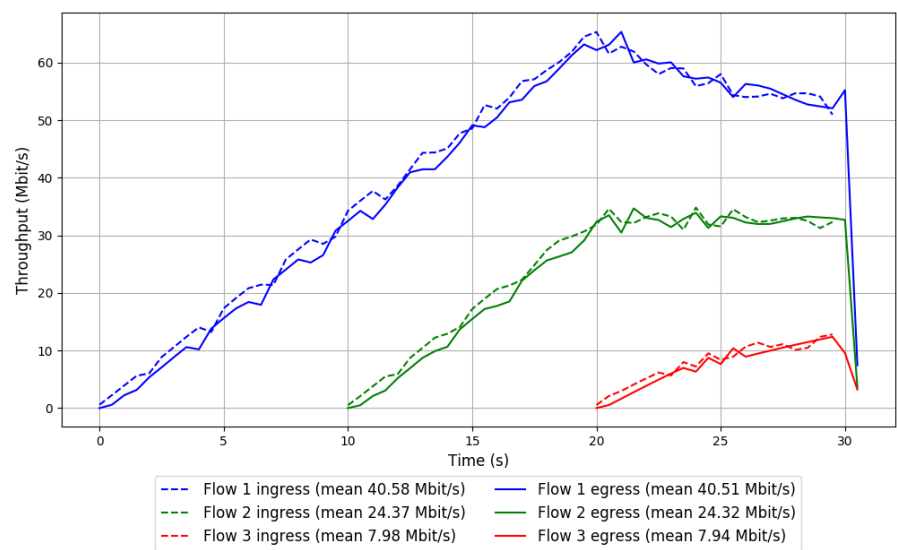


Run 3: Statistics of LEDBAT

Start at: 2018-09-11 03:46:18
End at: 2018-09-11 03:46:48
Local clock offset: 0.47 ms
Remote clock offset: 76.632 ms

Below is generated by plot.py at 2018-09-11 04:39:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 59.36 Mbit/s
95th percentile per-packet one-way delay: 78.827 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.51 Mbit/s
95th percentile per-packet one-way delay: 78.090 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.32 Mbit/s
95th percentile per-packet one-way delay: 79.652 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 80.617 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

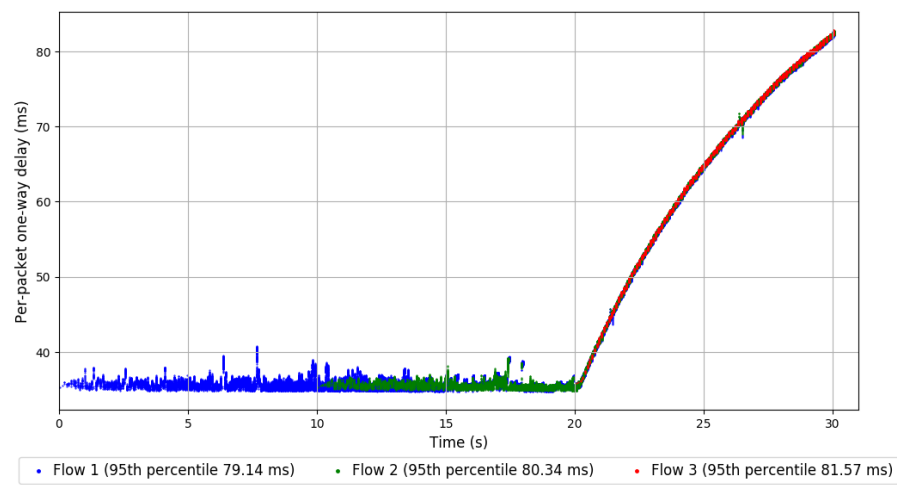
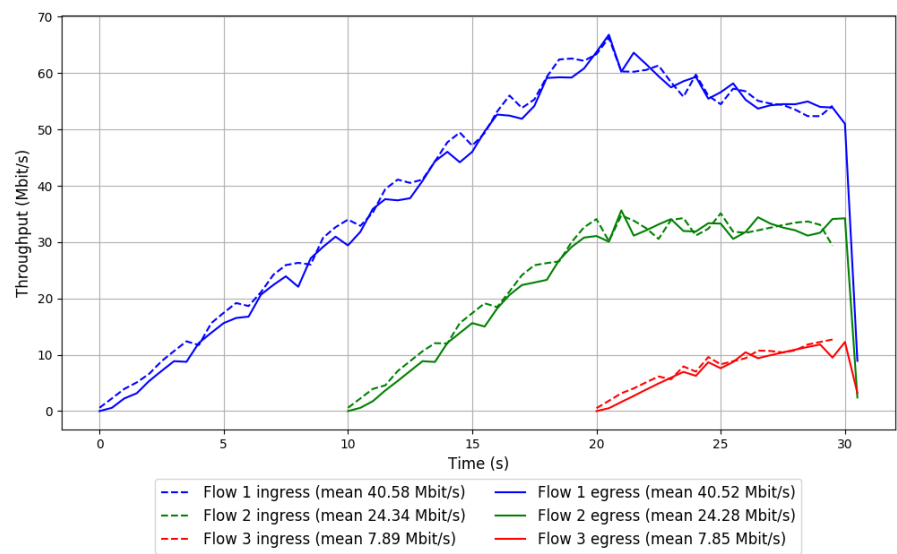


Run 4: Statistics of LEDBAT

Start at: 2018-09-11 04:09:23
End at: 2018-09-11 04:09:53
Local clock offset: 5.132 ms
Remote clock offset: 97.993 ms

```
# Below is generated by plot.py at 2018-09-11 04:39:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.31 Mbit/s
95th percentile per-packet one-way delay: 79.817 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.52 Mbit/s
95th percentile per-packet one-way delay: 79.143 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 80.337 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 81.574 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

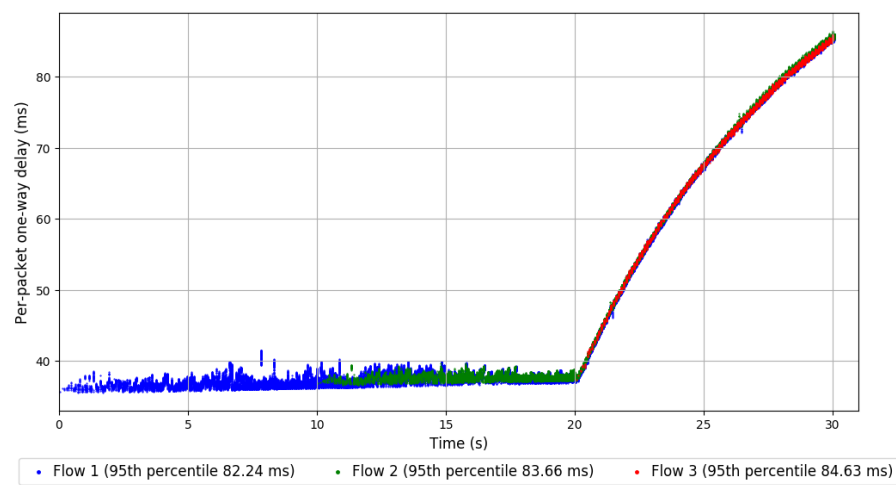
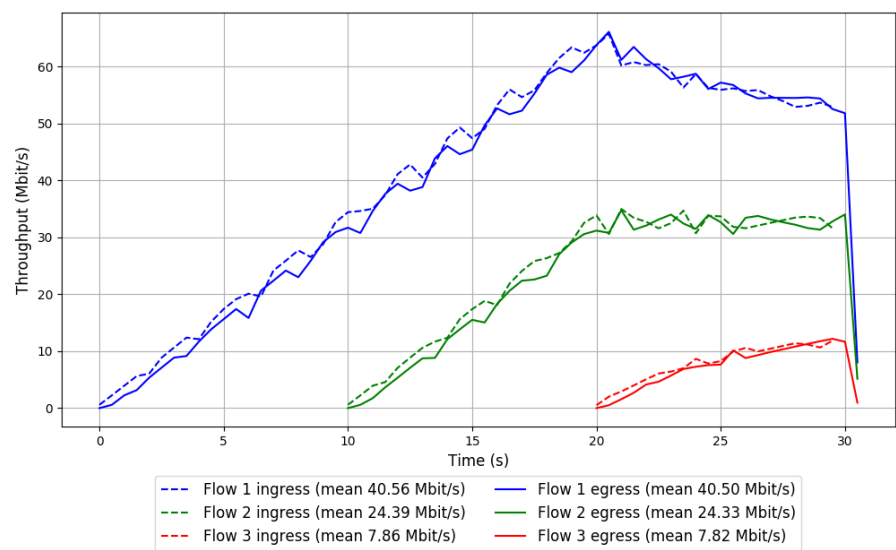


Run 5: Statistics of LEDBAT

Start at: 2018-09-11 04:32:20
End at: 2018-09-11 04:32:50
Local clock offset: 6.321 ms
Remote clock offset: 64.072 ms

Below is generated by plot.py at 2018-09-11 04:40:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 59.29 Mbit/s
95th percentile per-packet one-way delay: 82.985 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 82.237 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 24.33 Mbit/s
95th percentile per-packet one-way delay: 83.659 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.82 Mbit/s
95th percentile per-packet one-way delay: 84.626 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

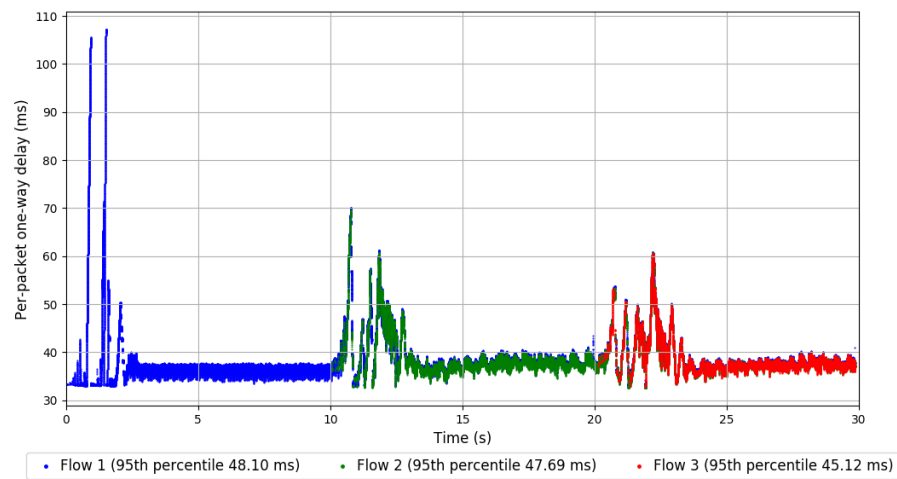
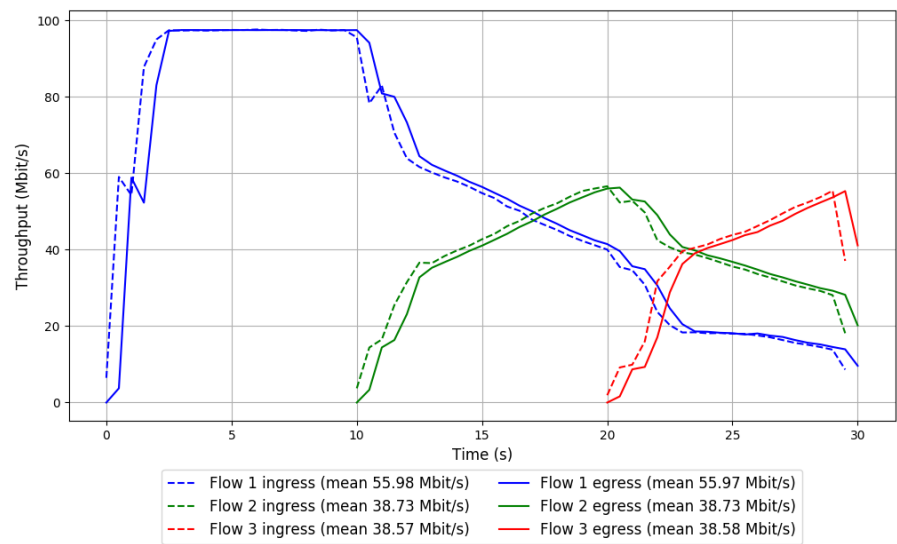


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-11 02:42:16
End at: 2018-09-11 02:42:46
Local clock offset: 2.331 ms
Remote clock offset: 10.541 ms

# Below is generated by plot.py at 2018-09-11 04:40:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.25 Mbit/s
95th percentile per-packet one-way delay: 47.568 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.97 Mbit/s
95th percentile per-packet one-way delay: 48.101 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.73 Mbit/s
95th percentile per-packet one-way delay: 47.685 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.58 Mbit/s
95th percentile per-packet one-way delay: 45.121 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

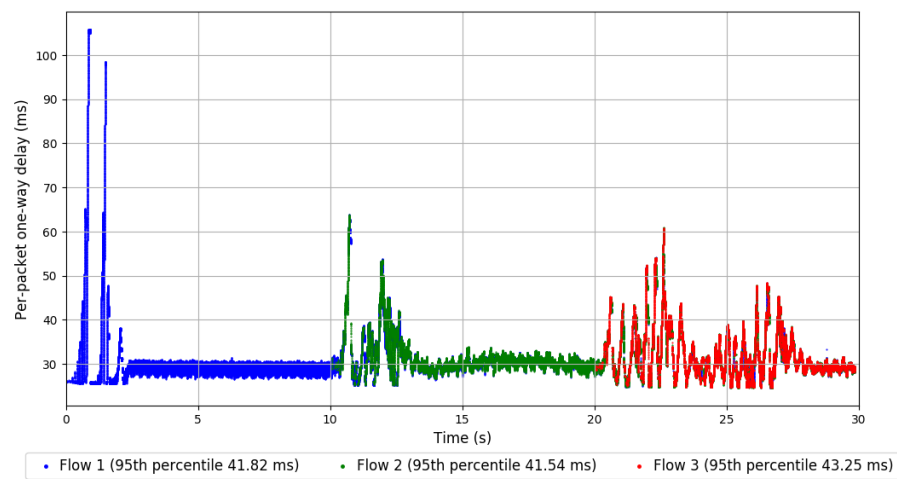
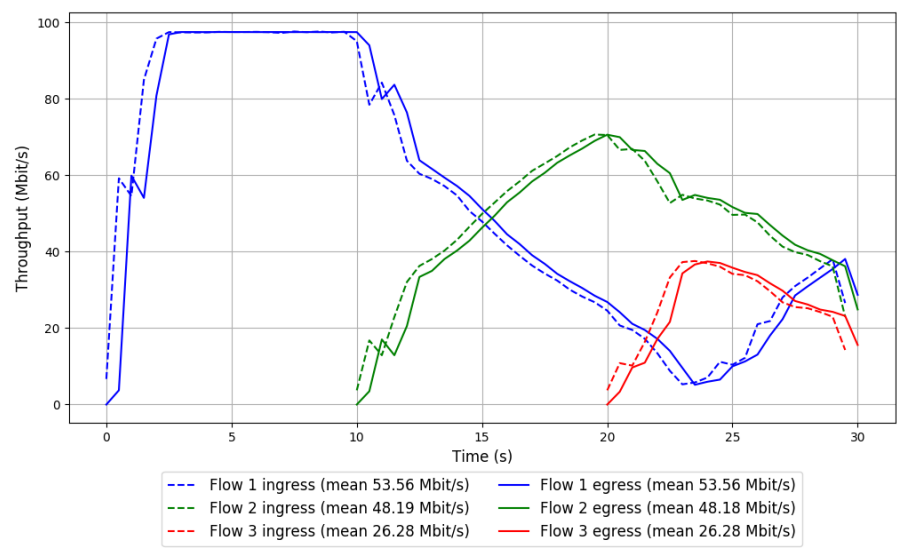


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-11 03:05:24
End at: 2018-09-11 03:05:54
Local clock offset: 4.352 ms
Remote clock offset: 16.047 ms

Below is generated by plot.py at 2018-09-11 04:40:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 41.936 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.56 Mbit/s
95th percentile per-packet one-way delay: 41.819 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.18 Mbit/s
95th percentile per-packet one-way delay: 41.536 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.28 Mbit/s
95th percentile per-packet one-way delay: 43.250 ms
Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link

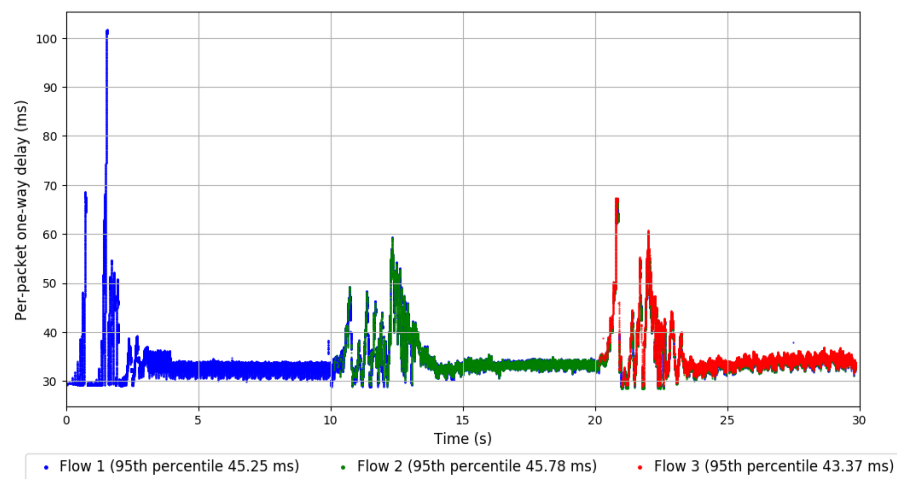
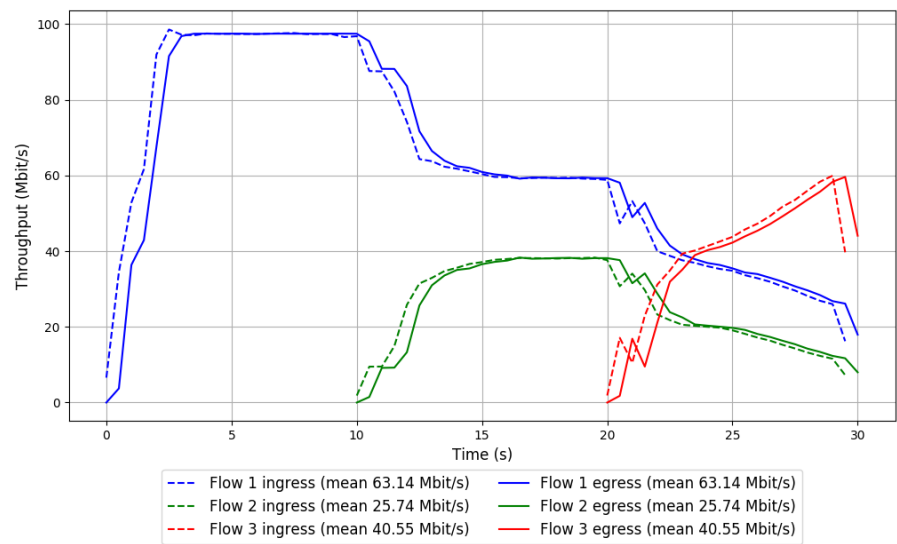


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-11 03:28:30
End at: 2018-09-11 03:29:00
Local clock offset: 7.667 ms
Remote clock offset: 48.6 ms

```
# Below is generated by plot.py at 2018-09-11 04:40:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.35 Mbit/s
95th percentile per-packet one-way delay: 45.058 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.14 Mbit/s
95th percentile per-packet one-way delay: 45.252 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 25.74 Mbit/s
95th percentile per-packet one-way delay: 45.782 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.55 Mbit/s
95th percentile per-packet one-way delay: 43.368 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-Muses — Data Link

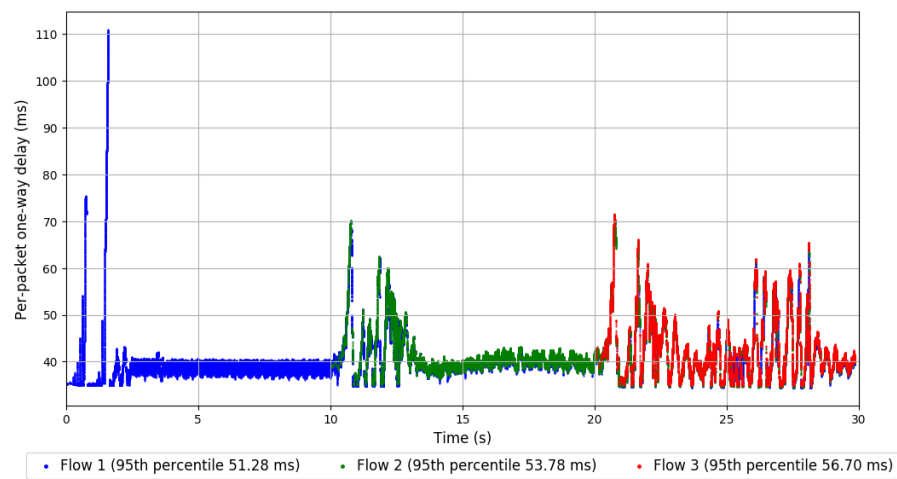
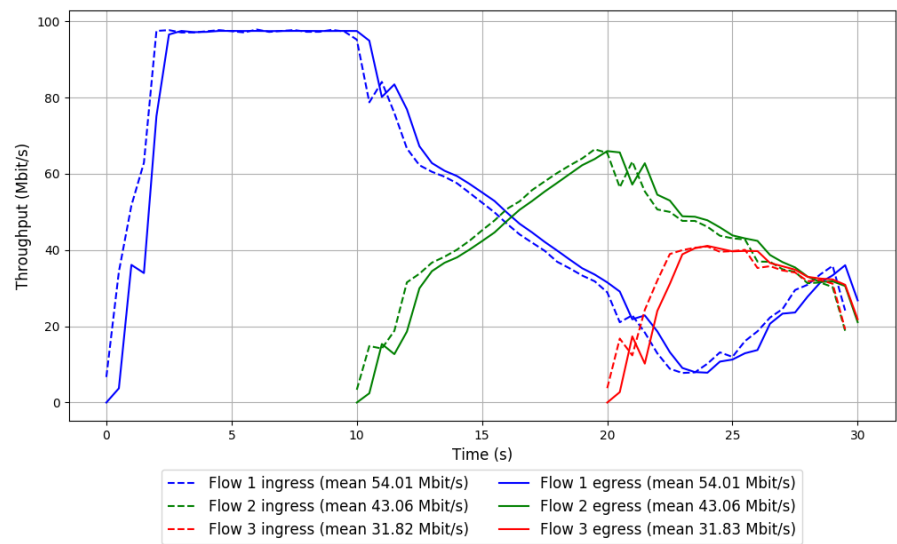


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-11 03:51:25
End at: 2018-09-11 03:51:55
Local clock offset: -0.434 ms
Remote clock offset: 83.049 ms

Below is generated by plot.py at 2018-09-11 04:40:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.02 Mbit/s
95th percentile per-packet one-way delay: 53.405 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.01 Mbit/s
95th percentile per-packet one-way delay: 51.279 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.06 Mbit/s
95th percentile per-packet one-way delay: 53.778 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.83 Mbit/s
95th percentile per-packet one-way delay: 56.703 ms
Loss rate: 0.00%

Run 4: Report of Indigo-Muses — Data Link

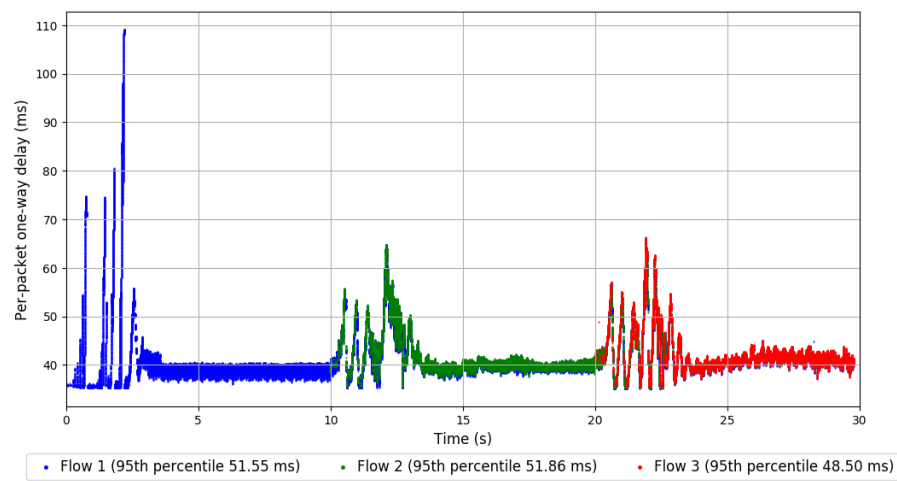
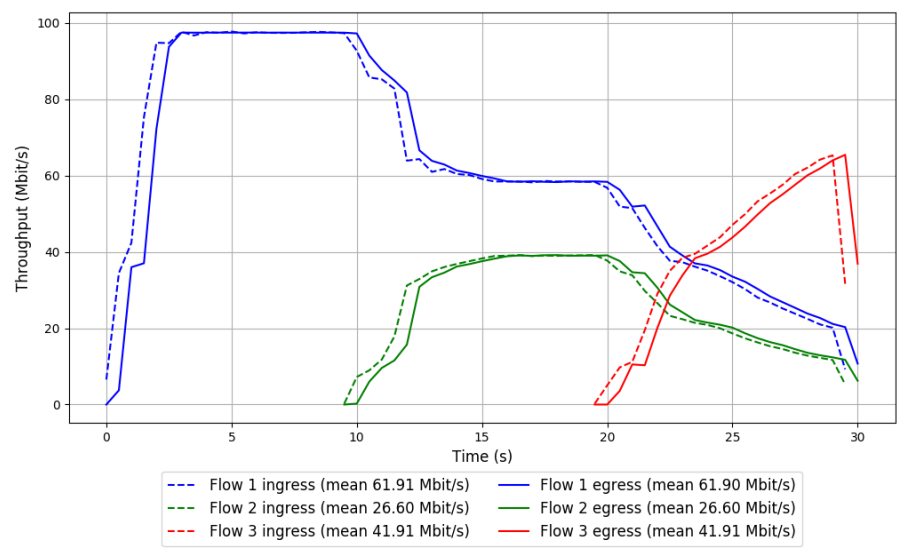


