

Pantheon Report

Generated at 2018-08-22 01:59:23 (UTC).

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

Repeated the test of 17 congestion control schemes 3 times.

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

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

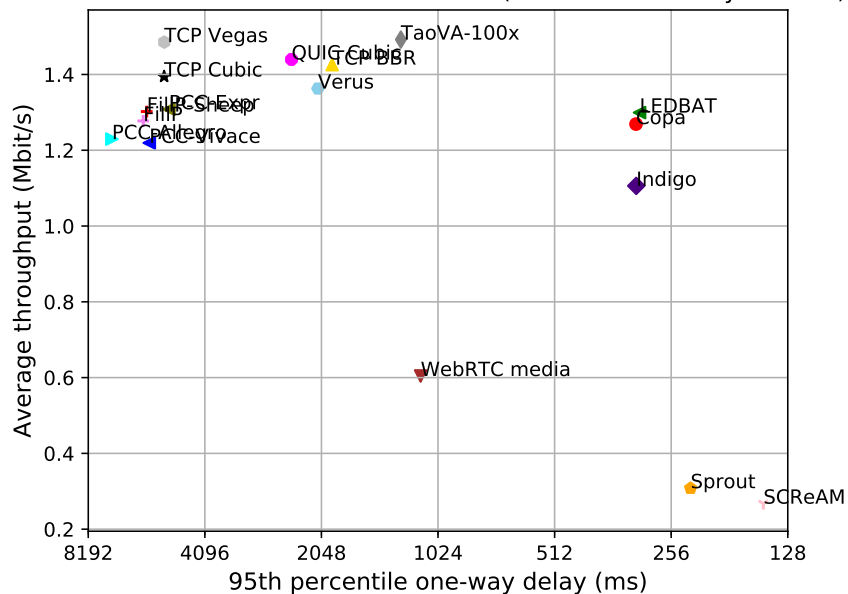
System info:

```
Linux 4.15.0-1017-aws
net.core.default_qdisc = fq_codel
net.core.rmem_default = 16777216
net.core.rmem_max = 33554432
net.core.wmem_default = 212992
net.core.wmem_max = 212992
net.ipv4.tcp_rmem = 4096 87380 6291456
net.ipv4.tcp_wmem = 4096 16384 4194304
```

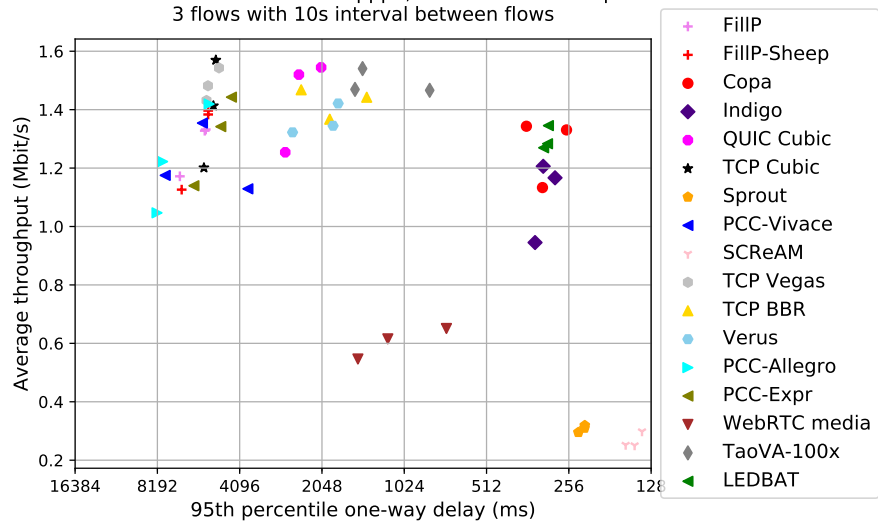
Git summary:

```
branch: master @ 7719b900495aa706f8452ab7d4a94dd562e9296e
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfef58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-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 