

Pantheon Report

Generated at 2018-09-07 07:30:00 (UTC).

Data path: GCE London on *ens4 (local)* → GCE Iowa on *ens4 (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 `time.google.com` and have been applied to correct the timestamps in logs.

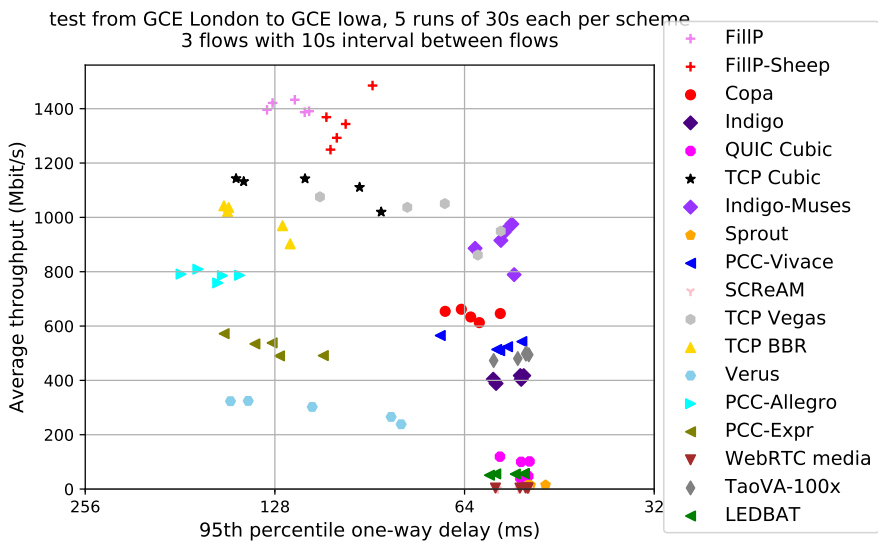
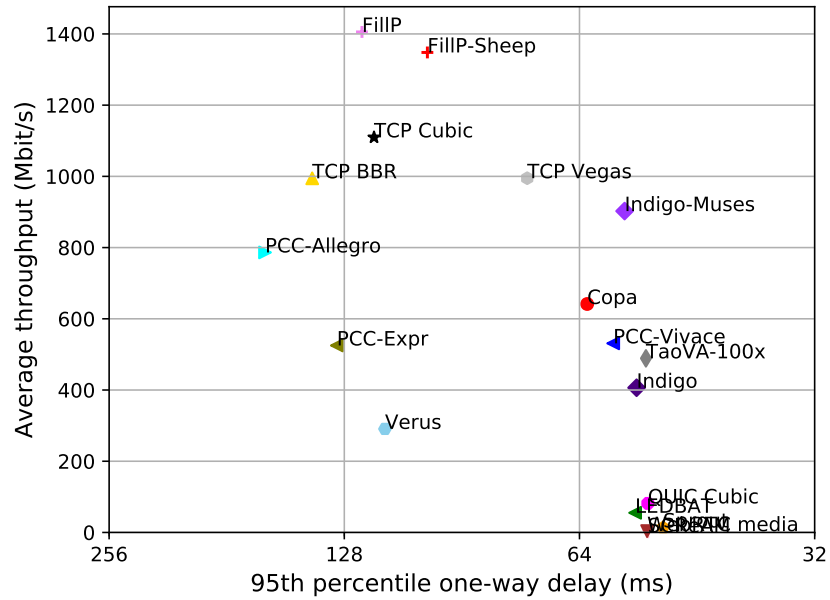
System info:

```
Linux 4.15.0-1018-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 536870912 536870912 536870912
```

Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
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-quir @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webRTC @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from GCE London to GCE Iowa, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



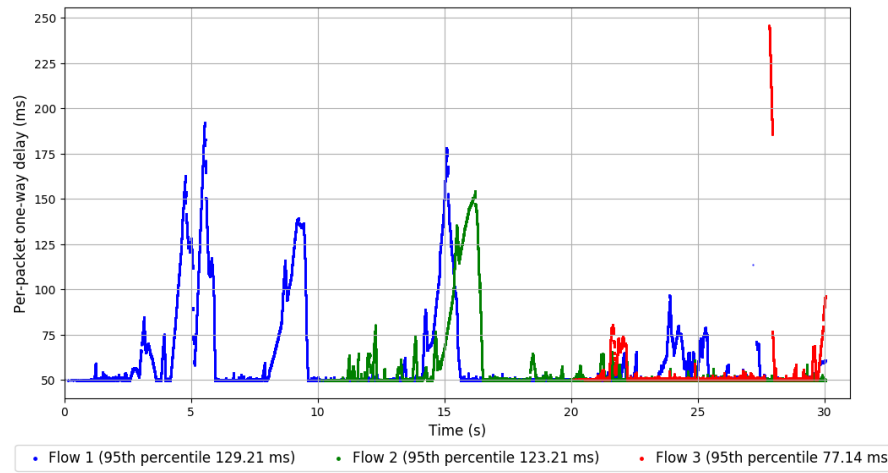
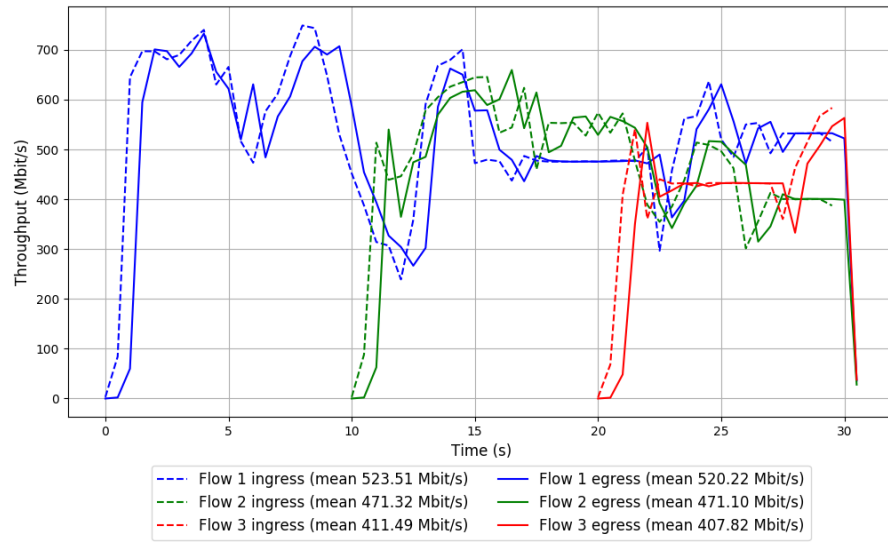
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	511.32	498.86	454.28	133.65	139.09	134.71	0.51	0.41	1.02
Copa	5	334.29	318.86	285.56	58.58	64.38	64.10	0.01	0.01	0.01
TCP Cubic	5	578.51	566.80	461.63	103.86	121.79	81.58	0.06	0.16	0.13
FillP	5	741.39	702.98	589.92	122.08	117.44	117.41	2.14	1.53	2.52
FillP-Sheep	5	735.34	649.11	545.67	96.78	105.37	82.61	0.12	0.26	0.08
Indigo	5	214.74	202.10	178.57	50.82	52.58	54.91	0.00	0.01	0.03
LEDBAT	5	35.57	23.62	11.96	52.99	54.20	51.68	0.02	0.00	0.00
Indigo-Muses	5	491.08	432.31	379.52	56.11	56.40	53.20	0.03	0.01	0.00
PCC-Allegro	5	436.36	382.12	291.13	167.42	95.86	108.11	2.50	0.54	0.51
PCC-Expr	5	309.60	256.20	137.62	135.77	89.84	59.35	0.97	0.22	0.03
QUIC Cubic	5	37.14	46.86	40.80	48.86	51.23	49.97	0.00	0.02	0.01
SCReAM	5	0.22	0.22	0.22	50.87	50.79	51.92	0.00	0.00	0.07
Sprout	5	7.16	6.99	6.66	49.76	49.63	49.84	0.00	0.00	0.00
TaoVA-100x	5	250.74	245.60	224.09	52.12	52.65	53.01	0.01	0.01	0.02
TCP Vegas	5	503.54	493.89	488.36	64.23	67.54	76.69	0.03	0.03	0.04
Verus	5	173.90	114.48	124.28	116.28	81.72	84.85	0.39	0.01	0.00
PCC-Vivace	5	354.48	223.49	84.42	59.49	56.57	51.05	0.00	0.01	0.00
WebRTC media	5	2.01	1.27	0.50	52.13	50.40	49.81	0.05	0.01	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-07 02:14:34
End at: 2018-09-07 02:15:04
Local clock offset: 0.452 ms
Remote clock offset: -0.042 ms

Below is generated by plot.py at 2018-09-07 05:11:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 969.44 Mbit/s
95th percentile per-packet one-way delay: 124.471 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 520.22 Mbit/s
95th percentile per-packet one-way delay: 129.205 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 471.10 Mbit/s
95th percentile per-packet one-way delay: 123.209 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 407.82 Mbit/s
95th percentile per-packet one-way delay: 77.145 ms
Loss rate: 0.89%

Run 1: Report of TCP BBR — Data Link

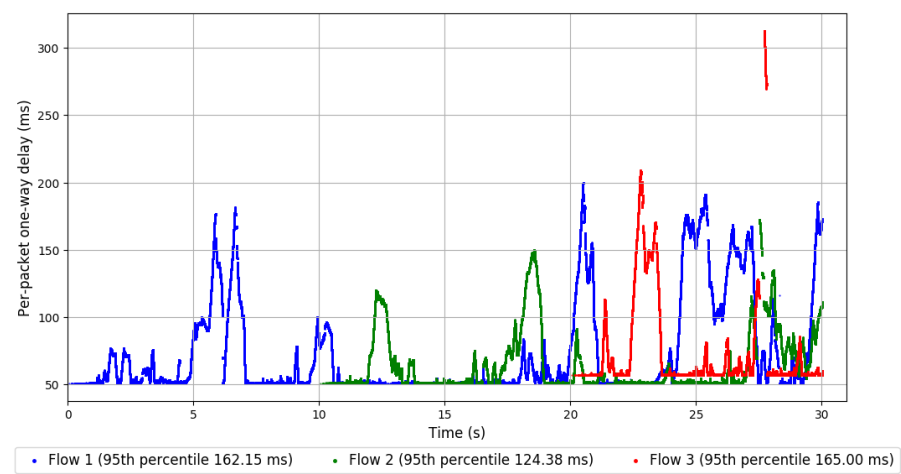
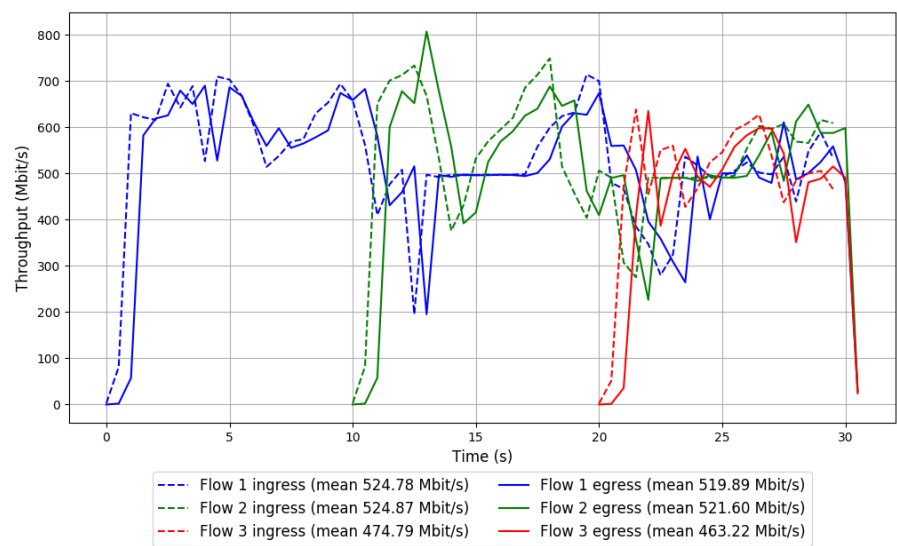


Run 2: Statistics of TCP BBR

Start at: 2018-09-07 02:47:28
End at: 2018-09-07 02:47:58
Local clock offset: -0.233 ms
Remote clock offset: -0.173 ms

Below is generated by plot.py at 2018-09-07 05:12:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 1021.09 Mbit/s
95th percentile per-packet one-way delay: 152.194 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 519.89 Mbit/s
95th percentile per-packet one-way delay: 162.150 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 521.60 Mbit/s
95th percentile per-packet one-way delay: 124.378 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 463.22 Mbit/s
95th percentile per-packet one-way delay: 164.997 ms
Loss rate: 2.50%

Run 2: Report of TCP BBR — Data Link

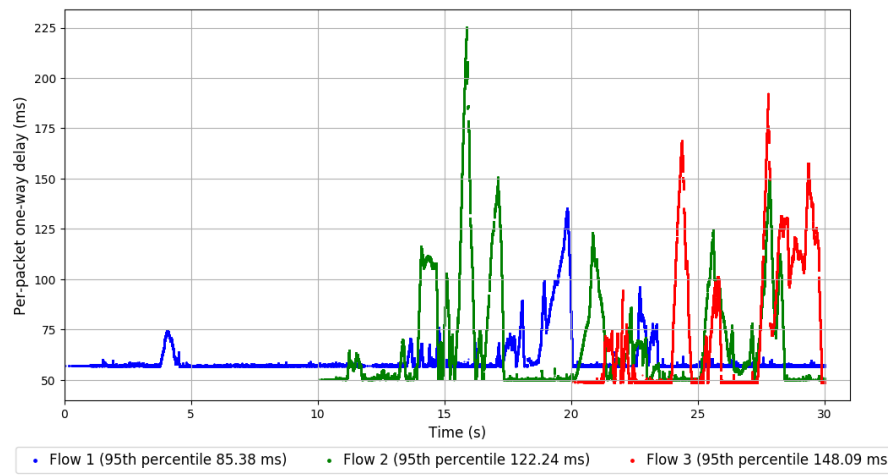
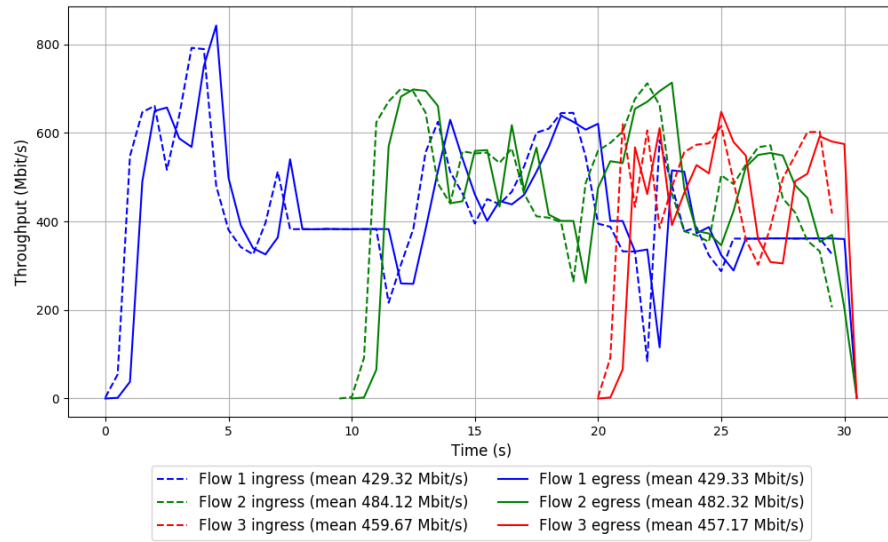


Run 3: Statistics of TCP BBR

Start at: 2018-09-07 03:18:55
End at: 2018-09-07 03:19:25
Local clock offset: 0.143 ms
Remote clock offset: -0.116 ms

Below is generated by plot.py at 2018-09-07 05:12:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 902.75 Mbit/s
95th percentile per-packet one-way delay: 121.033 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 429.33 Mbit/s
95th percentile per-packet one-way delay: 85.383 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 482.32 Mbit/s
95th percentile per-packet one-way delay: 122.242 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 457.17 Mbit/s
95th percentile per-packet one-way delay: 148.093 ms
Loss rate: 0.55%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-07 03:50:20

End at: 2018-09-07 03:50:50

Local clock offset: 0.523 ms

Remote clock offset: 0.044 ms

Below is generated by plot.py at 2018-09-07 05:12:42

Datalink statistics

-- Total of 3 flows:

Average throughput: 1036.61 Mbit/s

95th percentile per-packet one-way delay: 151.578 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 535.05 Mbit/s

95th percentile per-packet one-way delay: 141.043 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 502.49 Mbit/s

95th percentile per-packet one-way delay: 173.426 ms

Loss rate: 0.65%

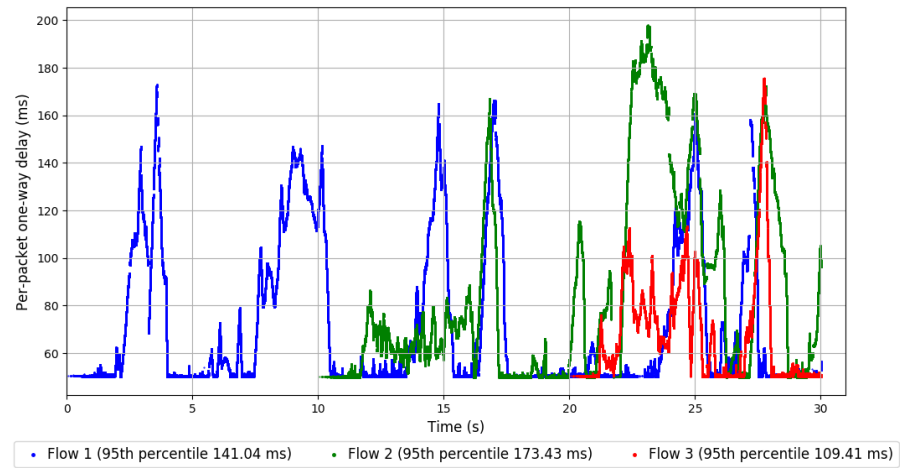
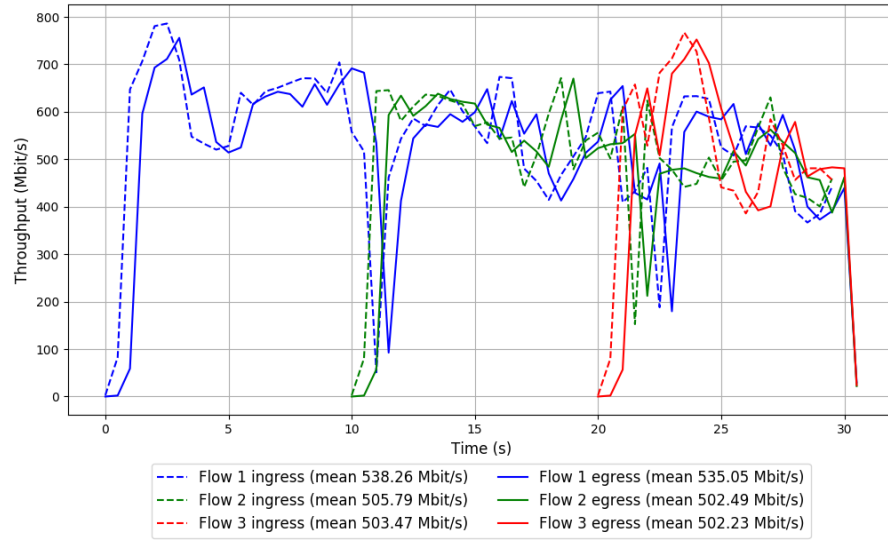
-- Flow 3:

Average throughput: 502.23 Mbit/s

95th percentile per-packet one-way delay: 109.407 ms

Loss rate: 0.24%

Run 4: Report of TCP BBR — Data Link

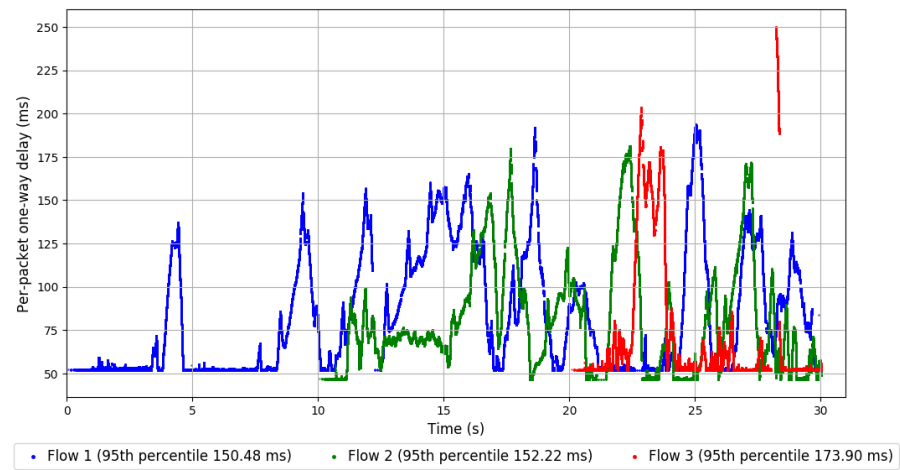
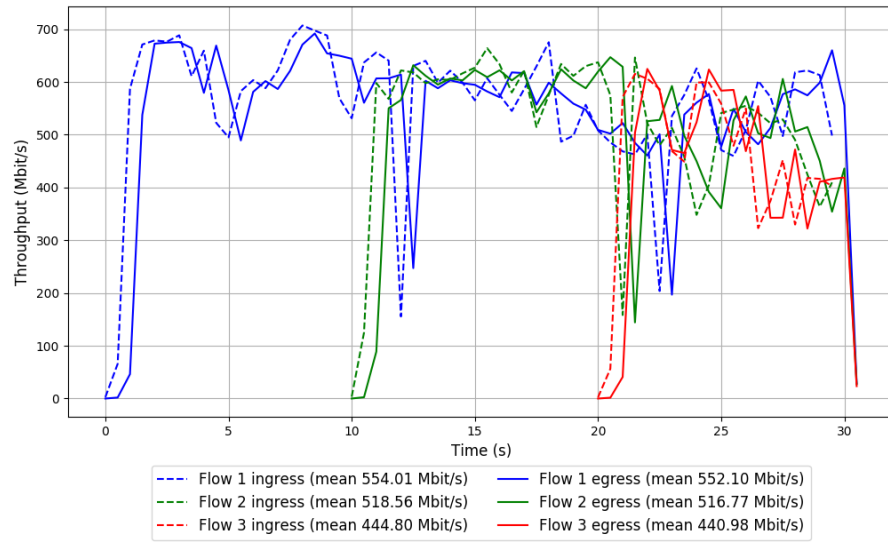


Run 5: Statistics of TCP BBR

Start at: 2018-09-07 04:21:46
End at: 2018-09-07 04:22:16
Local clock offset: 0.121 ms
Remote clock offset: -0.054 ms

Below is generated by plot.py at 2018-09-07 05:12:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 1042.79 Mbit/s
95th percentile per-packet one-way delay: 154.214 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 552.10 Mbit/s
95th percentile per-packet one-way delay: 150.478 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 516.77 Mbit/s
95th percentile per-packet one-way delay: 152.218 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 440.98 Mbit/s
95th percentile per-packet one-way delay: 173.903 ms
Loss rate: 0.90%

Run 5: Report of TCP BBR — Data Link

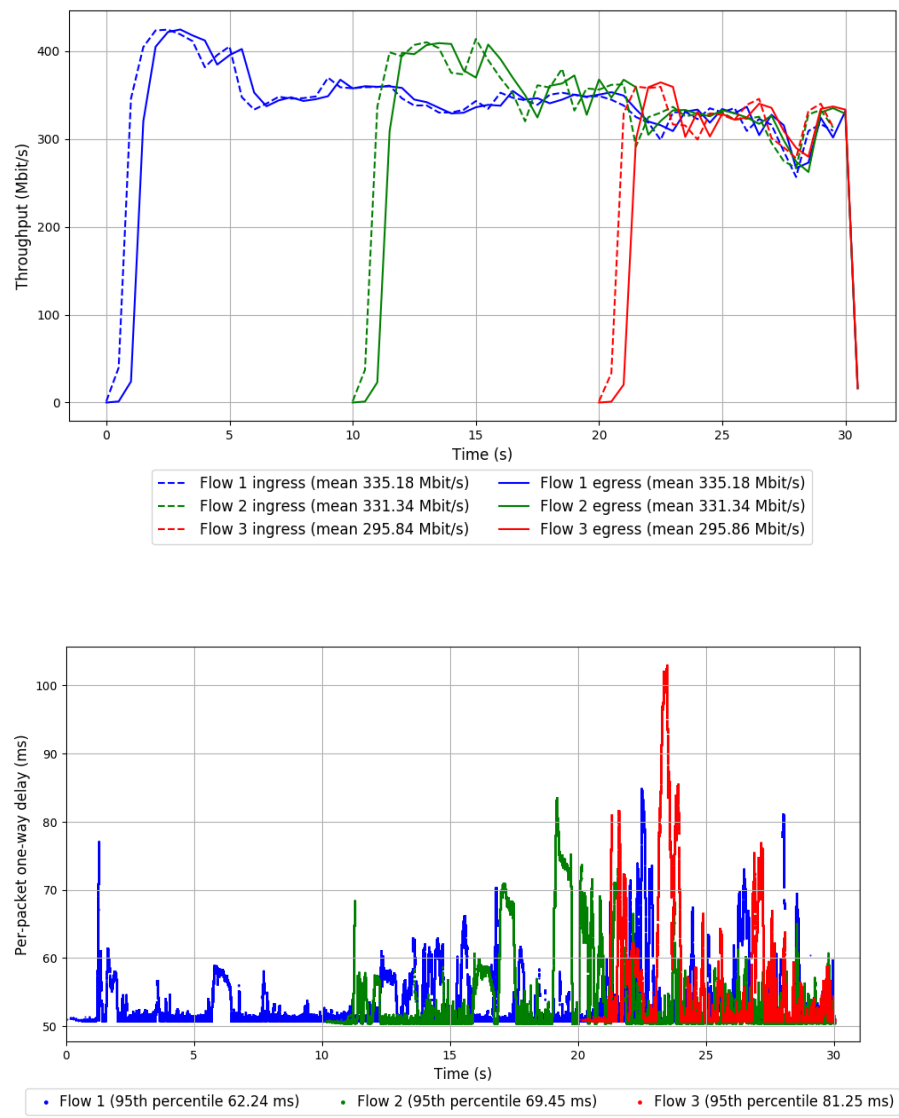


Run 1: Statistics of Copa

Start at: 2018-09-07 02:24:18
End at: 2018-09-07 02:24:48
Local clock offset: -0.279 ms
Remote clock offset: -0.057 ms

Below is generated by plot.py at 2018-09-07 05:14:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 654.16 Mbit/s
95th percentile per-packet one-way delay: 68.689 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 335.18 Mbit/s
95th percentile per-packet one-way delay: 62.242 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 331.34 Mbit/s
95th percentile per-packet one-way delay: 69.448 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 295.86 Mbit/s
95th percentile per-packet one-way delay: 81.247 ms
Loss rate: 0.00%

Run 1: Report of Copa — Data Link

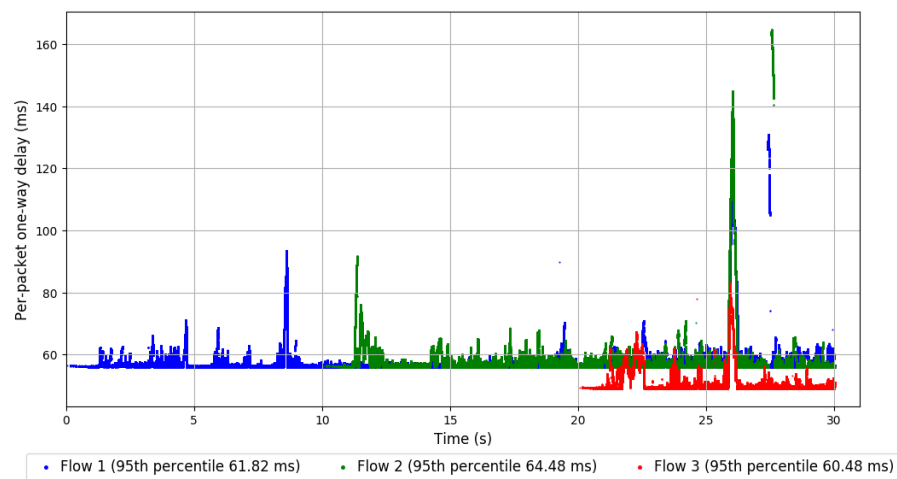
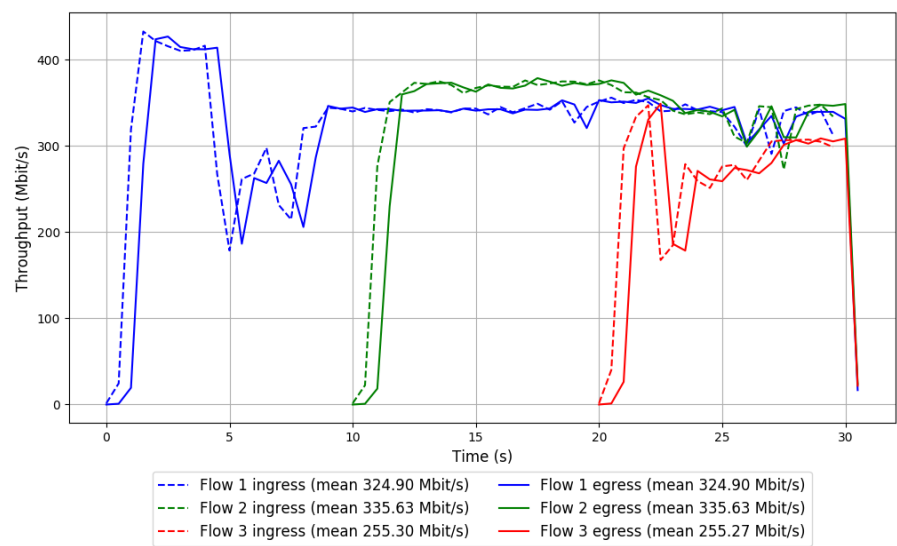


Run 2: Statistics of Copa

Start at: 2018-09-07 02:57:18
End at: 2018-09-07 02:57:48
Local clock offset: 0.519 ms
Remote clock offset: -0.218 ms

Below is generated by plot.py at 2018-09-07 05:14:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 633.36 Mbit/s
95th percentile per-packet one-way delay: 62.581 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 324.90 Mbit/s
95th percentile per-packet one-way delay: 61.824 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 335.63 Mbit/s
95th percentile per-packet one-way delay: 64.484 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 255.27 Mbit/s
95th percentile per-packet one-way delay: 60.479 ms
Loss rate: 0.00%

Run 2: Report of Copa — Data Link

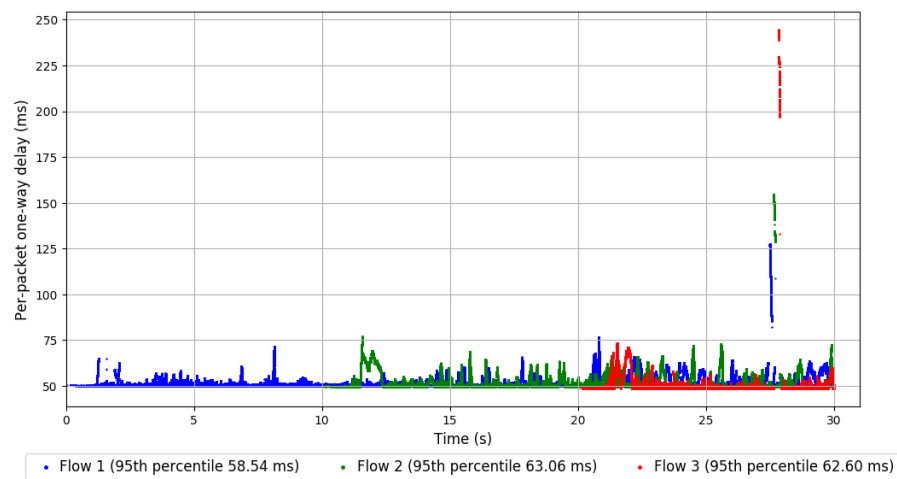
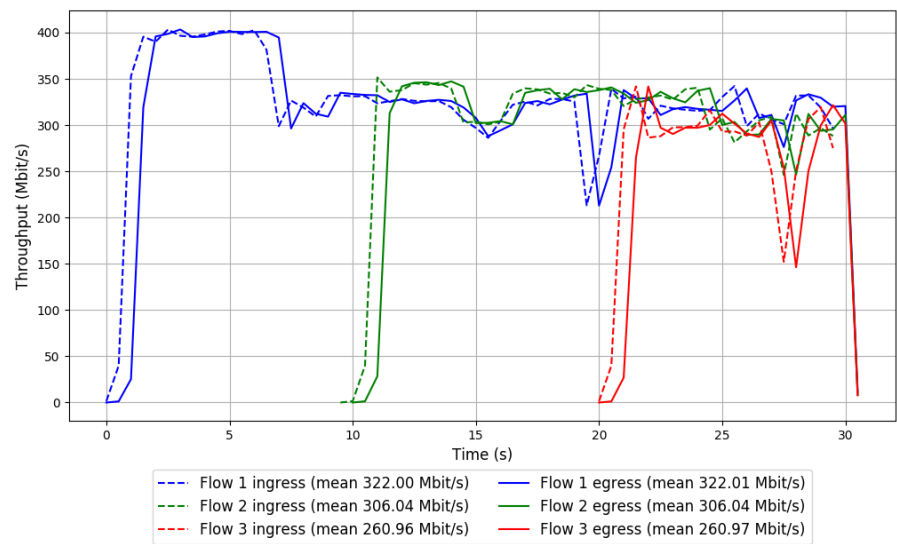


Run 3: Statistics of Copa

Start at: 2018-09-07 03:28:43
End at: 2018-09-07 03:29:13
Local clock offset: 0.17 ms
Remote clock offset: -0.051 ms

Below is generated by plot.py at 2018-09-07 05:14:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 612.61 Mbit/s
95th percentile per-packet one-way delay: 60.636 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 322.01 Mbit/s
95th percentile per-packet one-way delay: 58.537 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 306.04 Mbit/s
95th percentile per-packet one-way delay: 63.060 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 260.97 Mbit/s
95th percentile per-packet one-way delay: 62.596 ms
Loss rate: 0.00%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-07 04:00:18

End at: 2018-09-07 04:00:48

Local clock offset: -0.268 ms

Remote clock offset: -0.01 ms

Below is generated by plot.py at 2018-09-07 05:29:54

Datalink statistics

-- Total of 3 flows:

Average throughput: 646.10 Mbit/s

95th percentile per-packet one-way delay: 56.160 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 349.29 Mbit/s

95th percentile per-packet one-way delay: 53.076 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 292.81 Mbit/s

95th percentile per-packet one-way delay: 57.299 ms

Loss rate: 0.02%

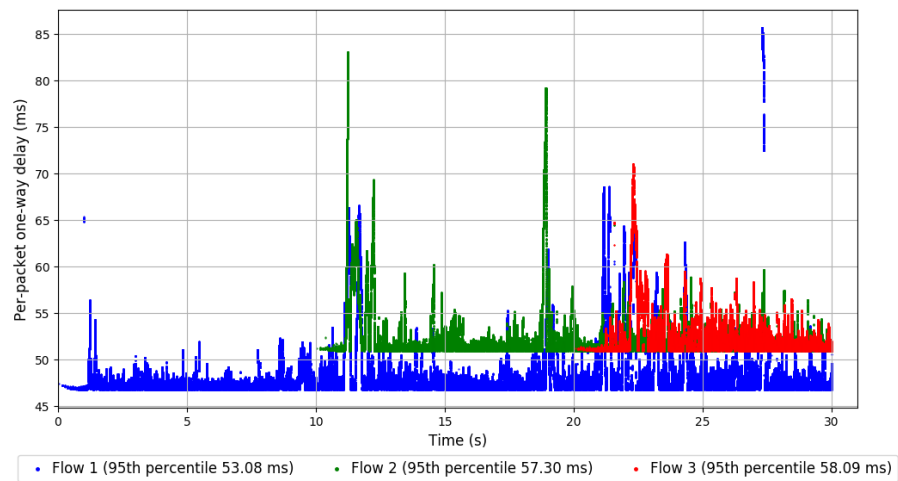
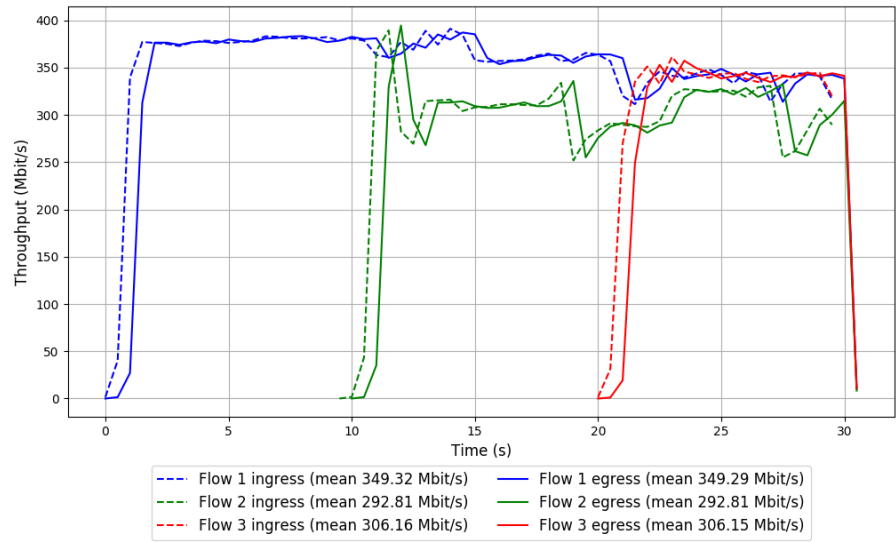
-- Flow 3:

Average throughput: 306.15 Mbit/s

95th percentile per-packet one-way delay: 58.089 ms

Loss rate: 0.05%

Run 4: Report of Copa — Data Link

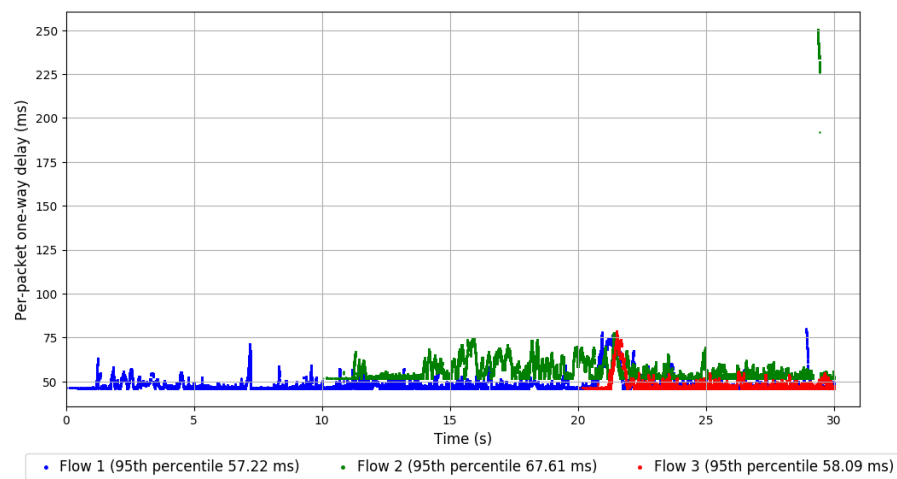
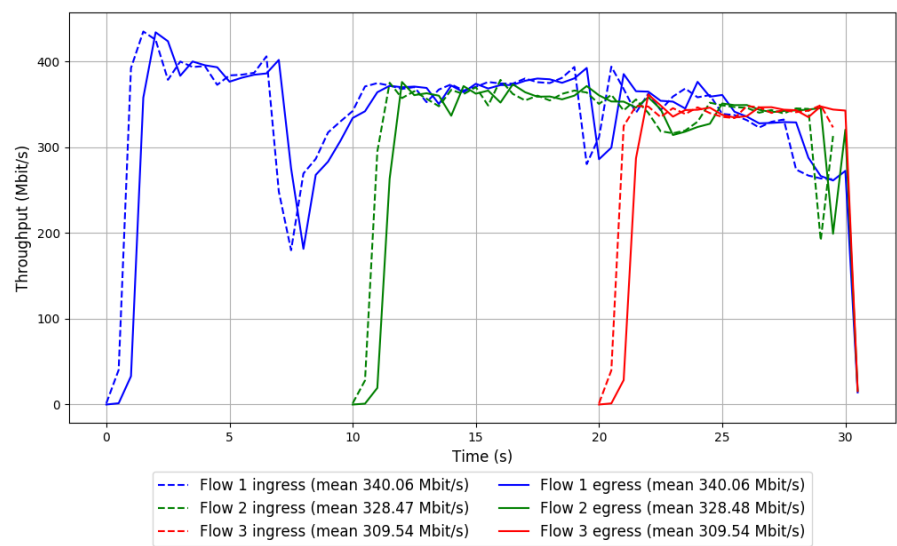