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-11 04:14:33
End at: 2018-09-11 04:15:03
Local clock offset: 6.451 ms
Remote clock offset: 102.935 ms

Below is generated by plot.py at 2018-09-11 04:41:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.39 Mbit/s
95th percentile per-packet one-way delay: 51.295 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.90 Mbit/s
95th percentile per-packet one-way delay: 51.555 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.60 Mbit/s
95th percentile per-packet one-way delay: 51.859 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.91 Mbit/s
95th percentile per-packet one-way delay: 48.503 ms
Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link

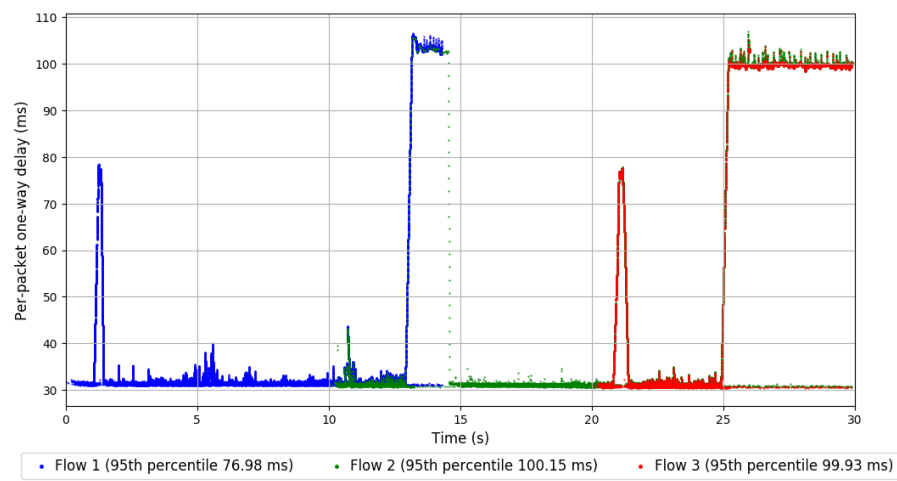
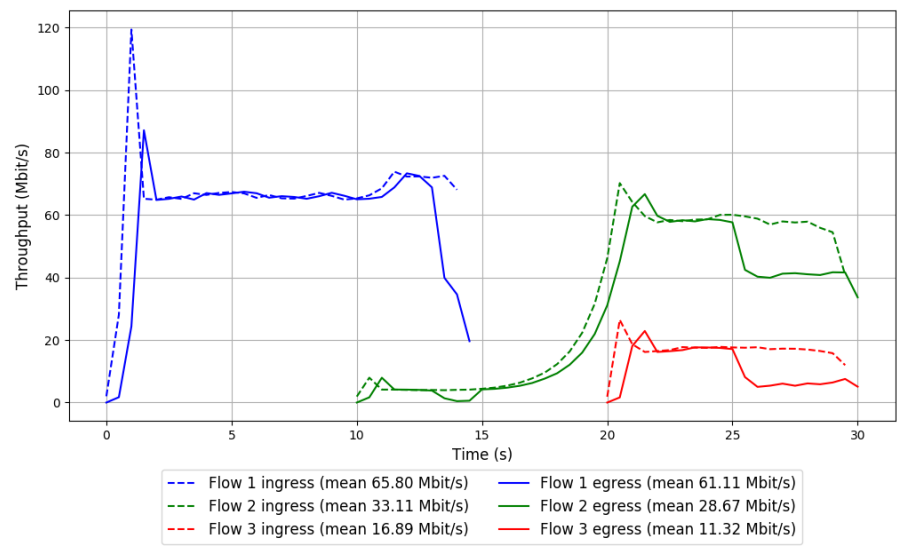



```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-11 02:41:02
End at: 2018-09-11 02:41:32
Local clock offset: 2.379 ms
Remote clock offset: 8.303 ms

# Below is generated by plot.py at 2018-09-11 04:41:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.01 Mbit/s
95th percentile per-packet one-way delay: 100.069 ms
Loss rate: 12.53%
-- Flow 1:
Average throughput: 61.11 Mbit/s
95th percentile per-packet one-way delay: 76.979 ms
Loss rate: 8.35%
-- Flow 2:
Average throughput: 28.67 Mbit/s
95th percentile per-packet one-way delay: 100.146 ms
Loss rate: 13.41%
-- Flow 3:
Average throughput: 11.32 Mbit/s
95th percentile per-packet one-way delay: 99.929 ms
Loss rate: 33.00%
```

Run 1: Report of PCC-Allegro — Data Link

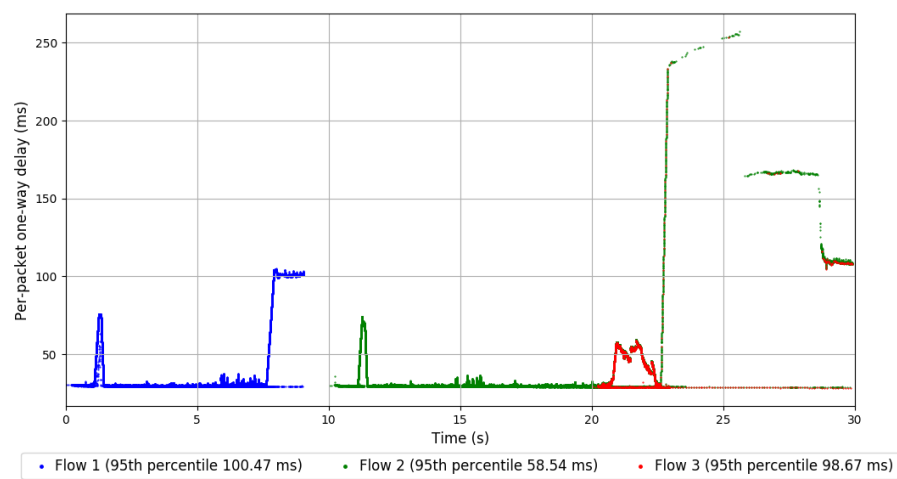
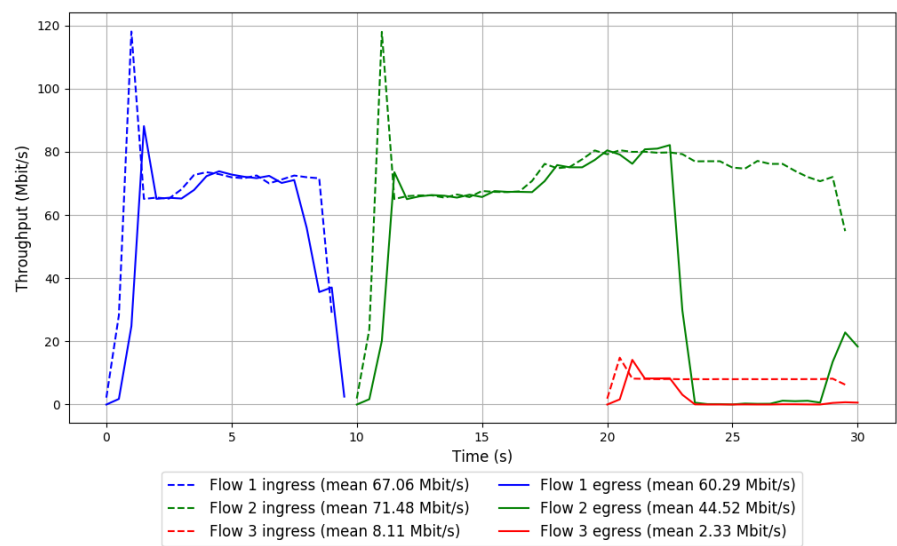


Run 2: Statistics of PCC-Allegro

Start at: 2018-09-11 03:04:07
End at: 2018-09-11 03:04:37
Local clock offset: 4.045 ms
Remote clock offset: 16.883 ms

Below is generated by plot.py at 2018-09-11 04:41:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 48.55 Mbit/s
95th percentile per-packet one-way delay: 98.929 ms
Loss rate: 31.50%
-- Flow 1:
Average throughput: 60.29 Mbit/s
95th percentile per-packet one-way delay: 100.468 ms
Loss rate: 12.00%
-- Flow 2:
Average throughput: 44.52 Mbit/s
95th percentile per-packet one-way delay: 58.540 ms
Loss rate: 37.72%
-- Flow 3:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 98.671 ms
Loss rate: 71.34%

Run 2: Report of PCC-Allegro — Data Link

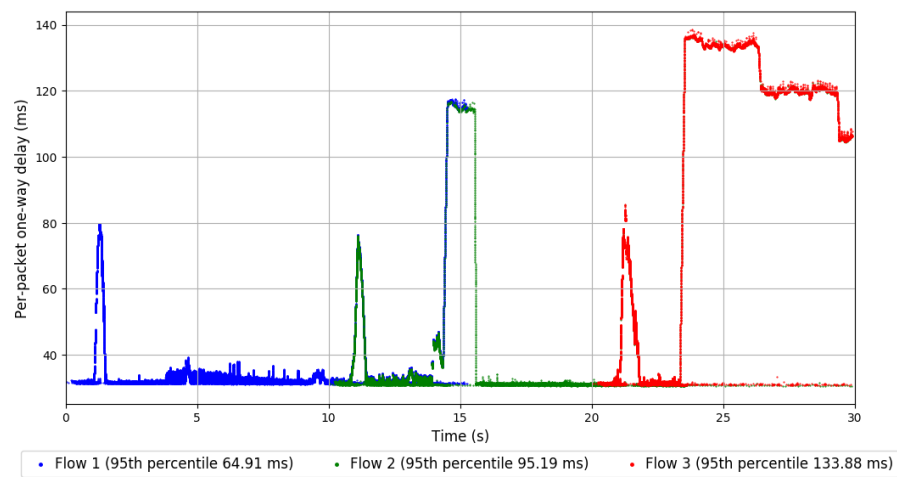
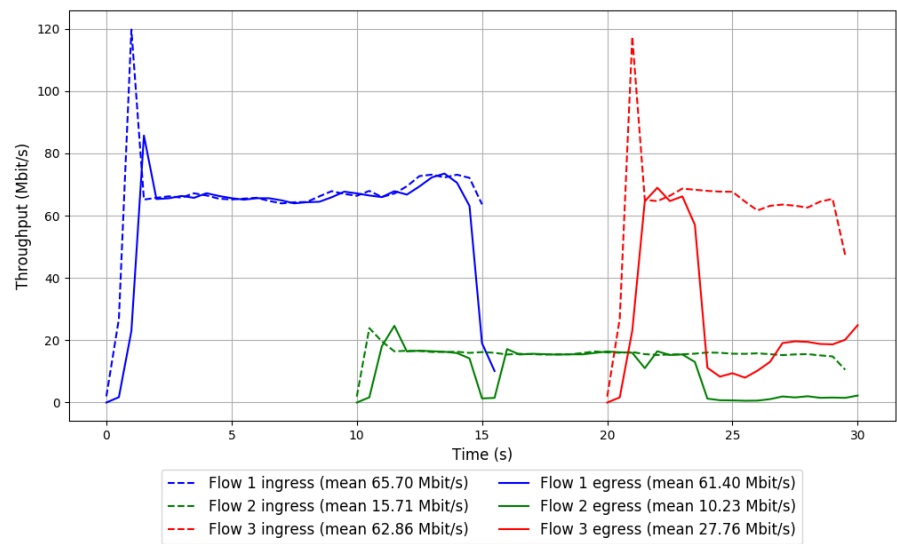


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-11 03:27:15
End at: 2018-09-11 03:27:45
Local clock offset: 7.575 ms
Remote clock offset: 49.178 ms

Below is generated by plot.py at 2018-09-11 04:41:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 47.28 Mbit/s
95th percentile per-packet one-way delay: 119.411 ms
Loss rate: 27.40%
-- Flow 1:
Average throughput: 61.40 Mbit/s
95th percentile per-packet one-way delay: 64.913 ms
Loss rate: 7.73%
-- Flow 2:
Average throughput: 10.23 Mbit/s
95th percentile per-packet one-way delay: 95.192 ms
Loss rate: 34.93%
-- Flow 3:
Average throughput: 27.76 Mbit/s
95th percentile per-packet one-way delay: 133.883 ms
Loss rate: 55.83%

Run 3: Report of PCC-Allegro — Data Link

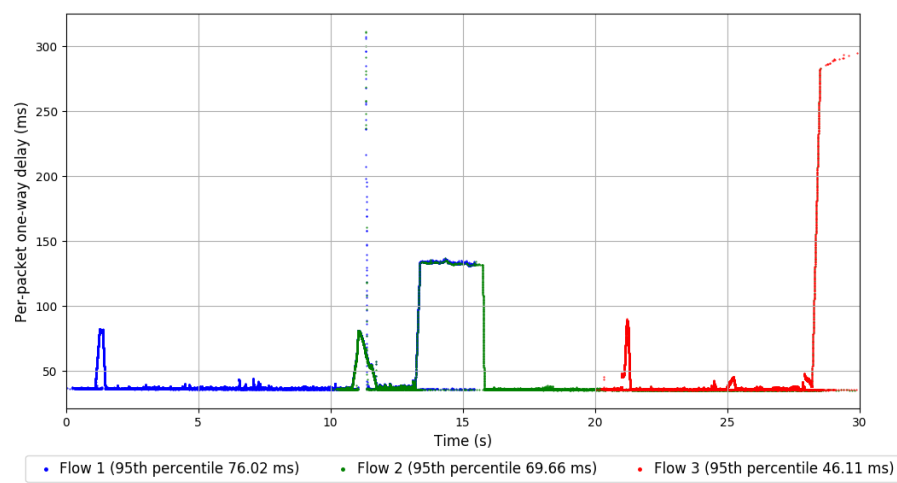
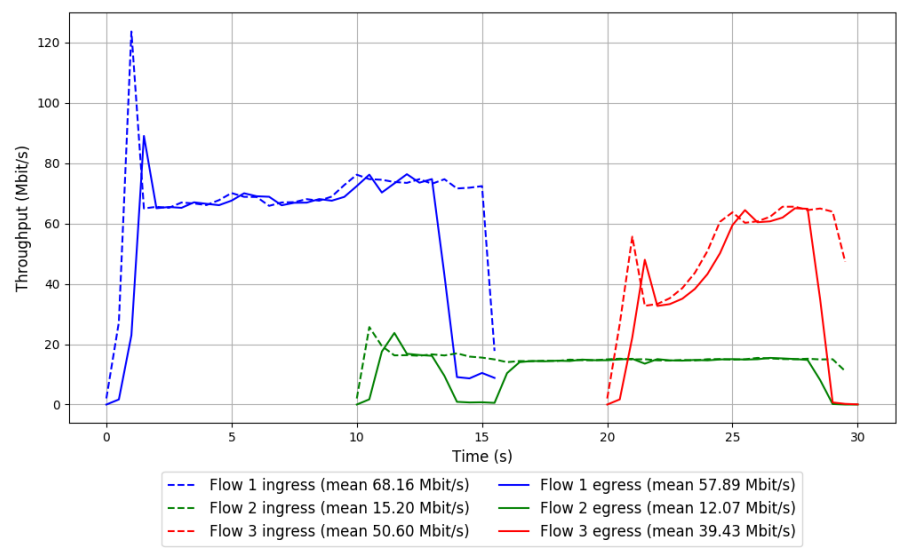


Run 4: Statistics of PCC-Allegro

Start at: 2018-09-11 03:50:10
End at: 2018-09-11 03:50:40
Local clock offset: -0.425 ms
Remote clock offset: 82.056 ms

Below is generated by plot.py at 2018-09-11 04:41:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 50.90 Mbit/s
95th percentile per-packet one-way delay: 70.155 ms
Loss rate: 18.53%
-- Flow 1:
Average throughput: 57.89 Mbit/s
95th percentile per-packet one-way delay: 76.021 ms
Loss rate: 16.17%
-- Flow 2:
Average throughput: 12.07 Mbit/s
95th percentile per-packet one-way delay: 69.658 ms
Loss rate: 20.97%
-- Flow 3:
Average throughput: 39.43 Mbit/s
95th percentile per-packet one-way delay: 46.109 ms
Loss rate: 22.10%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 04:13:16

End at: 2018-09-11 04:13:46

Local clock offset: 6.33 ms

Remote clock offset: 101.272 ms

Below is generated by plot.py at 2018-09-11 04:41:23

Datalink statistics

-- Total of 3 flows:

Average throughput: 52.76 Mbit/s

95th percentile per-packet one-way delay: 105.799 ms

Loss rate: 16.66%

-- Flow 1:

Average throughput: 59.87 Mbit/s

95th percentile per-packet one-way delay: 105.070 ms

Loss rate: 11.37%

-- Flow 2:

Average throughput: 52.30 Mbit/s

95th percentile per-packet one-way delay: 107.092 ms

Loss rate: 18.19%

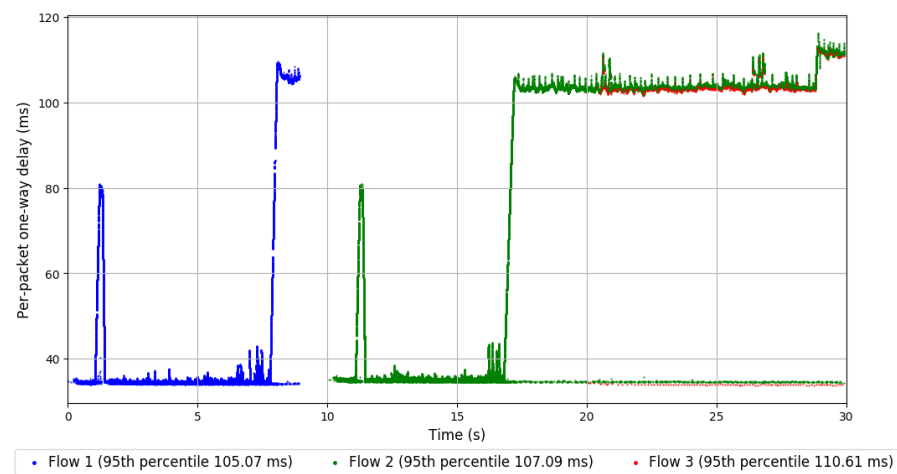
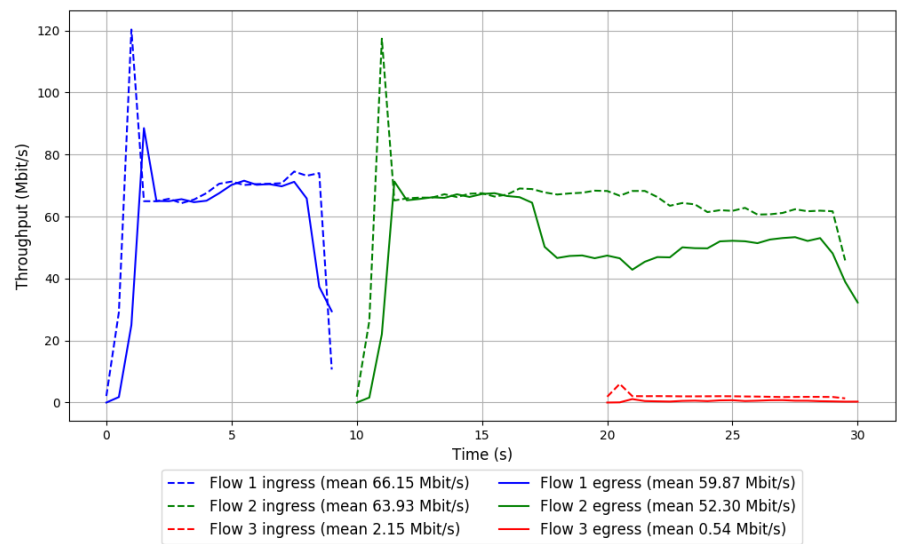
-- Flow 3:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 110.606 ms

Loss rate: 75.01%

Run 5: Report of PCC-Allegro — Data Link

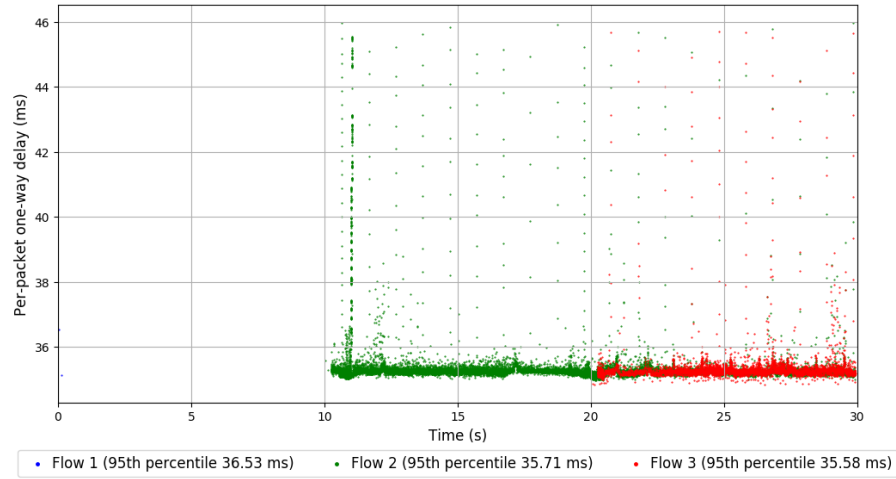
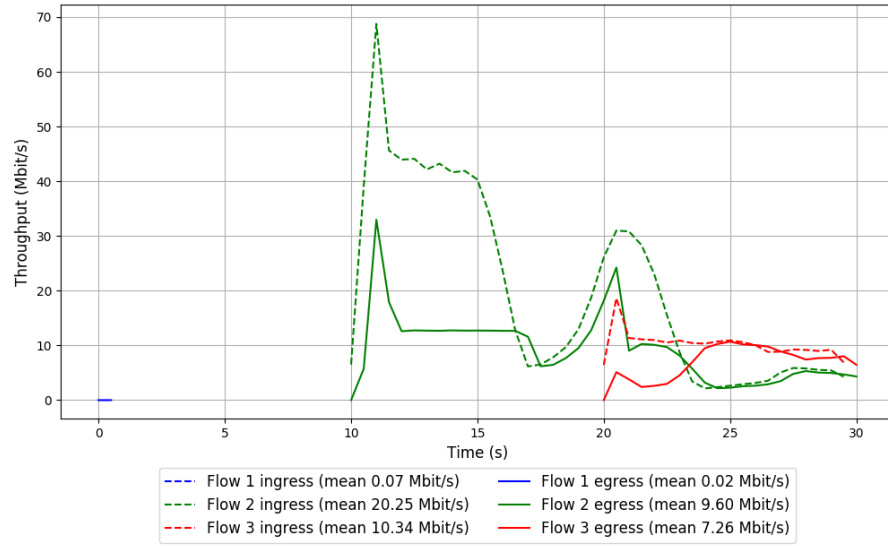


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-11 02:43:34
End at: 2018-09-11 02:44:04
Local clock offset: 1.931 ms
Remote clock offset: 12.485 ms

