

Pantheon Report

Generated at 2018-09-06 12:33:56 (UTC).

Data path: GCE Sydney 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.

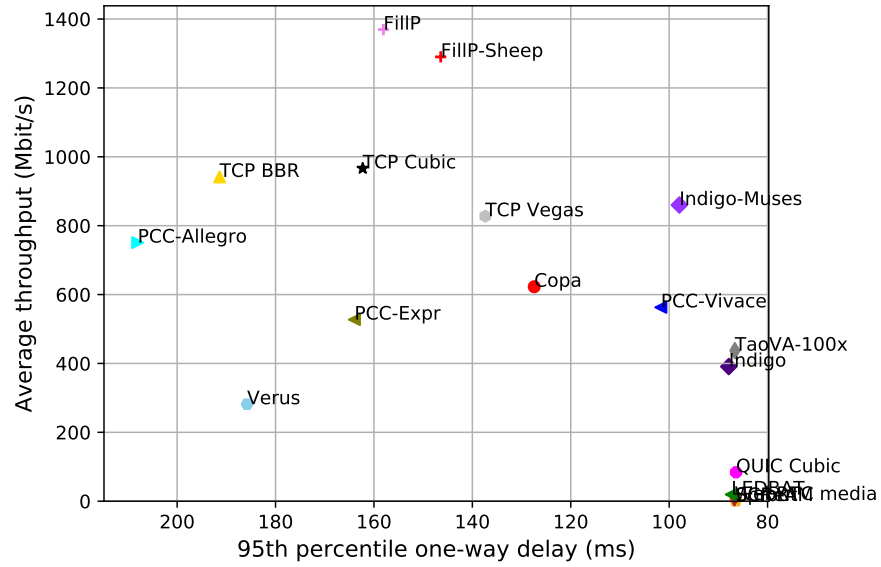
System info:

```
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
```