Run 5: Statistics of Copa

Start at: 2018-09-07 04:31:48
End at: 2018-09-07 04:32:18
Local clock offset: 0.416 ms
Remote clock offset: -0.058 ms

Below is generated by plot.py at 2018-09-07 05:31:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 661.72 Mbit/s
95th percentile per-packet one-way delay: 64.757 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 340.06 Mbit/s
95th percentile per-packet one-way delay: 57.220 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 328.48 Mbit/s
95th percentile per-packet one-way delay: 67.609 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 309.54 Mbit/s
95th percentile per-packet one-way delay: 58.091 ms
Loss rate: 0.00%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-07 02:08:34

End at: 2018-09-07 02:09:04

Local clock offset: 0.081 ms

Remote clock offset: 0.035 ms

Below is generated by plot.py at 2018-09-07 05:31:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 1142.78 Mbit/s

95th percentile per-packet one-way delay: 147.513 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 592.53 Mbit/s

95th percentile per-packet one-way delay: 123.283 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 587.93 Mbit/s

95th percentile per-packet one-way delay: 151.561 ms

Loss rate: 0.00%

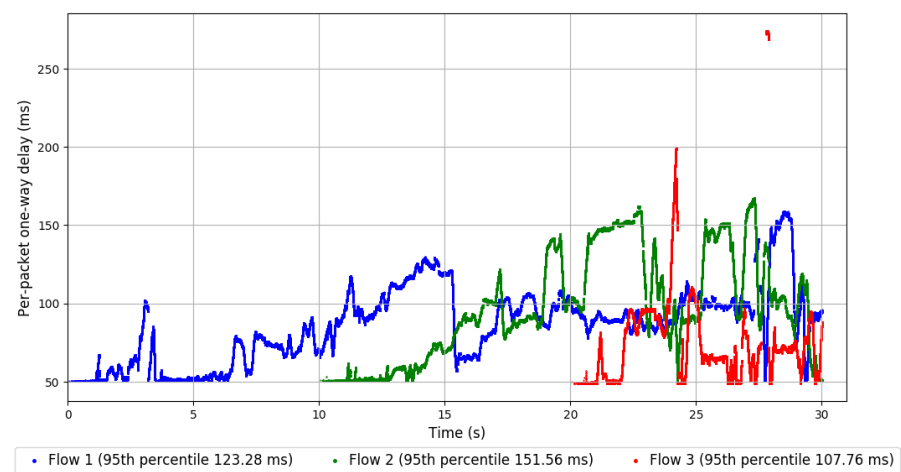
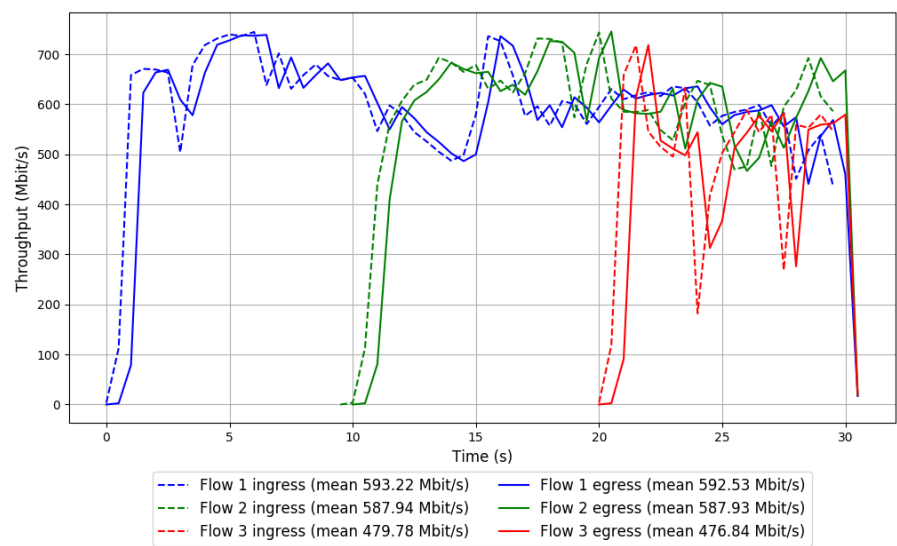
-- Flow 3:

Average throughput: 476.84 Mbit/s

95th percentile per-packet one-way delay: 107.762 ms

Loss rate: 0.61%

Run 1: Report of TCP Cubic — Data Link

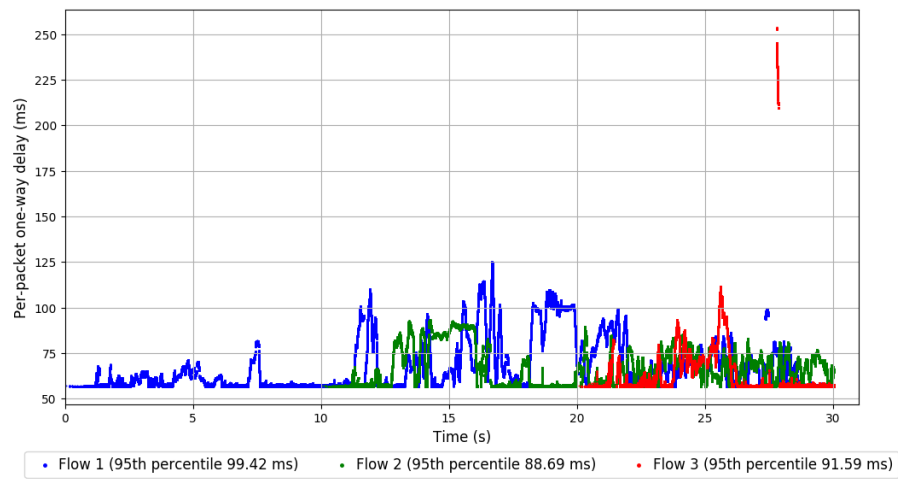
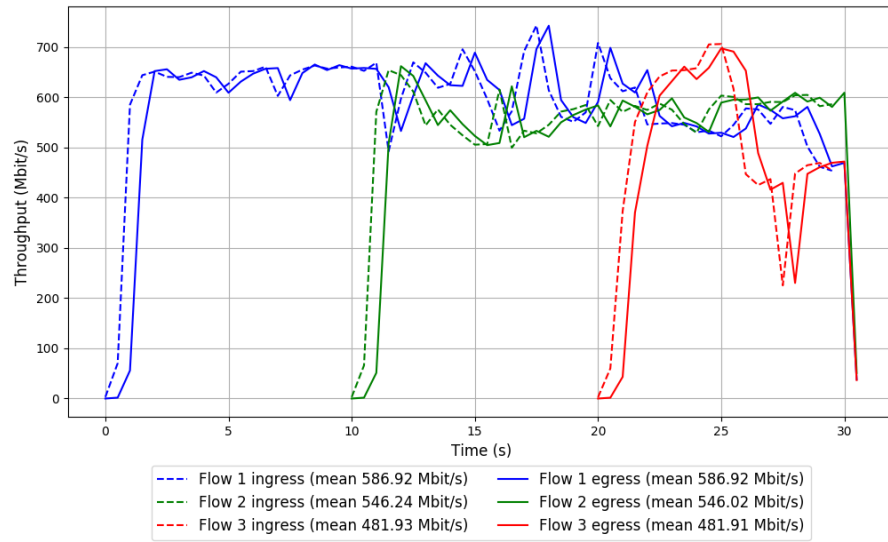


Run 2: Statistics of TCP Cubic

Start at: 2018-09-07 02:41:28
End at: 2018-09-07 02:41:58
Local clock offset: 0.098 ms
Remote clock offset: -0.096 ms

Below is generated by plot.py at 2018-09-07 05:31:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1110.77 Mbit/s
95th percentile per-packet one-way delay: 93.923 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 586.92 Mbit/s
95th percentile per-packet one-way delay: 99.423 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 546.02 Mbit/s
95th percentile per-packet one-way delay: 88.695 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 481.91 Mbit/s
95th percentile per-packet one-way delay: 91.594 ms
Loss rate: 0.00%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-07 03:12:48

End at: 2018-09-07 03:13:18

Local clock offset: 0.529 ms

Remote clock offset: -0.25 ms

Below is generated by plot.py at 2018-09-07 05:31:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 1019.74 Mbit/s

95th percentile per-packet one-way delay: 86.790 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 484.63 Mbit/s

95th percentile per-packet one-way delay: 60.173 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 566.43 Mbit/s

95th percentile per-packet one-way delay: 93.267 ms

Loss rate: 0.13%

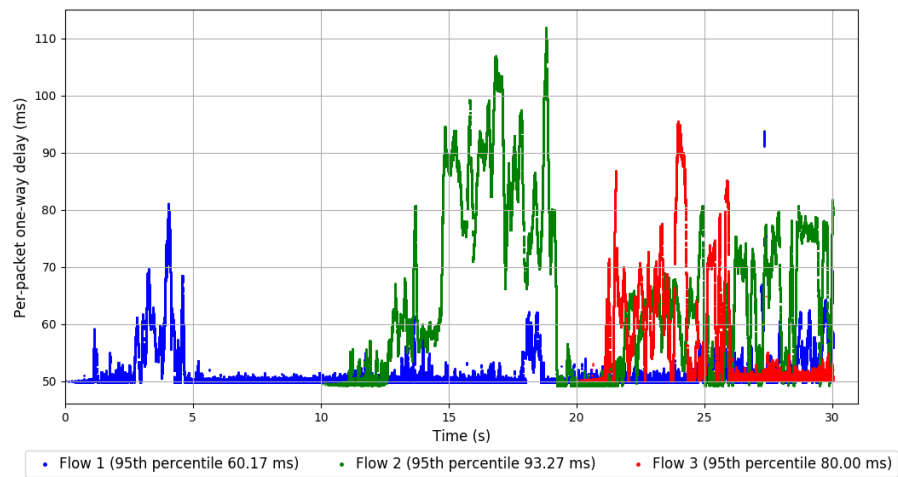
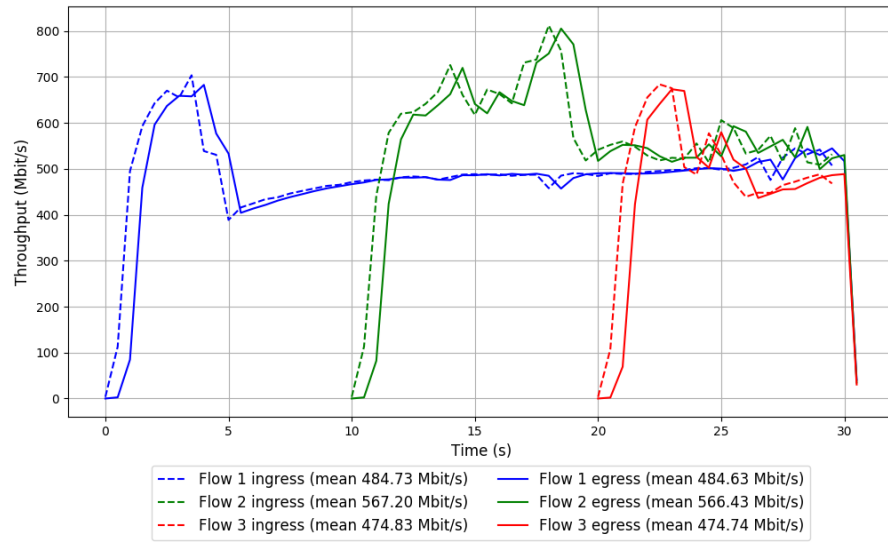
-- Flow 3:

Average throughput: 474.74 Mbit/s

95th percentile per-packet one-way delay: 79.997 ms

Loss rate: 0.00%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-07 03:44:12

End at: 2018-09-07 03:44:42

Local clock offset: 0.521 ms

Remote clock offset: 0.014 ms

Below is generated by plot.py at 2018-09-07 05:32:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 1131.97 Mbit/s

95th percentile per-packet one-way delay: 143.452 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 603.24 Mbit/s

95th percentile per-packet one-way delay: 143.335 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 541.12 Mbit/s

95th percentile per-packet one-way delay: 150.529 ms

Loss rate: 0.46%

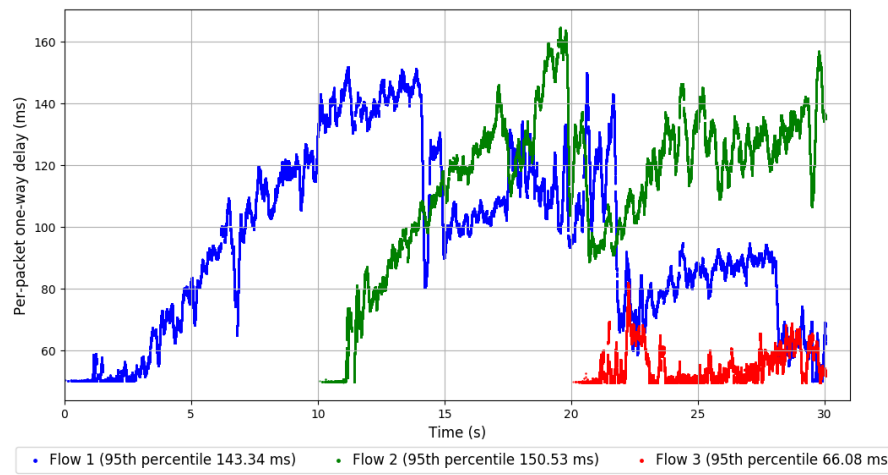
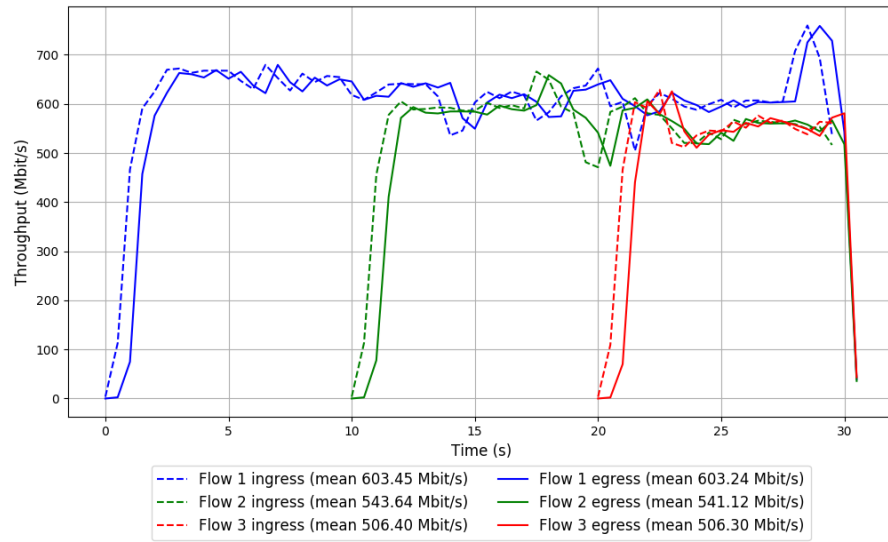
-- Flow 3:

Average throughput: 506.30 Mbit/s

95th percentile per-packet one-way delay: 66.075 ms

Loss rate: 0.01%

Run 4: Report of TCP Cubic — Data Link

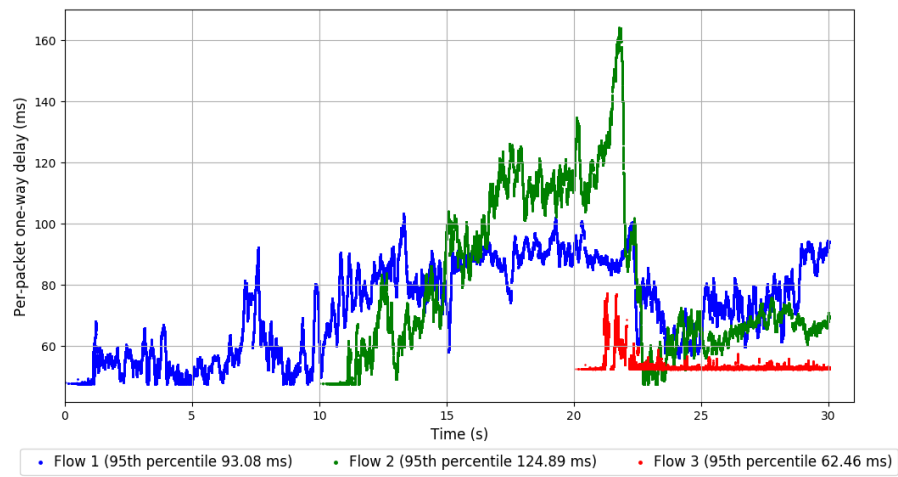
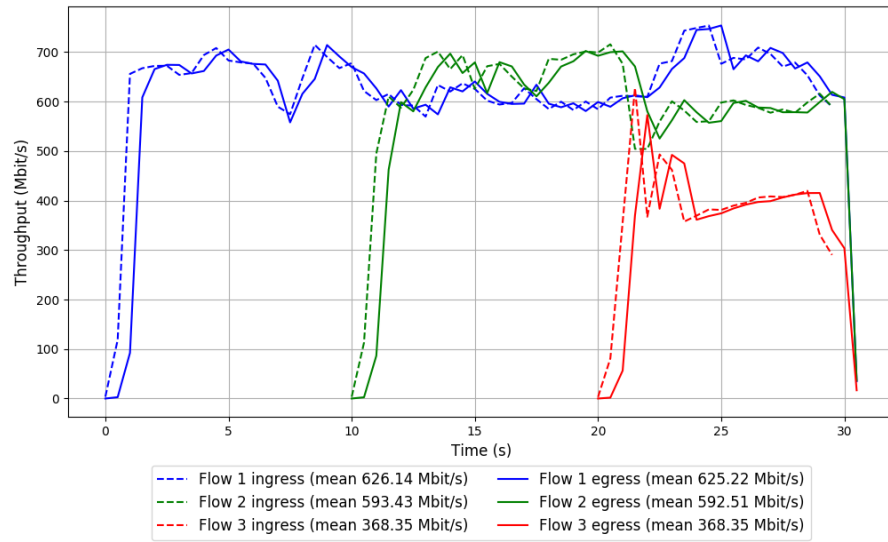


Run 5: Statistics of TCP Cubic

Start at: 2018-09-07 04:15:43
End at: 2018-09-07 04:16:13
Local clock offset: -0.216 ms
Remote clock offset: -0.052 ms

Below is generated by plot.py at 2018-09-07 05:33:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 1142.30 Mbit/s
95th percentile per-packet one-way delay: 114.648 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 625.22 Mbit/s
95th percentile per-packet one-way delay: 93.077 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 592.51 Mbit/s
95th percentile per-packet one-way delay: 124.886 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 368.35 Mbit/s
95th percentile per-packet one-way delay: 62.457 ms
Loss rate: 0.04%

Run 5: Report of TCP Cubic — Data Link

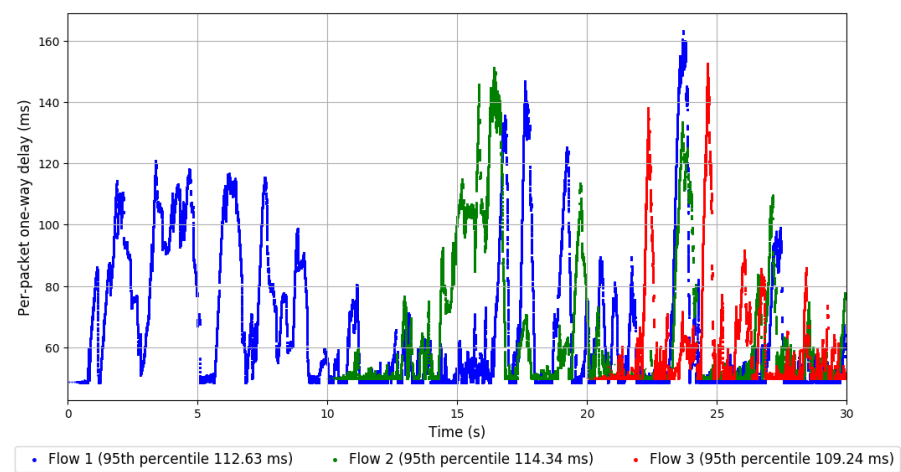
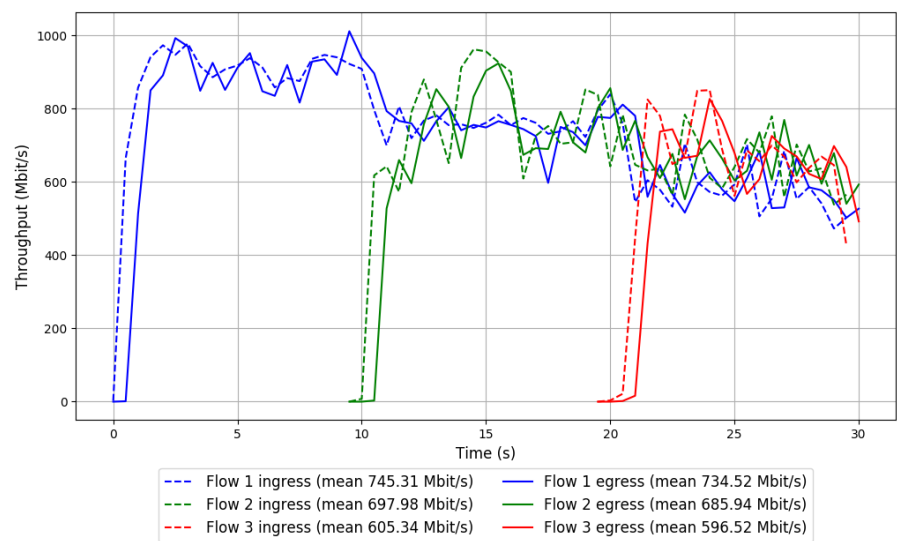


Run 1: Statistics of FillP

Start at: 2018-09-07 02:27:40
End at: 2018-09-07 02:28:10
Local clock offset: 0.396 ms
Remote clock offset: -0.051 ms

Below is generated by plot.py at 2018-09-07 05:42:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 1390.78 Mbit/s
95th percentile per-packet one-way delay: 112.934 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 734.52 Mbit/s
95th percentile per-packet one-way delay: 112.631 ms
Loss rate: 1.44%
-- Flow 2:
Average throughput: 685.94 Mbit/s
95th percentile per-packet one-way delay: 114.339 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 596.52 Mbit/s
95th percentile per-packet one-way delay: 109.244 ms
Loss rate: 1.45%

Run 1: Report of FillP — Data Link

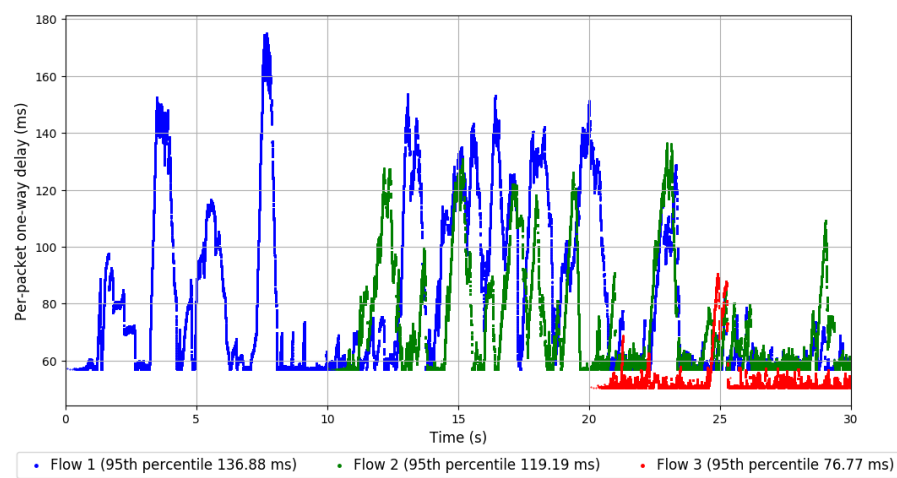
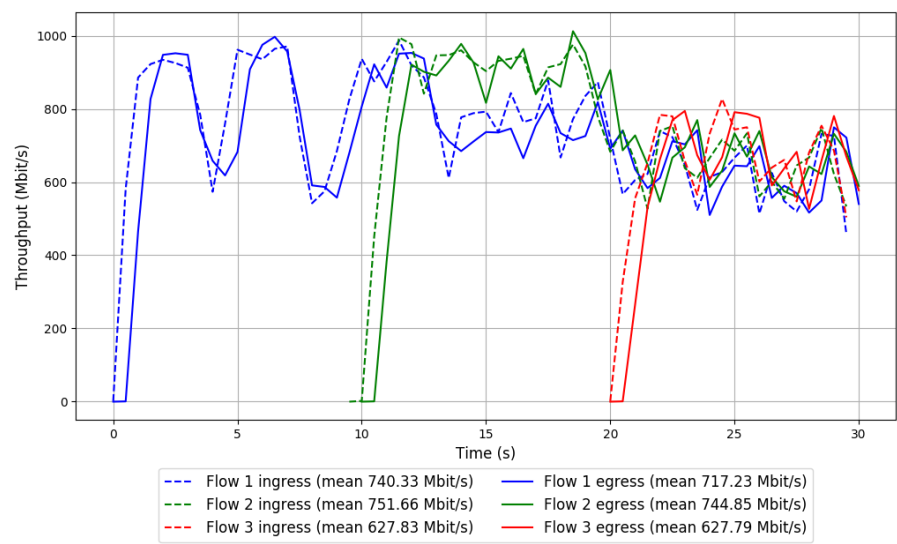


Run 2: Statistics of FillP

Start at: 2018-09-07 03:00:41
End at: 2018-09-07 03:01:11
Local clock offset: 0.151 ms
Remote clock offset: -0.208 ms

Below is generated by plot.py at 2018-09-07 05:59:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 1421.25 Mbit/s
95th percentile per-packet one-way delay: 129.082 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 717.23 Mbit/s
95th percentile per-packet one-way delay: 136.883 ms
Loss rate: 3.12%
-- Flow 2:
Average throughput: 744.85 Mbit/s
95th percentile per-packet one-way delay: 119.192 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 627.79 Mbit/s
95th percentile per-packet one-way delay: 76.772 ms
Loss rate: 0.00%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-07 03:32:03

End at: 2018-09-07 03:32:33

Local clock offset: 0.17 ms

Remote clock offset: -0.01 ms

Below is generated by plot.py at 2018-09-07 05:59:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 1395.75 Mbit/s

95th percentile per-packet one-way delay: 131.749 ms

Loss rate: 2.69%

-- Flow 1:

Average throughput: 735.52 Mbit/s

95th percentile per-packet one-way delay: 126.927 ms

Loss rate: 2.71%

-- Flow 2:

Average throughput: 708.93 Mbit/s

95th percentile per-packet one-way delay: 126.343 ms

Loss rate: 1.80%

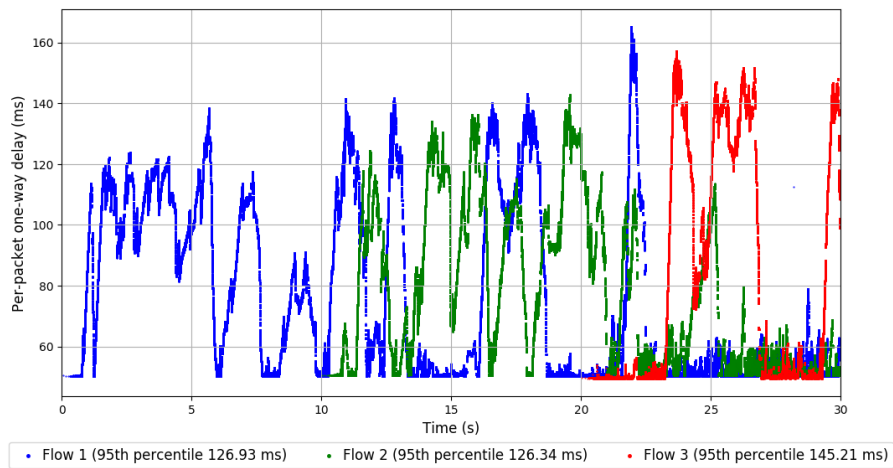
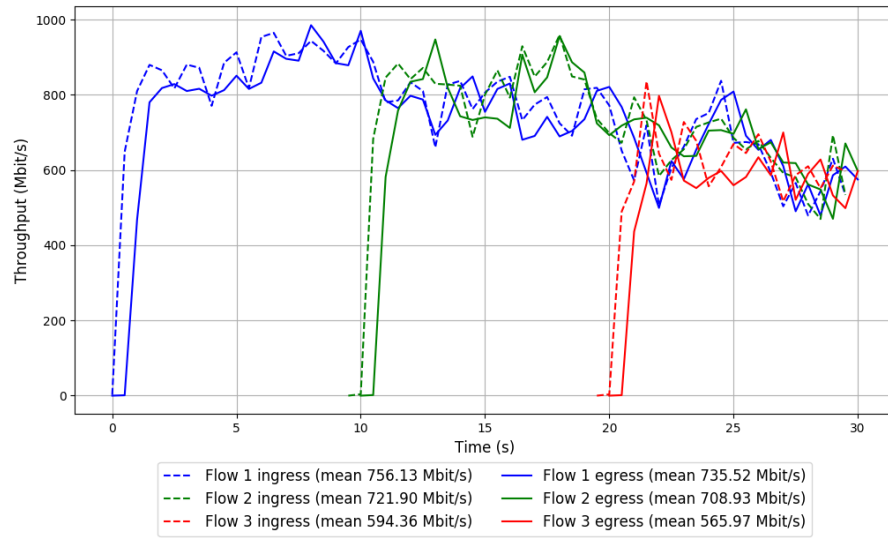
-- Flow 3:

Average throughput: 565.97 Mbit/s

95th percentile per-packet one-way delay: 145.209 ms

Loss rate: 4.77%

Run 3: Report of FillP — Data Link

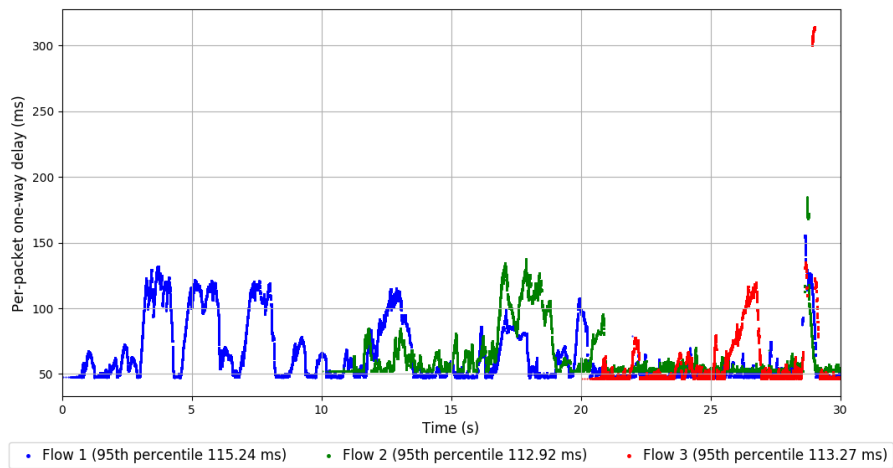
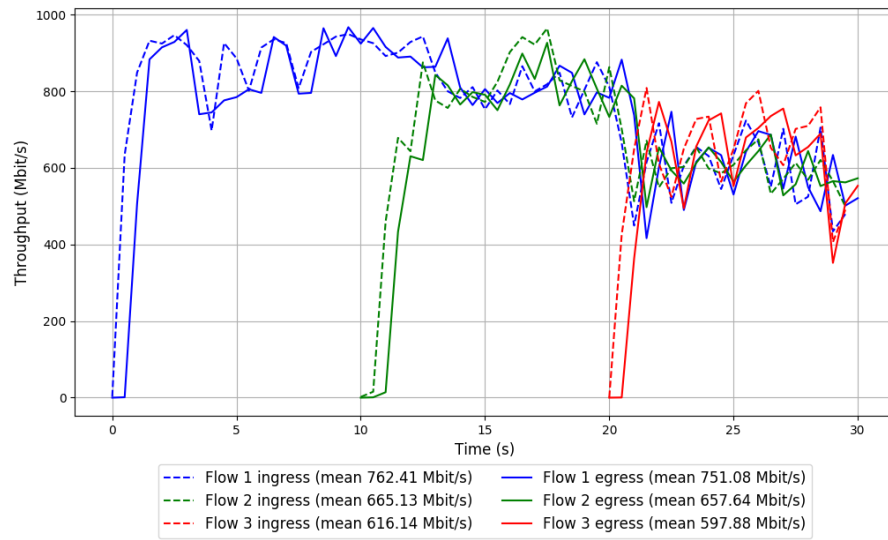


Run 4: Statistics of FillP

Start at: 2018-09-07 04:03:37
End at: 2018-09-07 04:04:07
Local clock offset: 0.107 ms
Remote clock offset: -0.017 ms

Below is generated by plot.py at 2018-09-07 05:59:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 1387.12 Mbit/s
95th percentile per-packet one-way delay: 114.764 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 751.08 Mbit/s
95th percentile per-packet one-way delay: 115.241 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 657.64 Mbit/s
95th percentile per-packet one-way delay: 112.923 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 597.88 Mbit/s
95th percentile per-packet one-way delay: 113.271 ms
Loss rate: 2.96%

Run 4: Report of FillP — Data Link

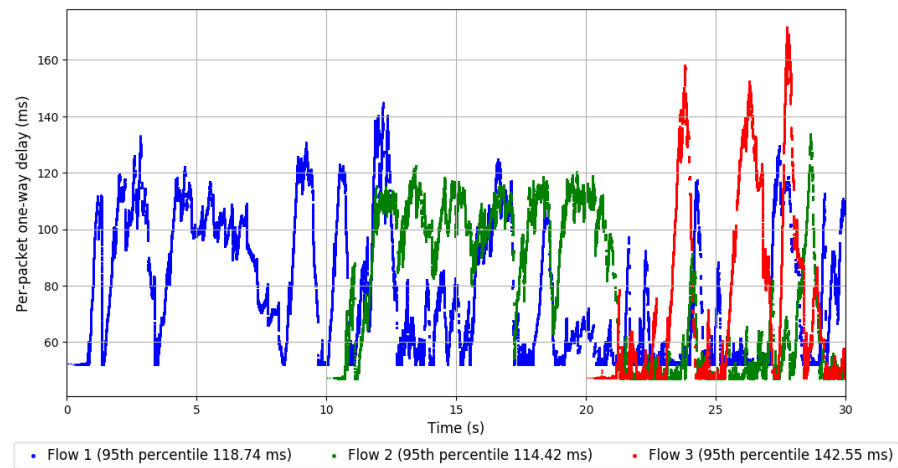
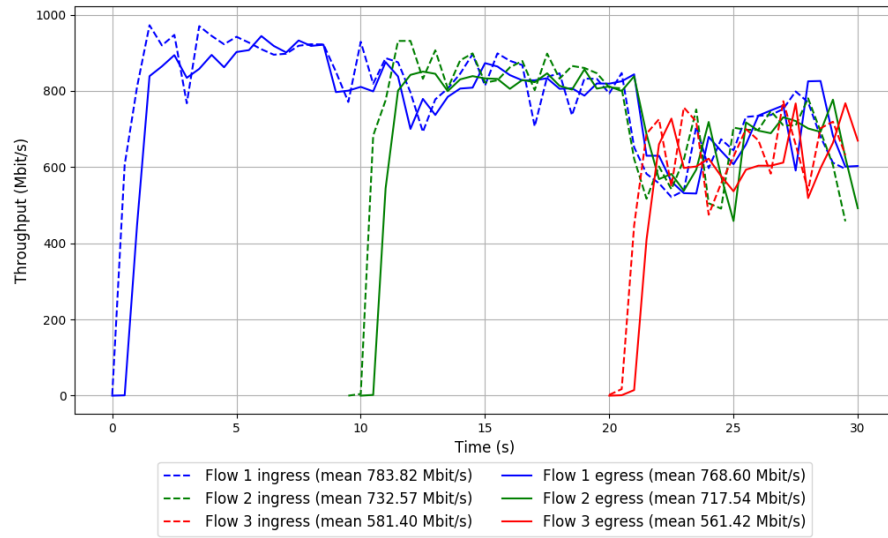


Run 5: Statistics of FillP

Start at: 2018-09-07 04:35:11
End at: 2018-09-07 04:35:41
Local clock offset: 0.055 ms
Remote clock offset: -0.066 ms

Below is generated by plot.py at 2018-09-07 06:00:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 1432.91 Mbit/s
95th percentile per-packet one-way delay: 119.006 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 768.60 Mbit/s
95th percentile per-packet one-way delay: 118.742 ms
Loss rate: 1.96%
-- Flow 2:
Average throughput: 717.54 Mbit/s
95th percentile per-packet one-way delay: 114.425 ms
Loss rate: 2.05%
-- Flow 3:
Average throughput: 561.42 Mbit/s
95th percentile per-packet one-way delay: 142.552 ms
Loss rate: 3.44%

Run 5: Report of FillP — Data Link

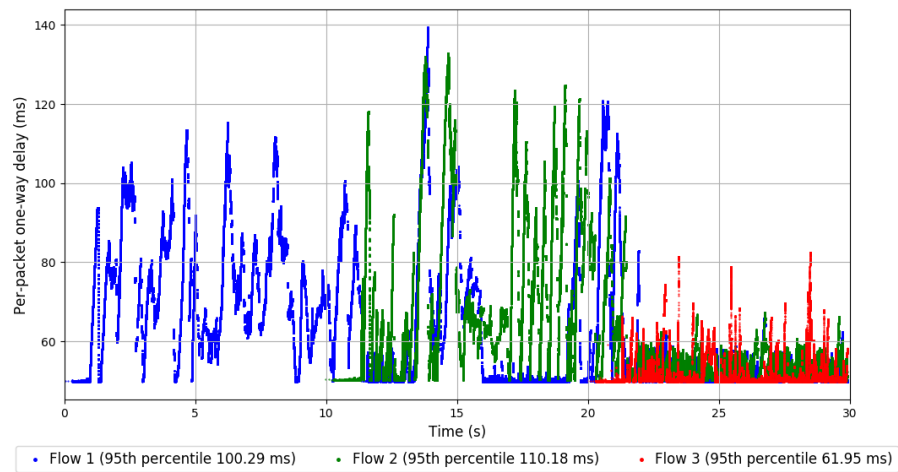
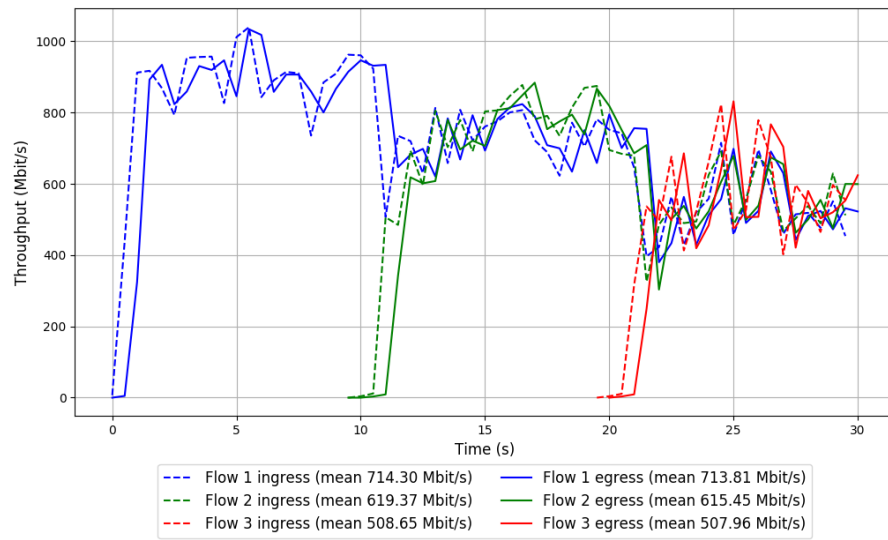