# Below is generated by plot.py at 2018-09-11 04:41:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.78 Mbit/s
95th percentile per-packet one-way delay: 35.650 ms
Loss rate: 47.99%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 36.534 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 35.713 ms
Loss rate: 52.60%
-- Flow 3:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 35.580 ms
Loss rate: 29.79%
```

Run 1: Report of PCC-Expr — Data Link

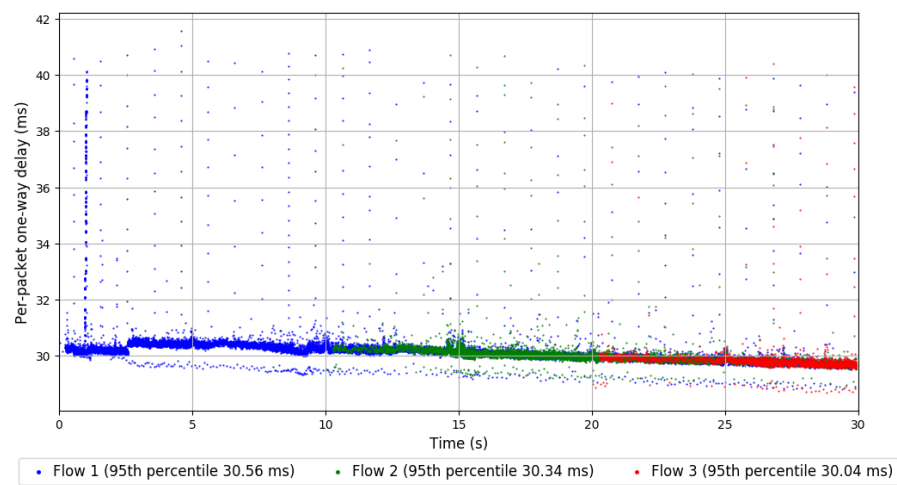
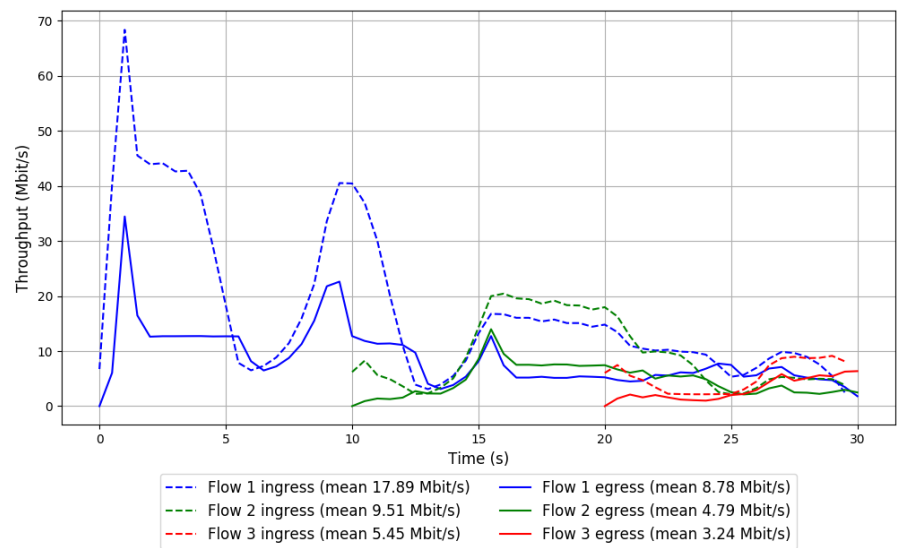


Run 2: Statistics of PCC-Expr

Start at: 2018-09-11 03:06:46
End at: 2018-09-11 03:07:16
Local clock offset: 4.564 ms
Remote clock offset: 23.151 ms

Below is generated by plot.py at 2018-09-11 04:41:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 30.523 ms
Loss rate: 49.87%
-- Flow 1:
Average throughput: 8.78 Mbit/s
95th percentile per-packet one-way delay: 30.561 ms
Loss rate: 50.91%
-- Flow 2:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 30.336 ms
Loss rate: 49.56%
-- Flow 3:
Average throughput: 3.24 Mbit/s
95th percentile per-packet one-way delay: 30.035 ms
Loss rate: 40.59%

Run 2: Report of PCC-Expr — Data Link

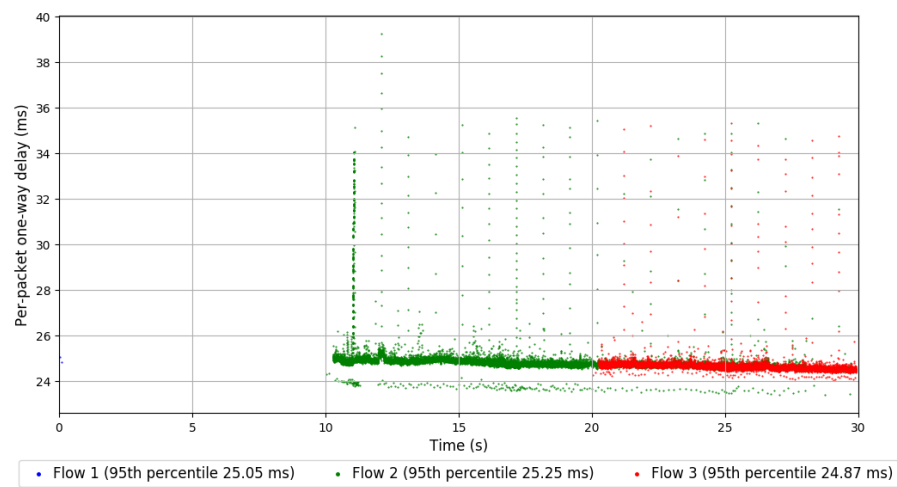
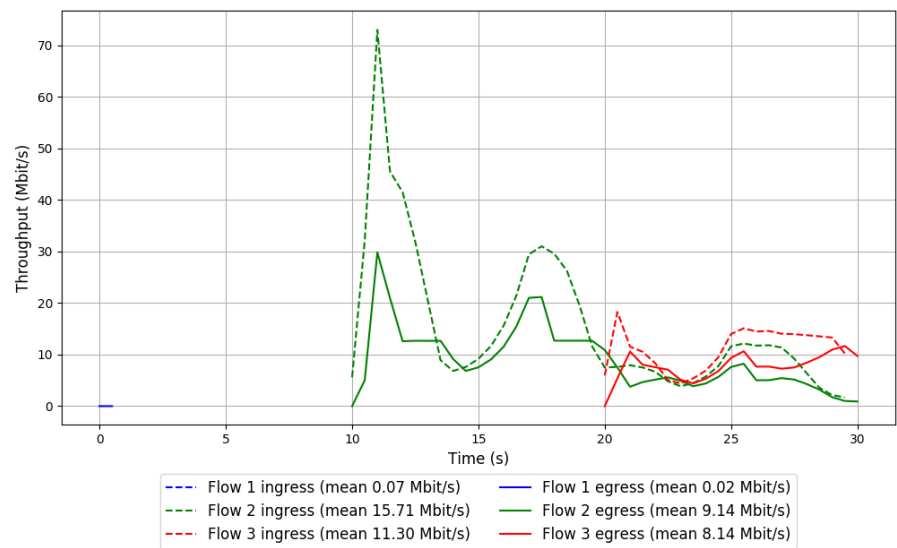


Run 3: Statistics of PCC-Expr

Start at: 2018-09-11 03:29:50
End at: 2018-09-11 03:30:20
Local clock offset: 6.621 ms
Remote clock offset: 44.661 ms

Below is generated by plot.py at 2018-09-11 04:41:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.76 Mbit/s
95th percentile per-packet one-way delay: 25.147 ms
Loss rate: 38.20%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 25.054 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.14 Mbit/s
95th percentile per-packet one-way delay: 25.255 ms
Loss rate: 41.87%
-- Flow 3:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 24.873 ms
Loss rate: 27.90%

Run 3: Report of PCC-Expr — Data Link

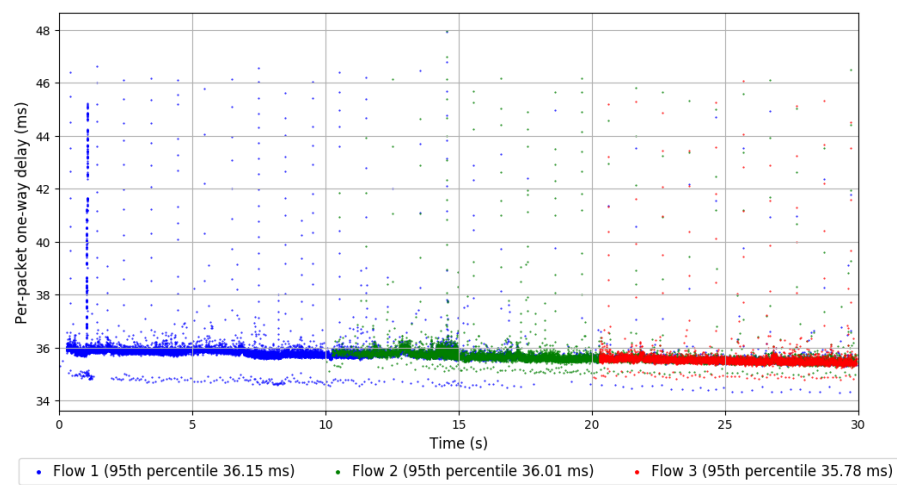
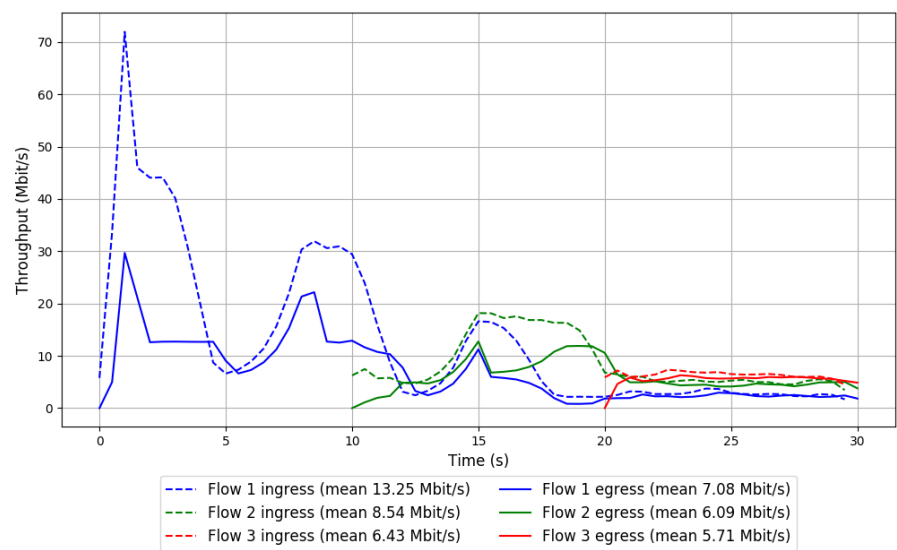


Run 4: Statistics of PCC-Expr

Start at: 2018-09-11 03:52:44
End at: 2018-09-11 03:53:14
Local clock offset: -0.607 ms
Remote clock offset: 84.241 ms

Below is generated by plot.py at 2018-09-11 04:41:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.01 Mbit/s
95th percentile per-packet one-way delay: 36.071 ms
Loss rate: 38.20%
-- Flow 1:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 36.150 ms
Loss rate: 46.57%
-- Flow 2:
Average throughput: 6.09 Mbit/s
95th percentile per-packet one-way delay: 36.013 ms
Loss rate: 28.75%
-- Flow 3:
Average throughput: 5.71 Mbit/s
95th percentile per-packet one-way delay: 35.779 ms
Loss rate: 11.25%

Run 4: Report of PCC-Expr — Data Link

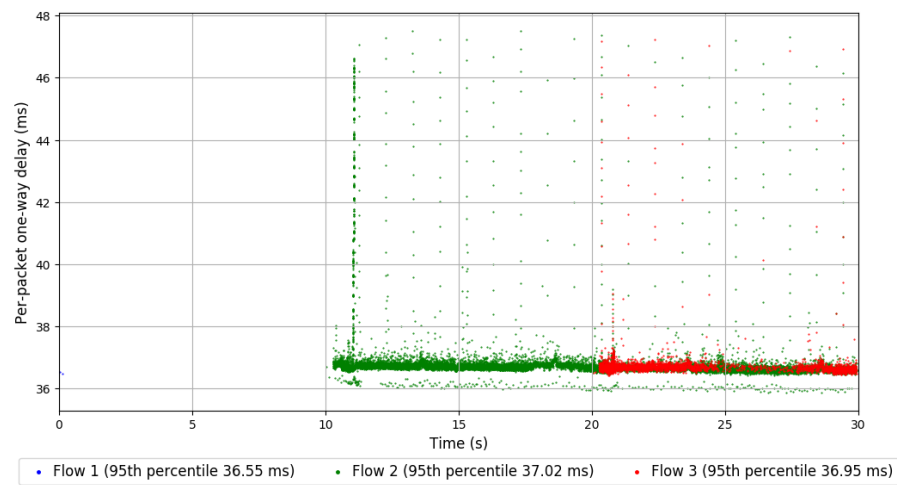
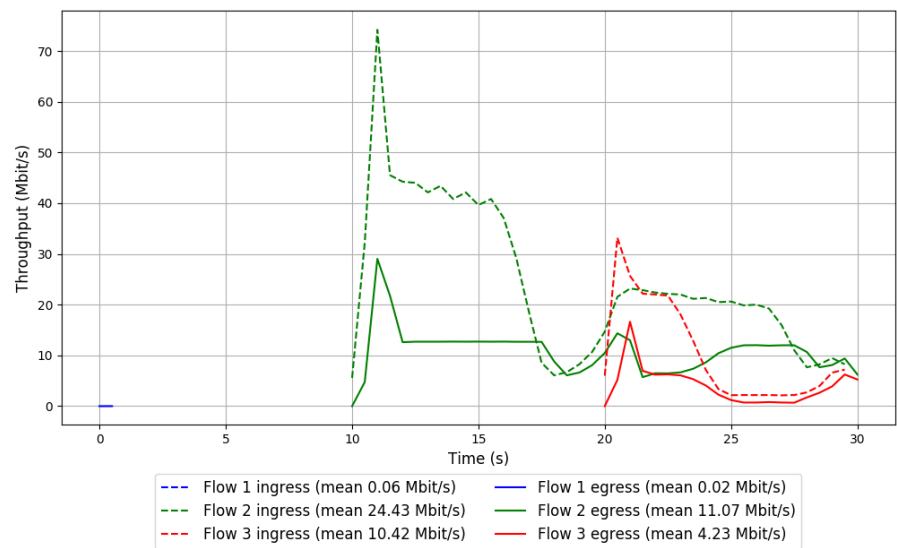


Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 04:15:52
End at: 2018-09-11 04:16:22
Local clock offset: 6.565 ms
Remote clock offset: 104.852 ms

Below is generated by plot.py at 2018-09-11 04:41:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.76 Mbit/s
95th percentile per-packet one-way delay: 37.006 ms
Loss rate: 55.50%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 36.550 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 11.07 Mbit/s
95th percentile per-packet one-way delay: 37.017 ms
Loss rate: 54.67%
-- Flow 3:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 36.948 ms
Loss rate: 59.42%

Run 5: Report of PCC-Expr — Data Link

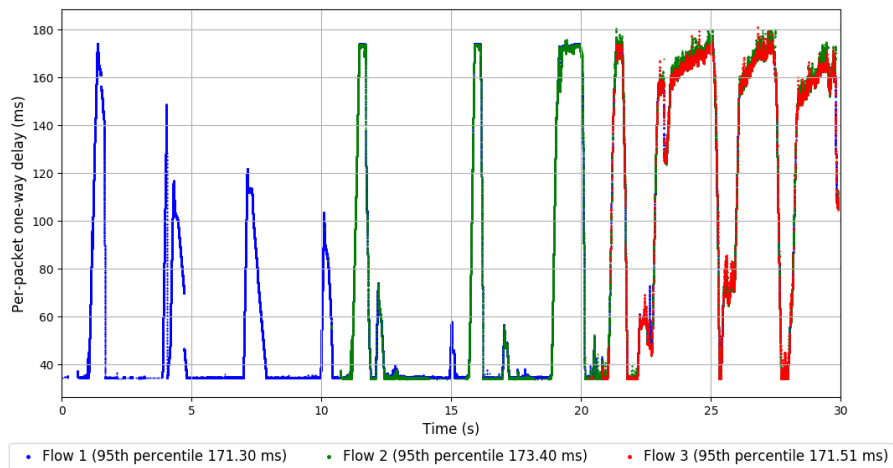
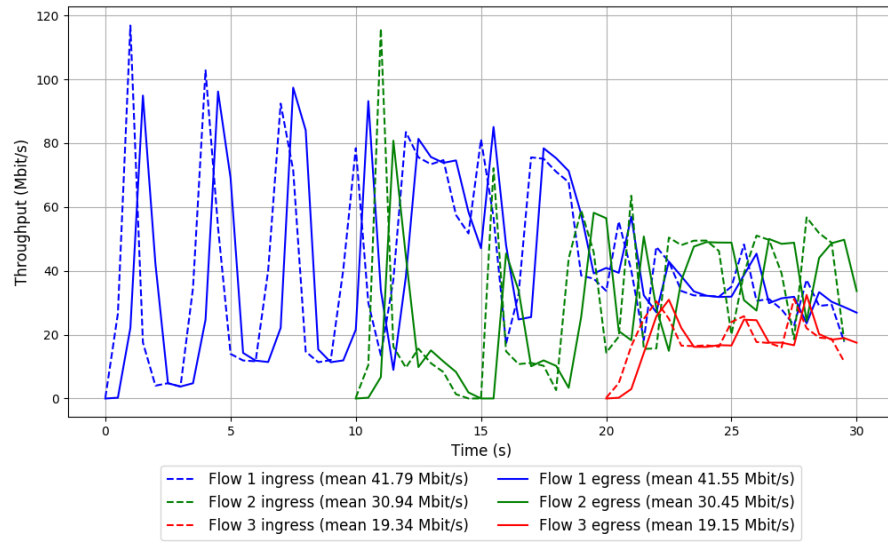


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-11 02:53:51
End at: 2018-09-11 02:54:21
Local clock offset: 0.889 ms
Remote clock offset: 12.561 ms

Below is generated by plot.py at 2018-09-11 04:41:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 67.92 Mbit/s
95th percentile per-packet one-way delay: 172.887 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 41.55 Mbit/s
95th percentile per-packet one-way delay: 171.298 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 30.45 Mbit/s
95th percentile per-packet one-way delay: 173.403 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 19.15 Mbit/s
95th percentile per-packet one-way delay: 171.514 ms
Loss rate: 0.24%

Run 1: Report of QUIC Cubic — Data Link

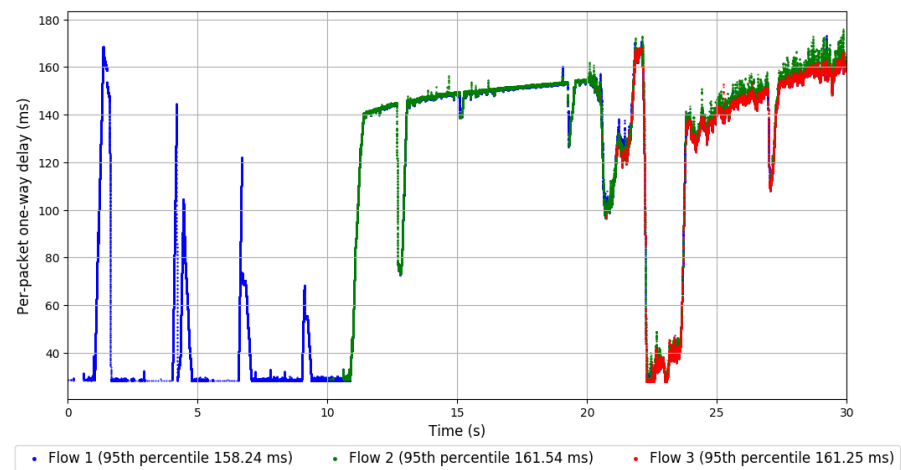
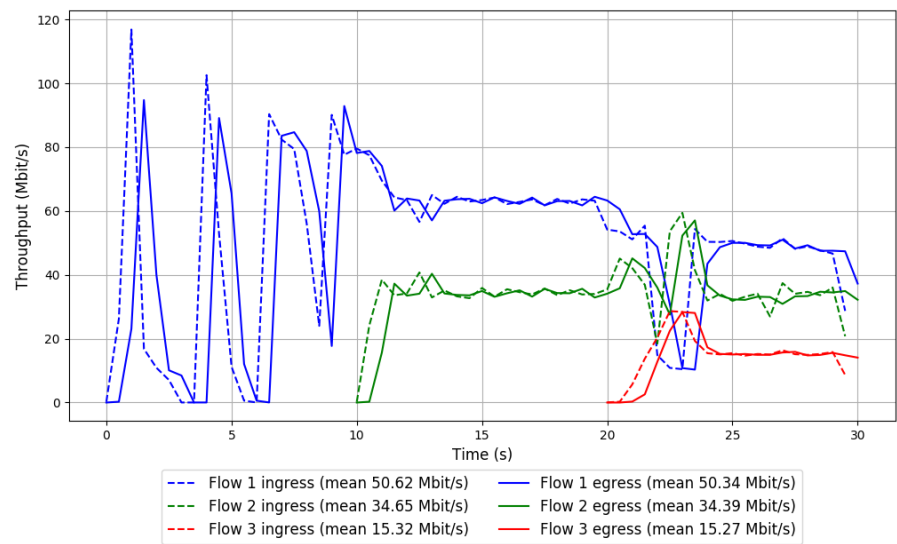


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-11 03:17:00
End at: 2018-09-11 03:17:30
Local clock offset: 6.781 ms
Remote clock offset: 37.604 ms

Below is generated by plot.py at 2018-09-11 04:42:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 78.02 Mbit/s
95th percentile per-packet one-way delay: 159.506 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 50.34 Mbit/s
95th percentile per-packet one-way delay: 158.244 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 34.39 Mbit/s
95th percentile per-packet one-way delay: 161.543 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 15.27 Mbit/s
95th percentile per-packet one-way delay: 161.253 ms
Loss rate: 0.21%

Run 2: Report of QUIC Cubic — Data Link

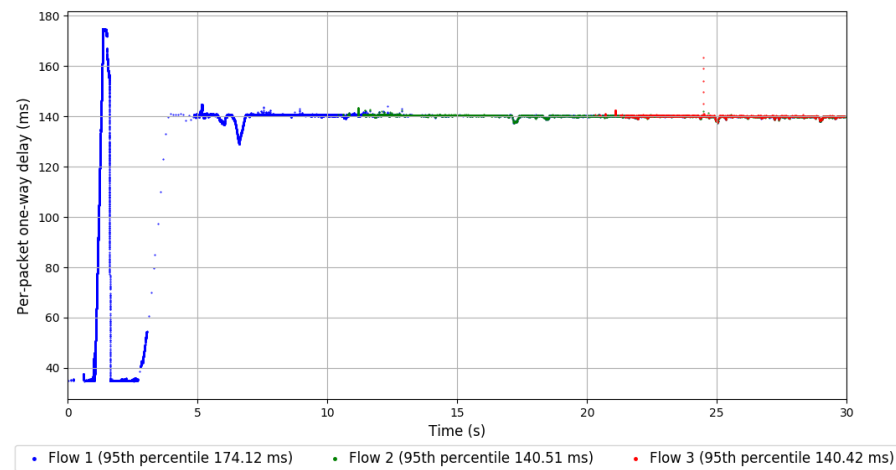
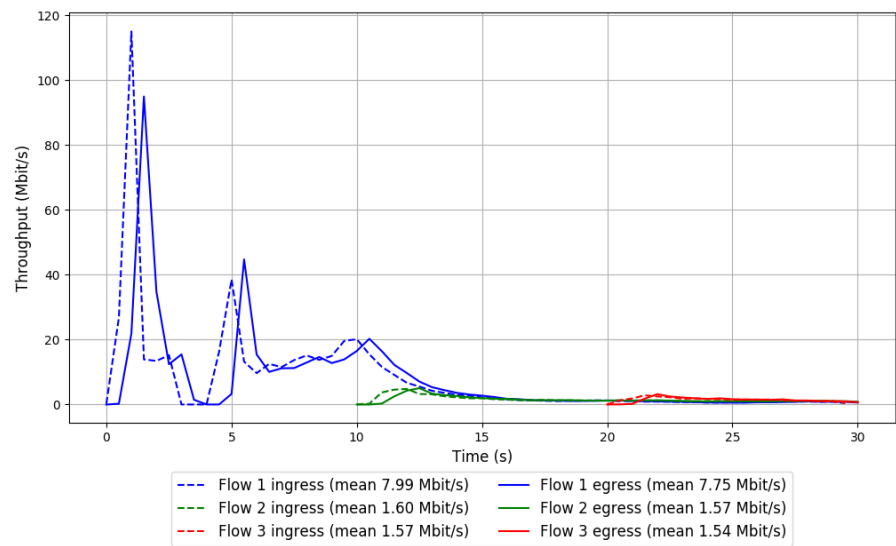


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-11 03:40:02
End at: 2018-09-11 03:40:32
Local clock offset: 1.603 ms
Remote clock offset: 67.334 ms

Below is generated by plot.py at 2018-09-11 04:42:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 172.448 ms
Loss rate: 2.70%
-- Flow 1:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 174.117 ms
Loss rate: 2.74%
-- Flow 2:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 140.514 ms
Loss rate: 2.63%
-- Flow 3:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 140.417 ms
Loss rate: 2.24%

Run 3: Report of QUIC Cubic — Data Link

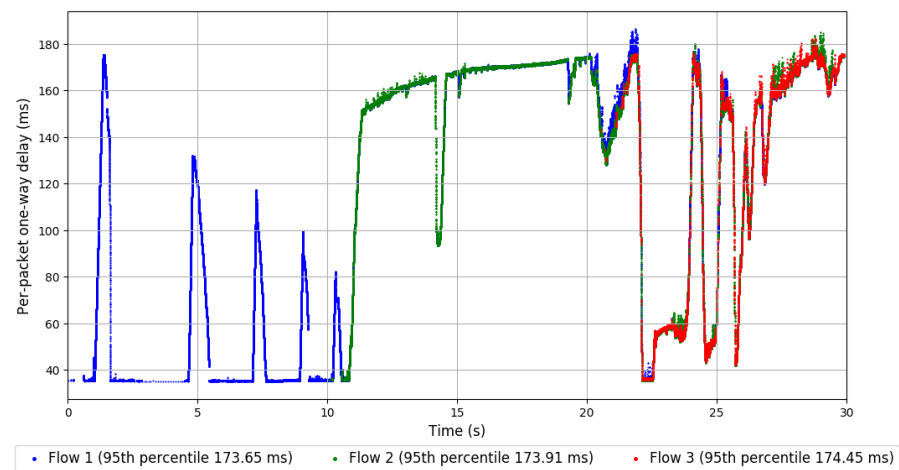
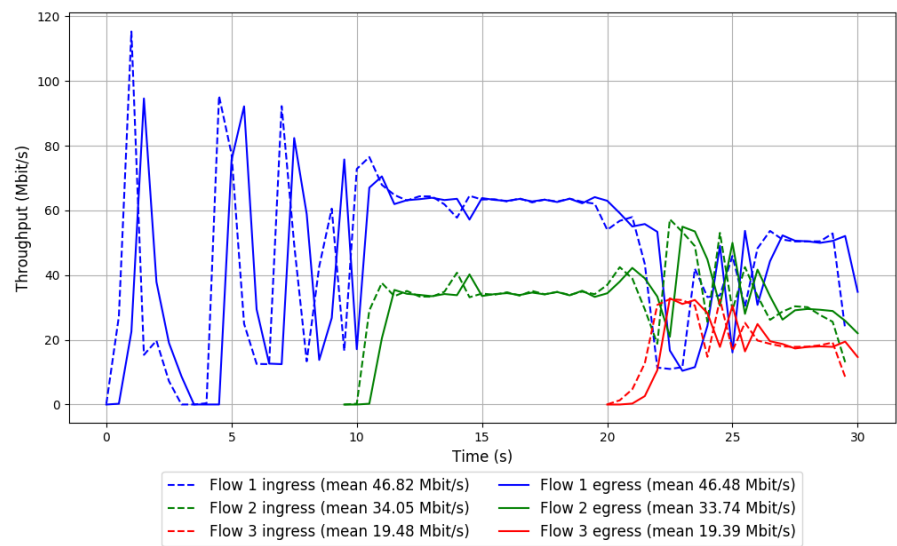


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-11 04:03:00
End at: 2018-09-11 04:03:30
Local clock offset: 2.399 ms
Remote clock offset: 93.499 ms

Below is generated by plot.py at 2018-09-11 04:42:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 75.10 Mbit/s
95th percentile per-packet one-way delay: 173.809 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 46.48 Mbit/s
95th percentile per-packet one-way delay: 173.653 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 33.74 Mbit/s
95th percentile per-packet one-way delay: 173.909 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 19.39 Mbit/s
95th percentile per-packet one-way delay: 174.453 ms
Loss rate: 0.38%

Run 4: Report of QUIC Cubic — Data Link

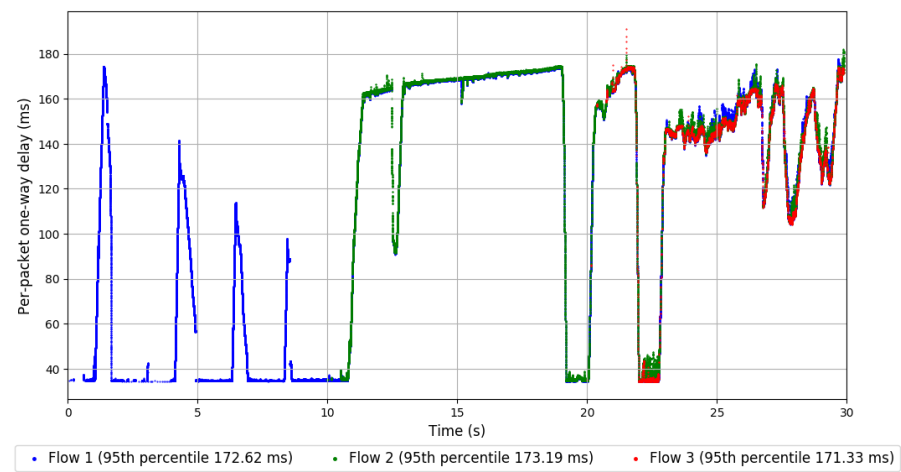
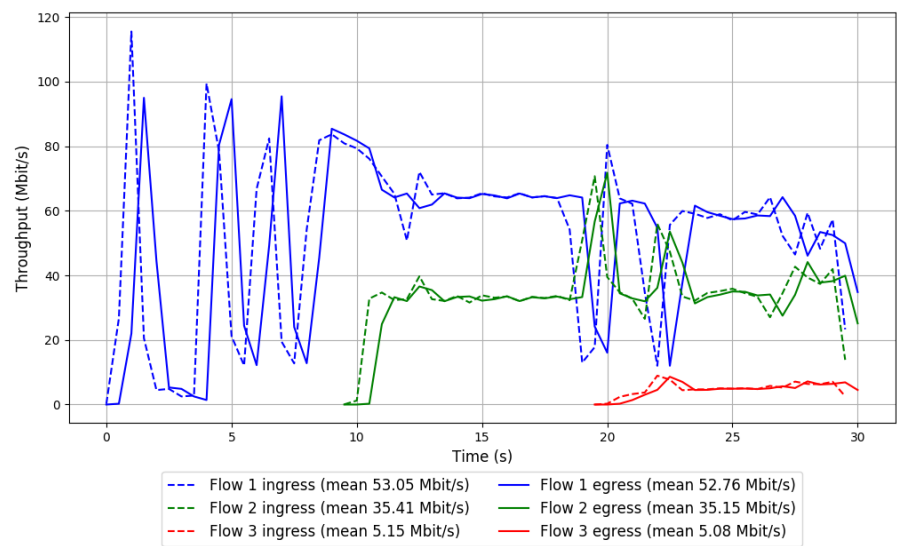


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 04:25:59
End at: 2018-09-11 04:26:29
Local clock offset: 8.09 ms
Remote clock offset: 111.349 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.78 Mbit/s
95th percentile per-packet one-way delay: 172.808 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 52.76 Mbit/s
95th percentile per-packet one-way delay: 172.623 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 35.15 Mbit/s
95th percentile per-packet one-way delay: 173.188 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 171.330 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

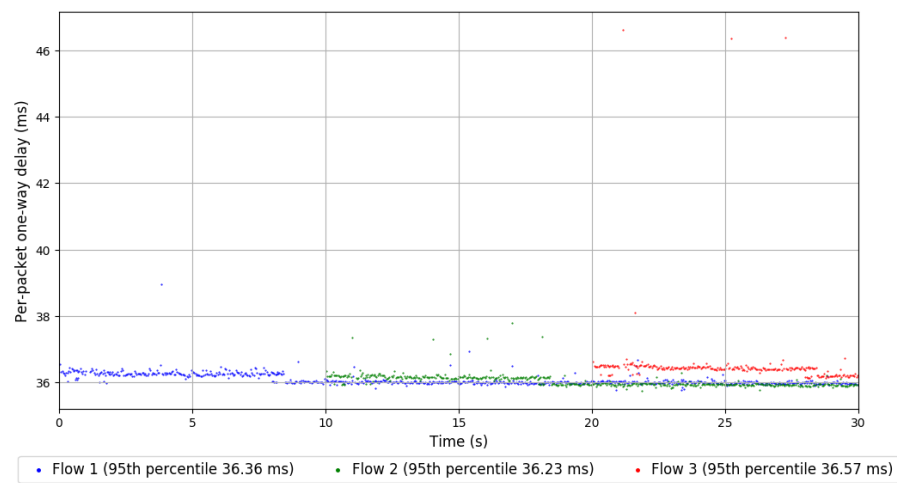
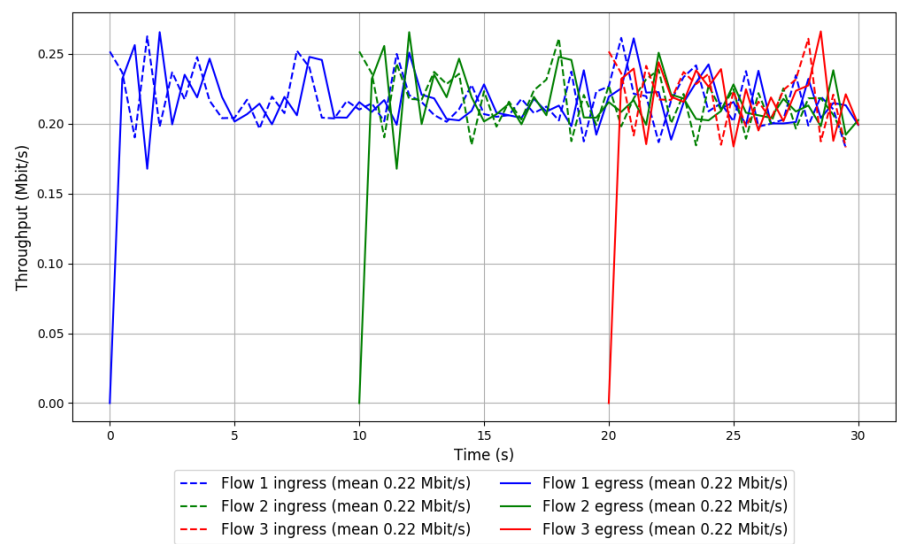