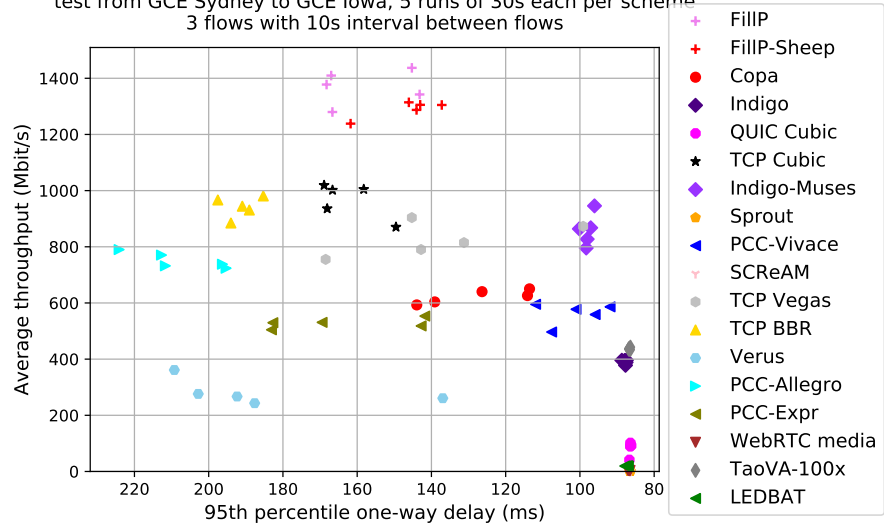
Git summary:

```
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-quic @ 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 Sydney to GCE Iowa, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from GCE Sydney to GCE Iowa, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	503.18	454.71	407.86	190.89	188.48	198.59	1.54	0.89	2.17
Copa	5	325.52	311.43	270.15	121.82	129.12	121.97	0.02	0.06	0.20
TCP Cubic	5	510.38	485.57	398.51	144.35	167.17	146.71	0.08	0.13	0.25
FillP	5	743.11	687.23	508.78	159.97	146.70	144.43	2.91	1.93	2.33
FillP-Sheep	5	696.86	635.62	513.28	148.96	141.98	120.27	1.11	0.78	0.39
Indigo	5	204.67	196.51	173.76	87.79	87.93	88.14	0.00	0.00	0.00
LEDBAT	5	12.57	8.37	4.11	87.47	87.00	87.04	0.00	0.00	0.00
Indigo-Muses	5	440.99	446.65	377.73	100.72	96.60	92.83	0.00	0.00	0.03
PCC-Allegro	5	433.47	329.69	298.17	208.66	168.20	158.24	4.43	2.96	1.70
PCC-Expr	5	300.47	247.65	188.01	170.15	133.92	114.66	1.13	0.66	0.43
QUIC Cubic	5	45.55	43.92	28.82	86.26	86.39	86.21	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	86.52	86.31	86.37	0.00	0.00	0.00
Sprout	5	0.28	0.31	0.34	86.33	86.41	86.39	0.00	0.00	0.00
TaoVA-100x	5	222.18	217.09	211.89	86.52	86.72	86.81	0.00	0.00	0.00
TCP Vegas	5	485.90	351.96	322.10	132.33	98.85	116.13	0.07	0.04	0.11
Verus	5	166.49	123.77	101.95	174.12	143.32	176.31	1.15	0.15	0.70
PCC-Vivace	5	312.88	287.40	178.21	97.38	109.69	116.28	0.14	0.13	0.81
WebRTC media	5	1.94	1.19	0.45	86.49	86.64	86.49	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-06 07:18:05

End at: 2018-09-06 07:18:35

Local clock offset: 0.301 ms

Remote clock offset: 0.091 ms

Below is generated by plot.py at 2018-09-06 10:24:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 944.52 Mbit/s

95th percentile per-packet one-way delay: 190.940 ms

Loss rate: 1.39%

-- Flow 1:

Average throughput: 493.09 Mbit/s

95th percentile per-packet one-way delay: 190.631 ms

Loss rate: 1.41%

-- Flow 2:

Average throughput: 487.19 Mbit/s

95th percentile per-packet one-way delay: 190.645 ms

Loss rate: 1.16%

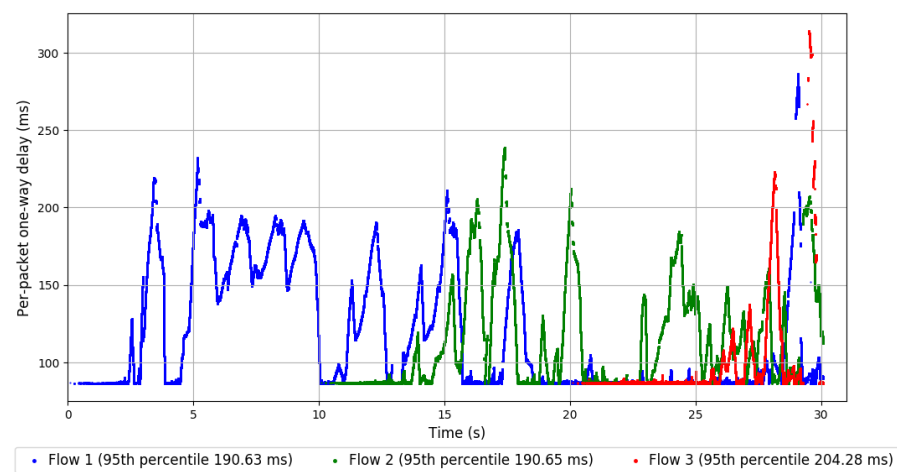
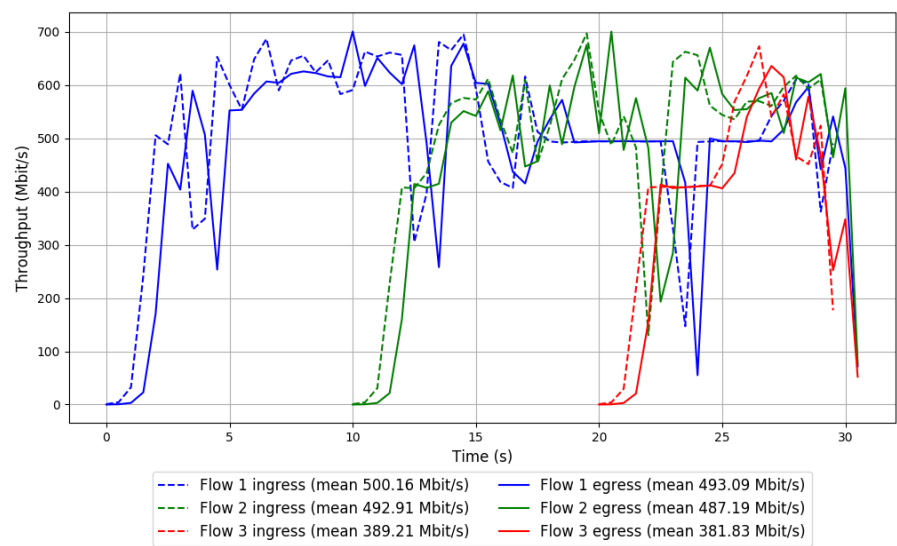
-- Flow 3:

Average throughput: 381.83 Mbit/s

95th percentile per-packet one-way delay: 204.278 ms

Loss rate: 1.90%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-06 07:50:45

End at: 2018-09-06 07:51:15

Local clock offset: 0.633 ms

Remote clock offset: 0.102 ms

Below is generated by plot.py at 2018-09-06 10:24:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 884.70 Mbit/s

95th percentile per-packet one-way delay: 194.017 ms

Loss rate: 1.40%

-- Flow 1:

Average throughput: 462.39 Mbit/s

95th percentile per-packet one-way delay: 201.838 ms

Loss rate: 1.73%

-- Flow 2:

Average throughput: 421.29 Mbit/s

95th percentile per-packet one-way delay: 182.156 ms

Loss rate: 0.39%

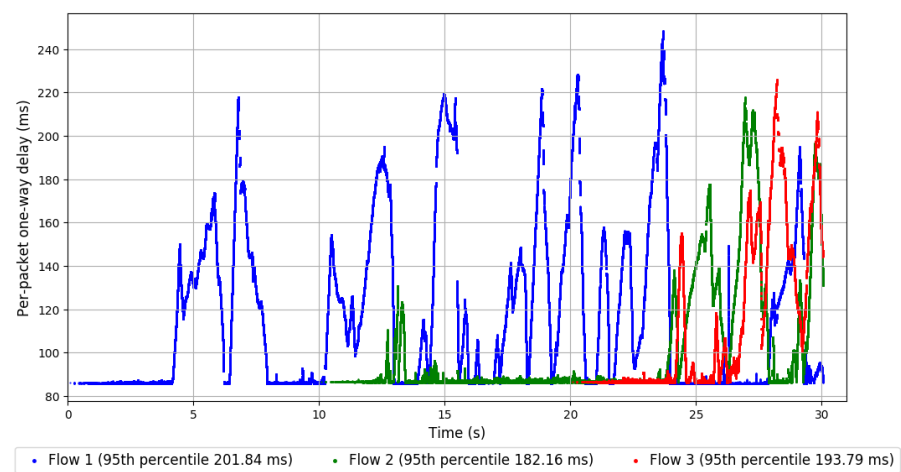
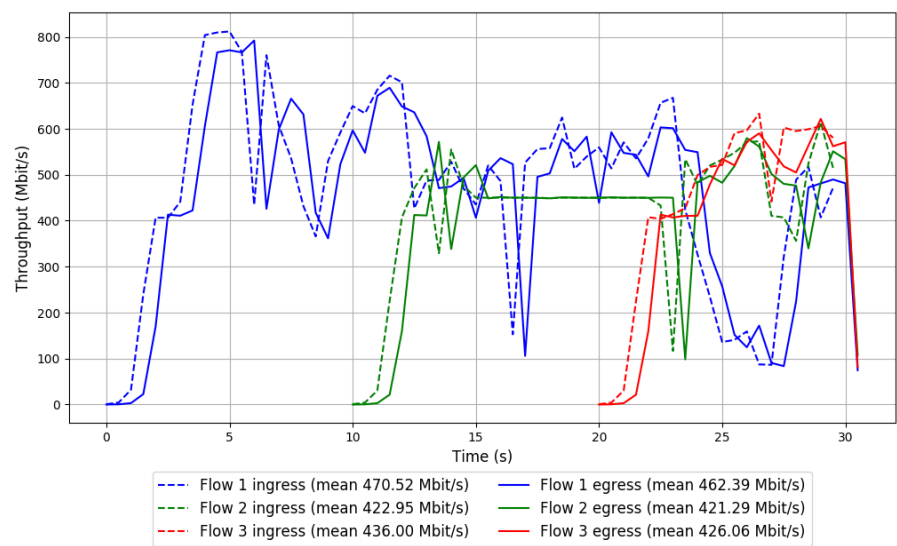
-- Flow 3:

Average throughput: 426.06 Mbit/s

95th percentile per-packet one-way delay: 193.787 ms

Loss rate: 2.28%

Run 2: Report of TCP BBR — Data Link

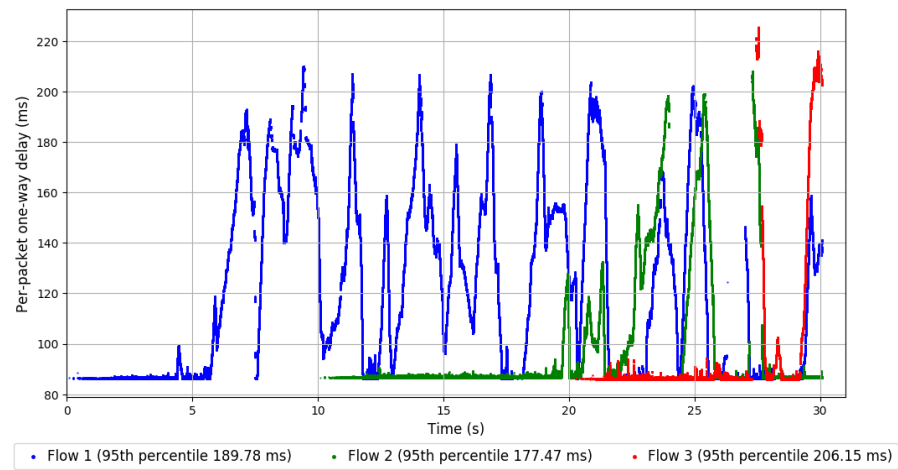
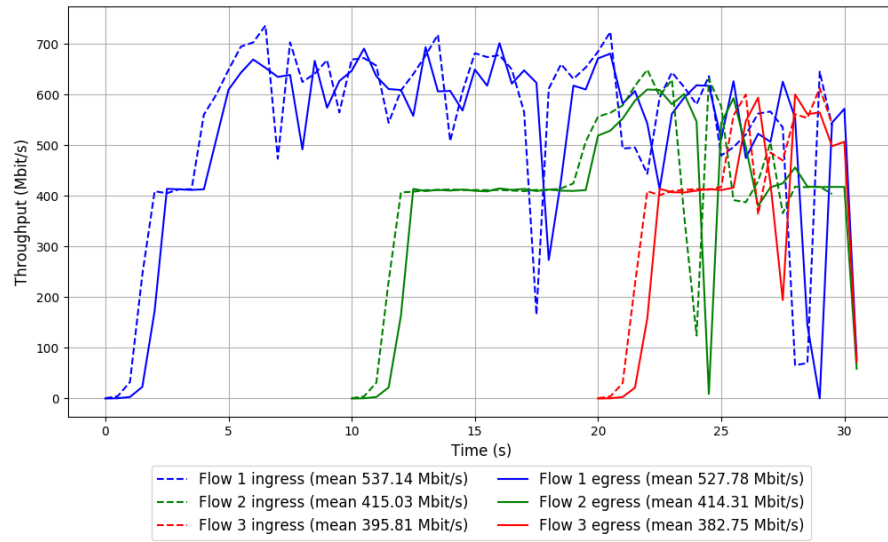


Run 3: Statistics of TCP BBR

Start at: 2018-09-06 08:23:29
End at: 2018-09-06 08:23:59
Local clock offset: -0.229 ms
Remote clock offset: -0.051 ms

Below is generated by plot.py at 2018-09-06 10:24:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 930.96 Mbit/s
95th percentile per-packet one-way delay: 189.050 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 527.78 Mbit/s
95th percentile per-packet one-way delay: 189.780 ms
Loss rate: 1.74%
-- Flow 2:
Average throughput: 414.31 Mbit/s
95th percentile per-packet one-way delay: 177.467 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 382.75 Mbit/s
95th percentile per-packet one-way delay: 206.150 ms
Loss rate: 3.28%

Run 3: Report of TCP BBR — Data Link

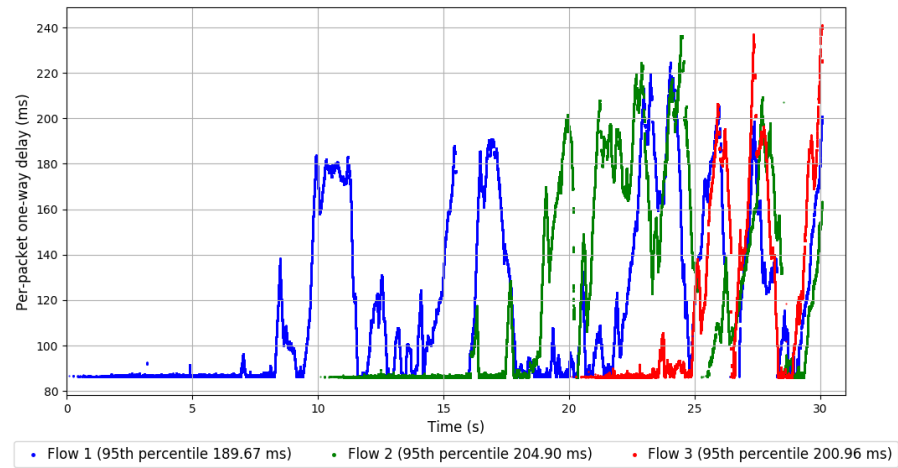
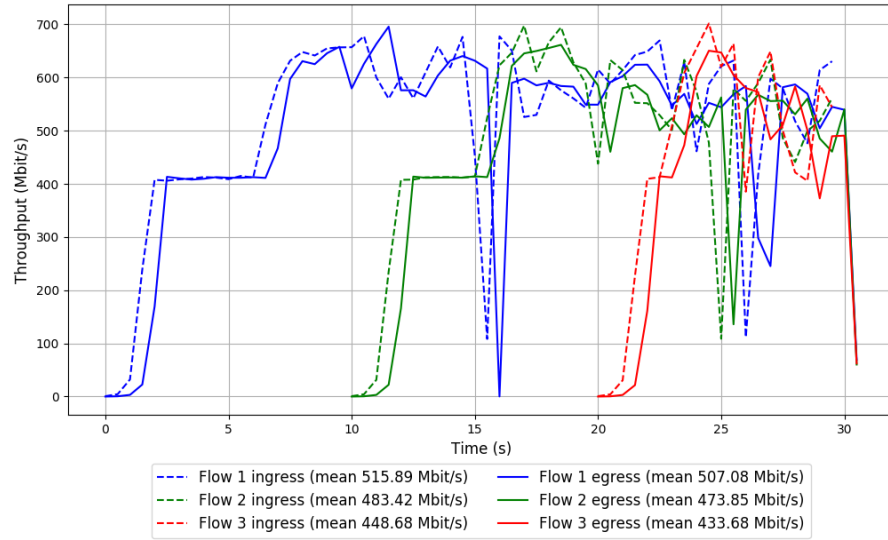


Run 4: Statistics of TCP BBR

Start at: 2018-09-06 08:56:12
End at: 2018-09-06 08:56:42
Local clock offset: -0.167 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-09-06 10:25:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 966.74 Mbit/s
95th percentile per-packet one-way delay: 197.542 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 507.08 Mbit/s
95th percentile per-packet one-way delay: 189.666 ms
Loss rate: 1.70%
-- Flow 2:
Average throughput: 473.85 Mbit/s
95th percentile per-packet one-way delay: 204.898 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 433.68 Mbit/s
95th percentile per-packet one-way delay: 200.956 ms
Loss rate: 3.34%

Run 4: Report of TCP BBR — Data Link

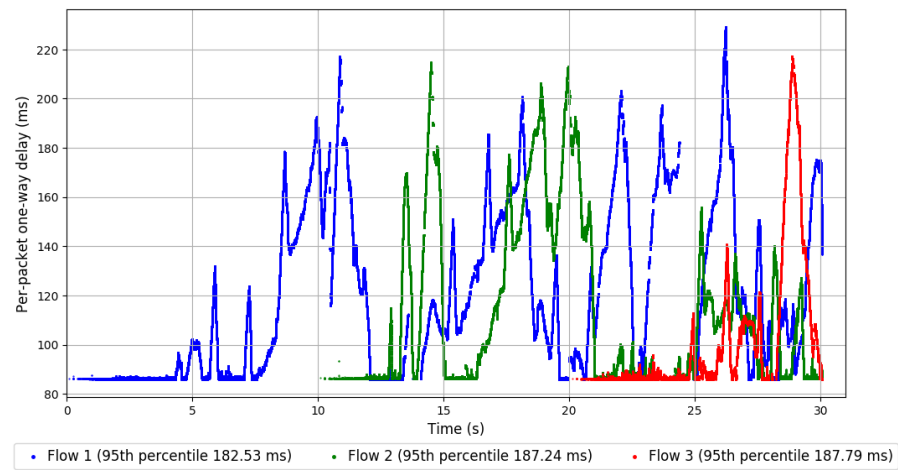
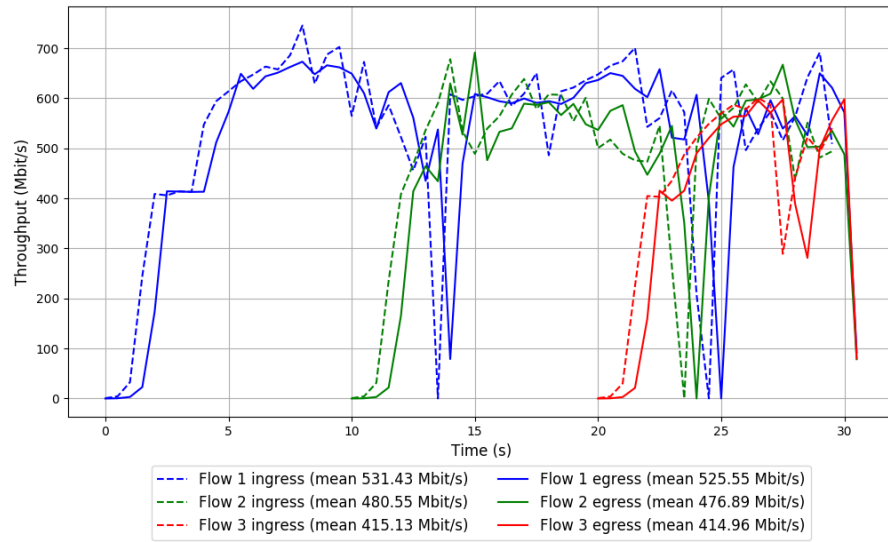


Run 5: Statistics of TCP BBR

Start at: 2018-09-06 09:28:42
End at: 2018-09-06 09:29:12
Local clock offset: -0.247 ms
Remote clock offset: -0.011 ms

Below is generated by plot.py at 2018-09-06 10:25:25
Datalink statistics
-- Total of 3 flows:
Average throughput: 981.05 Mbit/s
95th percentile per-packet one-way delay: 185.288 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 525.55 Mbit/s
95th percentile per-packet one-way delay: 182.529 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 476.89 Mbit/s
95th percentile per-packet one-way delay: 187.244 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 414.96 Mbit/s
95th percentile per-packet one-way delay: 187.788 ms
Loss rate: 0.04%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-06 07:27:33

End at: 2018-09-06 07:28:03

Local clock offset: 0.462 ms

Remote clock offset: 0.062 ms

Below is generated by plot.py at 2018-09-06 10:26:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 593.04 Mbit/s

95th percentile per-packet one-way delay: 143.948 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 302.91 Mbit/s

95th percentile per-packet one-way delay: 117.826 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 299.15 Mbit/s

95th percentile per-packet one-way delay: 156.162 ms

Loss rate: 0.02%

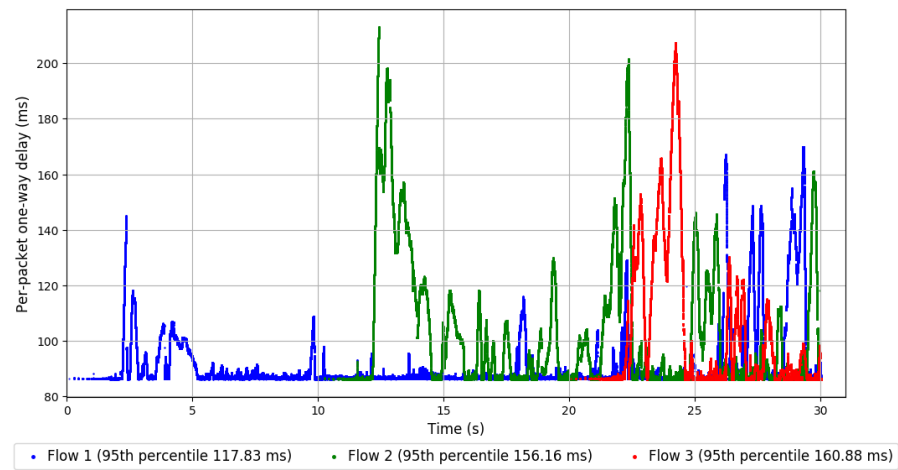
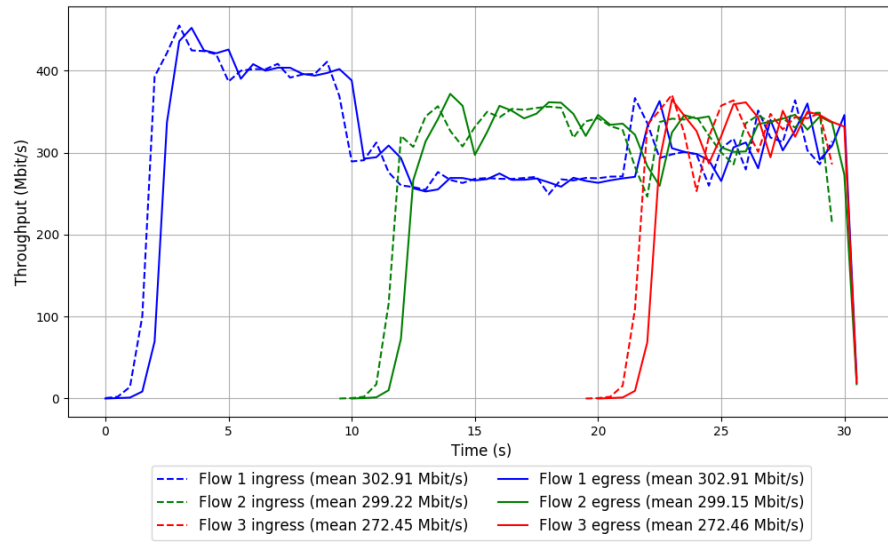
-- Flow 3:

Average throughput: 272.46 Mbit/s

95th percentile per-packet one-way delay: 160.882 ms

Loss rate: 0.00%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-09-06 08:00:11

End at: 2018-09-06 08:00:41

Local clock offset: 0.068 ms

Remote clock offset: 0.055 ms

Below is generated by plot.py at 2018-09-06 10:28:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 650.24 Mbit/s

95th percentile per-packet one-way delay: 113.575 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 344.66 Mbit/s

95th percentile per-packet one-way delay: 114.839 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 338.32 Mbit/s

95th percentile per-packet one-way delay: 113.783 ms

Loss rate: 0.00%

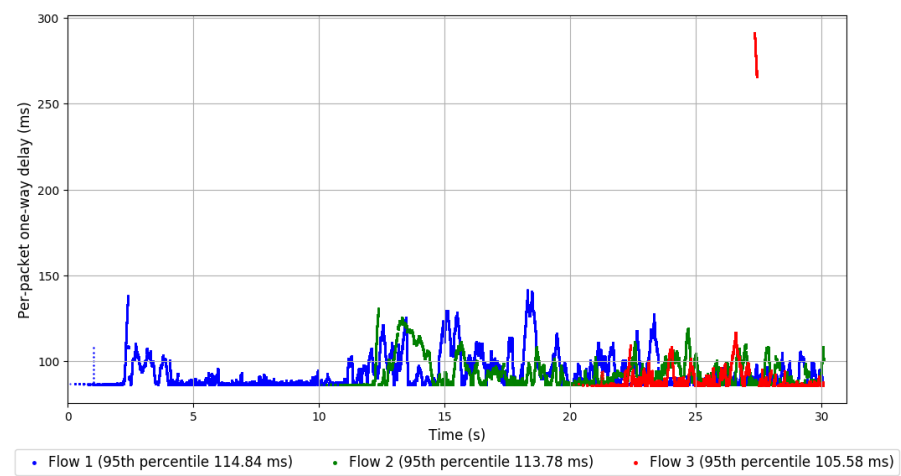
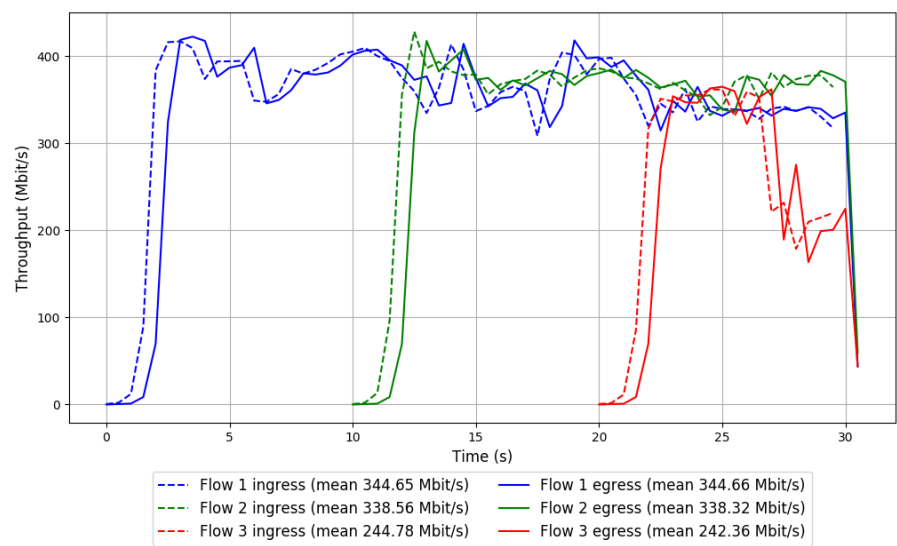
-- Flow 3:

Average throughput: 242.36 Mbit/s

95th percentile per-packet one-way delay: 105.584 ms

Loss rate: 0.99%

Run 2: Report of Copa — Data Link

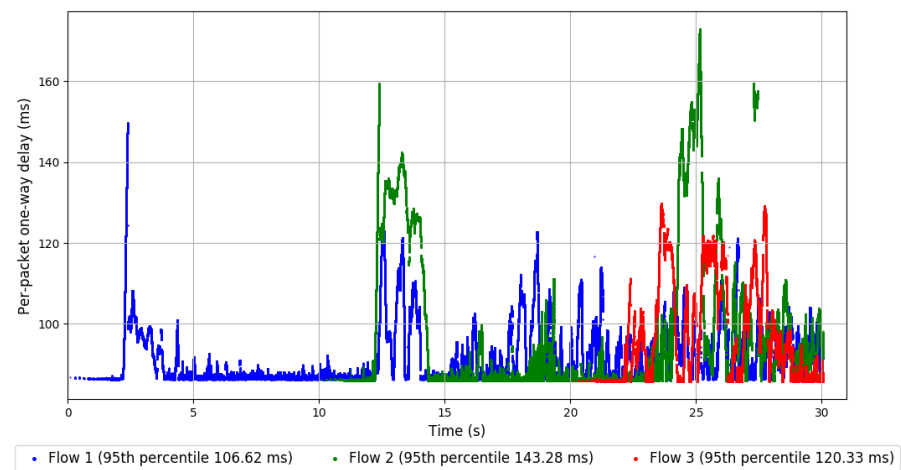
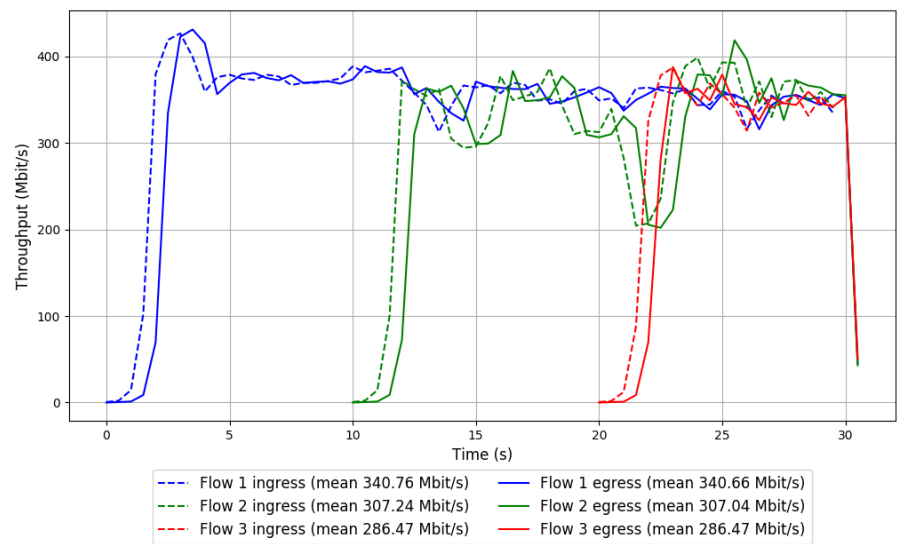


Run 3: Statistics of Copa

Start at: 2018-09-06 08:33:02
End at: 2018-09-06 08:33:32
Local clock offset: 0.018 ms
Remote clock offset: -0.055 ms

Below is generated by plot.py at 2018-09-06 10:28:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 640.23 Mbit/s
95th percentile per-packet one-way delay: 126.367 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 340.66 Mbit/s
95th percentile per-packet one-way delay: 106.623 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 307.04 Mbit/s
95th percentile per-packet one-way delay: 143.278 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 286.47 Mbit/s
95th percentile per-packet one-way delay: 120.335 ms
Loss rate: 0.00%

Run 3: Report of Copa — Data Link

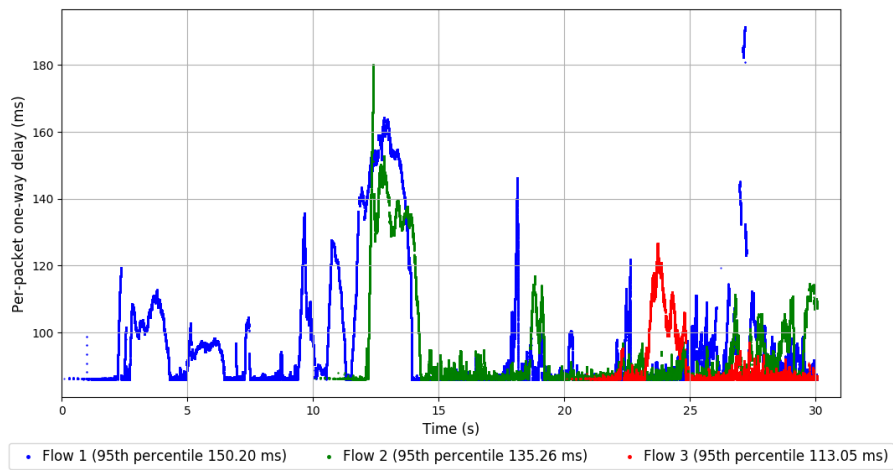
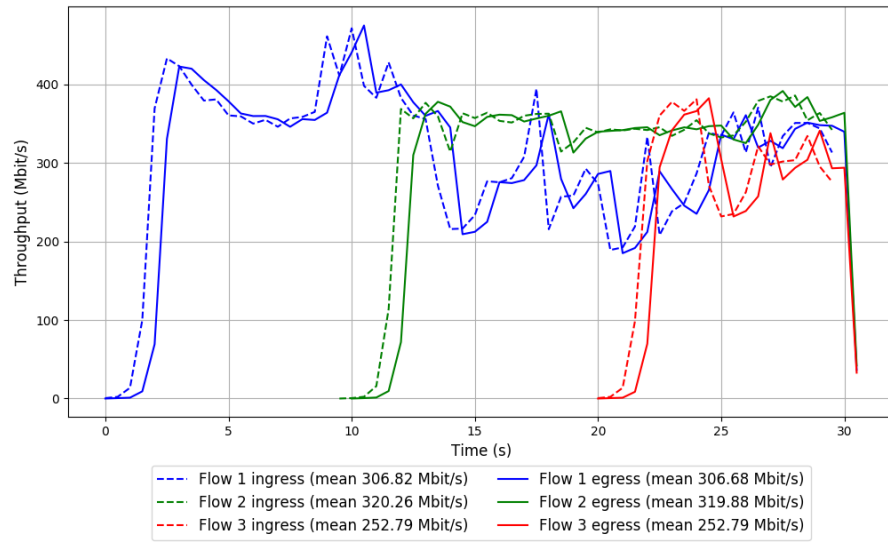


Run 4: Statistics of Copa

Start at: 2018-09-06 09:05:37
End at: 2018-09-06 09:06:07
Local clock offset: -0.248 ms
Remote clock offset: -0.056 ms

Below is generated by plot.py at 2018-09-06 10:42:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 603.78 Mbit/s
95th percentile per-packet one-way delay: 139.109 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 306.68 Mbit/s
95th percentile per-packet one-way delay: 150.198 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 319.88 Mbit/s
95th percentile per-packet one-way delay: 135.260 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 252.79 Mbit/s
95th percentile per-packet one-way delay: 113.048 ms
Loss rate: 0.00%

Run 4: Report of Copa — Data Link

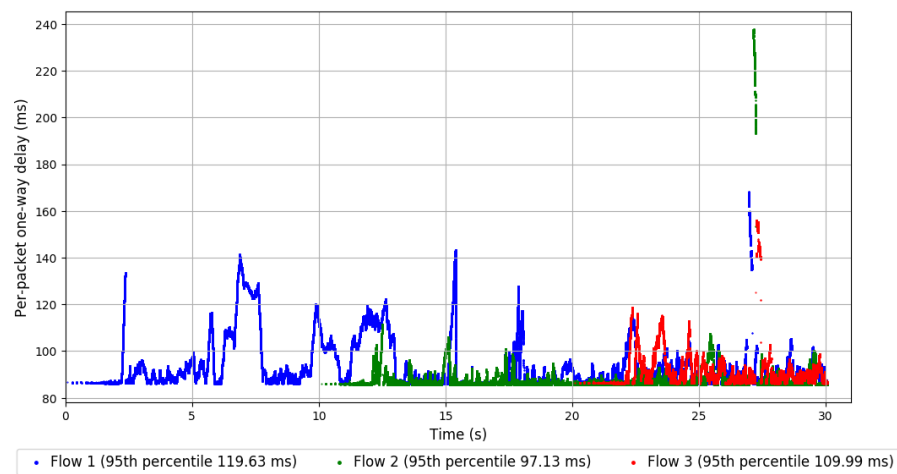
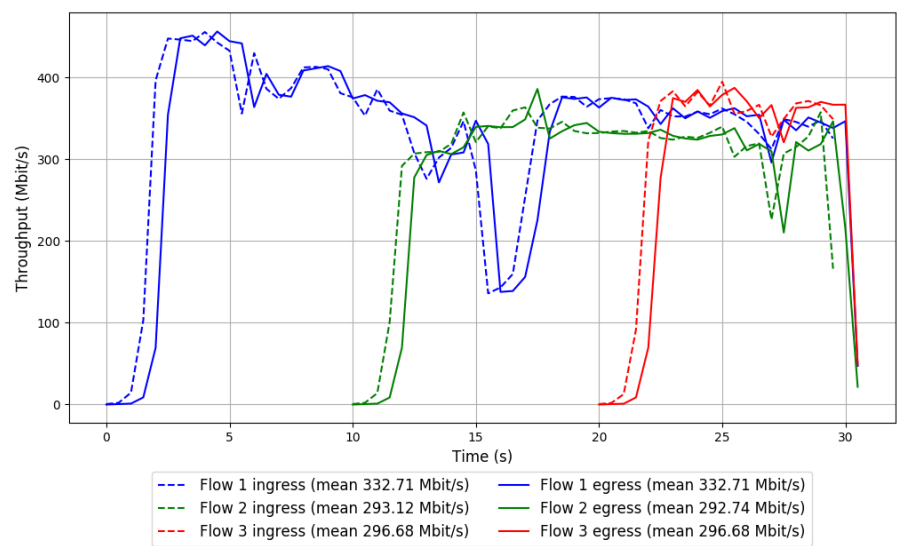


Run 5: Statistics of Copa

Start at: 2018-09-06 09:38:05
End at: 2018-09-06 09:38:35
Local clock offset: 0.01 ms
Remote clock offset: -0.057 ms

Below is generated by plot.py at 2018-09-06 10:43:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 626.23 Mbit/s
95th percentile per-packet one-way delay: 114.124 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 332.71 Mbit/s
95th percentile per-packet one-way delay: 119.632 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 292.74 Mbit/s
95th percentile per-packet one-way delay: 97.126 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 296.68 Mbit/s
95th percentile per-packet one-way delay: 109.989 ms
Loss rate: 0.00%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-06 07:14:43

End at: 2018-09-06 07:15:13

Local clock offset: 0.235 ms

Remote clock offset: 0.121 ms

Below is generated by plot.py at 2018-09-06 10:43:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 1018.97 Mbit/s

95th percentile per-packet one-way delay: 168.907 ms

Loss rate: 0.09%

-- Flow 1:

Average throughput: 520.42 Mbit/s

95th percentile per-packet one-way delay: 166.283 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 527.72 Mbit/s

95th percentile per-packet one-way delay: 167.489 ms

Loss rate: 0.03%

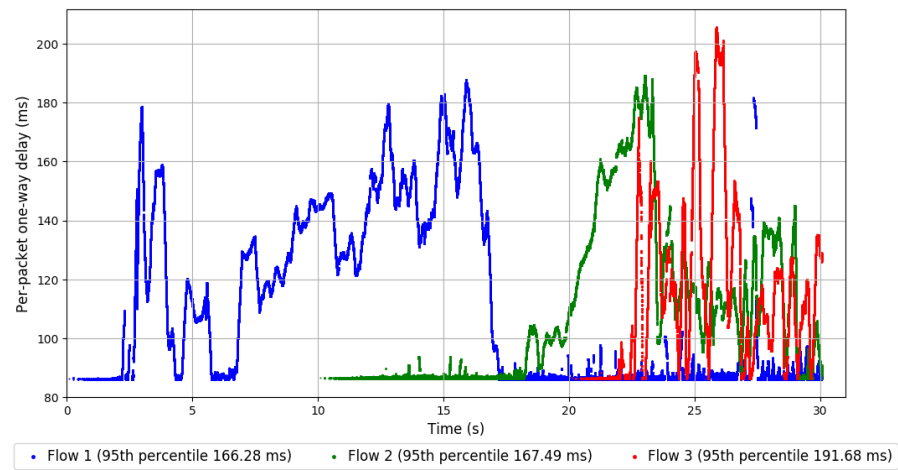
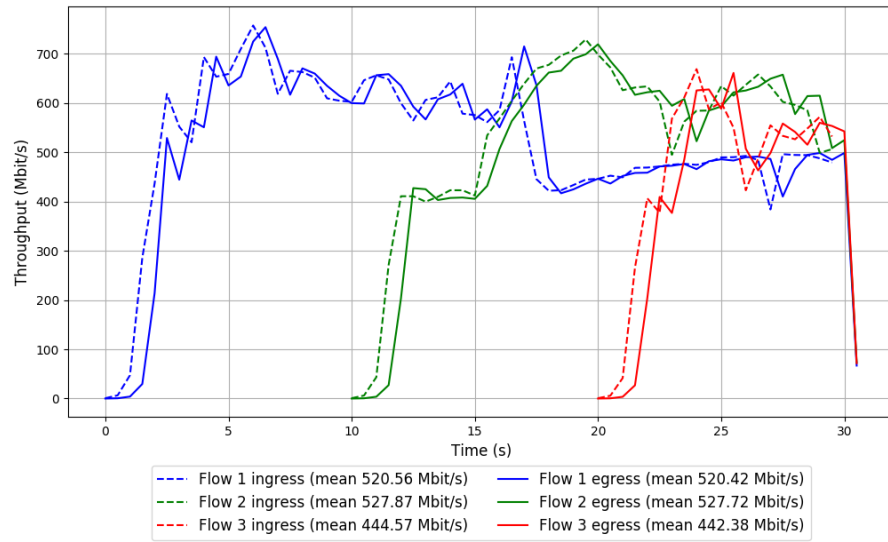
-- Flow 3:

Average throughput: 442.38 Mbit/s

95th percentile per-packet one-way delay: 191.682 ms

Loss rate: 0.48%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-06 07:47:31

End at: 2018-09-06 07:48:01

Local clock offset: 0.719 ms

Remote clock offset: 0.172 ms

Below is generated by plot.py at 2018-09-06 10:43:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 870.32 Mbit/s

95th percentile per-packet one-way delay: 149.550 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 438.72 Mbit/s

95th percentile per-packet one-way delay: 88.406 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 477.60 Mbit/s

95th percentile per-packet one-way delay: 172.744 ms

Loss rate: 0.46%

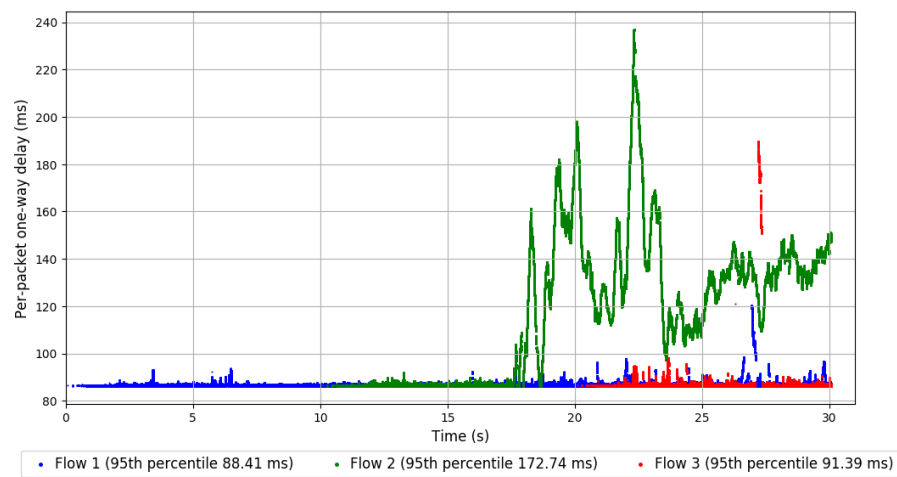
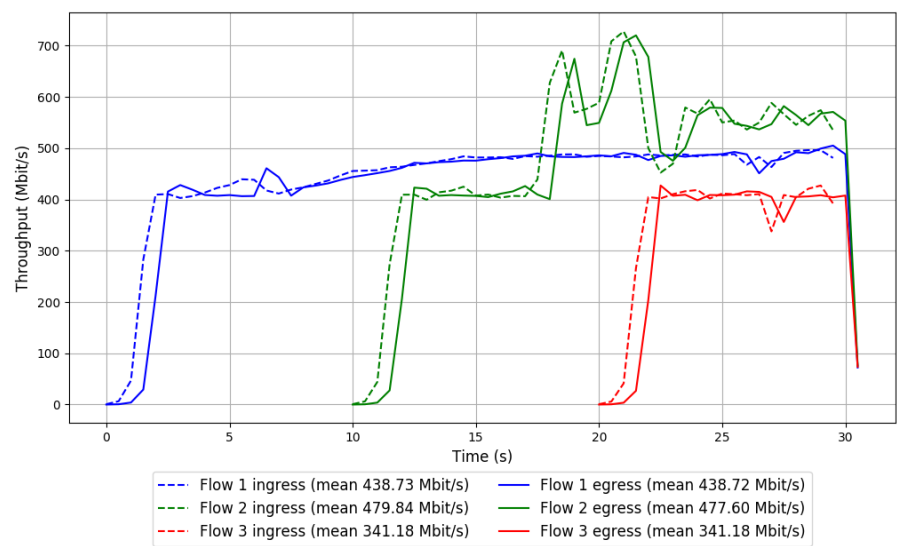
-- Flow 3:

Average throughput: 341.18 Mbit/s

95th percentile per-packet one-way delay: 91.390 ms

Loss rate: 0.00%

Run 2: Report of TCP Cubic — Data Link

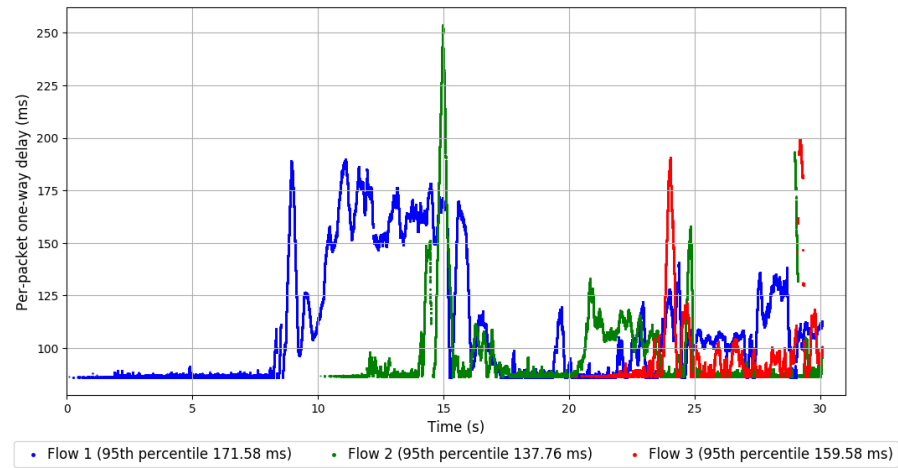
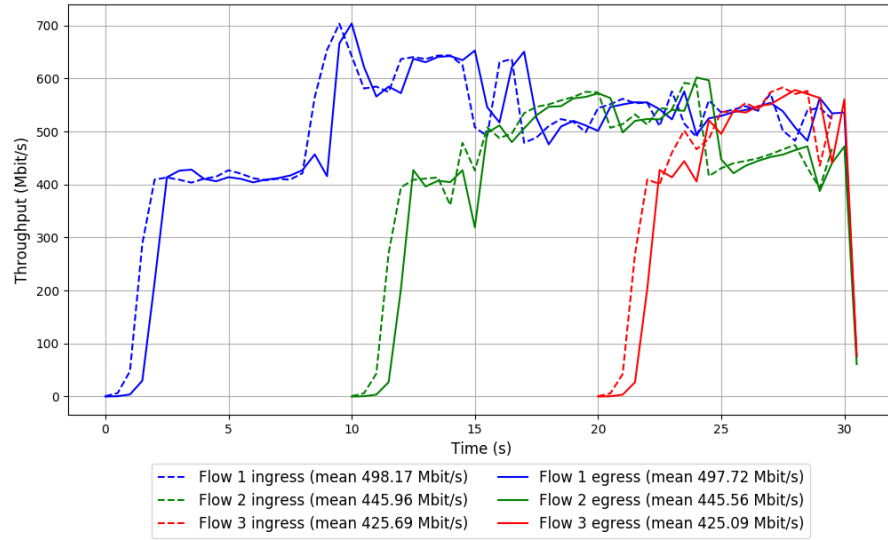


Run 3: Statistics of TCP Cubic

Start at: 2018-09-06 08:20:12
End at: 2018-09-06 08:20:42
Local clock offset: -0.24 ms
Remote clock offset: -0.046 ms

Below is generated by plot.py at 2018-09-06 10:43:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 935.82 Mbit/s
95th percentile per-packet one-way delay: 168.079 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 497.72 Mbit/s
95th percentile per-packet one-way delay: 171.582 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 445.56 Mbit/s
95th percentile per-packet one-way delay: 137.765 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 425.09 Mbit/s
95th percentile per-packet one-way delay: 159.579 ms
Loss rate: 0.15%

Run 3: Report of TCP Cubic — Data Link

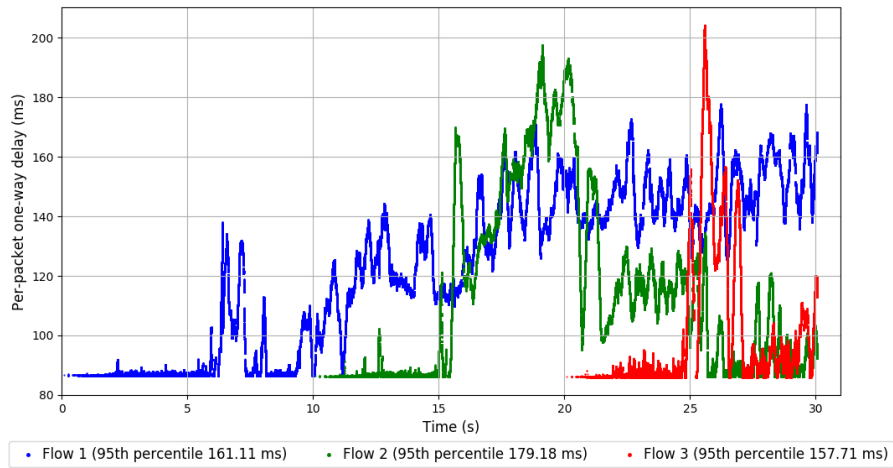
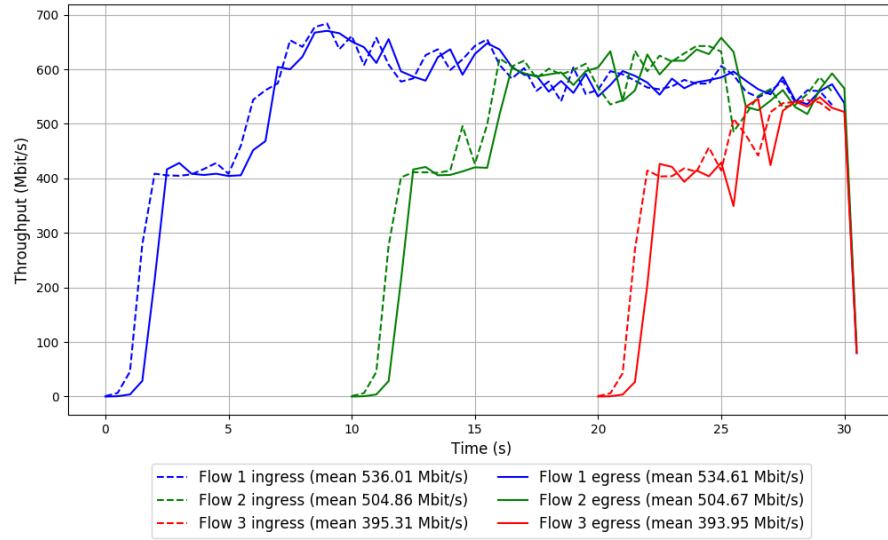


Run 4: Statistics of TCP Cubic

Start at: 2018-09-06 08:52:50
End at: 2018-09-06 08:53:20
Local clock offset: -0.116 ms
Remote clock offset: -0.026 ms

Below is generated by plot.py at 2018-09-06 10:43:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 1001.74 Mbit/s
95th percentile per-packet one-way delay: 166.645 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 534.61 Mbit/s
95th percentile per-packet one-way delay: 161.110 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 504.67 Mbit/s
95th percentile per-packet one-way delay: 179.175 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 393.95 Mbit/s
95th percentile per-packet one-way delay: 157.708 ms
Loss rate: 0.34%

Run 4: Report of TCP Cubic — Data Link

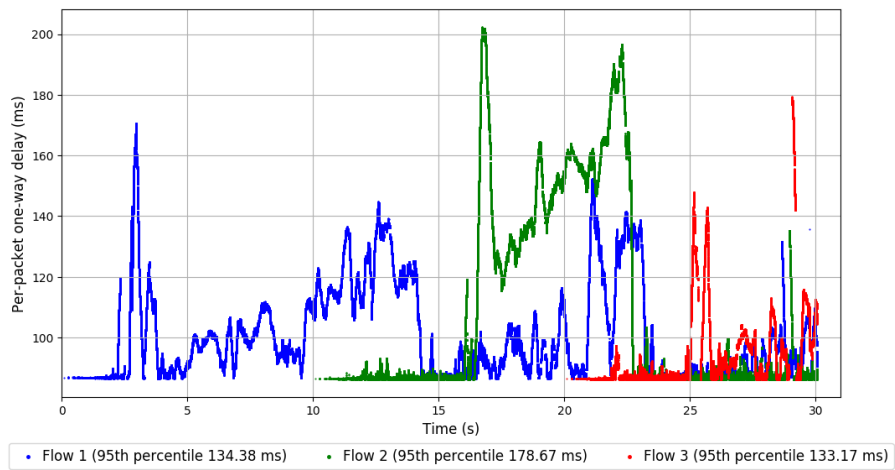
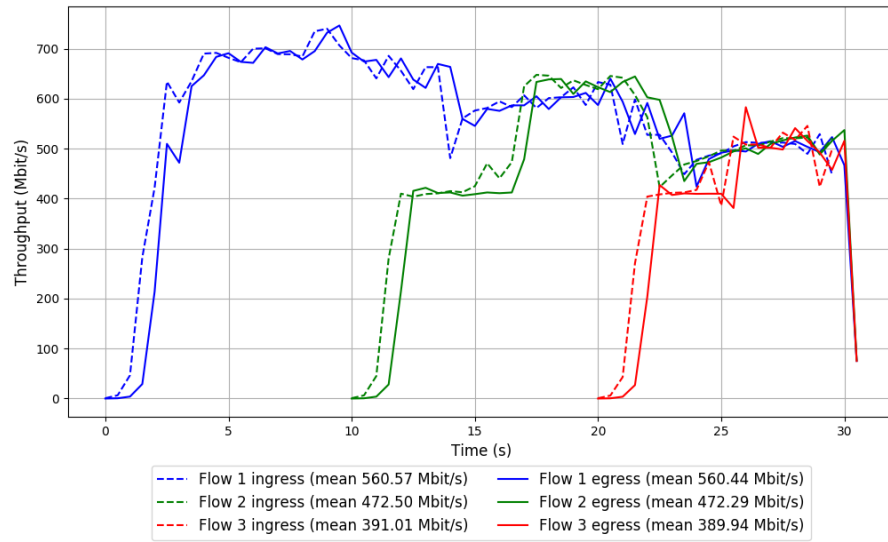


Run 5: Statistics of TCP Cubic

Start at: 2018-09-06 09:25:21
End at: 2018-09-06 09:25:51
Local clock offset: -0.381 ms
Remote clock offset: -0.002 ms

Below is generated by plot.py at 2018-09-06 10:45:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 1004.71 Mbit/s
95th percentile per-packet one-way delay: 158.236 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 560.44 Mbit/s
95th percentile per-packet one-way delay: 134.377 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 472.29 Mbit/s
95th percentile per-packet one-way delay: 178.674 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 389.94 Mbit/s
95th percentile per-packet one-way delay: 133.170 ms
Loss rate: 0.27%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-09-06 07:20:15

End at: 2018-09-06 07:20:45

Local clock offset: 0.299 ms

Remote clock offset: 0.073 ms

Below is generated by plot.py at 2018-09-06 10:55:28

Datalink statistics

-- Total of 3 flows:

Average throughput: 1437.10 Mbit/s

95th percentile per-packet one-way delay: 145.268 ms

Loss rate: 1.11%

-- Flow 1:

Average throughput: 800.29 Mbit/s

95th percentile per-packet one-way delay: 143.514 ms

Loss rate: 1.01%

-- Flow 2:

Average throughput: 694.72 Mbit/s

95th percentile per-packet one-way delay: 148.115 ms

Loss rate: 1.42%

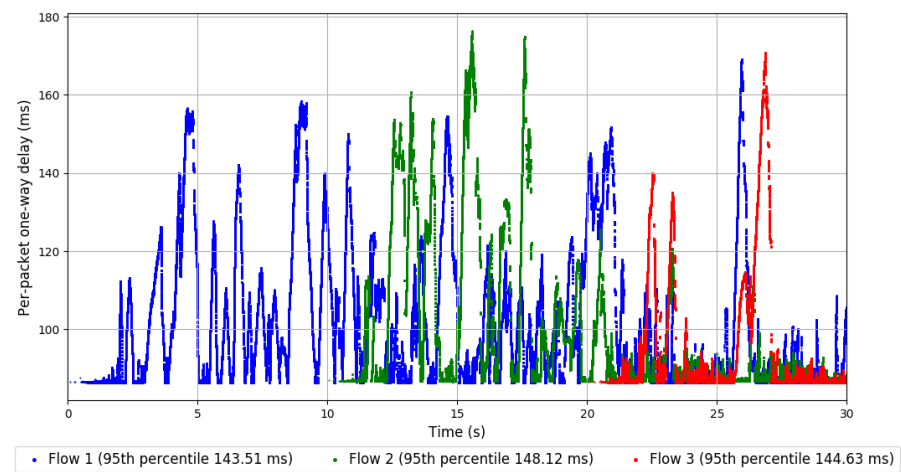
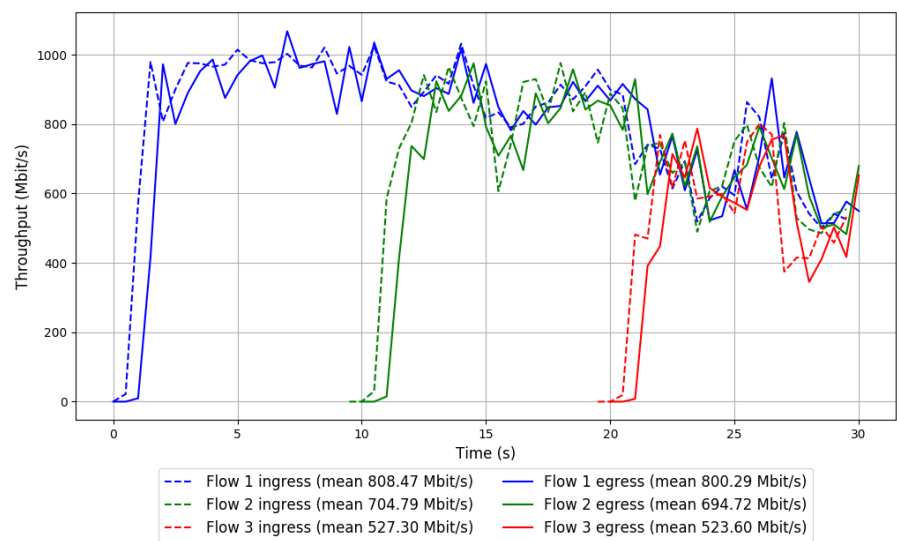
-- Flow 3:

Average throughput: 523.60 Mbit/s

95th percentile per-packet one-way delay: 144.629 ms

Loss rate: 0.70%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-06 07:52:51

End at: 2018-09-06 07:53:21

Local clock offset: 0.492 ms

Remote clock offset: 0.029 ms

Below is generated by plot.py at 2018-09-06 11:09:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 1409.67 Mbit/s

95th percentile per-packet one-way delay: 167.001 ms

Loss rate: 3.63%

-- Flow 1:

Average throughput: 742.83 Mbit/s

95th percentile per-packet one-way delay: 165.808 ms

Loss rate: 4.48%

-- Flow 2:

Average throughput: 739.39 Mbit/s

95th percentile per-packet one-way delay: 141.377 ms

Loss rate: 0.76%

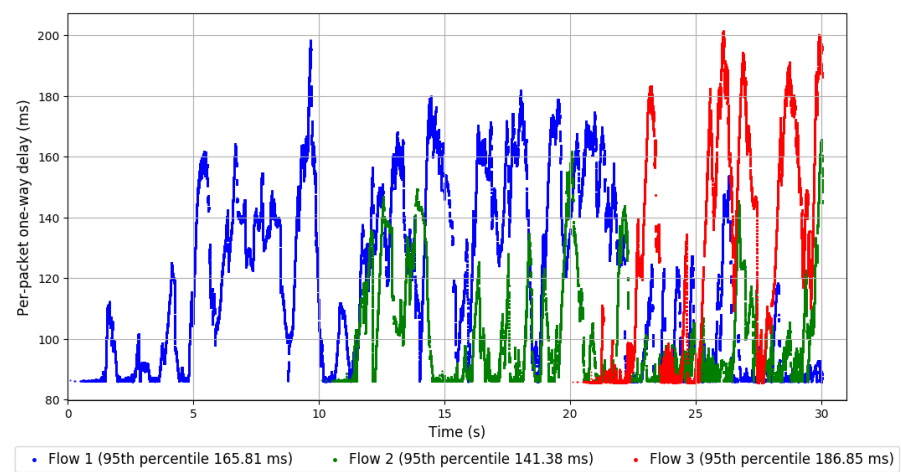
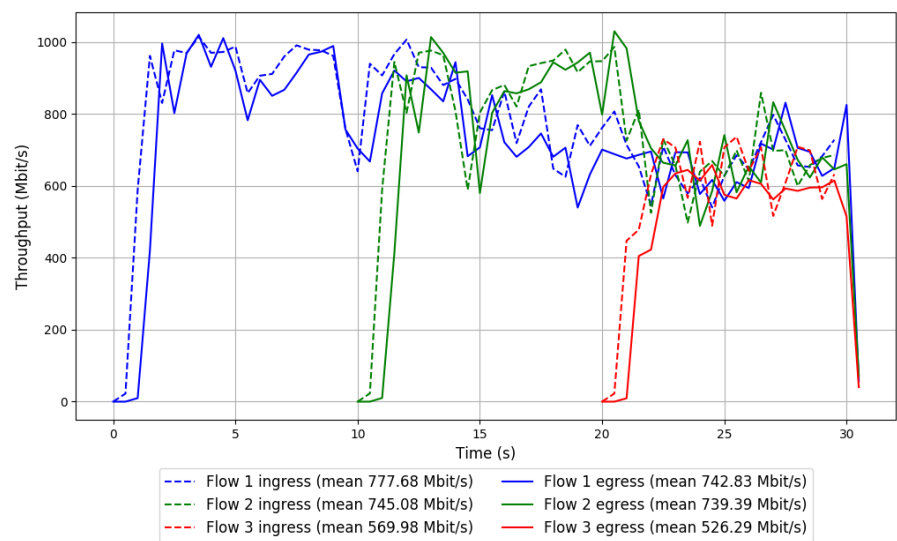
-- Flow 3:

Average throughput: 526.29 Mbit/s

95th percentile per-packet one-way delay: 186.850 ms

Loss rate: 7.66%

Run 2: Report of FillP — Data Link

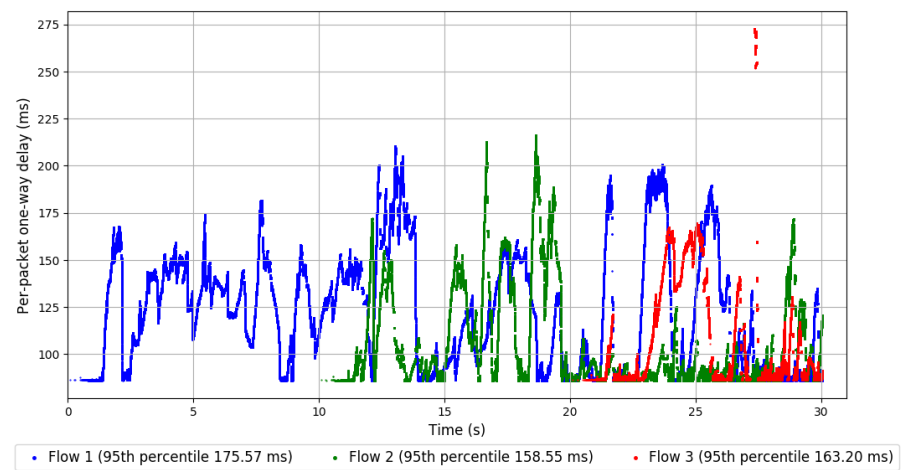
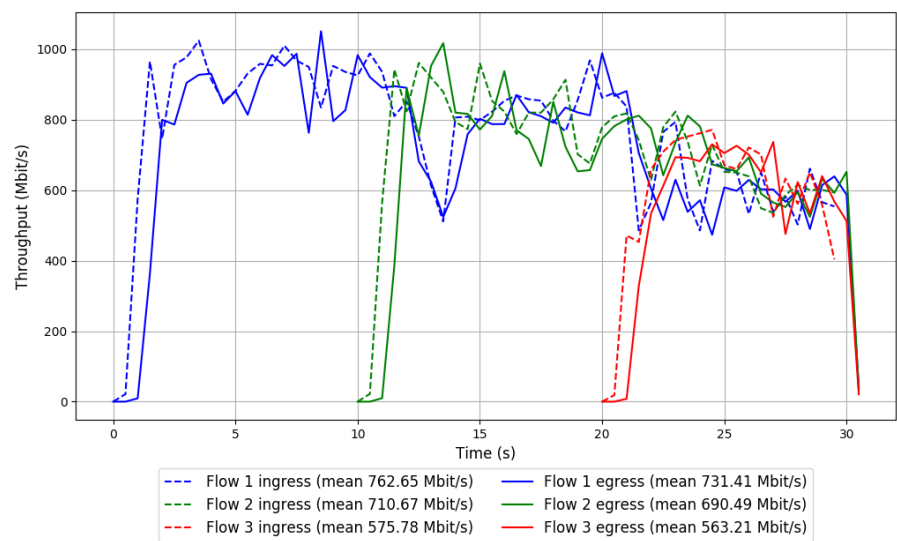


Run 3: Statistics of FillP

Start at: 2018-09-06 08:25:39
End at: 2018-09-06 08:26:09
Local clock offset: -0.14 ms
Remote clock offset: -0.073 ms

Below is generated by plot.py at 2018-09-06 11:10:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 1377.70 Mbit/s
95th percentile per-packet one-way delay: 168.246 ms
Loss rate: 3.43%
-- Flow 1:
Average throughput: 731.41 Mbit/s
95th percentile per-packet one-way delay: 175.572 ms
Loss rate: 4.12%
-- Flow 2:
Average throughput: 690.49 Mbit/s
95th percentile per-packet one-way delay: 158.554 ms
Loss rate: 2.83%
-- Flow 3:
Average throughput: 563.21 Mbit/s
95th percentile per-packet one-way delay: 163.203 ms
Loss rate: 2.18%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-06 08:58:22

End at: 2018-09-06 08:58:52

Local clock offset: -0.392 ms

Remote clock offset: -0.02 ms

Below is generated by plot.py at 2018-09-06 11:10:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 1342.40 Mbit/s

95th percentile per-packet one-way delay: 143.181 ms

Loss rate: 1.06%

-- Flow 1:

Average throughput: 717.90 Mbit/s

95th percentile per-packet one-way delay: 152.835 ms

Loss rate: 1.95%

-- Flow 2:

Average throughput: 657.14 Mbit/s

95th percentile per-packet one-way delay: 114.150 ms

Loss rate: 0.01%

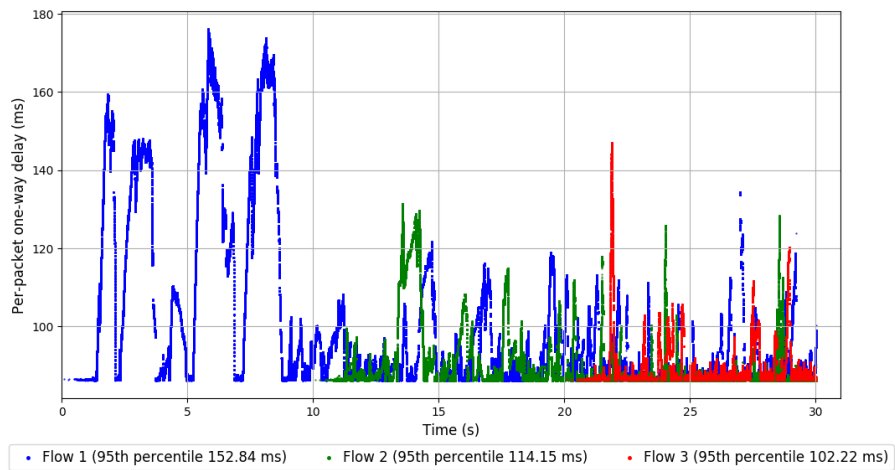
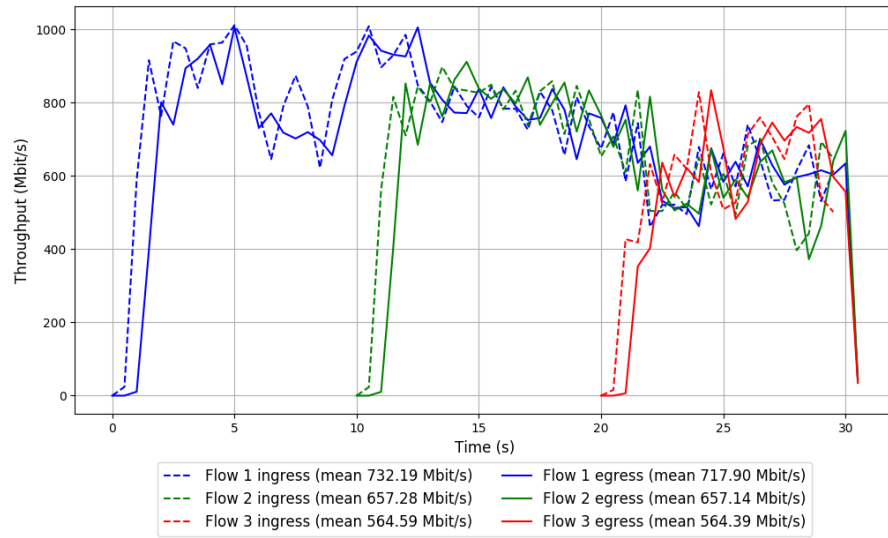
-- Flow 3:

Average throughput: 564.39 Mbit/s

95th percentile per-packet one-way delay: 102.223 ms

Loss rate: 0.03%

Run 4: Report of FillP — Data Link

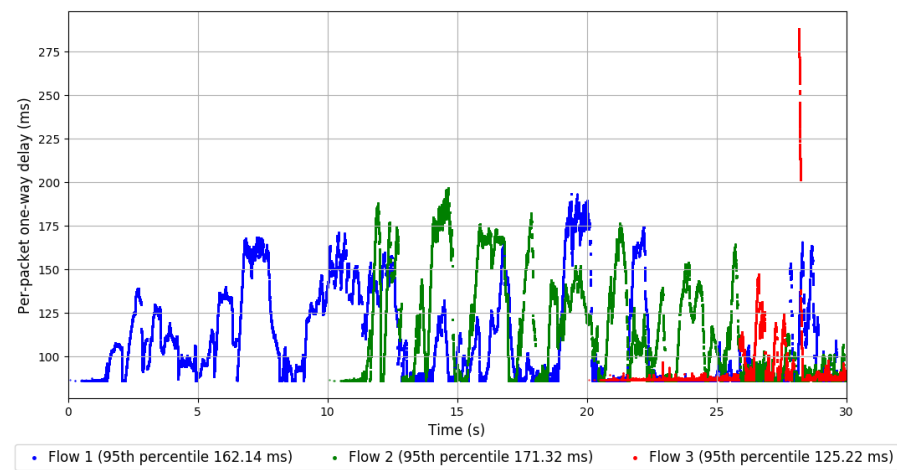
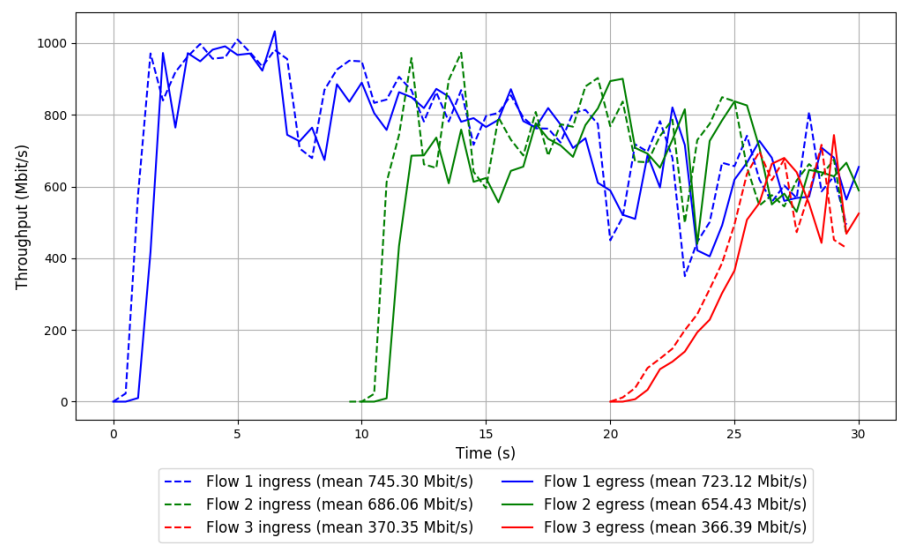


Run 5: Statistics of FillP

Start at: 2018-09-06 09:30:53
End at: 2018-09-06 09:31:23
Local clock offset: -0.221 ms
Remote clock offset: -0.075 ms

Below is generated by plot.py at 2018-09-06 11:10:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 1279.90 Mbit/s
95th percentile per-packet one-way delay: 166.673 ms
Loss rate: 3.36%
-- Flow 1:
Average throughput: 723.12 Mbit/s
95th percentile per-packet one-way delay: 162.140 ms
Loss rate: 2.98%
-- Flow 2:
Average throughput: 654.43 Mbit/s
95th percentile per-packet one-way delay: 171.316 ms
Loss rate: 4.61%
-- Flow 3:
Average throughput: 366.39 Mbit/s
95th percentile per-packet one-way delay: 125.225 ms
Loss rate: 1.07%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-06 07:34:37

End at: 2018-09-06 07:35:07

Local clock offset: 0.274 ms

Remote clock offset: 0.113 ms

Below is generated by plot.py at 2018-09-06 11:10:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 1314.31 Mbit/s

95th percentile per-packet one-way delay: 146.083 ms

Loss rate: 0.97%

-- Flow 1:

Average throughput: 708.51 Mbit/s

95th percentile per-packet one-way delay: 149.088 ms

Loss rate: 1.29%

-- Flow 2:

Average throughput: 646.30 Mbit/s

95th percentile per-packet one-way delay: 137.924 ms

Loss rate: 0.60%

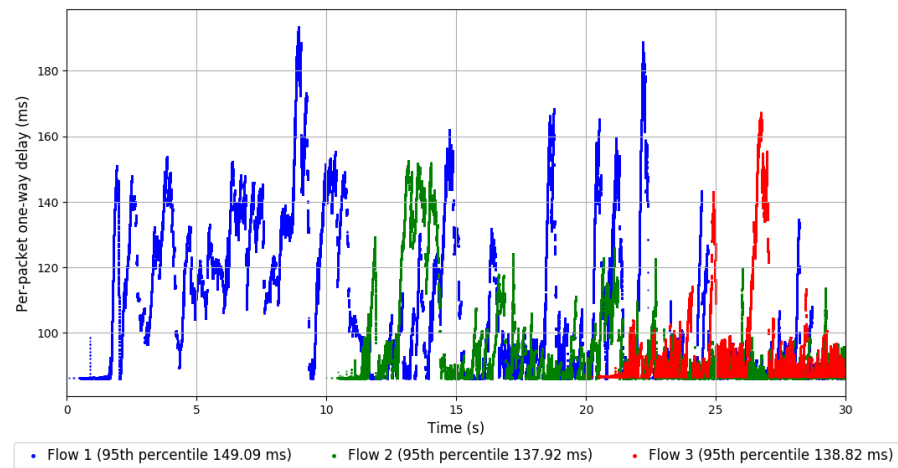
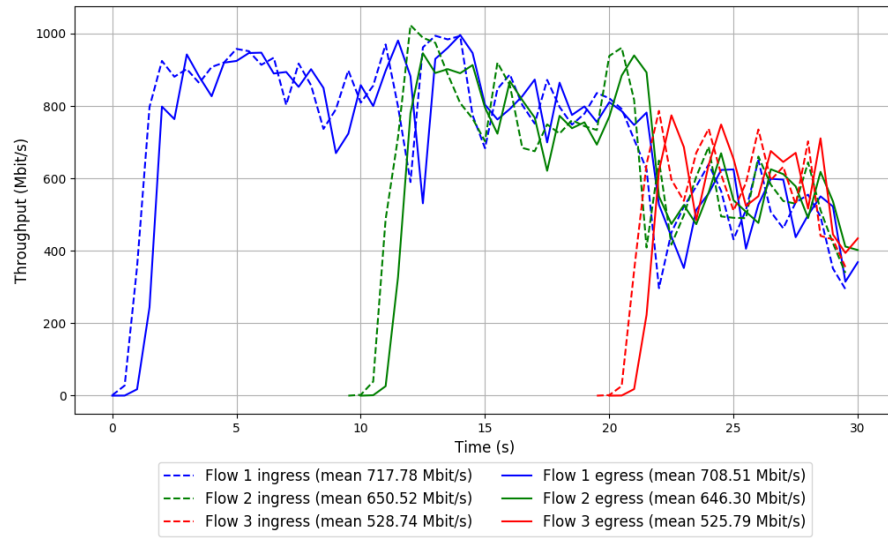
-- Flow 3:

Average throughput: 525.79 Mbit/s

95th percentile per-packet one-way delay: 138.821 ms

Loss rate: 0.55%

Run 1: Report of FillP-Sheep — Data Link

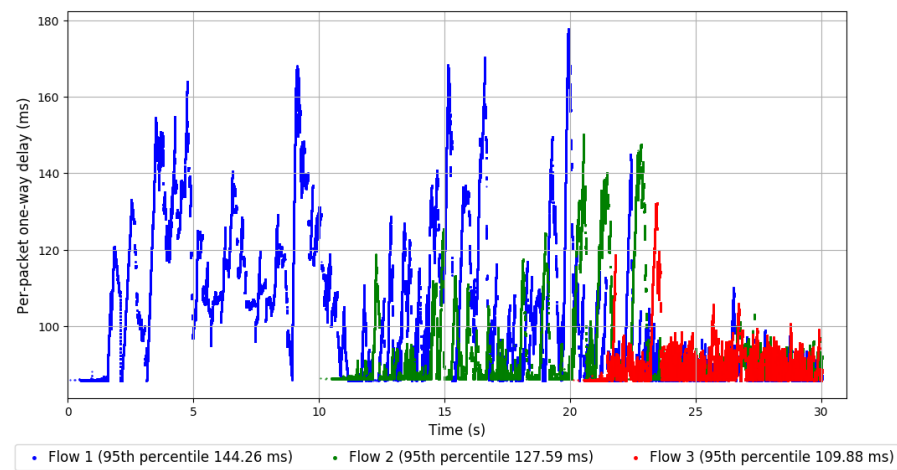
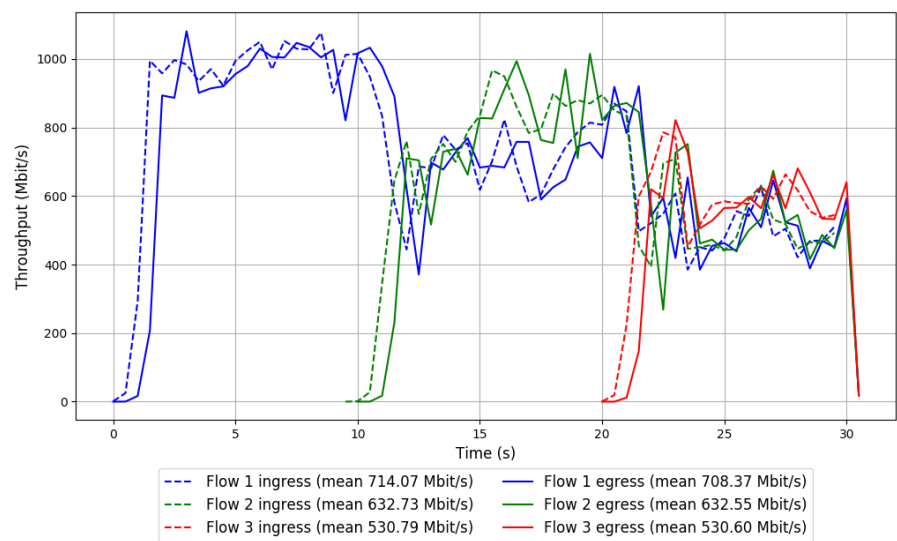


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-06 08:07:34
End at: 2018-09-06 08:08:04
Local clock offset: 0.167 ms
Remote clock offset: -0.016 ms

Below is generated by plot.py at 2018-09-06 11:11:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 1304.91 Mbit/s
95th percentile per-packet one-way delay: 137.213 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 708.37 Mbit/s
95th percentile per-packet one-way delay: 144.257 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 632.55 Mbit/s
95th percentile per-packet one-way delay: 127.590 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 530.60 Mbit/s
95th percentile per-packet one-way delay: 109.875 ms
Loss rate: 0.03%

Run 2: Report of FillP-Sheep — Data Link

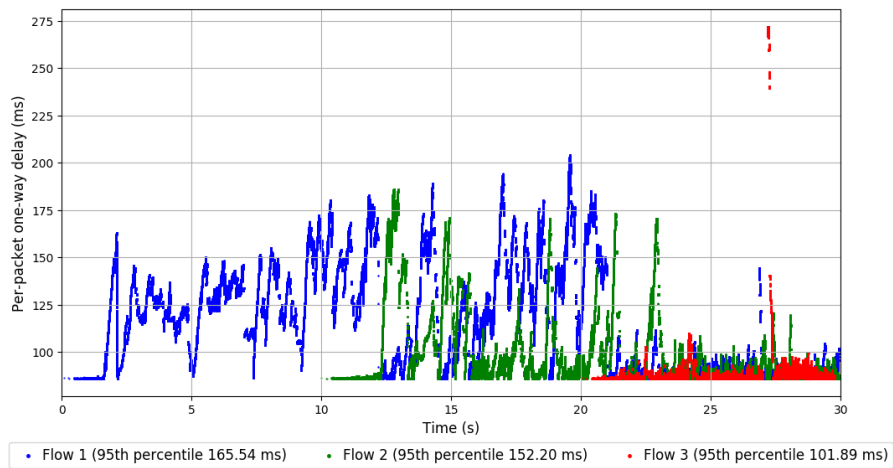
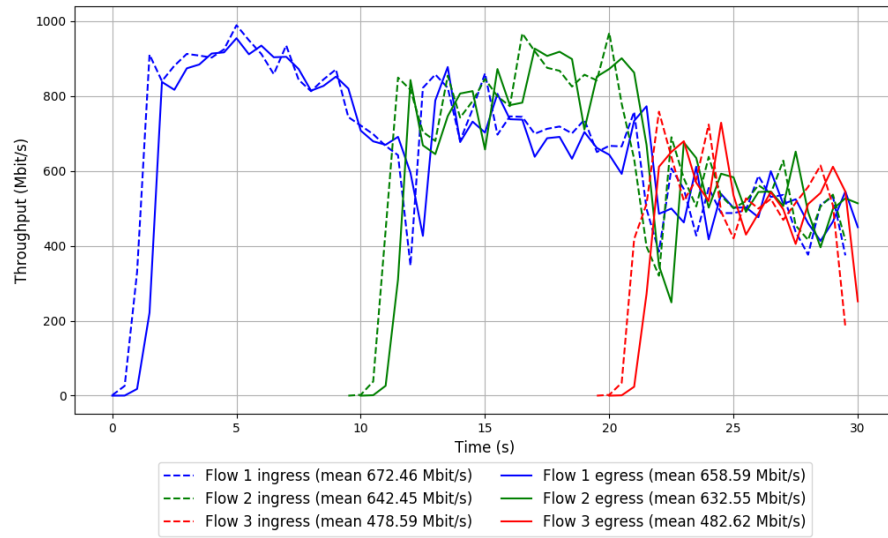


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-06 08:40:09
End at: 2018-09-06 08:40:39
Local clock offset: -0.202 ms
Remote clock offset: -0.034 ms

Below is generated by plot.py at 2018-09-06 11:11:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 1238.47 Mbit/s
95th percentile per-packet one-way delay: 161.772 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 658.59 Mbit/s
95th percentile per-packet one-way delay: 165.538 ms
Loss rate: 2.06%
-- Flow 2:
Average throughput: 632.55 Mbit/s
95th percentile per-packet one-way delay: 152.198 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 482.62 Mbit/s
95th percentile per-packet one-way delay: 101.888 ms
Loss rate: 0.86%

Run 3: Report of FillP-Sheep — Data Link

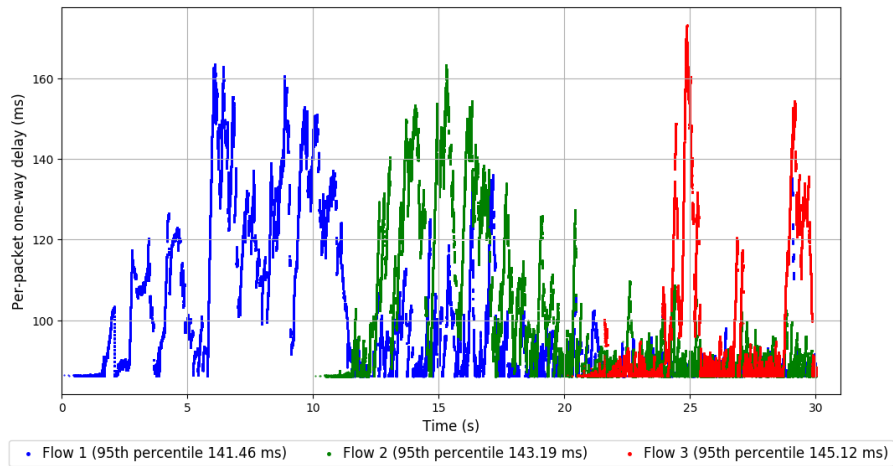
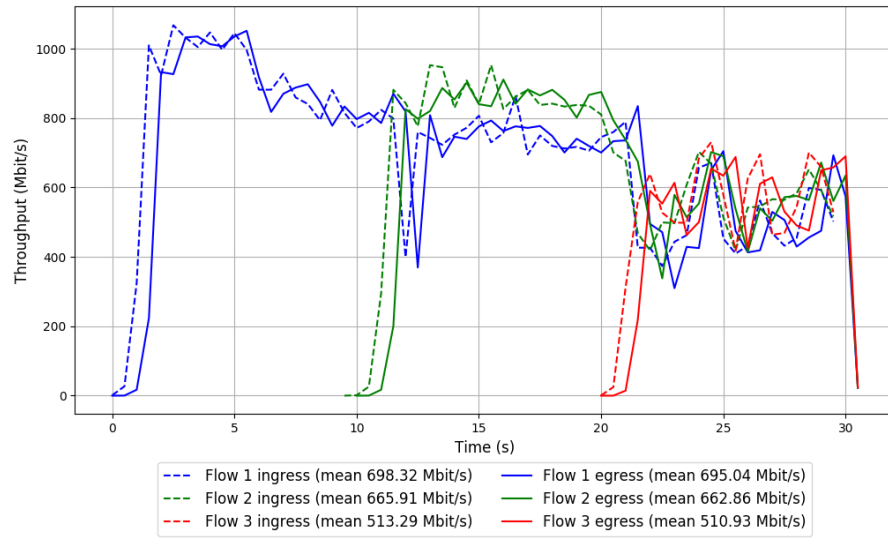


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-06 09:12:46
End at: 2018-09-06 09:13:16
Local clock offset: -0.349 ms
Remote clock offset: -0.039 ms

Below is generated by plot.py at 2018-09-06 11:27:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 1305.43 Mbit/s
95th percentile per-packet one-way delay: 143.029 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 695.04 Mbit/s
95th percentile per-packet one-way delay: 141.462 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 662.86 Mbit/s
95th percentile per-packet one-way delay: 143.187 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 510.93 Mbit/s
95th percentile per-packet one-way delay: 145.119 ms
Loss rate: 0.44%

Run 4: Report of FillP-Sheep — Data Link

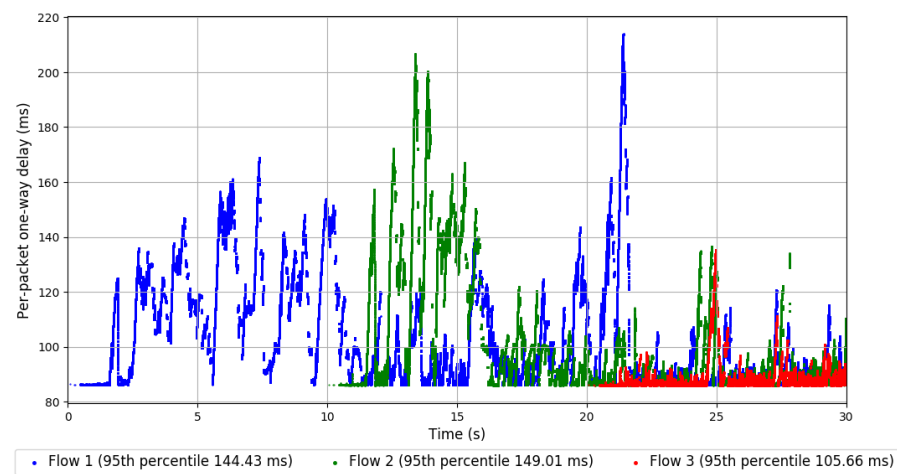
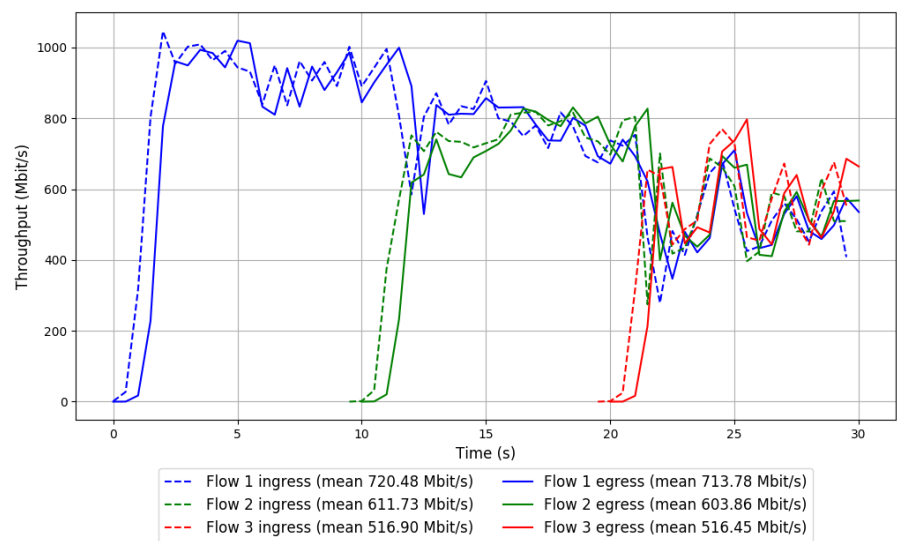


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-06 09:45:15
End at: 2018-09-06 09:45:45
Local clock offset: -0.153 ms
Remote clock offset: -0.097 ms