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-07 02:12:32
End at: 2018-09-07 02:13:02
Local clock offset: 0.427 ms
Remote clock offset: -0.032 ms

Below is generated by plot.py at 2018-09-07 06:00:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 1292.78 Mbit/s
95th percentile per-packet one-way delay: 102.083 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 713.81 Mbit/s
95th percentile per-packet one-way delay: 100.294 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 615.45 Mbit/s
95th percentile per-packet one-way delay: 110.184 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 507.96 Mbit/s
95th percentile per-packet one-way delay: 61.954 ms
Loss rate: 0.13%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-07 02:45:27

End at: 2018-09-07 02:45:57

Local clock offset: 0.12 ms

Remote clock offset: -0.14 ms

Below is generated by plot.py at 2018-09-07 06:00:56

Datalink statistics

-- Total of 3 flows:

Average throughput: 1249.36 Mbit/s

95th percentile per-packet one-way delay: 104.462 ms

Loss rate: 0.22%

-- Flow 1:

Average throughput: 677.23 Mbit/s

95th percentile per-packet one-way delay: 111.648 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 592.64 Mbit/s

95th percentile per-packet one-way delay: 99.161 ms

Loss rate: 0.15%

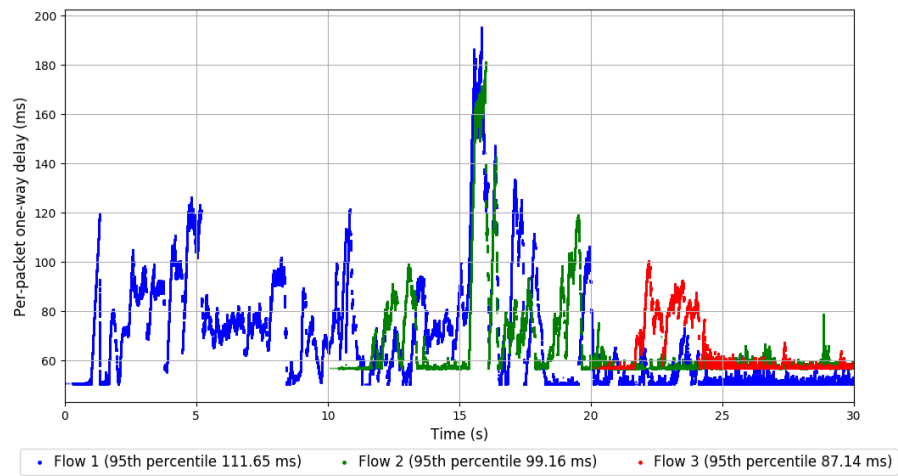
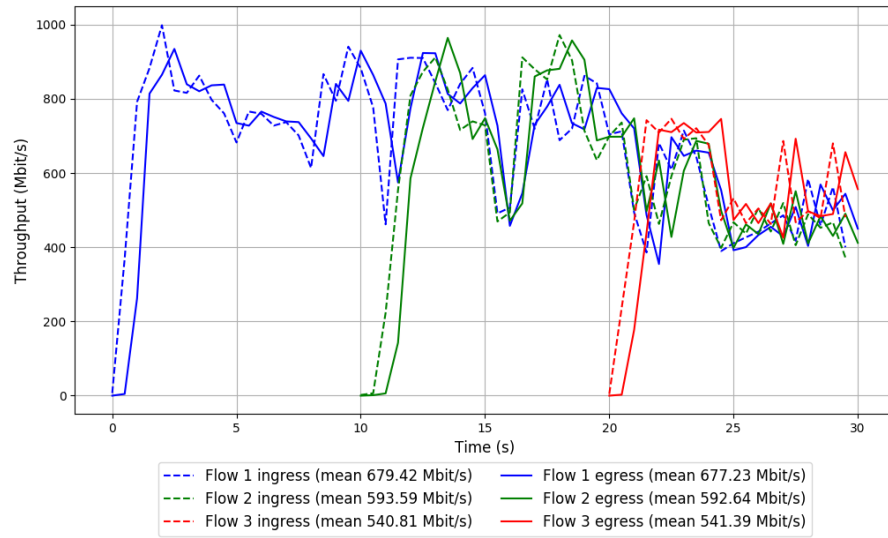
-- Flow 3:

Average throughput: 541.39 Mbit/s

95th percentile per-packet one-way delay: 87.139 ms

Loss rate: 0.03%

Run 2: Report of FillP-Sheep — Data Link

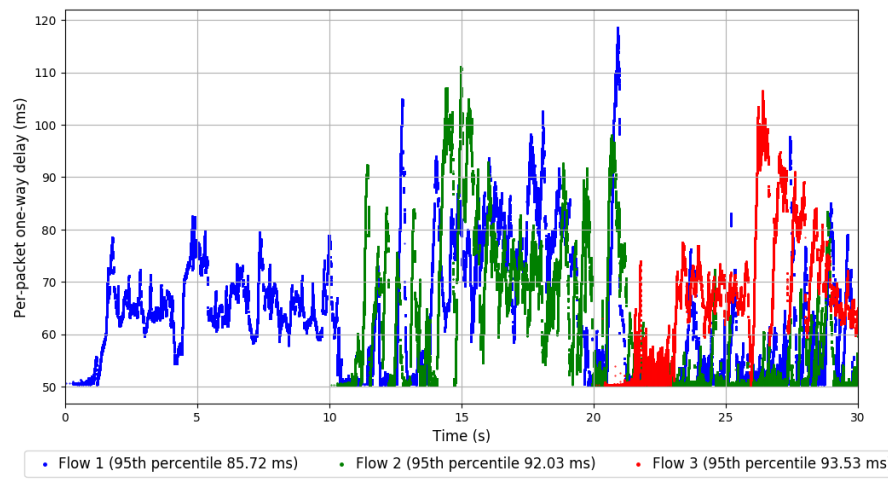
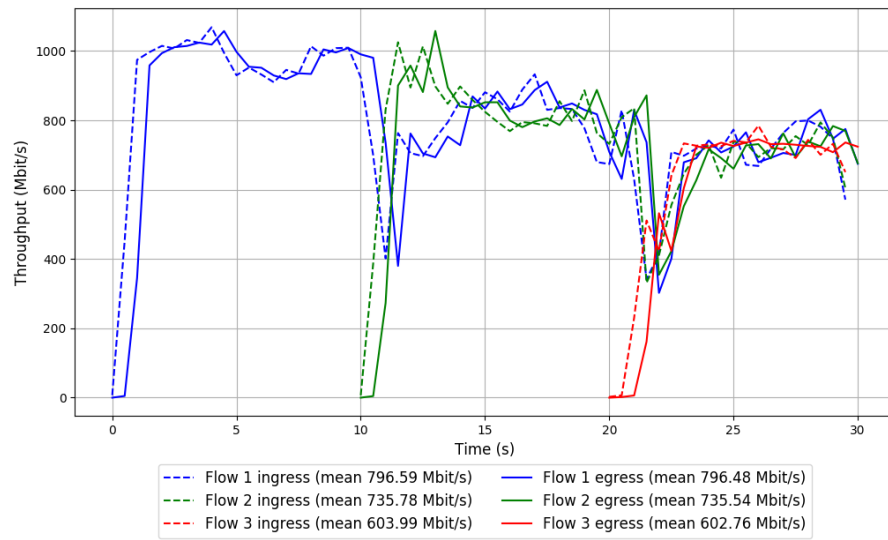


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-07 03:16:46
End at: 2018-09-07 03:17:16
Local clock offset: 0.14 ms
Remote clock offset: -0.121 ms

Below is generated by plot.py at 2018-09-07 06:04:44
Datalink statistics
-- Total of 3 flows:
Average throughput: 1485.28 Mbit/s
95th percentile per-packet one-way delay: 89.578 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 796.48 Mbit/s
95th percentile per-packet one-way delay: 85.715 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 735.54 Mbit/s
95th percentile per-packet one-way delay: 92.033 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 602.76 Mbit/s
95th percentile per-packet one-way delay: 93.532 ms
Loss rate: 0.19%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-07 03:48:15

End at: 2018-09-07 03:48:45

Local clock offset: -0.159 ms

Remote clock offset: 0.046 ms

Below is generated by plot.py at 2018-09-07 06:14:52

Datalink statistics

-- Total of 3 flows:

Average throughput: 1368.88 Mbit/s

95th percentile per-packet one-way delay: 106.041 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 755.17 Mbit/s

95th percentile per-packet one-way delay: 88.574 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 643.03 Mbit/s

95th percentile per-packet one-way delay: 121.002 ms

Loss rate: 0.26%

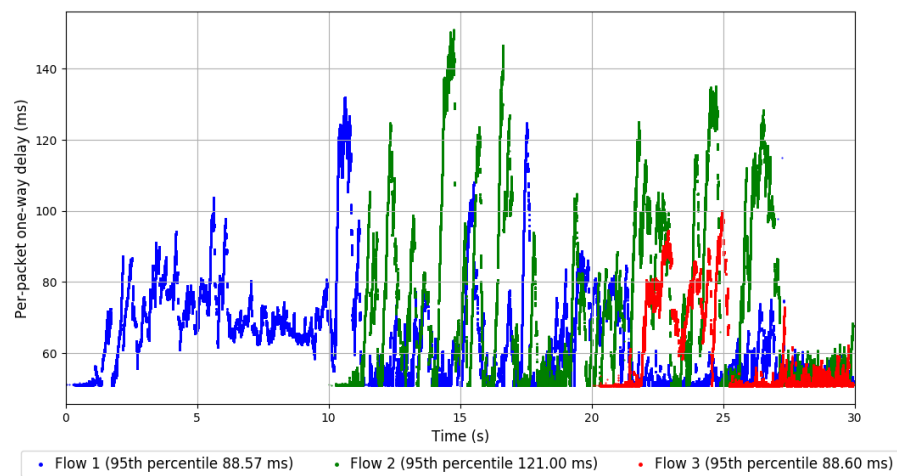
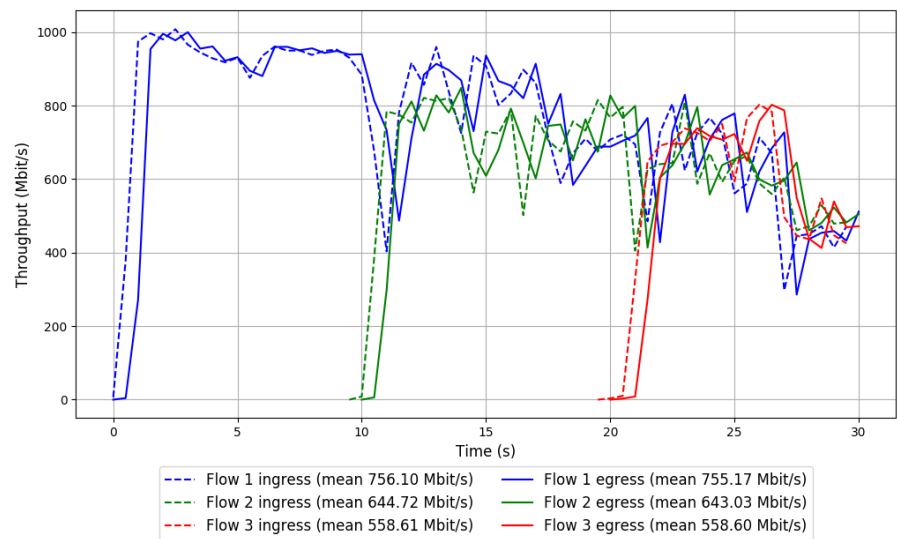
-- Flow 3:

Average throughput: 558.60 Mbit/s

95th percentile per-packet one-way delay: 88.599 ms

Loss rate: 0.00%

Run 4: Report of FillP-Sheep — Data Link

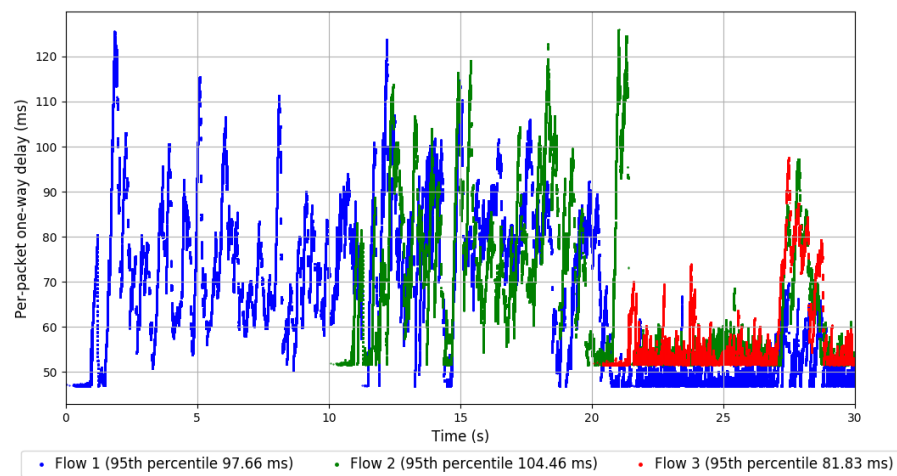
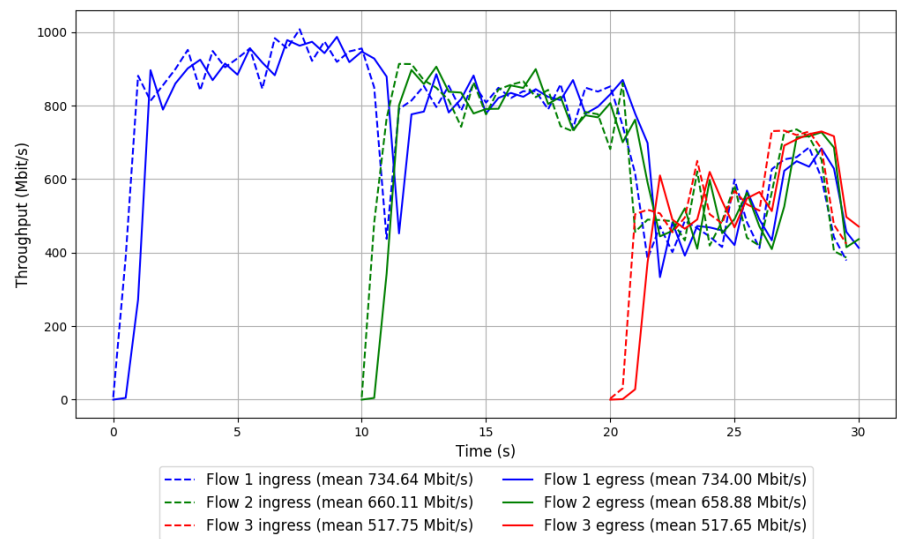


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-07 04:19:43
End at: 2018-09-07 04:20:13
Local clock offset: 0.44 ms
Remote clock offset: -0.049 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 1343.68 Mbit/s
95th percentile per-packet one-way delay: 98.829 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 734.00 Mbit/s
95th percentile per-packet one-way delay: 97.663 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 658.88 Mbit/s
95th percentile per-packet one-way delay: 104.458 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 517.65 Mbit/s
95th percentile per-packet one-way delay: 81.830 ms
Loss rate: 0.07%

Run 5: Report of FillP-Sheep — Data Link

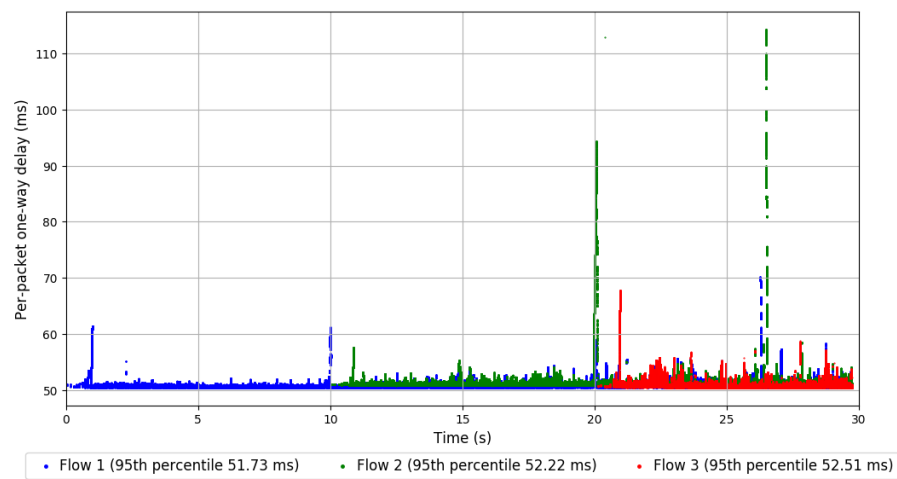
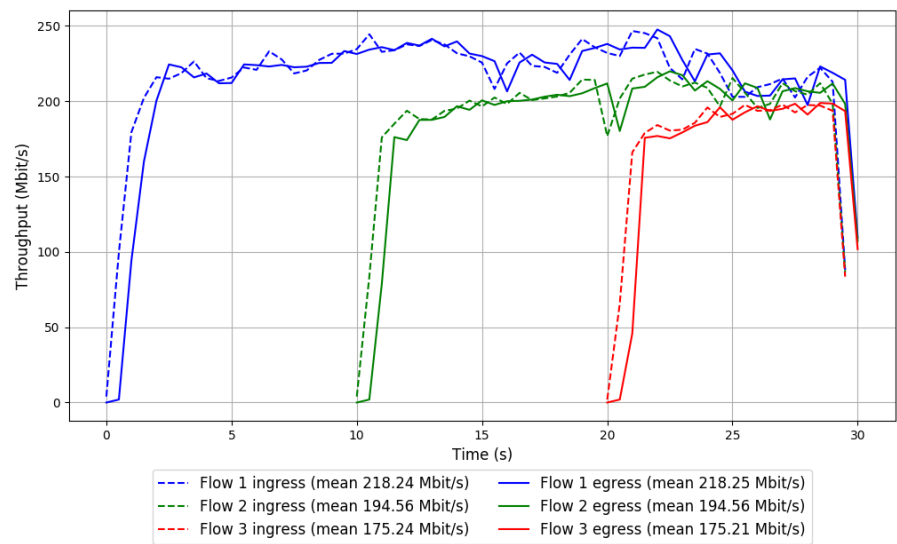


Run 1: Statistics of Indigo

Start at: 2018-09-07 02:19:42
End at: 2018-09-07 02:20:12
Local clock offset: -0.264 ms
Remote clock offset: -0.032 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 403.83 Mbit/s
95th percentile per-packet one-way delay: 52.029 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 218.25 Mbit/s
95th percentile per-packet one-way delay: 51.725 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 194.56 Mbit/s
95th percentile per-packet one-way delay: 52.219 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 175.21 Mbit/s
95th percentile per-packet one-way delay: 52.511 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

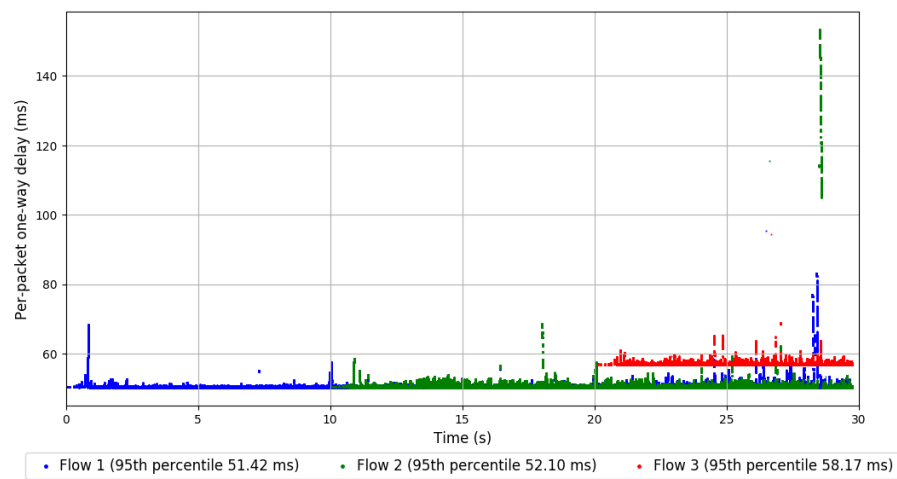
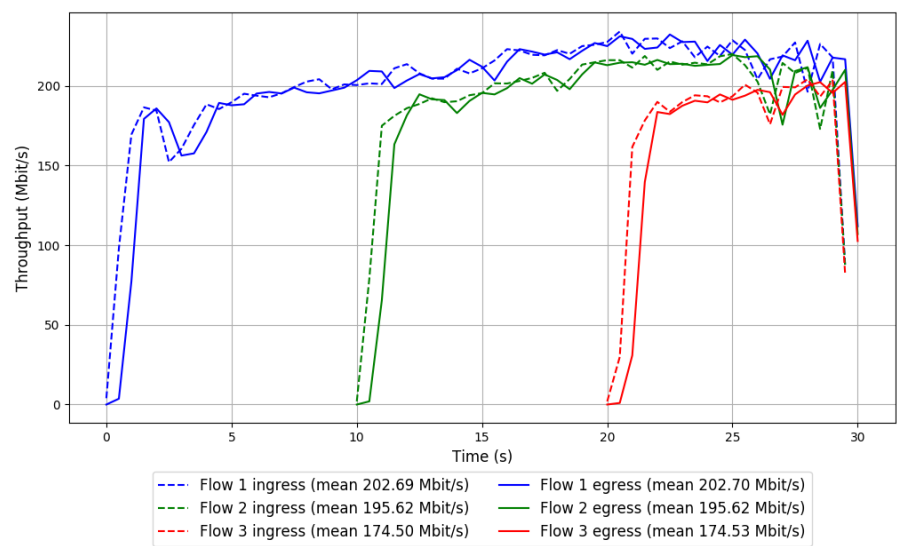


Run 2: Statistics of Indigo

Start at: 2018-09-07 02:52:47
End at: 2018-09-07 02:53:17
Local clock offset: 0.15 ms
Remote clock offset: -0.183 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 388.64 Mbit/s
95th percentile per-packet one-way delay: 57.035 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 202.70 Mbit/s
95th percentile per-packet one-way delay: 51.419 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.62 Mbit/s
95th percentile per-packet one-way delay: 52.096 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 174.53 Mbit/s
95th percentile per-packet one-way delay: 58.170 ms
Loss rate: 0.03%

Run 2: Report of Indigo — Data Link

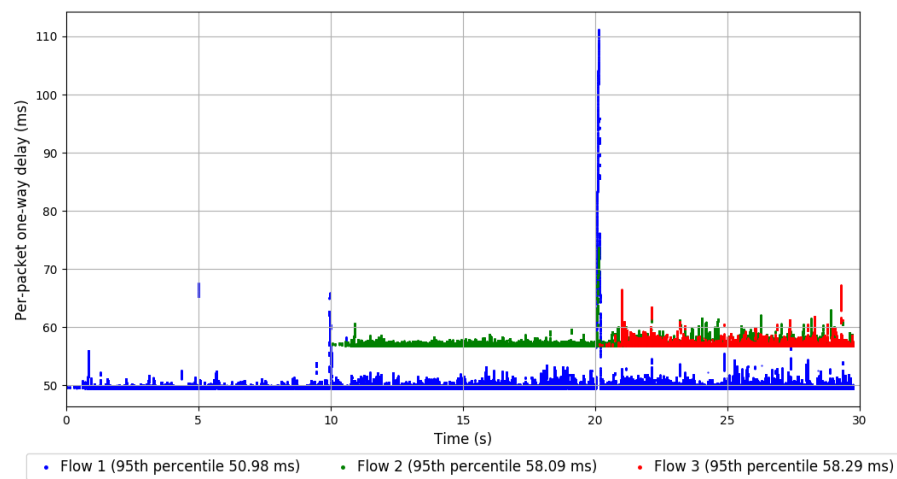
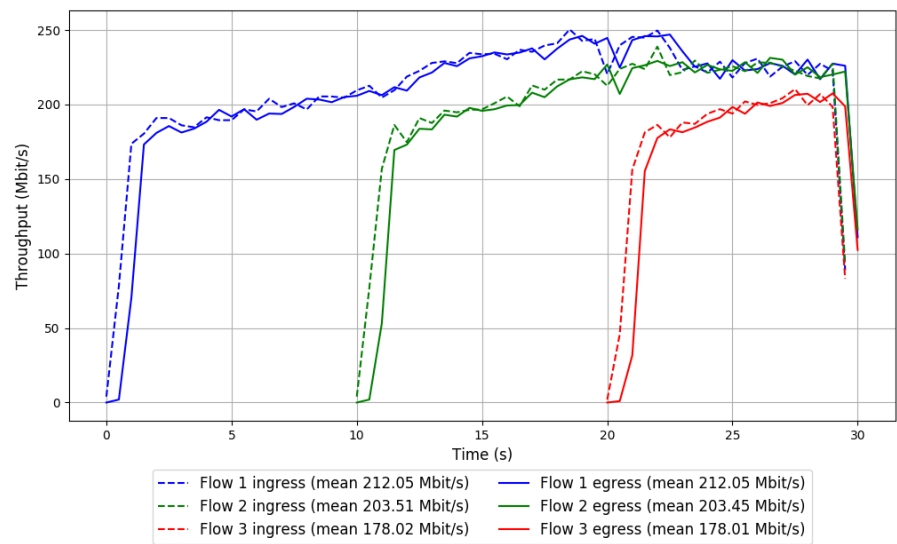


Run 3: Statistics of Indigo

Start at: 2018-09-07 03:24:10
End at: 2018-09-07 03:24:40
Local clock offset: 0.176 ms
Remote clock offset: -0.039 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 404.32 Mbit/s
95th percentile per-packet one-way delay: 57.625 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 212.05 Mbit/s
95th percentile per-packet one-way delay: 50.977 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 203.45 Mbit/s
95th percentile per-packet one-way delay: 58.092 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 178.01 Mbit/s
95th percentile per-packet one-way delay: 58.291 ms
Loss rate: 0.07%

Run 3: Report of Indigo — Data Link

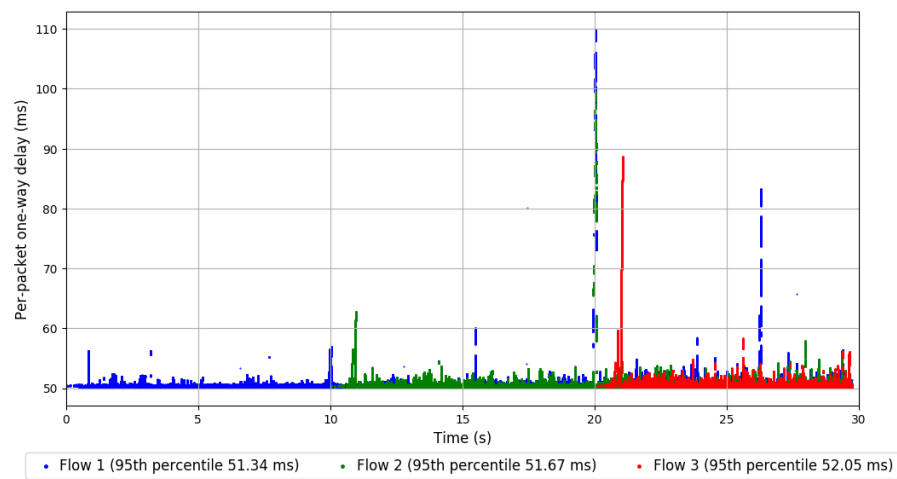
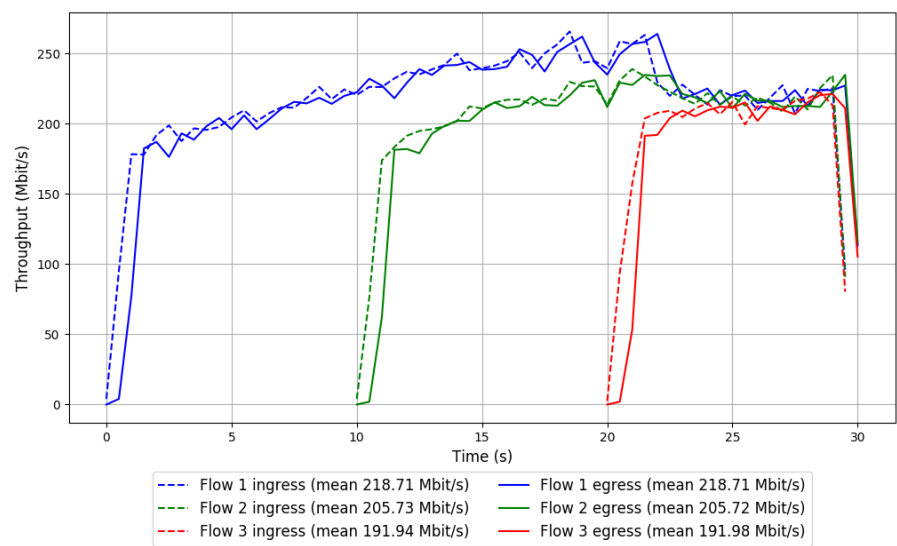


Run 4: Statistics of Indigo

Start at: 2018-09-07 03:55:38
End at: 2018-09-07 03:56:08
Local clock offset: 0.117 ms
Remote clock offset: -0.001 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 417.55 Mbit/s
95th percentile per-packet one-way delay: 51.553 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 218.71 Mbit/s
95th percentile per-packet one-way delay: 51.335 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 205.72 Mbit/s
95th percentile per-packet one-way delay: 51.668 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 191.98 Mbit/s
95th percentile per-packet one-way delay: 52.049 ms
Loss rate: 0.01%

Run 4: Report of Indigo — Data Link

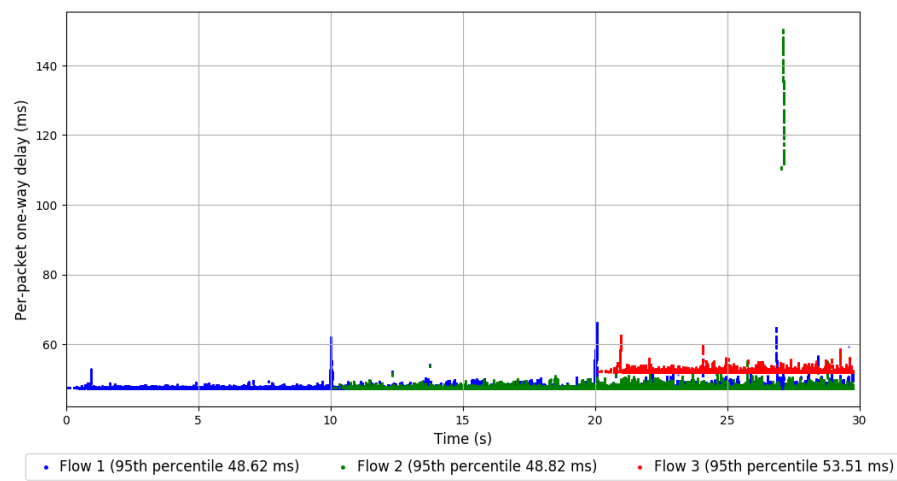
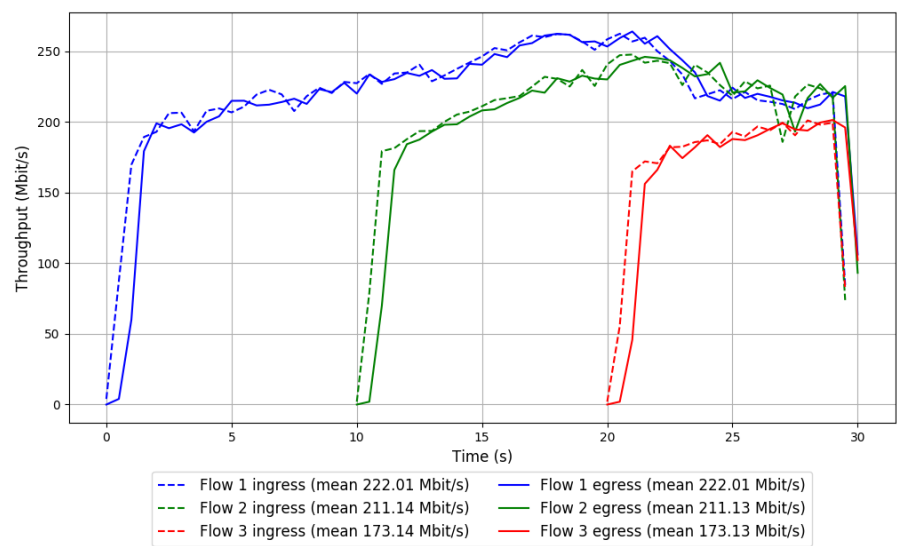


Run 5: Statistics of Indigo

Start at: 2018-09-07 04:27:09
End at: 2018-09-07 04:27:39
Local clock offset: 0.085 ms
Remote clock offset: -0.036 ms

```
# Below is generated by plot.py at 2018-09-07 06:27:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 417.63 Mbit/s
95th percentile per-packet one-way delay: 52.199 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 222.01 Mbit/s
95th percentile per-packet one-way delay: 48.623 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 211.13 Mbit/s
95th percentile per-packet one-way delay: 48.822 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 173.13 Mbit/s
95th percentile per-packet one-way delay: 53.509 ms
Loss rate: 0.02%
```

Run 5: Report of Indigo — Data Link

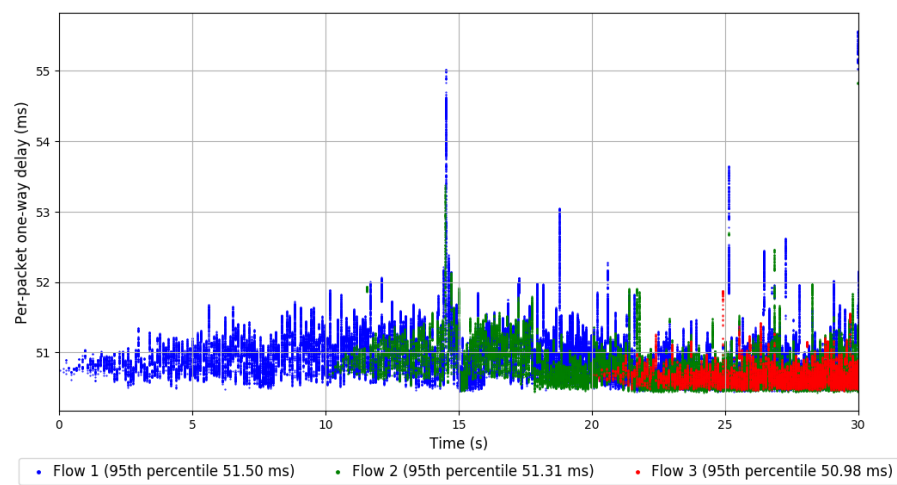
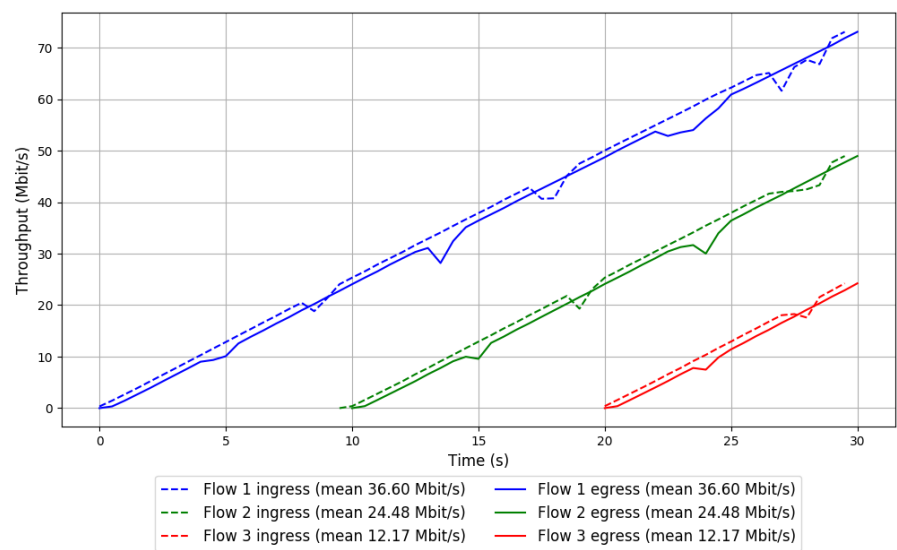


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-07 02:05:25
End at: 2018-09-07 02:05:55
Local clock offset: -0.262 ms
Remote clock offset: 0.024 ms

# Below is generated by plot.py at 2018-09-07 06:27:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.94 Mbit/s
95th percentile per-packet one-way delay: 51.428 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.60 Mbit/s
95th percentile per-packet one-way delay: 51.499 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.48 Mbit/s
95th percentile per-packet one-way delay: 51.308 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.17 Mbit/s
95th percentile per-packet one-way delay: 50.979 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

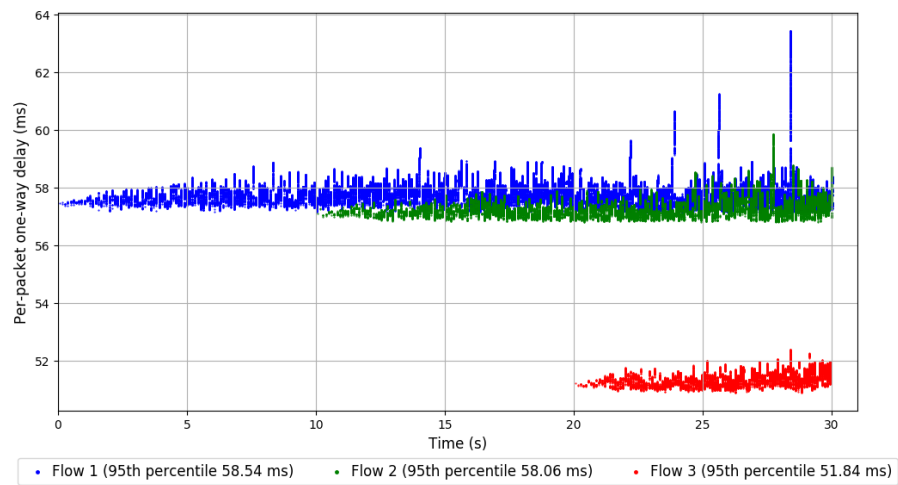
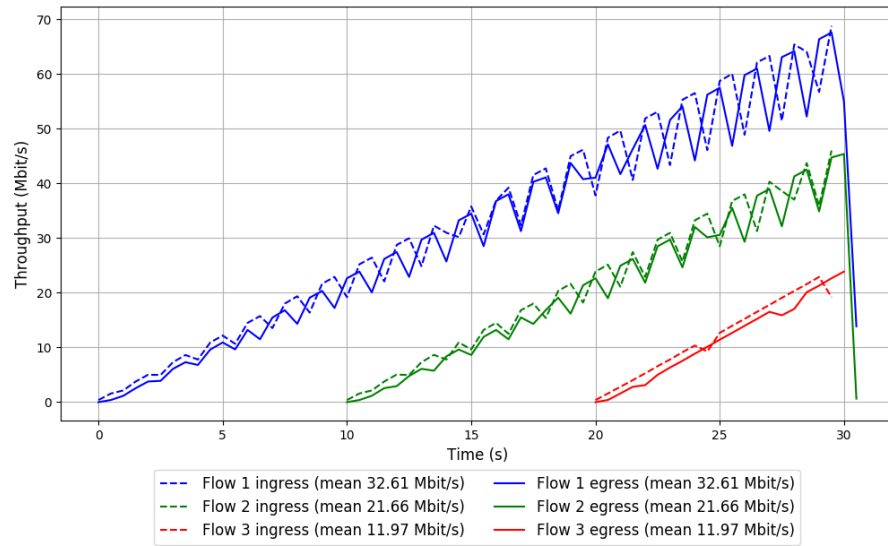


Run 2: Statistics of LEDBAT

Start at: 2018-09-07 02:38:18
End at: 2018-09-07 02:38:48
Local clock offset: -0.299 ms
Remote clock offset: -0.036 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 50.96 Mbit/s
95th percentile per-packet one-way delay: 58.435 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.61 Mbit/s
95th percentile per-packet one-way delay: 58.540 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.66 Mbit/s
95th percentile per-packet one-way delay: 58.062 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.97 Mbit/s
95th percentile per-packet one-way delay: 51.842 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