```
Run 1: Statistics of SReAM

Start at: 2018-09-11 02:46:04
End at: 2018-09-11 02:46:34
Local clock offset: 1.641 ms
Remote clock offset: 14.107 ms

# Below is generated by plot.py at 2018-09-11 04:42:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 36.480 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 36.358 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 36.230 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 36.567 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

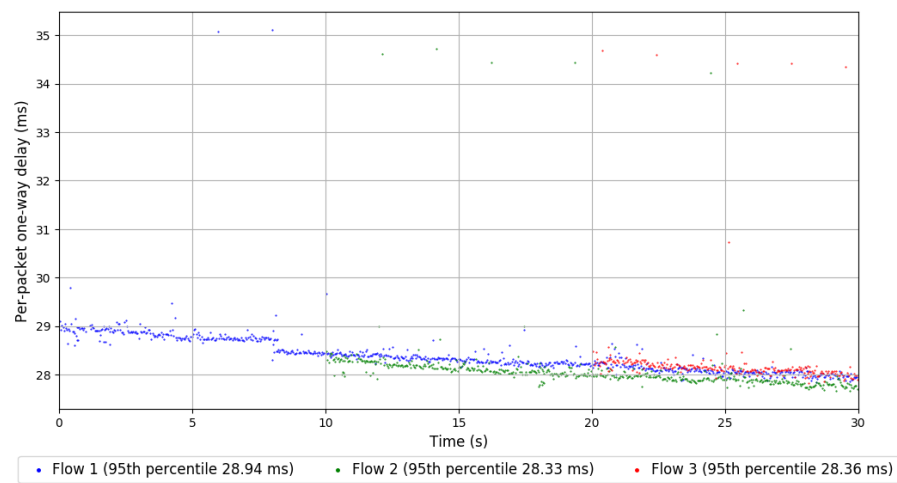
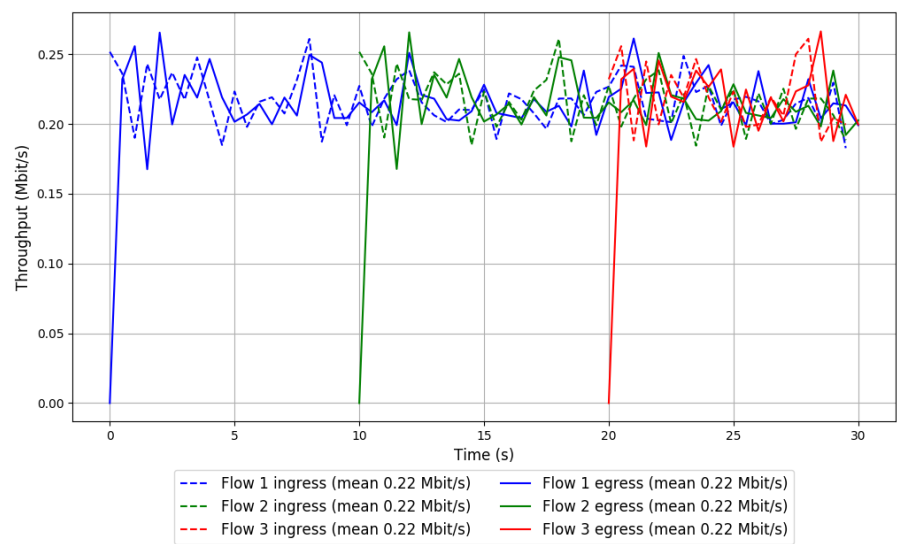


Run 2: Statistics of SReAM

Start at: 2018-09-11 03:09:16
End at: 2018-09-11 03:09:46
Local clock offset: 5.442 ms
Remote clock offset: 26.962 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 28.908 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 28.944 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 28.329 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 28.355 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

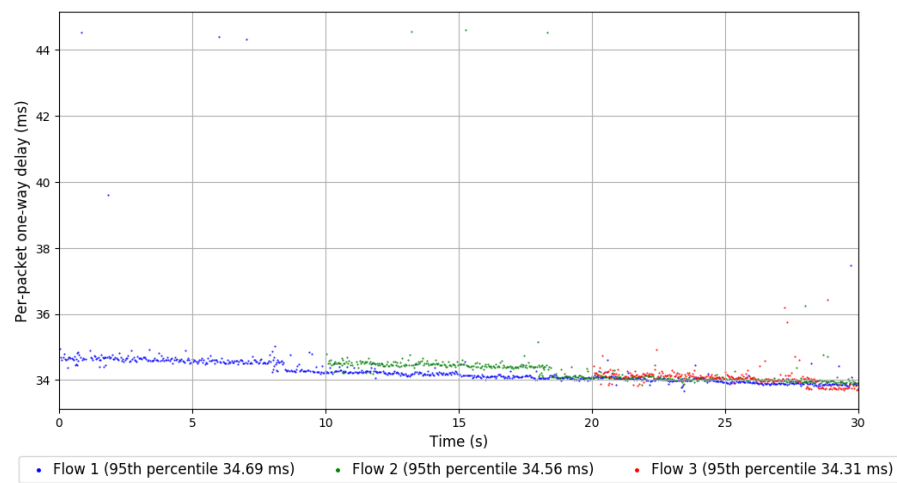
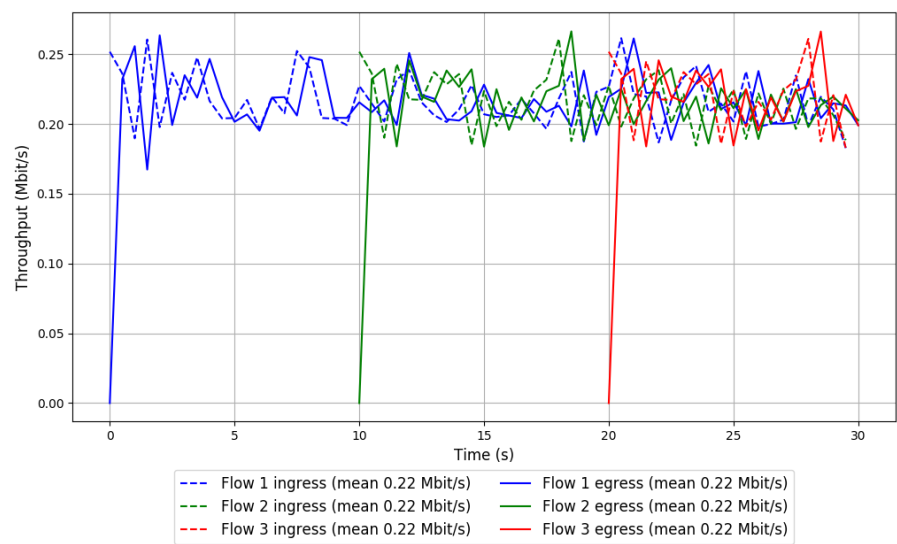


Run 3: Statistics of SReAM

Start at: 2018-09-11 03:32:18
End at: 2018-09-11 03:32:48
Local clock offset: 4.813 ms
Remote clock offset: 55.938 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 34.661 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.692 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.563 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.310 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

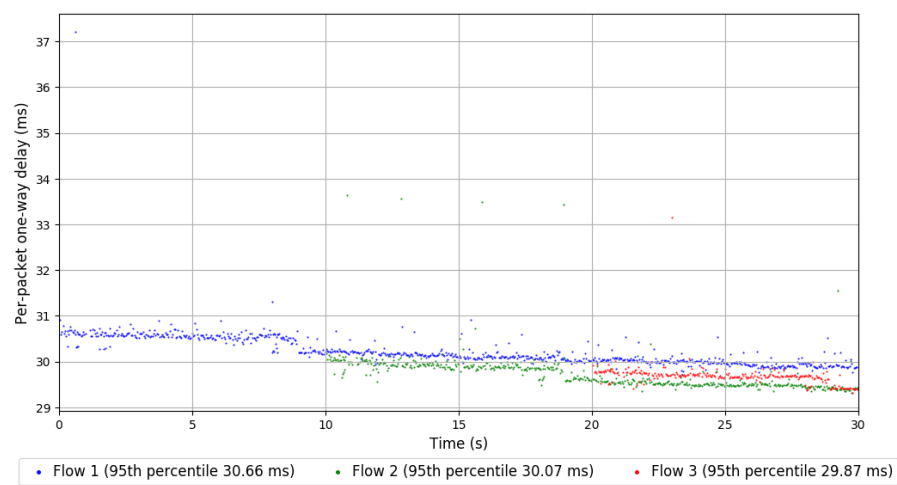
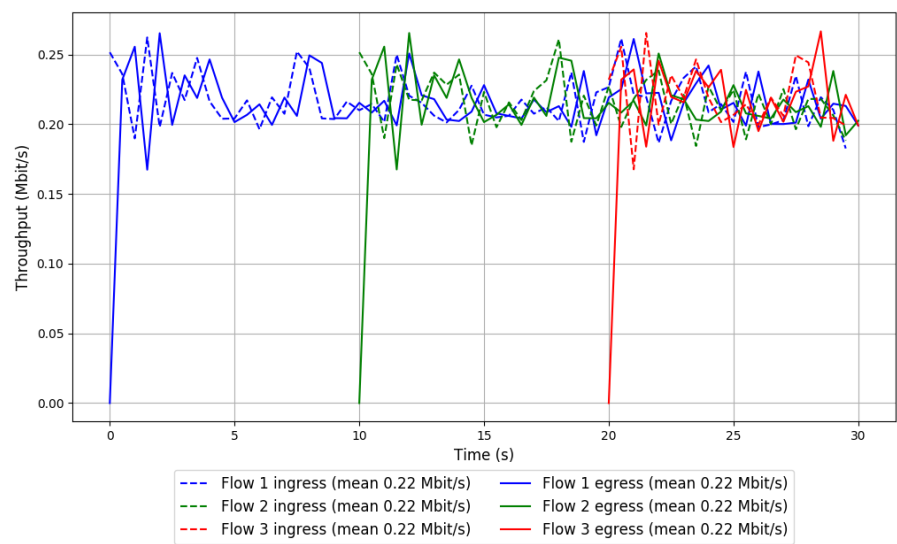


Run 4: Statistics of SReAM

Start at: 2018-09-11 03:55:13
End at: 2018-09-11 03:55:43
Local clock offset: -0.932 ms
Remote clock offset: 81.479 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 30.605 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.659 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.069 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.869 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

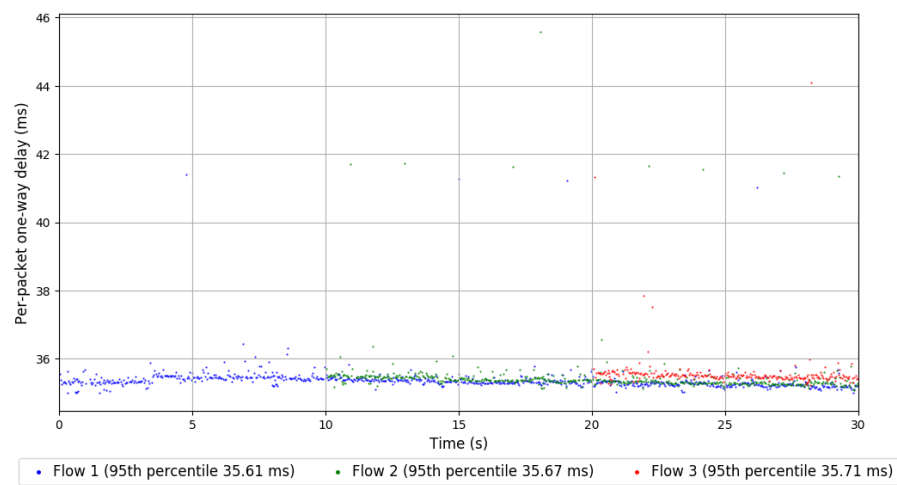
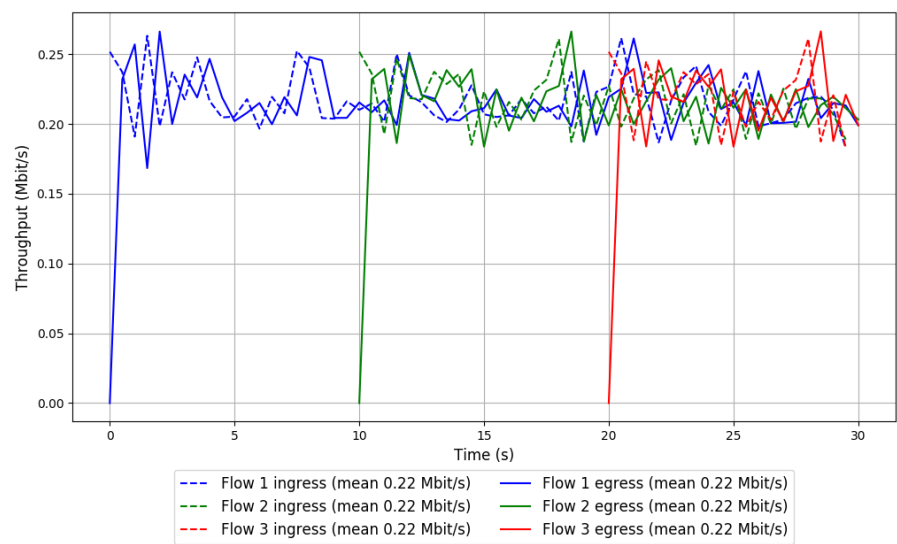


Run 5: Statistics of SReAM

Start at: 2018-09-11 04:18:21
End at: 2018-09-11 04:18:51
Local clock offset: 7.161 ms
Remote clock offset: 105.805 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 35.660 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 35.613 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 35.666 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 35.712 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-09-11 02:39:49

End at: 2018-09-11 02:40:19

Local clock offset: 2.676 ms

Remote clock offset: 8.427 ms

Below is generated by plot.py at 2018-09-11 04:42:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 17.72 Mbit/s

95th percentile per-packet one-way delay: 36.811 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 8.99 Mbit/s

95th percentile per-packet one-way delay: 36.570 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 9.03 Mbit/s

95th percentile per-packet one-way delay: 37.034 ms

Loss rate: 0.00%

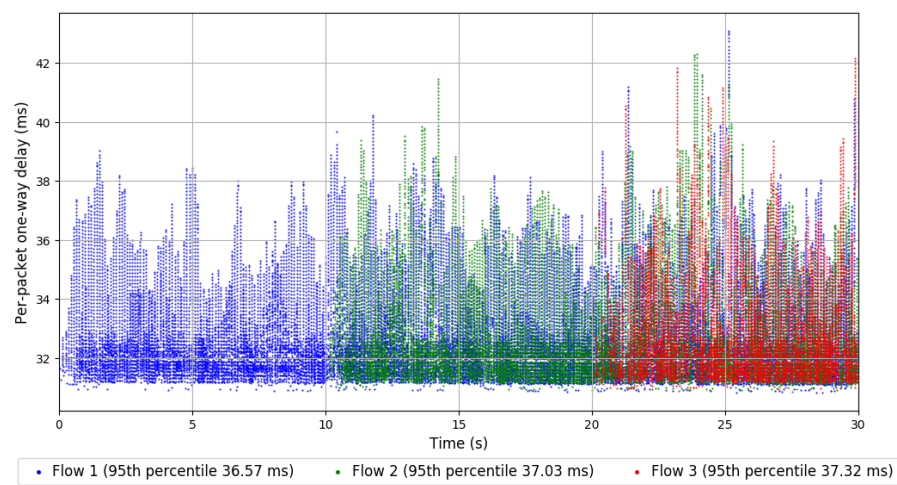
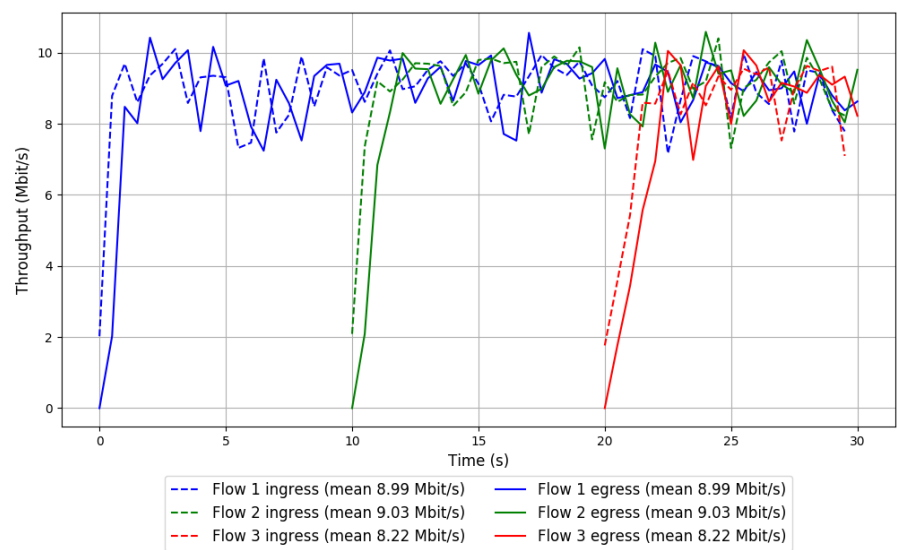
-- Flow 3:

Average throughput: 8.22 Mbit/s

95th percentile per-packet one-way delay: 37.321 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

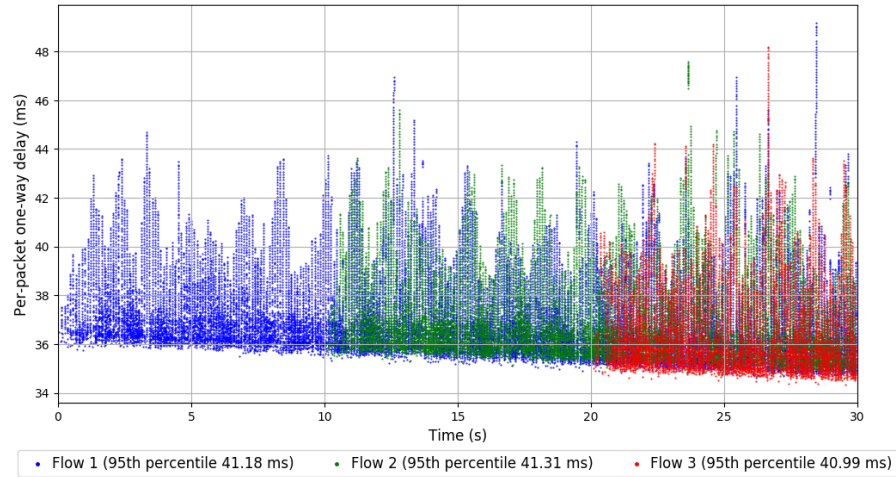
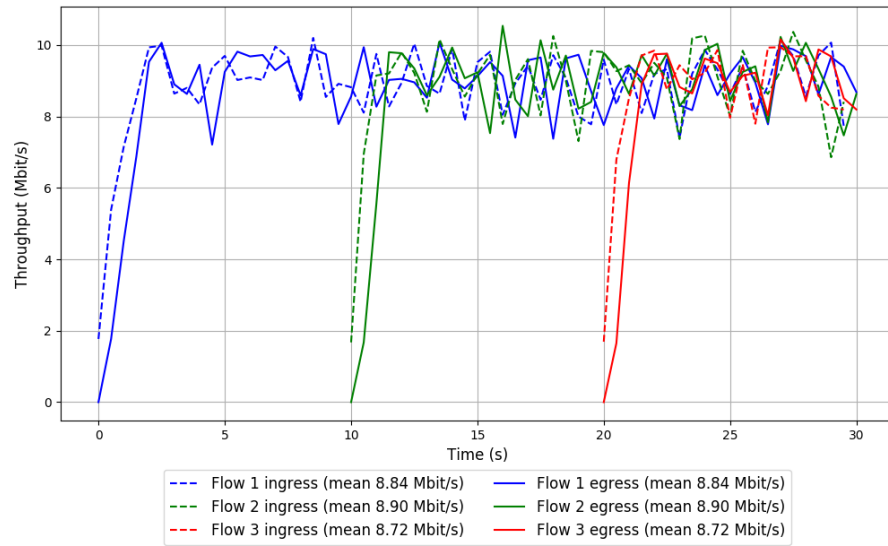


Run 2: Statistics of Sprout

Start at: 2018-09-11 03:02:54
End at: 2018-09-11 03:03:24
Local clock offset: 3.397 ms
Remote clock offset: 19.503 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.63 Mbit/s
95th percentile per-packet one-way delay: 41.206 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 41.179 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.90 Mbit/s
95th percentile per-packet one-way delay: 41.313 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 40.986 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

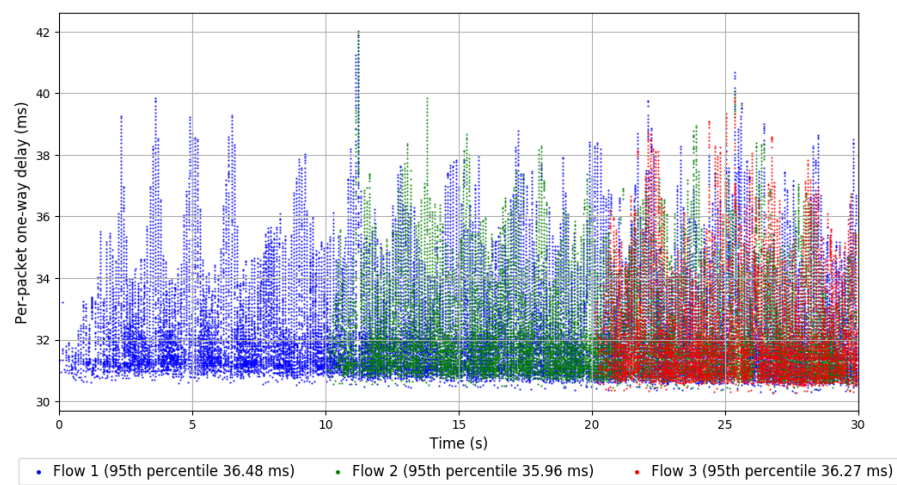
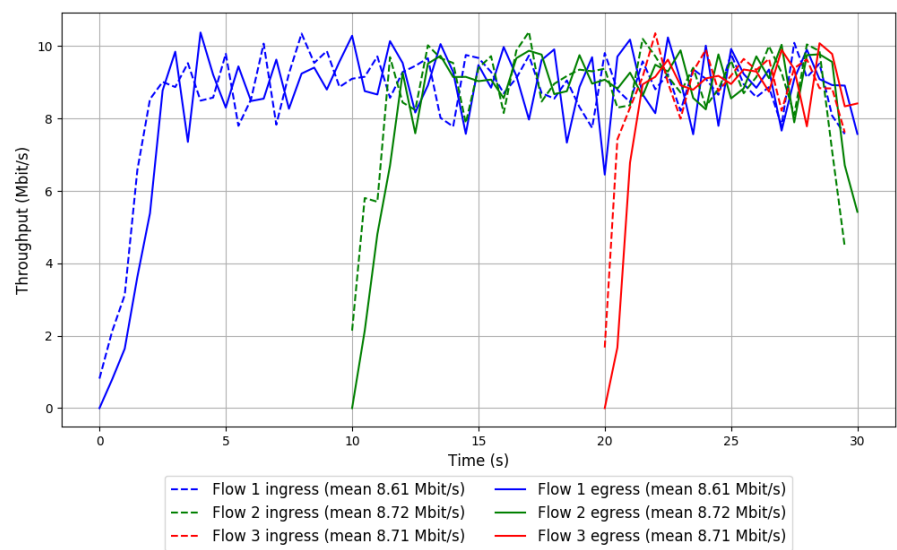


Run 3: Statistics of Sprout

Start at: 2018-09-11 03:26:03
End at: 2018-09-11 03:26:33
Local clock offset: 7.575 ms
Remote clock offset: 48.008 ms

```
# Below is generated by plot.py at 2018-09-11 04:42:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.28 Mbit/s
95th percentile per-packet one-way delay: 36.268 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.61 Mbit/s
95th percentile per-packet one-way delay: 36.479 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 35.962 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.71 Mbit/s
95th percentile per-packet one-way delay: 36.266 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

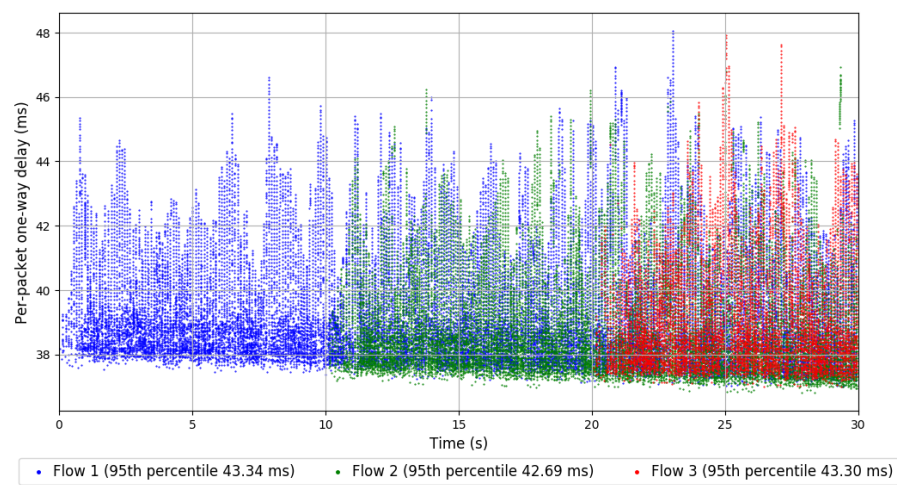
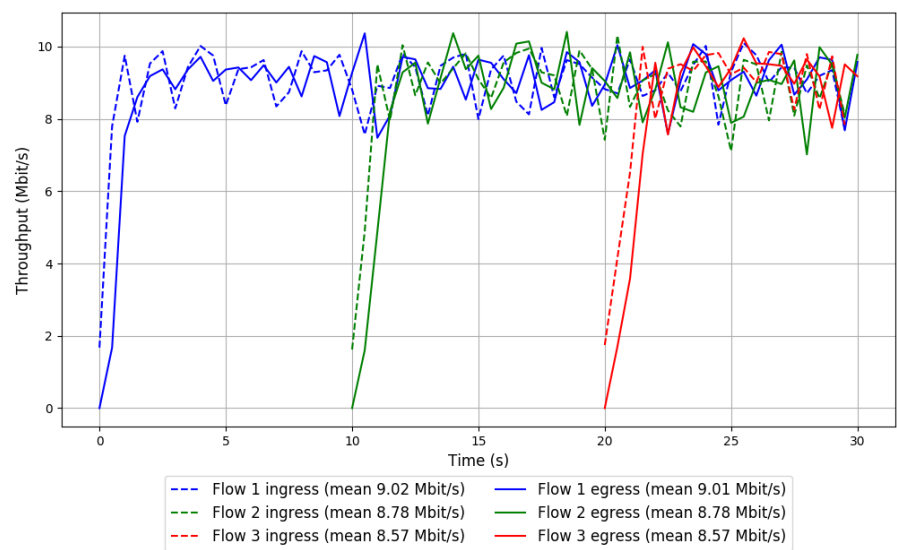


Run 4: Statistics of Sprout

Start at: 2018-09-11 03:48:58
End at: 2018-09-11 03:49:28
Local clock offset: -0.23 ms
Remote clock offset: 82.844 ms

```
# Below is generated by plot.py at 2018-09-11 04:42:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.68 Mbit/s
95th percentile per-packet one-way delay: 43.144 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.01 Mbit/s
95th percentile per-packet one-way delay: 43.336 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.78 Mbit/s
95th percentile per-packet one-way delay: 42.686 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 43.304 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

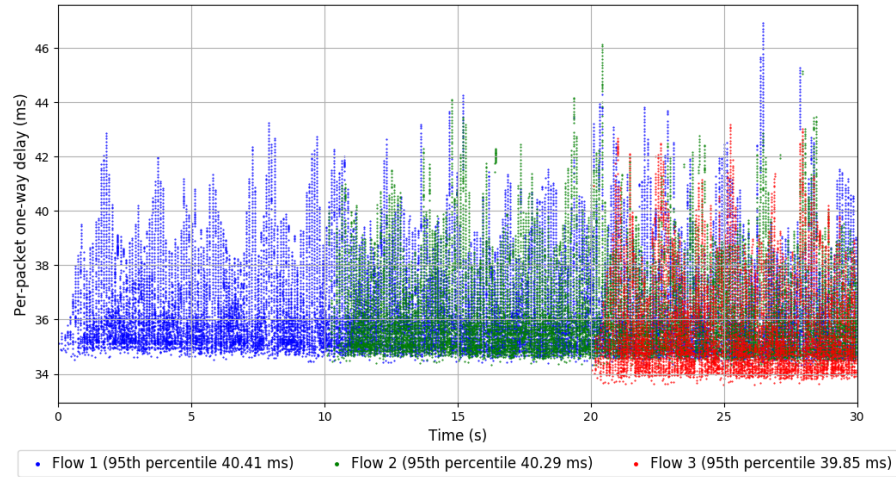
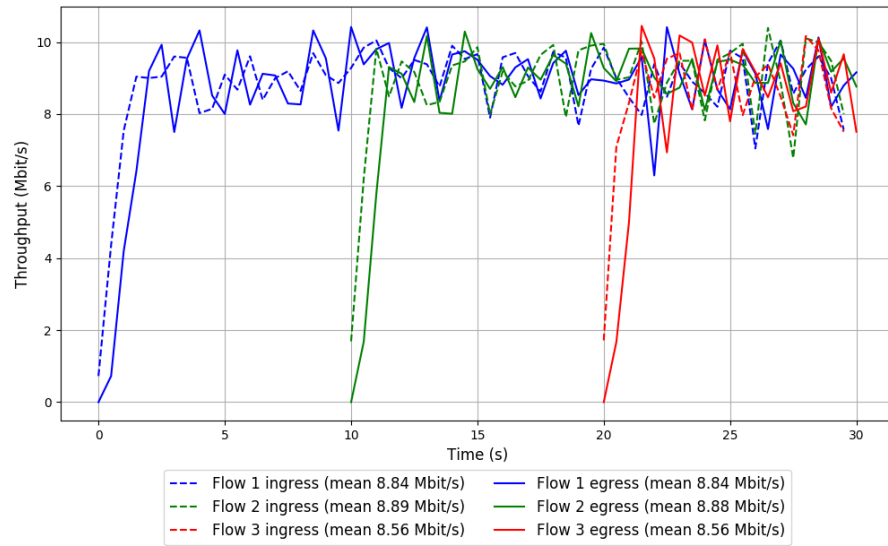


Run 5: Statistics of Sprout

Start at: 2018-09-11 04:12:03
End at: 2018-09-11 04:12:33
Local clock offset: 6.094 ms
Remote clock offset: 100.057 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 17.57 Mbit/s
95th percentile per-packet one-way delay: 40.291 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 40.408 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.88 Mbit/s
95th percentile per-packet one-way delay: 40.291 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 39.853 ms
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

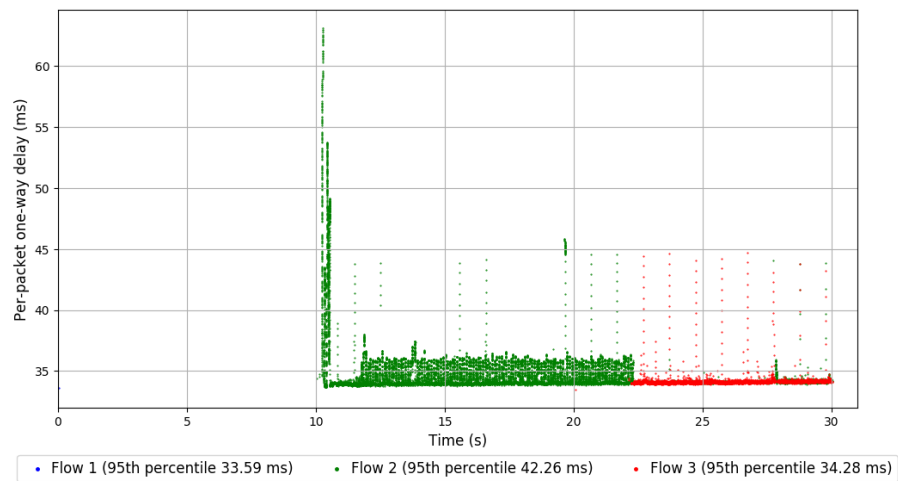
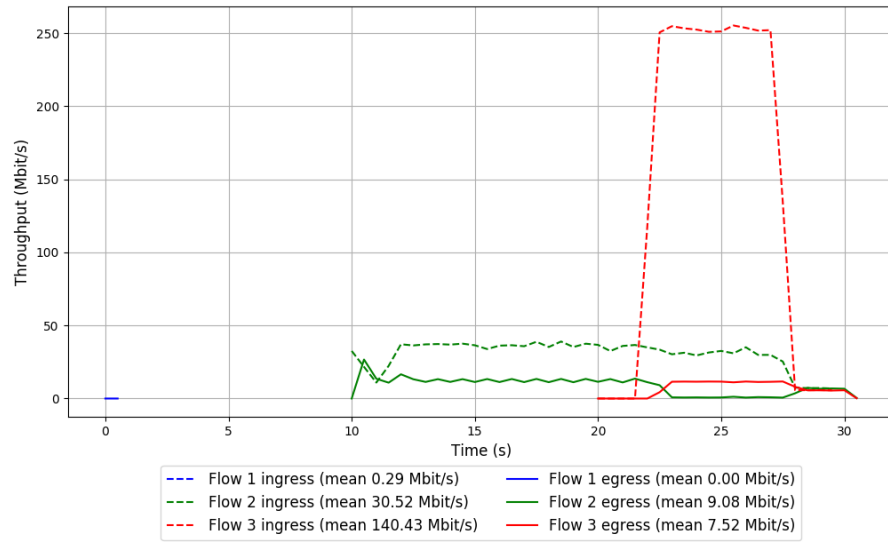


Run 1: Statistics of TaoVA-100x

Start at: 2018-09-11 02:57:44
End at: 2018-09-11 02:58:14
Local clock offset: 0.363 ms
Remote clock offset: 12.154 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 38.887 ms
Loss rate: 87.24%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 33.593 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.08 Mbit/s
95th percentile per-packet one-way delay: 42.257 ms
Loss rate: 70.25%
-- Flow 3:
Average throughput: 7.52 Mbit/s
95th percentile per-packet one-way delay: 34.285 ms
Loss rate: 94.64%

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

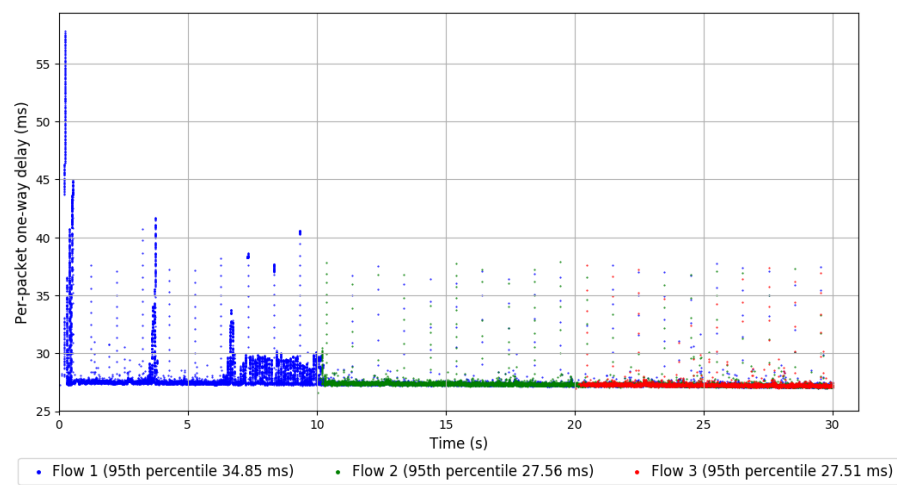
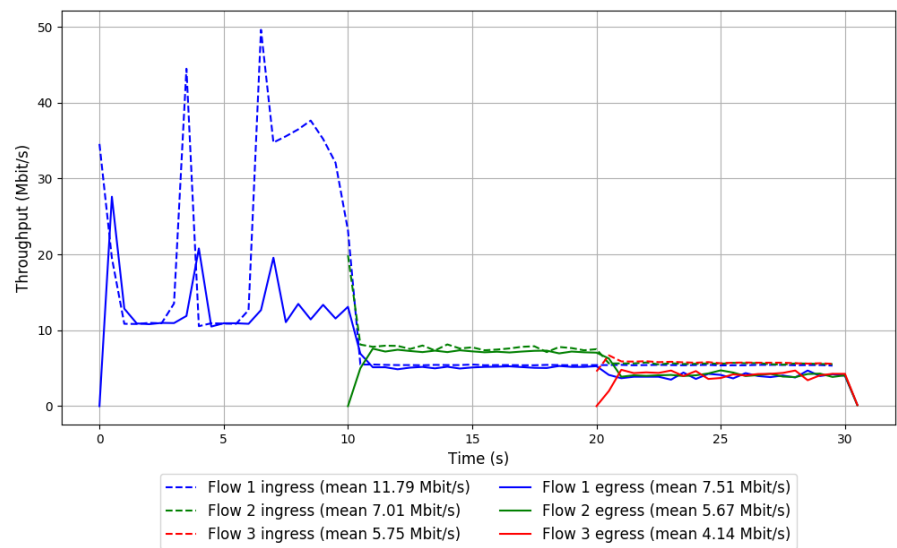


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-11 03:20:54
End at: 2018-09-11 03:21:24
Local clock offset: 7.31 ms
Remote clock offset: 39.827 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.66 Mbit/s
95th percentile per-packet one-way delay: 31.435 ms
Loss rate: 31.09%
-- Flow 1:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 34.853 ms
Loss rate: 36.32%
-- Flow 2:
Average throughput: 5.67 Mbit/s
95th percentile per-packet one-way delay: 27.563 ms
Loss rate: 19.14%
-- Flow 3:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 27.514 ms
Loss rate: 28.09%

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

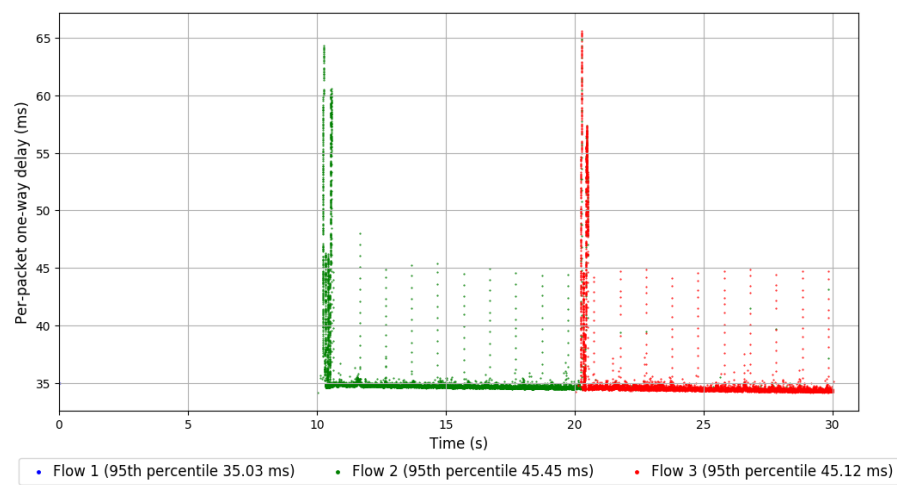
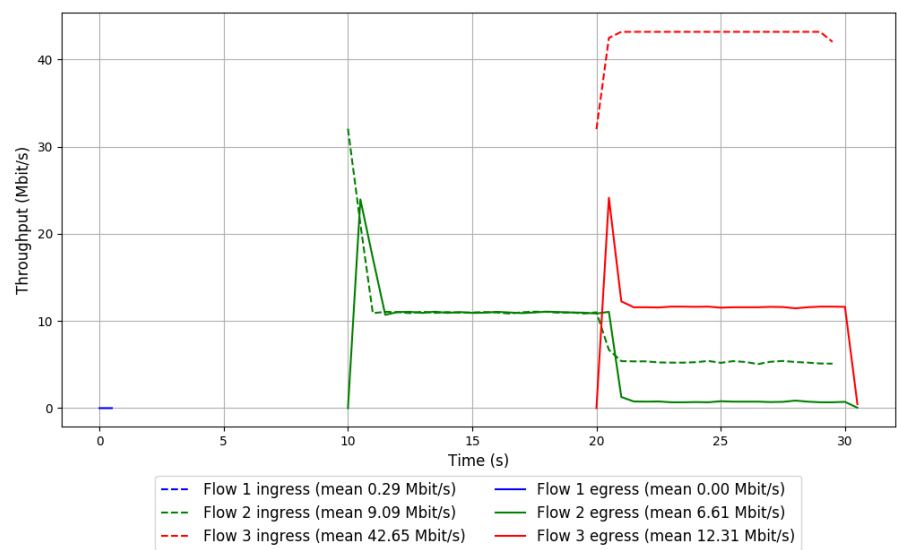


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-11 03:43:50
End at: 2018-09-11 03:44:20
Local clock offset: 0.68 ms
Remote clock offset: 72.899 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 45.393 ms
Loss rate: 58.02%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 35.031 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 45.451 ms
Loss rate: 27.33%
-- Flow 3:
Average throughput: 12.31 Mbit/s
95th percentile per-packet one-way delay: 45.121 ms
Loss rate: 71.13%