```
# Below is generated by plot.py at 2018-09-06 11:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1287.39 Mbit/s
95th percentile per-packet one-way delay: 144.010 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 713.78 Mbit/s
95th percentile per-packet one-way delay: 144.433 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 603.86 Mbit/s
95th percentile per-packet one-way delay: 149.007 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 516.45 Mbit/s
95th percentile per-packet one-way delay: 105.656 ms
Loss rate: 0.09%
```


Run 5: Report of FillP-Sheep — Data Link

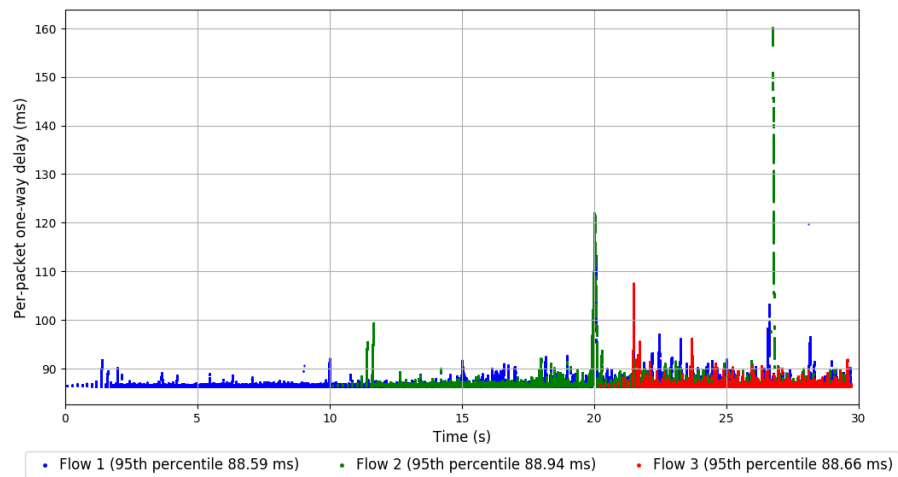
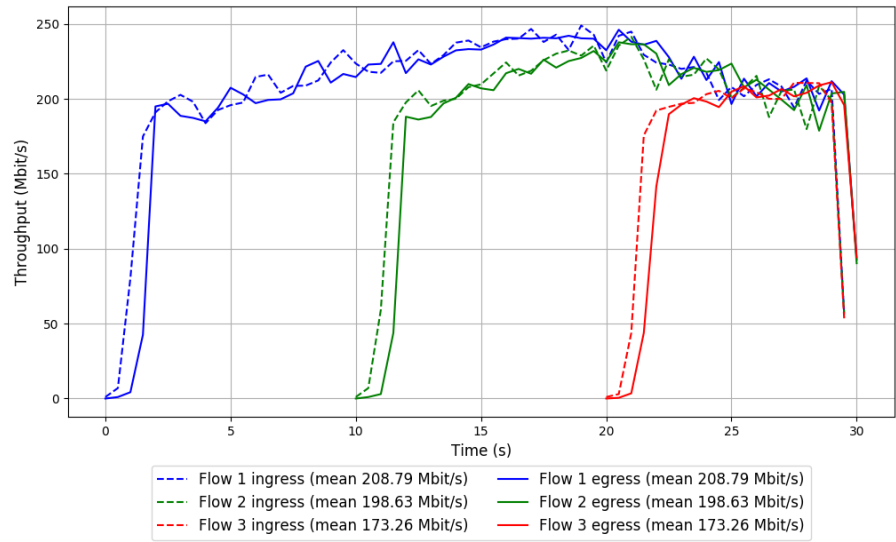


```
Run 1: Statistics of Indigo

Start at: 2018-09-06 07:25:41
End at: 2018-09-06 07:26:11
Local clock offset: 0.368 ms
Remote clock offset: 0.09 ms

# Below is generated by plot.py at 2018-09-06 11:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 396.02 Mbit/s
95th percentile per-packet one-way delay: 88.711 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 208.79 Mbit/s
95th percentile per-packet one-way delay: 88.586 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 198.63 Mbit/s
95th percentile per-packet one-way delay: 88.945 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 173.26 Mbit/s
95th percentile per-packet one-way delay: 88.658 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

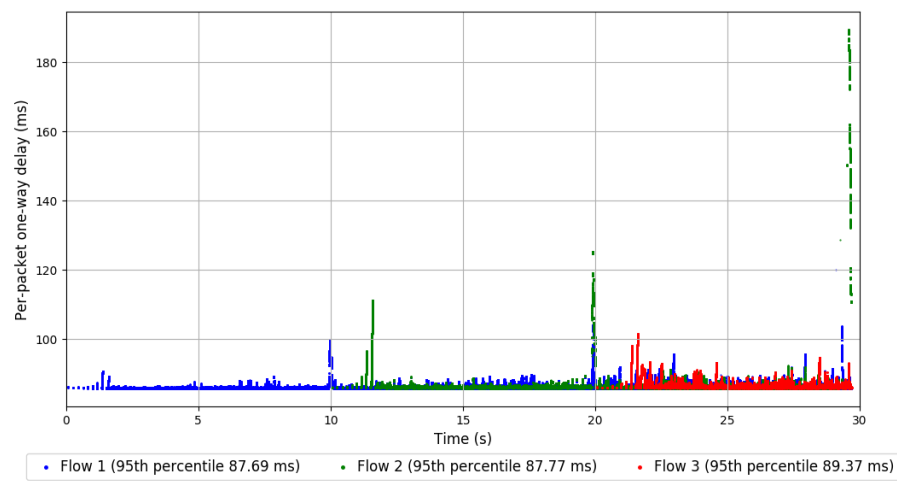
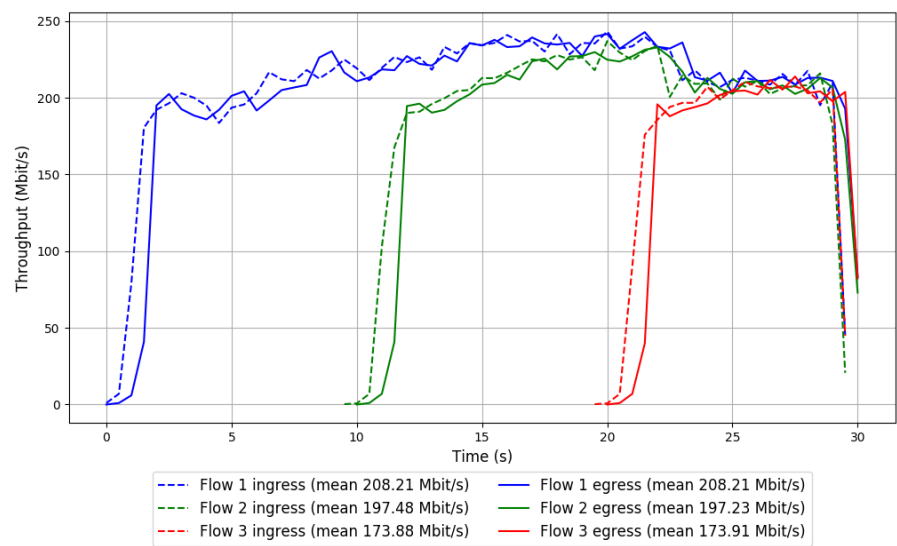


Run 2: Statistics of Indigo

Start at: 2018-09-06 07:58:18
End at: 2018-09-06 07:58:48
Local clock offset: 0.182 ms
Remote clock offset: -0.024 ms

Below is generated by plot.py at 2018-09-06 11:36:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 395.26 Mbit/s
95th percentile per-packet one-way delay: 87.924 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 208.21 Mbit/s
95th percentile per-packet one-way delay: 87.690 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 197.23 Mbit/s
95th percentile per-packet one-way delay: 87.770 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 173.91 Mbit/s
95th percentile per-packet one-way delay: 89.371 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

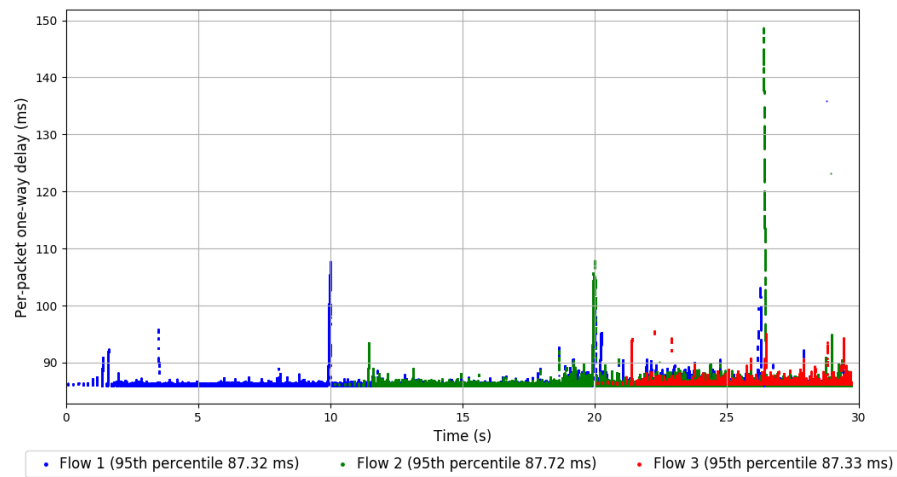
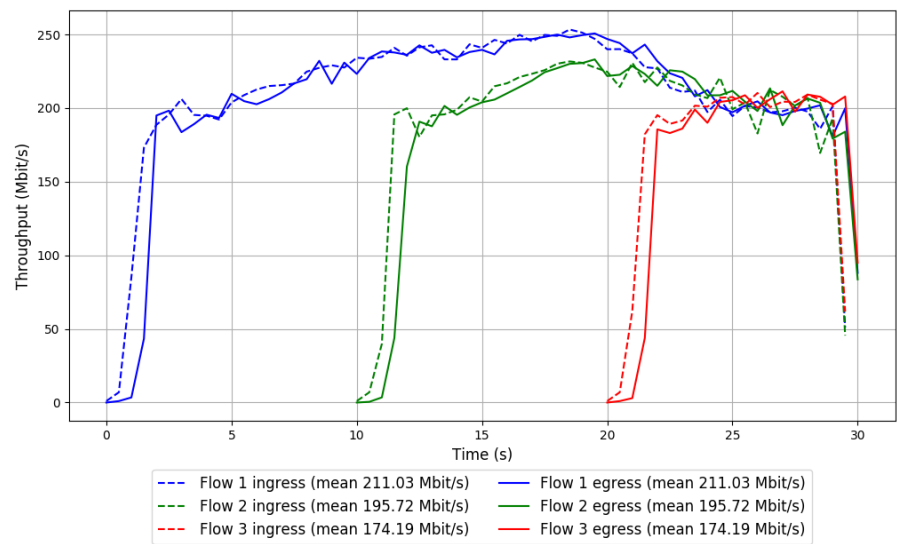


Run 3: Statistics of Indigo

Start at: 2018-09-06 08:31:10
End at: 2018-09-06 08:31:40
Local clock offset: -0.057 ms
Remote clock offset: -0.065 ms

Below is generated by plot.py at 2018-09-06 11:36:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 396.64 Mbit/s
95th percentile per-packet one-way delay: 87.476 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 211.03 Mbit/s
95th percentile per-packet one-way delay: 87.319 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.72 Mbit/s
95th percentile per-packet one-way delay: 87.720 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 174.19 Mbit/s
95th percentile per-packet one-way delay: 87.333 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

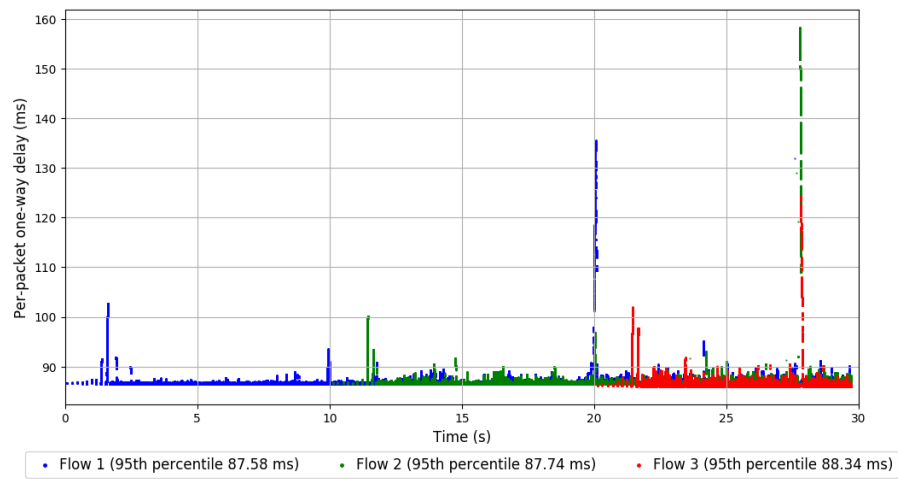
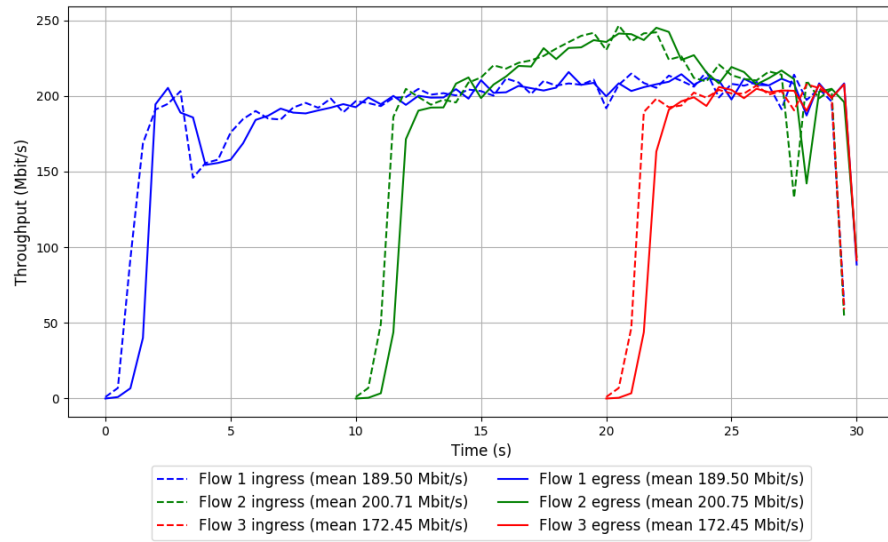


Run 4: Statistics of Indigo

Start at: 2018-09-06 09:03:46
End at: 2018-09-06 09:04:16
Local clock offset: -0.269 ms
Remote clock offset: -0.011 ms

Below is generated by plot.py at 2018-09-06 11:36:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 377.98 Mbit/s
95th percentile per-packet one-way delay: 87.719 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.50 Mbit/s
95th percentile per-packet one-way delay: 87.575 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 200.75 Mbit/s
95th percentile per-packet one-way delay: 87.736 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 172.45 Mbit/s
95th percentile per-packet one-way delay: 88.336 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link

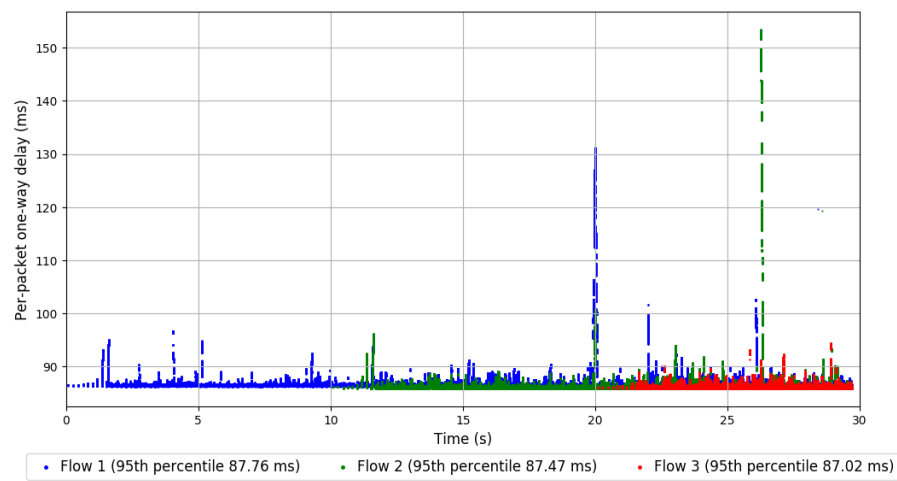
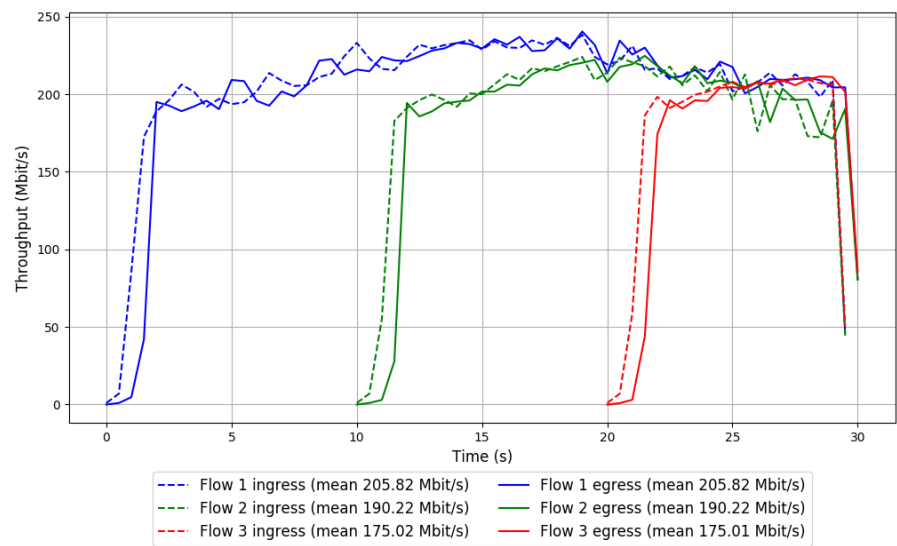


Run 5: Statistics of Indigo

Start at: 2018-09-06 09:36:13
End at: 2018-09-06 09:36:43
Local clock offset: -0.185 ms
Remote clock offset: -0.097 ms

Below is generated by plot.py at 2018-09-06 11:36:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 388.50 Mbit/s
95th percentile per-packet one-way delay: 87.557 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 205.82 Mbit/s
95th percentile per-packet one-way delay: 87.757 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 190.22 Mbit/s
95th percentile per-packet one-way delay: 87.474 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 175.01 Mbit/s
95th percentile per-packet one-way delay: 87.024 ms
Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

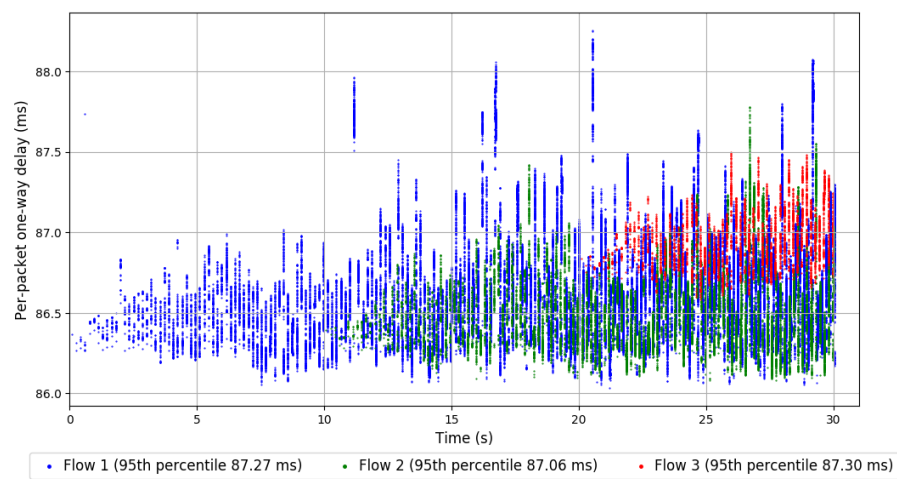
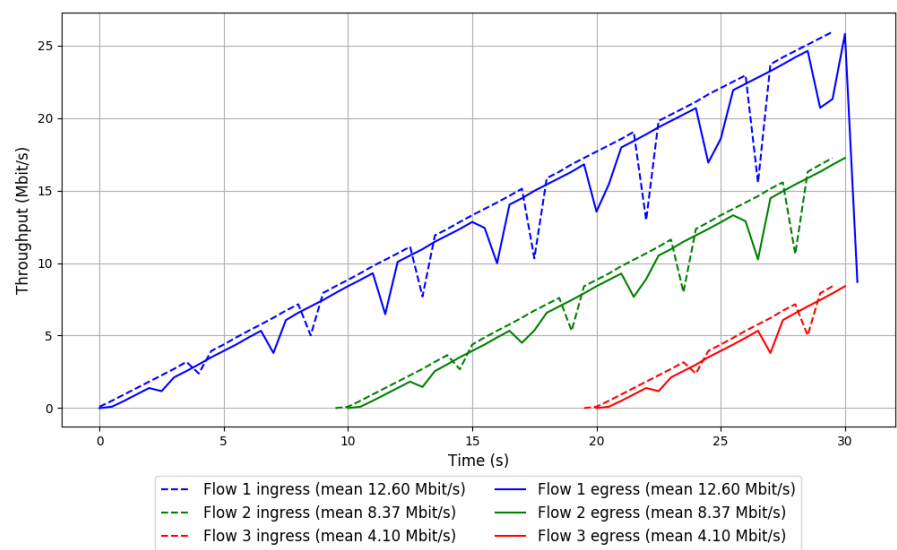


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-06 07:36:46
End at: 2018-09-06 07:37:16
Local clock offset: 0.382 ms
Remote clock offset: 0.157 ms

# Below is generated by plot.py at 2018-09-06 11:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.52 Mbit/s
95th percentile per-packet one-way delay: 87.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 87.267 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 87.064 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 87.299 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

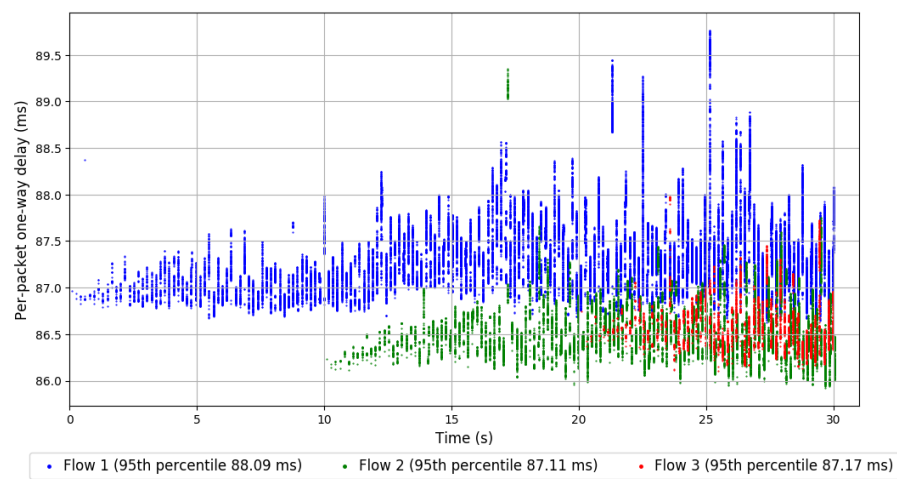
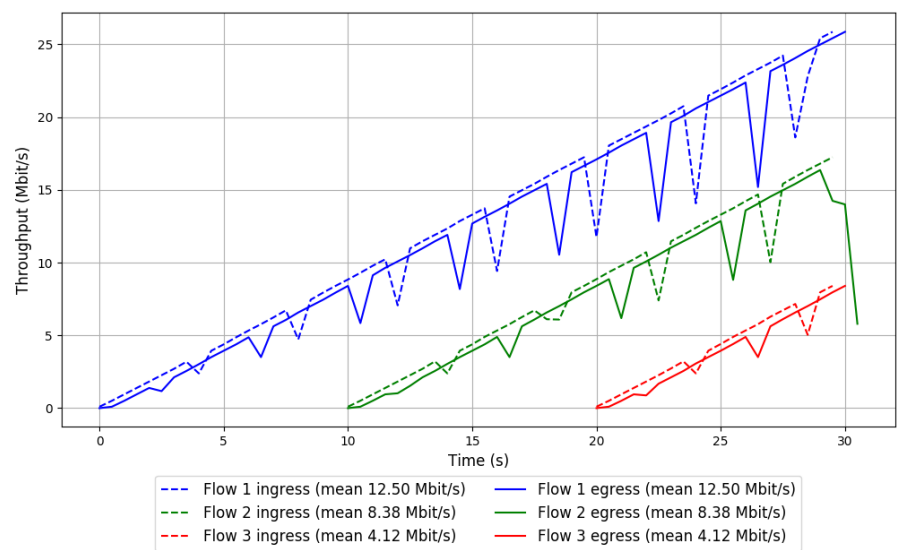


Run 2: Statistics of LEDBAT

Start at: 2018-09-06 08:09:44
End at: 2018-09-06 08:10:14
Local clock offset: -0.135 ms
Remote clock offset: -0.033 ms

Below is generated by plot.py at 2018-09-06 11:36:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.42 Mbit/s
95th percentile per-packet one-way delay: 87.932 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.50 Mbit/s
95th percentile per-packet one-way delay: 88.086 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 87.109 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.12 Mbit/s
95th percentile per-packet one-way delay: 87.170 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