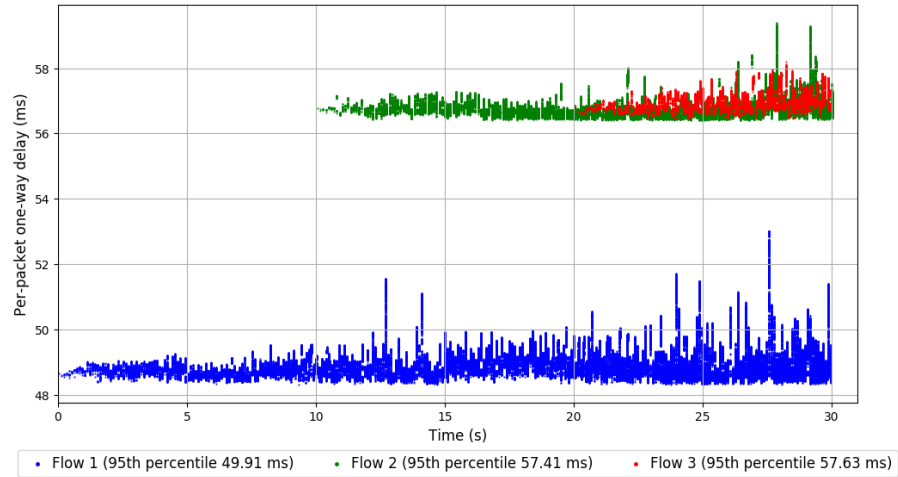
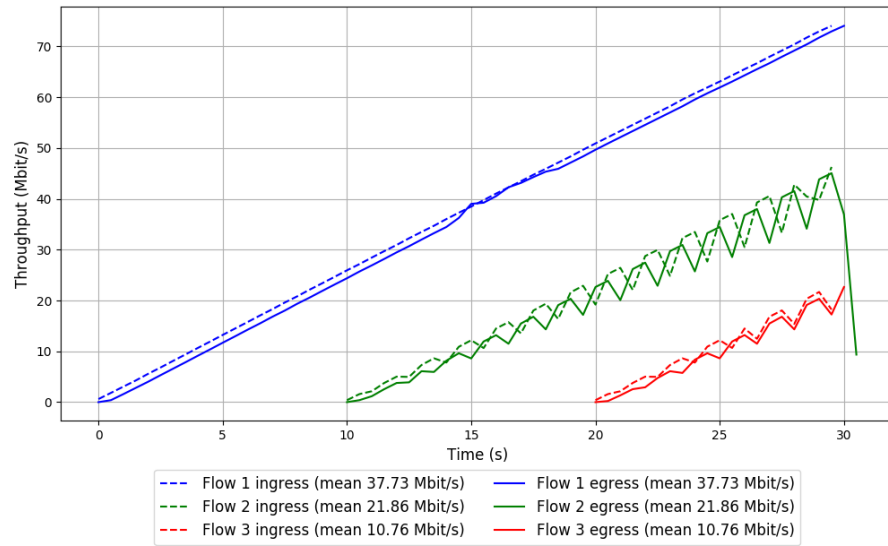


Run 3: Statistics of LEDBAT

Start at: 2018-09-07 03:09:37
End at: 2018-09-07 03:10:07
Local clock offset: 0.531 ms
Remote clock offset: -0.235 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 55.76 Mbit/s
95th percentile per-packet one-way delay: 57.100 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 37.73 Mbit/s
95th percentile per-packet one-way delay: 49.905 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.86 Mbit/s
95th percentile per-packet one-way delay: 57.411 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.76 Mbit/s
95th percentile per-packet one-way delay: 57.633 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

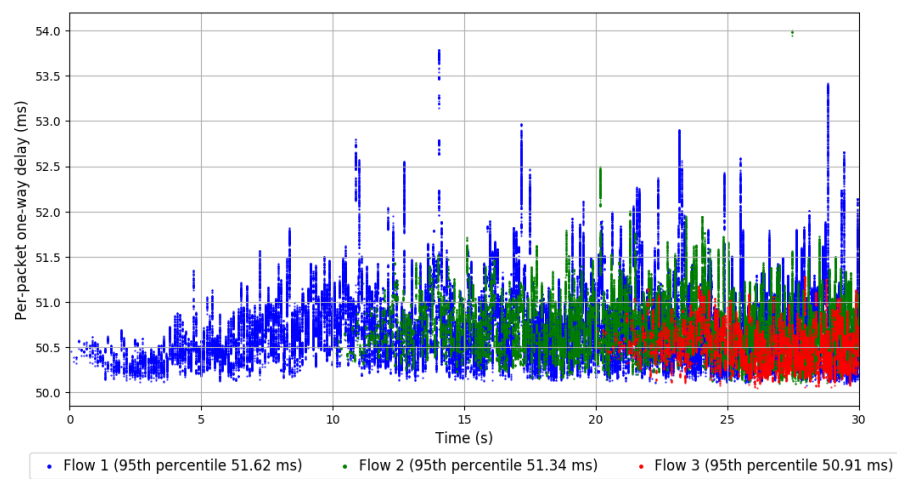
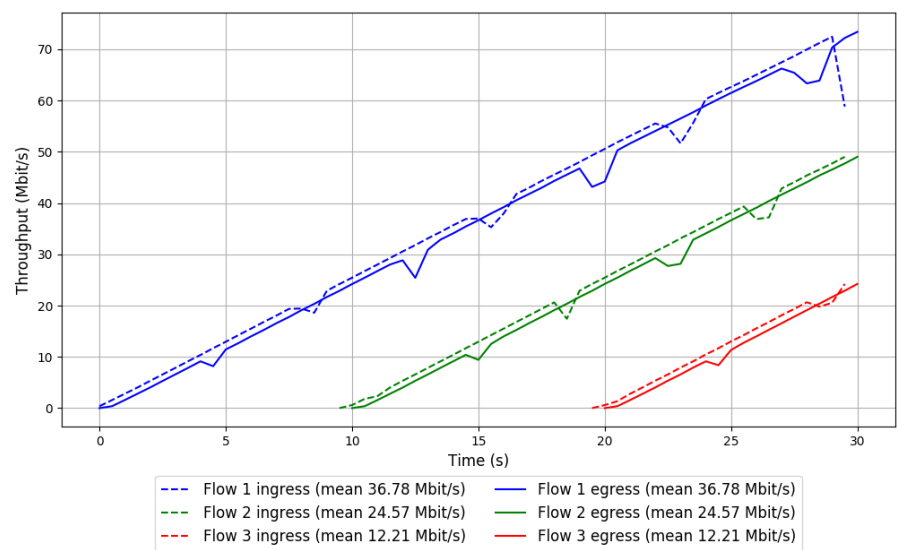


Run 4: Statistics of LEDBAT

Start at: 2018-09-07 03:41:02
End at: 2018-09-07 03:41:32
Local clock offset: 0.176 ms
Remote clock offset: -0.001 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 57.13 Mbit/s
95th percentile per-packet one-way delay: 51.498 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.78 Mbit/s
95th percentile per-packet one-way delay: 51.624 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.57 Mbit/s
95th percentile per-packet one-way delay: 51.345 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.21 Mbit/s
95th percentile per-packet one-way delay: 50.907 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

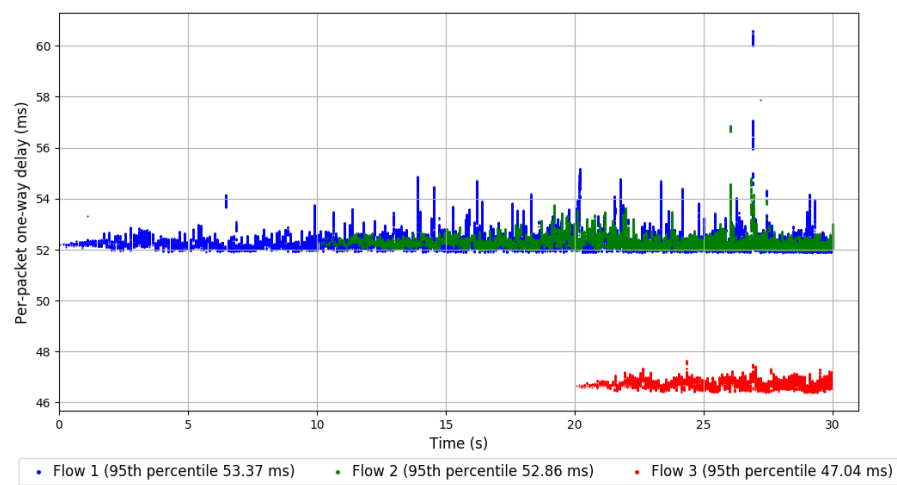
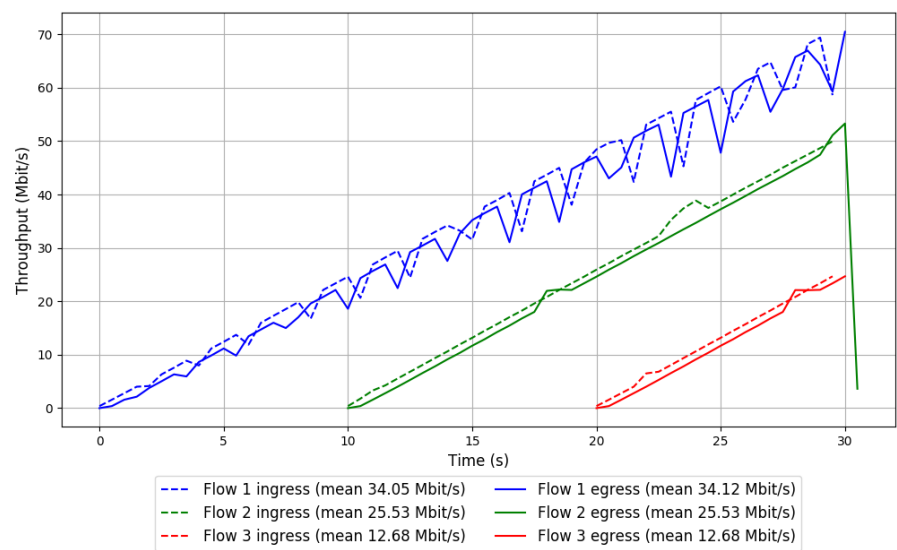


Run 5: Statistics of LEDBAT

Start at: 2018-09-07 04:12:34
End at: 2018-09-07 04:13:04
Local clock offset: 0.115 ms
Remote clock offset: -0.038 ms

Below is generated by plot.py at 2018-09-07 06:27:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 55.25 Mbit/s
95th percentile per-packet one-way delay: 53.166 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 34.12 Mbit/s
95th percentile per-packet one-way delay: 53.366 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 25.53 Mbit/s
95th percentile per-packet one-way delay: 52.861 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 47.041 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-09-07 02:10:43

End at: 2018-09-07 02:11:13

Local clock offset: 0.475 ms

Remote clock offset: -0.02 ms

Below is generated by plot.py at 2018-09-07 06:27:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 789.26 Mbit/s

95th percentile per-packet one-way delay: 53.389 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 380.05 Mbit/s

95th percentile per-packet one-way delay: 53.005 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 388.37 Mbit/s

95th percentile per-packet one-way delay: 54.483 ms

Loss rate: 0.01%

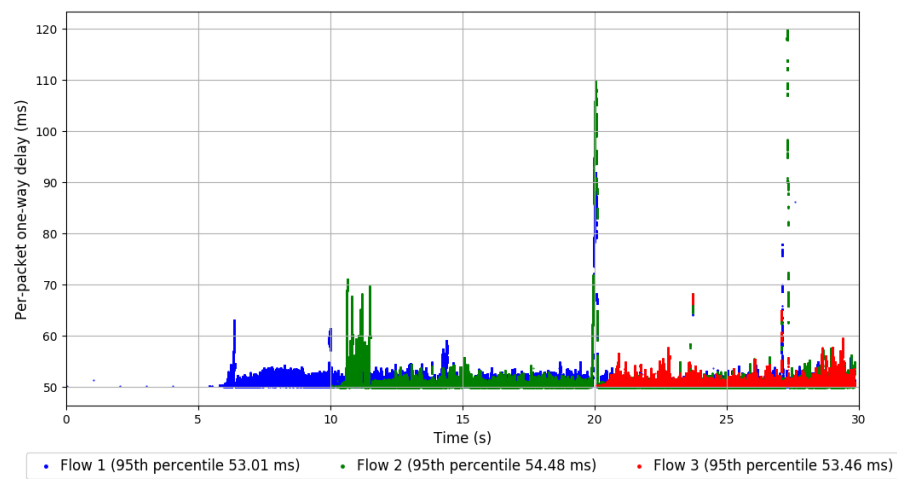
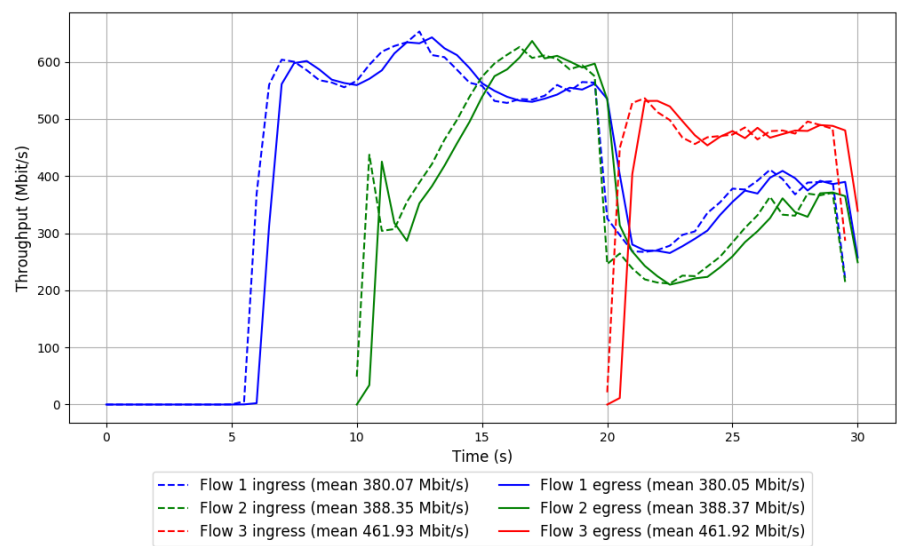
-- Flow 3:

Average throughput: 461.92 Mbit/s

95th percentile per-packet one-way delay: 53.458 ms

Loss rate: 0.00%

Run 1: Report of Indigo-Muses — Data Link

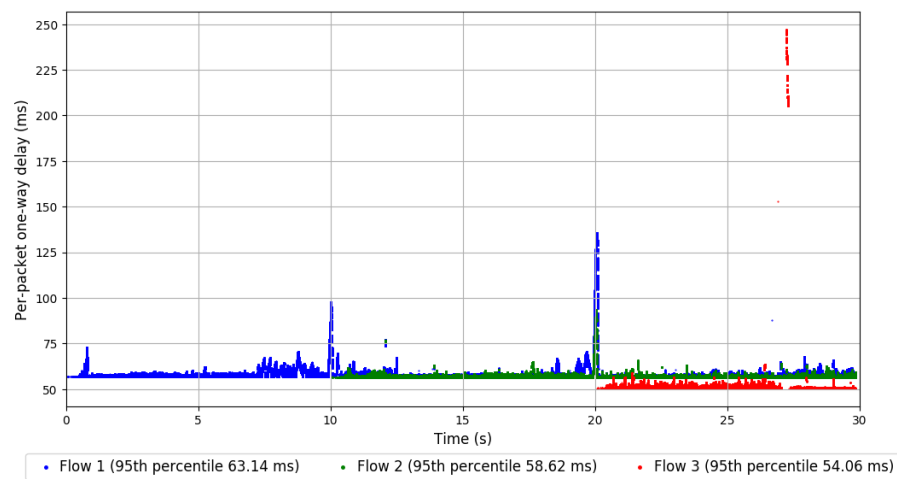
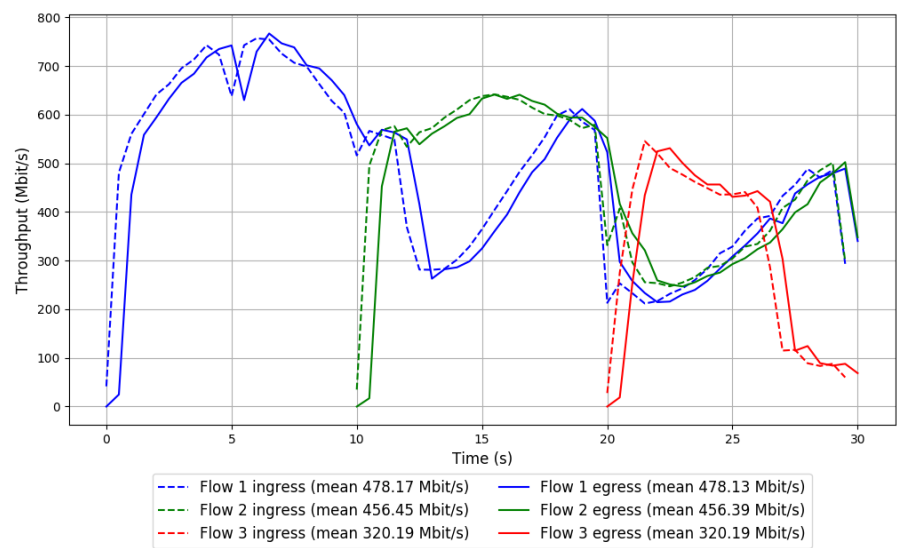


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-07 02:43:33
End at: 2018-09-07 02:44:03
Local clock offset: 0.112 ms
Remote clock offset: -0.161 ms

Below is generated by plot.py at 2018-09-07 06:28:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 886.19 Mbit/s
95th percentile per-packet one-way delay: 61.579 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 478.13 Mbit/s
95th percentile per-packet one-way delay: 63.142 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 456.39 Mbit/s
95th percentile per-packet one-way delay: 58.618 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 320.19 Mbit/s
95th percentile per-packet one-way delay: 54.059 ms
Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link

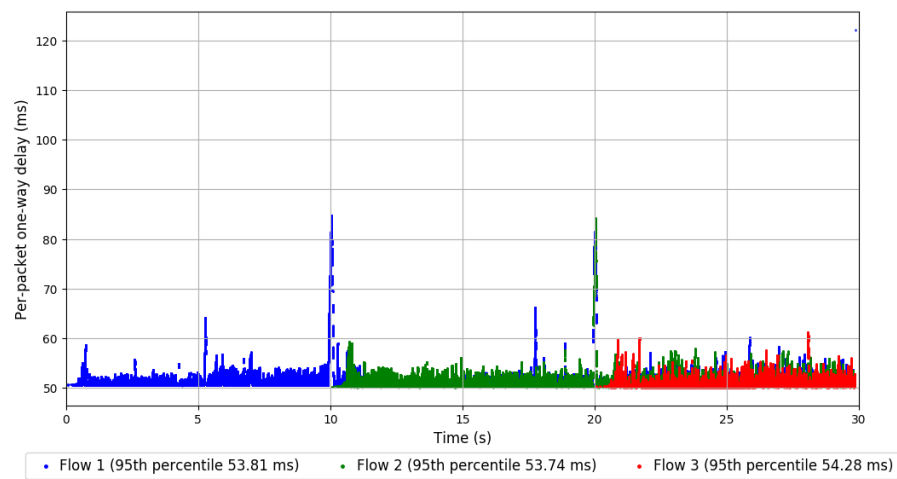
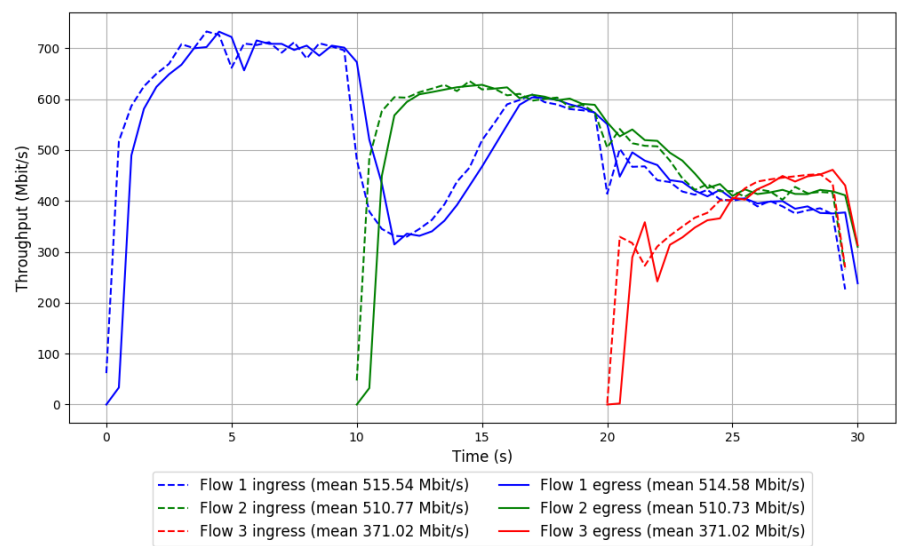


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-07 03:14:49
End at: 2018-09-07 03:15:19
Local clock offset: 0.184 ms
Remote clock offset: -0.199 ms

Below is generated by plot.py at 2018-09-07 06:30:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 975.36 Mbit/s
95th percentile per-packet one-way delay: 53.848 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 514.58 Mbit/s
95th percentile per-packet one-way delay: 53.815 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 510.73 Mbit/s
95th percentile per-packet one-way delay: 53.744 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 371.02 Mbit/s
95th percentile per-packet one-way delay: 54.281 ms
Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link

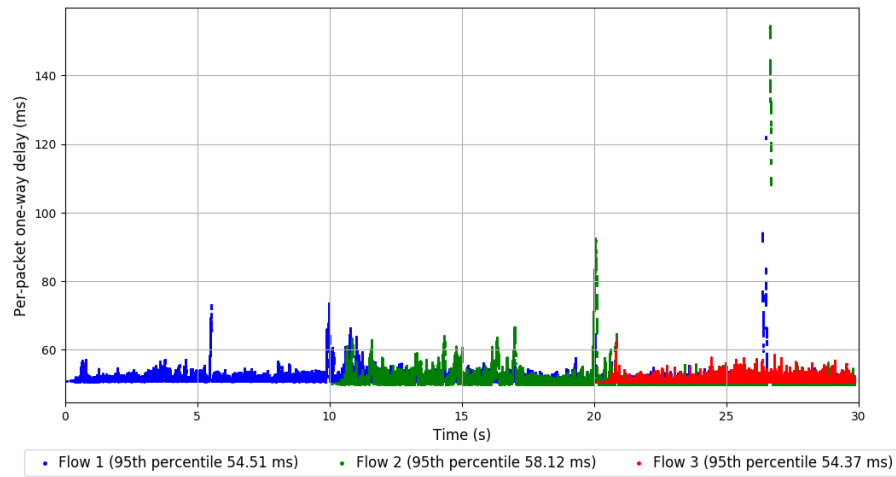
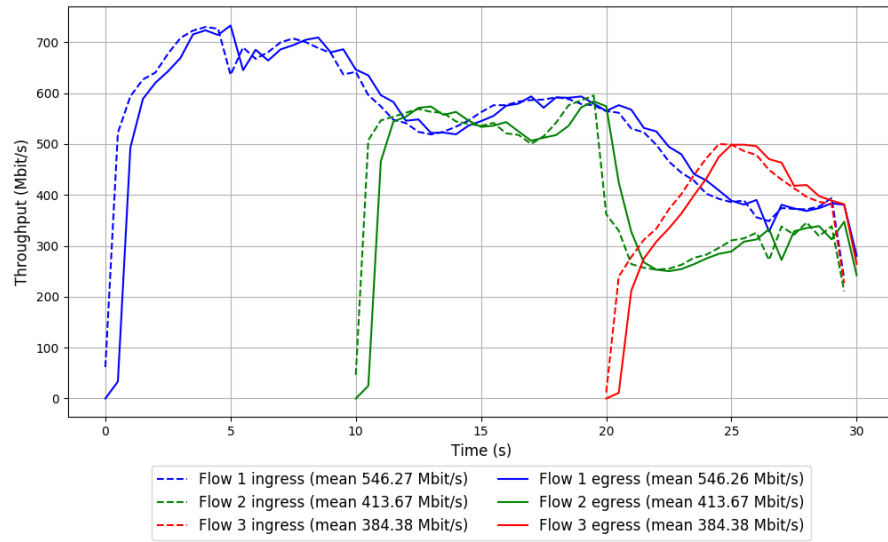


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-07 03:46:19
End at: 2018-09-07 03:46:49
Local clock offset: -0.194 ms
Remote clock offset: -0.001 ms

Below is generated by plot.py at 2018-09-07 06:30:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 946.63 Mbit/s
95th percentile per-packet one-way delay: 55.316 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 546.26 Mbit/s
95th percentile per-packet one-way delay: 54.507 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 413.67 Mbit/s
95th percentile per-packet one-way delay: 58.123 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 384.38 Mbit/s
95th percentile per-packet one-way delay: 54.374 ms
Loss rate: 0.00%

Run 4: Report of Indigo-Muses — Data Link

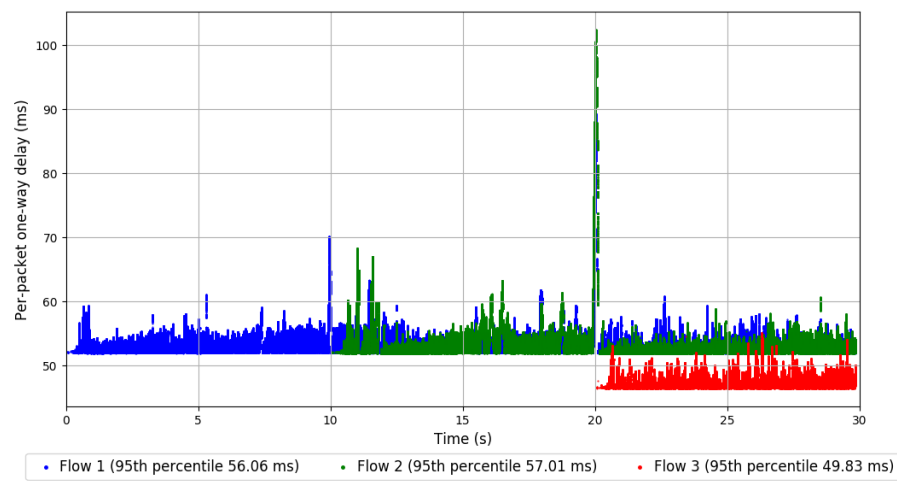
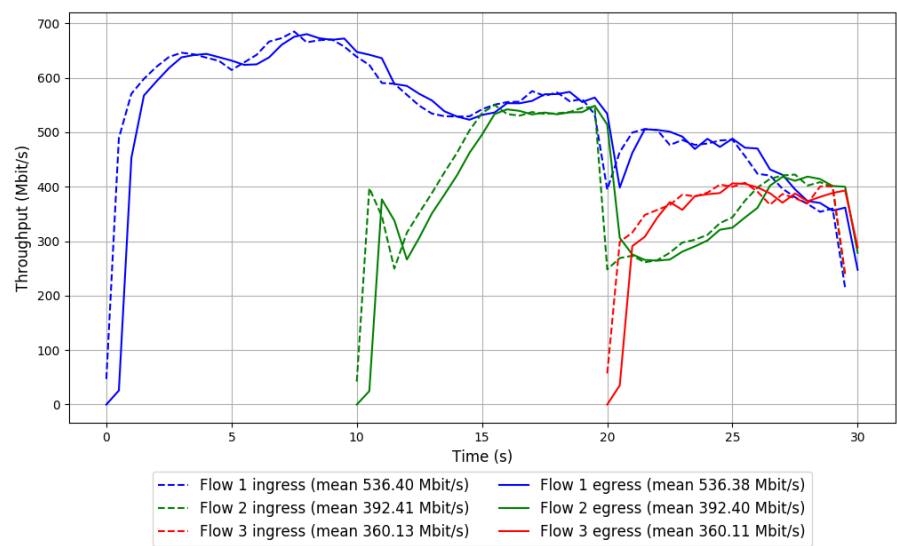


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-07 04:17:48
End at: 2018-09-07 04:18:18
Local clock offset: 0.087 ms
Remote clock offset: -0.037 ms

Below is generated by plot.py at 2018-09-07 06:30:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 915.09 Mbit/s
95th percentile per-packet one-way delay: 56.038 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 536.38 Mbit/s
95th percentile per-packet one-way delay: 56.064 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 392.40 Mbit/s
95th percentile per-packet one-way delay: 57.011 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 360.11 Mbit/s
95th percentile per-packet one-way delay: 49.830 ms
Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link

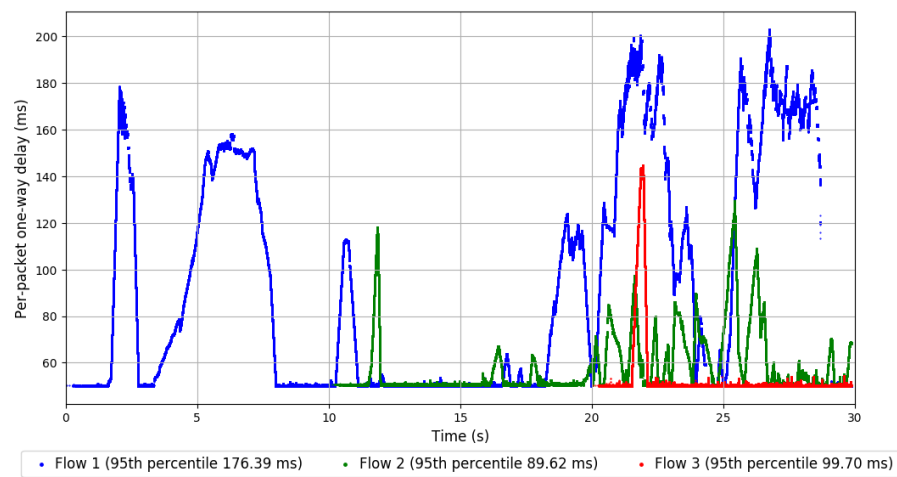
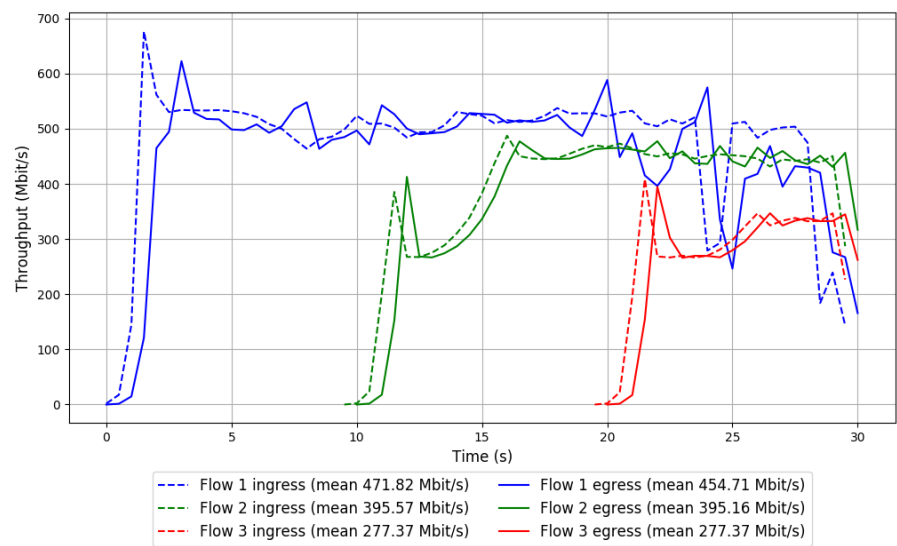