AWS Brazil 2 to Colombia ppp0, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS Brazil 2 to Colombia ppp0, 3 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	3	0.92	0.63	0.31	1858.27	1934.31	1787.23	1.71	5.26	12.65
Copa	3	0.74	0.57	0.45	335.78	281.82	279.98	0.60	0.51	0.84
TCP Cubic	3	1.30	0.18	0.00	5191.50	4961.81	5261.93	20.32	32.43	76.73
FillP	3	1.28	0.01	0.00	5904.17	5424.76	5240.89	94.99	29.78	81.99
FillP-Sheep	3	0.88	0.74	0.00	5568.71	5846.97	5786.82	30.21	73.01	81.52
Indigo	3	0.59	0.51	0.53	295.05	288.84	435.15	0.12	0.24	0.79
LEDBAT	3	0.99	0.33	0.28	305.26	322.23	318.90	0.31	0.48	3.11
PCC-Allegro	3	1.23	0.00	0.00	7116.64	6372.17	5910.92	88.28	0.00	43.74
PCC-Expr	3	1.31	0.00	0.00	5072.50	4695.65	4618.92	77.71	73.05	81.10
QUIC Cubic	3	1.15	0.39	0.11	2333.62	2522.82	2513.16	5.83	14.59	44.16
SCReAM	3	0.08	0.17	0.22	140.92	150.89	150.98	0.13	0.32	0.43