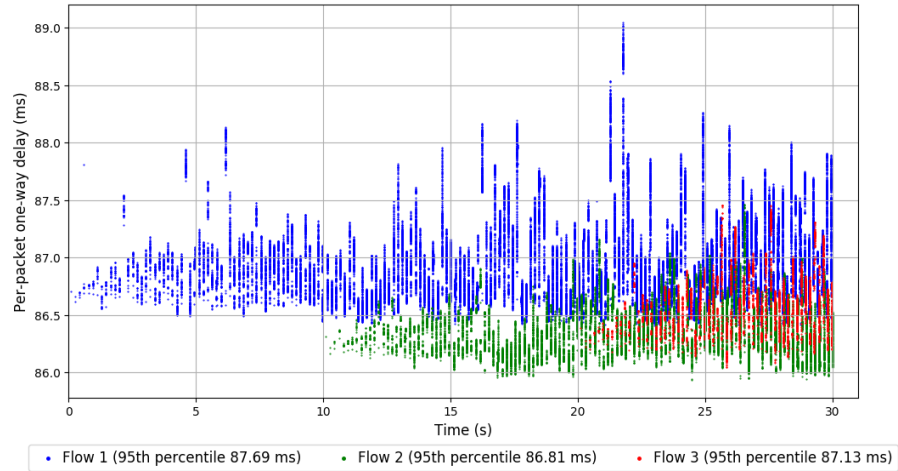
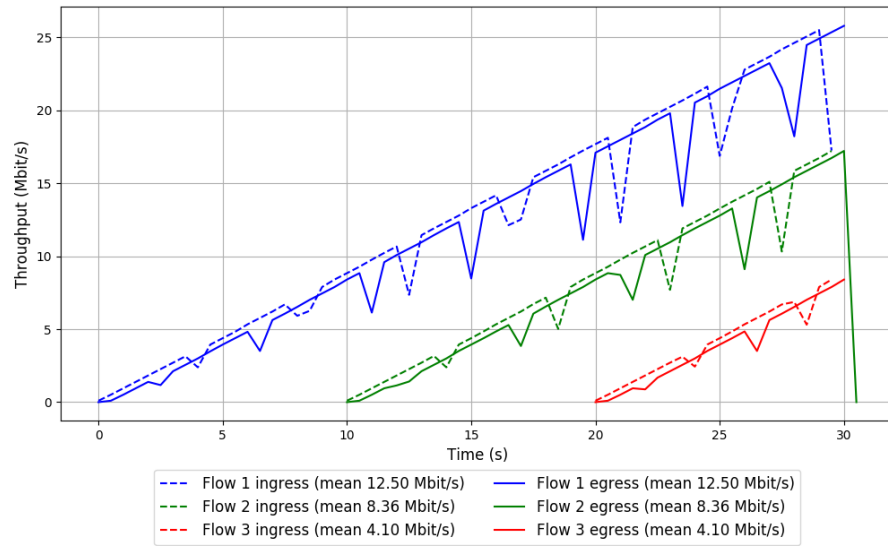


Run 3: Statistics of LEDBAT

Start at: 2018-09-06 08:42:16
End at: 2018-09-06 08:42:46
Local clock offset: -0.226 ms
Remote clock offset: -0.057 ms

Below is generated by plot.py at 2018-09-06 11:36:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.39 Mbit/s
95th percentile per-packet one-way delay: 87.577 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.50 Mbit/s
95th percentile per-packet one-way delay: 87.689 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 86.811 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 87.130 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

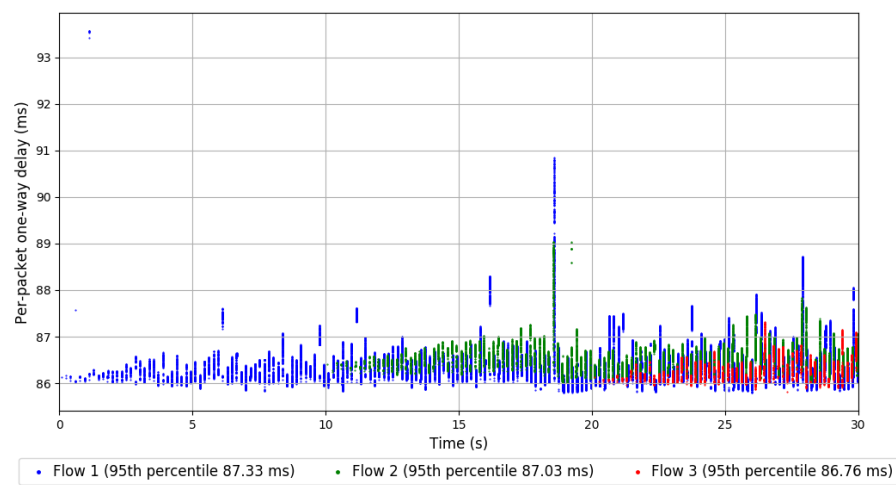
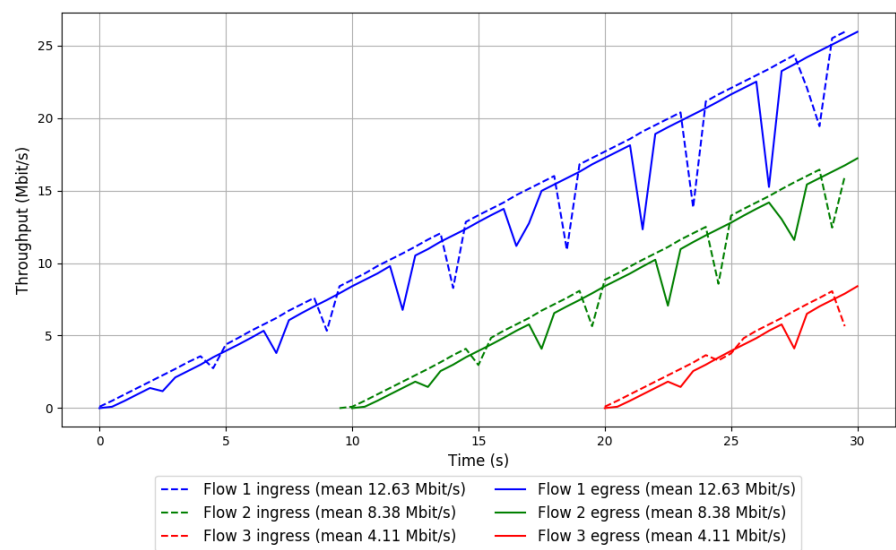


Run 4: Statistics of LEDBAT

Start at: 2018-09-06 09:14:55
End at: 2018-09-06 09:15:25
Local clock offset: -0.139 ms
Remote clock offset: -0.018 ms

Below is generated by plot.py at 2018-09-06 11:36:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.56 Mbit/s
95th percentile per-packet one-way delay: 87.199 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.63 Mbit/s
95th percentile per-packet one-way delay: 87.328 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 87.030 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 86.761 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

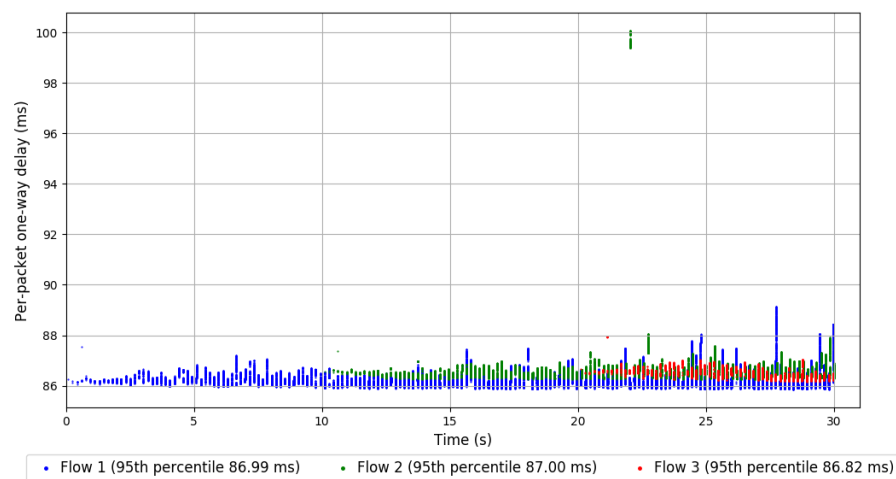
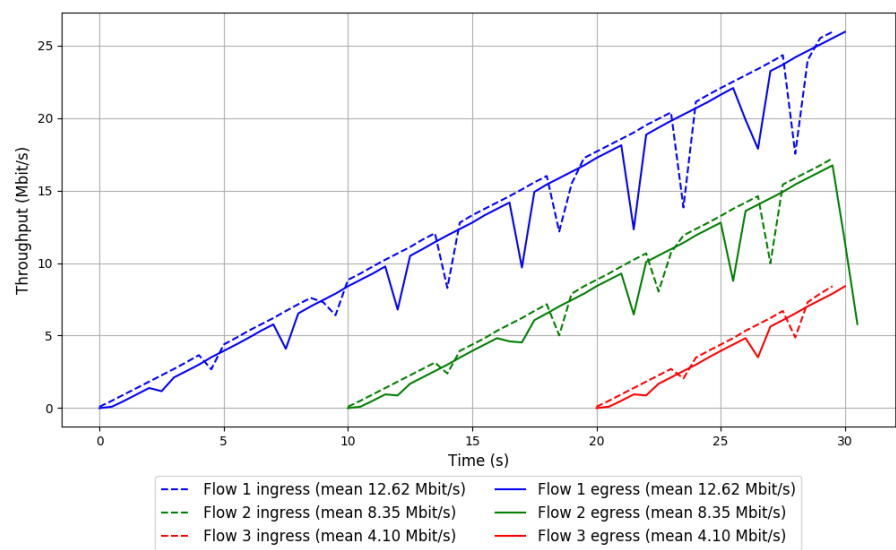


Run 5: Statistics of LEDBAT

Start at: 2018-09-06 09:47:24
End at: 2018-09-06 09:47:54
Local clock offset: -0.05 ms
Remote clock offset: -0.122 ms

Below is generated by plot.py at 2018-09-06 11:36:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.51 Mbit/s
95th percentile per-packet one-way delay: 86.966 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 86.988 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 87.003 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 86.823 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-09-06 07:23:43

End at: 2018-09-06 07:24:13

Local clock offset: 0.595 ms

Remote clock offset: 0.123 ms

Below is generated by plot.py at 2018-09-06 11:36:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 827.19 Mbit/s

95th percentile per-packet one-way delay: 98.038 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 355.50 Mbit/s

95th percentile per-packet one-way delay: 102.371 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 522.15 Mbit/s

95th percentile per-packet one-way delay: 96.050 ms

Loss rate: 0.00%

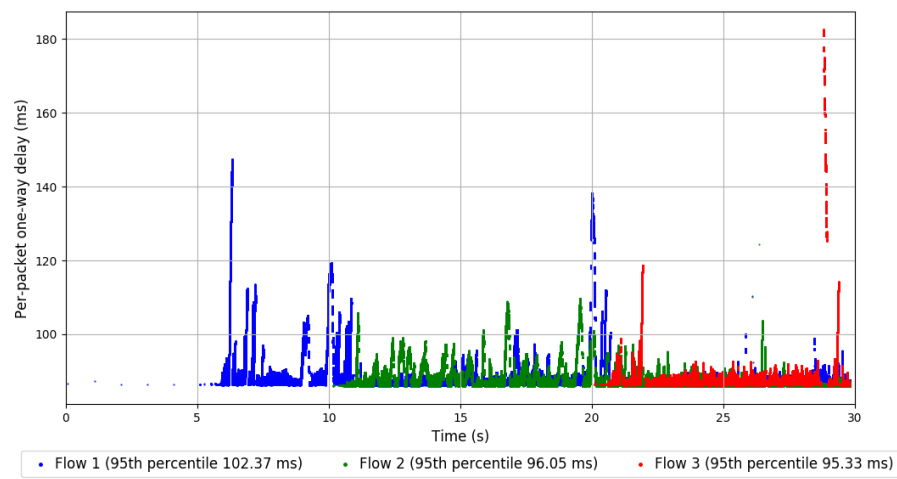
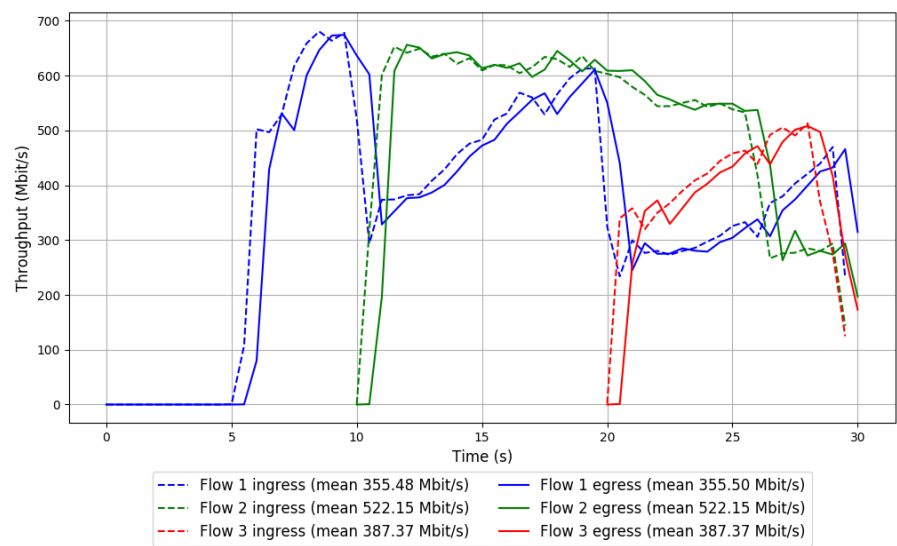
-- Flow 3:

Average throughput: 387.37 Mbit/s

95th percentile per-packet one-way delay: 95.333 ms

Loss rate: 0.00%

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-06 07:56:19

End at: 2018-09-06 07:56:49

Local clock offset: 0.162 ms

Remote clock offset: -0.01 ms

Below is generated by plot.py at 2018-09-06 11:37:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 867.62 Mbit/s

95th percentile per-packet one-way delay: 97.090 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 471.58 Mbit/s

95th percentile per-packet one-way delay: 100.534 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 405.83 Mbit/s

95th percentile per-packet one-way delay: 96.291 ms

Loss rate: 0.00%

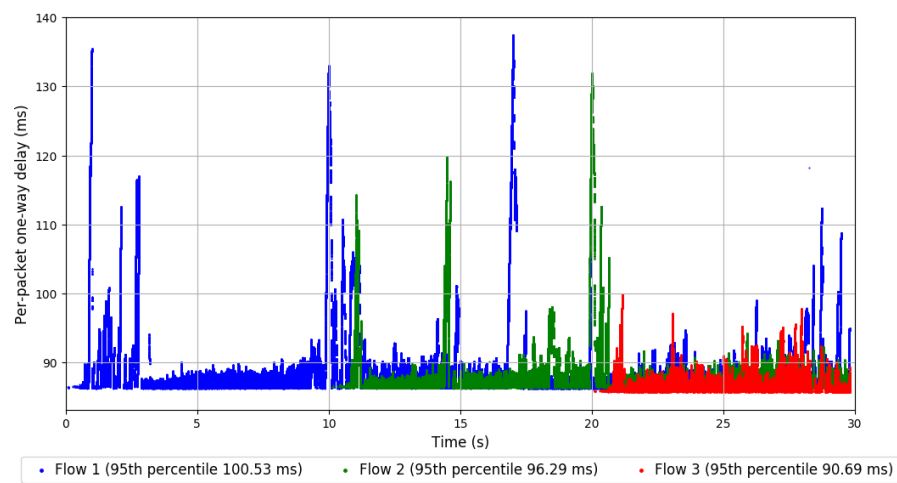
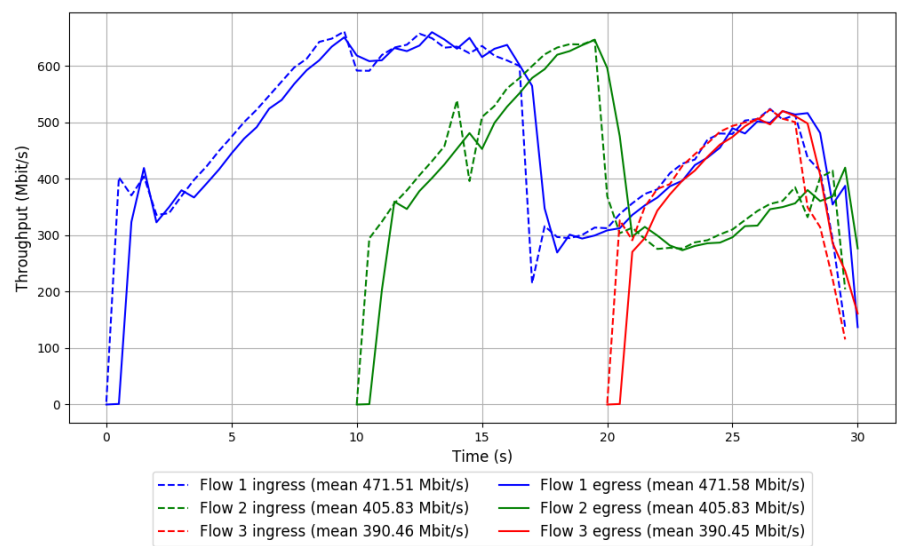
-- Flow 3:

Average throughput: 390.45 Mbit/s

95th percentile per-packet one-way delay: 90.687 ms

Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link

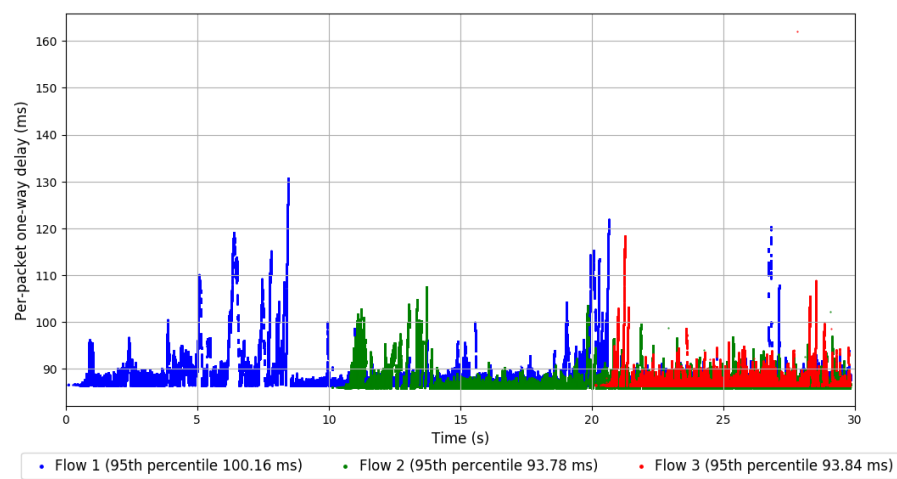
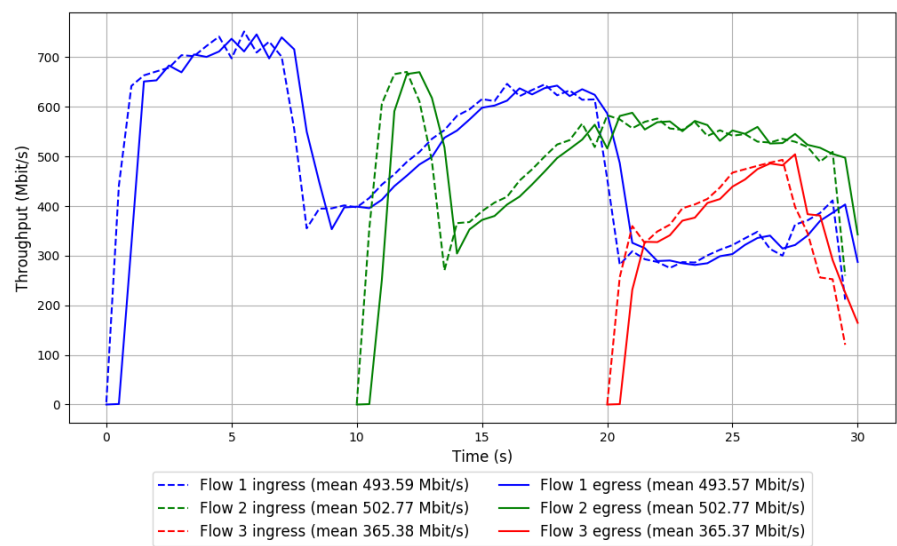


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-06 08:29:06
End at: 2018-09-06 08:29:36
Local clock offset: -0.166 ms
Remote clock offset: -0.055 ms

Below is generated by plot.py at 2018-09-06 11:39:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 945.67 Mbit/s
95th percentile per-packet one-way delay: 96.075 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 493.57 Mbit/s
95th percentile per-packet one-way delay: 100.164 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 502.77 Mbit/s
95th percentile per-packet one-way delay: 93.775 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 365.37 Mbit/s
95th percentile per-packet one-way delay: 93.842 ms
Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link

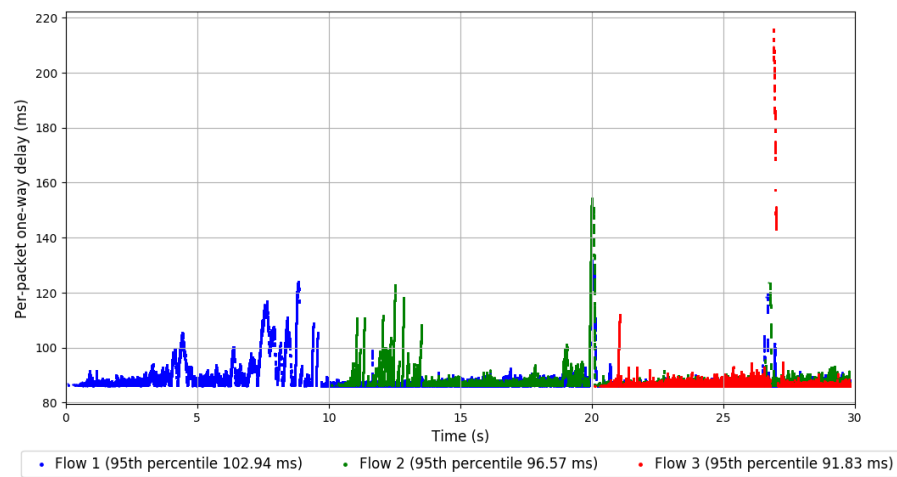
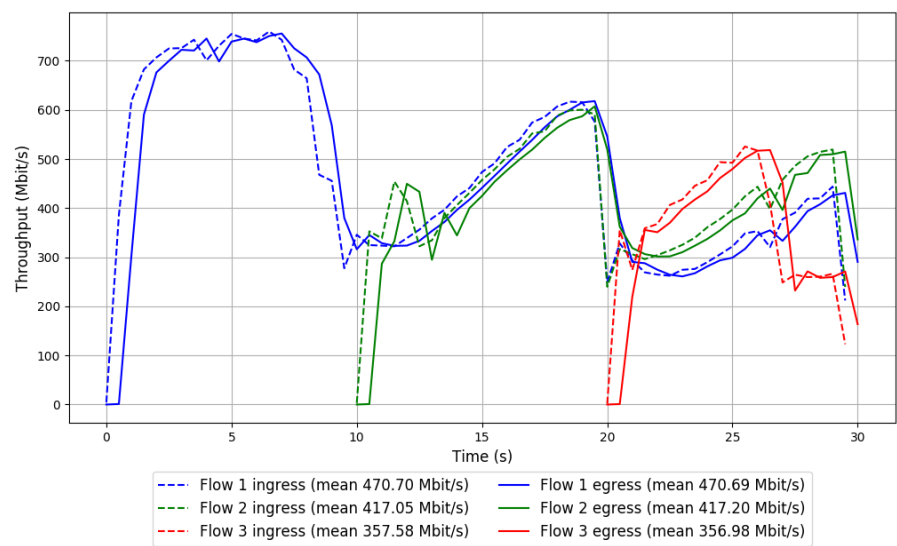


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-06 09:01:47
End at: 2018-09-06 09:02:17
Local clock offset: -0.292 ms
Remote clock offset: -0.042 ms

Below is generated by plot.py at 2018-09-06 11:39:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 863.89 Mbit/s
95th percentile per-packet one-way delay: 100.155 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 470.69 Mbit/s
95th percentile per-packet one-way delay: 102.939 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 417.20 Mbit/s
95th percentile per-packet one-way delay: 96.569 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 356.98 Mbit/s
95th percentile per-packet one-way delay: 91.826 ms
Loss rate: 0.17%

Run 4: Report of Indigo-Muses — Data Link

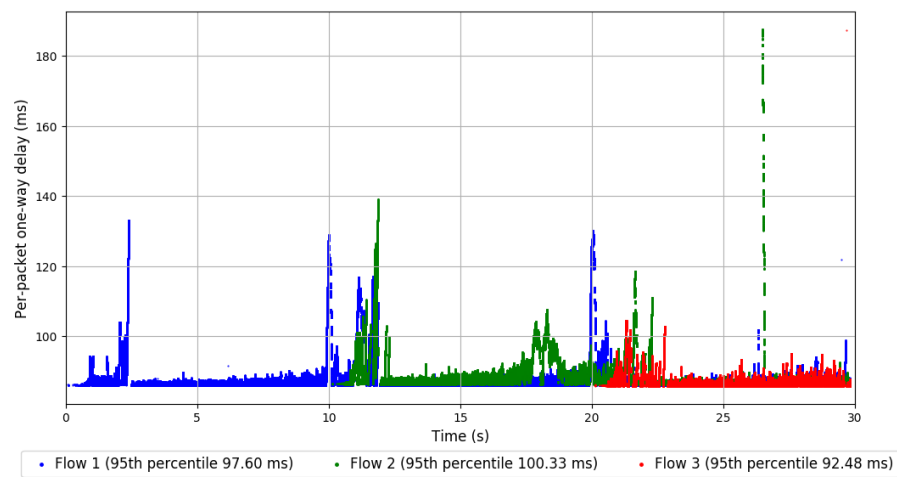
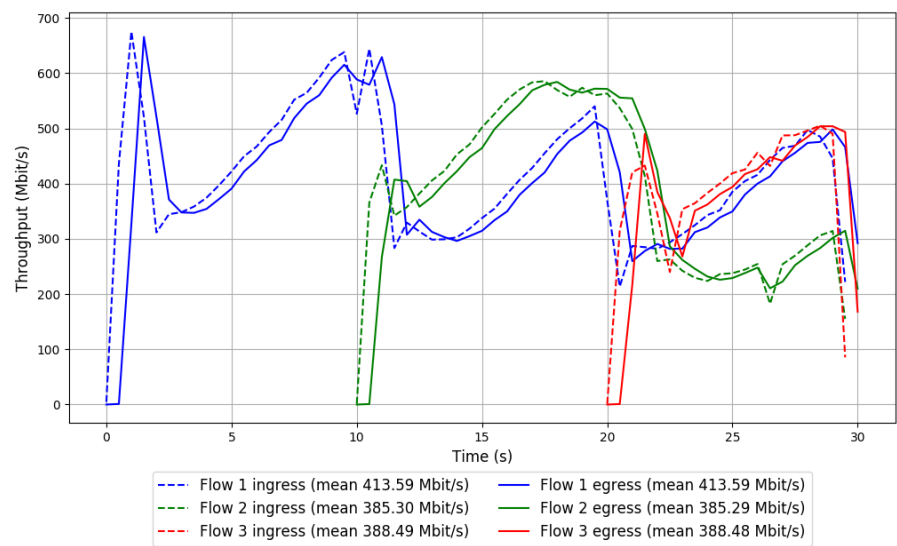


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-06 09:34:17
End at: 2018-09-06 09:34:47
Local clock offset: -0.146 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-09-06 11:39:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 795.65 Mbit/s
95th percentile per-packet one-way delay: 98.298 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 413.59 Mbit/s
95th percentile per-packet one-way delay: 97.600 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 385.29 Mbit/s
95th percentile per-packet one-way delay: 100.327 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 388.48 Mbit/s
95th percentile per-packet one-way delay: 92.478 ms
Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-09-06 07:11:23

End at: 2018-09-06 07:11:53

Local clock offset: 0.208 ms

Remote clock offset: 0.102 ms

Below is generated by plot.py at 2018-09-06 11:47:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 732.16 Mbit/s

95th percentile per-packet one-way delay: 211.664 ms

Loss rate: 3.44%

-- Flow 1:

Average throughput: 444.71 Mbit/s

95th percentile per-packet one-way delay: 220.736 ms

Loss rate: 5.41%

-- Flow 2:

Average throughput: 297.64 Mbit/s

95th percentile per-packet one-way delay: 163.832 ms

Loss rate: 0.33%

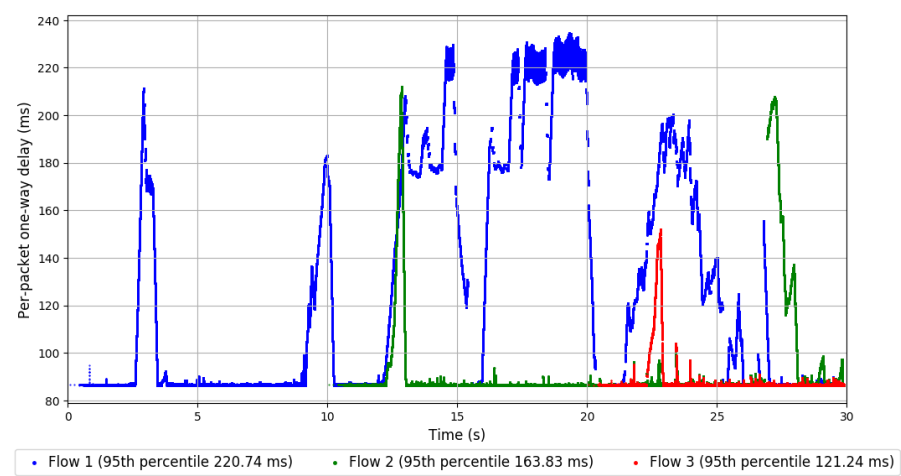
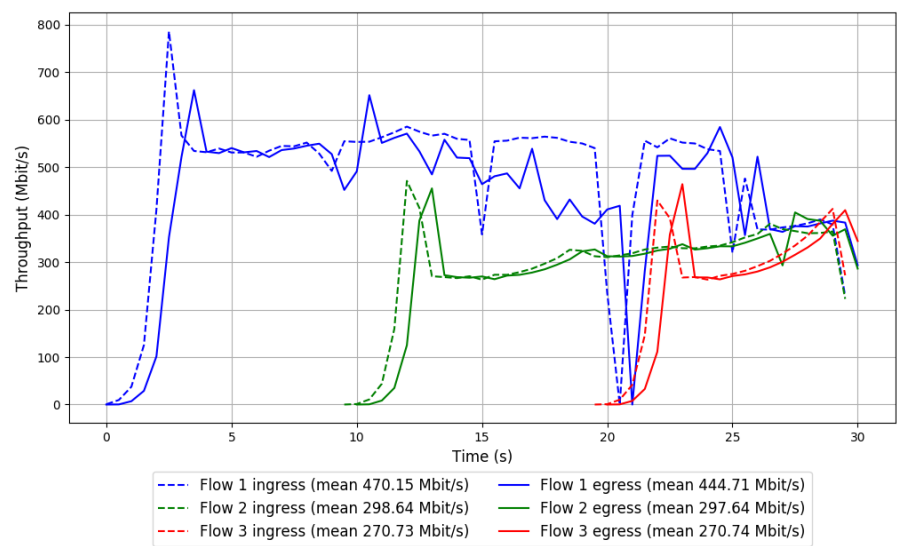
-- Flow 3:

Average throughput: 270.74 Mbit/s

95th percentile per-packet one-way delay: 121.240 ms

Loss rate: 0.00%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-06 07:44:06

End at: 2018-09-06 07:44:36

Local clock offset: 0.671 ms

Remote clock offset: 0.136 ms

Below is generated by plot.py at 2018-09-06 11:55:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 790.05 Mbit/s

95th percentile per-packet one-way delay: 224.117 ms

Loss rate: 8.02%

-- Flow 1:

Average throughput: 451.24 Mbit/s

95th percentile per-packet one-way delay: 225.824 ms

Loss rate: 8.49%

-- Flow 2:

Average throughput: 385.68 Mbit/s

95th percentile per-packet one-way delay: 224.293 ms

Loss rate: 9.52%

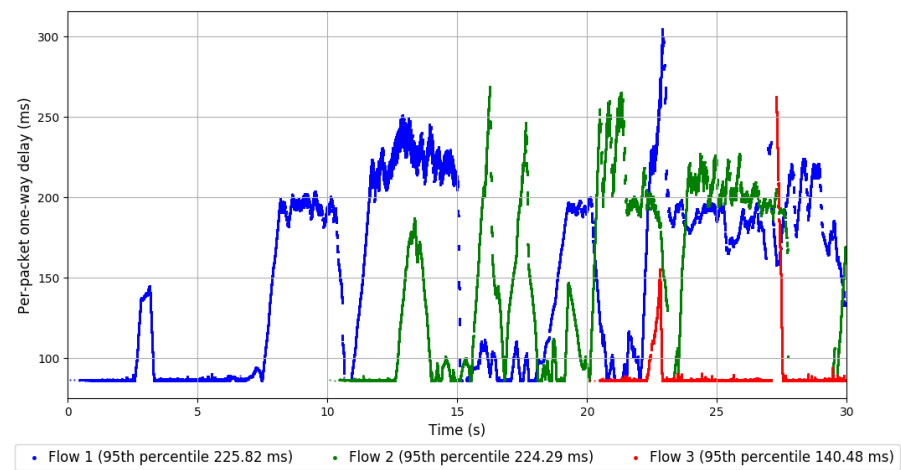
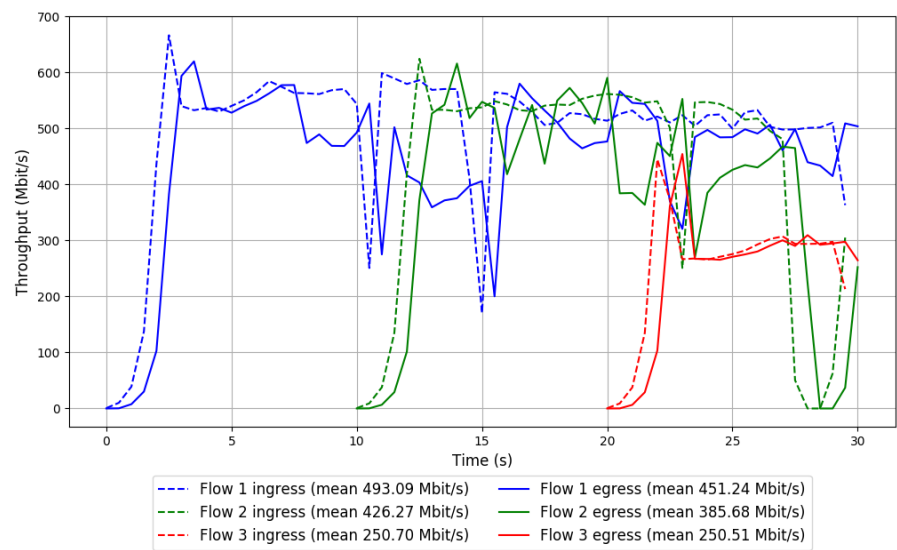
-- Flow 3:

Average throughput: 250.51 Mbit/s

95th percentile per-packet one-way delay: 140.477 ms

Loss rate: 0.09%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-06 08:16:54

End at: 2018-09-06 08:17:24

Local clock offset: -0.165 ms

Remote clock offset: -0.02 ms

Below is generated by plot.py at 2018-09-06 11:55:20

Datalink statistics

-- Total of 3 flows:

Average throughput: 723.57 Mbit/s

95th percentile per-packet one-way delay: 195.312 ms

Loss rate: 2.17%

-- Flow 1:

Average throughput: 388.96 Mbit/s

95th percentile per-packet one-way delay: 201.257 ms

Loss rate: 3.23%

-- Flow 2:

Average throughput: 313.77 Mbit/s

95th percentile per-packet one-way delay: 104.618 ms

Loss rate: 0.35%

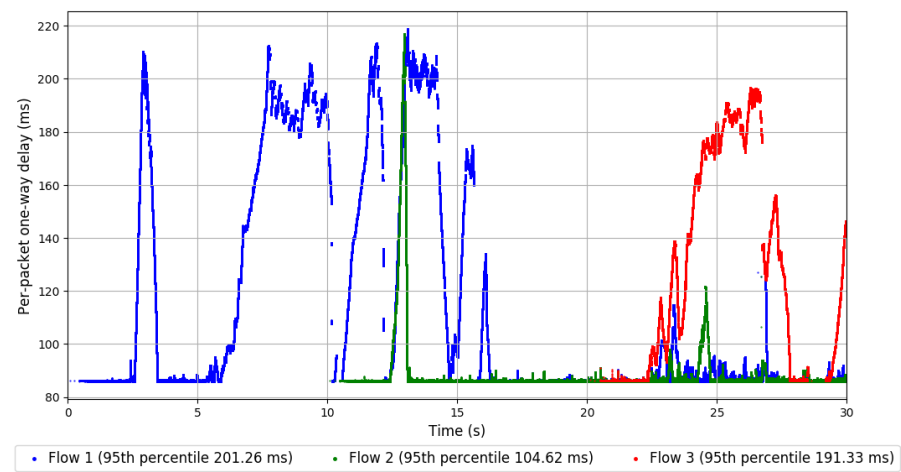
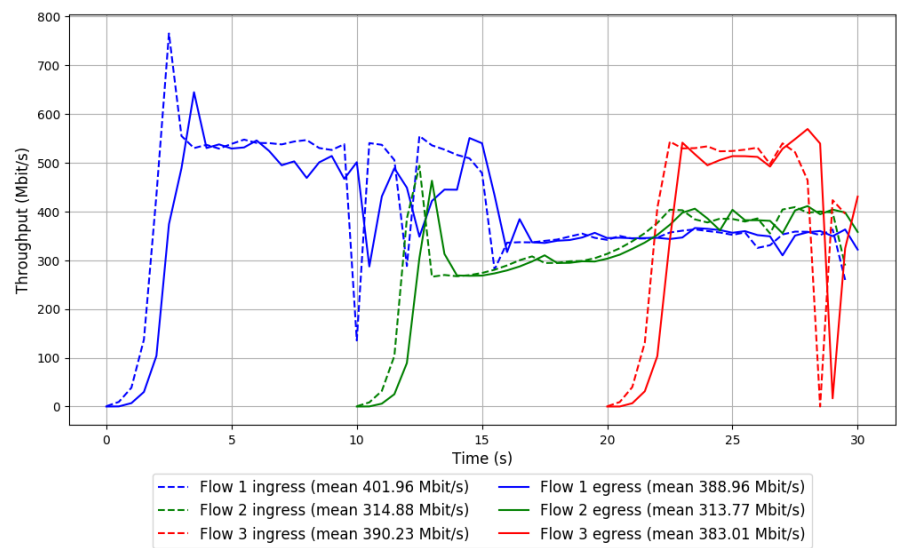
-- Flow 3:

Average throughput: 383.01 Mbit/s

95th percentile per-packet one-way delay: 191.331 ms

Loss rate: 1.83%

Run 3: Report of PCC-Allegro — Data Link

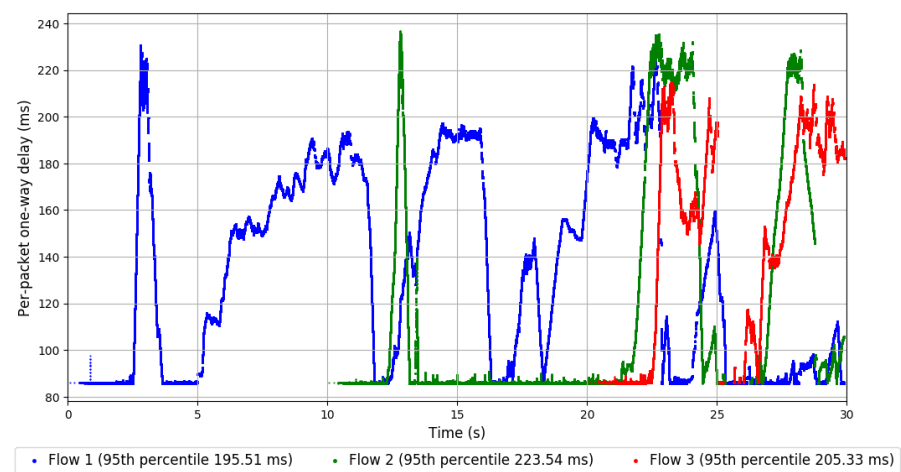
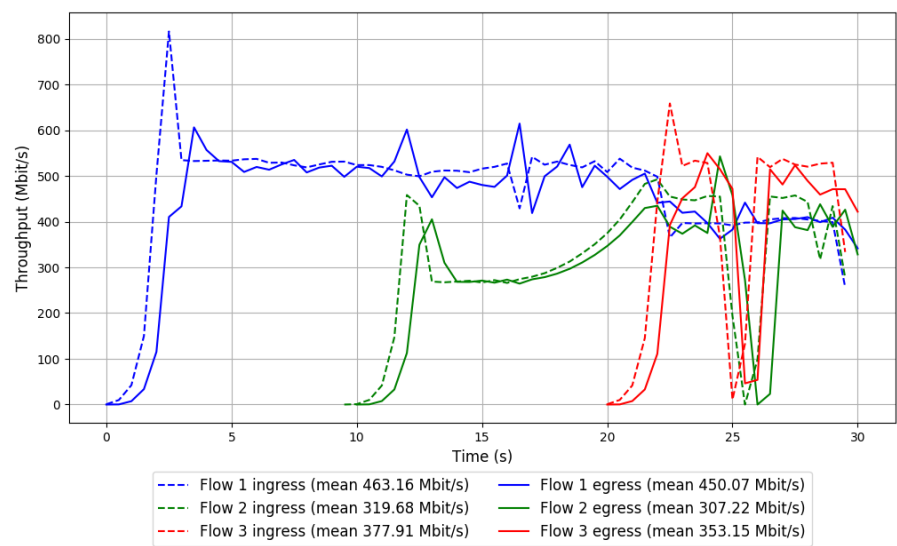


Run 4: Statistics of PCC-Allegro

Start at: 2018-09-06 08:49:27
End at: 2018-09-06 08:49:57
Local clock offset: -0.028 ms
Remote clock offset: -0.021 ms

Below is generated by plot.py at 2018-09-06 12:03:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 770.55 Mbit/s
95th percentile per-packet one-way delay: 212.710 ms
Loss rate: 3.73%
-- Flow 1:
Average throughput: 450.07 Mbit/s
95th percentile per-packet one-way delay: 195.514 ms
Loss rate: 2.83%
-- Flow 2:
Average throughput: 307.22 Mbit/s
95th percentile per-packet one-way delay: 223.545 ms
Loss rate: 4.02%
-- Flow 3:
Average throughput: 353.15 Mbit/s
95th percentile per-packet one-way delay: 205.328 ms
Loss rate: 6.57%

Run 4: Report of PCC-Allegro — Data Link

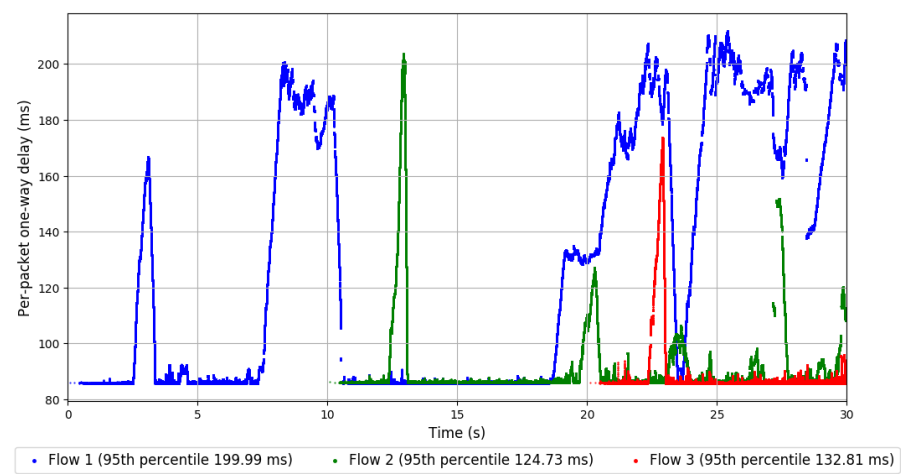
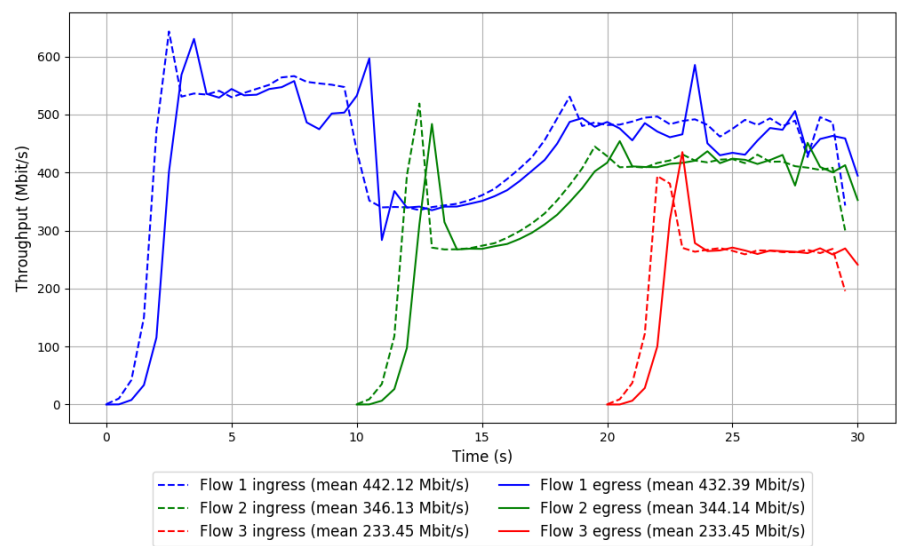


Run 5: Statistics of PCC-Allegro

Start at: 2018-09-06 09:22:02
End at: 2018-09-06 09:22:32
Local clock offset: -0.051 ms
Remote clock offset: -0.022 ms

Below is generated by plot.py at 2018-09-06 12:03:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 737.90 Mbit/s
95th percentile per-packet one-way delay: 196.296 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 432.39 Mbit/s
95th percentile per-packet one-way delay: 199.986 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 344.14 Mbit/s
95th percentile per-packet one-way delay: 124.728 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 233.45 Mbit/s
95th percentile per-packet one-way delay: 132.813 ms
Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link

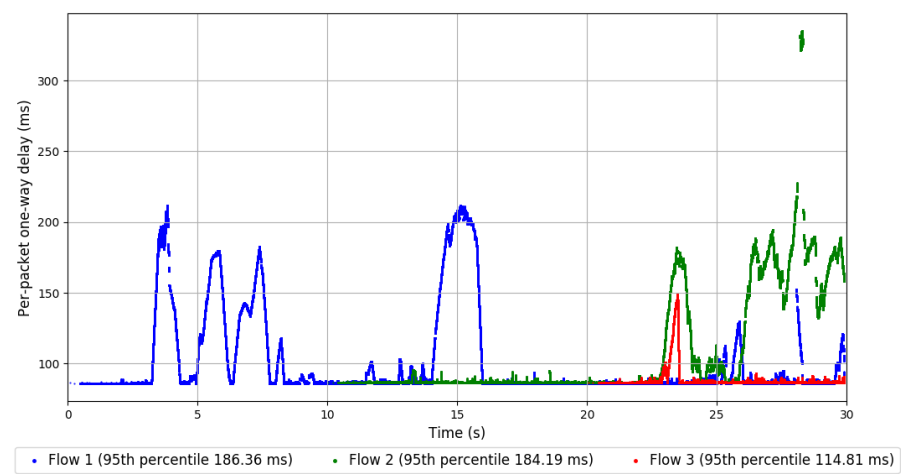
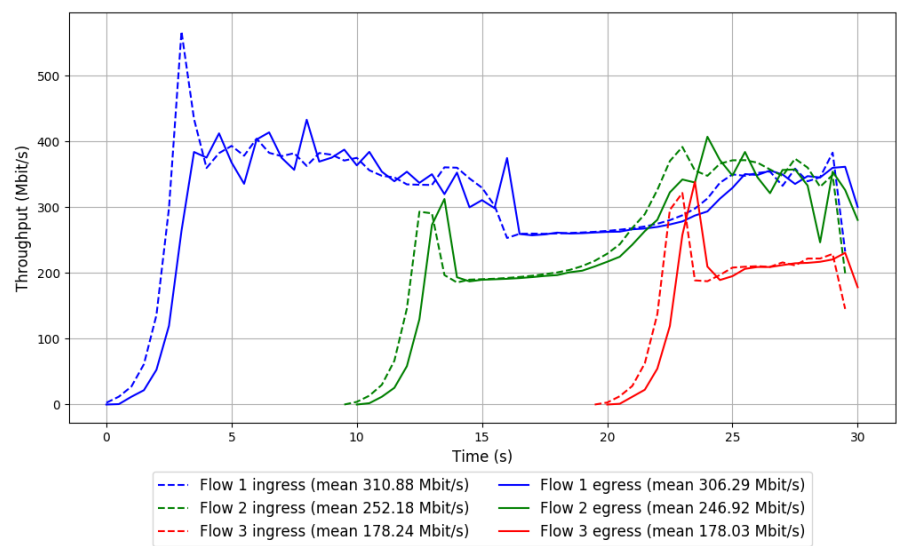


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-06 07:38:02
End at: 2018-09-06 07:38:32
Local clock offset: 0.408 ms
Remote clock offset: 0.138 ms

# Below is generated by plot.py at 2018-09-06 12:03:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.75 Mbit/s
95th percentile per-packet one-way delay: 182.723 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 306.29 Mbit/s
95th percentile per-packet one-way delay: 186.359 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 246.92 Mbit/s
95th percentile per-packet one-way delay: 184.186 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 178.03 Mbit/s
95th percentile per-packet one-way delay: 114.813 ms
Loss rate: 0.13%
```

Run 1: Report of PCC-Expr — Data Link

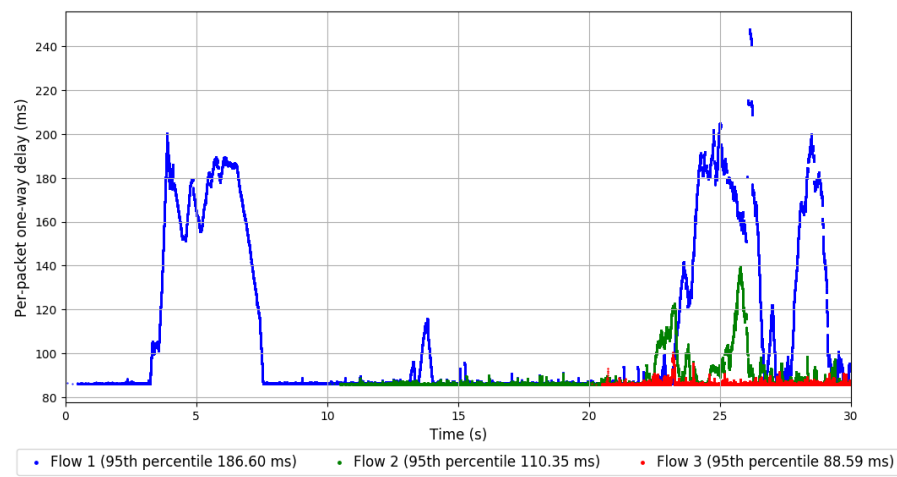
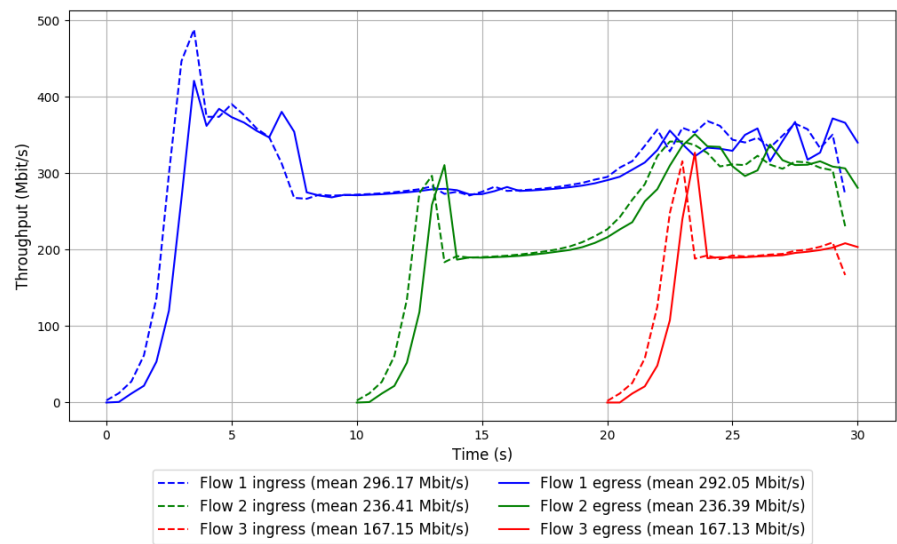


Run 2: Statistics of PCC-Expr

Start at: 2018-09-06 08:11:00
End at: 2018-09-06 08:11:30
Local clock offset: -0.087 ms
Remote clock offset: -0.026 ms

Below is generated by plot.py at 2018-09-06 12:03:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 504.44 Mbit/s
95th percentile per-packet one-way delay: 183.102 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 292.05 Mbit/s
95th percentile per-packet one-way delay: 186.597 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 236.39 Mbit/s
95th percentile per-packet one-way delay: 110.348 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 167.13 Mbit/s
95th percentile per-packet one-way delay: 88.591 ms
Loss rate: 0.00%

Run 2: Report of PCC-Expr — Data Link

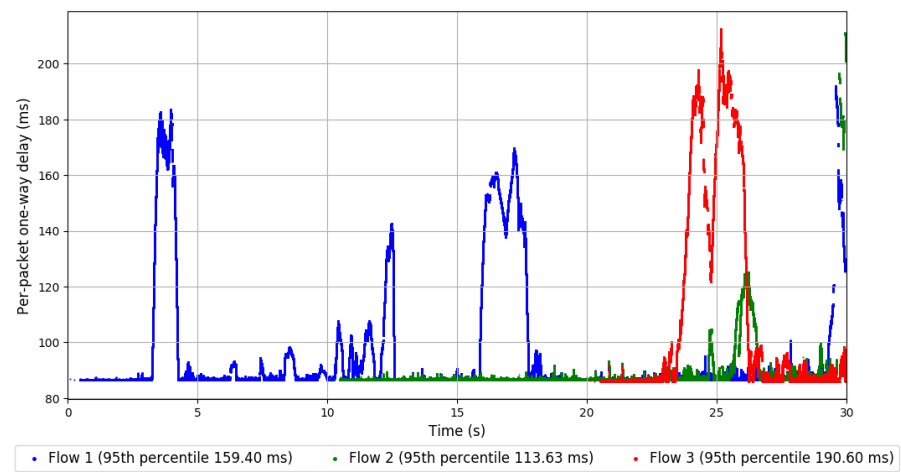
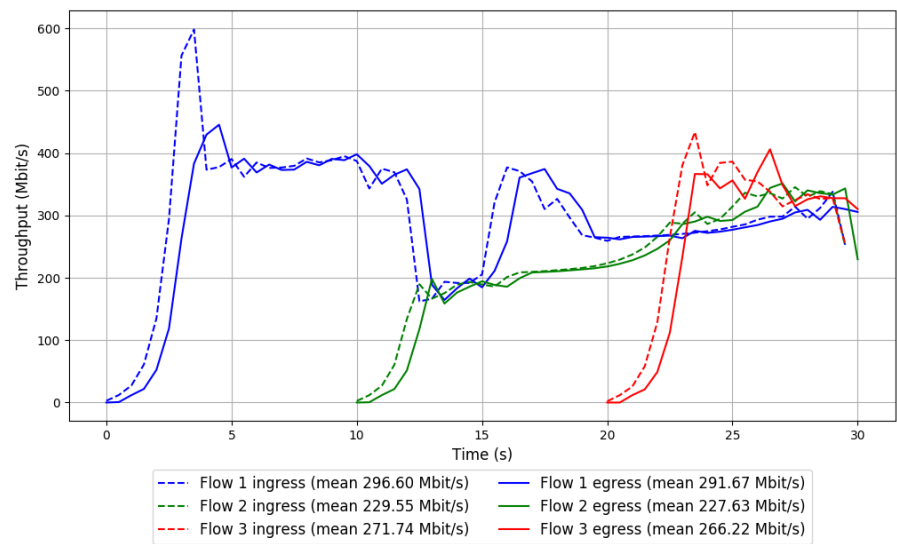


Run 3: Statistics of PCC-Expr

Start at: 2018-09-06 08:43:32
End at: 2018-09-06 08:44:02
Local clock offset: -0.282 ms
Remote clock offset: -0.039 ms

Below is generated by plot.py at 2018-09-06 12:03:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 530.88 Mbit/s
95th percentile per-packet one-way delay: 169.460 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 291.67 Mbit/s
95th percentile per-packet one-way delay: 159.400 ms
Loss rate: 1.66%
-- Flow 2:
Average throughput: 227.63 Mbit/s
95th percentile per-packet one-way delay: 113.629 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 266.22 Mbit/s
95th percentile per-packet one-way delay: 190.603 ms
Loss rate: 2.03%

Run 3: Report of PCC-Expr — Data Link

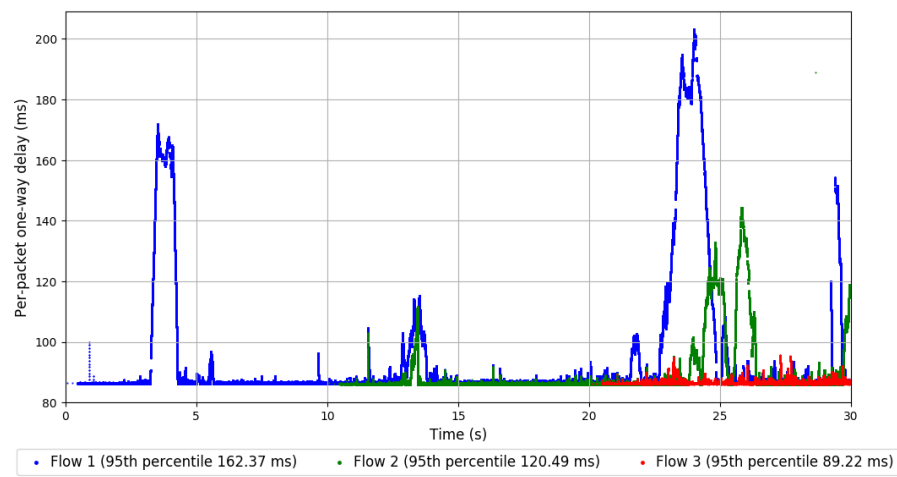
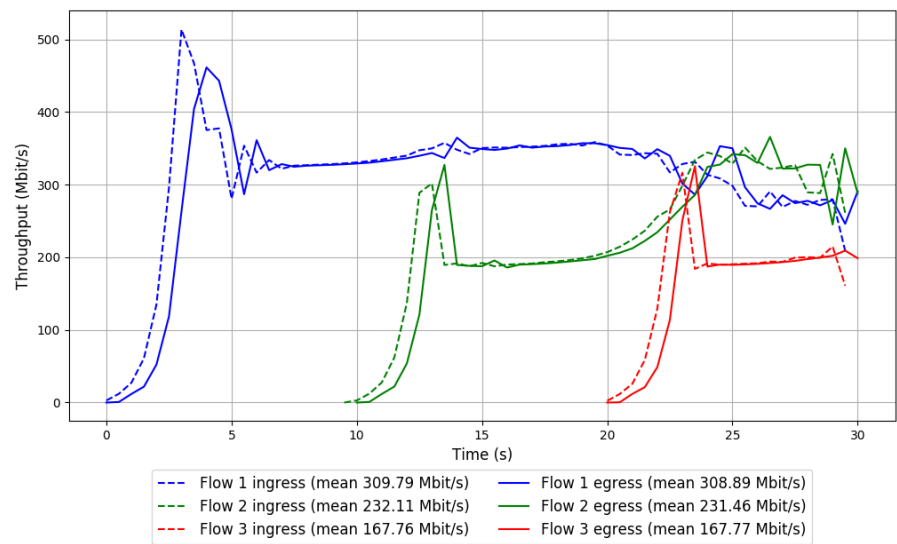


Run 4: Statistics of PCC-Expr

Start at: 2018-09-06 09:16:11
End at: 2018-09-06 09:16:41
Local clock offset: -0.263 ms
Remote clock offset: -0.066 ms

Below is generated by plot.py at 2018-09-06 12:05:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 518.24 Mbit/s
95th percentile per-packet one-way delay: 142.783 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 308.89 Mbit/s
95th percentile per-packet one-way delay: 162.371 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 231.46 Mbit/s
95th percentile per-packet one-way delay: 120.490 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 167.77 Mbit/s
95th percentile per-packet one-way delay: 89.220 ms
Loss rate: 0.00%

Run 4: Report of PCC-Expr — Data Link

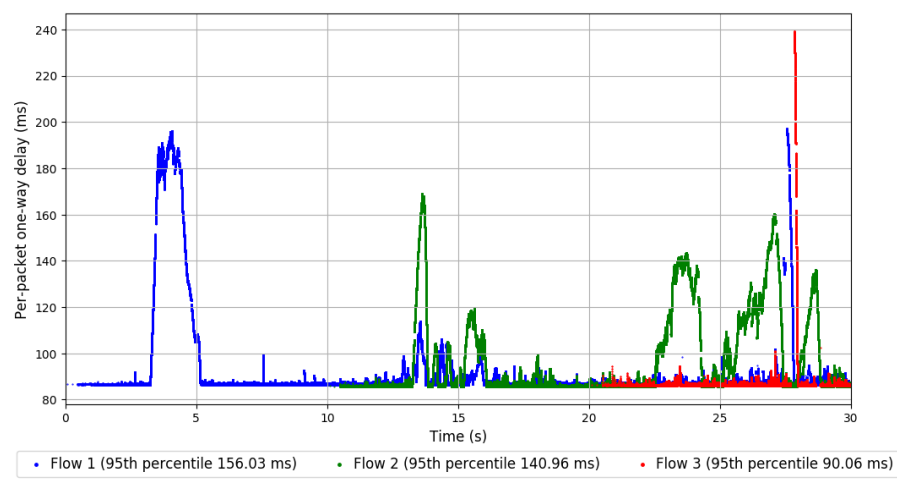
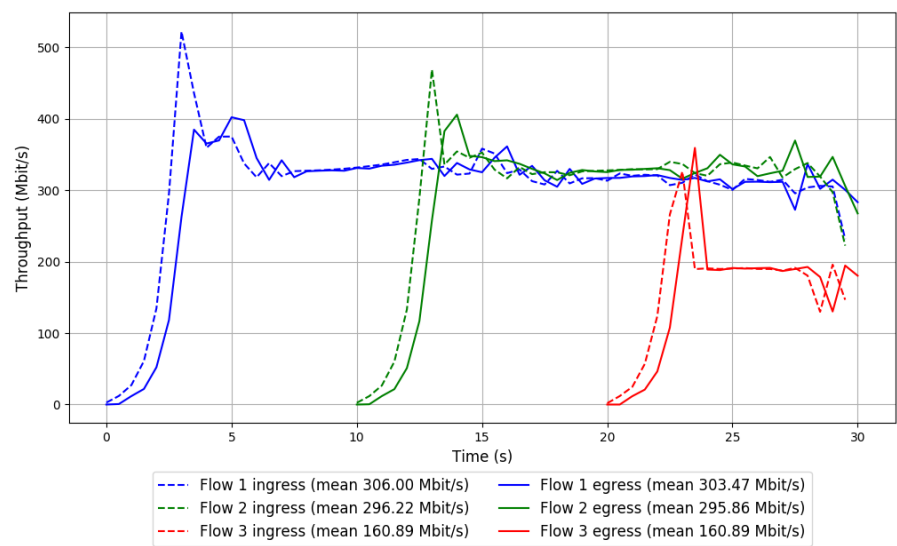


Run 5: Statistics of PCC-Expr

Start at: 2018-09-06 09:48:40
End at: 2018-09-06 09:49:10
Local clock offset: 0.016 ms
Remote clock offset: -0.082 ms

Below is generated by plot.py at 2018-09-06 12:13:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 553.30 Mbit/s
95th percentile per-packet one-way delay: 141.786 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 303.47 Mbit/s
95th percentile per-packet one-way delay: 156.034 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 295.86 Mbit/s
95th percentile per-packet one-way delay: 140.963 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 160.89 Mbit/s
95th percentile per-packet one-way delay: 90.055 ms
Loss rate: 0.00%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-06 07:31:38

End at: 2018-09-06 07:32:08

Local clock offset: 0.615 ms

Remote clock offset: 0.099 ms

Below is generated by plot.py at 2018-09-06 12:13:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 41.40 Mbit/s

95th percentile per-packet one-way delay: 86.674 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 86.049 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 45.97 Mbit/s

95th percentile per-packet one-way delay: 86.696 ms

Loss rate: 0.00%

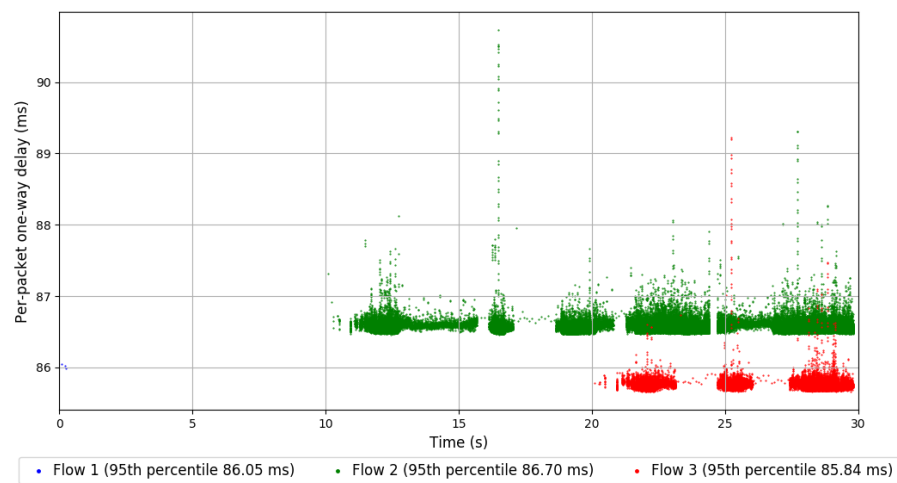
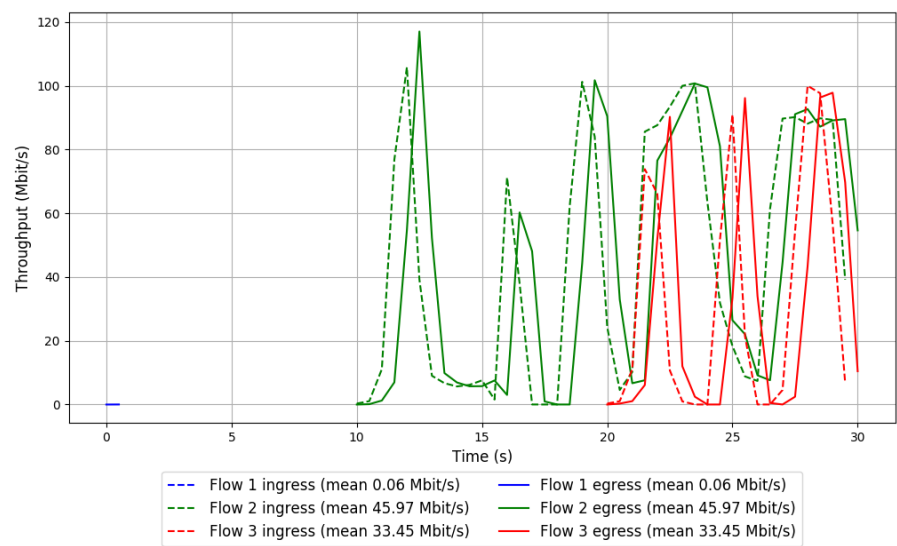
-- Flow 3:

Average throughput: 33.45 Mbit/s

95th percentile per-packet one-way delay: 85.844 ms

Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link

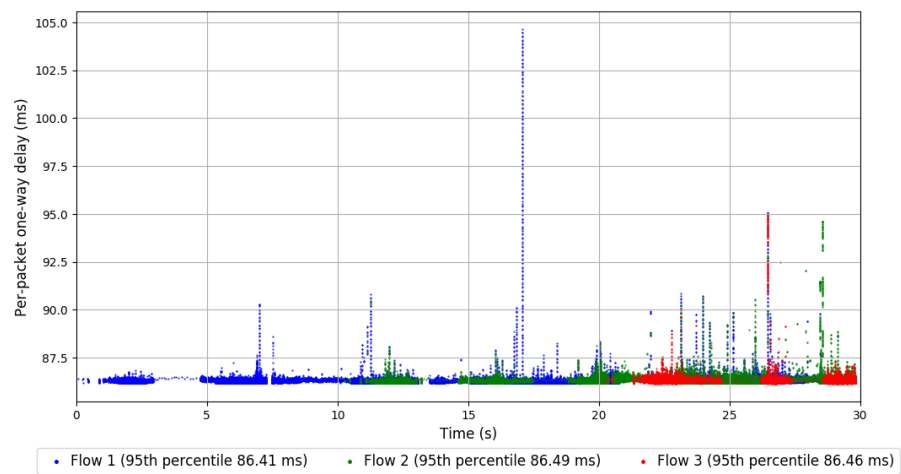
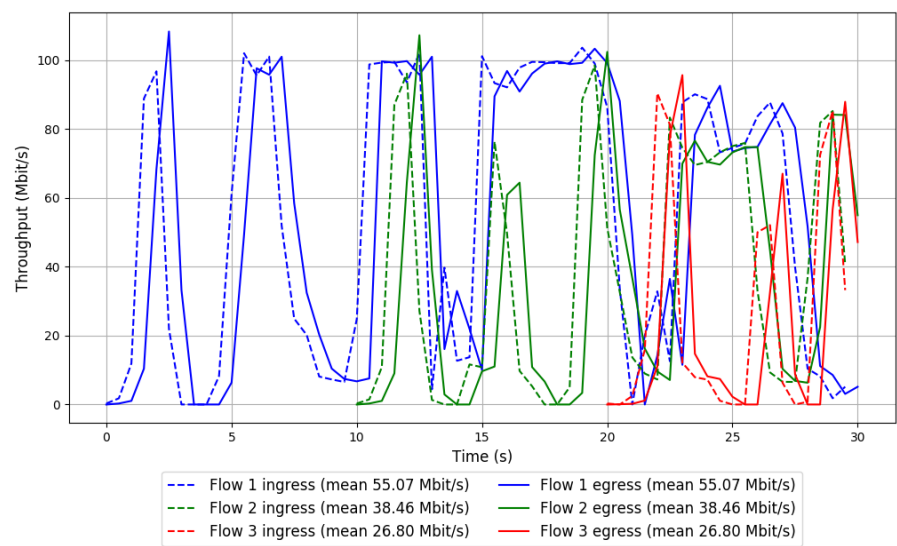


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-06 08:04:25
End at: 2018-09-06 08:04:55
Local clock offset: 0.123 ms
Remote clock offset: -0.081 ms

Below is generated by plot.py at 2018-09-06 12:13:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.30 Mbit/s
95th percentile per-packet one-way delay: 86.437 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.07 Mbit/s
95th percentile per-packet one-way delay: 86.408 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.46 Mbit/s
95th percentile per-packet one-way delay: 86.489 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.80 Mbit/s
95th percentile per-packet one-way delay: 86.462 ms
Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link

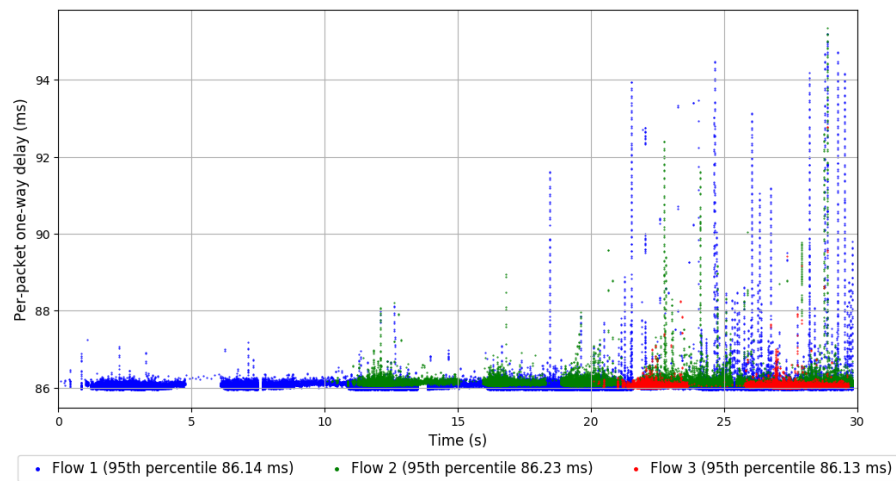
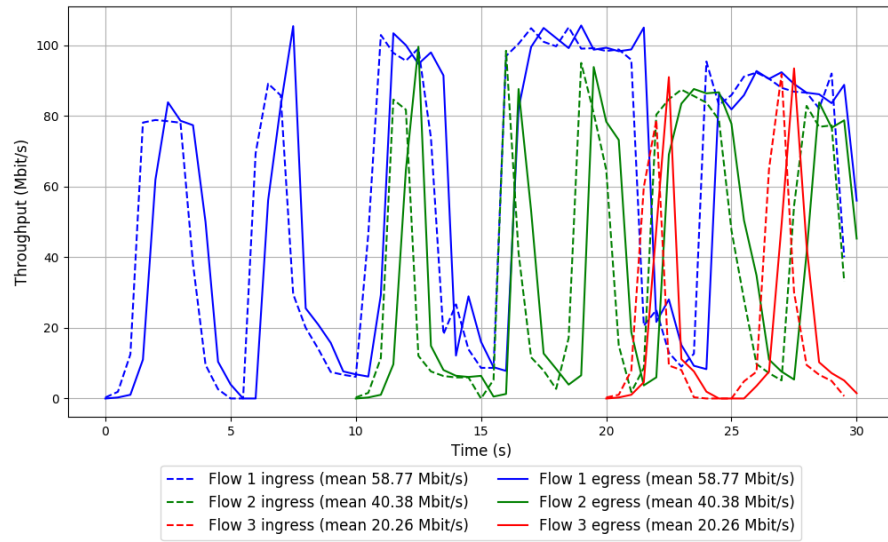


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-06 08:37:11
End at: 2018-09-06 08:37:41
Local clock offset: -0.112 ms
Remote clock offset: -0.049 ms

Below is generated by plot.py at 2018-09-06 12:13:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.06 Mbit/s
95th percentile per-packet one-way delay: 86.184 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.77 Mbit/s
95th percentile per-packet one-way delay: 86.144 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.38 Mbit/s
95th percentile per-packet one-way delay: 86.232 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.26 Mbit/s
95th percentile per-packet one-way delay: 86.130 ms
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

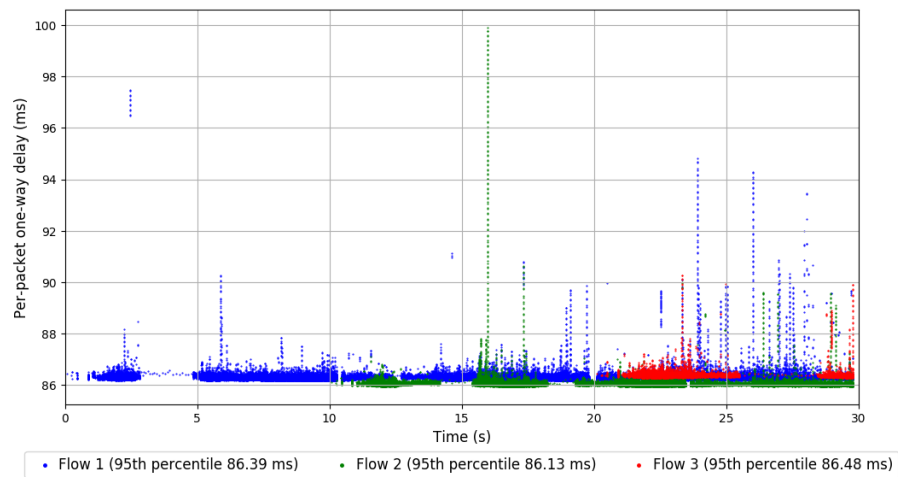
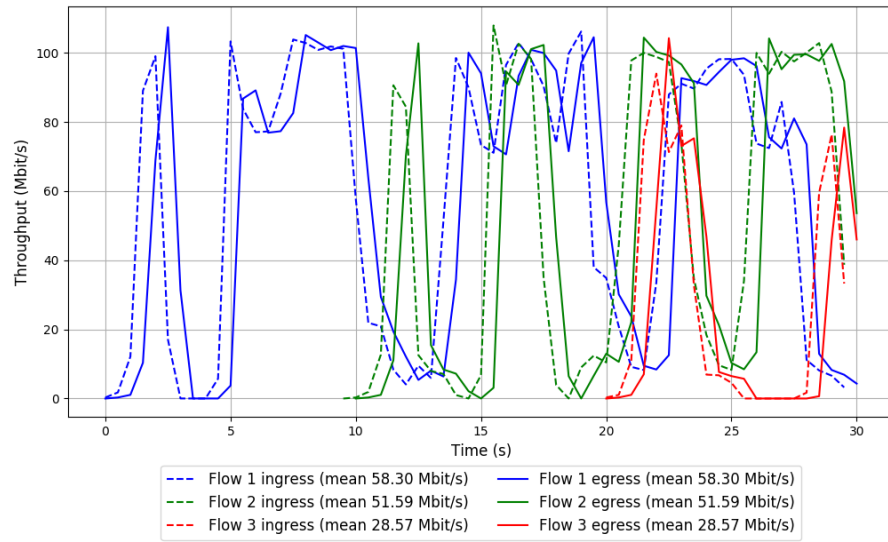


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-06 09:09:45
End at: 2018-09-06 09:10:15
Local clock offset: -0.172 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-09-06 12:13:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 101.83 Mbit/s
95th percentile per-packet one-way delay: 86.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.30 Mbit/s
95th percentile per-packet one-way delay: 86.392 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 51.59 Mbit/s
95th percentile per-packet one-way delay: 86.128 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.57 Mbit/s
95th percentile per-packet one-way delay: 86.481 ms
Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link

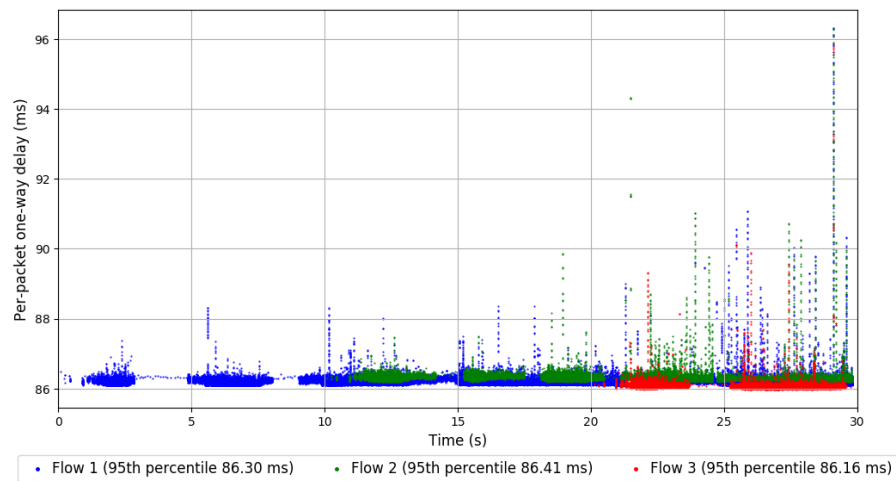
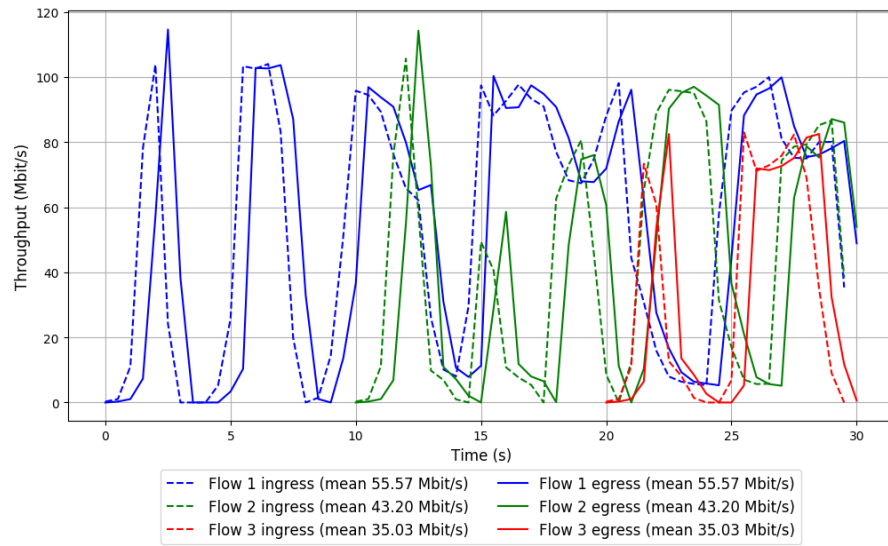


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-06 09:42:14
End at: 2018-09-06 09:42:44
Local clock offset: -0.313 ms
Remote clock offset: -0.085 ms

Below is generated by plot.py at 2018-09-06 12:13:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 86.356 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.57 Mbit/s
95th percentile per-packet one-way delay: 86.296 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.20 Mbit/s
95th percentile per-packet one-way delay: 86.407 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.03 Mbit/s
95th percentile per-packet one-way delay: 86.155 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

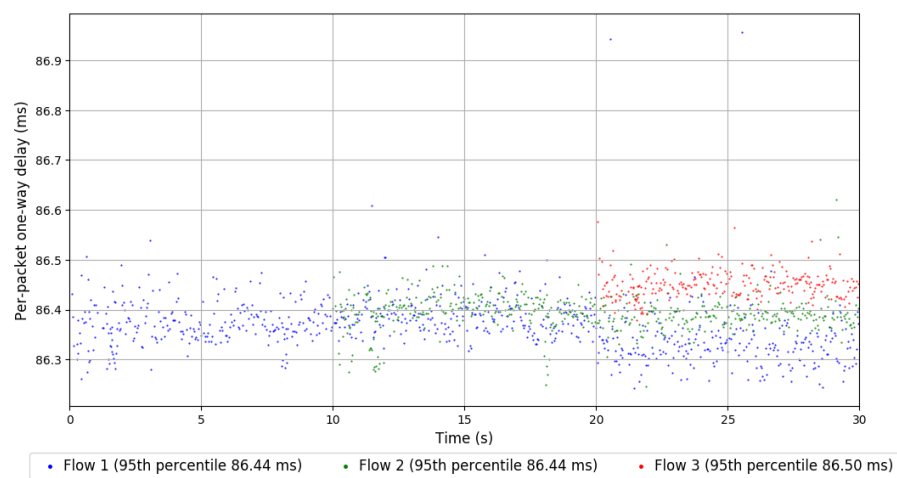
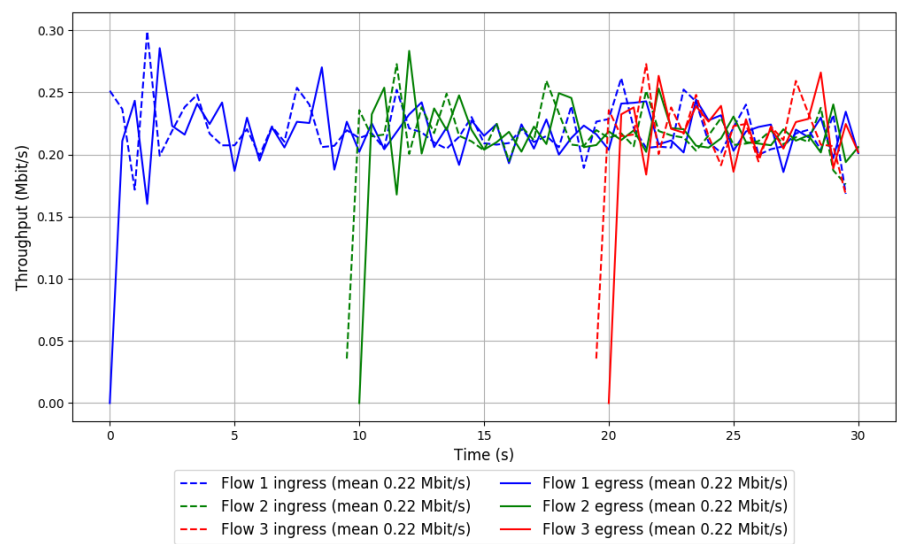