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-07 02:03:21
End at: 2018-09-07 02:03:51
Local clock offset: 0.105 ms
Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-09-07 06:40:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 809.15 Mbit/s
95th percentile per-packet one-way delay: 169.612 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 454.71 Mbit/s
95th percentile per-packet one-way delay: 176.386 ms
Loss rate: 3.63%
-- Flow 2:
Average throughput: 395.16 Mbit/s
95th percentile per-packet one-way delay: 89.625 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 277.37 Mbit/s
95th percentile per-packet one-way delay: 99.700 ms
Loss rate: 0.00%
```


Run 1: Report of PCC-Allegro — Data Link

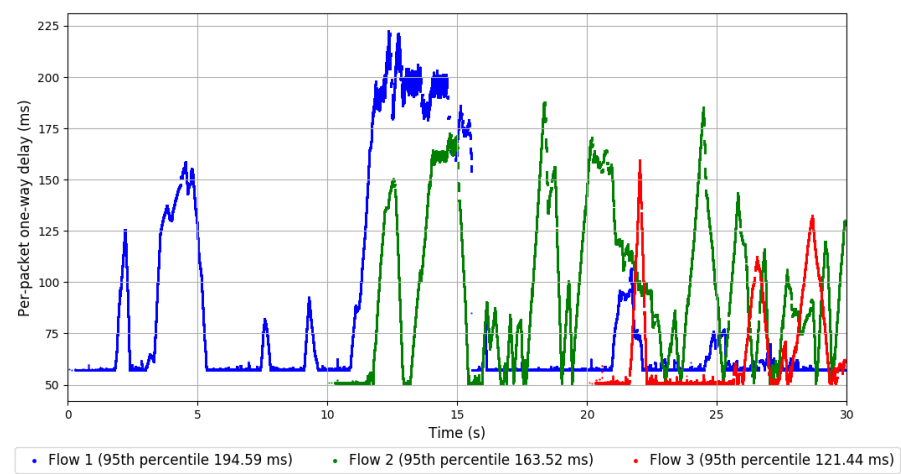
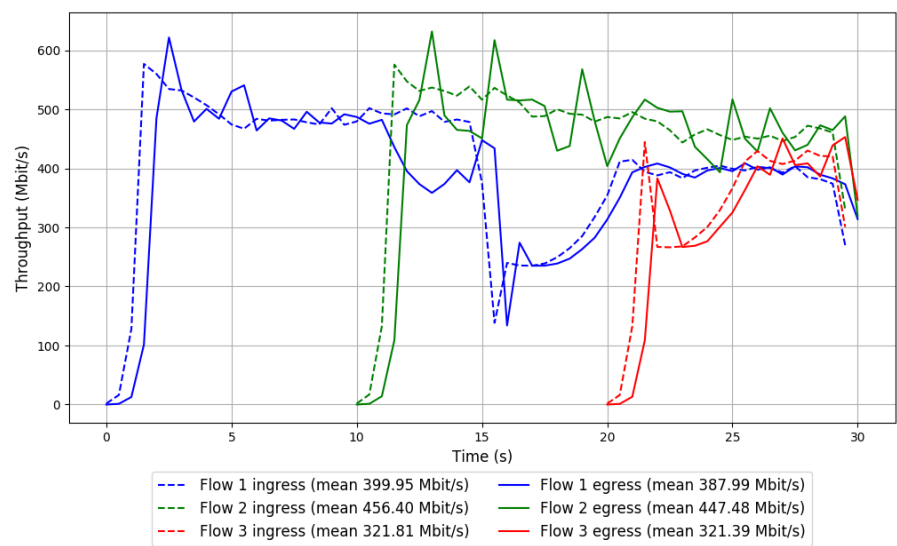


Run 2: Statistics of PCC-Allegro

Start at: 2018-09-07 02:36:16
End at: 2018-09-07 02:36:46
Local clock offset: -0.276 ms
Remote clock offset: -0.045 ms

Below is generated by plot.py at 2018-09-07 06:40:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 791.26 Mbit/s
95th percentile per-packet one-way delay: 180.334 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 387.99 Mbit/s
95th percentile per-packet one-way delay: 194.585 ms
Loss rate: 2.99%
-- Flow 2:
Average throughput: 447.48 Mbit/s
95th percentile per-packet one-way delay: 163.516 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 321.39 Mbit/s
95th percentile per-packet one-way delay: 121.439 ms
Loss rate: 0.04%

Run 2: Report of PCC-Allegro — Data Link

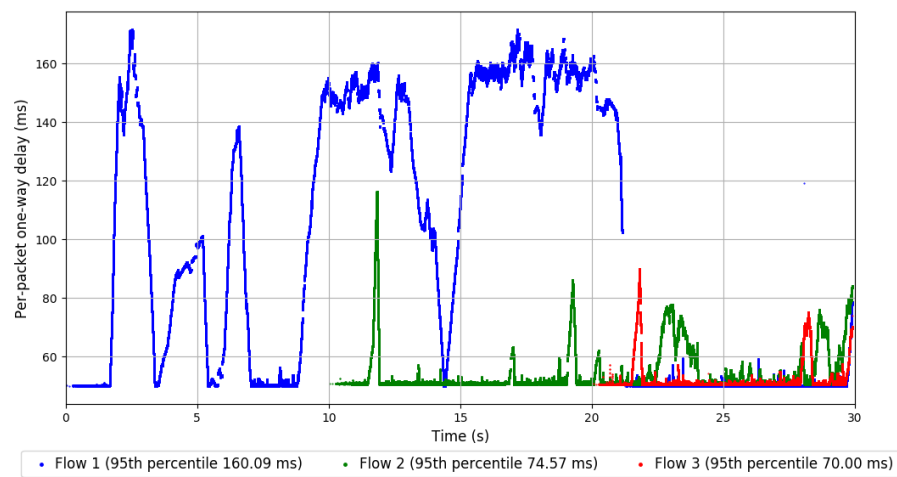
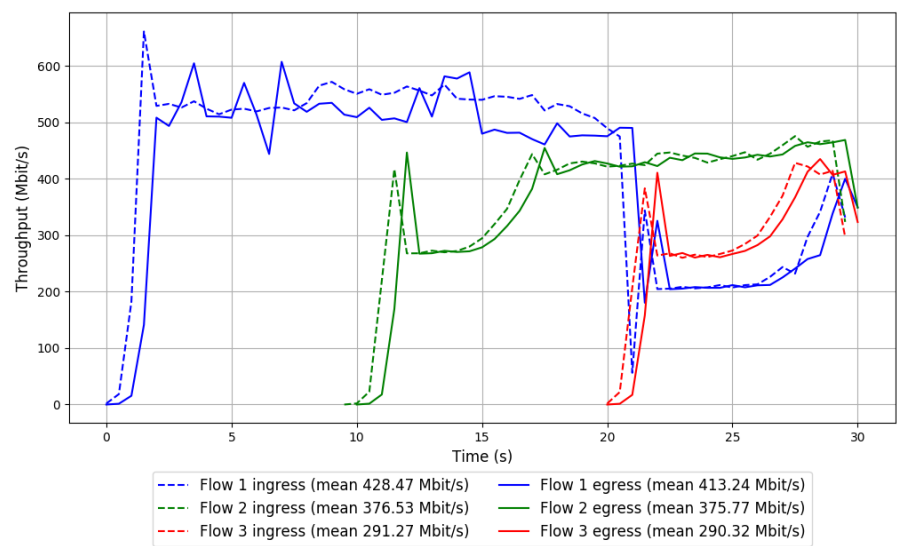


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-07 03:07:38
End at: 2018-09-07 03:08:08
Local clock offset: -0.189 ms
Remote clock offset: -0.237 ms

Below is generated by plot.py at 2018-09-07 06:52:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 758.77 Mbit/s
95th percentile per-packet one-way delay: 157.733 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 413.24 Mbit/s
95th percentile per-packet one-way delay: 160.088 ms
Loss rate: 3.55%
-- Flow 2:
Average throughput: 375.77 Mbit/s
95th percentile per-packet one-way delay: 74.572 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 290.32 Mbit/s
95th percentile per-packet one-way delay: 69.999 ms
Loss rate: 0.28%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-07 03:39:01

End at: 2018-09-07 03:39:31

Local clock offset: 0.524 ms

Remote clock offset: 0.011 ms

Below is generated by plot.py at 2018-09-07 06:55:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 786.95 Mbit/s

95th percentile per-packet one-way delay: 145.649 ms

Loss rate: 1.08%

-- Flow 1:

Average throughput: 466.21 Mbit/s

95th percentile per-packet one-way delay: 148.478 ms

Loss rate: 1.14%

-- Flow 2:

Average throughput: 336.02 Mbit/s

95th percentile per-packet one-way delay: 83.862 ms

Loss rate: 0.44%

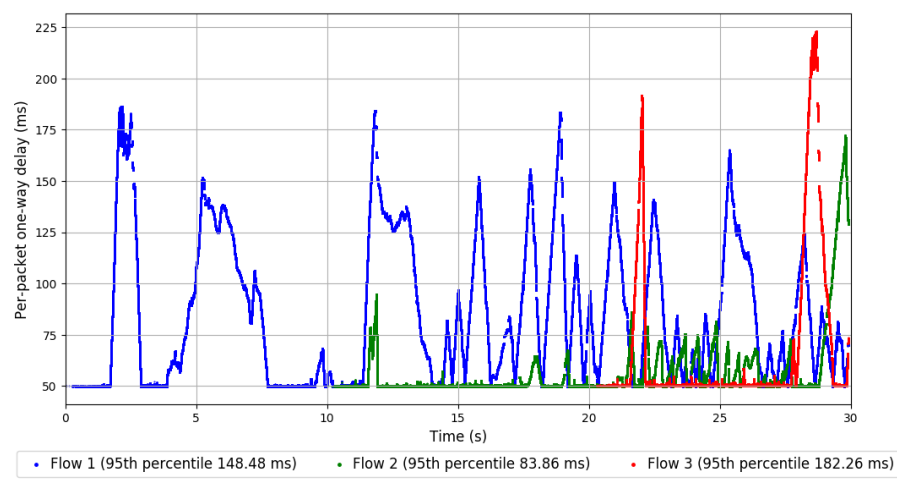
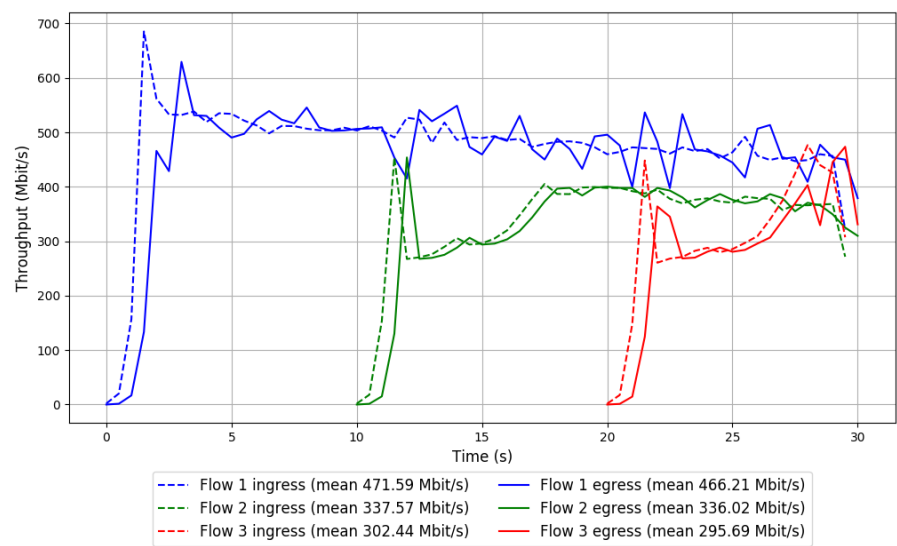
-- Flow 3:

Average throughput: 295.69 Mbit/s

95th percentile per-packet one-way delay: 182.257 ms

Loss rate: 2.22%

Run 4: Report of PCC-Allegro — Data Link

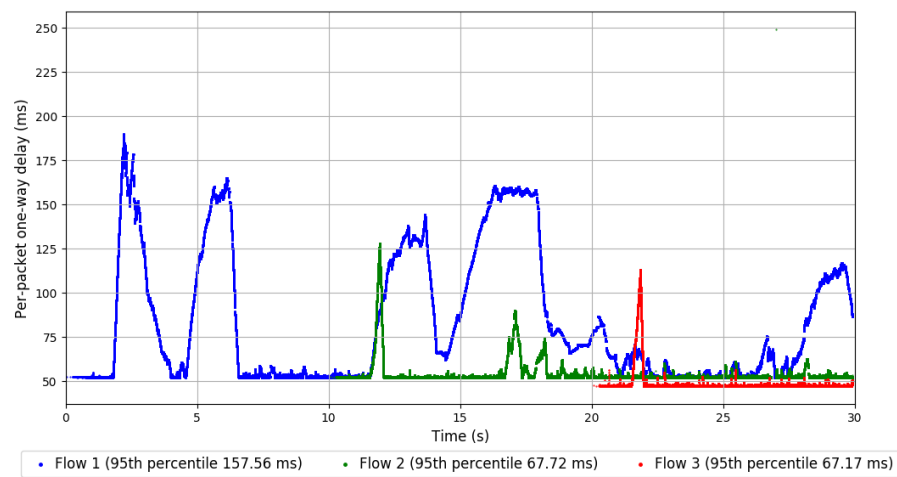
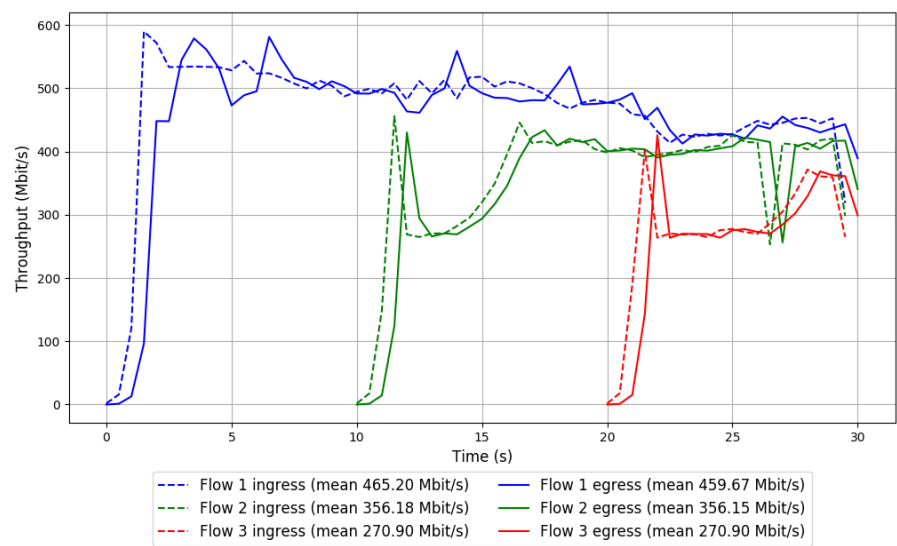


Run 5: Statistics of PCC-Allegro

Start at: 2018-09-07 04:10:34
End at: 2018-09-07 04:11:04
Local clock offset: -0.222 ms
Remote clock offset: -0.051 ms

Below is generated by plot.py at 2018-09-07 06:56:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 785.58 Mbit/s
95th percentile per-packet one-way delay: 155.063 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 459.67 Mbit/s
95th percentile per-packet one-way delay: 157.563 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 356.15 Mbit/s
95th percentile per-packet one-way delay: 67.725 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 270.90 Mbit/s
95th percentile per-packet one-way delay: 67.171 ms
Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link

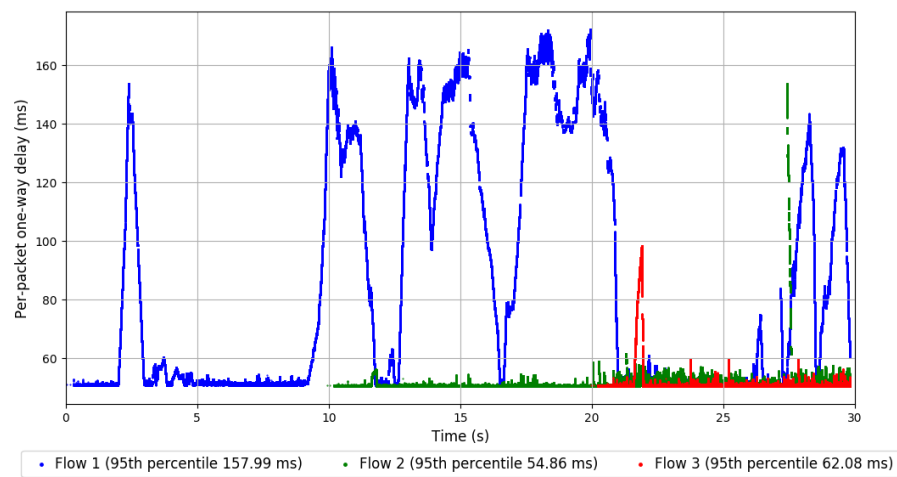
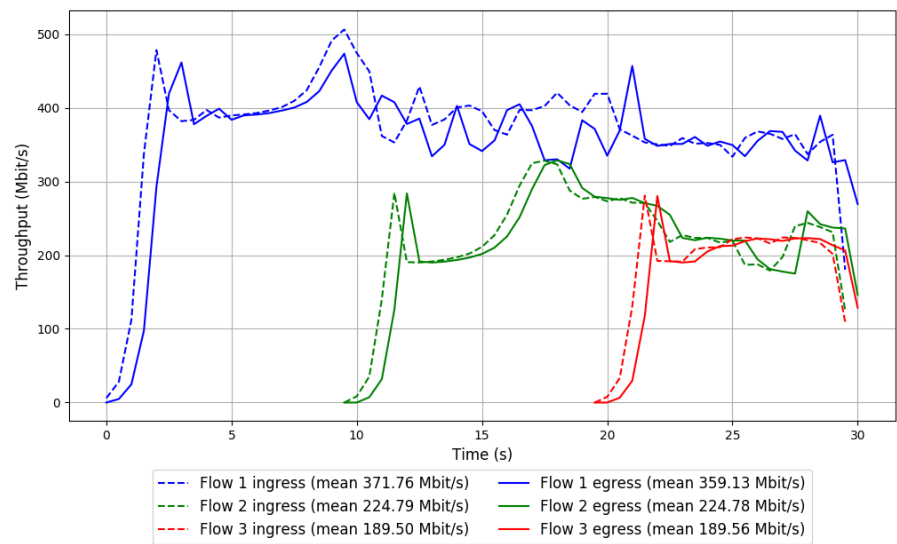


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-07 02:01:20
End at: 2018-09-07 02:01:50
Local clock offset: -0.323 ms
Remote clock offset: 0.025 ms

# Below is generated by plot.py at 2018-09-07 06:56:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 571.96 Mbit/s
95th percentile per-packet one-way delay: 154.095 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 359.13 Mbit/s
95th percentile per-packet one-way delay: 157.990 ms
Loss rate: 3.40%
-- Flow 2:
Average throughput: 224.78 Mbit/s
95th percentile per-packet one-way delay: 54.859 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 189.56 Mbit/s
95th percentile per-packet one-way delay: 62.076 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Expr — Data Link

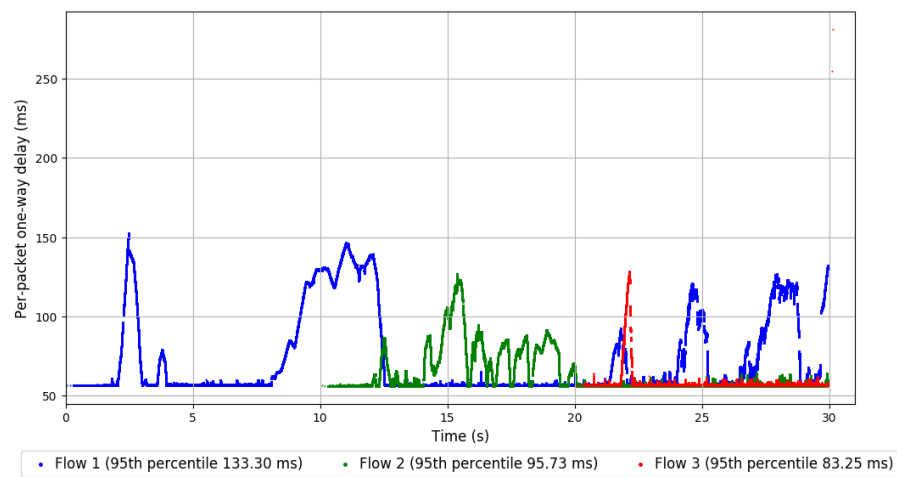
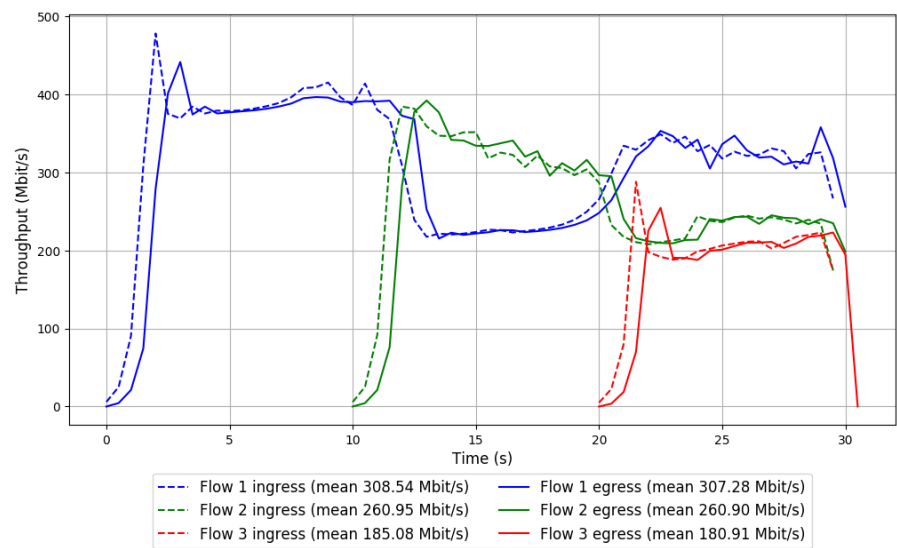


Run 2: Statistics of PCC-Expr

Start at: 2018-09-07 02:34:17
End at: 2018-09-07 02:34:47
Local clock offset: 0.422 ms
Remote clock offset: -0.072 ms

Below is generated by plot.py at 2018-09-07 06:56:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 537.97 Mbit/s
95th percentile per-packet one-way delay: 129.310 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 307.28 Mbit/s
95th percentile per-packet one-way delay: 133.303 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 260.90 Mbit/s
95th percentile per-packet one-way delay: 95.727 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 180.91 Mbit/s
95th percentile per-packet one-way delay: 83.246 ms
Loss rate: 0.14%

Run 2: Report of PCC-Expr — Data Link

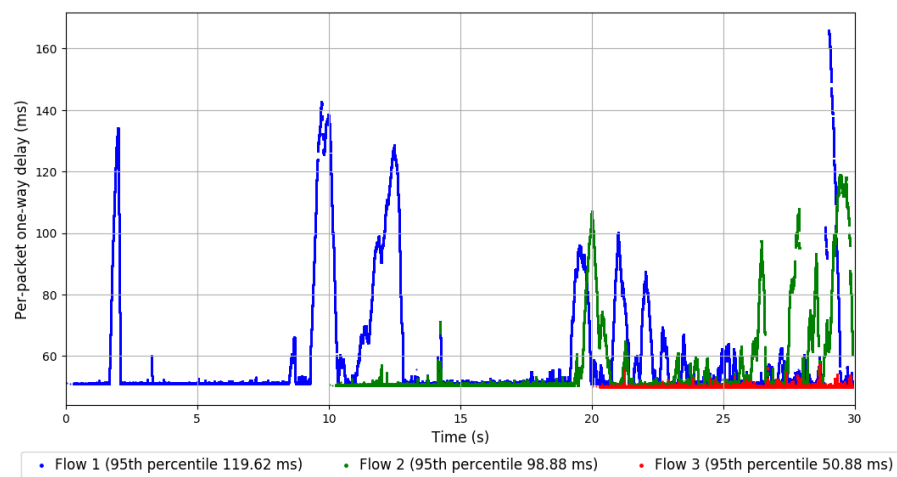
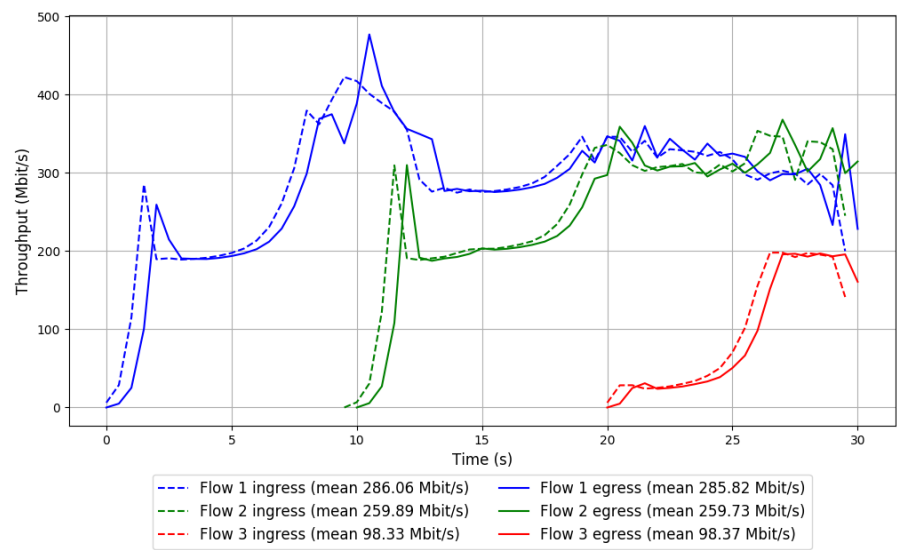


Run 3: Statistics of PCC-Expr

Start at: 2018-09-07 03:05:43
End at: 2018-09-07 03:06:13
Local clock offset: -0.189 ms
Remote clock offset: -0.235 ms

Below is generated by plot.py at 2018-09-07 06:56:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 491.23 Mbit/s
95th percentile per-packet one-way delay: 107.245 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 285.82 Mbit/s
95th percentile per-packet one-way delay: 119.617 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 259.73 Mbit/s
95th percentile per-packet one-way delay: 98.880 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 98.37 Mbit/s
95th percentile per-packet one-way delay: 50.885 ms
Loss rate: 0.00%

Run 3: Report of PCC-Expr — Data Link

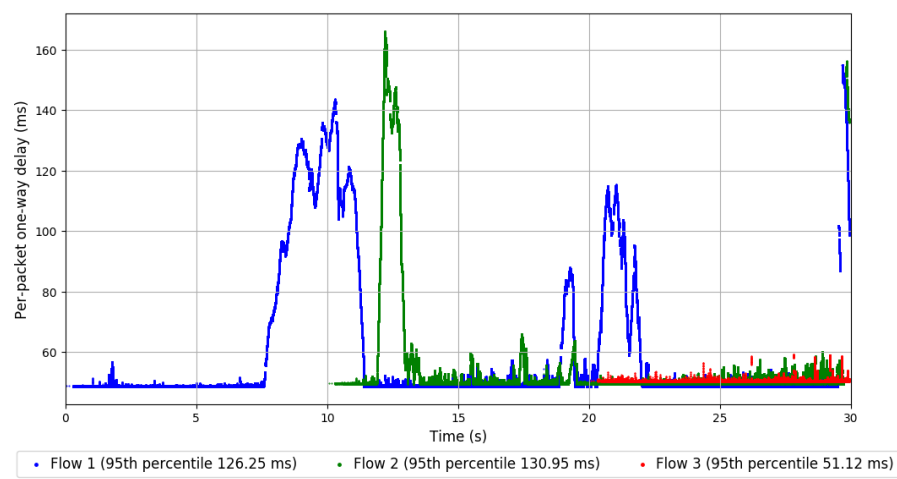
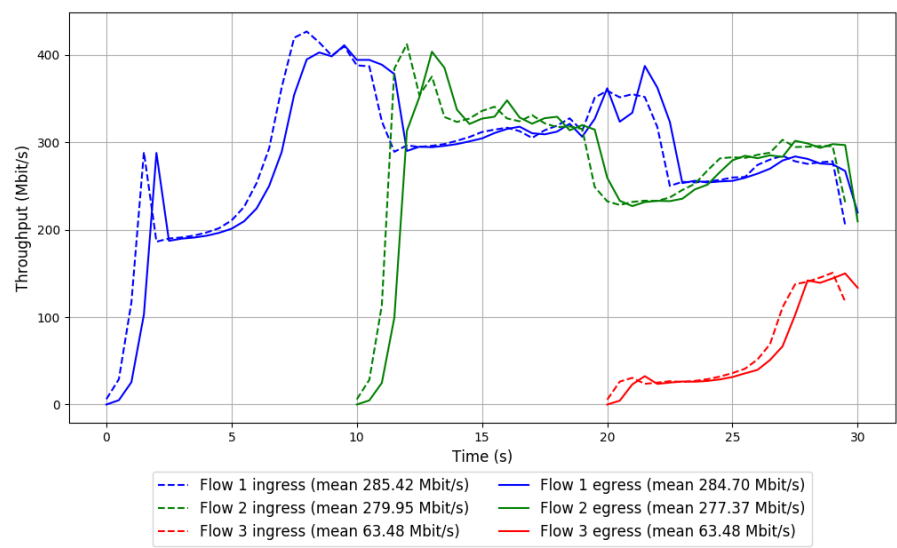


Run 4: Statistics of PCC-Expr

Start at: 2018-09-07 03:37:06
End at: 2018-09-07 03:37:36
Local clock offset: 0.185 ms
Remote clock offset: -0.016 ms

Below is generated by plot.py at 2018-09-07 06:59:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 490.13 Mbit/s
95th percentile per-packet one-way delay: 125.860 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 284.70 Mbit/s
95th percentile per-packet one-way delay: 126.249 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 277.37 Mbit/s
95th percentile per-packet one-way delay: 130.946 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 63.48 Mbit/s
95th percentile per-packet one-way delay: 51.123 ms
Loss rate: 0.00%

Run 4: Report of PCC-Expr — Data Link

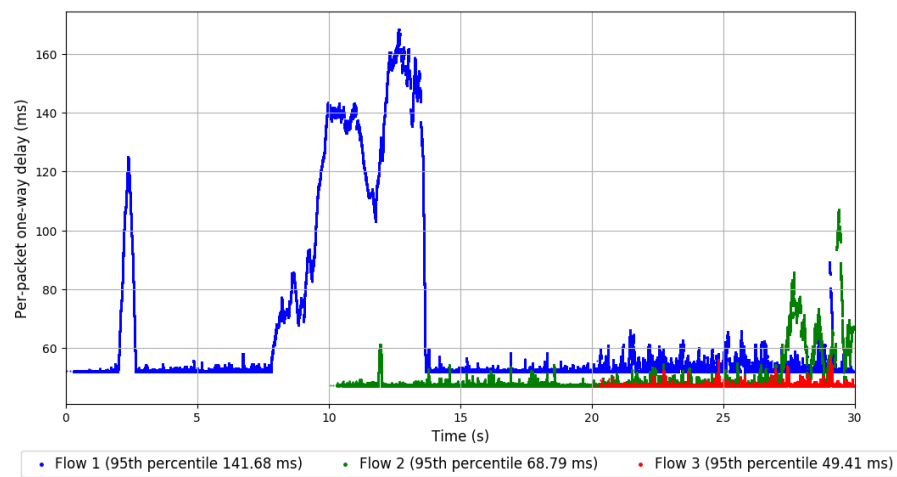
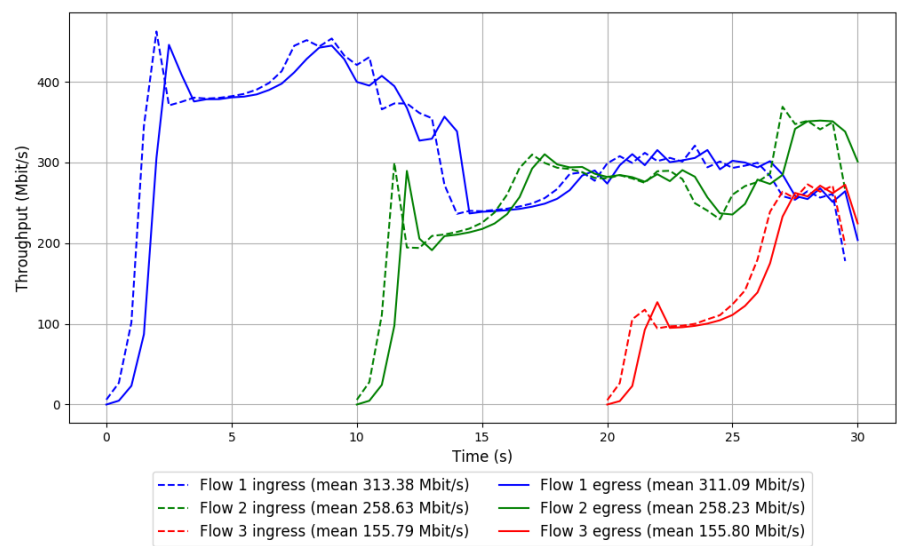


Run 5: Statistics of PCC-Expr

Start at: 2018-09-07 04:08:36
End at: 2018-09-07 04:09:06
Local clock offset: 0.138 ms
Remote clock offset: -0.017 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 534.22 Mbit/s
95th percentile per-packet one-way delay: 137.715 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 311.09 Mbit/s
95th percentile per-packet one-way delay: 141.683 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 258.23 Mbit/s
95th percentile per-packet one-way delay: 68.789 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 155.80 Mbit/s
95th percentile per-packet one-way delay: 49.405 ms
Loss rate: 0.00%

Run 5: Report of PCC-Expr — Data Link

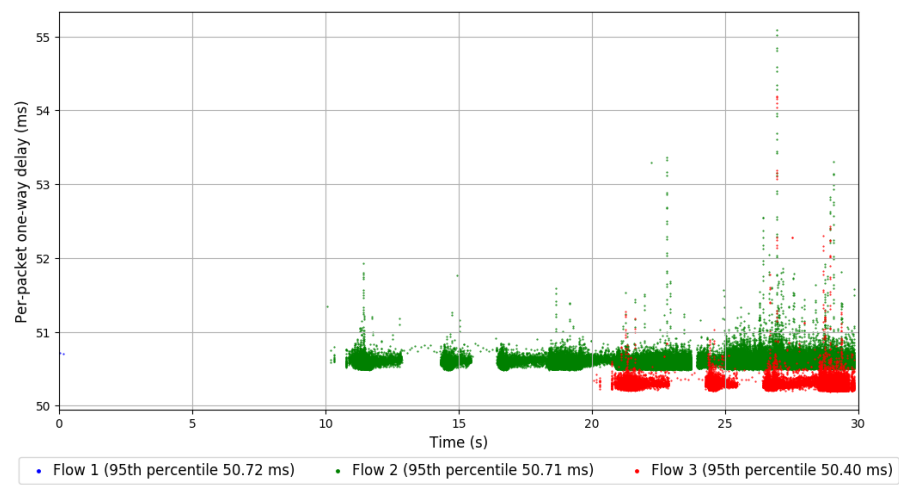
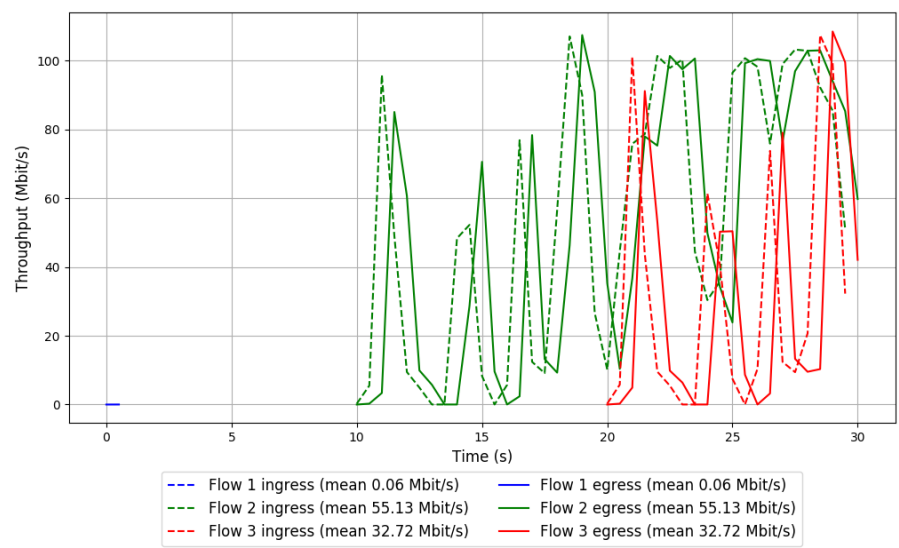


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-07 02:26:27
End at: 2018-09-07 02:26:57
Local clock offset: 0.076 ms
Remote clock offset: -0.018 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 47.35 Mbit/s
95th percentile per-packet one-way delay: 50.696 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 50.717 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.13 Mbit/s
95th percentile per-packet one-way delay: 50.710 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.72 Mbit/s
95th percentile per-packet one-way delay: 50.398 ms
Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link

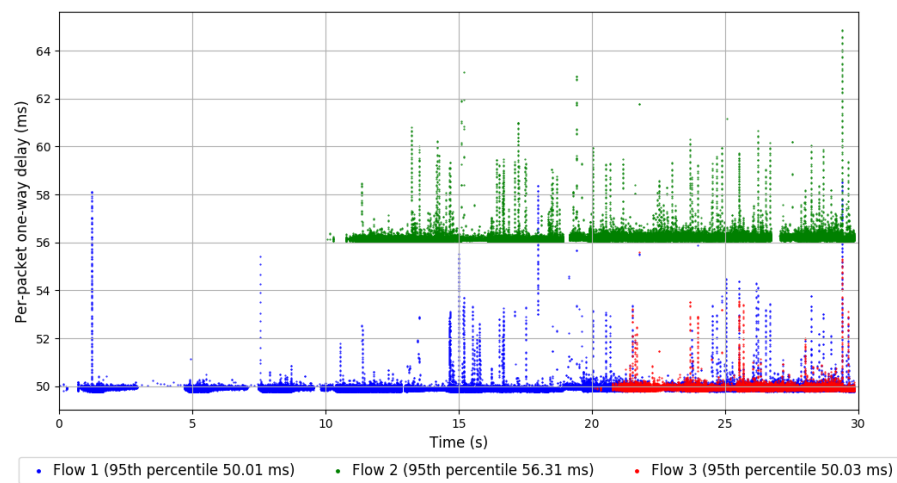
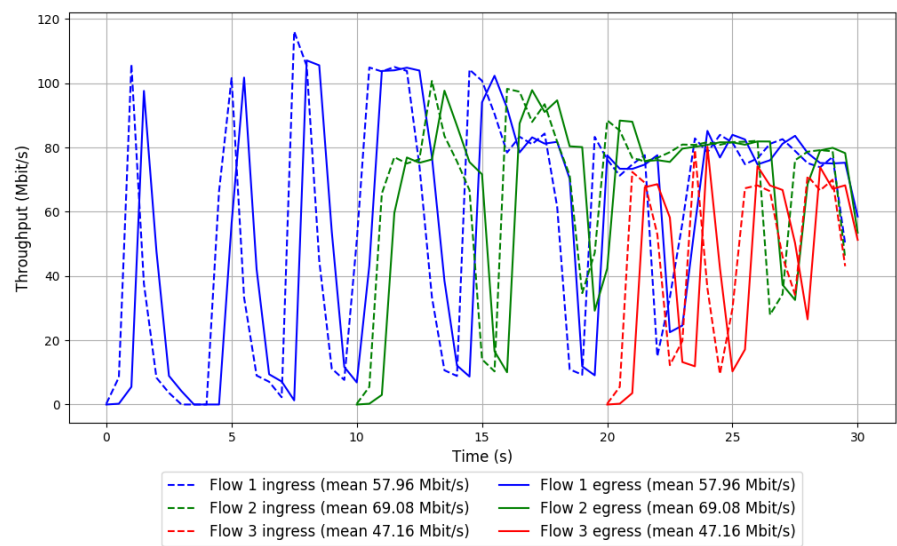


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-07 02:59:23
End at: 2018-09-07 02:59:53
Local clock offset: 0.519 ms
Remote clock offset: -0.194 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 119.26 Mbit/s
95th percentile per-packet one-way delay: 56.234 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 57.96 Mbit/s
95th percentile per-packet one-way delay: 50.012 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 69.08 Mbit/s
95th percentile per-packet one-way delay: 56.314 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 47.16 Mbit/s
95th percentile per-packet one-way delay: 50.030 ms
Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link

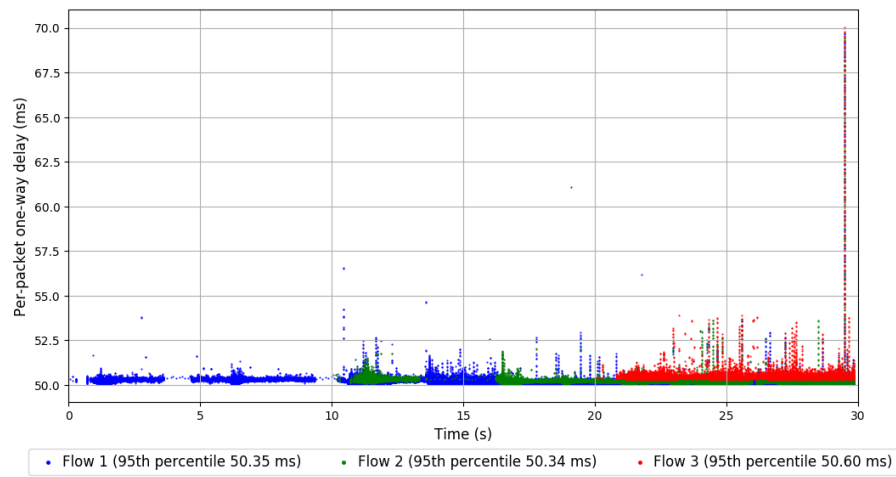
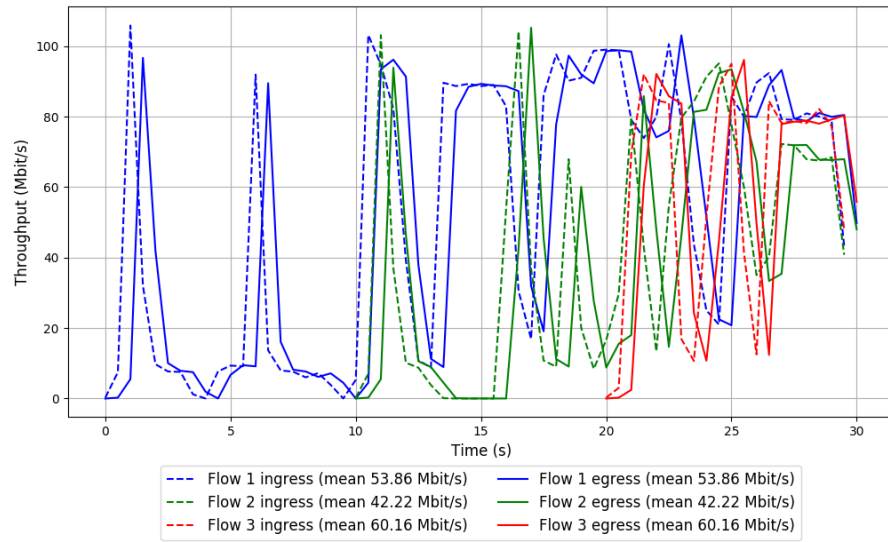


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-07 03:30:47
End at: 2018-09-07 03:31:17
Local clock offset: 0.158 ms
Remote clock offset: -0.035 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 101.65 Mbit/s
95th percentile per-packet one-way delay: 50.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.86 Mbit/s
95th percentile per-packet one-way delay: 50.349 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.22 Mbit/s
95th percentile per-packet one-way delay: 50.342 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.16 Mbit/s
95th percentile per-packet one-way delay: 50.601 ms
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

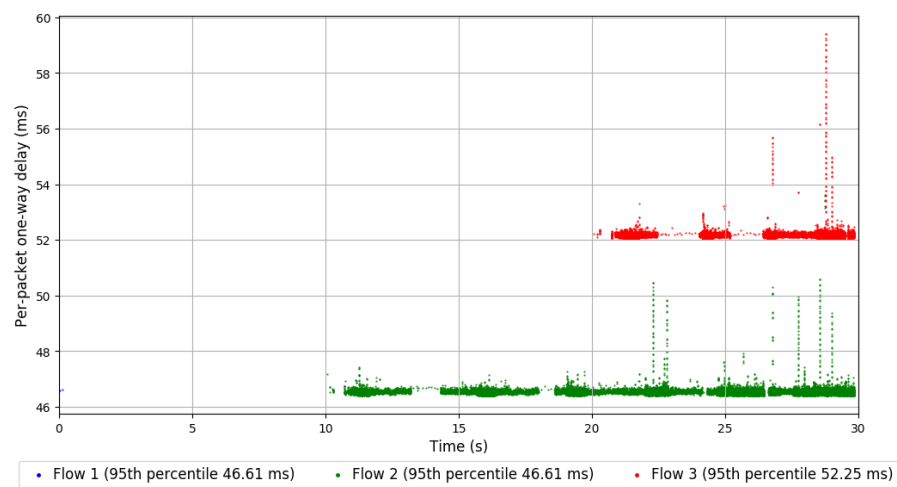
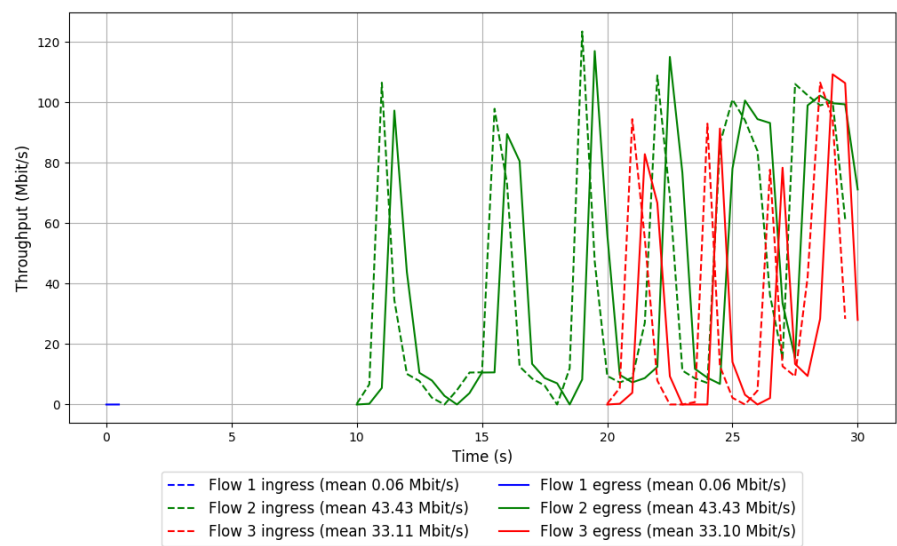


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-07 04:02:24
End at: 2018-09-07 04:02:54
Local clock offset: 0.123 ms
Remote clock offset: -0.054 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 39.70 Mbit/s
95th percentile per-packet one-way delay: 52.191 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 46.614 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.43 Mbit/s
95th percentile per-packet one-way delay: 46.611 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.10 Mbit/s
95th percentile per-packet one-way delay: 52.253 ms
Loss rate: 0.06%

Run 4: Report of QUIC Cubic — Data Link

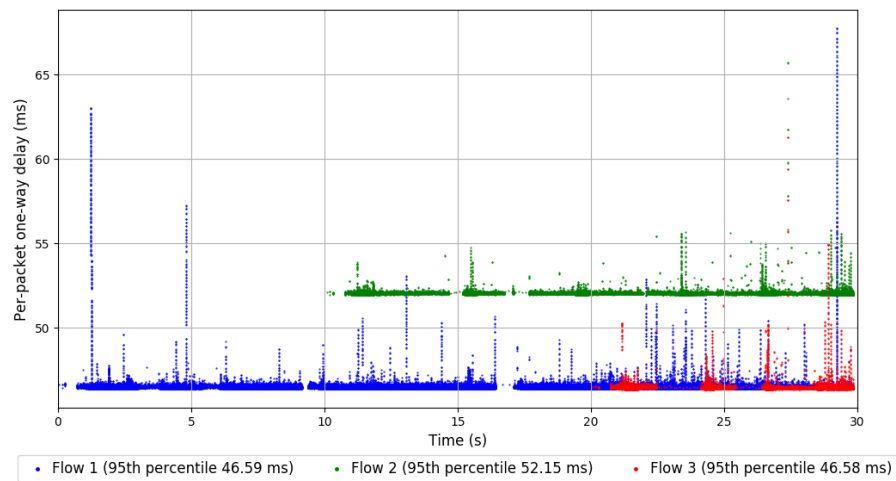
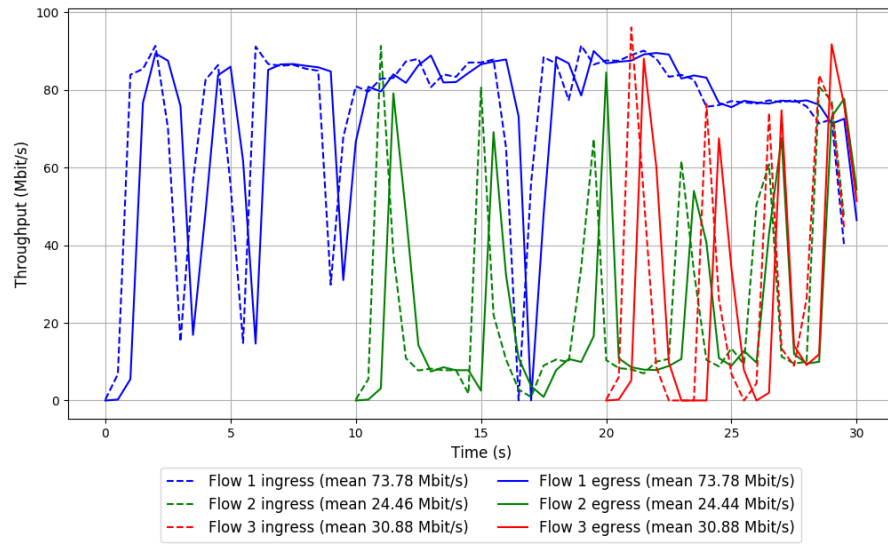


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-07 04:33:55
End at: 2018-09-07 04:34:25
Local clock offset: 0.079 ms
Remote clock offset: -0.067 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 100.10 Mbit/s
95th percentile per-packet one-way delay: 52.042 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 73.78 Mbit/s
95th percentile per-packet one-way delay: 46.595 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.44 Mbit/s
95th percentile per-packet one-way delay: 52.148 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 30.88 Mbit/s
95th percentile per-packet one-way delay: 46.576 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

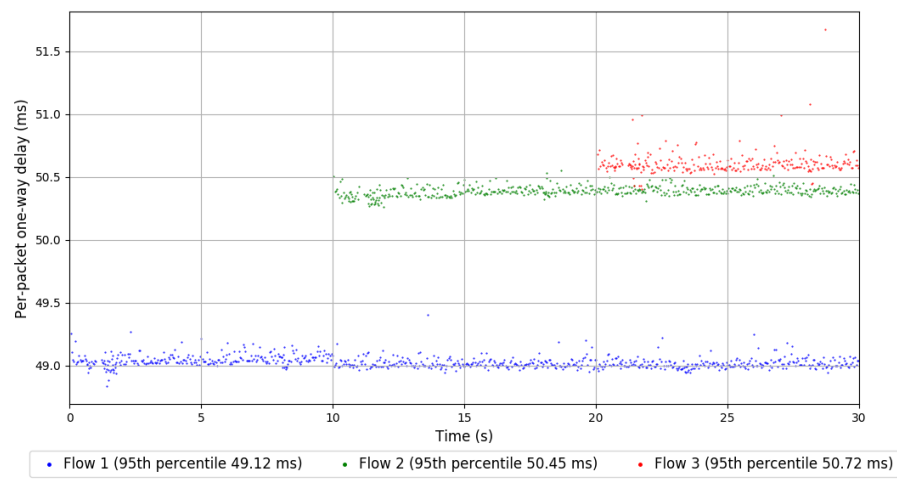
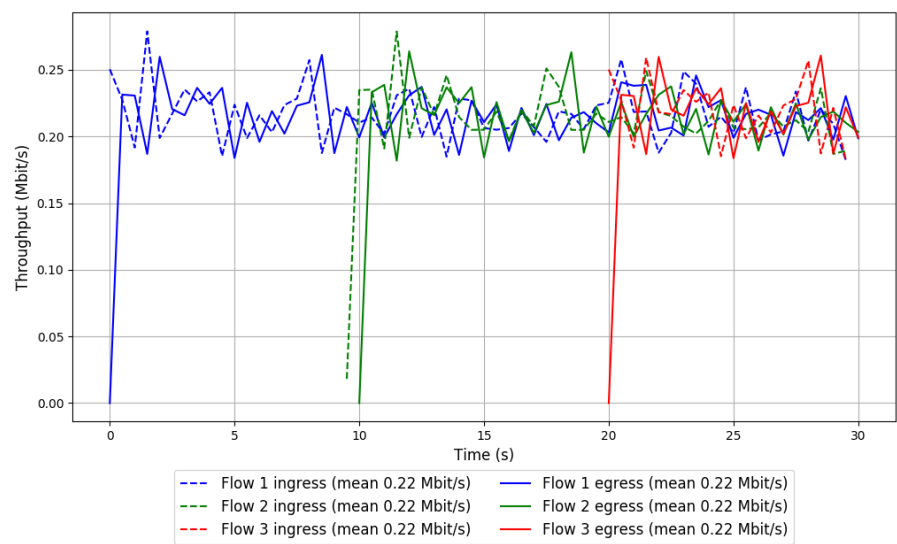