Sprout	3	0.15	0.15	0.16	226.26	210.04	256.21	0.10	0.41	0.46
TaoVA-100x	3	0.88	0.63	0.61	785.46	882.82	1733.46	1.27	2.71	5.80
TCP Vegas	3	1.48	0.01	0.00	5213.89	5176.09	5090.62	22.49	50.95	43.71
Verus	3	1.35	0.01	0.01	2091.26	2084.66	1767.01	4.10	4.62	6.67
PCC-Vivace	3	0.91	0.49	0.00	5556.49	5727.51	5460.67	30.82	43.38	44.52
WebRTC media	3	0.37	0.17	0.07	1039.63	1154.70	1034.37	0.01	0.11	0.76

Run 1: Statistics of TCP BBR

Start at: 2018-08-22 01:08:47

End at: 2018-08-22 01:09:17

Local clock offset: -13.89 ms

Remote clock offset: 6.967 ms

Below is generated by plot.py at 2018-08-22 01:58:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.44 Mbit/s

95th percentile per-packet one-way delay: 1404.815 ms

Loss rate: 2.23%

-- Flow 1:

Average throughput: 0.95 Mbit/s

95th percentile per-packet one-way delay: 1394.583 ms

Loss rate: 1.38%

-- Flow 2:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 1424.899 ms