```
Run 1: Statistics of SReAM

Start at: 2018-09-06 07:16:52
End at: 2018-09-06 07:17:22
Local clock offset: 0.435 ms
Remote clock offset: 0.093 ms

# Below is generated by plot.py at 2018-09-06 12:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.470 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.445 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.441 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.497 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

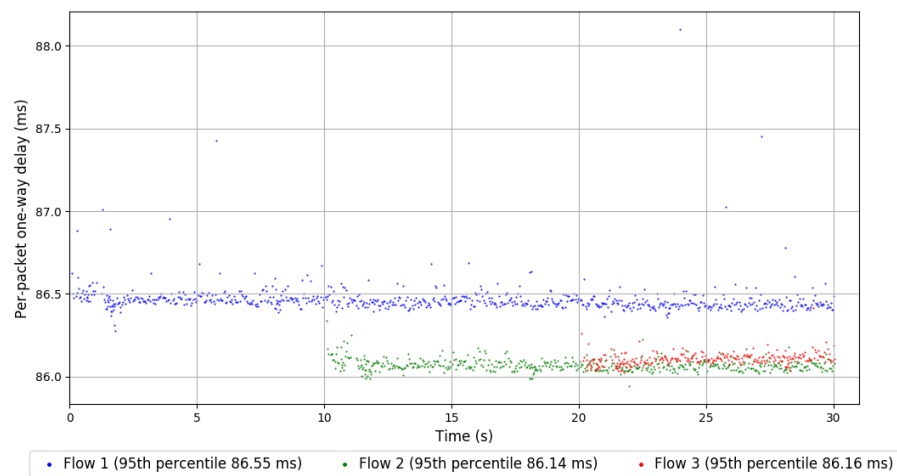
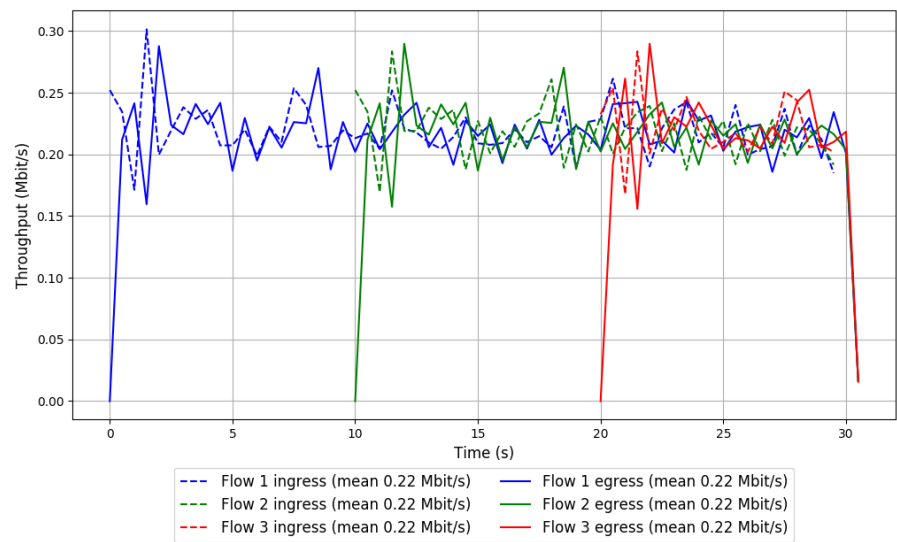


```
Run 2: Statistics of SReAM

Start at: 2018-09-06 07:49:32
End at: 2018-09-06 07:50:02
Local clock offset: 0.667 ms
Remote clock offset: 0.134 ms

# Below is generated by plot.py at 2018-09-06 12:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.515 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.547 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.137 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.164 ms
Loss rate: 0.00%
```


Run 2: Report of SReAM — Data Link

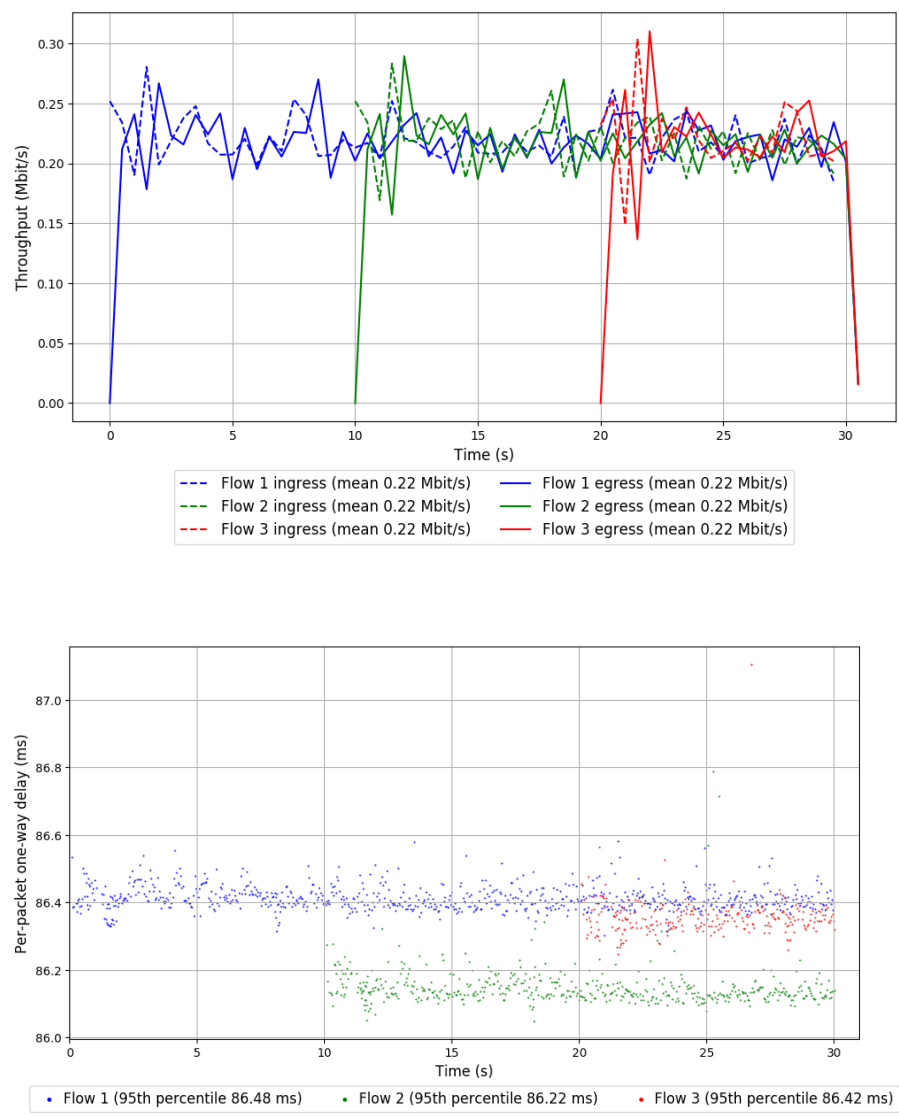


Run 3: Statistics of SReAM

Start at: 2018-09-06 08:22:16
End at: 2018-09-06 08:22:46
Local clock offset: 0.022 ms
Remote clock offset: -0.046 ms

Below is generated by plot.py at 2018-09-06 12:13:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.459 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.478 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.223 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.416 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

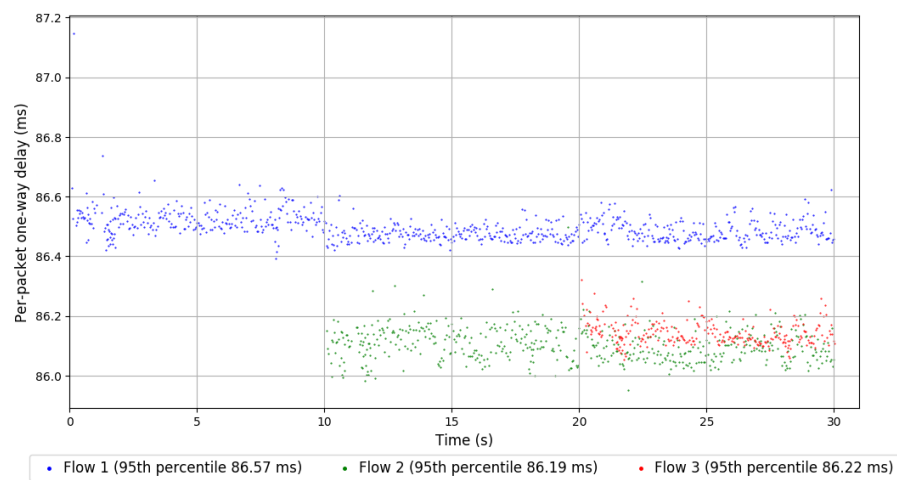
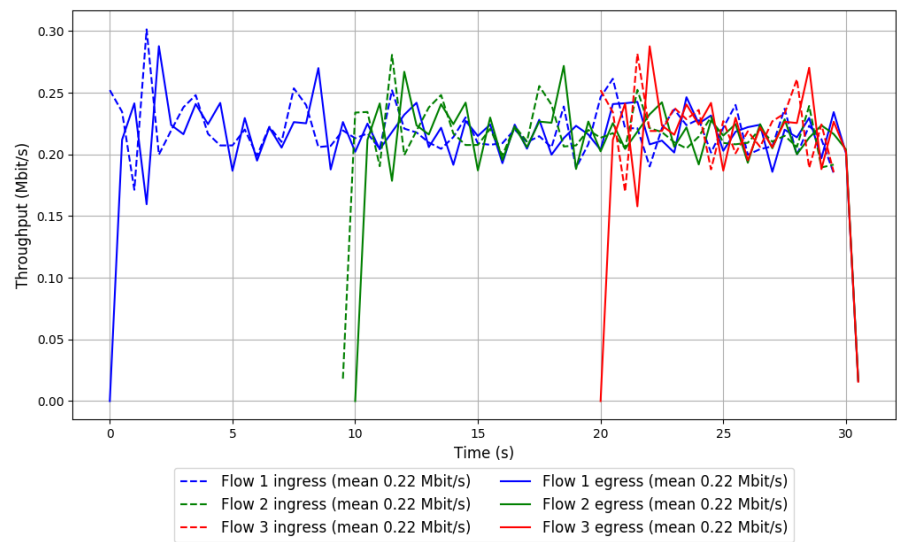


Run 4: Statistics of SReAM

Start at: 2018-09-06 08:54:58
End at: 2018-09-06 08:55:28
Local clock offset: -0.105 ms
Remote clock offset: -0.045 ms

Below is generated by plot.py at 2018-09-06 12:13:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.550 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.570 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.188 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.221 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

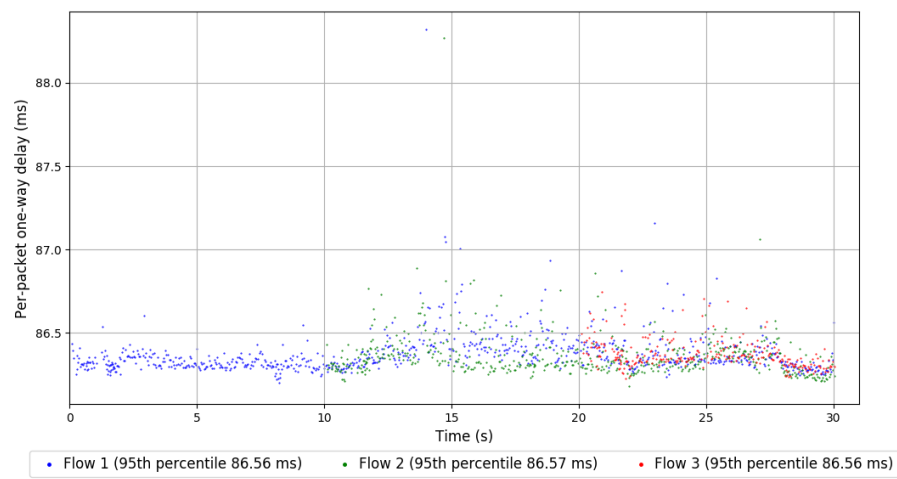
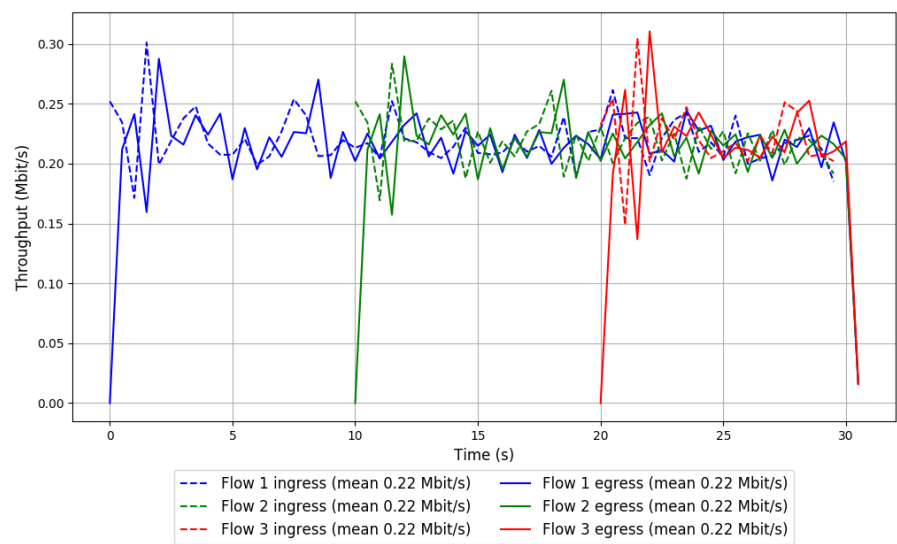


Run 5: Statistics of SReAM

Start at: 2018-09-06 09:27:29
End at: 2018-09-06 09:27:59
Local clock offset: -0.275 ms
Remote clock offset: -0.052 ms

Below is generated by plot.py at 2018-09-06 12:13:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.567 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.563 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.568 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.564 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-09-06 07:22:30

End at: 2018-09-06 07:23:00

Local clock offset: 0.492 ms

Remote clock offset: 0.072 ms

Below is generated by plot.py at 2018-09-06 12:13:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 86.459 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 86.459 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 86.254 ms

Loss rate: 0.00%

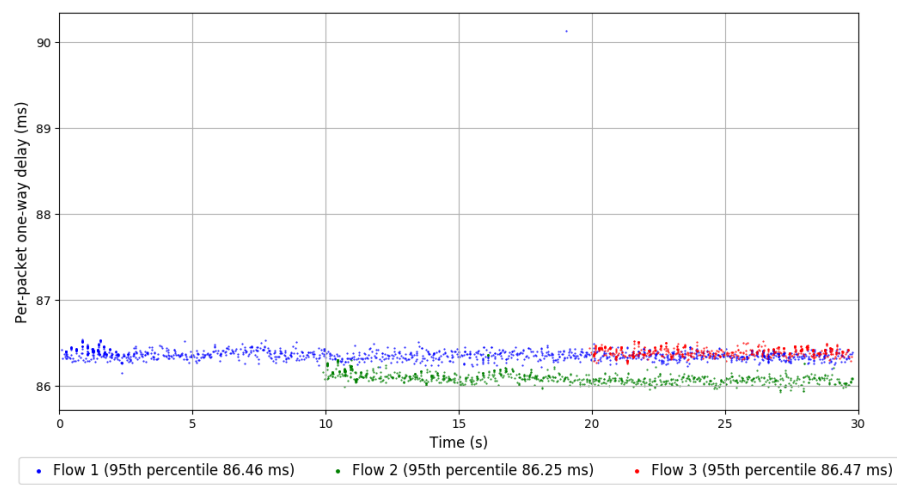
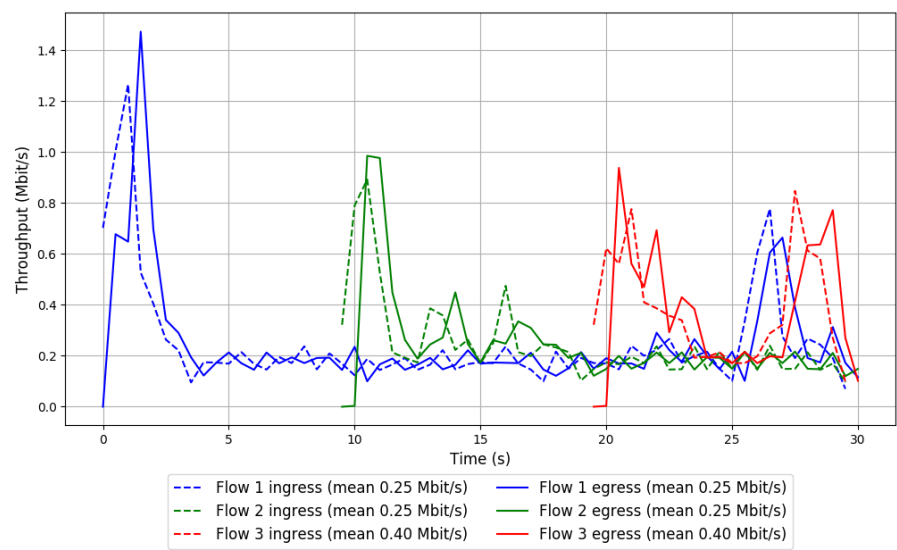
-- Flow 3:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 86.474 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-09-06 07:55:06

End at: 2018-09-06 07:55:36

Local clock offset: 0.295 ms

Remote clock offset: 0.013 ms

Below is generated by plot.py at 2018-09-06 12:13:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.61 Mbit/s

95th percentile per-packet one-way delay: 86.531 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 86.050 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 86.553 ms

Loss rate: 0.00%

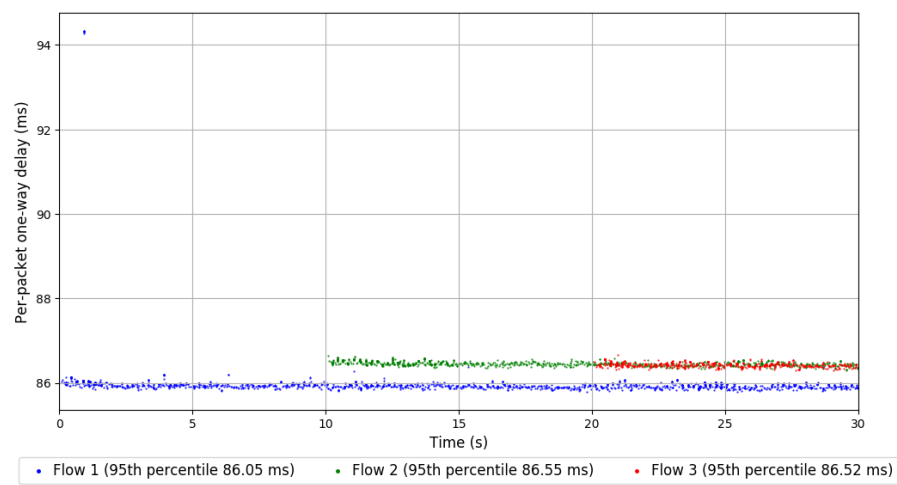
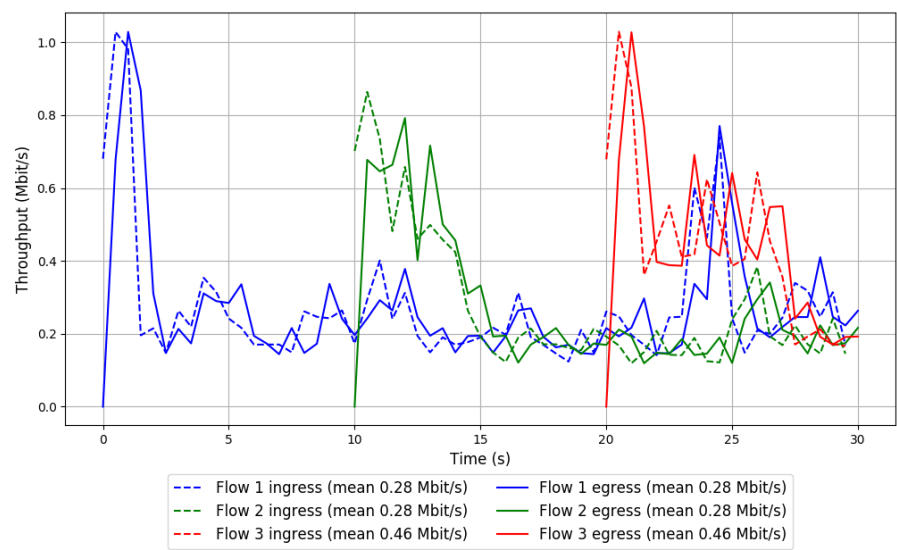
-- Flow 3:

Average throughput: 0.46 Mbit/s

95th percentile per-packet one-way delay: 86.520 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-09-06 08:27:52

End at: 2018-09-06 08:28:22

Local clock offset: -0.12 ms

Remote clock offset: -0.07 ms

Below is generated by plot.py at 2018-09-06 12:13:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 86.593 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 86.305 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 86.636 ms

Loss rate: 0.00%

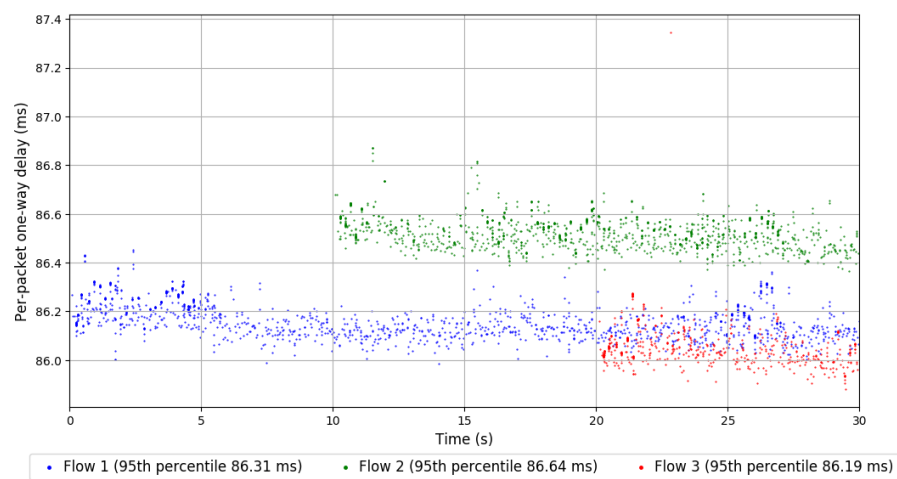
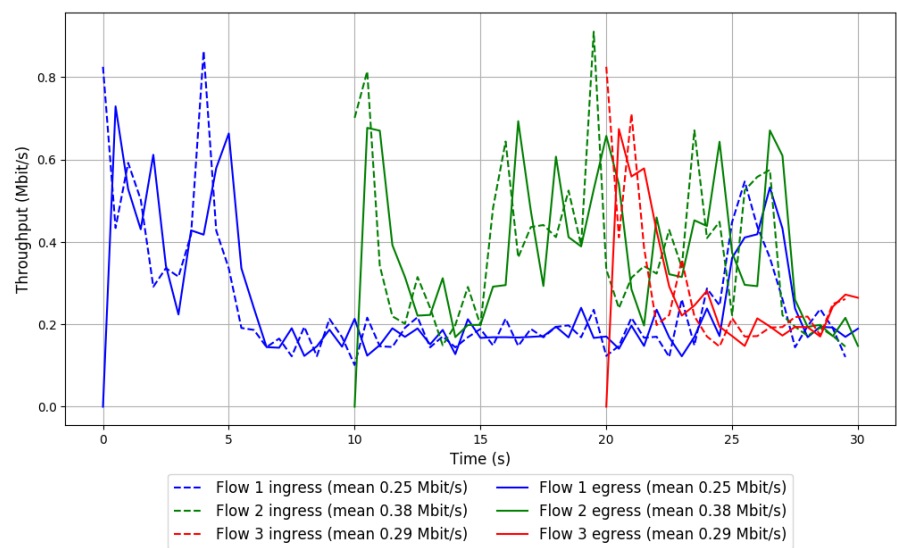
-- Flow 3:

Average throughput: 0.29 Mbit/s

95th percentile per-packet one-way delay: 86.192 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

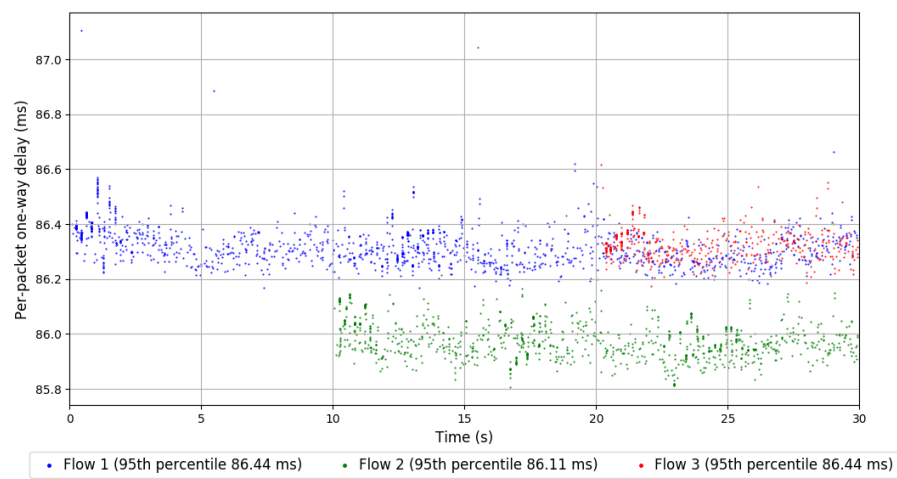
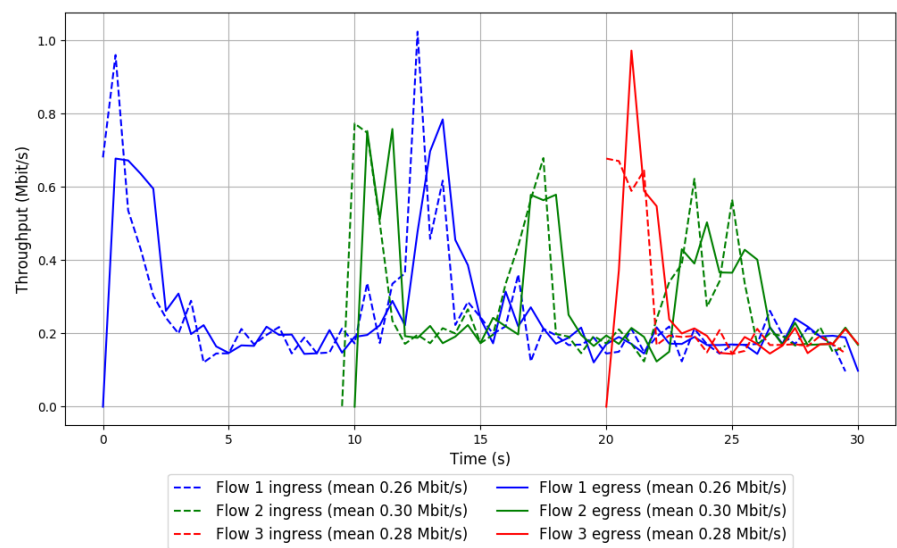


Run 4: Statistics of Sprout

Start at: 2018-09-06 09:00:34
End at: 2018-09-06 09:01:04
Local clock offset: 0.077 ms
Remote clock offset: -0.049 ms

```
# Below is generated by plot.py at 2018-09-06 12:13:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 86.417 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 86.438 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 86.114 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 86.435 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

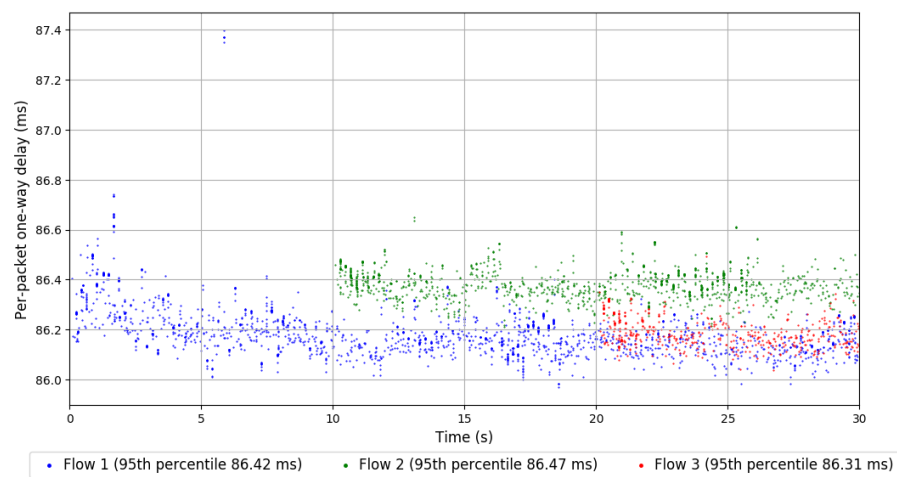
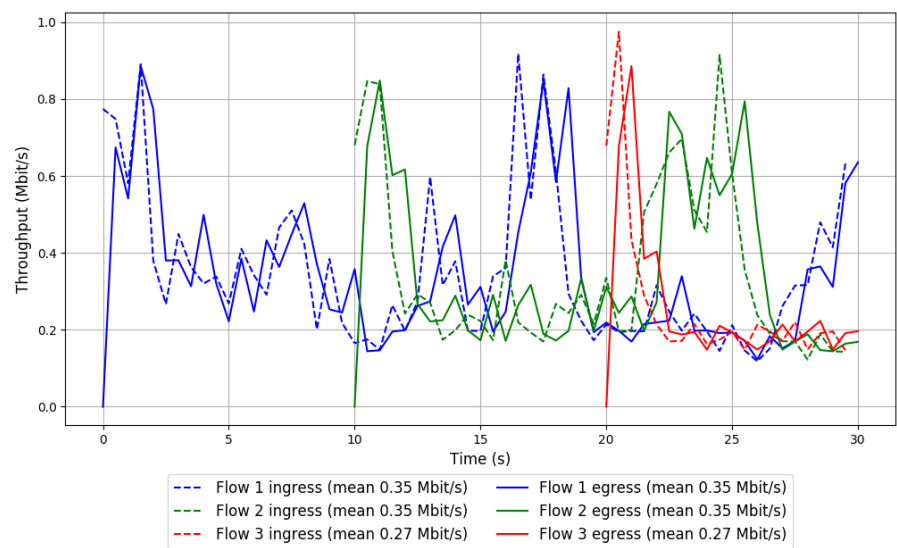


Run 5: Statistics of Sprout

Start at: 2018-09-06 09:33:04
End at: 2018-09-06 09:33:34
Local clock offset: -0.335 ms
Remote clock offset: -0.074 ms

```
# Below is generated by plot.py at 2018-09-06 12:13:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 86.454 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 86.417 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 86.475 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 86.314 ms
Loss rate: 0.00%
```


Run 5: Report of Sprout — Data Link

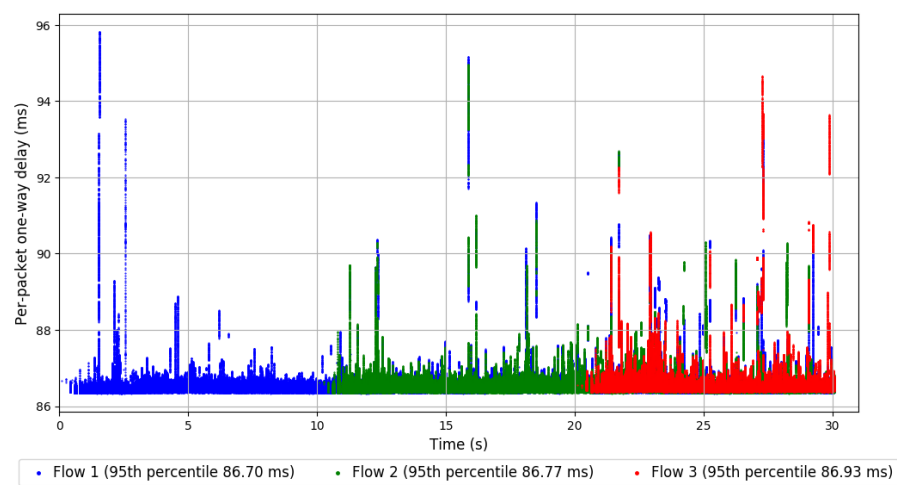
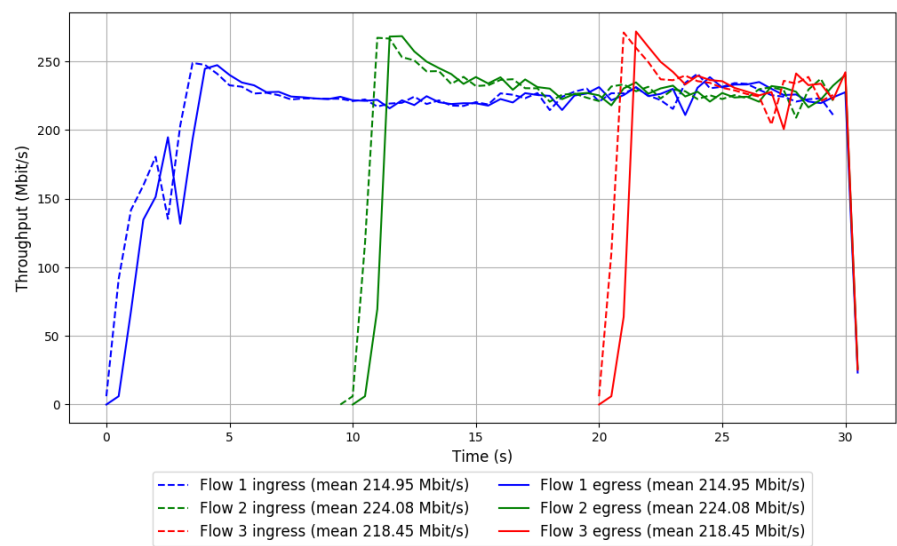


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-06 07:29:43
End at: 2018-09-06 07:30:13
Local clock offset: 0.408 ms
Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2018-09-06 12:13:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 436.84 Mbit/s
95th percentile per-packet one-way delay: 86.758 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 214.95 Mbit/s
95th percentile per-packet one-way delay: 86.701 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 224.08 Mbit/s
95th percentile per-packet one-way delay: 86.770 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 218.45 Mbit/s
95th percentile per-packet one-way delay: 86.927 ms
Loss rate: 0.00%
```

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

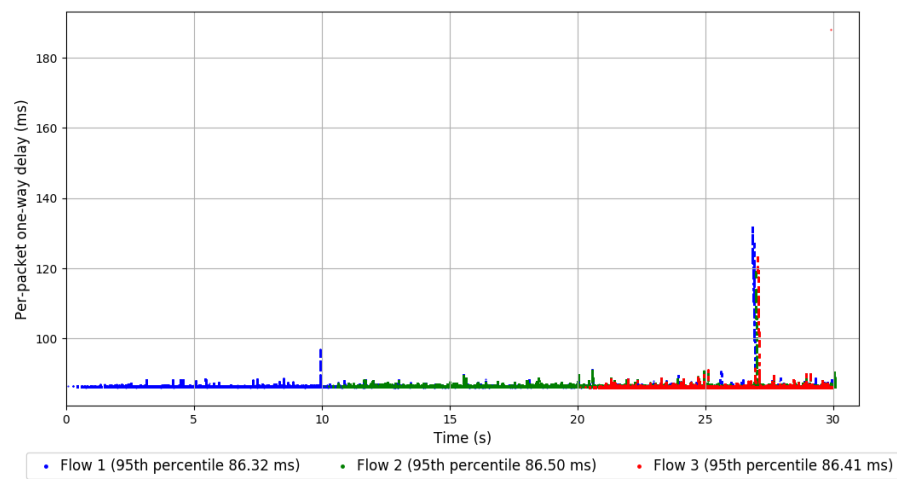
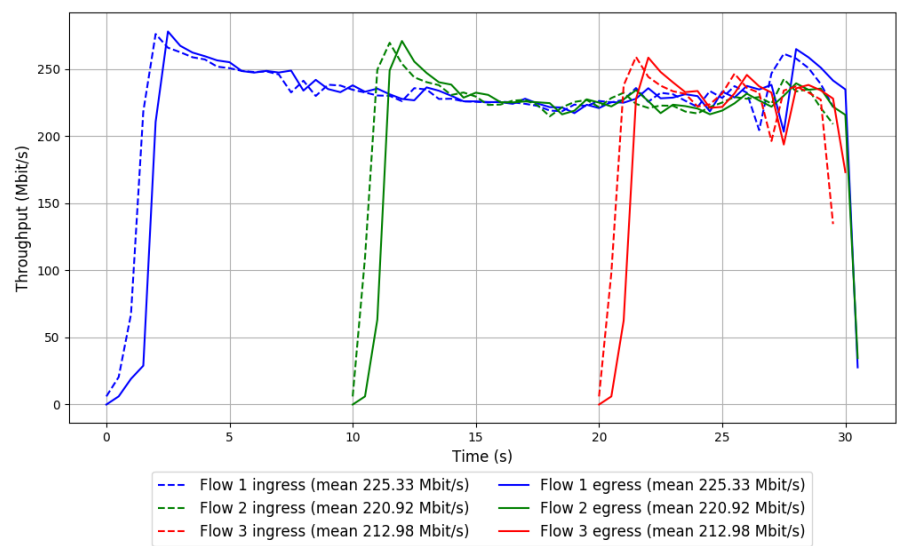