```
Run 1: Statistics of SReAM

Start at: 2018-09-07 02:00:10
End at: 2018-09-07 02:00:40
Local clock offset: 0.066 ms
Remote clock offset: 0.028 ms

# Below is generated by plot.py at 2018-09-07 07:00:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.618 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.115 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.453 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.722 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

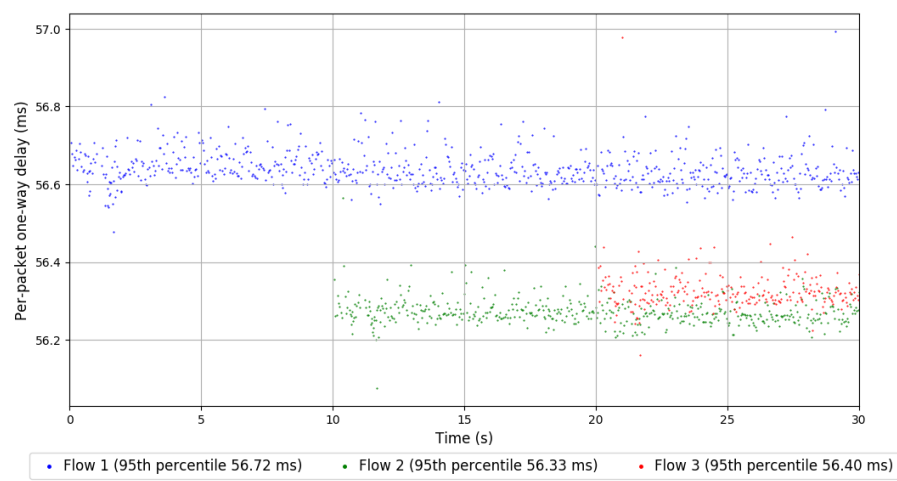
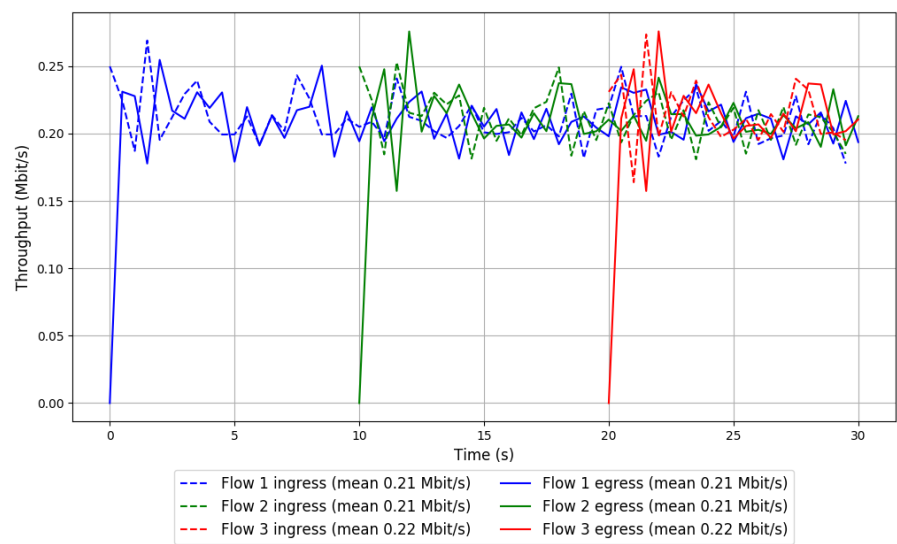


```
Run 2: Statistics of SReAM

Start at: 2018-09-07 02:33:06
End at: 2018-09-07 02:33:36
Local clock offset: 0.413 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2018-09-07 07:00:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 56.695 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 56.719 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 56.331 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.400 ms
Loss rate: 0.00%
```


Run 2: Report of SReAM — Data Link

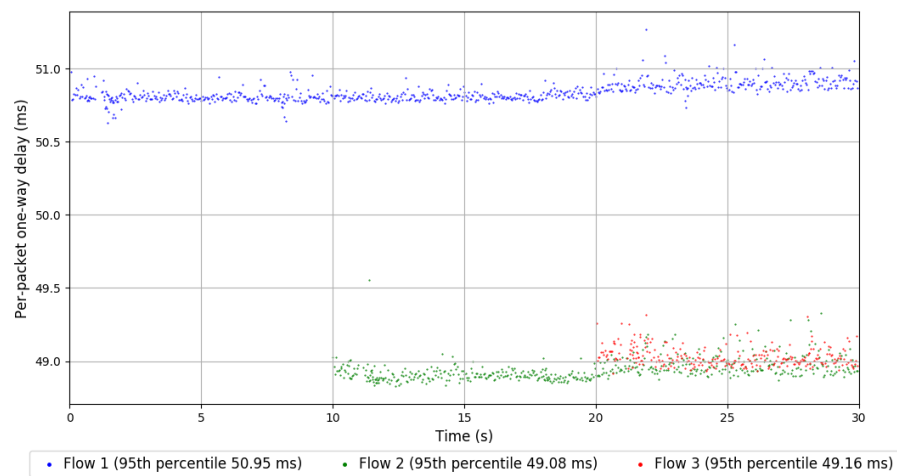
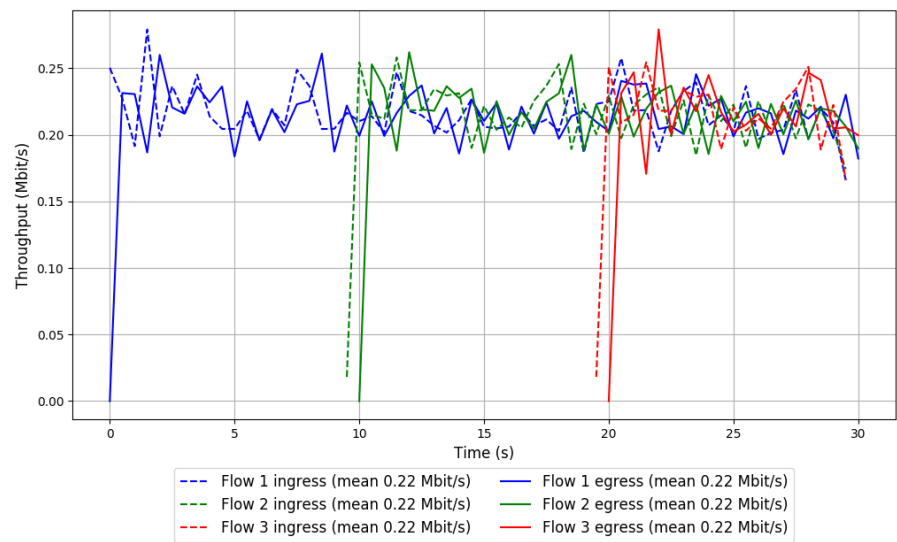


Run 3: Statistics of SReAM

Start at: 2018-09-07 03:04:33
End at: 2018-09-07 03:05:03
Local clock offset: 0.158 ms
Remote clock offset: -0.209 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.923 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.953 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.077 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.163 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

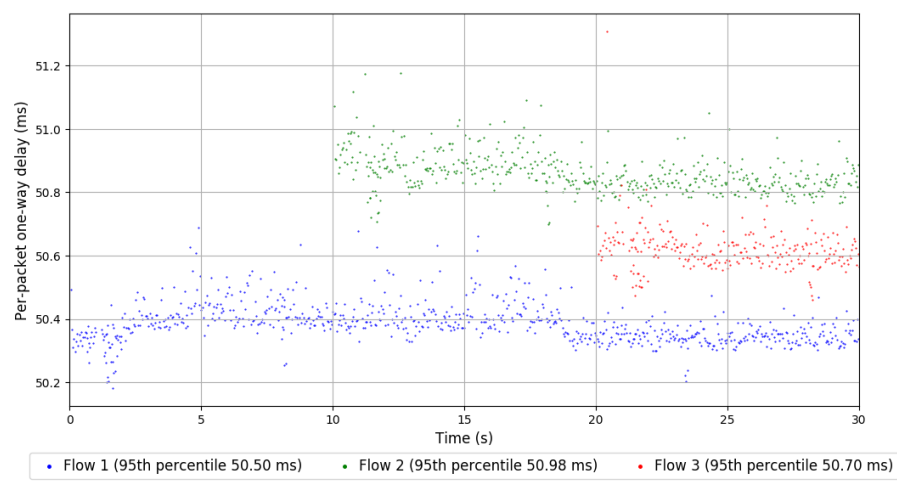
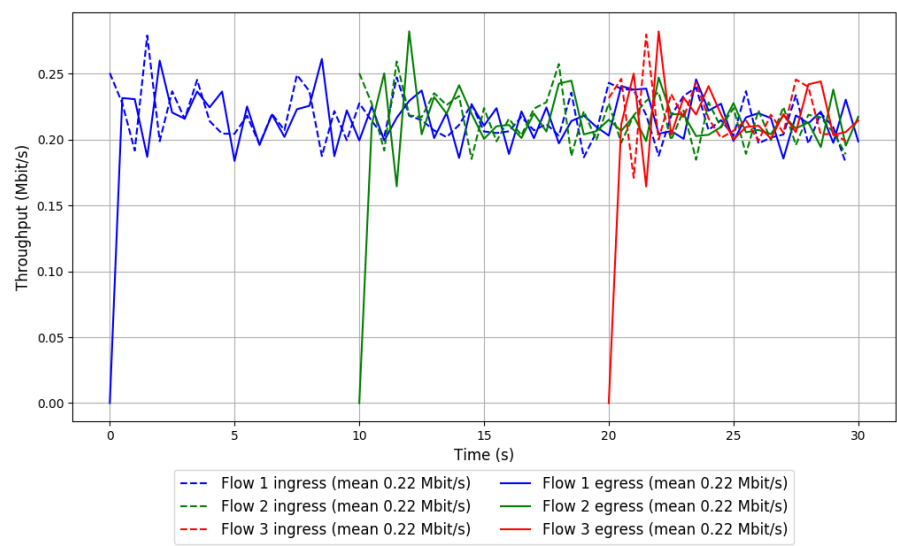


Run 4: Statistics of SReAM

Start at: 2018-09-07 03:35:56
End at: 2018-09-07 03:36:26
Local clock offset: 0.159 ms
Remote clock offset: -0.033 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.916 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.500 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.977 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.705 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

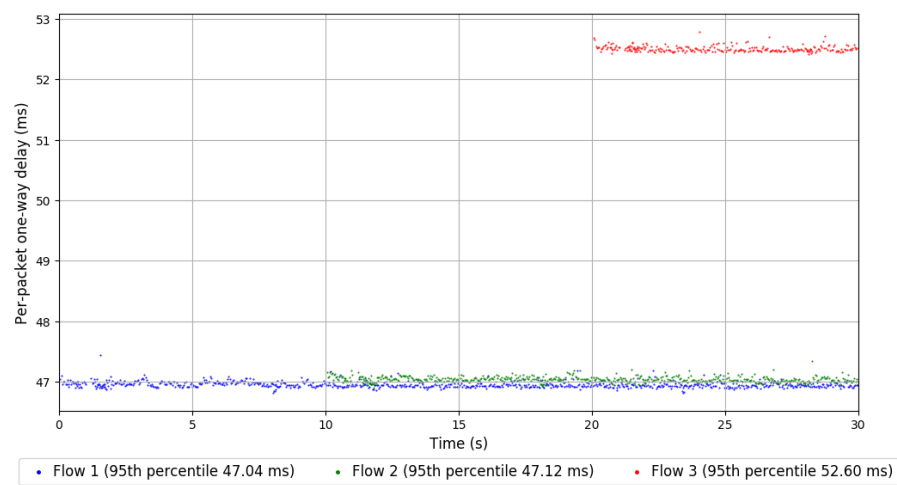
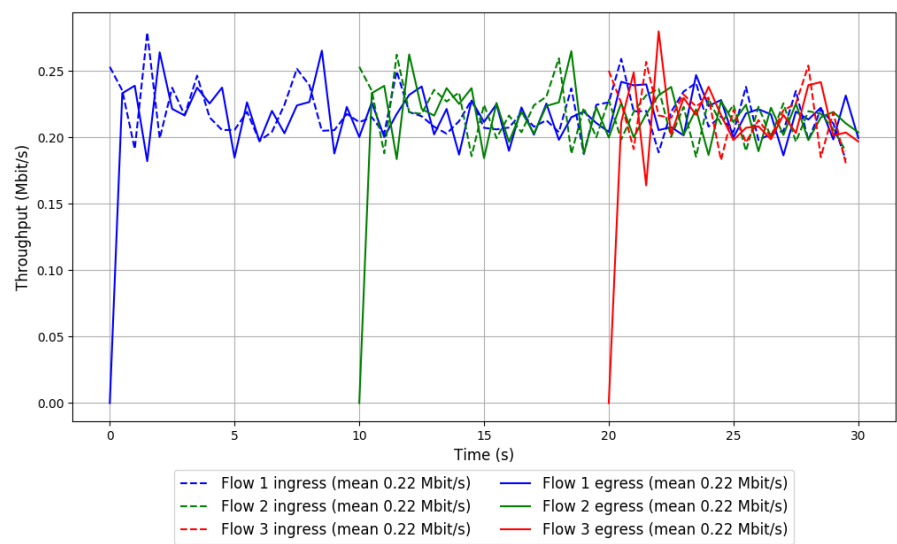


Run 5: Statistics of SReAM

Start at: 2018-09-07 04:07:26
End at: 2018-09-07 04:07:56
Local clock offset: -0.241 ms
Remote clock offset: -0.054 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 52.523 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.039 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.123 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 52.603 ms
Loss rate: 0.35%

Run 5: Report of SCReAM — Data Link

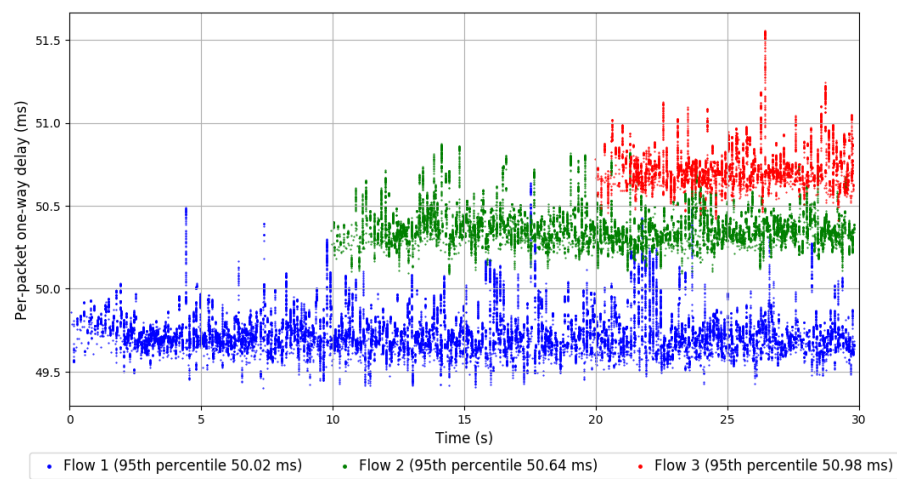
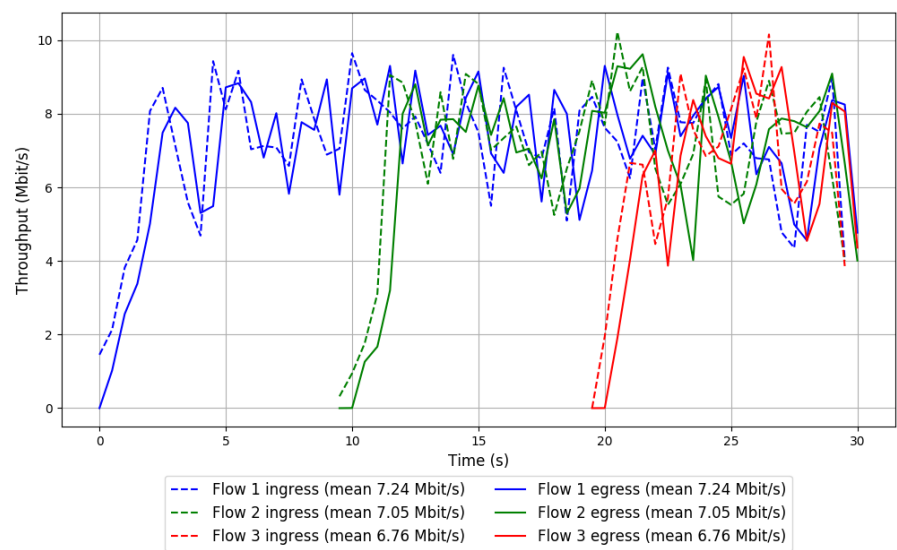


Run 1: Statistics of Sprout

Start at: 2018-09-07 02:18:30
End at: 2018-09-07 02:19:00
Local clock offset: 0.065 ms
Remote clock offset: -0.068 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.18 Mbit/s
95th percentile per-packet one-way delay: 50.771 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.24 Mbit/s
95th percentile per-packet one-way delay: 50.023 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.05 Mbit/s
95th percentile per-packet one-way delay: 50.644 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.76 Mbit/s
95th percentile per-packet one-way delay: 50.982 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

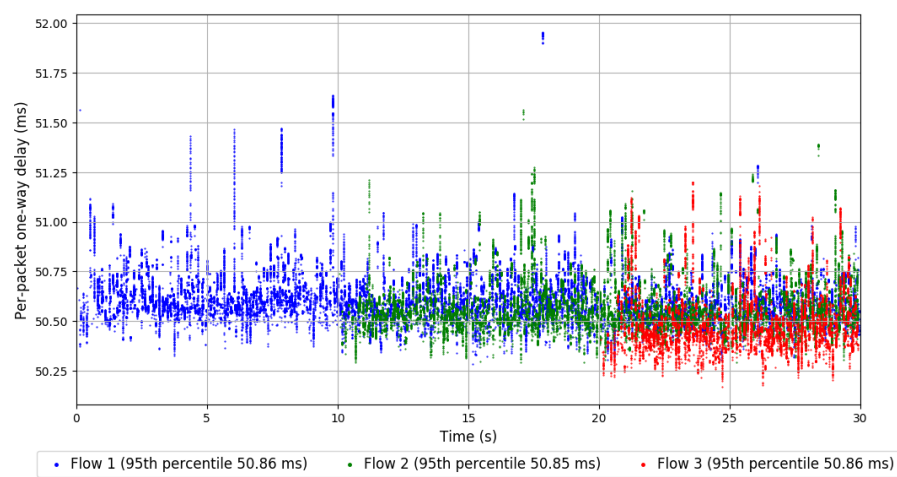
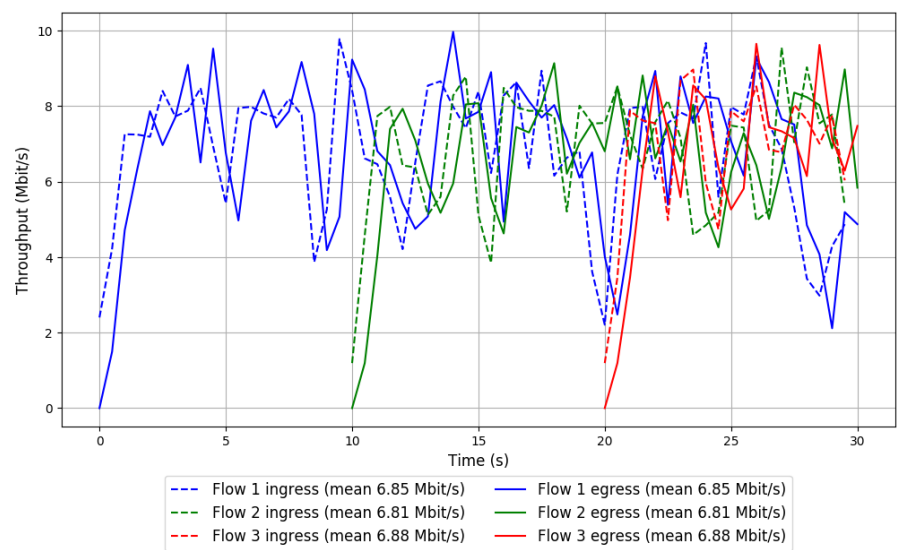


Run 2: Statistics of Sprout

Start at: 2018-09-07 02:51:35
End at: 2018-09-07 02:52:05
Local clock offset: 0.453 ms
Remote clock offset: -0.187 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.63 Mbit/s
95th percentile per-packet one-way delay: 50.859 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 50.863 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.81 Mbit/s
95th percentile per-packet one-way delay: 50.848 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.88 Mbit/s
95th percentile per-packet one-way delay: 50.862 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

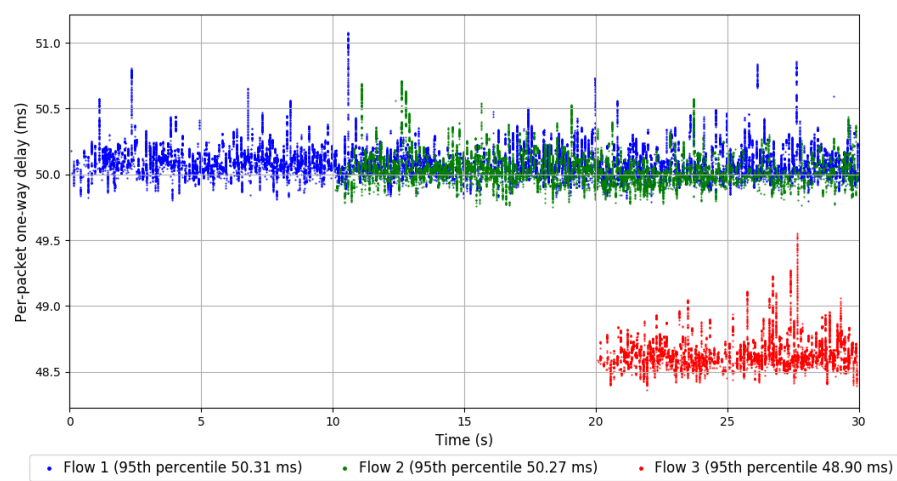
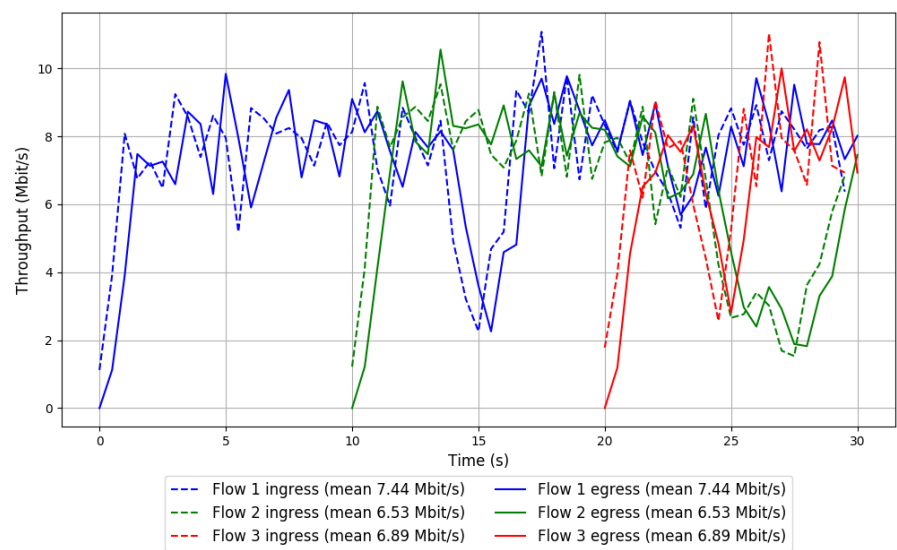


Run 3: Statistics of Sprout

Start at: 2018-09-07 03:22:57
End at: 2018-09-07 03:23:27
Local clock offset: 0.529 ms
Remote clock offset: -0.052 ms

Below is generated by plot.py at 2018-09-07 07:00:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.05 Mbit/s
95th percentile per-packet one-way delay: 50.278 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.44 Mbit/s
95th percentile per-packet one-way delay: 50.307 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 50.271 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 48.896 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

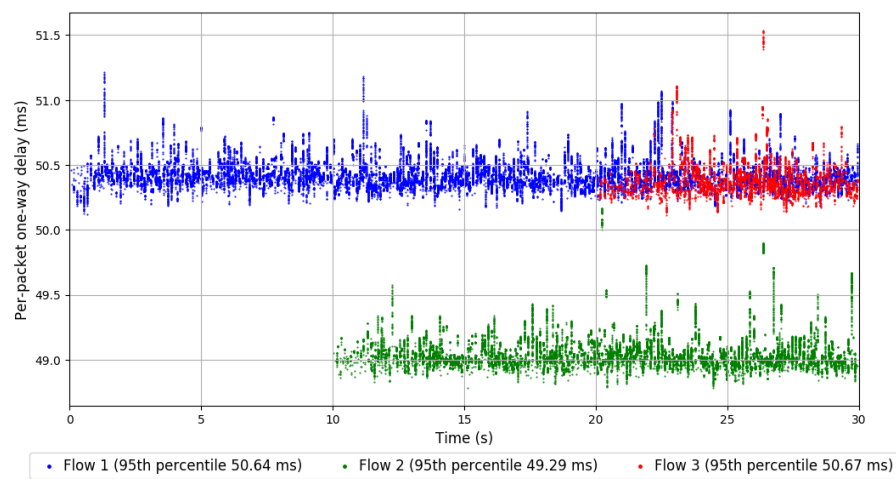
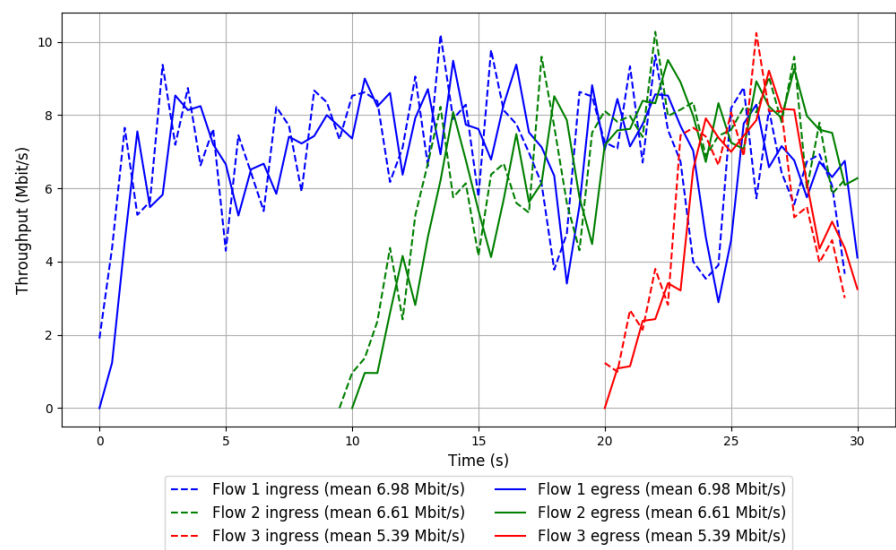


Run 4: Statistics of Sprout

Start at: 2018-09-07 03:54:26
End at: 2018-09-07 03:54:56
Local clock offset: 0.144 ms
Remote clock offset: -0.008 ms

```
# Below is generated by plot.py at 2018-09-07 07:00:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.16 Mbit/s
95th percentile per-packet one-way delay: 50.597 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 50.636 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 49.289 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 50.670 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

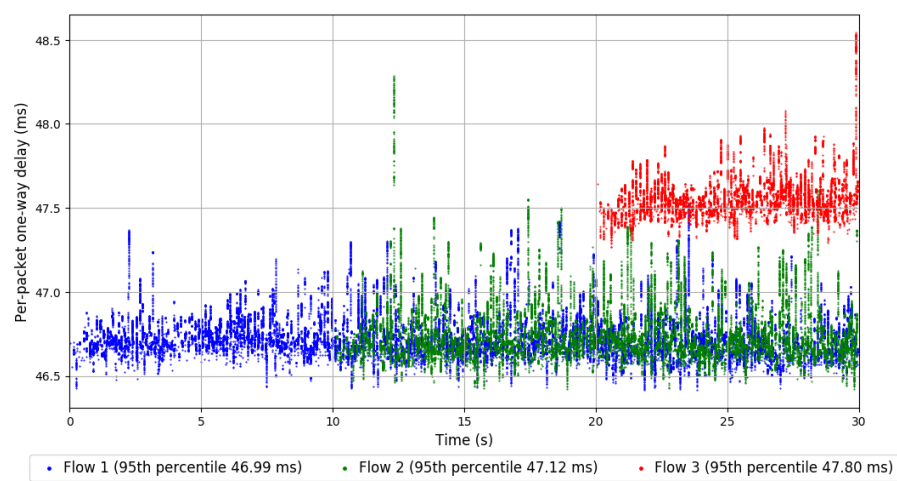
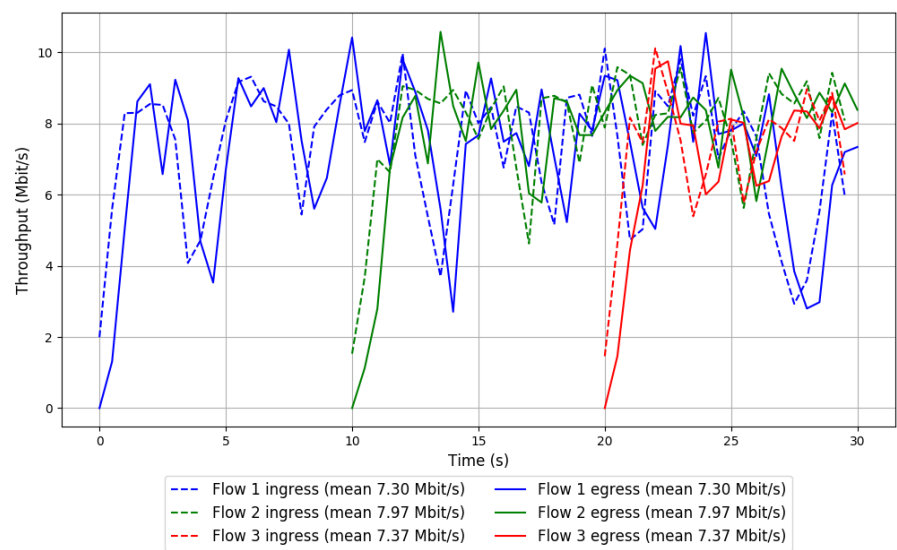


Run 5: Statistics of Sprout

Start at: 2018-09-07 04:25:57
End at: 2018-09-07 04:26:27
Local clock offset: 0.081 ms
Remote clock offset: -0.034 ms