Loss rate: 3.35%

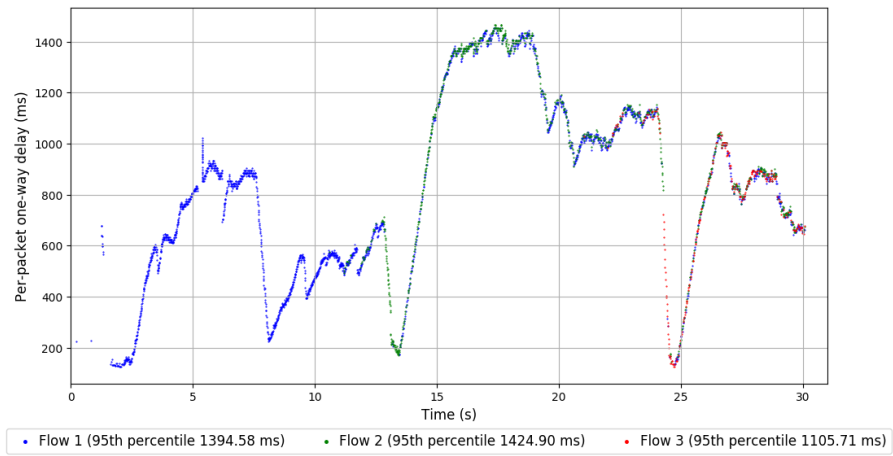
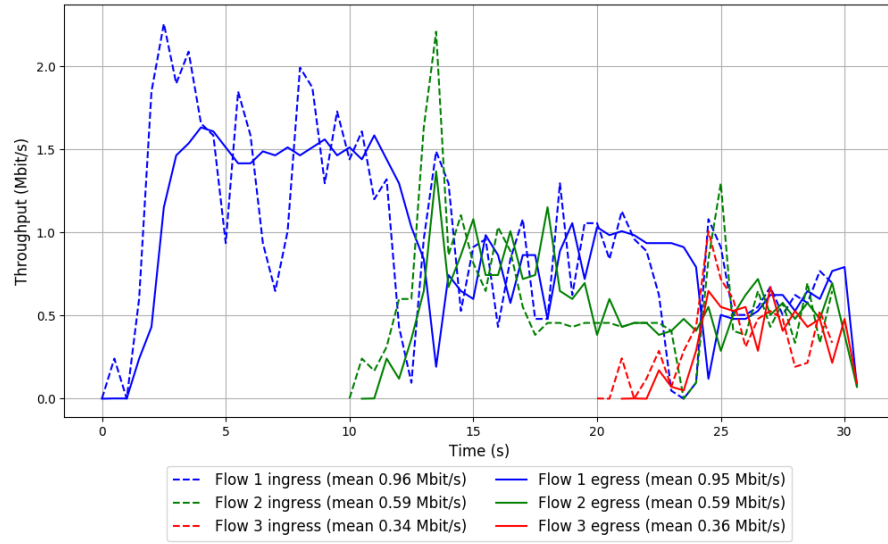
-- Flow 3:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 1105.712 ms

Loss rate: 5.61%

Run 1: Report of TCP BBR — Data Link

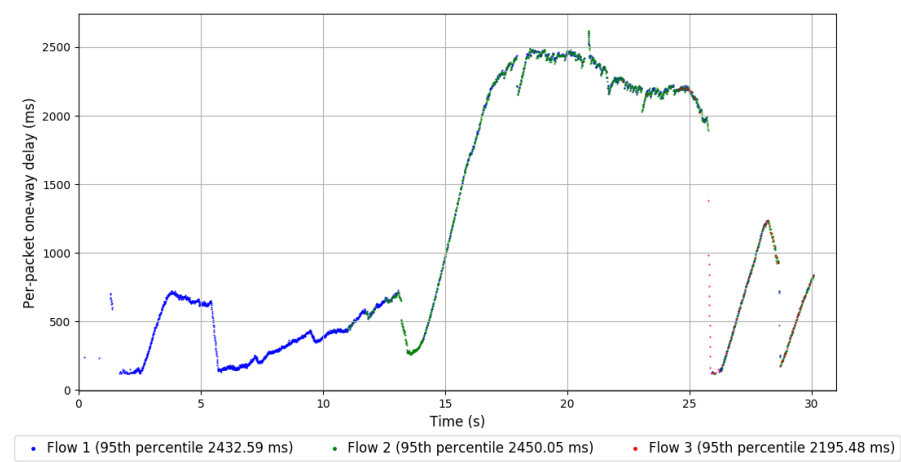
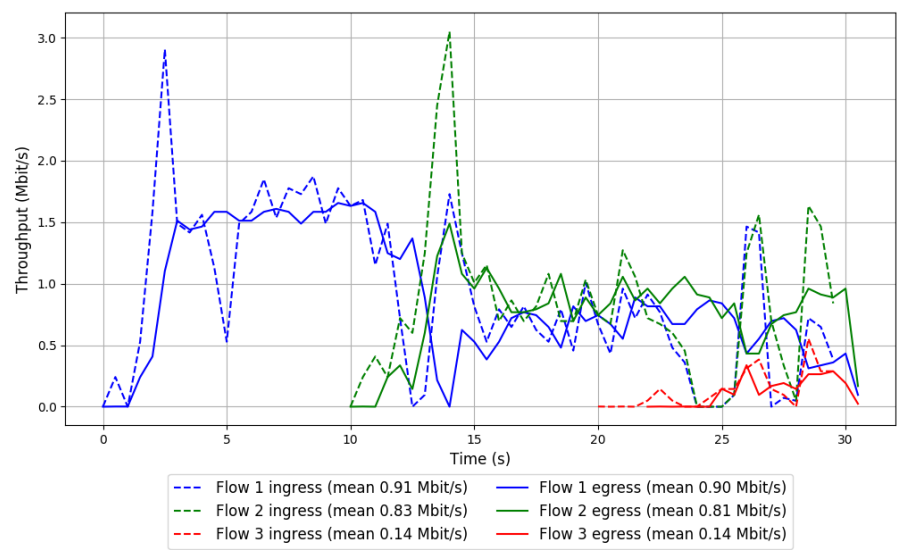


Run 2: Statistics of TCP BBR

Start at: 2018-08-22 01:29:11
End at: 2018-08-22 01:29:41
Local clock offset: -15.449 ms
Remote clock offset: 1.633 ms

Below is generated by plot.py at 2018-08-22 01:58:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 2439.786 ms
Loss rate: 2.82%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 2432.595 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 2450.048 ms
Loss rate: 4.36%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 2195.481 ms