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

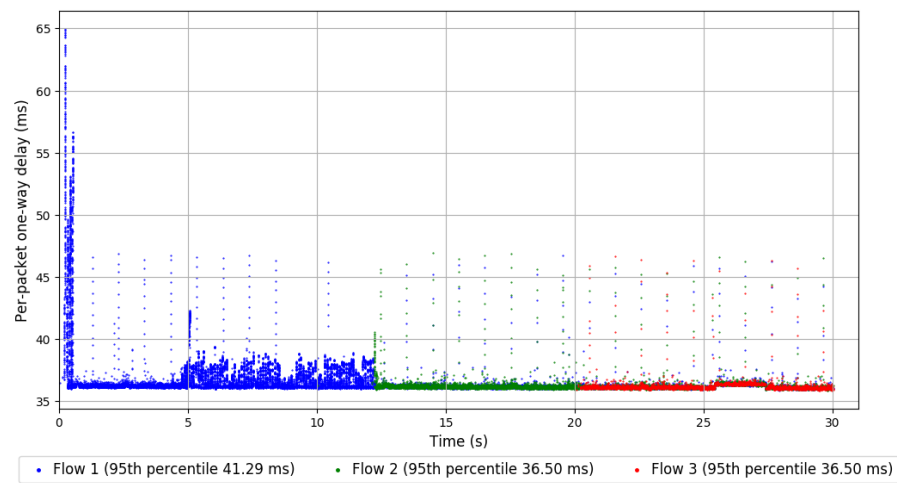
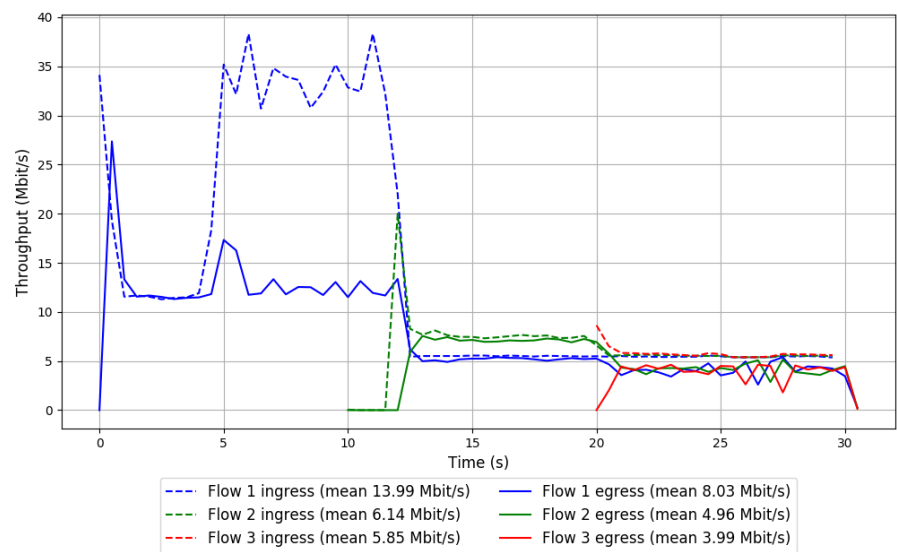


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-11 04:06:54
End at: 2018-09-11 04:07:24
Local clock offset: 4.362 ms
Remote clock offset: 97.096 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.66 Mbit/s
95th percentile per-packet one-way delay: 38.545 ms
Loss rate: 36.78%
-- Flow 1:
Average throughput: 8.03 Mbit/s
95th percentile per-packet one-way delay: 41.286 ms
Loss rate: 42.60%
-- Flow 2:
Average throughput: 4.96 Mbit/s
95th percentile per-packet one-way delay: 36.502 ms
Loss rate: 19.26%
-- Flow 3:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 36.501 ms
Loss rate: 31.78%

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

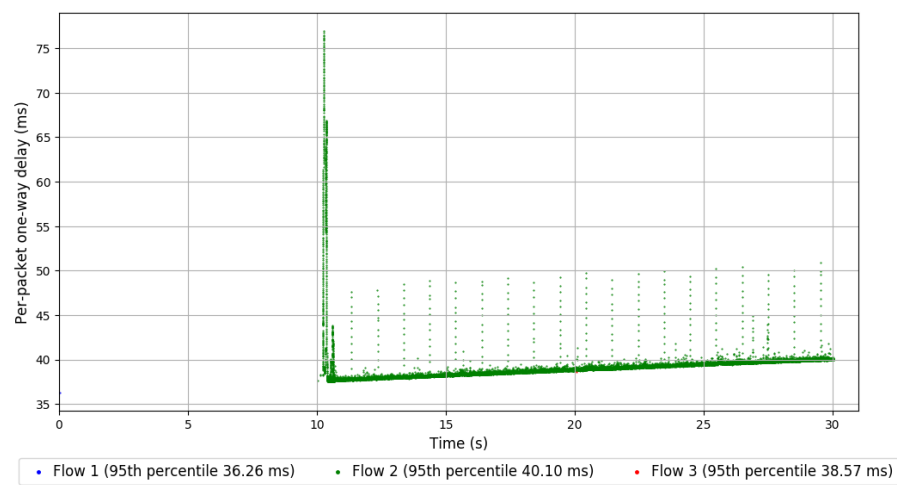
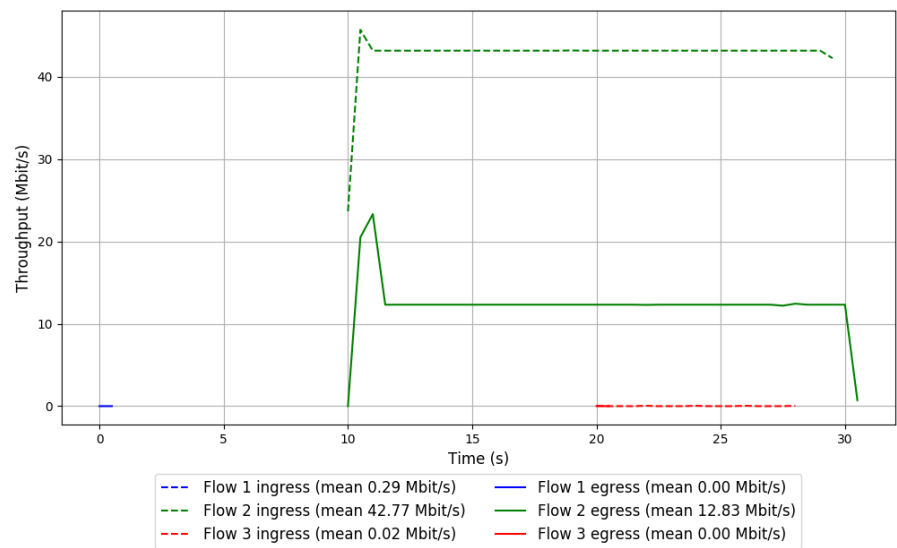


Run 5: Statistics of TaoVA-100x

Start at: 2018-09-11 04:29:51
End at: 2018-09-11 04:30:21
Local clock offset: 7.327 ms
Remote clock offset: 80.975 ms

Below is generated by plot.py at 2018-09-11 04:42:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 40.099 ms
Loss rate: 70.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 36.263 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 40.099 ms
Loss rate: 70.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 38.573 ms
Loss rate: 99.16%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-11 02:58:56

End at: 2018-09-11 02:59:26

Local clock offset: 1.08 ms

Remote clock offset: 9.646 ms

Below is generated by plot.py at 2018-09-11 04:42:43

Datalink statistics

-- Total of 3 flows:

Average throughput: 68.28 Mbit/s

95th percentile per-packet one-way delay: 48.900 ms

Loss rate: 1.37%

-- Flow 1:

Average throughput: 39.31 Mbit/s

95th percentile per-packet one-way delay: 50.769 ms

Loss rate: 1.38%

-- Flow 2:

Average throughput: 19.10 Mbit/s

95th percentile per-packet one-way delay: 47.425 ms

Loss rate: 1.08%

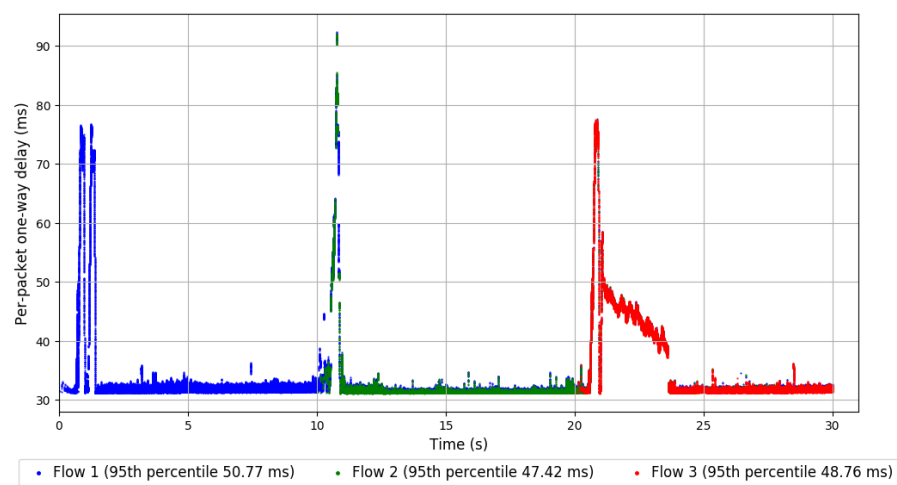
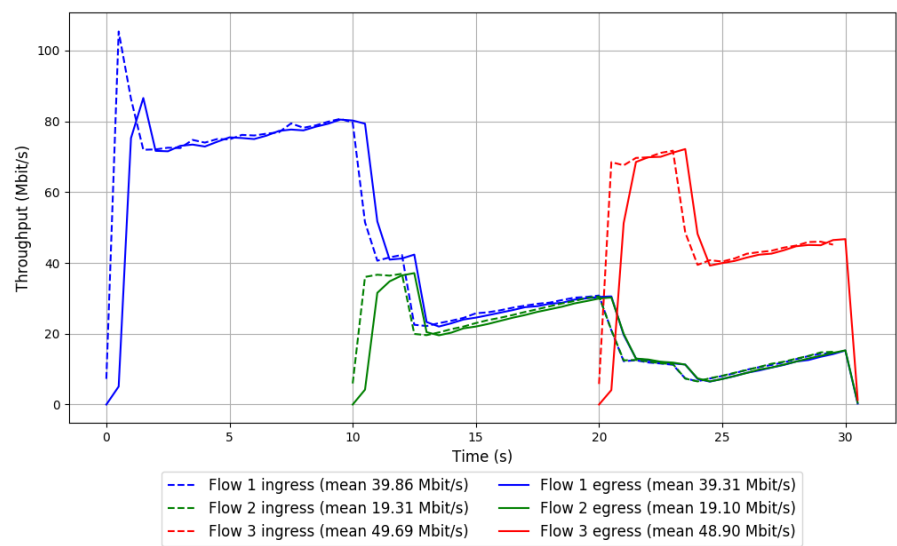
-- Flow 3:

Average throughput: 48.90 Mbit/s

95th percentile per-packet one-way delay: 48.762 ms

Loss rate: 1.59%

Run 1: Report of TCP Vegas — Data Link

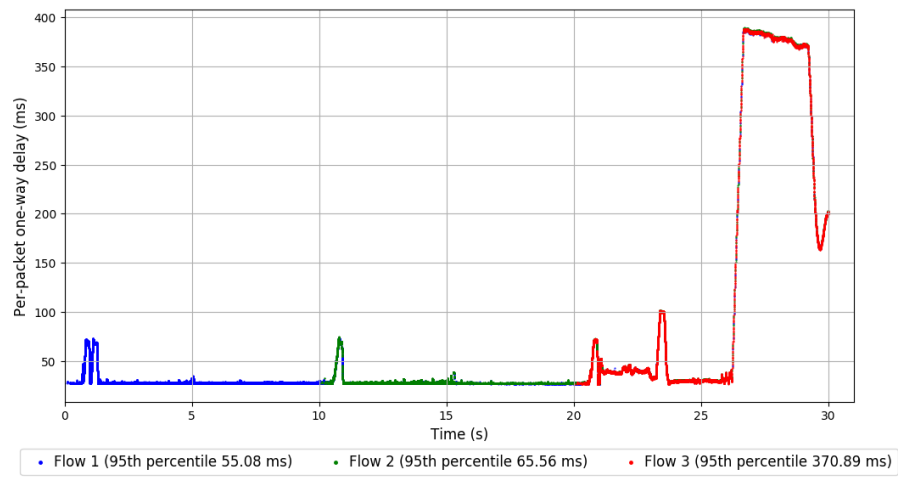
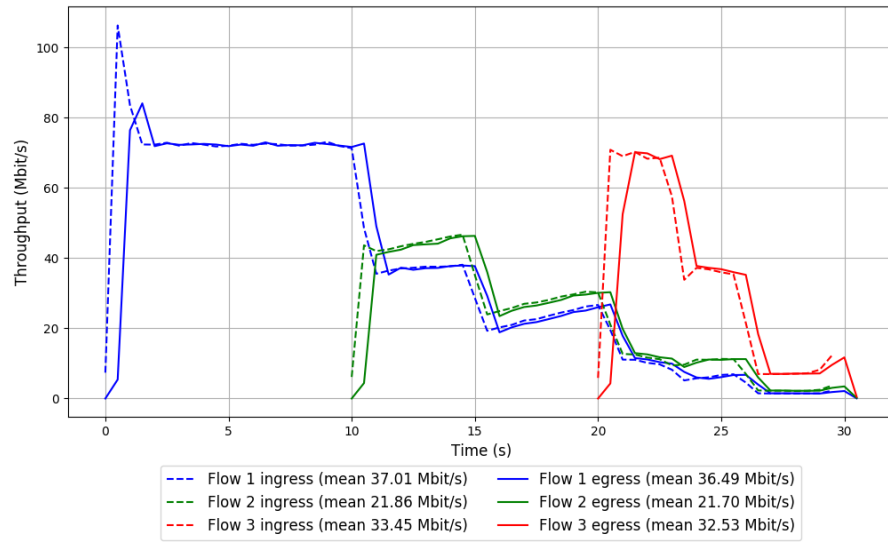


Run 2: Statistics of TCP Vegas

Start at: 2018-09-11 03:22:07
End at: 2018-09-11 03:22:37
Local clock offset: 7.182 ms
Remote clock offset: 40.844 ms

Below is generated by plot.py at 2018-09-11 04:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 61.75 Mbit/s
95th percentile per-packet one-way delay: 68.816 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 36.49 Mbit/s
95th percentile per-packet one-way delay: 55.081 ms
Loss rate: 1.44%
-- Flow 2:
Average throughput: 21.70 Mbit/s
95th percentile per-packet one-way delay: 65.563 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 32.53 Mbit/s
95th percentile per-packet one-way delay: 370.894 ms
Loss rate: 2.68%

Run 2: Report of TCP Vegas — Data Link

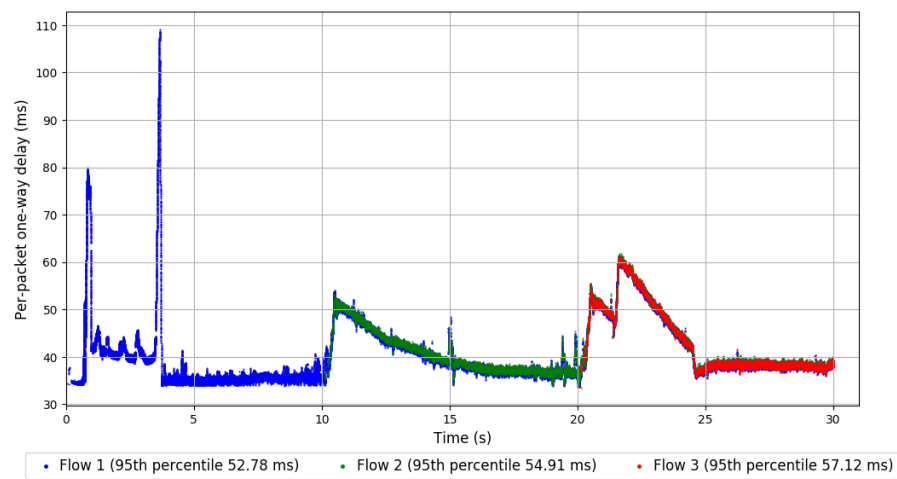
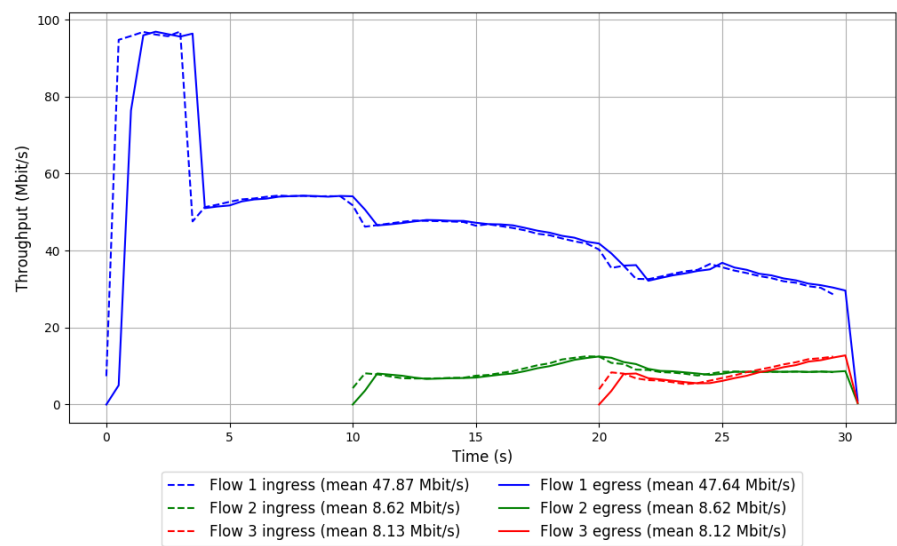


Run 3: Statistics of TCP Vegas

Start at: 2018-09-11 03:45:02
End at: 2018-09-11 03:45:32
Local clock offset: 0.44 ms
Remote clock offset: 74.453 ms

Below is generated by plot.py at 2018-09-11 04:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 56.08 Mbit/s
95th percentile per-packet one-way delay: 53.457 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 47.64 Mbit/s
95th percentile per-packet one-way delay: 52.783 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 54.906 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 57.119 ms
Loss rate: 0.07%

Run 3: Report of TCP Vegas — Data Link

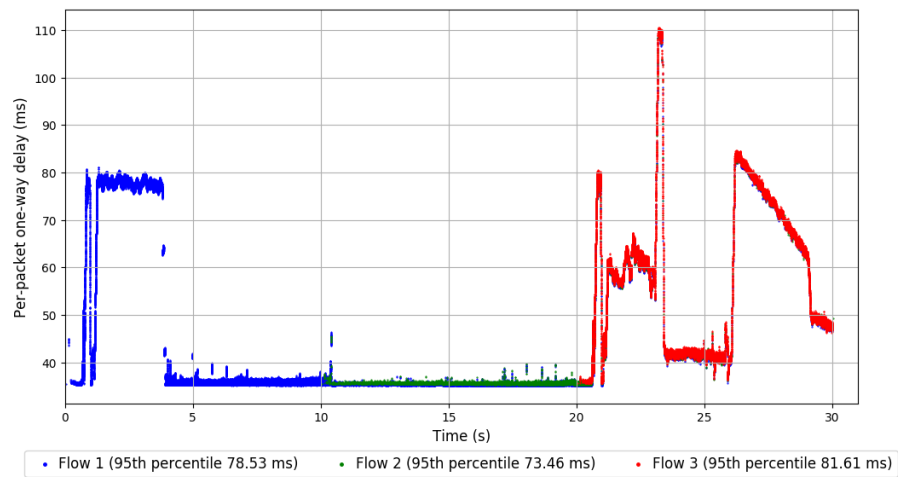
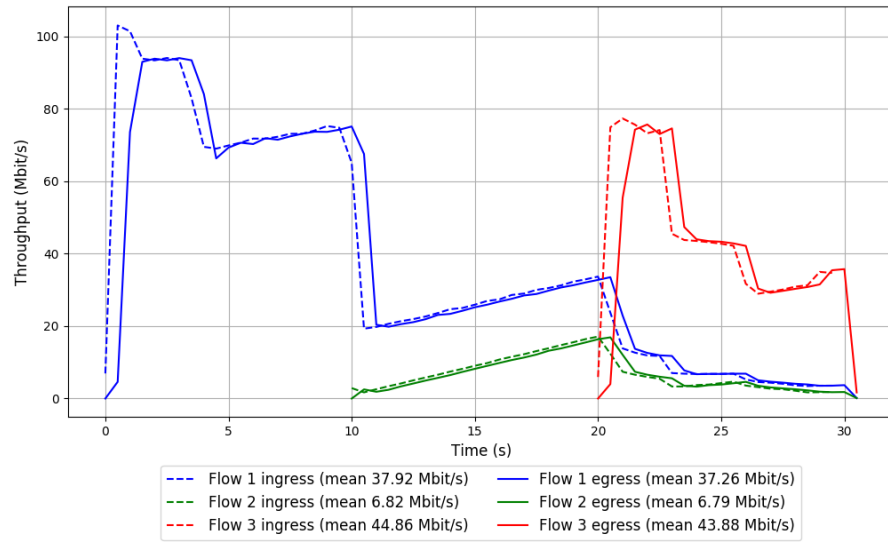


Run 4: Statistics of TCP Vegas

Start at: 2018-09-11 04:08:07
End at: 2018-09-11 04:08:37
Local clock offset: 4.886 ms
Remote clock offset: 97.764 ms

Below is generated by plot.py at 2018-09-11 04:42:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 56.36 Mbit/s
95th percentile per-packet one-way delay: 78.713 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 37.26 Mbit/s
95th percentile per-packet one-way delay: 78.530 ms
Loss rate: 1.75%
-- Flow 2:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 73.464 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 43.88 Mbit/s
95th percentile per-packet one-way delay: 81.609 ms
Loss rate: 2.16%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-11 04:31:03

End at: 2018-09-11 04:31:33

Local clock offset: 6.924 ms

Remote clock offset: 72.84 ms

Below is generated by plot.py at 2018-09-11 04:42:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 65.56 Mbit/s

95th percentile per-packet one-way delay: 65.628 ms

Loss rate: 1.33%

-- Flow 1:

Average throughput: 35.89 Mbit/s

95th percentile per-packet one-way delay: 59.066 ms

Loss rate: 1.41%

-- Flow 2:

Average throughput: 22.59 Mbit/s

95th percentile per-packet one-way delay: 56.691 ms

Loss rate: 0.57%

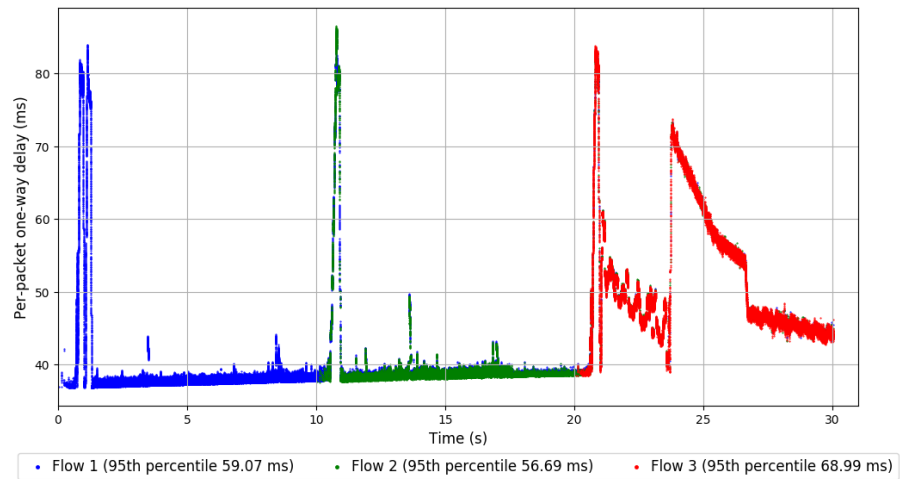
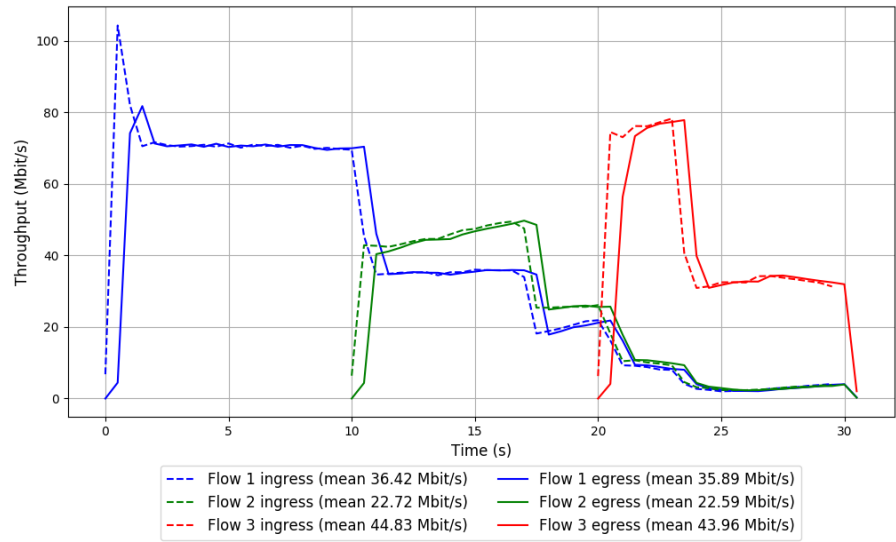
-- Flow 3:

Average throughput: 43.96 Mbit/s

95th percentile per-packet one-way delay: 68.991 ms

Loss rate: 1.90%

Run 5: Report of TCP Vegas — Data Link

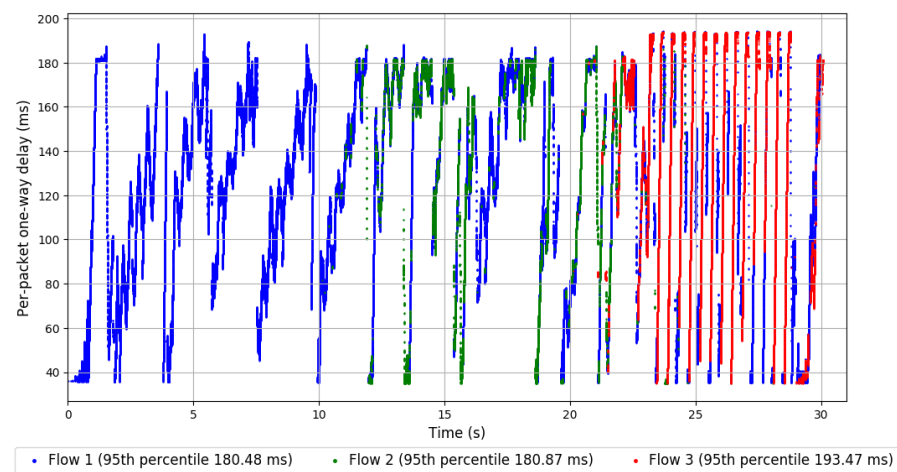
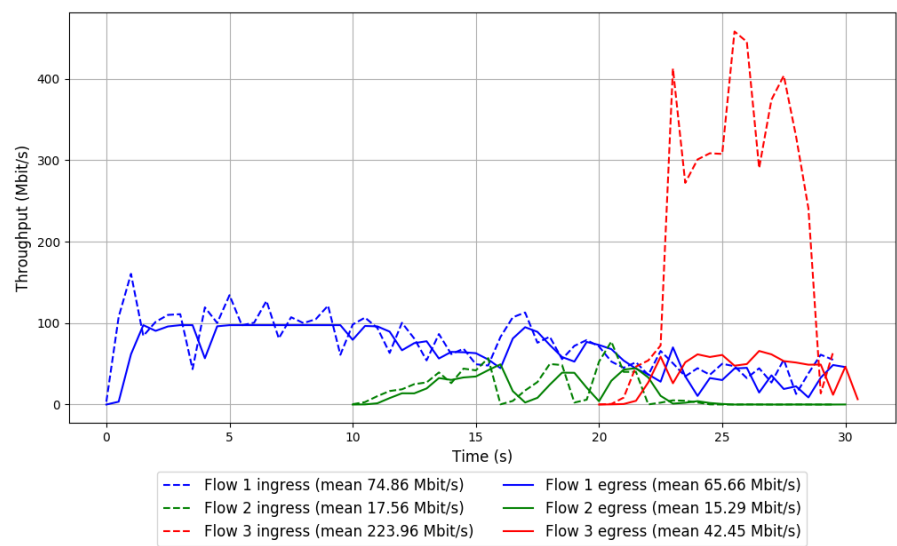


Run 1: Statistics of Verus

Start at: 2018-09-11 02:55:09
End at: 2018-09-11 02:55:39
Local clock offset: 0.701 ms
Remote clock offset: 13.765 ms

Below is generated by plot.py at 2018-09-11 04:43:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.54 Mbit/s
95th percentile per-packet one-way delay: 185.686 ms
Loss rate: 43.82%
-- Flow 1:
Average throughput: 65.66 Mbit/s
95th percentile per-packet one-way delay: 180.479 ms
Loss rate: 12.16%
-- Flow 2:
Average throughput: 15.29 Mbit/s
95th percentile per-packet one-way delay: 180.866 ms
Loss rate: 12.65%
-- Flow 3:
Average throughput: 42.45 Mbit/s
95th percentile per-packet one-way delay: 193.475 ms
Loss rate: 80.86%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-11 03:18:20

End at: 2018-09-11 03:18:50

Local clock offset: 7.008 ms

Remote clock offset: 39.99 ms

Below is generated by plot.py at 2018-09-11 04:43:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.75 Mbit/s

95th percentile per-packet one-way delay: 175.418 ms

Loss rate: 29.20%

-- Flow 1:

Average throughput: 65.13 Mbit/s

95th percentile per-packet one-way delay: 175.202 ms

Loss rate: 10.64%

-- Flow 2:

Average throughput: 25.41 Mbit/s

95th percentile per-packet one-way delay: 176.612 ms

Loss rate: 42.78%

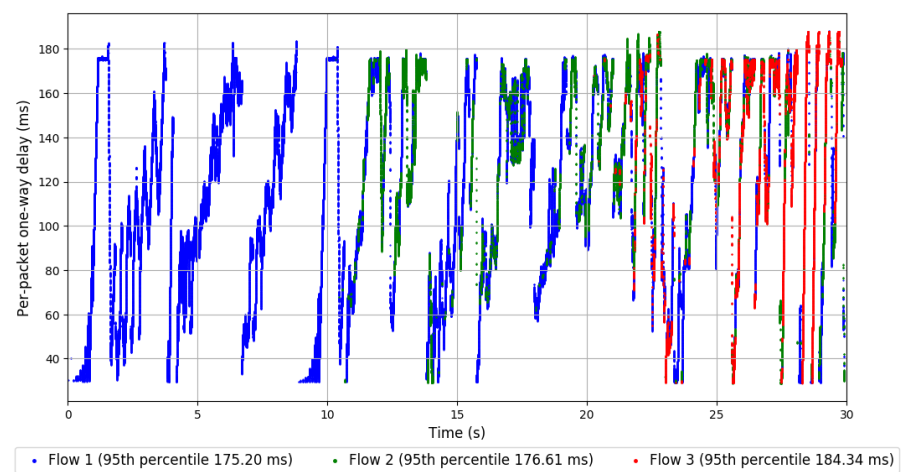
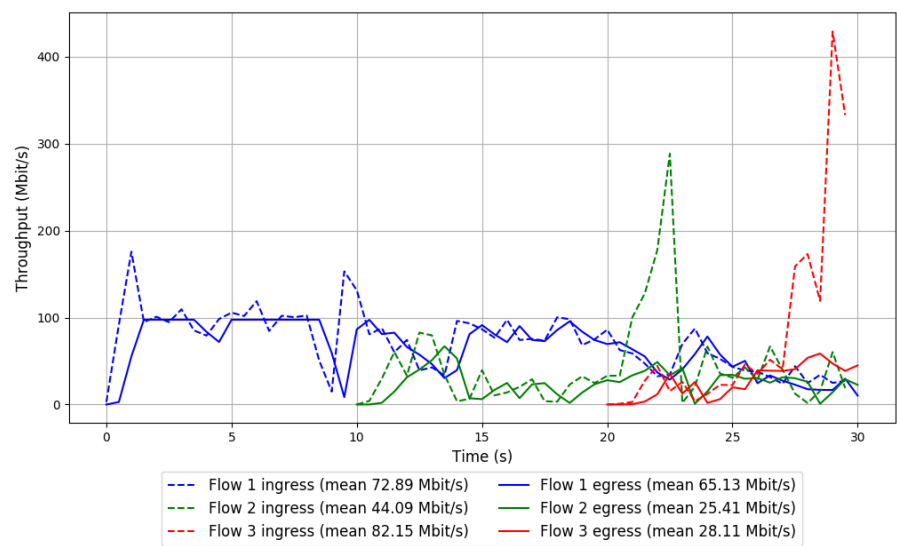
-- Flow 3:

Average throughput: 28.11 Mbit/s

95th percentile per-packet one-way delay: 184.342 ms

Loss rate: 65.76%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-11 03:41:16

End at: 2018-09-11 03:41:46

Local clock offset: 1.394 ms

Remote clock offset: 67.58 ms

Below is generated by plot.py at 2018-09-11 04:43:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 68.17 Mbit/s

95th percentile per-packet one-way delay: 251.097 ms

Loss rate: 21.18%

-- Flow 1:

Average throughput: 49.85 Mbit/s

95th percentile per-packet one-way delay: 260.877 ms

Loss rate: 25.09%

-- Flow 2:

Average throughput: 24.69 Mbit/s

95th percentile per-packet one-way delay: 235.677 ms

Loss rate: 8.13%

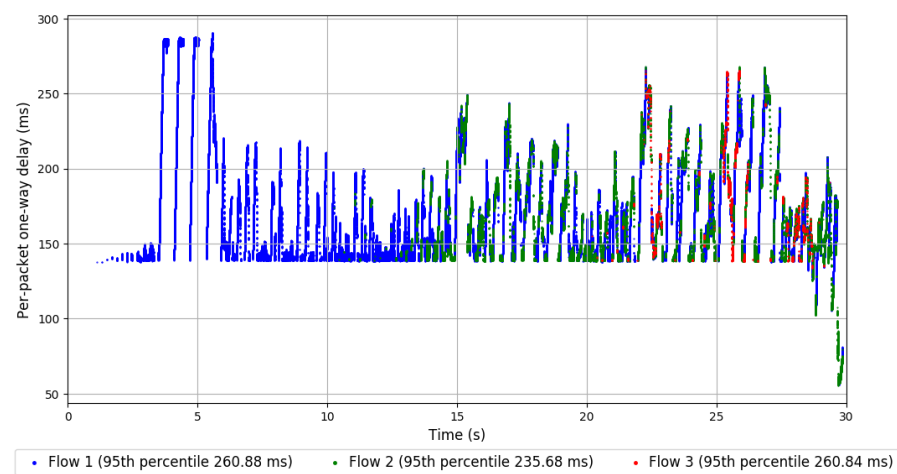
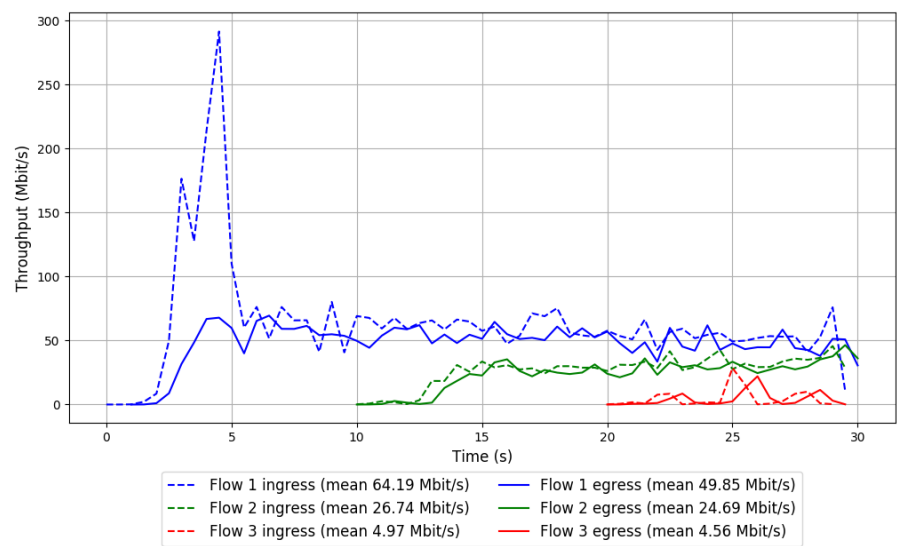
-- Flow 3:

Average throughput: 4.56 Mbit/s

95th percentile per-packet one-way delay: 260.840 ms

Loss rate: 7.96%

Run 3: Report of Verus — Data Link

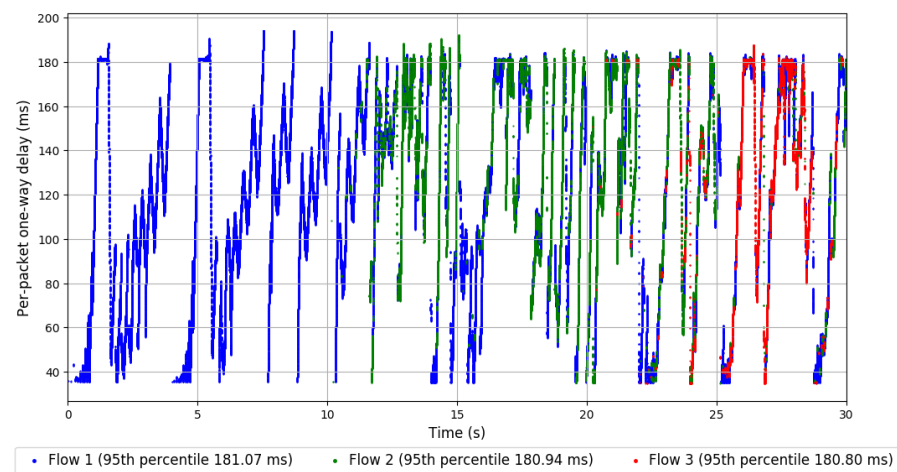
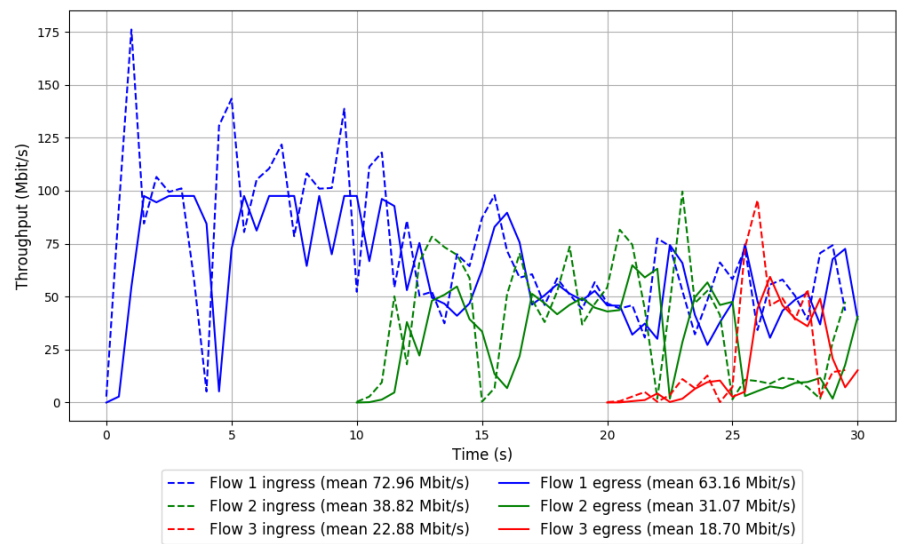


Run 4: Statistics of Verus

Start at: 2018-09-11 04:04:19
End at: 2018-09-11 04:04:49
Local clock offset: 3.142 ms
Remote clock offset: 94.216 ms

```
# Below is generated by plot.py at 2018-09-11 04:43:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.75 Mbit/s
95th percentile per-packet one-way delay: 180.997 ms
Loss rate: 14.97%
-- Flow 1:
Average throughput: 63.16 Mbit/s
95th percentile per-packet one-way delay: 181.075 ms
Loss rate: 13.01%
-- Flow 2:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 180.939 ms
Loss rate: 19.66%
-- Flow 3:
Average throughput: 18.70 Mbit/s
95th percentile per-packet one-way delay: 180.802 ms
Loss rate: 18.00%
```

Run 4: Report of Verus — Data Link

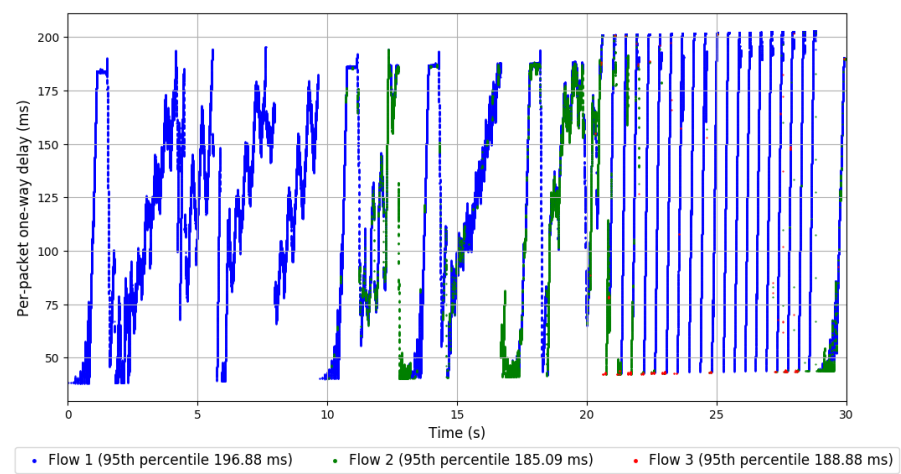
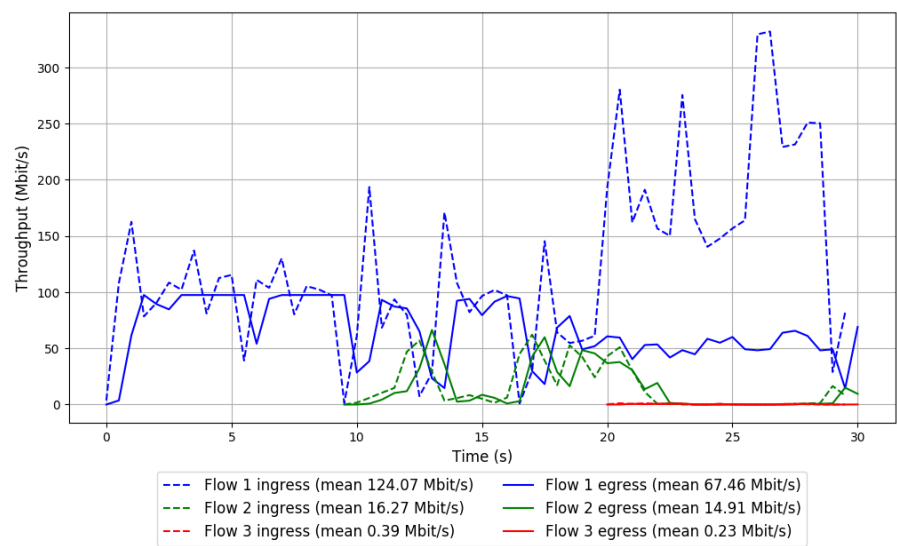


Run 5: Statistics of Verus

Start at: 2018-09-11 04:27:18
End at: 2018-09-11 04:27:48
Local clock offset: 8.197 ms
Remote clock offset: 110.361 ms

Below is generated by plot.py at 2018-09-11 04:43:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.35 Mbit/s
95th percentile per-packet one-way delay: 194.034 ms
Loss rate: 42.43%
-- Flow 1:
Average throughput: 67.46 Mbit/s
95th percentile per-packet one-way delay: 196.875 ms
Loss rate: 45.47%
-- Flow 2:
Average throughput: 14.91 Mbit/s
95th percentile per-packet one-way delay: 185.085 ms
Loss rate: 7.65%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 188.881 ms
Loss rate: 39.50%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-11 03:01:33

End at: 2018-09-11 03:02:03

Local clock offset: 2.478 ms

Remote clock offset: 8.274 ms

Below is generated by plot.py at 2018-09-11 04:43:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 82.19 Mbit/s

95th percentile per-packet one-way delay: 52.361 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 64.34 Mbit/s

95th percentile per-packet one-way delay: 52.289 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 22.17 Mbit/s

95th percentile per-packet one-way delay: 53.945 ms

Loss rate: 0.00%

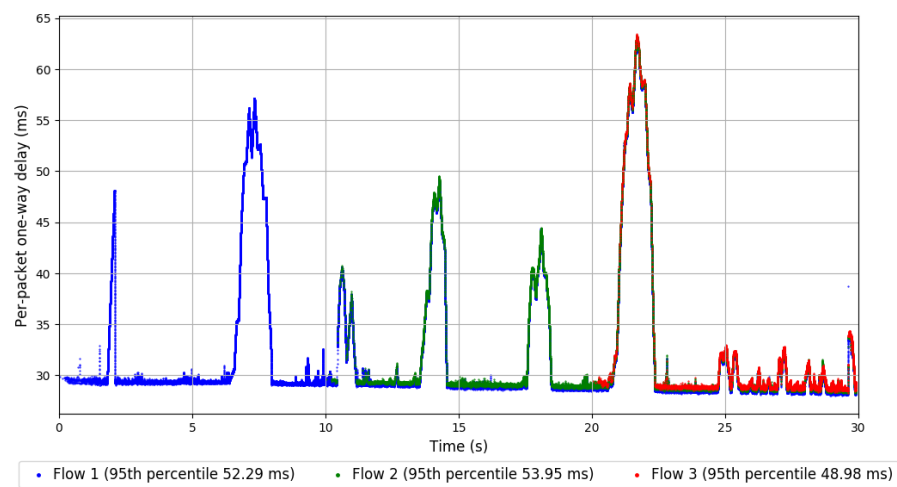
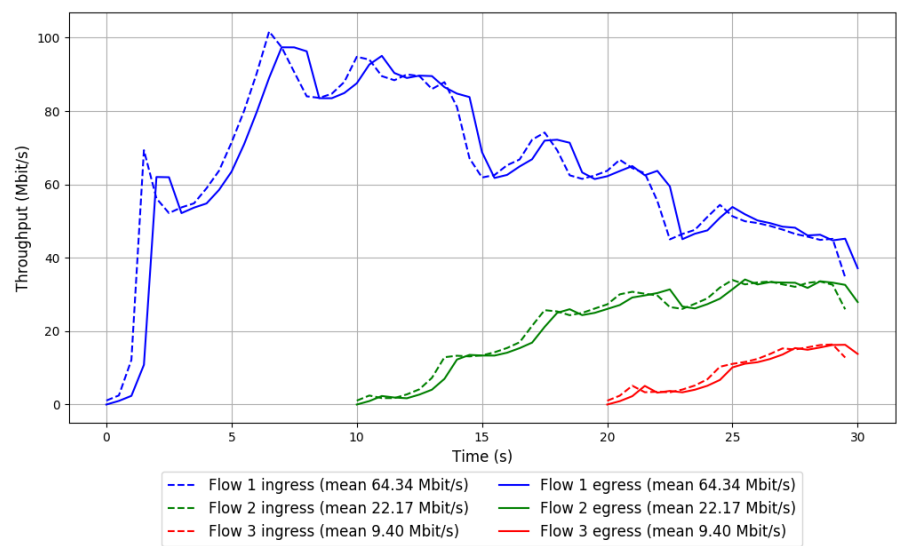
-- Flow 3:

Average throughput: 9.40 Mbit/s

95th percentile per-packet one-way delay: 48.981 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link

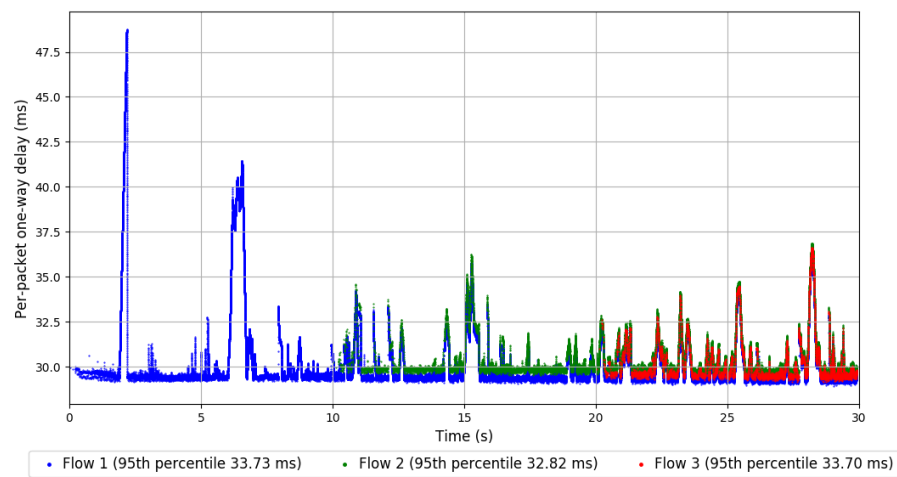
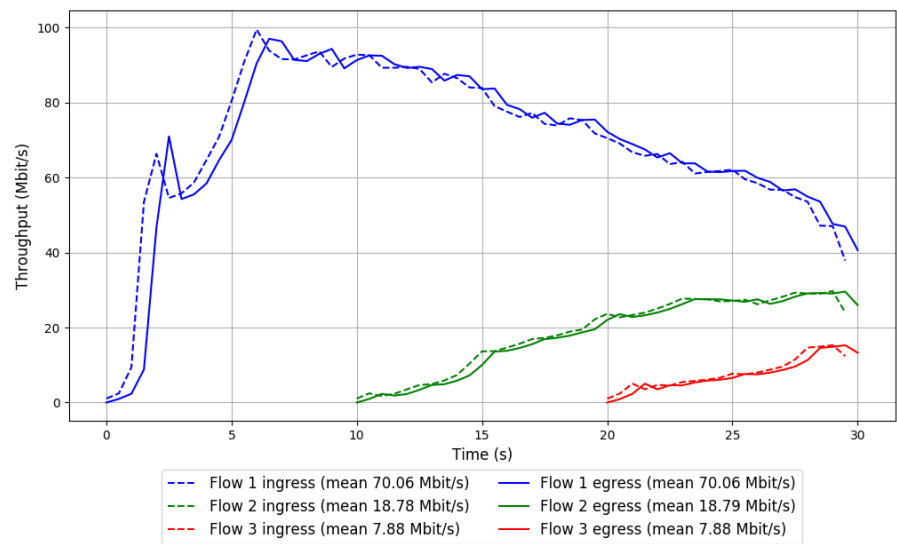