```
# Below is generated by plot.py at 2018-09-07 07:00:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.02 Mbit/s
95th percentile per-packet one-way delay: 47.603 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.30 Mbit/s
95th percentile per-packet one-way delay: 46.987 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 47.120 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.37 Mbit/s
95th percentile per-packet one-way delay: 47.804 ms
Loss rate: 0.00%
```


Run 5: Report of Sprout — Data Link

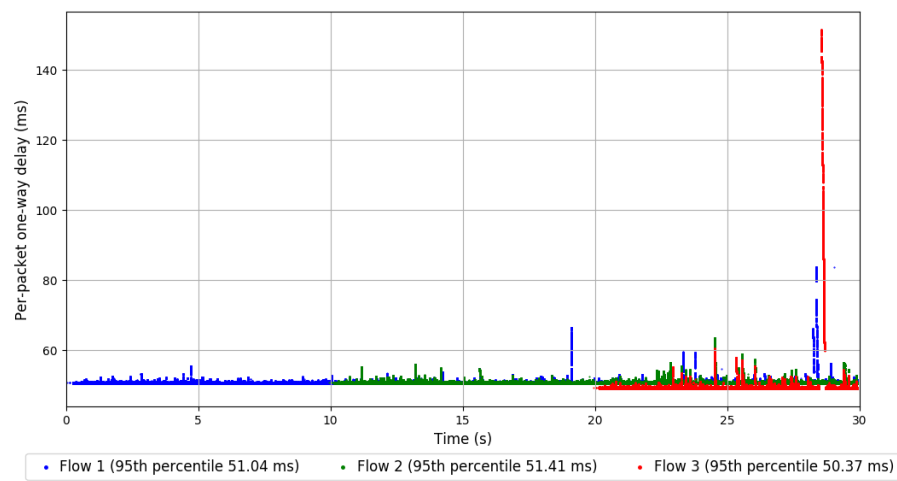
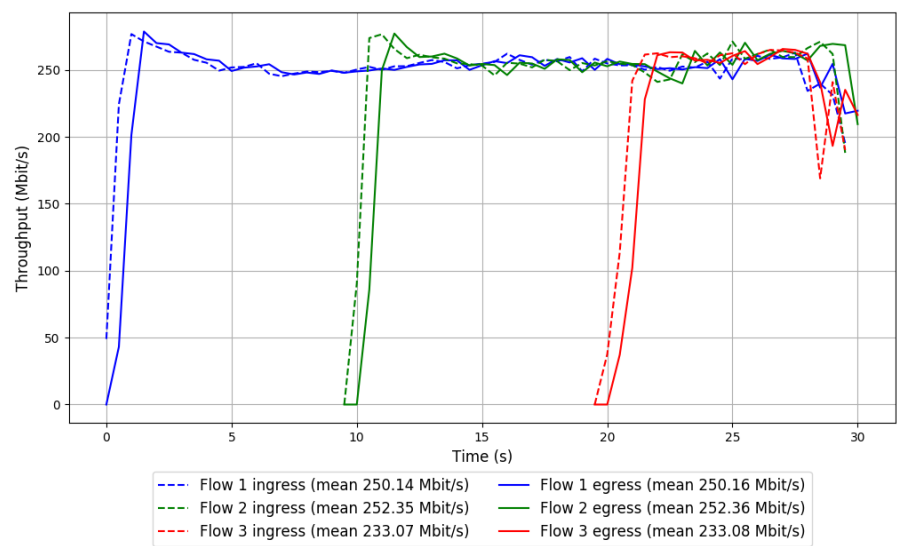


Run 1: Statistics of TaoVA-100x

Start at: 2018-09-07 02:06:40
End at: 2018-09-07 02:07:10
Local clock offset: -0.304 ms
Remote clock offset: -0.015 ms

Below is generated by plot.py at 2018-09-07 07:08:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 496.61 Mbit/s
95th percentile per-packet one-way delay: 51.149 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 250.16 Mbit/s
95th percentile per-packet one-way delay: 51.037 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 252.36 Mbit/s
95th percentile per-packet one-way delay: 51.406 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 233.08 Mbit/s
95th percentile per-packet one-way delay: 50.366 ms
Loss rate: 0.00%

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

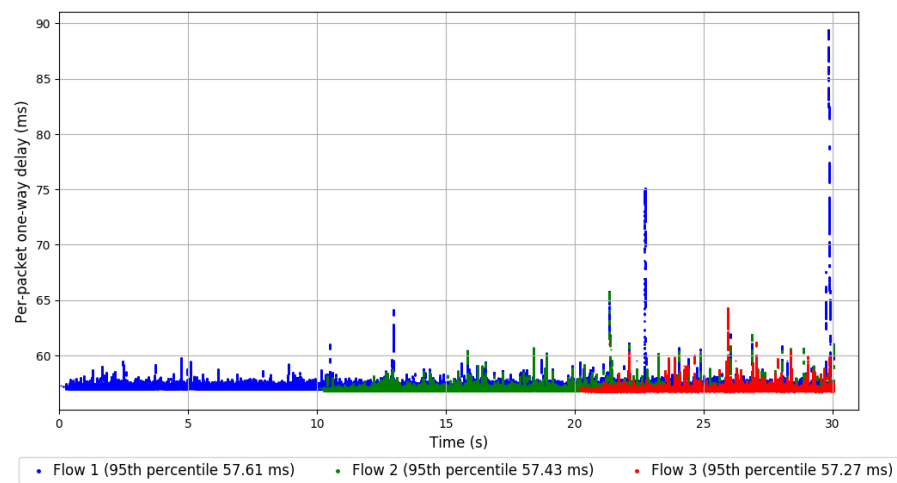
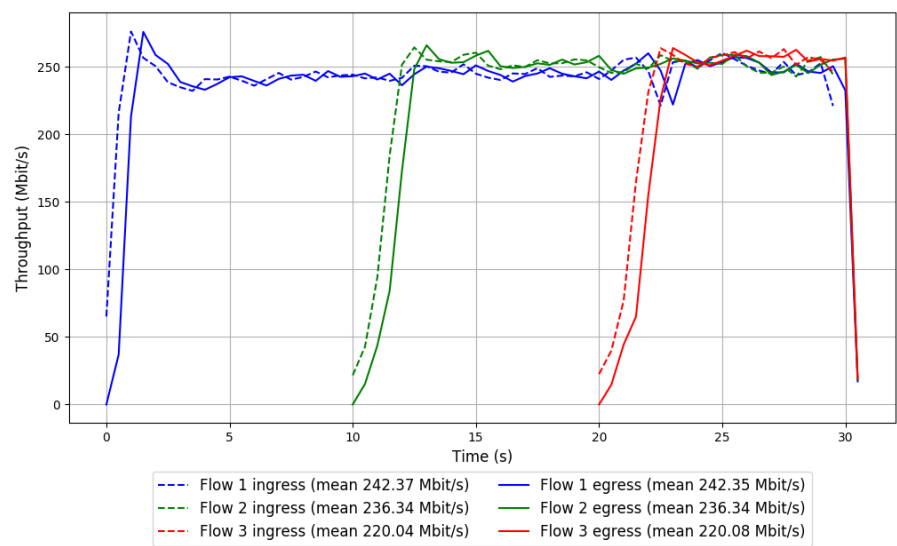


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-07 02:39:34
End at: 2018-09-07 02:40:04
Local clock offset: 0.091 ms
Remote clock offset: -0.078 ms

Below is generated by plot.py at 2018-09-07 07:08:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 472.94 Mbit/s
95th percentile per-packet one-way delay: 57.542 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 242.35 Mbit/s
95th percentile per-packet one-way delay: 57.611 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 236.34 Mbit/s
95th percentile per-packet one-way delay: 57.432 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 220.08 Mbit/s
95th percentile per-packet one-way delay: 57.272 ms
Loss rate: 0.00%

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

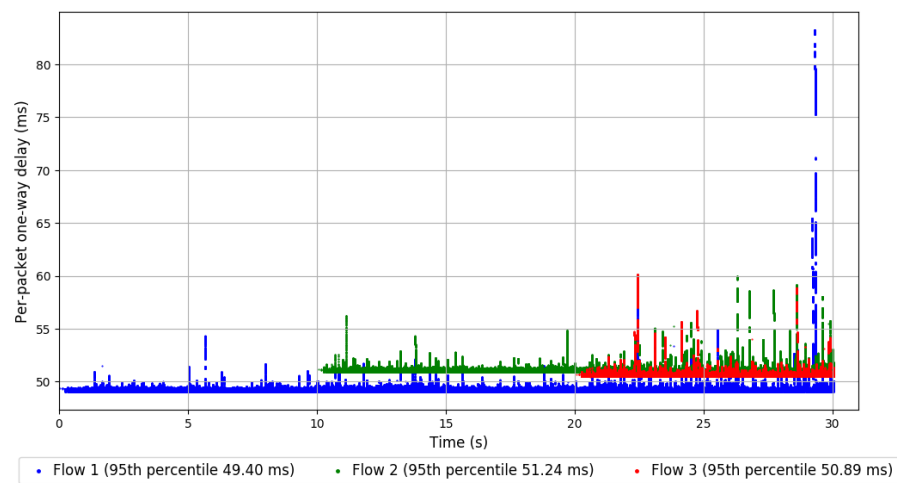
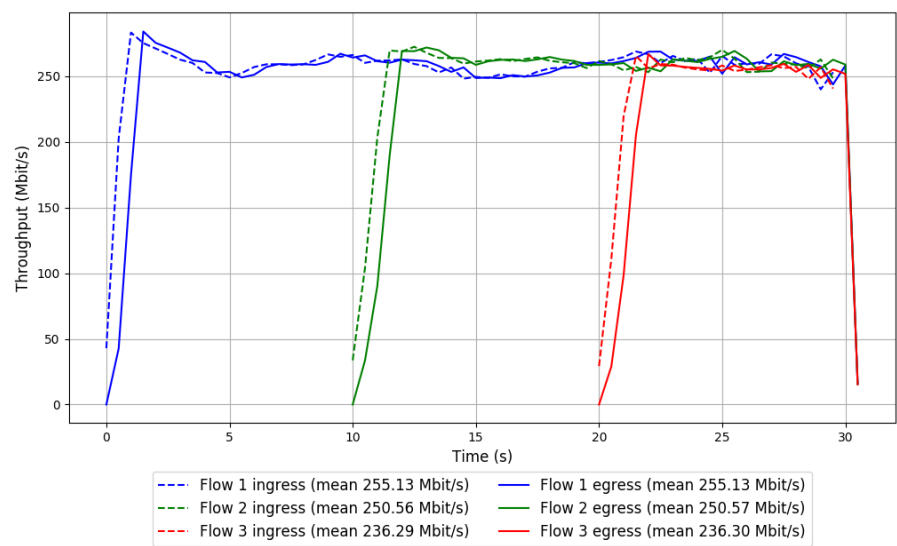


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-07 03:10:53
End at: 2018-09-07 03:11:23
Local clock offset: -0.193 ms
Remote clock offset: -0.223 ms

Below is generated by plot.py at 2018-09-07 07:08:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 500.54 Mbit/s
95th percentile per-packet one-way delay: 51.107 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 255.13 Mbit/s
95th percentile per-packet one-way delay: 49.399 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 250.57 Mbit/s
95th percentile per-packet one-way delay: 51.237 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 236.30 Mbit/s
95th percentile per-packet one-way delay: 50.887 ms
Loss rate: 0.00%

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

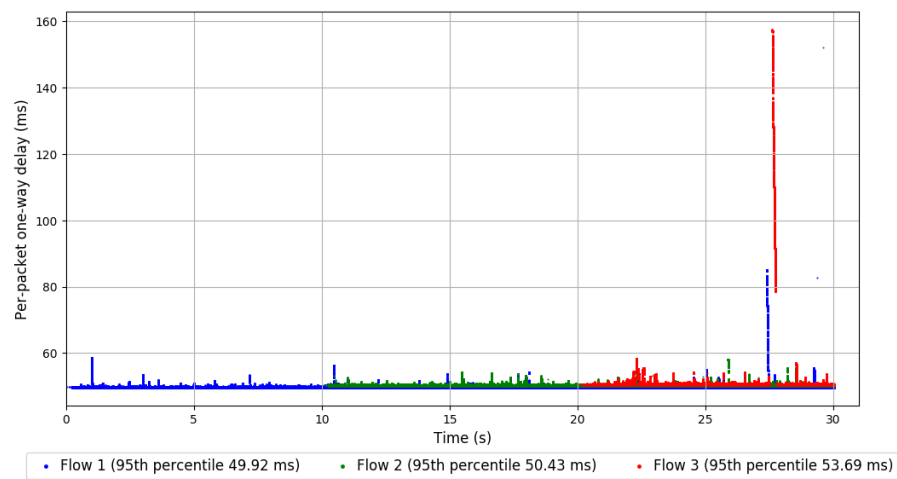
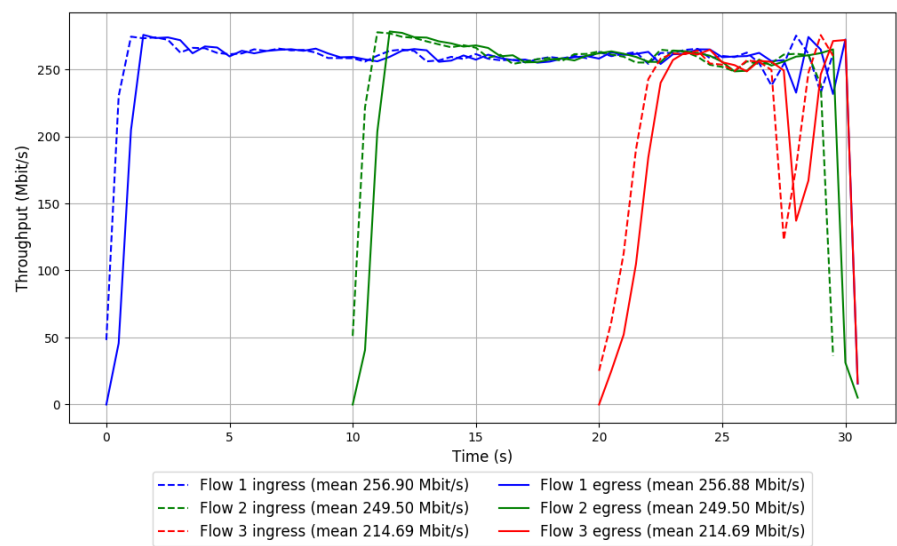


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-07 03:42:17
End at: 2018-09-07 03:42:47
Local clock offset: 0.171 ms
Remote clock offset: -0.028 ms

Below is generated by plot.py at 2018-09-07 07:08:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 494.34 Mbit/s
95th percentile per-packet one-way delay: 50.612 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 256.88 Mbit/s
95th percentile per-packet one-way delay: 49.916 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 249.50 Mbit/s
95th percentile per-packet one-way delay: 50.428 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 214.69 Mbit/s
95th percentile per-packet one-way delay: 53.685 ms
Loss rate: 0.00%

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

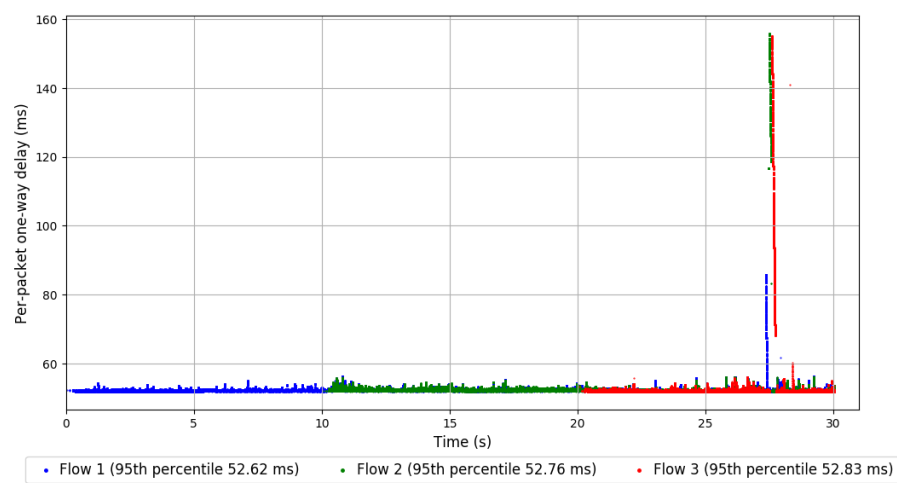
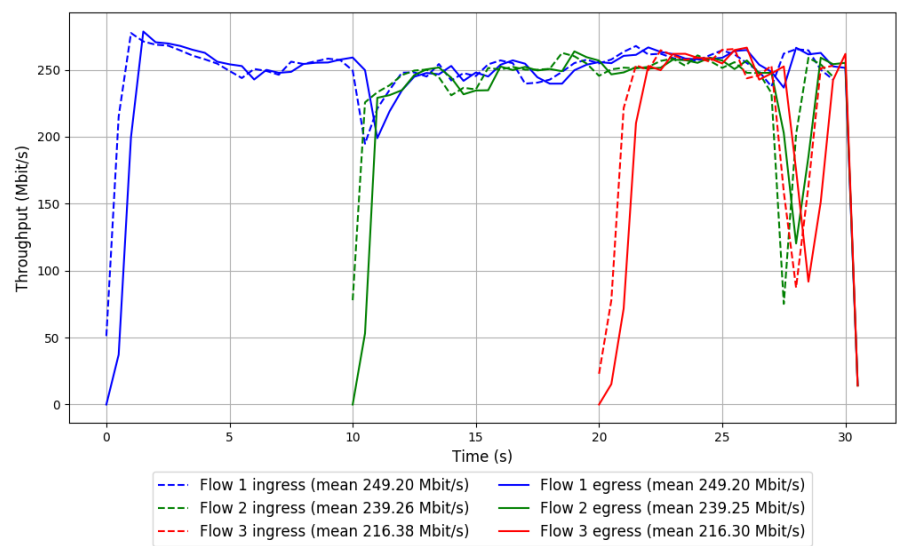


Run 5: Statistics of TaoVA-100x

Start at: 2018-09-07 04:13:50
End at: 2018-09-07 04:14:20
Local clock offset: 0.086 ms
Remote clock offset: -0.061 ms

Below is generated by plot.py at 2018-09-07 07:10:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 480.34 Mbit/s
95th percentile per-packet one-way delay: 52.684 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 249.20 Mbit/s
95th percentile per-packet one-way delay: 52.616 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 239.25 Mbit/s
95th percentile per-packet one-way delay: 52.764 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 216.30 Mbit/s
95th percentile per-packet one-way delay: 52.831 ms
Loss rate: 0.09%

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

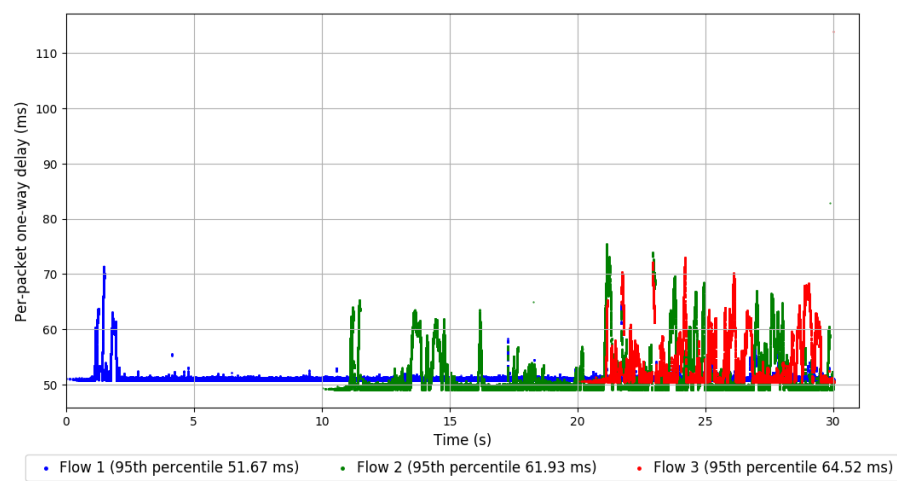
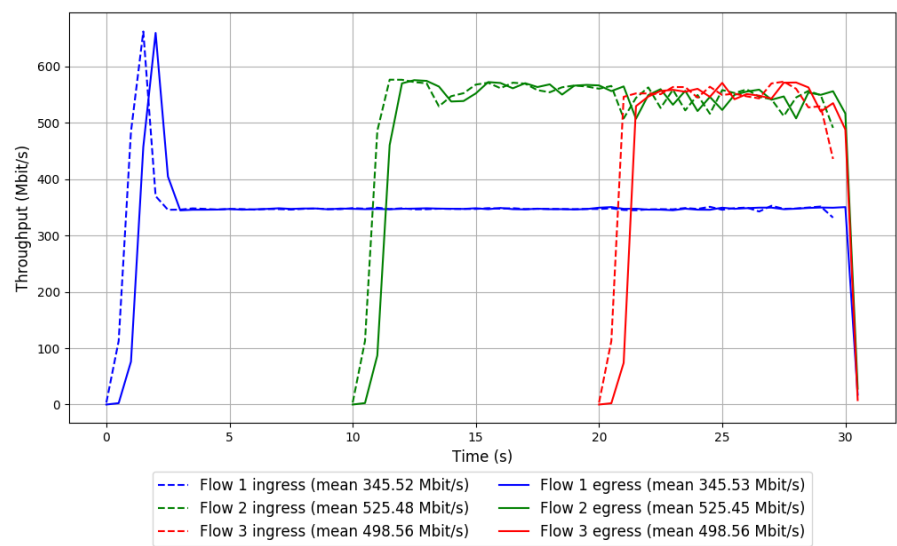


Run 1: Statistics of TCP Vegas

Start at: 2018-09-07 02:16:37
End at: 2018-09-07 02:17:07
Local clock offset: -0.252 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-09-07 07:11:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 861.38 Mbit/s
95th percentile per-packet one-way delay: 60.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 345.53 Mbit/s
95th percentile per-packet one-way delay: 51.673 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 525.45 Mbit/s
95th percentile per-packet one-way delay: 61.927 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 498.56 Mbit/s
95th percentile per-packet one-way delay: 64.517 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

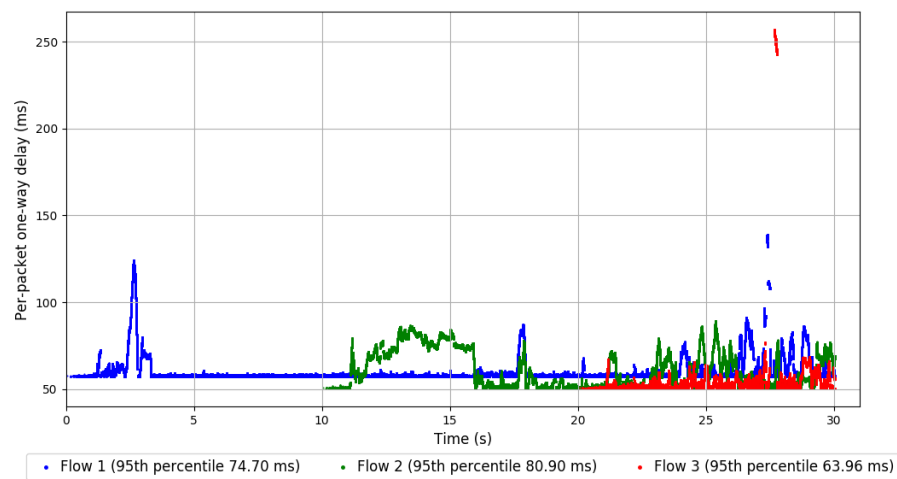
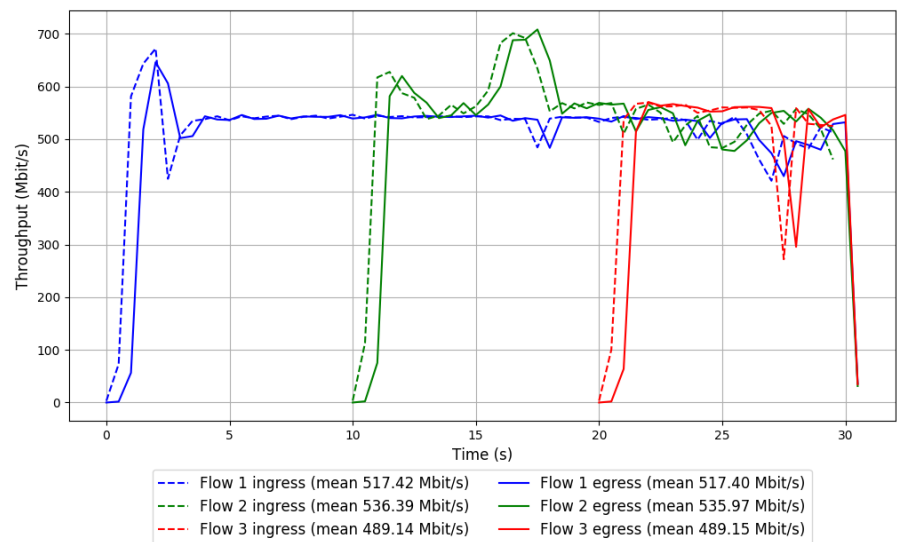


Run 2: Statistics of TCP Vegas

Start at: 2018-09-07 02:49:34
End at: 2018-09-07 02:50:04
Local clock offset: 0.114 ms
Remote clock offset: -0.175 ms

Below is generated by plot.py at 2018-09-07 07:18:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 1037.04 Mbit/s
95th percentile per-packet one-way delay: 78.896 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 517.40 Mbit/s
95th percentile per-packet one-way delay: 74.698 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 535.97 Mbit/s
95th percentile per-packet one-way delay: 80.897 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 489.15 Mbit/s
95th percentile per-packet one-way delay: 63.961 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

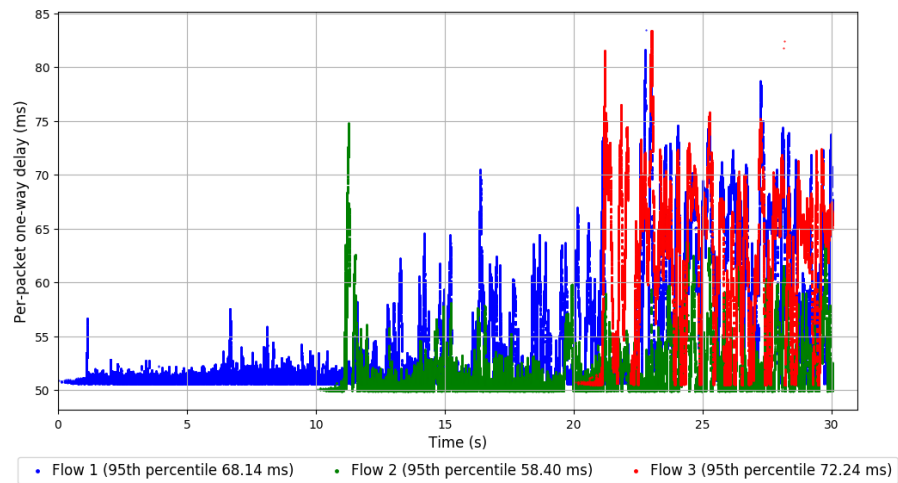
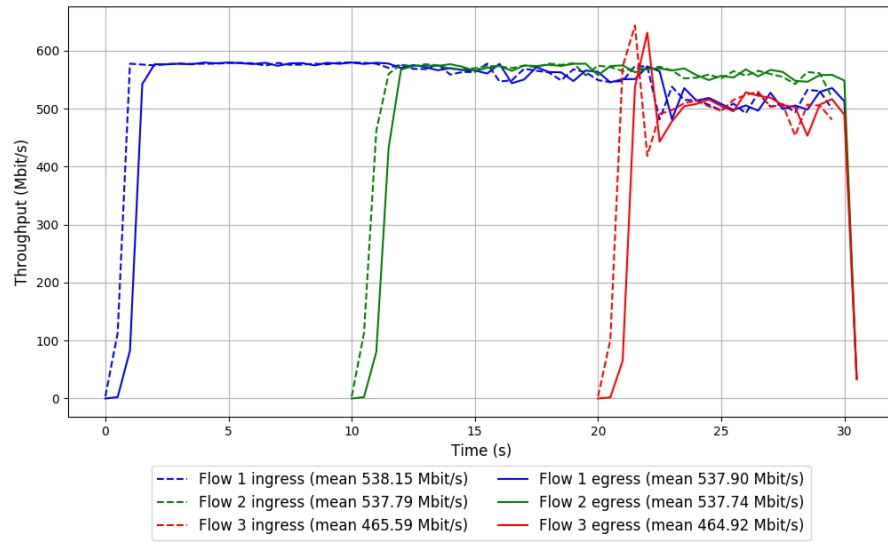


Run 3: Statistics of TCP Vegas

Start at: 2018-09-07 03:20:55
End at: 2018-09-07 03:21:25
Local clock offset: -0.201 ms
Remote clock offset: -0.067 ms

Below is generated by plot.py at 2018-09-07 07:21:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 1050.60 Mbit/s
95th percentile per-packet one-way delay: 68.794 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 537.90 Mbit/s
95th percentile per-packet one-way delay: 68.143 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 537.74 Mbit/s
95th percentile per-packet one-way delay: 58.404 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 464.92 Mbit/s
95th percentile per-packet one-way delay: 72.237 ms
Loss rate: 0.14%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-07 03:52:27

End at: 2018-09-07 03:52:57

Local clock offset: 0.155 ms

Remote clock offset: 0.017 ms

Below is generated by plot.py at 2018-09-07 07:24:44

Datalink statistics

-- Total of 3 flows:

Average throughput: 949.32 Mbit/s

95th percentile per-packet one-way delay: 56.066 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 546.97 Mbit/s

95th percentile per-packet one-way delay: 55.951 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 351.63 Mbit/s

95th percentile per-packet one-way delay: 54.923 ms

Loss rate: 0.00%

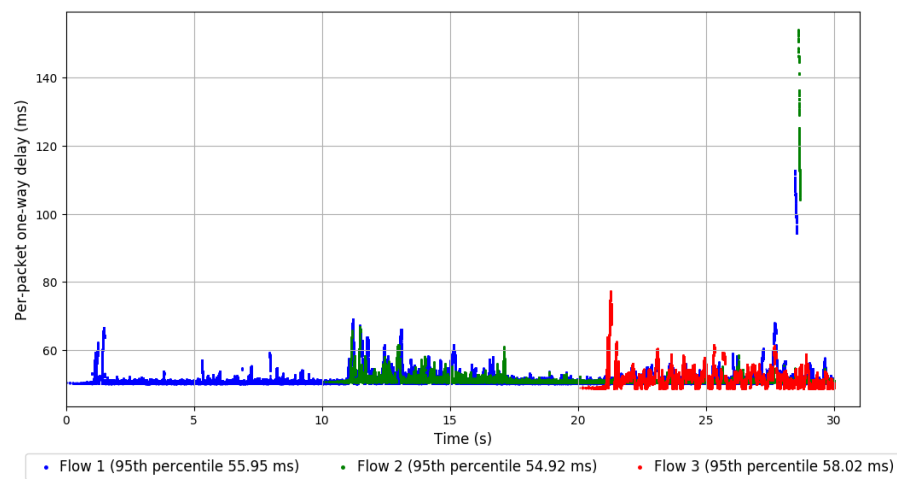
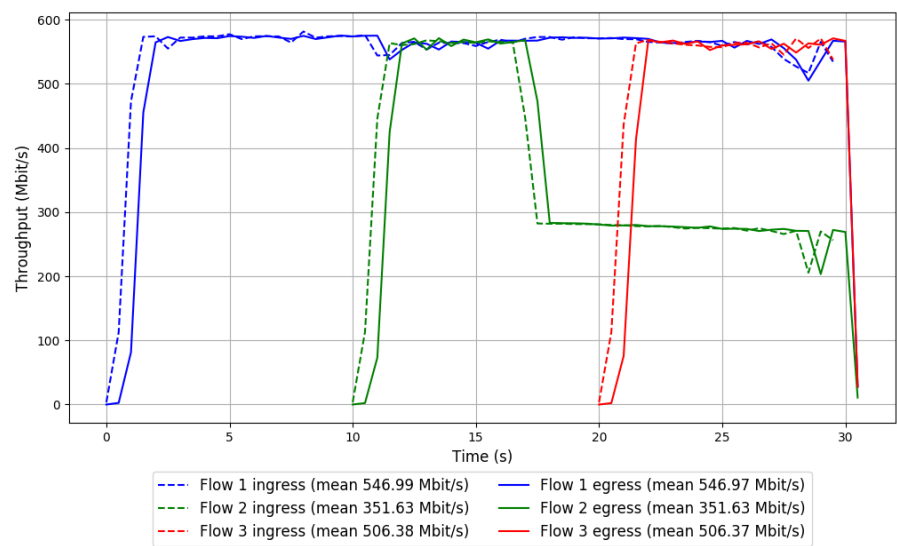
-- Flow 3:

Average throughput: 506.37 Mbit/s

95th percentile per-packet one-way delay: 58.024 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link

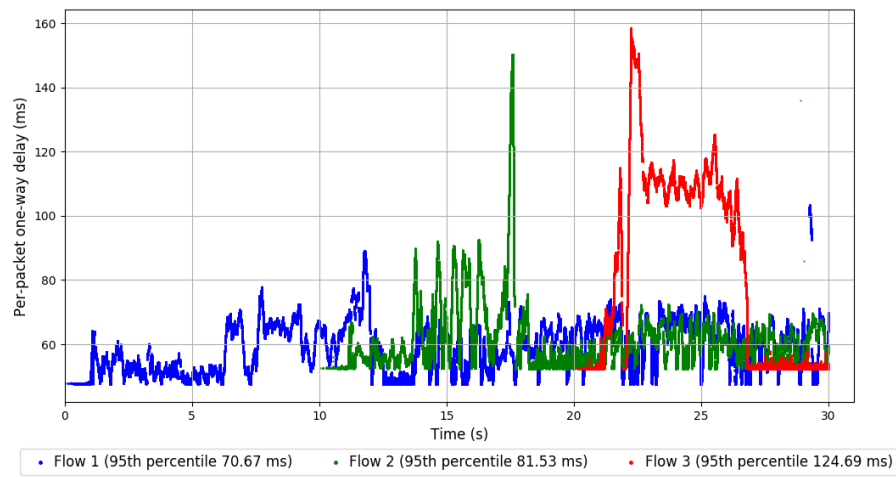
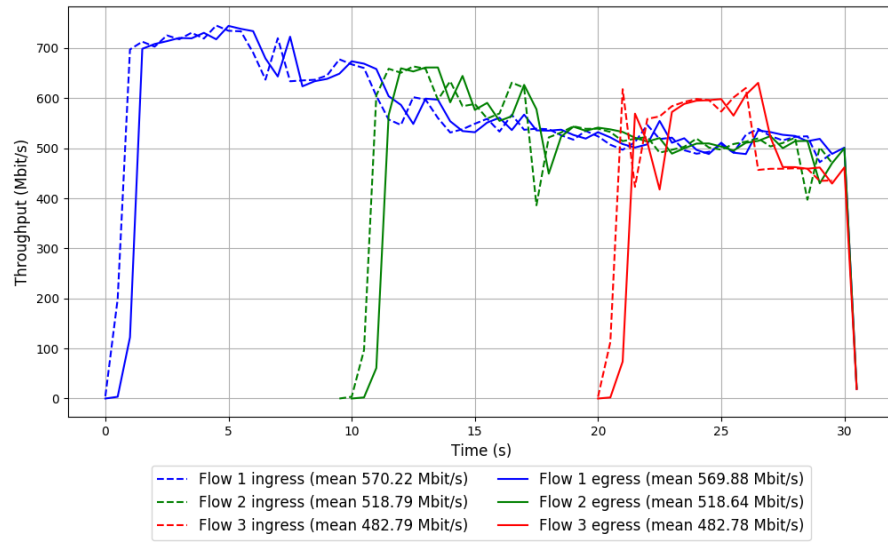


Run 5: Statistics of TCP Vegas

Start at: 2018-09-07 04:23:53
End at: 2018-09-07 04:24:23
Local clock offset: -0.26 ms
Remote clock offset: -0.045 ms

Below is generated by plot.py at 2018-09-07 07:28:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 1075.66 Mbit/s
95th percentile per-packet one-way delay: 108.569 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 569.88 Mbit/s
95th percentile per-packet one-way delay: 70.675 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 518.64 Mbit/s
95th percentile per-packet one-way delay: 81.534 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 482.78 Mbit/s
95th percentile per-packet one-way delay: 124.695 ms
Loss rate: 0.06%

Run 5: Report of TCP Vegas — Data Link

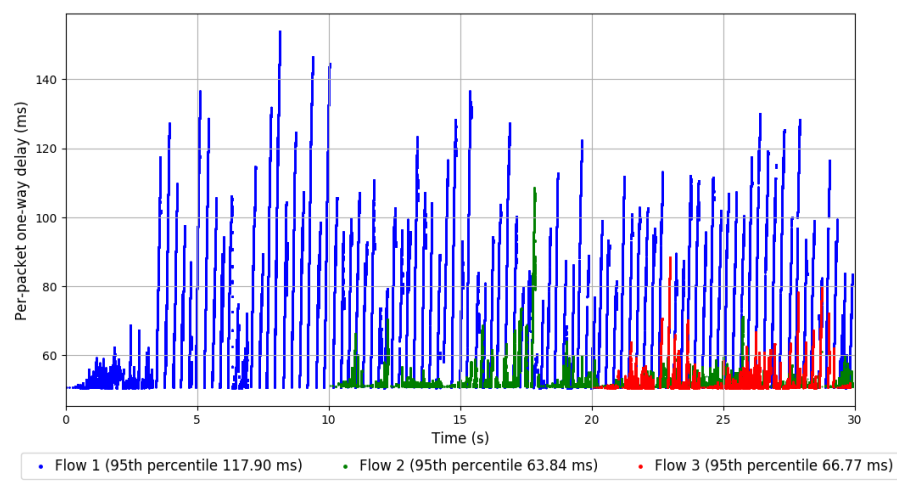
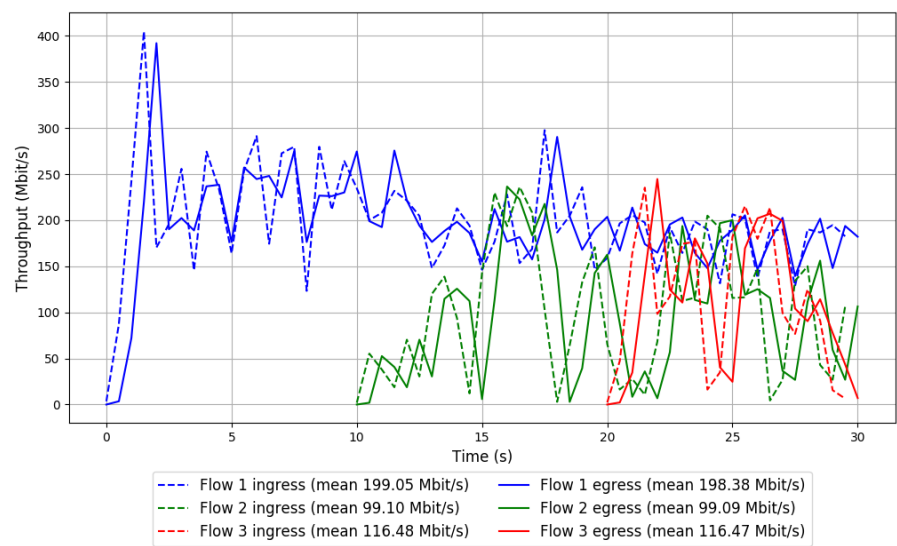


Run 1: Statistics of Verus

Start at: 2018-09-07 02:22:40
End at: 2018-09-07 02:23:10
Local clock offset: -0.291 ms
Remote clock offset: -0.066 ms

Below is generated by plot.py at 2018-09-07 07:28:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 302.31 Mbit/s
95th percentile per-packet one-way delay: 111.677 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 198.38 Mbit/s
95th percentile per-packet one-way delay: 117.903 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 99.09 Mbit/s
95th percentile per-packet one-way delay: 63.845 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 116.47 Mbit/s
95th percentile per-packet one-way delay: 66.773 ms
Loss rate: 0.00%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-07 02:55:45

End at: 2018-09-07 02:56:15

Local clock offset: 0.158 ms

Remote clock offset: -0.22 ms

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

Datalink statistics

-- Total of 3 flows:

Average throughput: 238.52 Mbit/s