Loss rate: 17.07%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-08-22 01:49:36

End at: 2018-08-22 01:50:06

Local clock offset: -5.839 ms

Remote clock offset: 2.978 ms

Below is generated by plot.py at 2018-08-22 01:58:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.37 Mbit/s

95th percentile per-packet one-way delay: 1918.434 ms

Loss rate: 5.24%

-- Flow 1:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 1747.628 ms

Loss rate: 2.55%

-- Flow 2:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 1927.969 ms

Loss rate: 8.08%

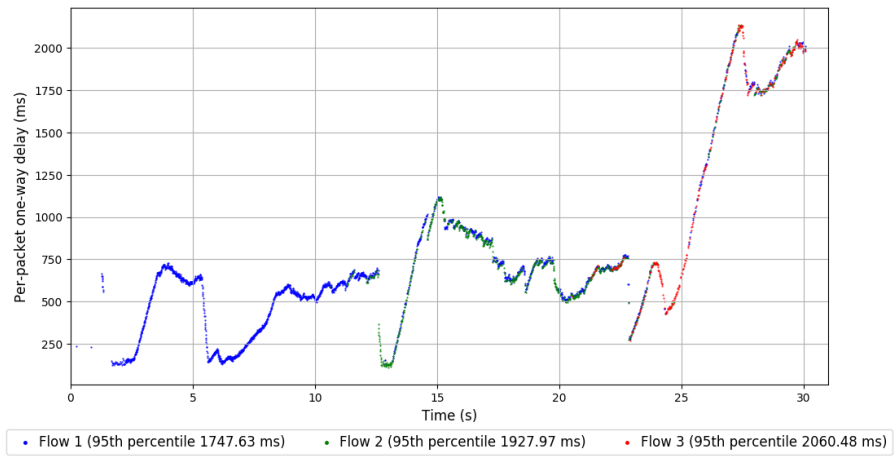
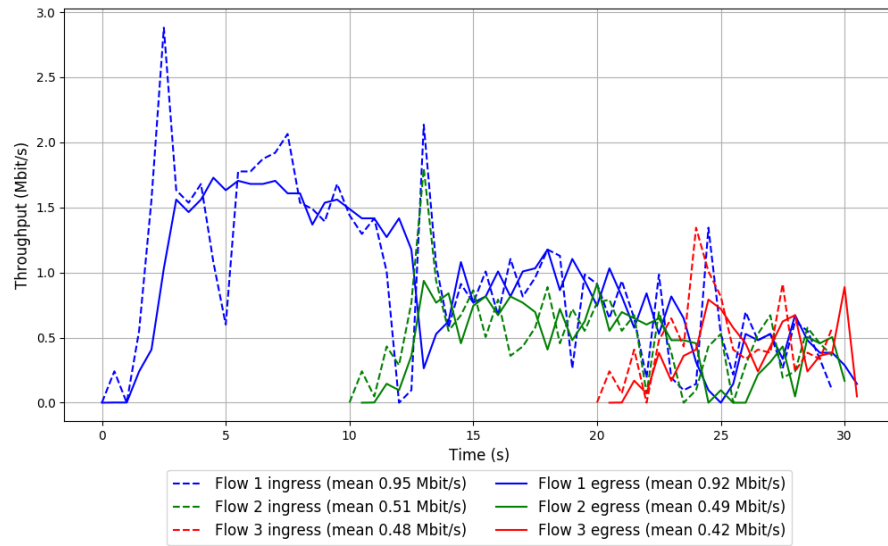
-- Flow 3:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 2060.482 ms

Loss rate: 15.26%

Run 3: Report of TCP BBR — Data Link

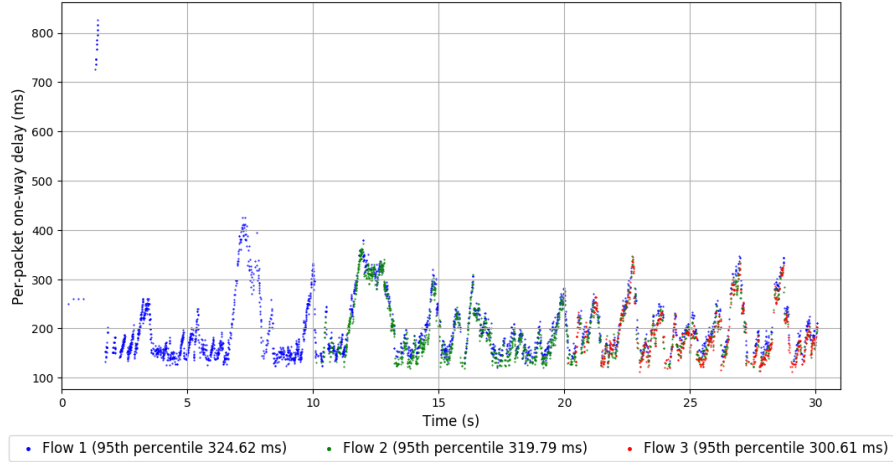
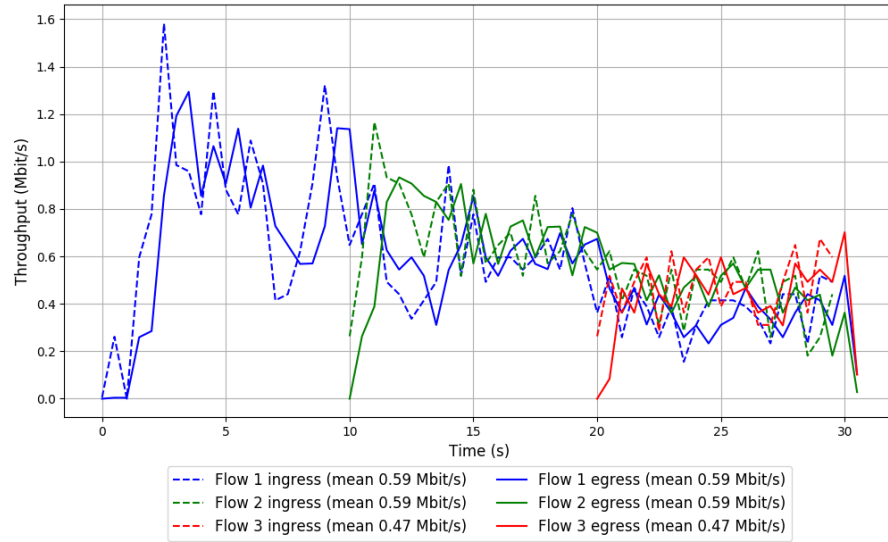


Run 1: Statistics of Copa

Start at: 2018-08-22 01:06:23
End at: 2018-08-22 01:06:53