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-11 03:24:42
End at: 2018-09-11 03:25:12
Local clock offset: 7.41 ms
Remote clock offset: 45.726 ms

Below is generated by plot.py at 2018-09-11 04:43:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.15 Mbit/s
95th percentile per-packet one-way delay: 33.547 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.06 Mbit/s
95th percentile per-packet one-way delay: 33.735 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 18.79 Mbit/s
95th percentile per-packet one-way delay: 32.818 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 33.704 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

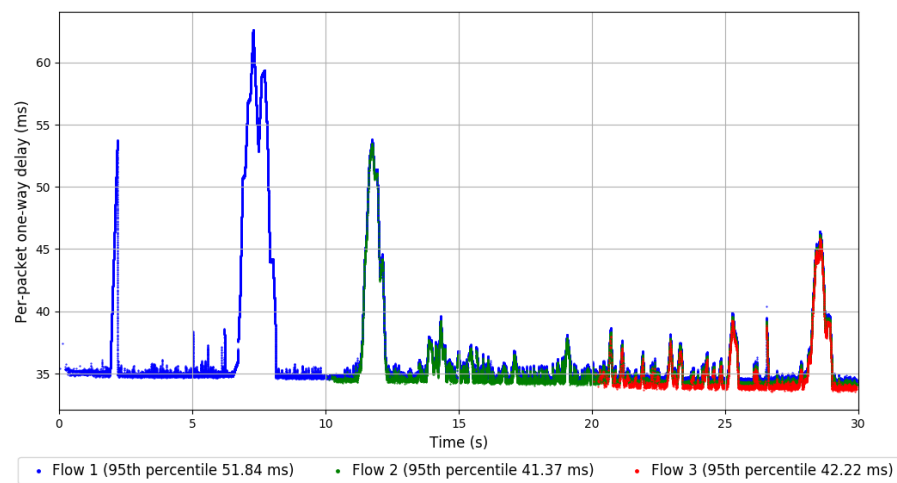
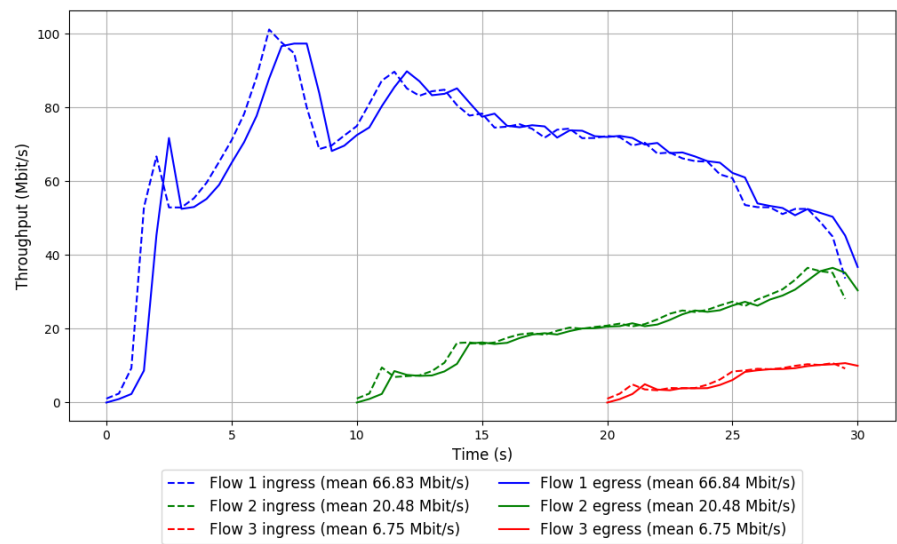


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-11 03:47:37
End at: 2018-09-11 03:48:07
Local clock offset: 0.155 ms
Remote clock offset: 78.356 ms

Below is generated by plot.py at 2018-09-11 04:43:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 82.69 Mbit/s
95th percentile per-packet one-way delay: 50.799 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.84 Mbit/s
95th percentile per-packet one-way delay: 51.835 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.48 Mbit/s
95th percentile per-packet one-way delay: 41.371 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 42.216 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

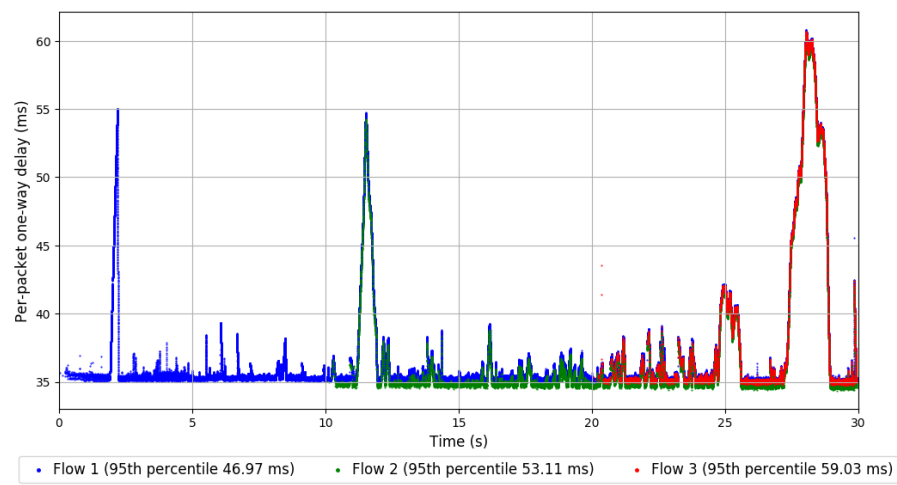
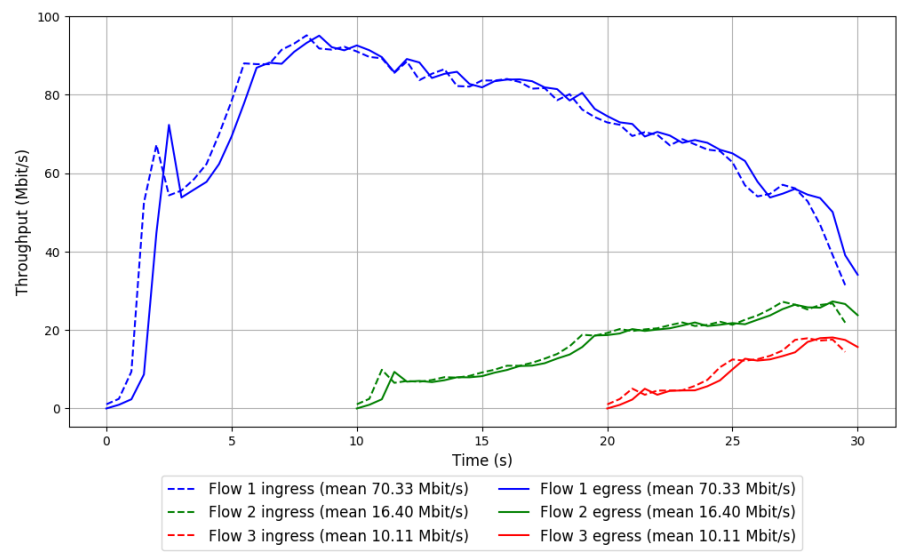


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-11 04:10:41
End at: 2018-09-11 04:11:11
Local clock offset: 5.784 ms
Remote clock offset: 99.541 ms

Below is generated by plot.py at 2018-09-11 04:44:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.58 Mbit/s
95th percentile per-packet one-way delay: 49.578 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.33 Mbit/s
95th percentile per-packet one-way delay: 46.973 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 16.40 Mbit/s
95th percentile per-packet one-way delay: 53.111 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.11 Mbit/s
95th percentile per-packet one-way delay: 59.035 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

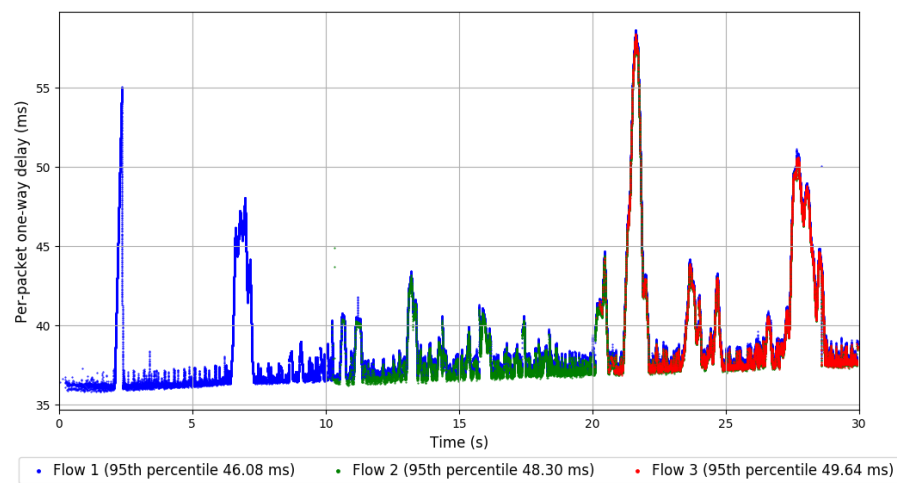
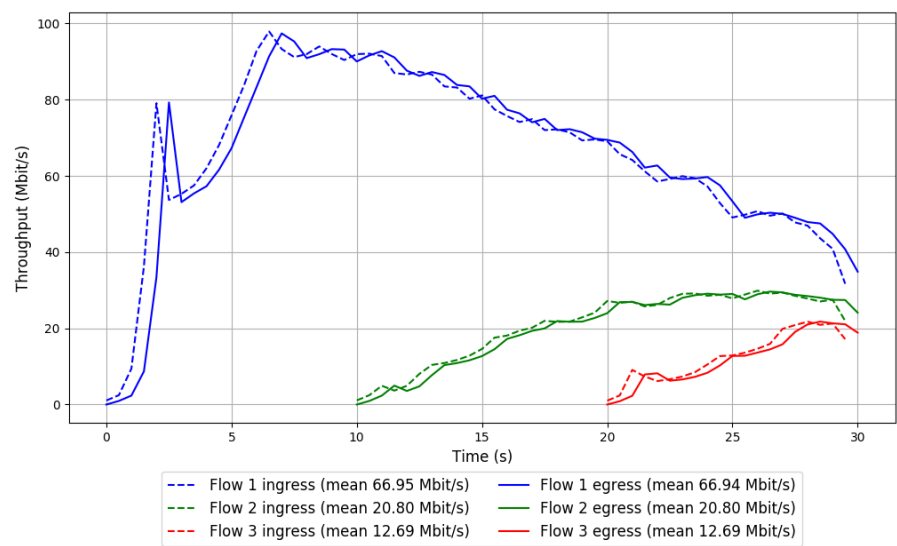


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-11 04:33:39
End at: 2018-09-11 04:34:09
Local clock offset: 5.771 ms
Remote clock offset: 58.215 ms

Below is generated by plot.py at 2018-09-11 04:44:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.97 Mbit/s
95th percentile per-packet one-way delay: 46.920 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.94 Mbit/s
95th percentile per-packet one-way delay: 46.082 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.80 Mbit/s
95th percentile per-packet one-way delay: 48.302 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 49.637 ms
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

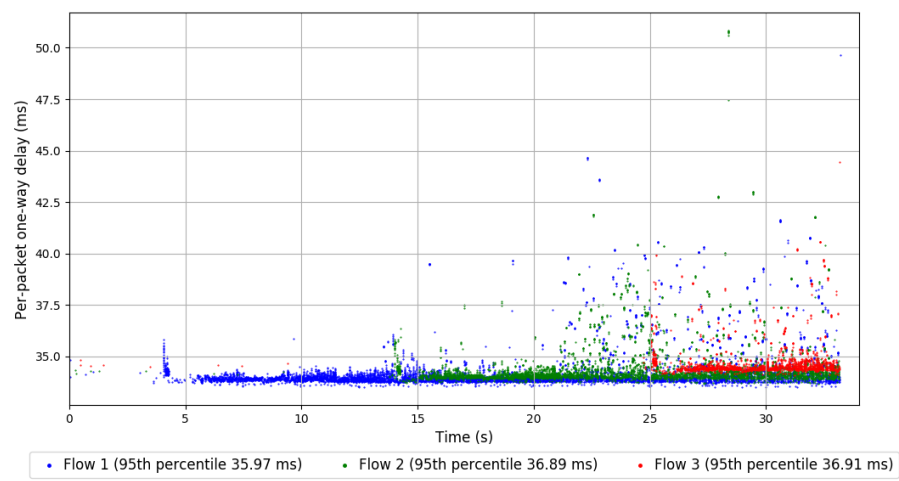
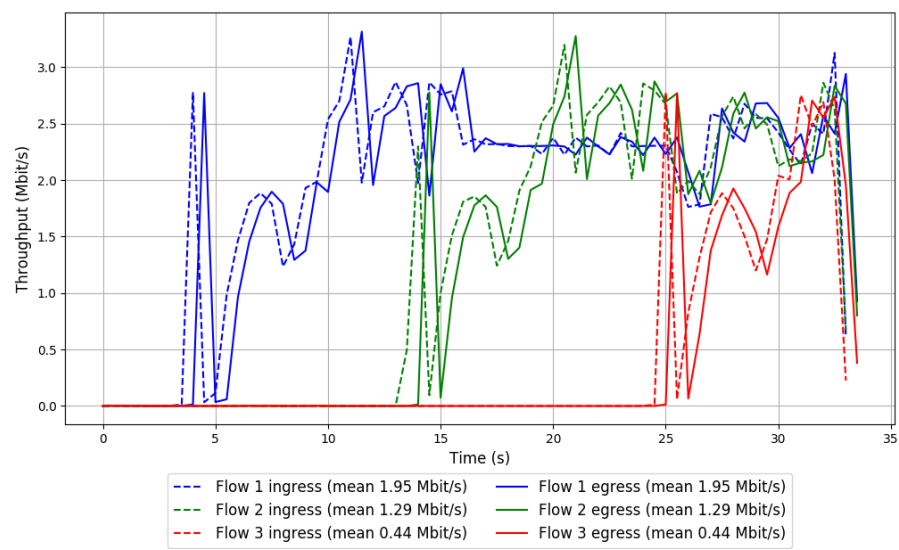


Run 1: Statistics of WebRTC media

Start at: 2018-09-11 02:56:32
End at: 2018-09-11 02:57:02
Local clock offset: 0.707 ms
Remote clock offset: 12.965 ms

Below is generated by plot.py at 2018-09-11 04:44:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 36.530 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 35.970 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 36.894 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 36.914 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

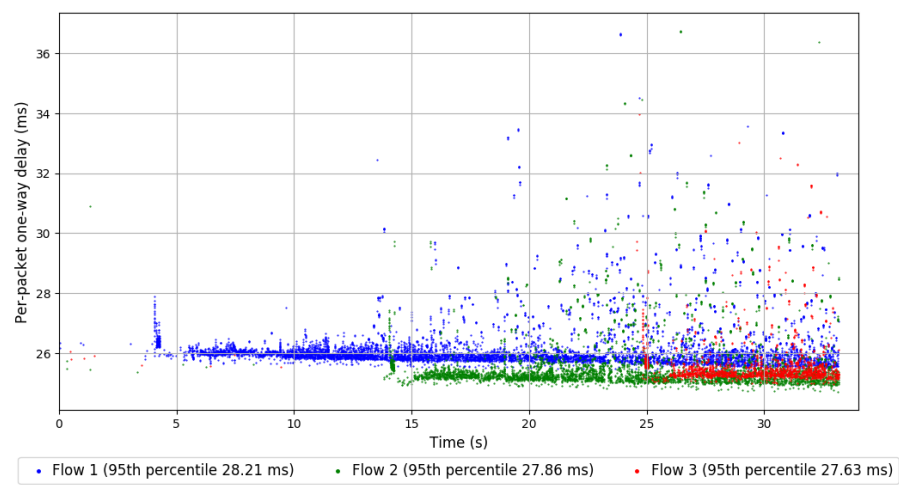
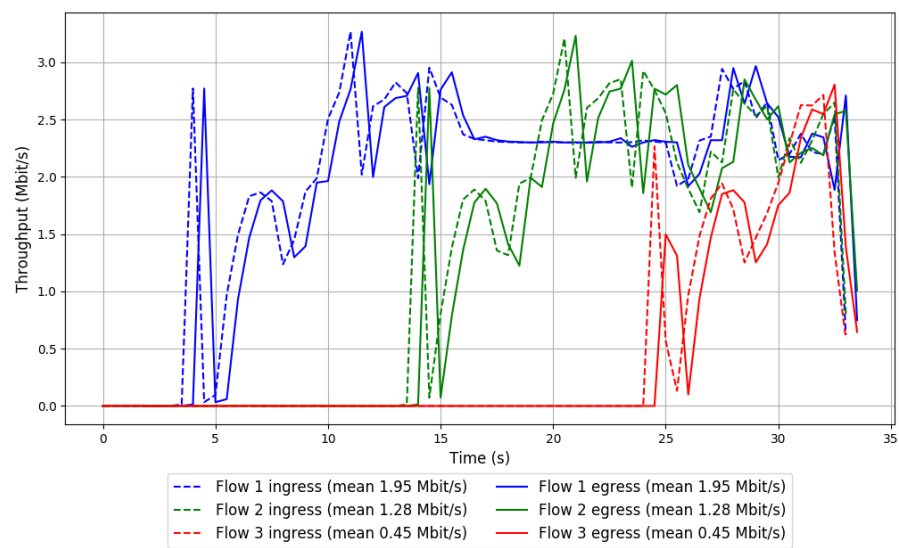


Run 2: Statistics of WebRTC media

Start at: 2018-09-11 03:19:42
End at: 2018-09-11 03:20:12
Local clock offset: 6.943 ms
Remote clock offset: 37.378 ms

Below is generated by plot.py at 2018-09-11 04:44:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 27.981 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 28.207 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 27.862 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 27.633 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

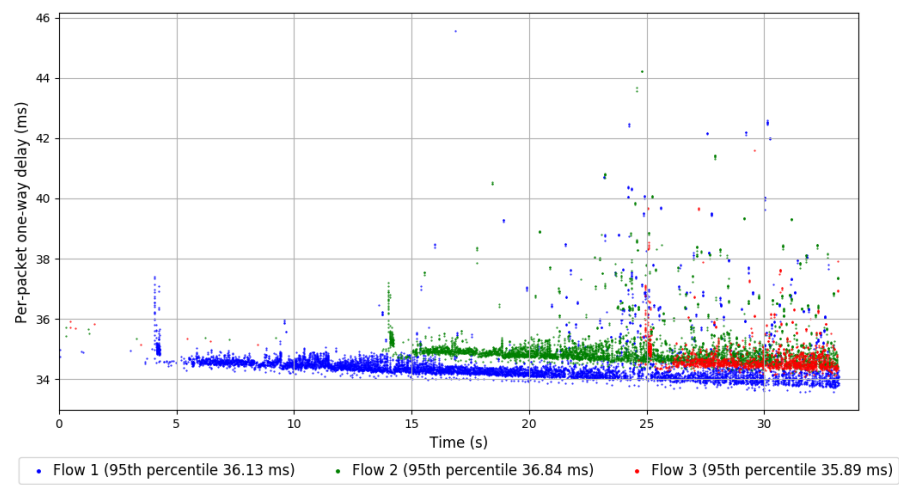
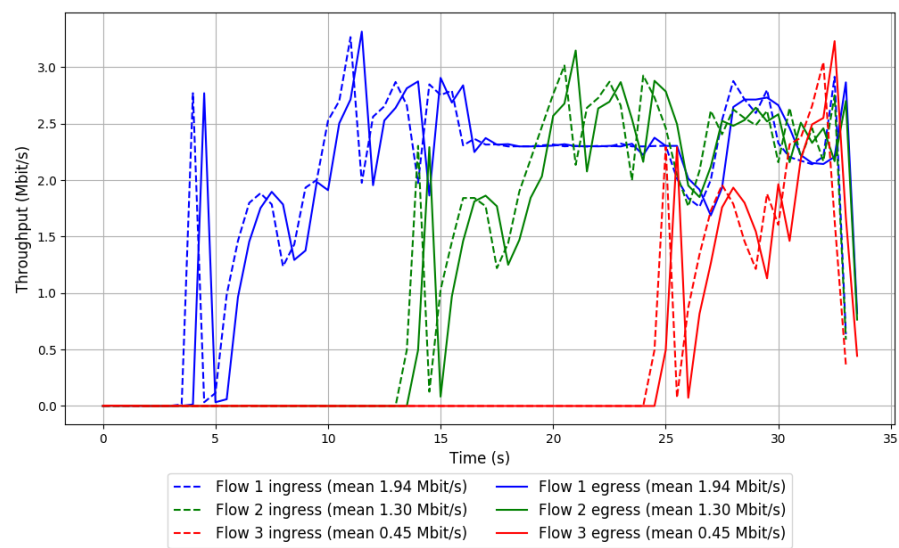


Run 3: Statistics of WebRTC media

Start at: 2018-09-11 03:42:38
End at: 2018-09-11 03:43:08
Local clock offset: 0.841 ms
Remote clock offset: 71.566 ms

Below is generated by plot.py at 2018-09-11 04:44:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 36.400 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 36.135 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 36.837 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 35.886 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-11 04:05:42

End at: 2018-09-11 04:06:12

Local clock offset: 3.888 ms

Remote clock offset: 95.58 ms

Below is generated by plot.py at 2018-09-11 04:44:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.66 Mbit/s

95th percentile per-packet one-way delay: 37.340 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 37.337 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.28 Mbit/s

95th percentile per-packet one-way delay: 37.606 ms

Loss rate: 0.00%

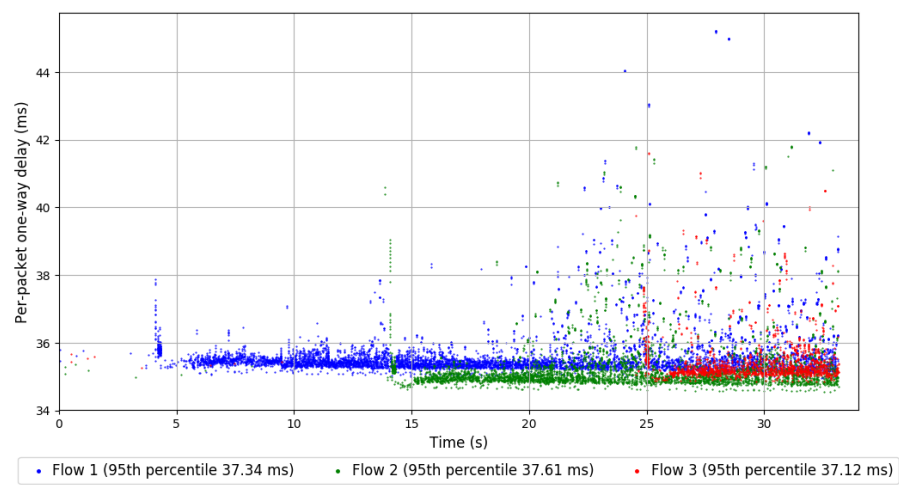
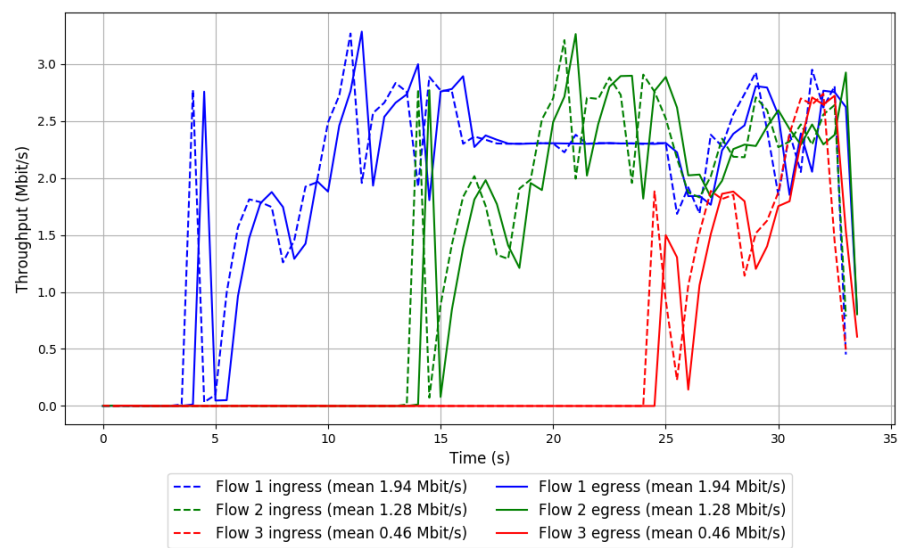
-- Flow 3:

Average throughput: 0.46 Mbit/s

95th percentile per-packet one-way delay: 37.122 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 04:28:39
End at: 2018-09-11 04:29:09
Local clock offset: 8.145 ms
Remote clock offset: 94.247 ms

Below is generated by plot.py at 2018-09-11 04:44:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 43.772 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 43.773 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 43.703 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 43.980 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