95th percentile per-packet one-way delay: 80.694 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 109.45 Mbit/s

95th percentile per-packet one-way delay: 63.360 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 123.90 Mbit/s

95th percentile per-packet one-way delay: 97.039 ms

Loss rate: 0.06%

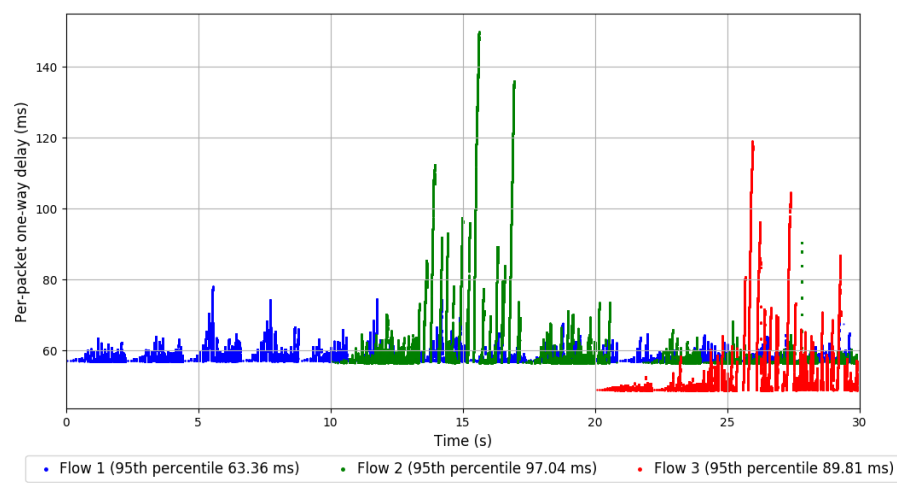
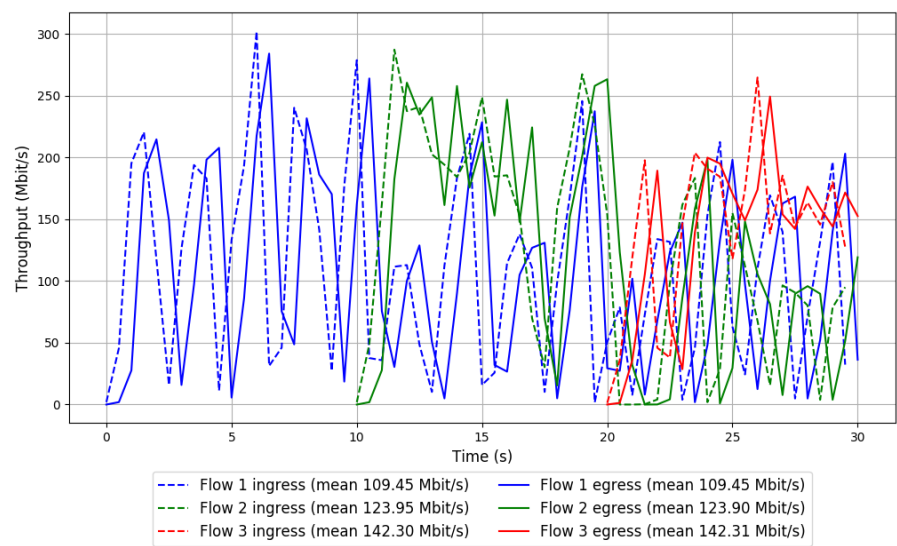
-- Flow 3:

Average throughput: 142.31 Mbit/s

95th percentile per-packet one-way delay: 89.813 ms

Loss rate: 0.00%

Run 2: Report of Verus — Data Link

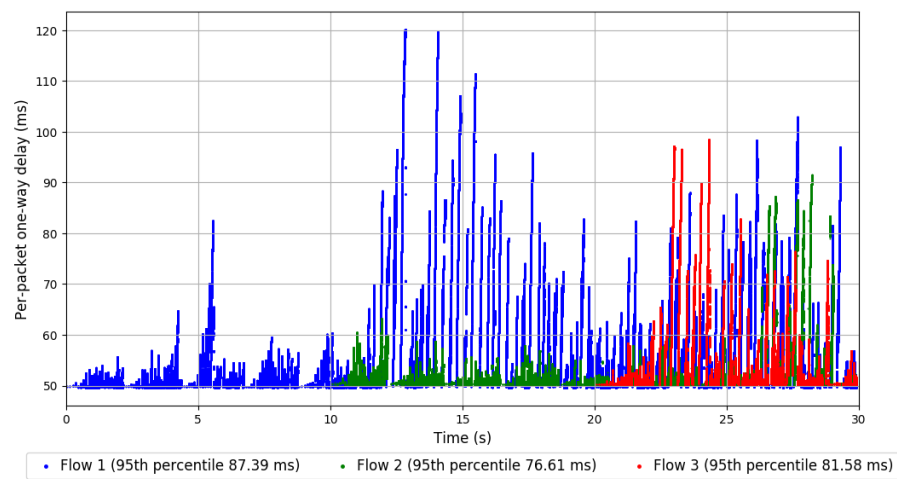
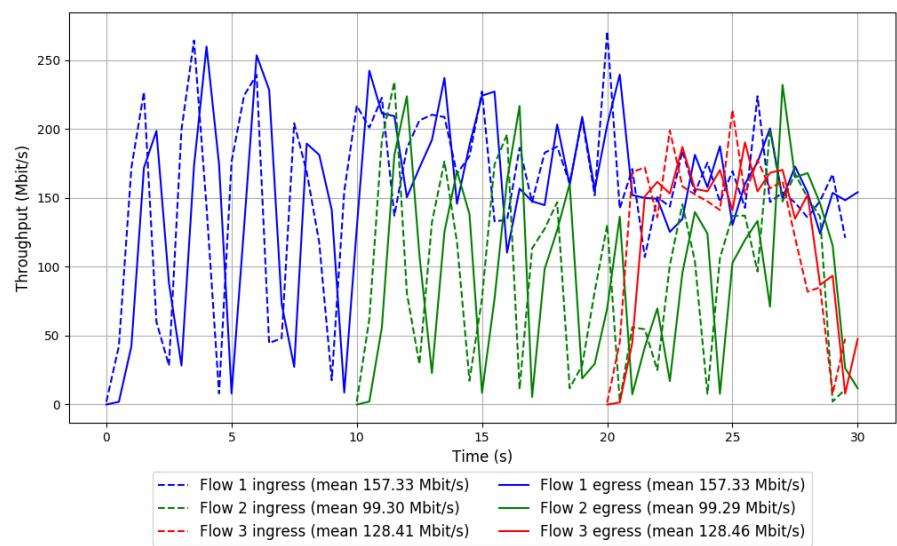


Run 3: Statistics of Verus

Start at: 2018-09-07 03:27:08
End at: 2018-09-07 03:27:38
Local clock offset: 0.158 ms
Remote clock offset: -0.058 ms

Below is generated by plot.py at 2018-09-07 07:28:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 265.48 Mbit/s
95th percentile per-packet one-way delay: 83.701 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 157.33 Mbit/s
95th percentile per-packet one-way delay: 87.387 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 99.29 Mbit/s
95th percentile per-packet one-way delay: 76.609 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 128.46 Mbit/s
95th percentile per-packet one-way delay: 81.580 ms
Loss rate: 0.00%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-07 03:58:38

End at: 2018-09-07 03:59:08

Local clock offset: 0.107 ms

Remote clock offset: -0.02 ms

Below is generated by plot.py at 2018-09-07 07:28:08

Datalink statistics

-- Total of 3 flows:

Average throughput: 324.35 Mbit/s

95th percentile per-packet one-way delay: 141.105 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 201.67 Mbit/s

95th percentile per-packet one-way delay: 146.163 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 108.55 Mbit/s

95th percentile per-packet one-way delay: 86.953 ms

Loss rate: 0.00%

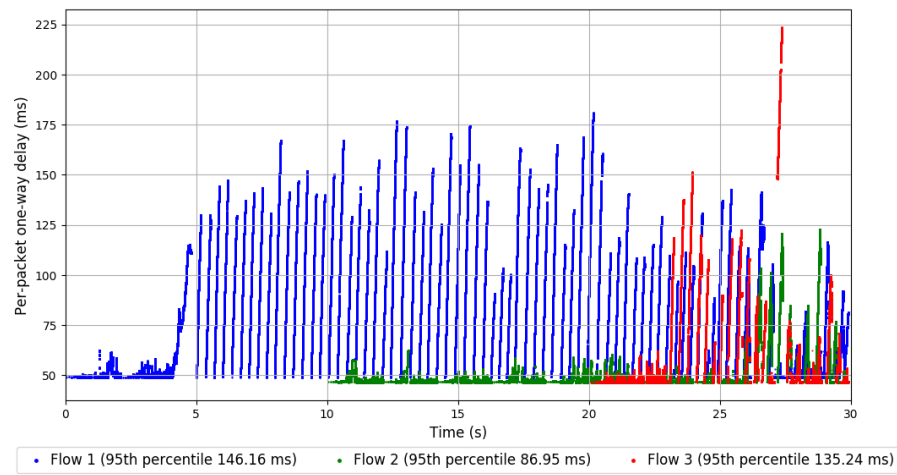
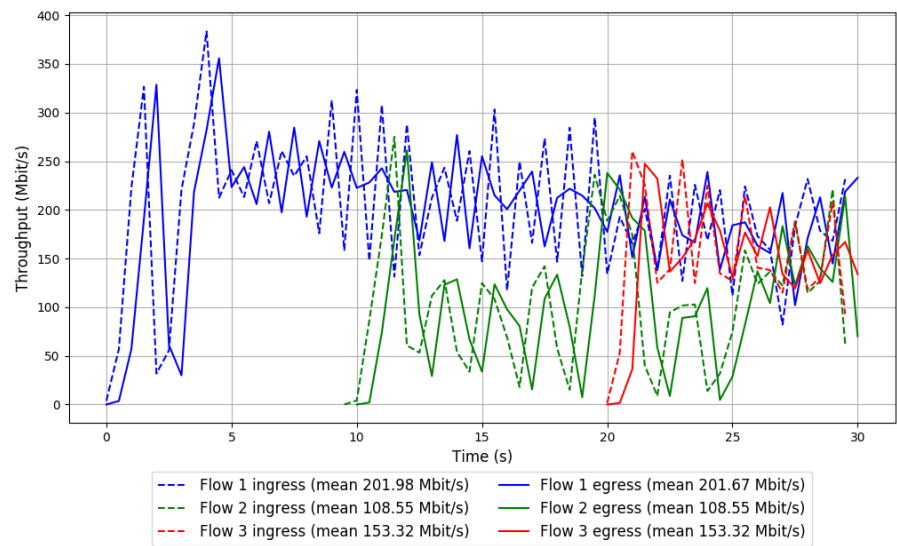
-- Flow 3:

Average throughput: 153.32 Mbit/s

95th percentile per-packet one-way delay: 135.241 ms

Loss rate: 0.00%

Run 4: Report of Verus — Data Link

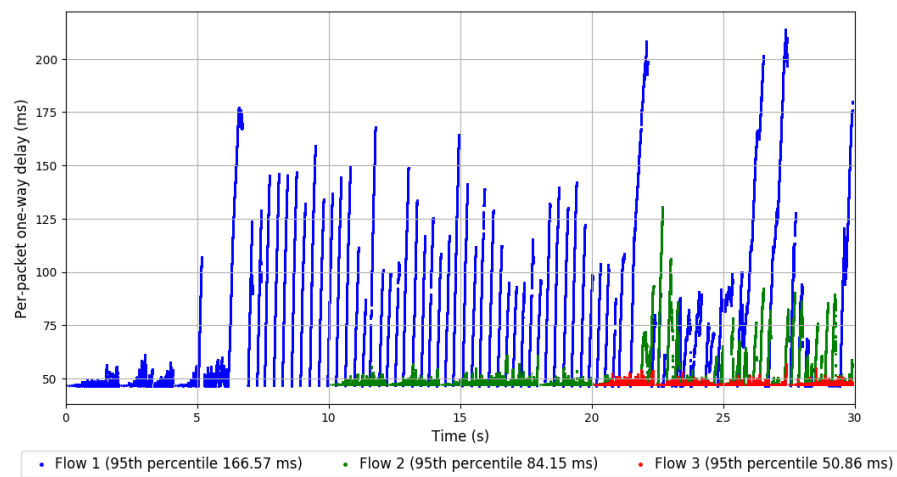
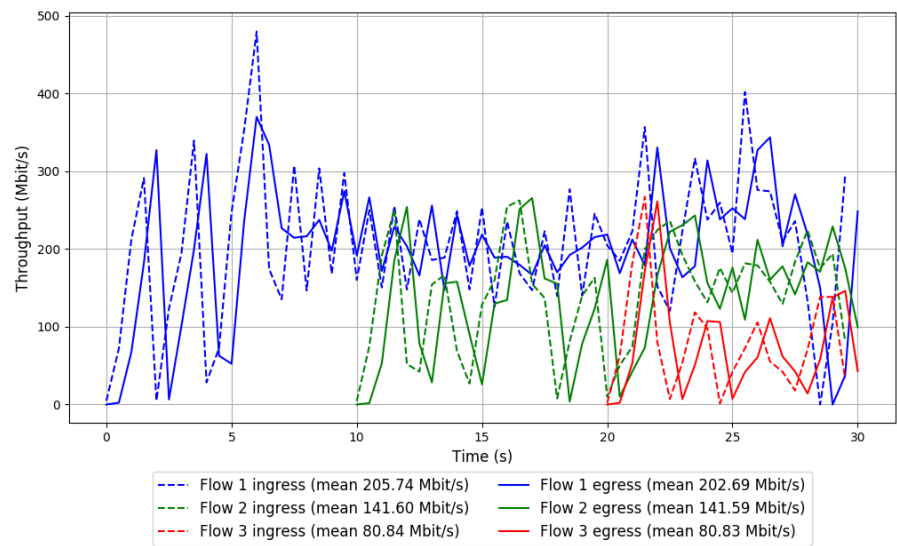


Run 5: Statistics of Verus

Start at: 2018-09-07 04:30:07
End at: 2018-09-07 04:30:37
Local clock offset: 0.075 ms
Remote clock offset: -0.066 ms

Below is generated by plot.py at 2018-09-07 07:28:24
Datalink statistics
-- Total of 3 flows:
Average throughput: 323.45 Mbit/s
95th percentile per-packet one-way delay: 150.556 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 202.69 Mbit/s
95th percentile per-packet one-way delay: 166.575 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 141.59 Mbit/s
95th percentile per-packet one-way delay: 84.154 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 80.83 Mbit/s
95th percentile per-packet one-way delay: 50.857 ms
Loss rate: 0.00%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-07 01:58:23

End at: 2018-09-07 01:58:53

Local clock offset: -0.286 ms

Remote clock offset: 0.03 ms

Below is generated by plot.py at 2018-09-07 07:28:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 523.94 Mbit/s

95th percentile per-packet one-way delay: 54.693 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 310.05 Mbit/s

95th percentile per-packet one-way delay: 53.614 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 235.79 Mbit/s

95th percentile per-packet one-way delay: 62.672 ms

Loss rate: 0.00%

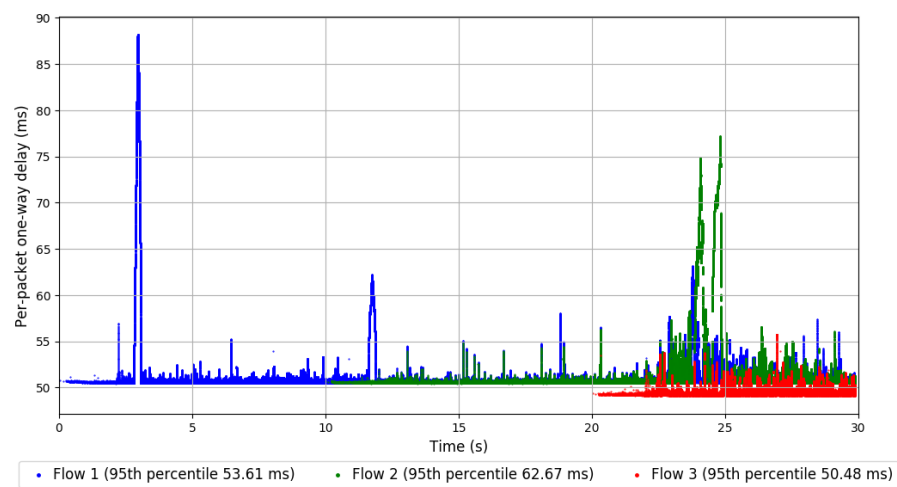
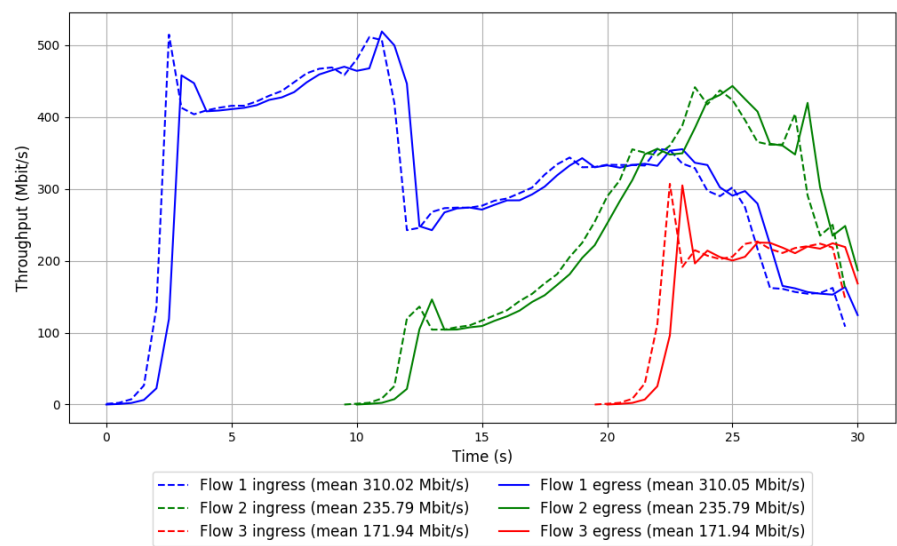
-- Flow 3:

Average throughput: 171.94 Mbit/s

95th percentile per-packet one-way delay: 50.483 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link

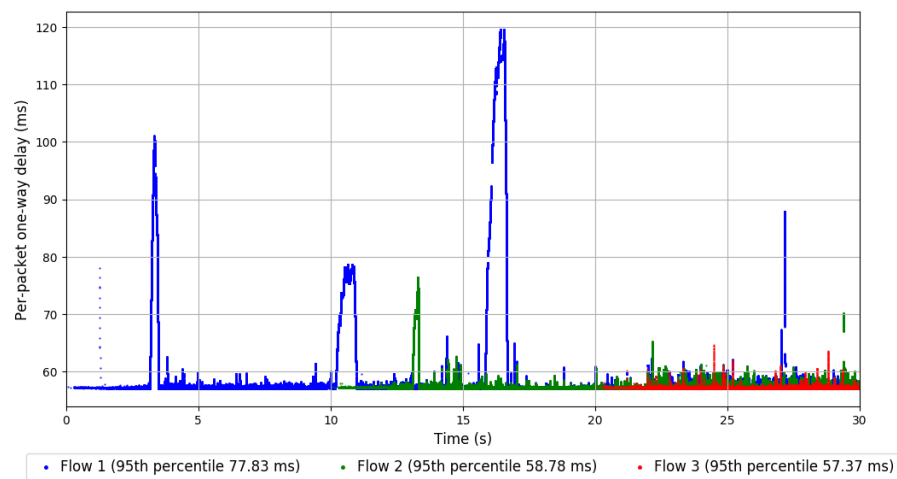
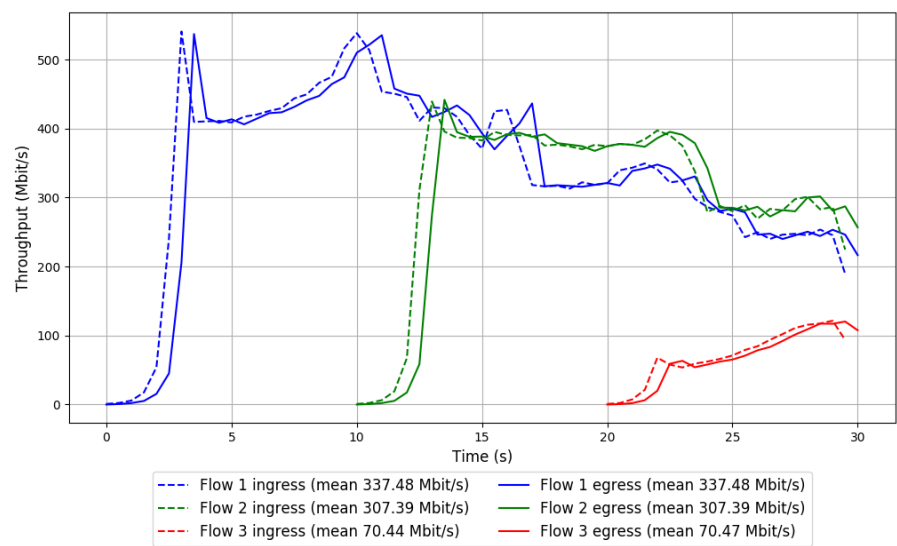


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-07 02:31:09
End at: 2018-09-07 02:31:39
Local clock offset: -0.298 ms
Remote clock offset: -0.074 ms

Below is generated by plot.py at 2018-09-07 07:29:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 565.10 Mbit/s
95th percentile per-packet one-way delay: 69.947 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 337.48 Mbit/s
95th percentile per-packet one-way delay: 77.833 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 307.39 Mbit/s
95th percentile per-packet one-way delay: 58.776 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.47 Mbit/s
95th percentile per-packet one-way delay: 57.370 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

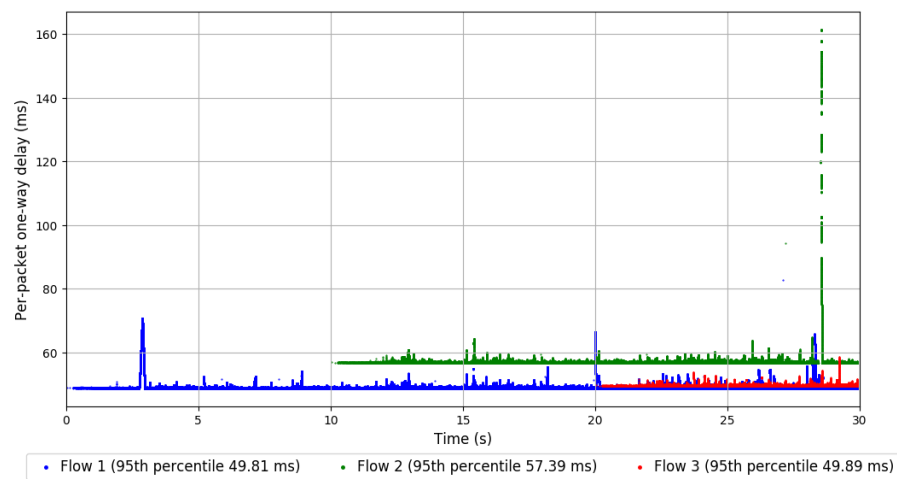
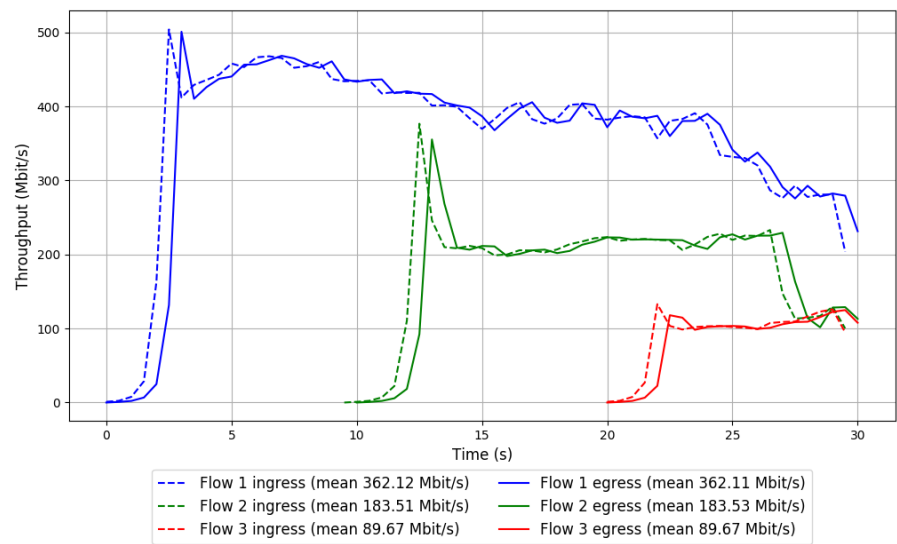


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-07 03:02:48
End at: 2018-09-07 03:03:18
Local clock offset: 0.186 ms
Remote clock offset: -0.227 ms

Below is generated by plot.py at 2018-09-07 07:29:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 513.78 Mbit/s
95th percentile per-packet one-way delay: 56.903 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 362.11 Mbit/s
95th percentile per-packet one-way delay: 49.810 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 183.53 Mbit/s
95th percentile per-packet one-way delay: 57.388 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 89.67 Mbit/s
95th percentile per-packet one-way delay: 49.890 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-07 03:34:09

End at: 2018-09-07 03:34:39

Local clock offset: 0.128 ms

Remote clock offset: -0.02 ms

Below is generated by plot.py at 2018-09-07 07:29:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 542.82 Mbit/s

95th percentile per-packet one-way delay: 51.911 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 383.61 Mbit/s

95th percentile per-packet one-way delay: 52.071 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 217.33 Mbit/s

95th percentile per-packet one-way delay: 51.559 ms

Loss rate: 0.00%

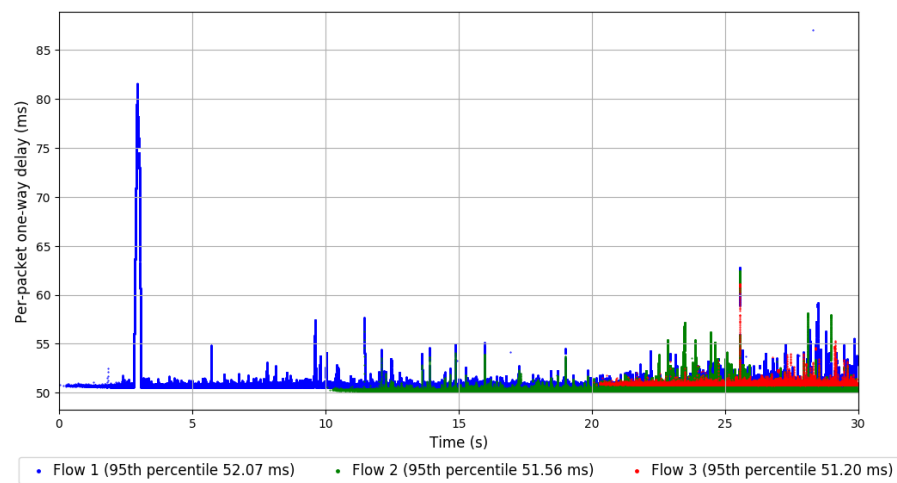
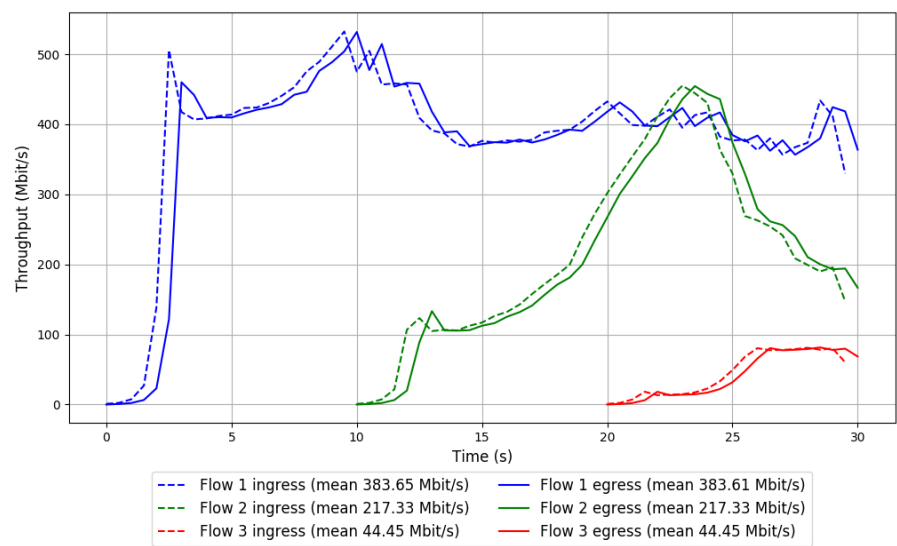
-- Flow 3:

Average throughput: 44.45 Mbit/s

95th percentile per-packet one-way delay: 51.197 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

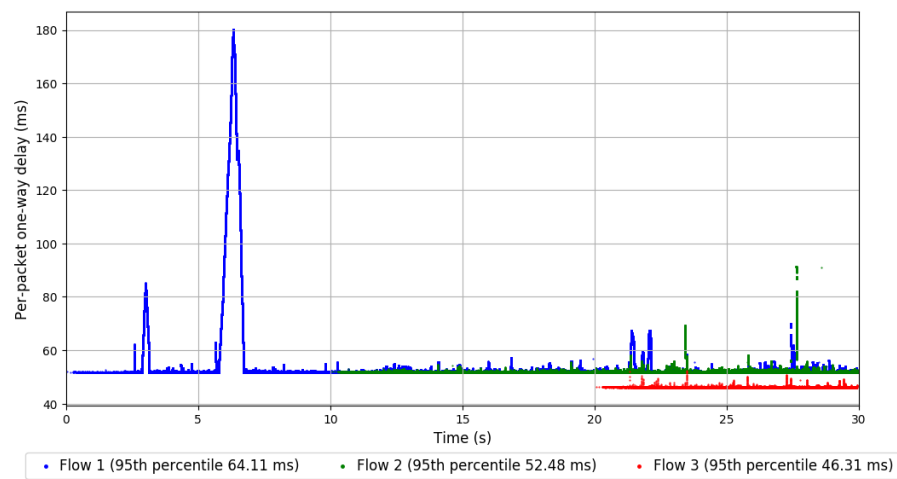
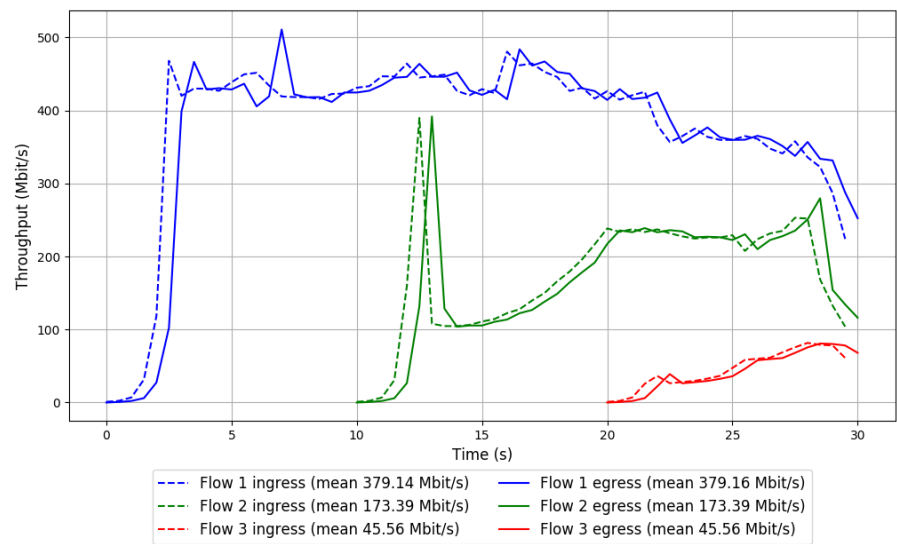


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-07 04:05:42
End at: 2018-09-07 04:06:12
Local clock offset: 0.442 ms
Remote clock offset: -0.037 ms

Below is generated by plot.py at 2018-09-07 07:29:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 509.49 Mbit/s
95th percentile per-packet one-way delay: 56.290 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 379.16 Mbit/s
95th percentile per-packet one-way delay: 64.112 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 173.39 Mbit/s
95th percentile per-packet one-way delay: 52.475 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 45.56 Mbit/s
95th percentile per-packet one-way delay: 46.307 ms
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

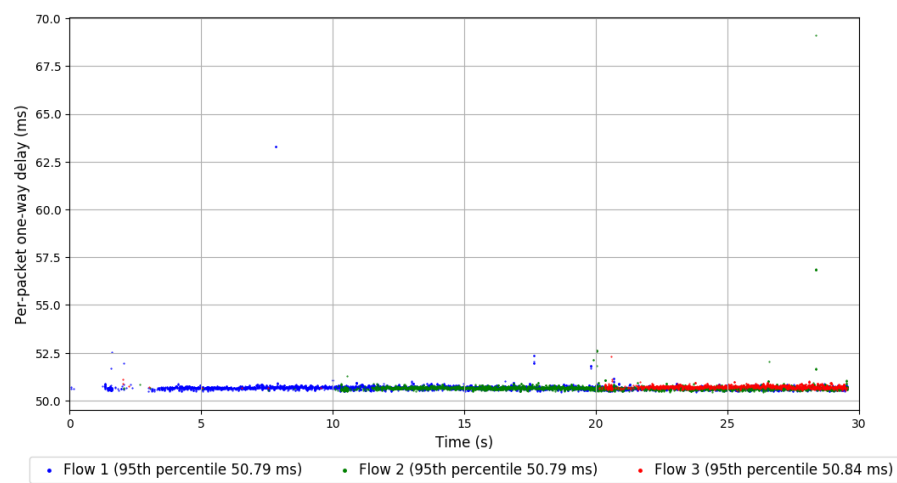
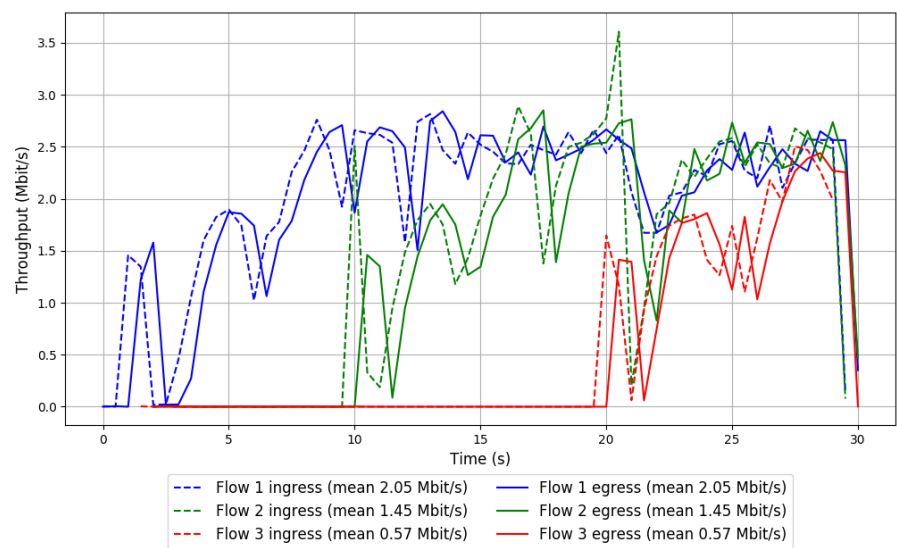


Run 1: Statistics of WebRTC media

Start at: 2018-09-07 02:21:29
End at: 2018-09-07 02:21:59
Local clock offset: -0.283 ms
Remote clock offset: -0.072 ms

Below is generated by plot.py at 2018-09-07 07:29:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 50.799 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 50.787 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 50.786 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 50.836 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

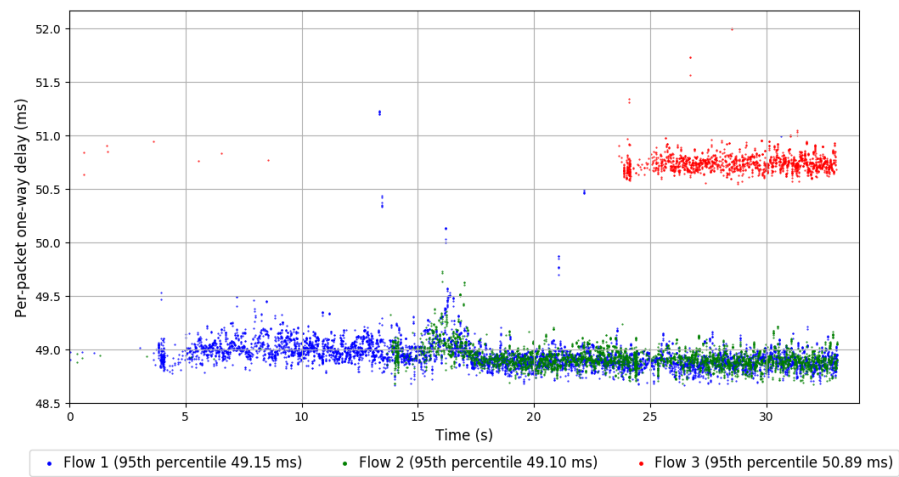
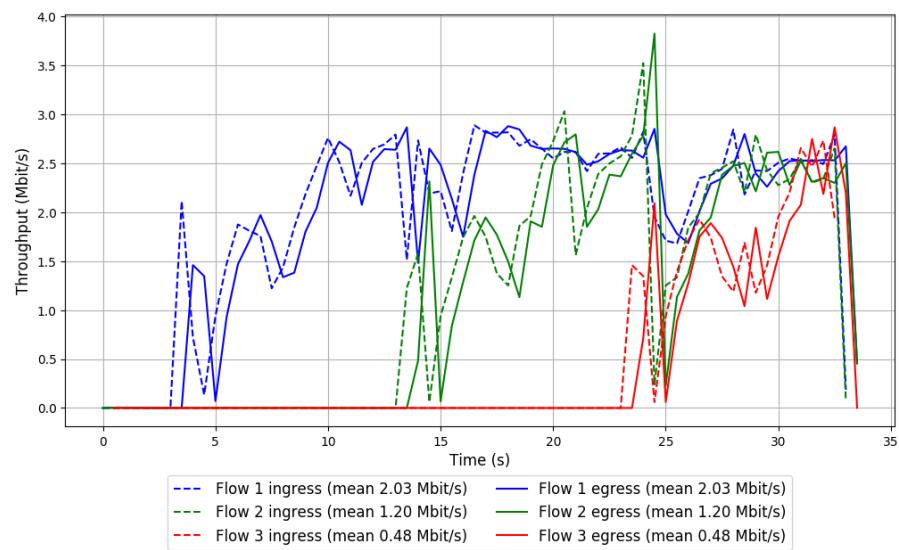


Run 2: Statistics of WebRTC media

Start at: 2018-09-07 02:54:34
End at: 2018-09-07 02:55:04
Local clock offset: 0.164 ms
Remote clock offset: -0.228 ms

Below is generated by plot.py at 2018-09-07 07:29:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.69 Mbit/s
95th percentile per-packet one-way delay: 50.753 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 49.148 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 49.096 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 50.889 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

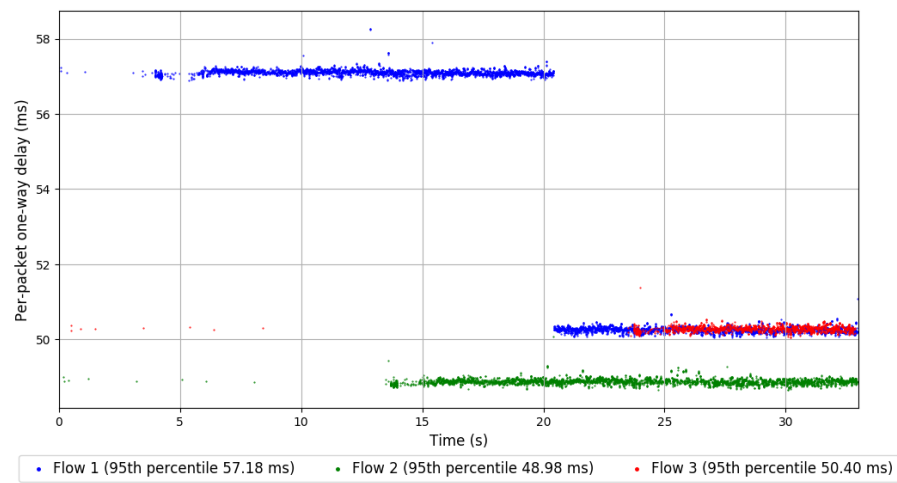
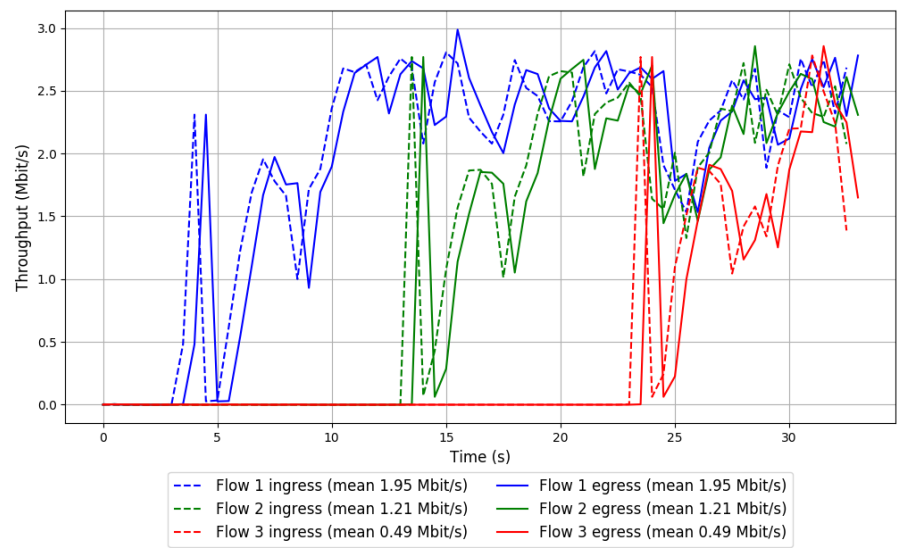


Run 3: Statistics of WebRTC media

Start at: 2018-09-07 03:25:57
End at: 2018-09-07 03:26:27
Local clock offset: 0.179 ms
Remote clock offset: -0.071 ms

Below is generated by plot.py at 2018-09-07 07:29:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 57.160 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 57.182 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 48.984 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 50.398 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

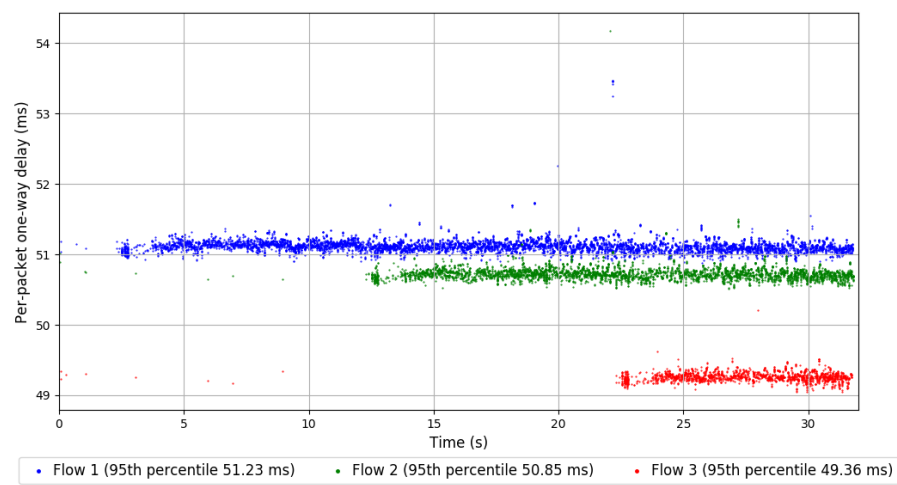
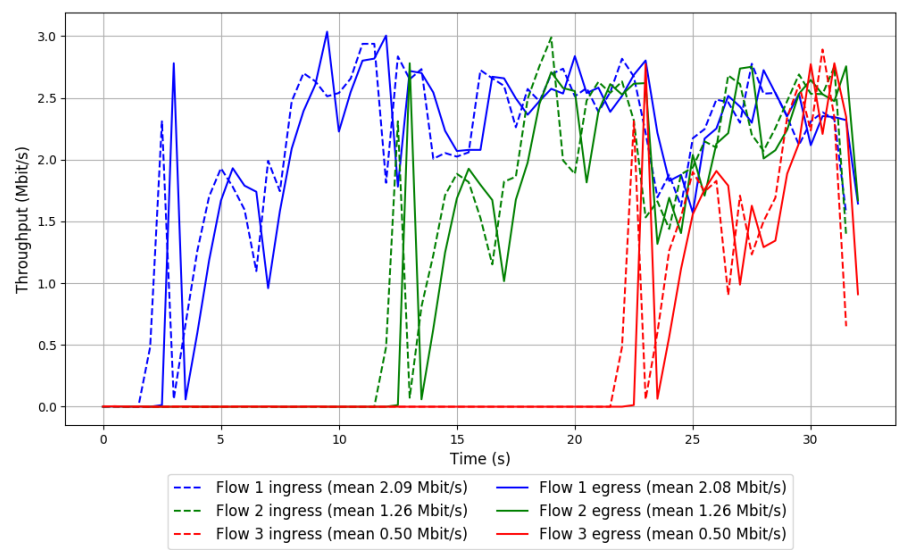


Run 4: Statistics of WebRTC media

Start at: 2018-09-07 03:57:27
End at: 2018-09-07 03:57:57
Local clock offset: -0.223 ms
Remote clock offset: -0.063 ms

Below is generated by plot.py at 2018-09-07 07:29:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 51.205 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 51.232 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 50.852 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 49.363 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-07 04:28:57
End at: 2018-09-07 04:29:27
Local clock offset: 0.109 ms
Remote clock offset: -0.085 ms

Below is generated by plot.py at 2018-09-07 07:29:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 52.264 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 52.279 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 52.257 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 47.540 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