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-06 08:02:28
End at: 2018-09-06 08:02:58
Local clock offset: -0.028 ms
Remote clock offset: -0.033 ms

Below is generated by plot.py at 2018-09-06 12:13:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 442.57 Mbit/s
95th percentile per-packet one-way delay: 86.401 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 225.33 Mbit/s
95th percentile per-packet one-way delay: 86.323 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 220.92 Mbit/s
95th percentile per-packet one-way delay: 86.497 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 212.98 Mbit/s
95th percentile per-packet one-way delay: 86.411 ms
Loss rate: 0.00%

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

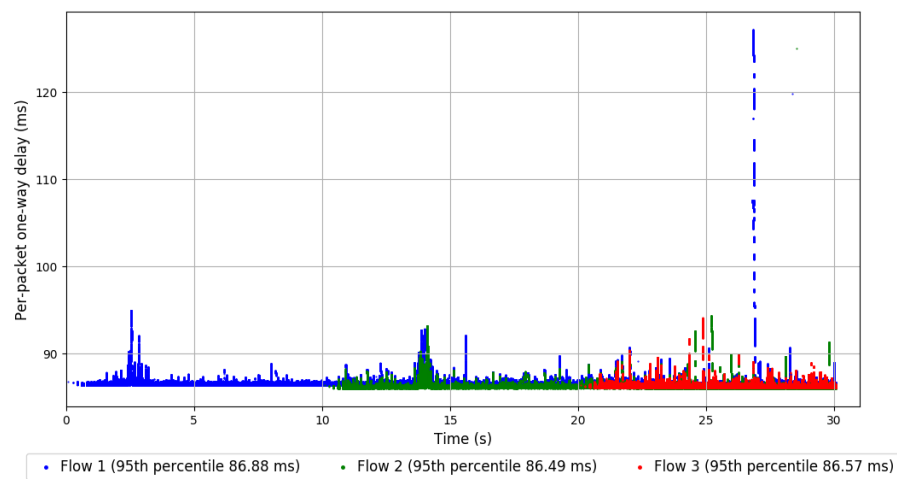
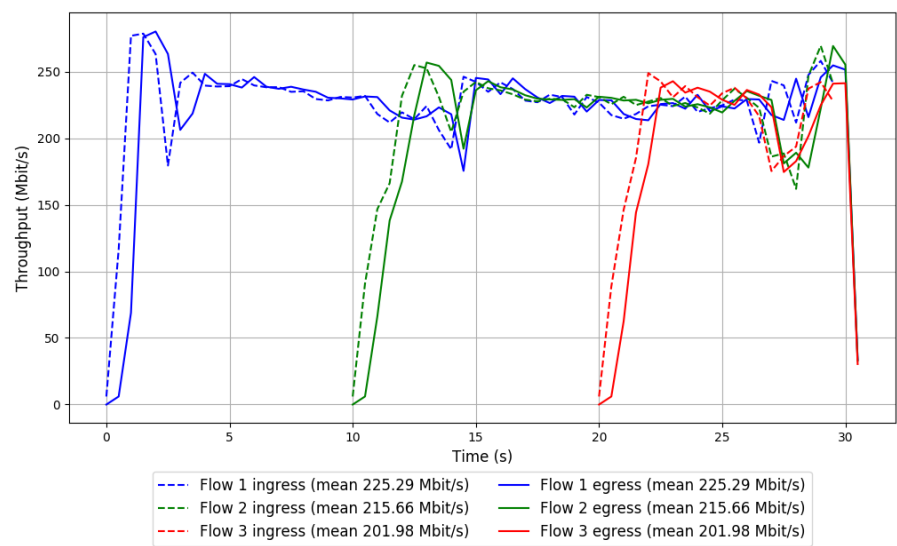


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-06 08:35:16
End at: 2018-09-06 08:35:46
Local clock offset: -0.137 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-09-06 12:13:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 436.04 Mbit/s
95th percentile per-packet one-way delay: 86.753 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 225.29 Mbit/s
95th percentile per-packet one-way delay: 86.876 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 215.66 Mbit/s
95th percentile per-packet one-way delay: 86.493 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 201.98 Mbit/s
95th percentile per-packet one-way delay: 86.567 ms
Loss rate: 0.00%

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

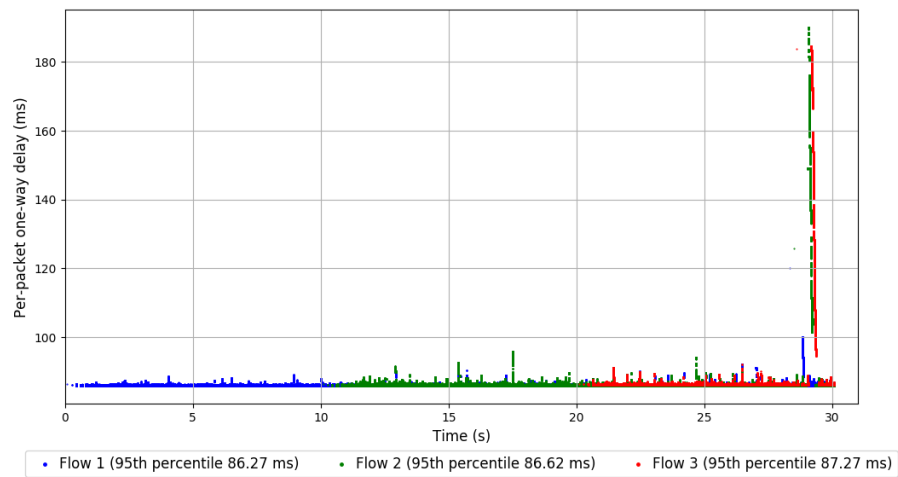
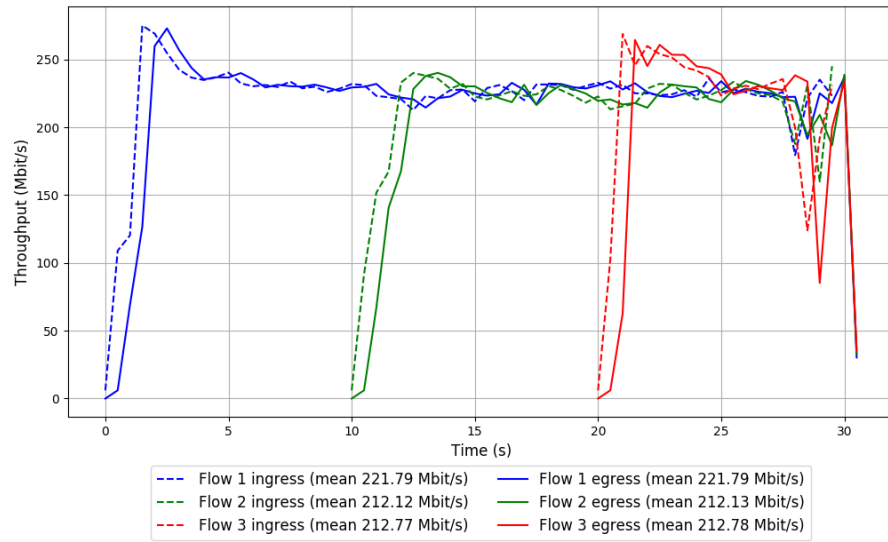


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-06 09:07:49
End at: 2018-09-06 09:08:19
Local clock offset: -0.267 ms
Remote clock offset: -0.026 ms

Below is generated by plot.py at 2018-09-06 12:13:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 433.73 Mbit/s
95th percentile per-packet one-way delay: 86.448 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 221.79 Mbit/s
95th percentile per-packet one-way delay: 86.272 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 212.13 Mbit/s
95th percentile per-packet one-way delay: 86.621 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 212.78 Mbit/s
95th percentile per-packet one-way delay: 87.267 ms
Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-06 09:40:18

End at: 2018-09-06 09:40:48

Local clock offset: -0.129 ms

Remote clock offset: -0.08 ms

Below is generated by plot.py at 2018-09-06 12:16:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 436.03 Mbit/s

95th percentile per-packet one-way delay: 86.850 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 223.55 Mbit/s

95th percentile per-packet one-way delay: 86.421 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 212.65 Mbit/s

95th percentile per-packet one-way delay: 87.206 ms

Loss rate: 0.00%

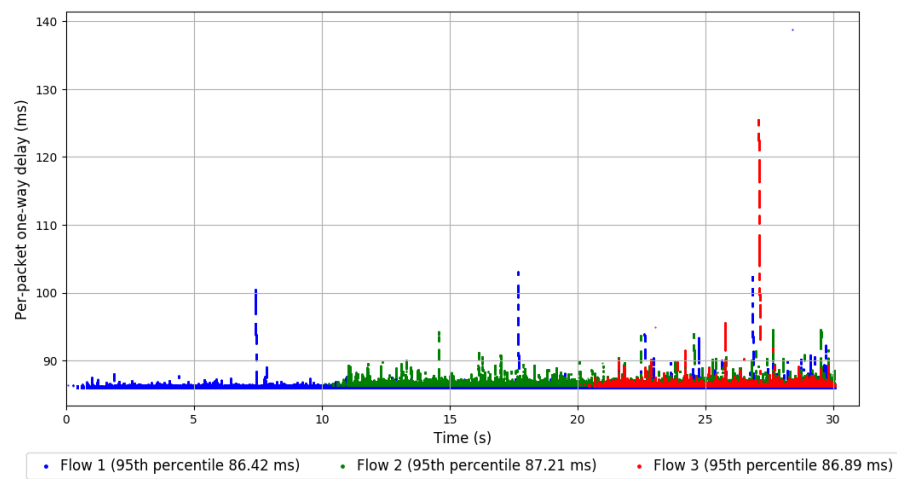
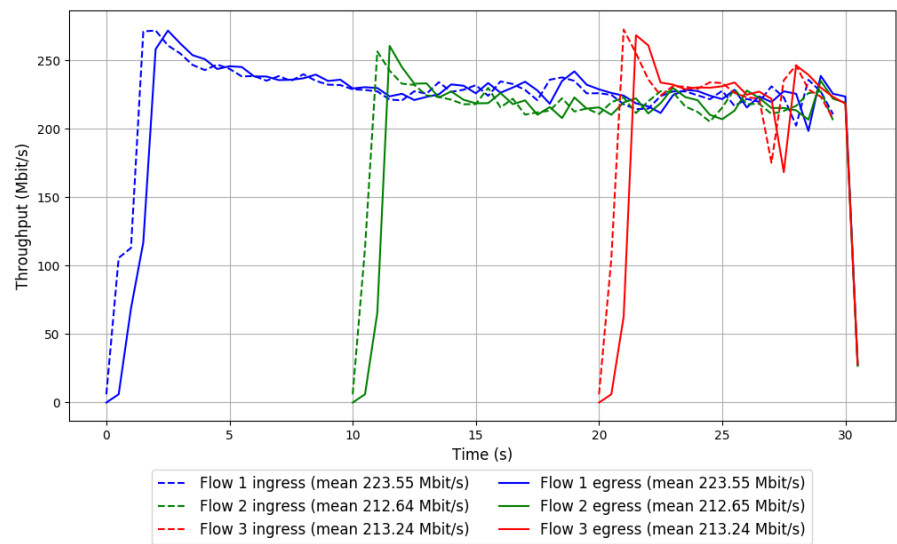
-- Flow 3:

Average throughput: 213.24 Mbit/s

95th percentile per-packet one-way delay: 86.895 ms

Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-06 07:09:26

End at: 2018-09-06 07:09:56

Local clock offset: 0.378 ms

Remote clock offset: 0.117 ms

Below is generated by plot.py at 2018-09-06 12:18:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 814.95 Mbit/s

95th percentile per-packet one-way delay: 131.232 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 447.17 Mbit/s

95th percentile per-packet one-way delay: 89.357 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 343.34 Mbit/s

95th percentile per-packet one-way delay: 87.495 ms

Loss rate: 0.00%

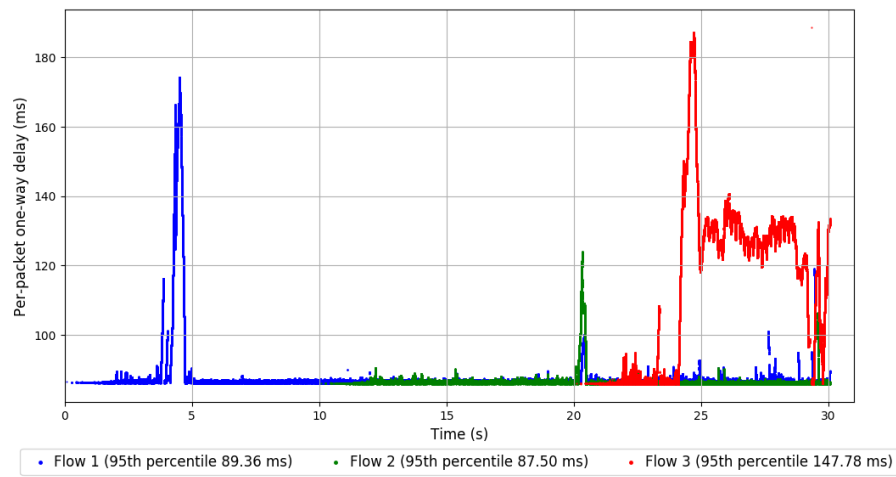
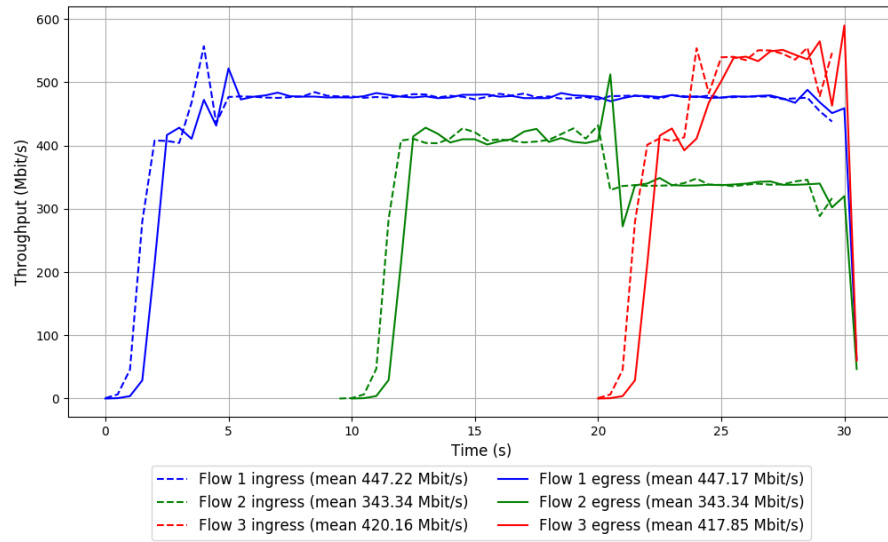
-- Flow 3:

Average throughput: 417.85 Mbit/s

95th percentile per-packet one-way delay: 147.785 ms

Loss rate: 0.54%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-06 07:42:04

End at: 2018-09-06 07:42:34

Local clock offset: 0.561 ms

Remote clock offset: 0.124 ms

Below is generated by plot.py at 2018-09-06 12:23:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 903.92 Mbit/s

95th percentile per-packet one-way delay: 145.279 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 531.40 Mbit/s

95th percentile per-packet one-way delay: 148.500 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 405.62 Mbit/s

95th percentile per-packet one-way delay: 101.880 ms

Loss rate: 0.20%

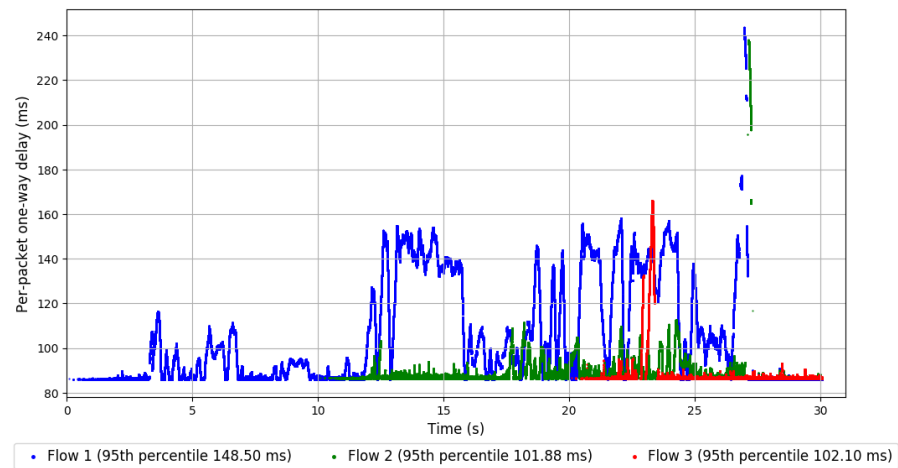
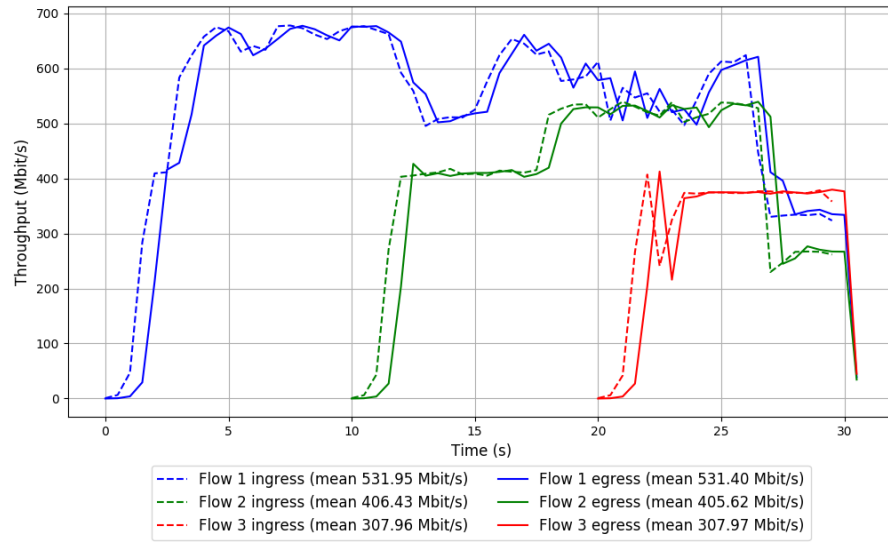
-- Flow 3:

Average throughput: 307.97 Mbit/s

95th percentile per-packet one-way delay: 102.104 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-06 08:14:57

End at: 2018-09-06 08:15:27

Local clock offset: 0.056 ms

Remote clock offset: 0.011 ms

Below is generated by plot.py at 2018-09-06 12:26:29

Datalink statistics

-- Total of 3 flows:

Average throughput: 790.33 Mbit/s

95th percentile per-packet one-way delay: 142.796 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 499.29 Mbit/s

95th percentile per-packet one-way delay: 148.109 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 350.39 Mbit/s

95th percentile per-packet one-way delay: 119.034 ms

Loss rate: 0.00%

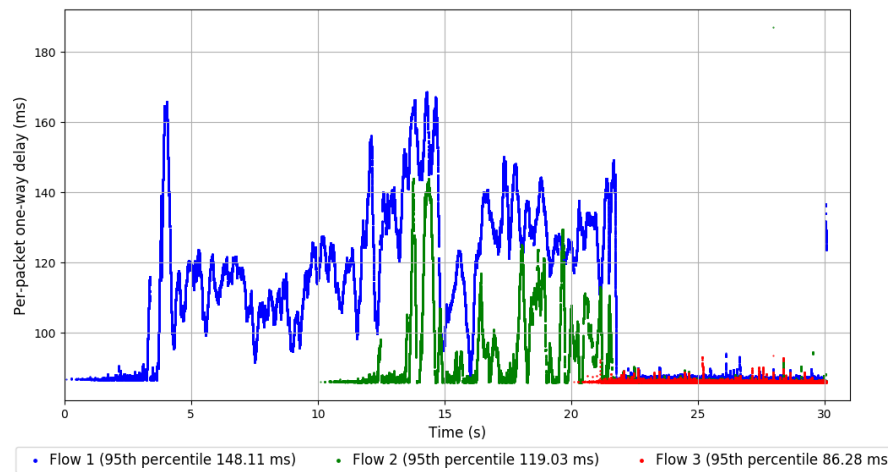
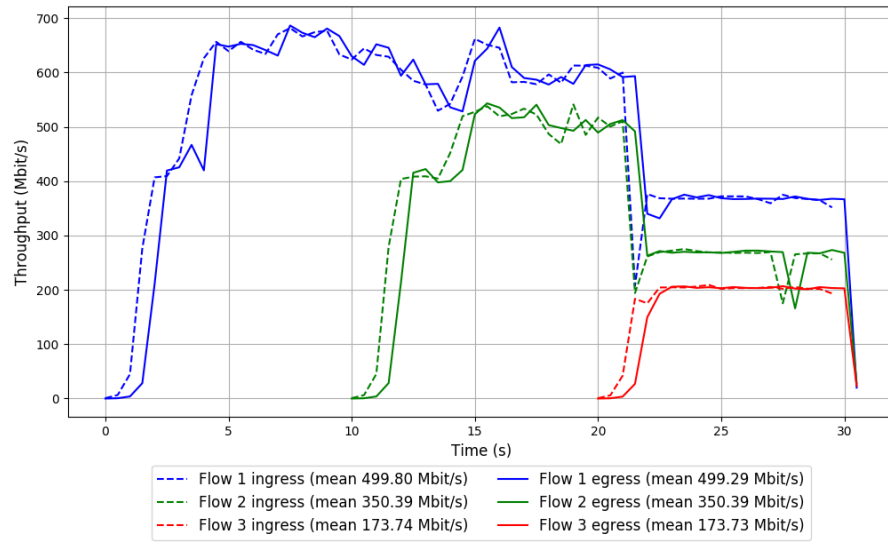
-- Flow 3:

Average throughput: 173.73 Mbit/s

95th percentile per-packet one-way delay: 86.280 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

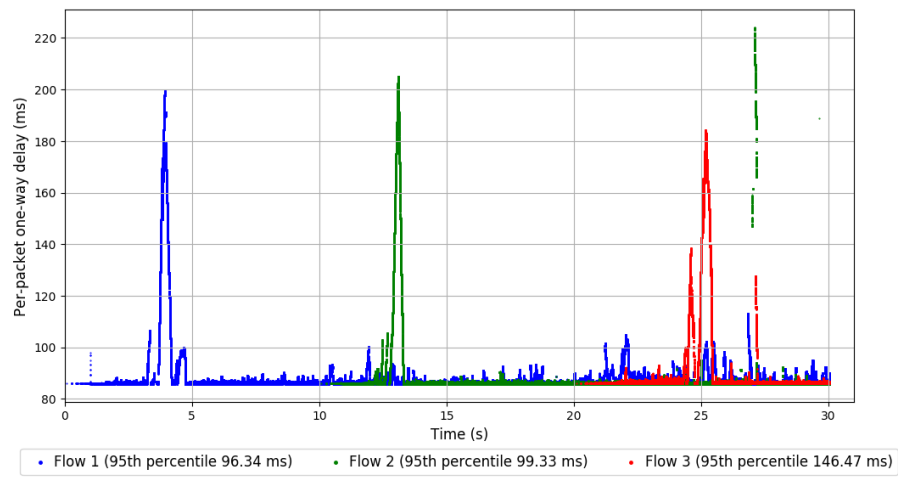
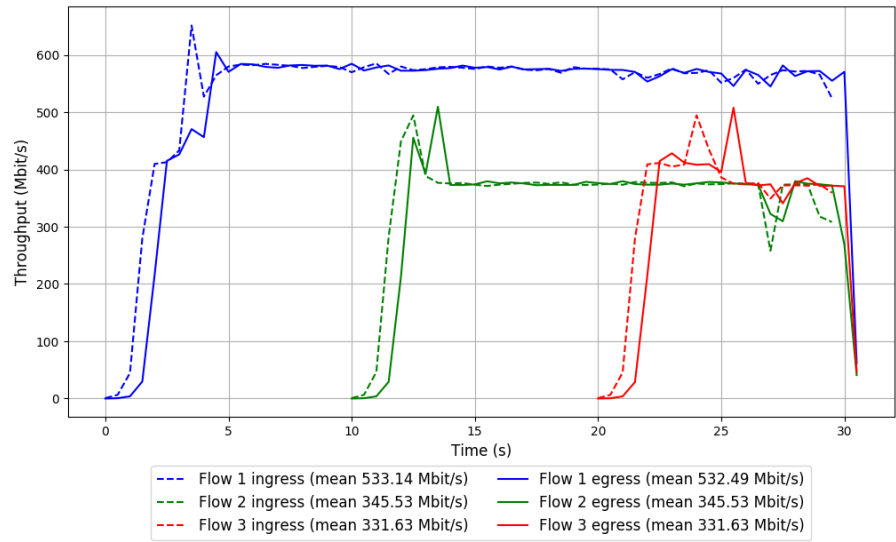


Run 4: Statistics of TCP Vegas

Start at: 2018-09-06 08:47:26
End at: 2018-09-06 08:47:56
Local clock offset: -0.124 ms
Remote clock offset: -0.058 ms

Below is generated by plot.py at 2018-09-06 12:28:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 872.91 Mbit/s
95th percentile per-packet one-way delay: 99.116 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 532.49 Mbit/s
95th percentile per-packet one-way delay: 96.343 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 345.53 Mbit/s
95th percentile per-packet one-way delay: 99.331 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 331.63 Mbit/s
95th percentile per-packet one-way delay: 146.467 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link

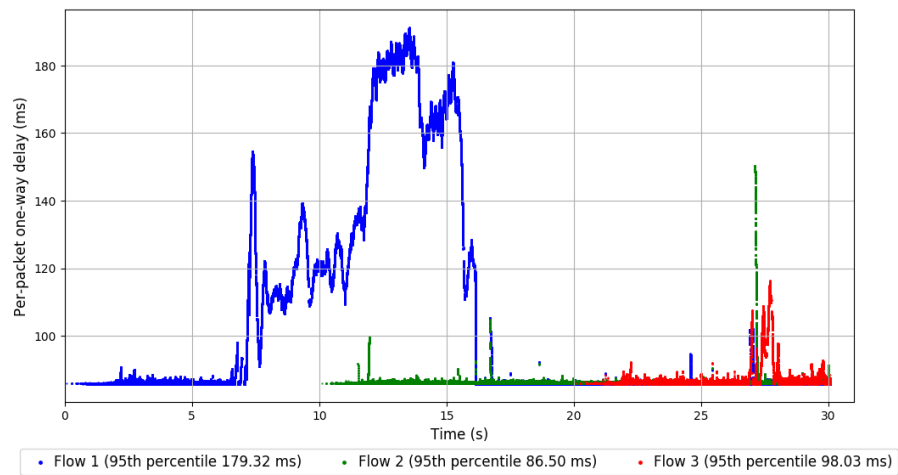
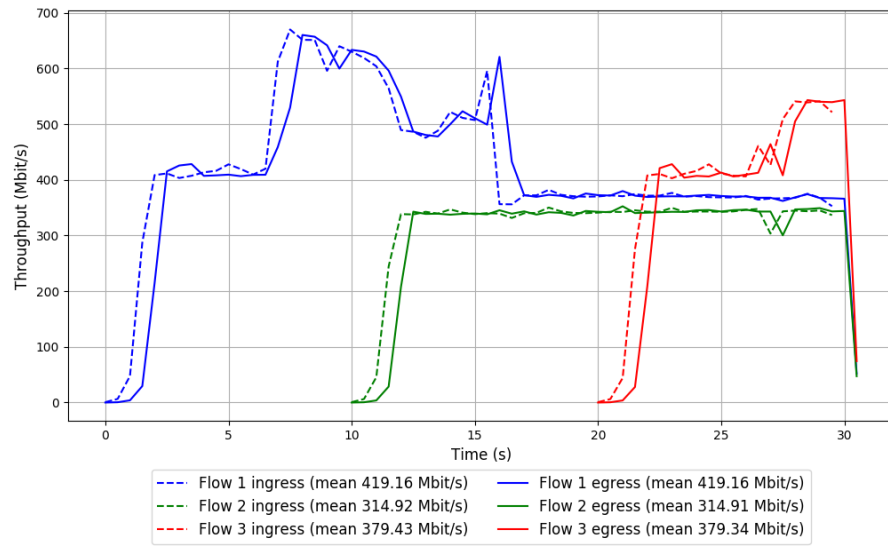


Run 5: Statistics of TCP Vegas

Start at: 2018-09-06 09:20:08
End at: 2018-09-06 09:20:38
Local clock offset: -0.076 ms
Remote clock offset: -0.088 ms

Below is generated by plot.py at 2018-09-06 12:28:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 755.11 Mbit/s
95th percentile per-packet one-way delay: 168.494 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 419.16 Mbit/s
95th percentile per-packet one-way delay: 179.321 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 314.91 Mbit/s
95th percentile per-packet one-way delay: 86.496 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 379.34 Mbit/s
95th percentile per-packet one-way delay: 98.033 ms
Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-09-06 07:32:54

End at: 2018-09-06 07:33:24

Local clock offset: 0.525 ms

Remote clock offset: 0.141 ms

Below is generated by plot.py at 2018-09-06 12:28:09

Datalink statistics

-- Total of 3 flows:

Average throughput: 276.18 Mbit/s

95th percentile per-packet one-way delay: 202.811 ms

Loss rate: 1.60%

-- Flow 1:

Average throughput: 183.07 Mbit/s

95th percentile per-packet one-way delay: 207.540 ms

Loss rate: 2.03%

-- Flow 2:

Average throughput: 106.12 Mbit/s

95th percentile per-packet one-way delay: 121.478 ms

Loss rate: 0.00%

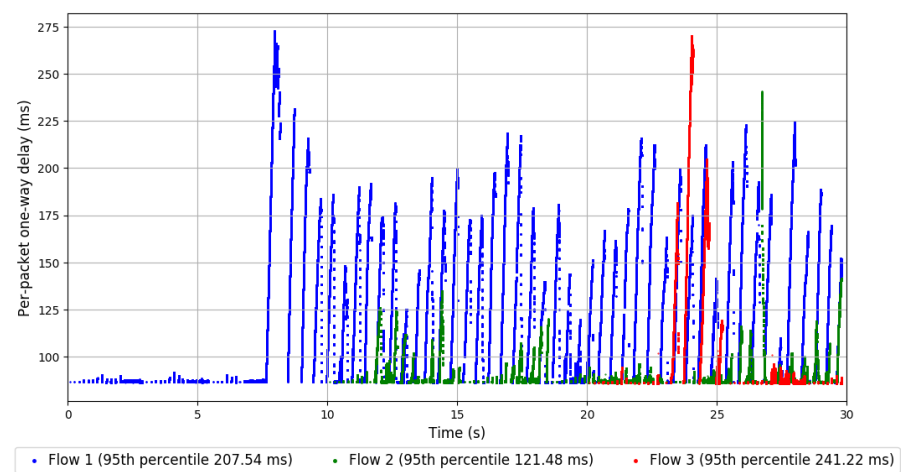
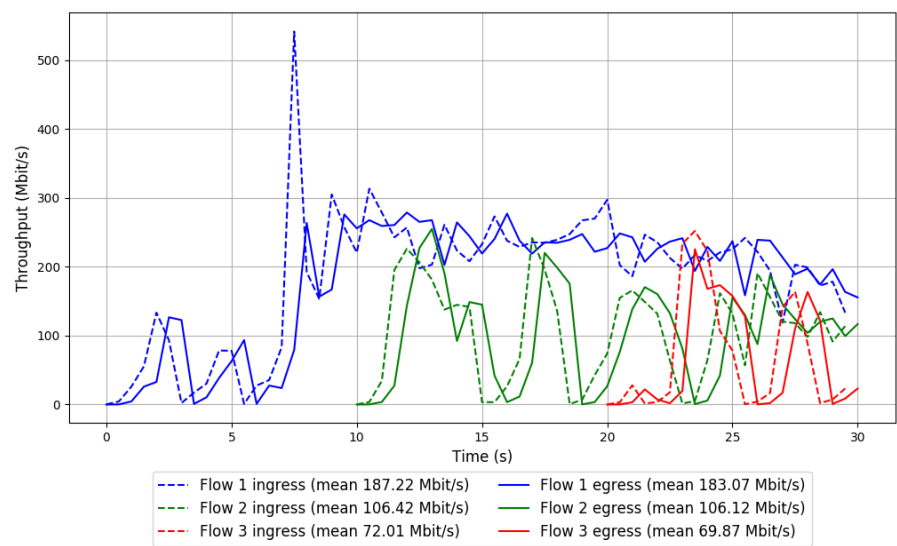
-- Flow 3:

Average throughput: 69.87 Mbit/s

95th percentile per-packet one-way delay: 241.220 ms

Loss rate: 2.94%

Run 1: Report of Verus — Data Link

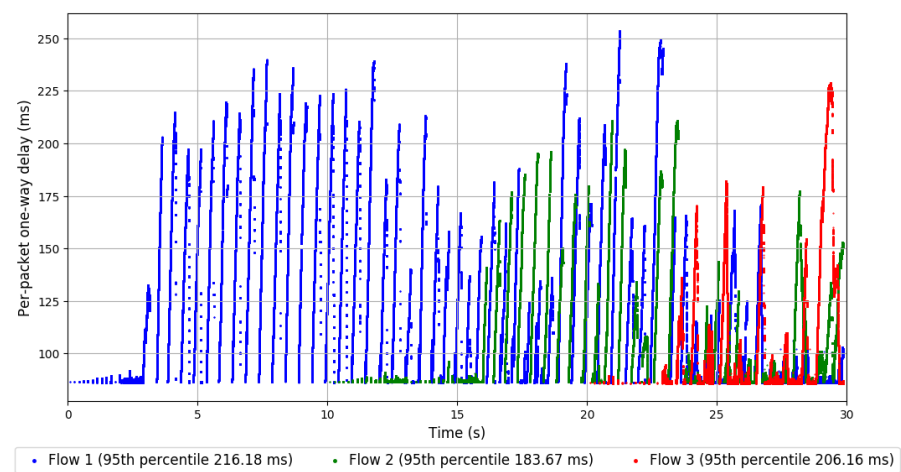
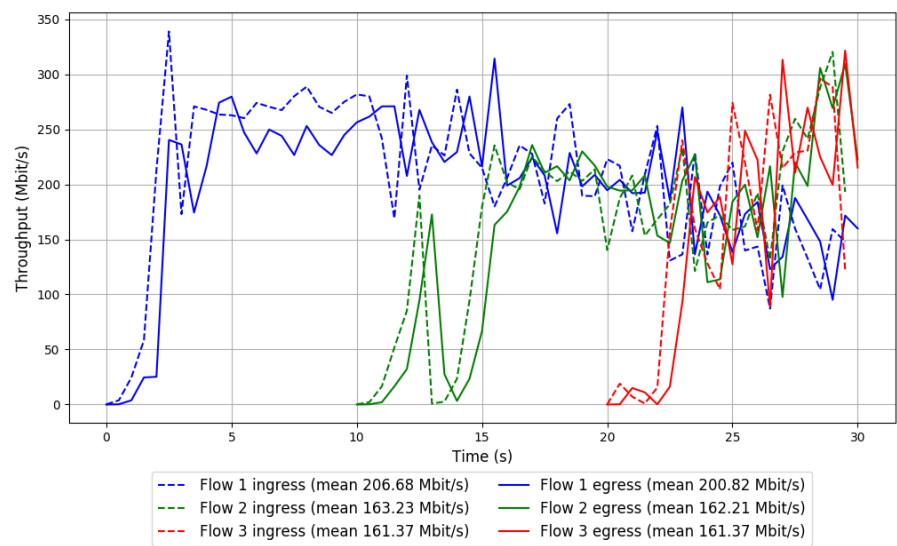


Run 2: Statistics of Verus

Start at: 2018-09-06 08:05:44
End at: 2018-09-06 08:06:14
Local clock offset: -0.071 ms
Remote clock offset: -0.049 ms

Below is generated by plot.py at 2018-09-06 12:28:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 361.33 Mbit/s
95th percentile per-packet one-way delay: 209.255 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 200.82 Mbit/s
95th percentile per-packet one-way delay: 216.177 ms
Loss rate: 2.82%
-- Flow 2:
Average throughput: 162.21 Mbit/s
95th percentile per-packet one-way delay: 183.666 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 161.37 Mbit/s
95th percentile per-packet one-way delay: 206.160 ms
Loss rate: 0.00%

Run 2: Report of Verus — Data Link

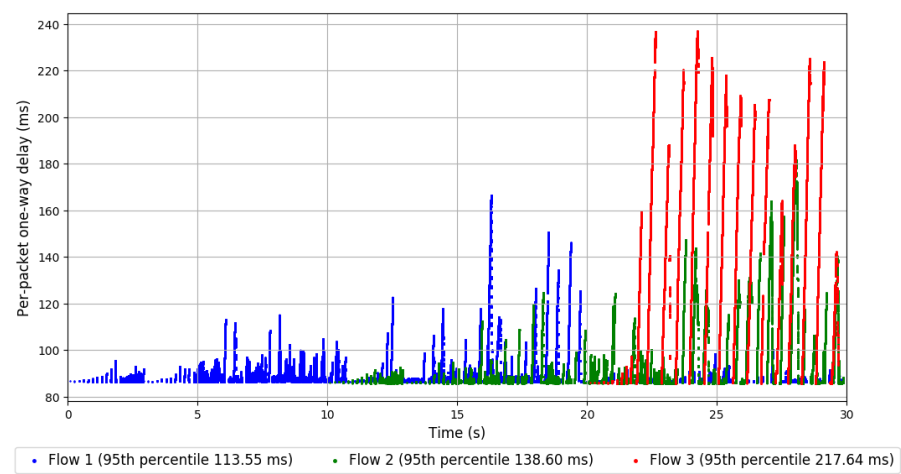
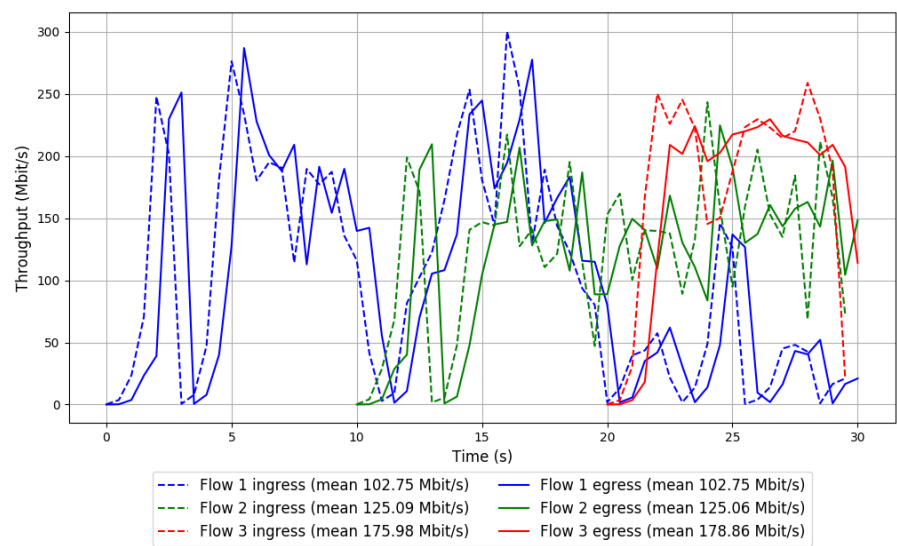