Local clock offset: -13.621 ms
Remote clock offset: 4.742 ms

Below is generated by plot.py at 2018-08-22 01:58:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 319.651 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 324.623 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 319.786 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 300.613 ms
Loss rate: 0.83%

Run 1: Report of Copa — Data Link

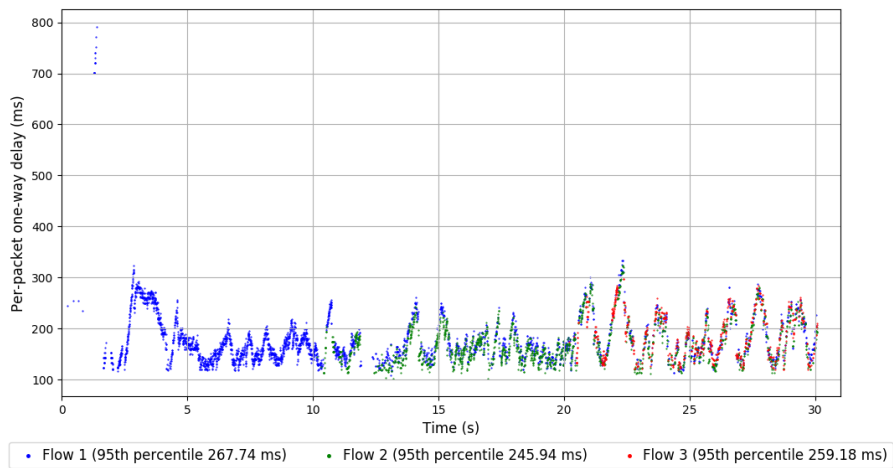
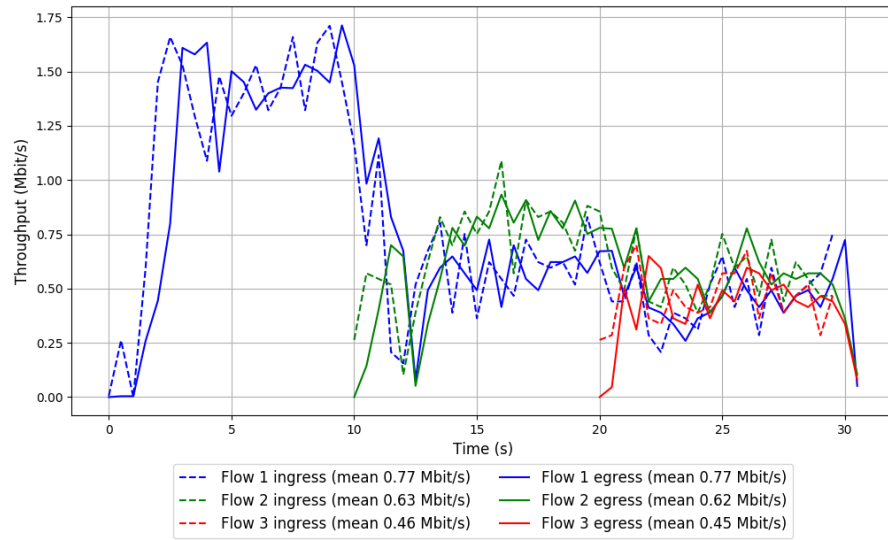


Run 2: Statistics of Copa

Start at: 2018-08-22 01:26:47
End at: 2018-08-22 01:27:17
Local clock offset: -14.463 ms
Remote clock offset: 1.29 ms

Below is generated by plot.py at 2018-08-22 01:58:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 261.027 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 267.740 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 245.942 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 259.177 ms