Run 3: Statistics of Verus

Start at: 2018-09-06 08:38:30
End at: 2018-09-06 08:39:00
Local clock offset: 0.027 ms
Remote clock offset: -0.07 ms

Below is generated by plot.py at 2018-09-06 12:28:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 243.15 Mbit/s
95th percentile per-packet one-way delay: 187.618 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 102.75 Mbit/s
95th percentile per-packet one-way delay: 113.554 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 125.06 Mbit/s
95th percentile per-packet one-way delay: 138.603 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 178.86 Mbit/s
95th percentile per-packet one-way delay: 217.640 ms
Loss rate: 0.56%

Run 3: Report of Verus — Data Link

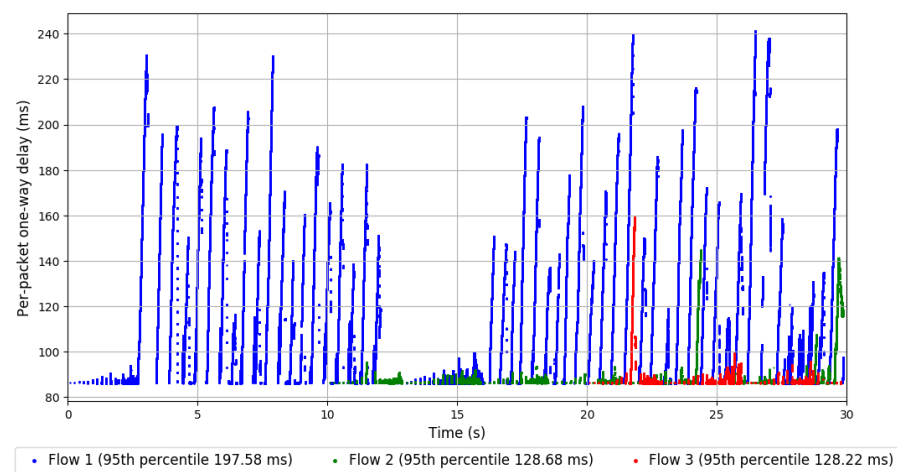
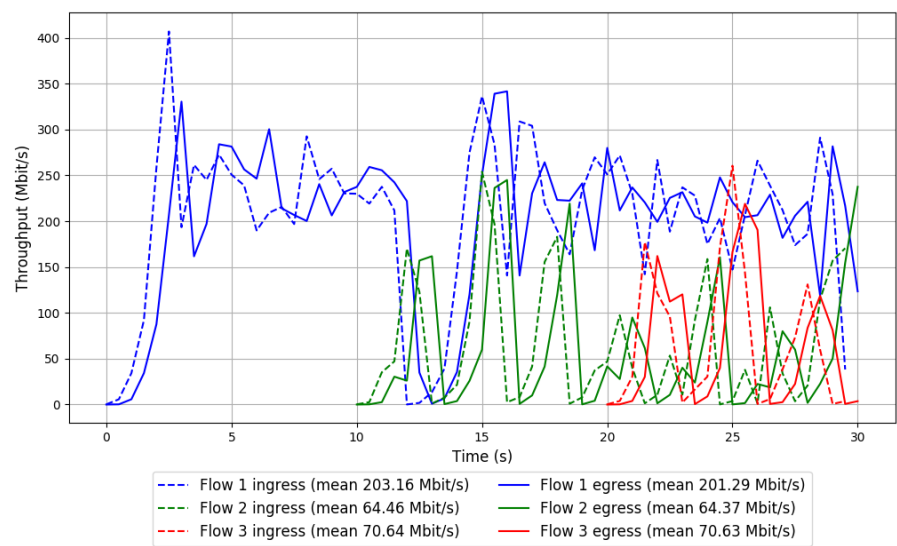


Run 4: Statistics of Verus

Start at: 2018-09-06 09:11:05
End at: 2018-09-06 09:11:35
Local clock offset: -0.325 ms
Remote clock offset: -0.031 ms

Below is generated by plot.py at 2018-09-06 12:28:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 266.96 Mbit/s
95th percentile per-packet one-way delay: 192.350 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 201.29 Mbit/s
95th percentile per-packet one-way delay: 197.580 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 64.37 Mbit/s
95th percentile per-packet one-way delay: 128.678 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.63 Mbit/s
95th percentile per-packet one-way delay: 128.219 ms
Loss rate: 0.00%

Run 4: Report of Verus — Data Link

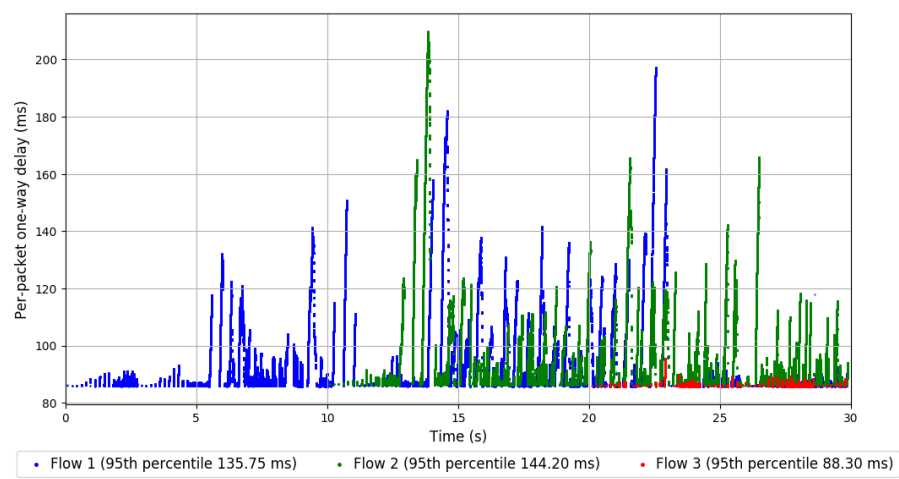
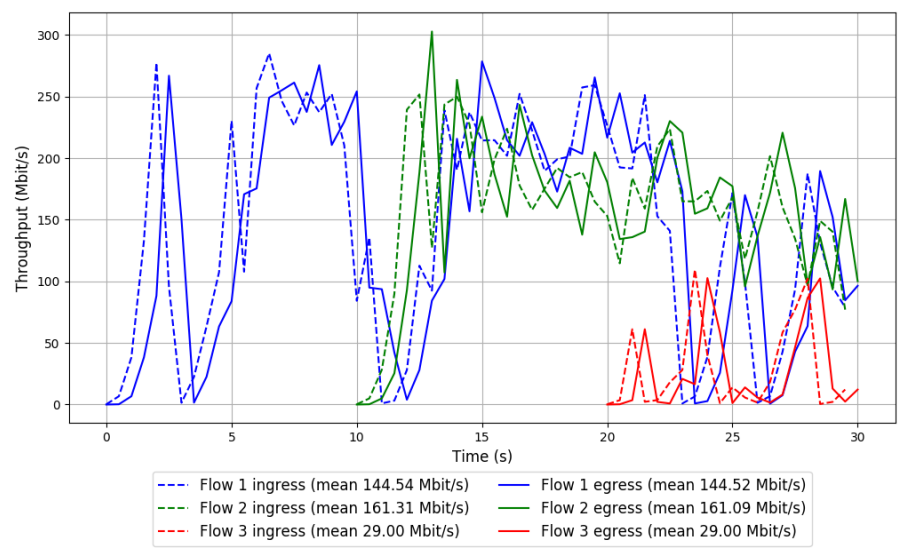


Run 5: Statistics of Verus

Start at: 2018-09-06 09:43:34
End at: 2018-09-06 09:44:04
Local clock offset: -0.047 ms
Remote clock offset: -0.078 ms

Below is generated by plot.py at 2018-09-06 12:30:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 260.84 Mbit/s
95th percentile per-packet one-way delay: 136.936 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 144.52 Mbit/s
95th percentile per-packet one-way delay: 135.748 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 161.09 Mbit/s
95th percentile per-packet one-way delay: 144.197 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 29.00 Mbit/s
95th percentile per-packet one-way delay: 88.303 ms
Loss rate: 0.00%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-06 07:40:06

End at: 2018-09-06 07:40:36

Local clock offset: 0.74 ms

Remote clock offset: 0.128 ms

Below is generated by plot.py at 2018-09-06 12:33:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 595.23 Mbit/s

95th percentile per-packet one-way delay: 111.951 ms

Loss rate: 0.80%

-- Flow 1:

Average throughput: 312.94 Mbit/s

95th percentile per-packet one-way delay: 91.518 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 298.58 Mbit/s

95th percentile per-packet one-way delay: 87.438 ms

Loss rate: 0.29%

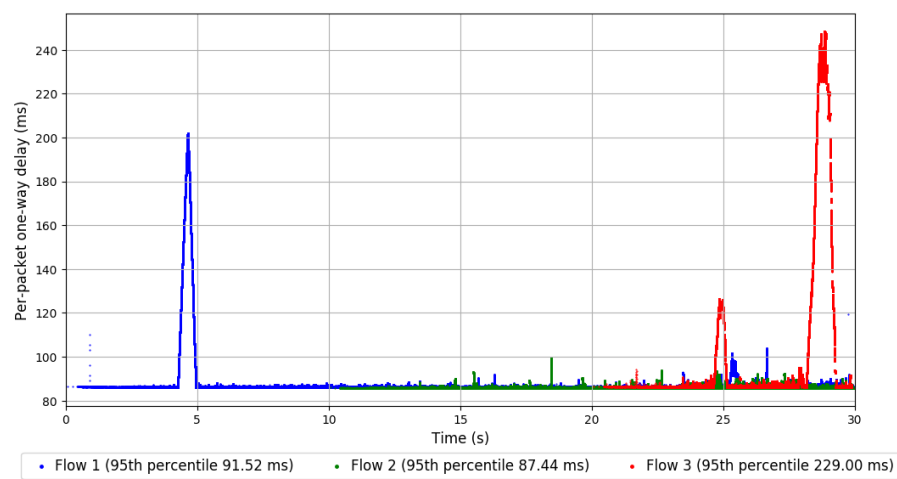
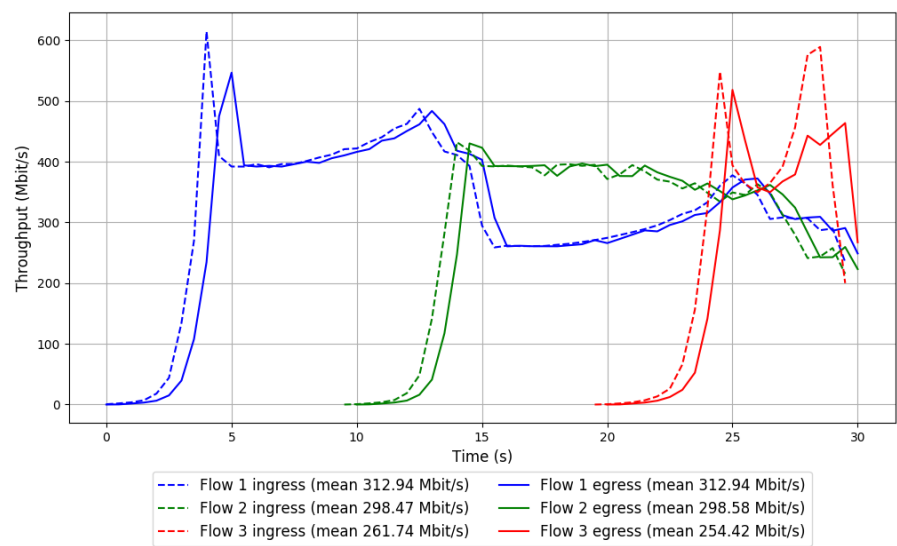
-- Flow 3:

Average throughput: 254.42 Mbit/s

95th percentile per-packet one-way delay: 228.996 ms

Loss rate: 4.05%

Run 1: Report of PCC-Vivace — Data Link

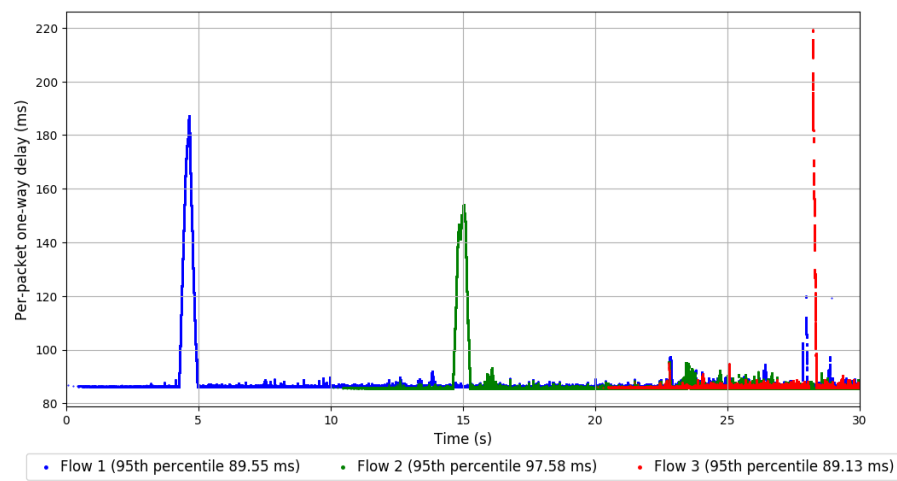
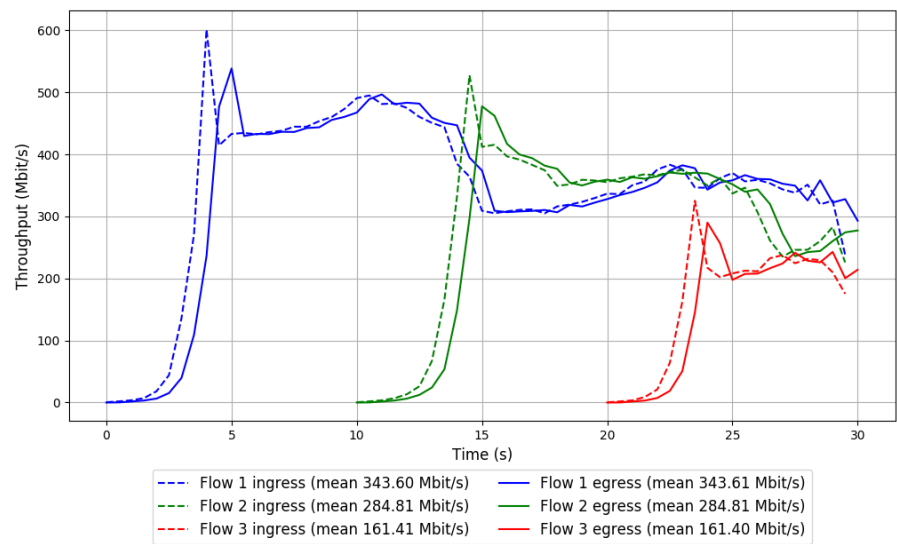


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-06 08:13:01
End at: 2018-09-06 08:13:31
Local clock offset: 0.083 ms
Remote clock offset: -0.049 ms

Below is generated by plot.py at 2018-09-06 12:33:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 586.22 Mbit/s
95th percentile per-packet one-way delay: 91.890 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 343.61 Mbit/s
95th percentile per-packet one-way delay: 89.553 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 284.81 Mbit/s
95th percentile per-packet one-way delay: 97.583 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 161.40 Mbit/s
95th percentile per-packet one-way delay: 89.131 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

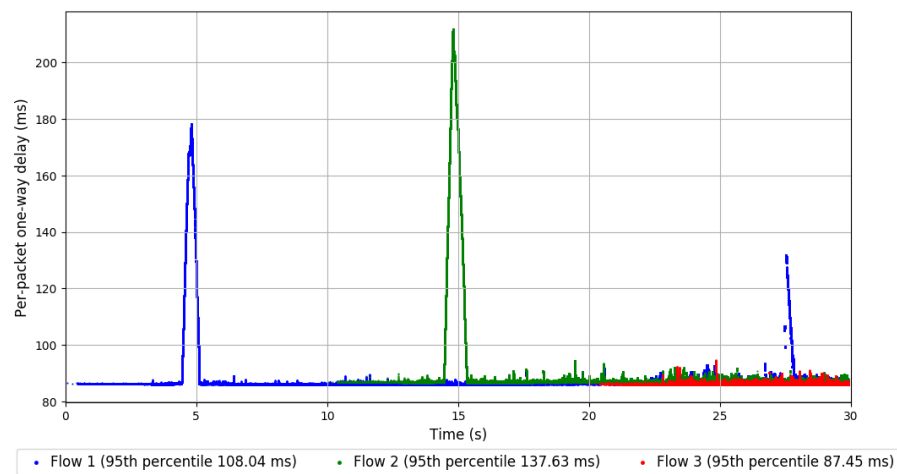
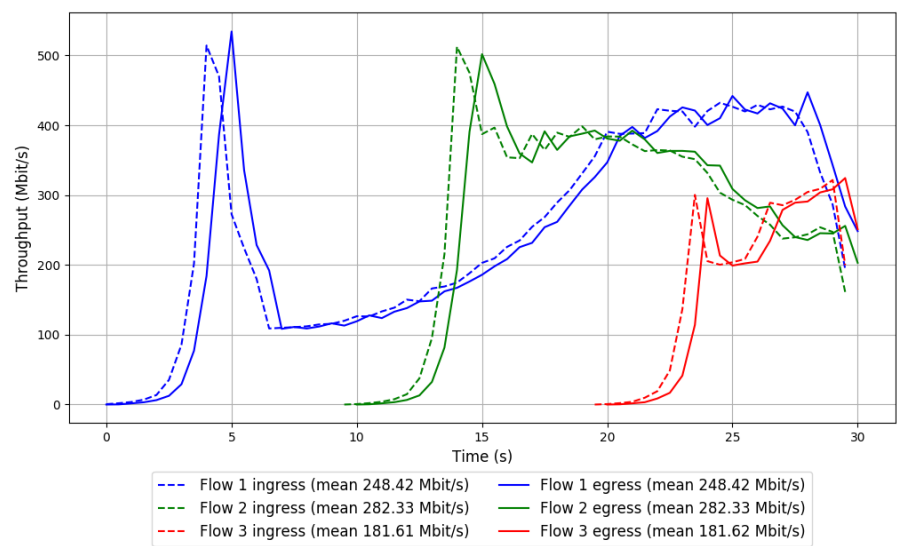


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-06 08:45:36
End at: 2018-09-06 08:46:06
Local clock offset: -0.228 ms
Remote clock offset: -0.018 ms

Below is generated by plot.py at 2018-09-06 12:33:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 496.55 Mbit/s
95th percentile per-packet one-way delay: 107.631 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 248.42 Mbit/s
95th percentile per-packet one-way delay: 108.043 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 282.33 Mbit/s
95th percentile per-packet one-way delay: 137.634 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 181.62 Mbit/s
95th percentile per-packet one-way delay: 87.449 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

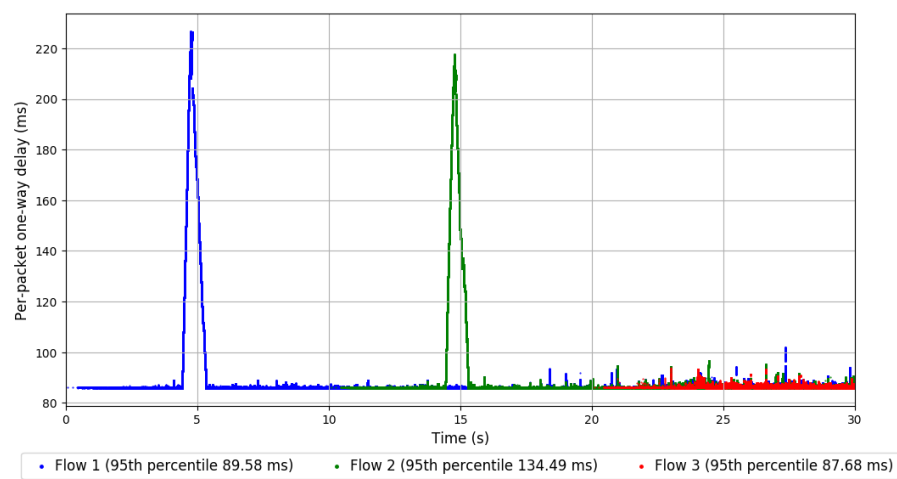
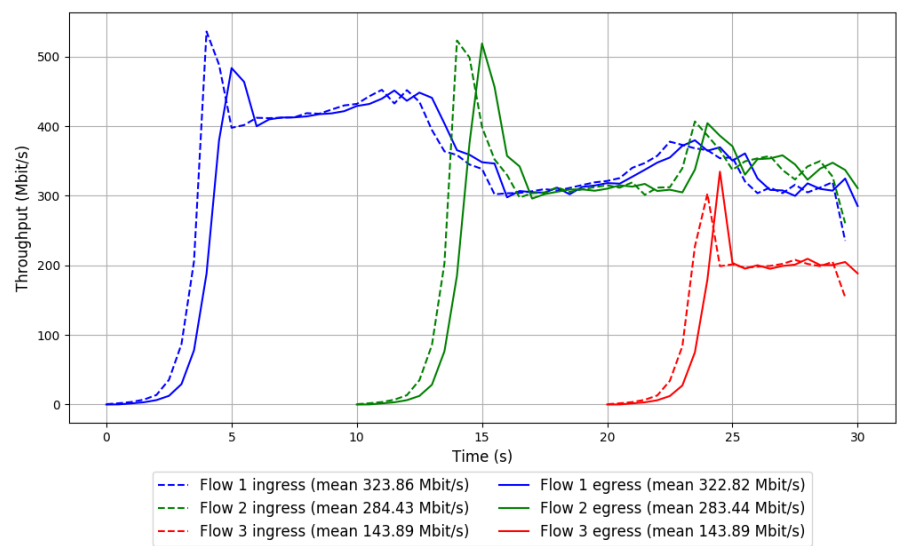


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-06 09:18:14
End at: 2018-09-06 09:18:44
Local clock offset: -0.227 ms
Remote clock offset: -0.039 ms

Below is generated by plot.py at 2018-09-06 12:33:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 558.79 Mbit/s
95th percentile per-packet one-way delay: 95.906 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 322.82 Mbit/s
95th percentile per-packet one-way delay: 89.575 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 283.44 Mbit/s
95th percentile per-packet one-way delay: 134.489 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 143.89 Mbit/s
95th percentile per-packet one-way delay: 87.683 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

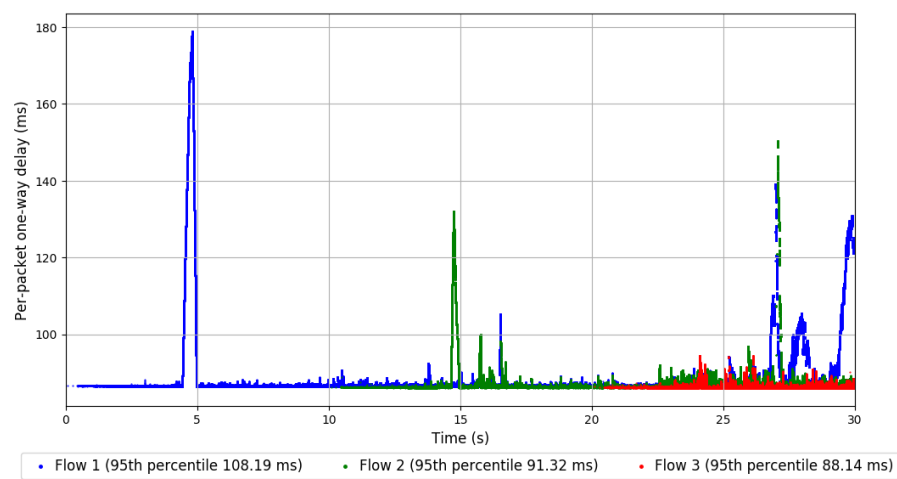
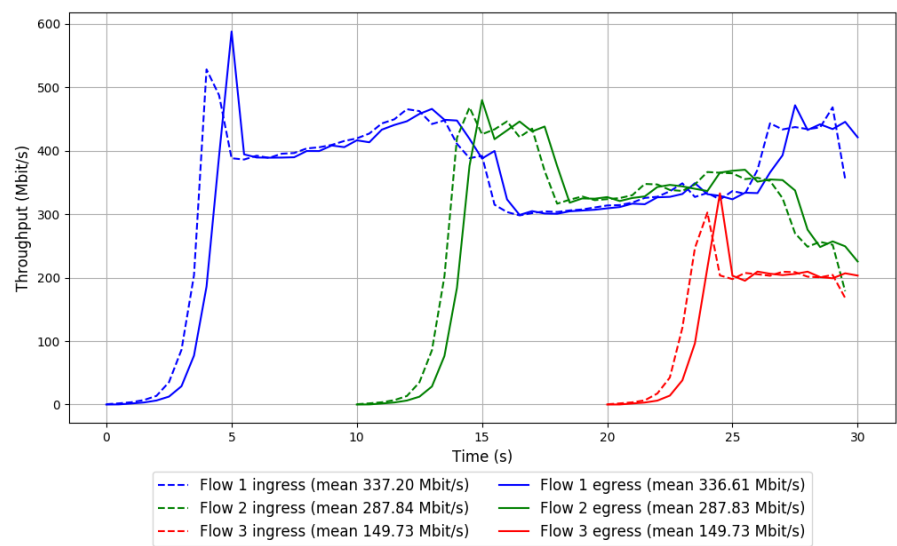


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-06 09:50:47
End at: 2018-09-06 09:51:17
Local clock offset: -0.151 ms
Remote clock offset: -0.068 ms

Below is generated by plot.py at 2018-09-06 12:33:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 577.39 Mbit/s
95th percentile per-packet one-way delay: 101.062 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 336.61 Mbit/s
95th percentile per-packet one-way delay: 108.195 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 287.83 Mbit/s
95th percentile per-packet one-way delay: 91.323 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 149.73 Mbit/s
95th percentile per-packet one-way delay: 88.145 ms
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-06 07:13:29

End at: 2018-09-06 07:13:59

Local clock offset: 0.098 ms

Remote clock offset: 0.111 ms

Below is generated by plot.py at 2018-09-06 12:33:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.82 Mbit/s

95th percentile per-packet one-way delay: 87.007 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.07 Mbit/s

95th percentile per-packet one-way delay: 86.816 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.35 Mbit/s

95th percentile per-packet one-way delay: 87.075 ms

Loss rate: 0.00%

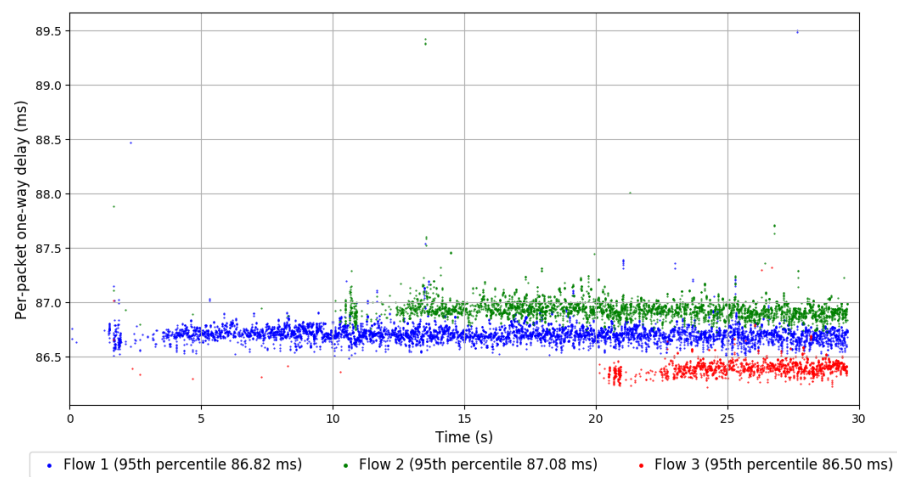
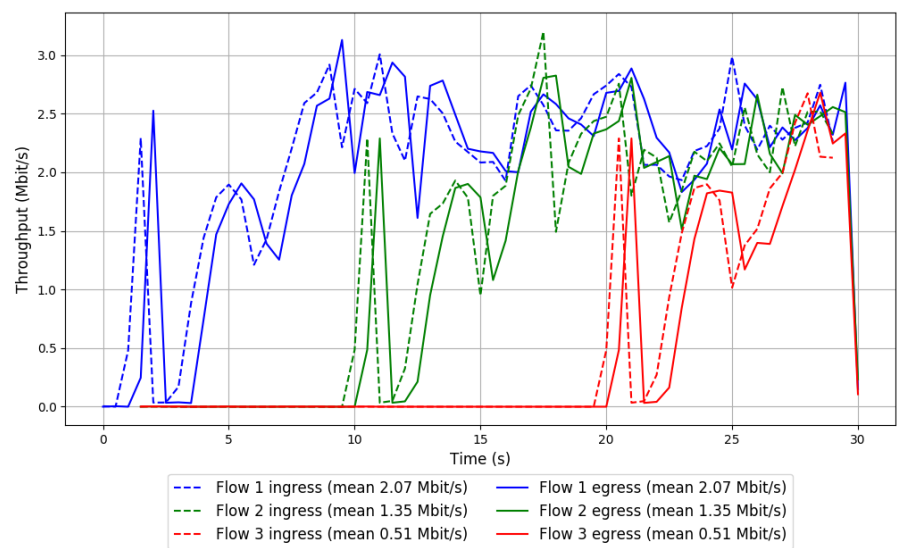
-- Flow 3:

Average throughput: 0.51 Mbit/s

95th percentile per-packet one-way delay: 86.501 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-06 07:46:17

End at: 2018-09-06 07:46:47

Local clock offset: 0.555 ms

Remote clock offset: 0.178 ms

Below is generated by plot.py at 2018-09-06 12:33:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.44 Mbit/s

95th percentile per-packet one-way delay: 86.747 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 86.776 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.14 Mbit/s

95th percentile per-packet one-way delay: 86.488 ms

Loss rate: 0.00%

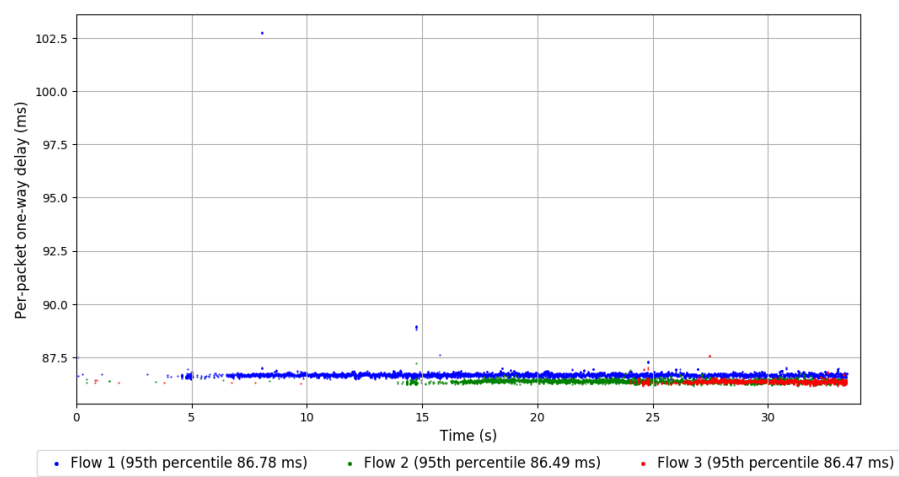
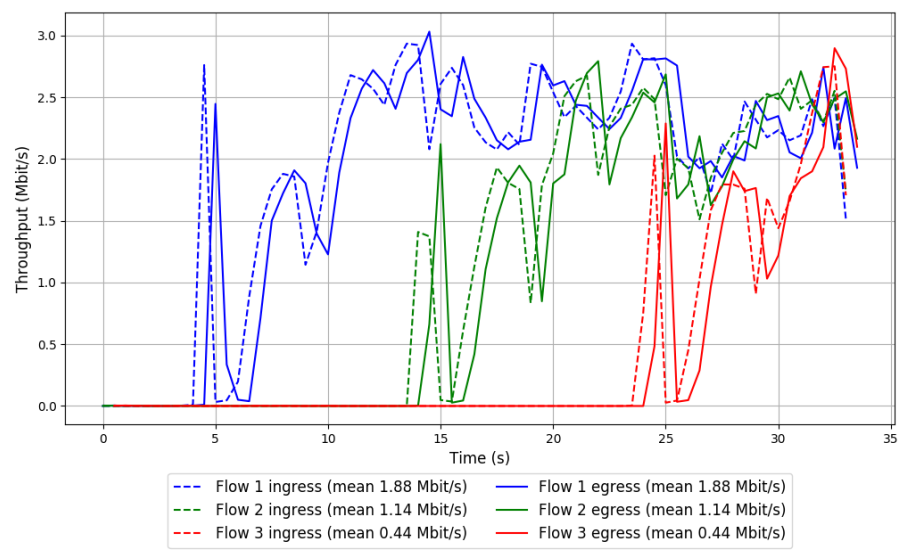
-- Flow 3:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 86.468 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

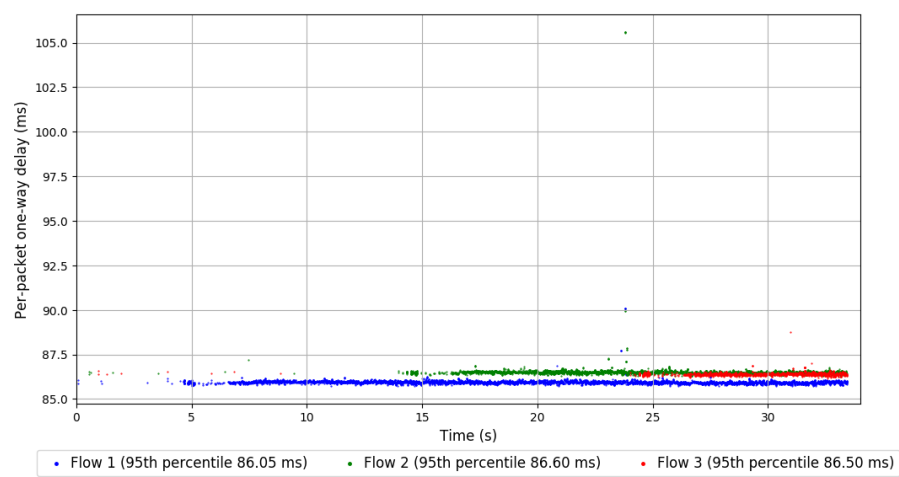
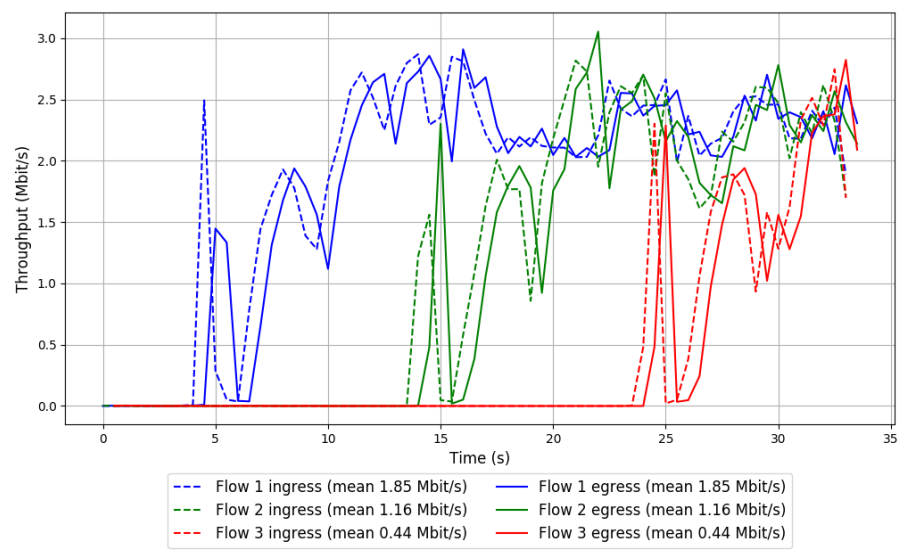


Run 3: Statistics of WebRTC media

Start at: 2018-09-06 08:18:58
End at: 2018-09-06 08:19:28
Local clock offset: -0.015 ms
Remote clock offset: -0.046 ms

Below is generated by plot.py at 2018-09-06 12:33:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 86.558 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 86.046 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 86.604 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.499 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

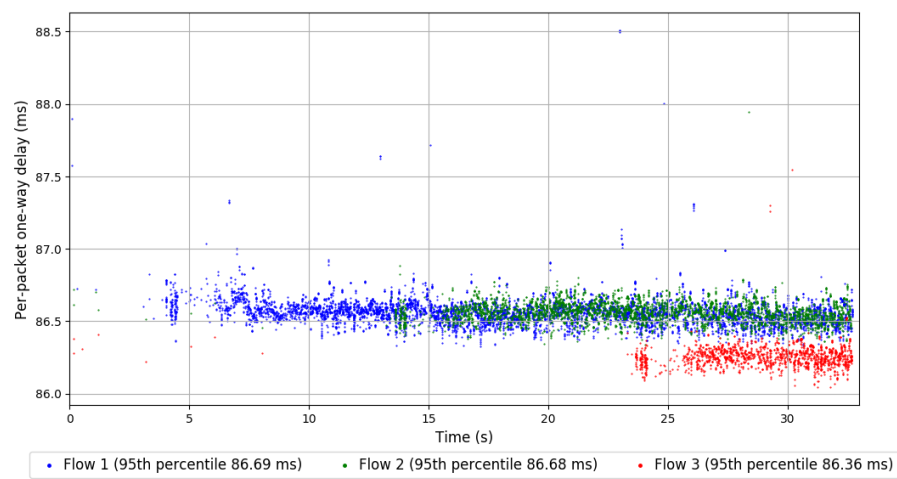
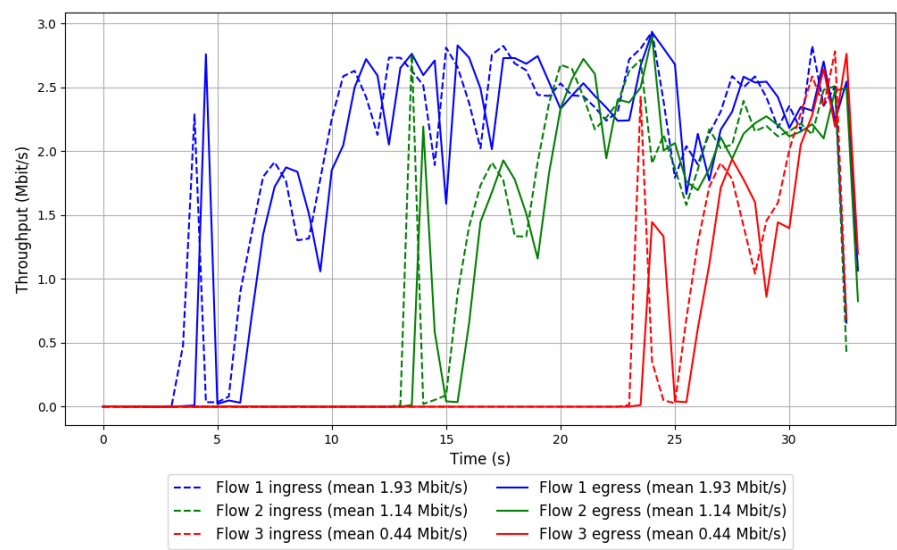


Run 4: Statistics of WebRTC media

Start at: 2018-09-06 08:51:36
End at: 2018-09-06 08:52:06
Local clock offset: -0.168 ms
Remote clock offset: -0.046 ms

Below is generated by plot.py at 2018-09-06 12:33:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.50 Mbit/s
95th percentile per-packet one-way delay: 86.677 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 86.691 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 86.676 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.355 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-06 09:24:07
End at: 2018-09-06 09:24:37
Local clock offset: -0.171 ms
Remote clock offset: -0.046 ms

Below is generated by plot.py at 2018-09-06 12:33:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 86.537 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 86.129 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 86.358 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 86.626 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