Loss rate: 1.68%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-08-22 01:47:12

End at: 2018-08-22 01:47:42

Local clock offset: -6.91 ms

Remote clock offset: 7.887 ms

Below is generated by plot.py at 2018-08-22 01:58:46

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.34 Mbit/s

95th percentile per-packet one-way delay: 365.943 ms

Loss rate: 0.39%

-- Flow 1:

Average throughput: 0.86 Mbit/s

95th percentile per-packet one-way delay: 414.990 ms

Loss rate: 0.50%

-- Flow 2:

Average throughput: 0.51 Mbit/s

95th percentile per-packet one-way delay: 279.737 ms

Loss rate: 0.26%

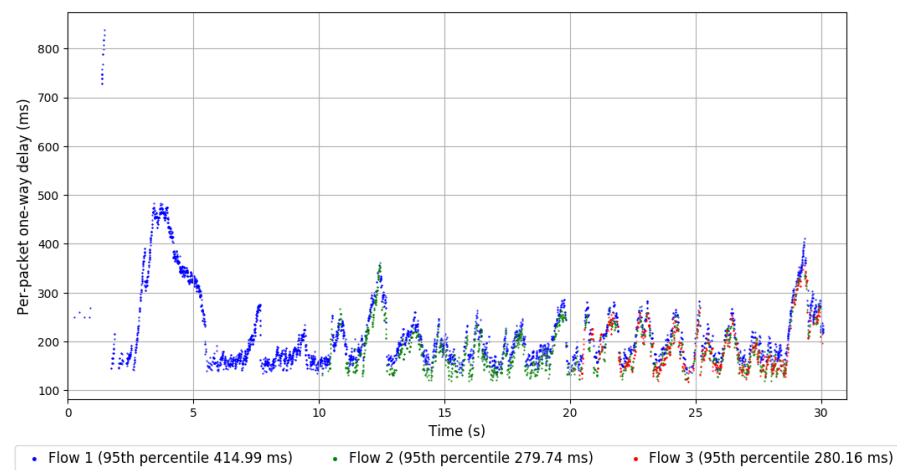
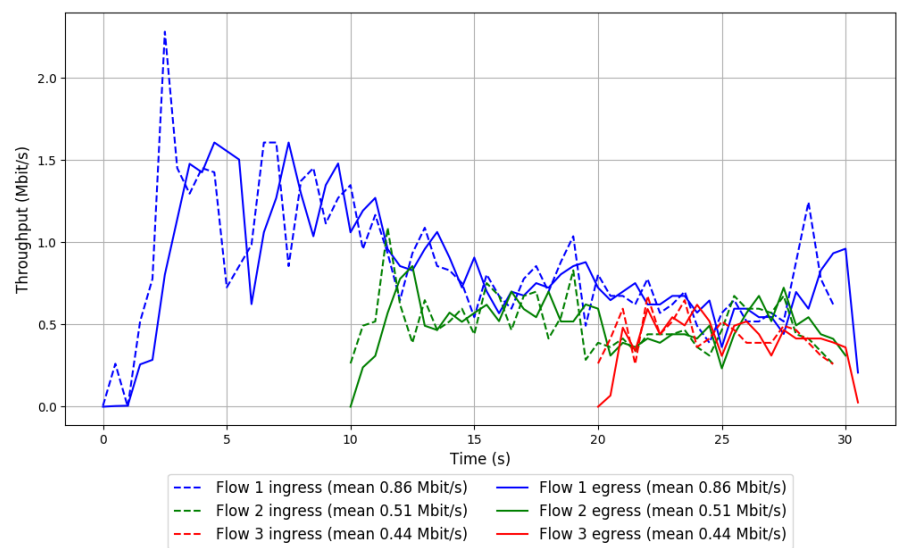
-- Flow 3:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 280.158 ms

Loss rate: 0.00%

Run 3: Report of Copa — Data Link

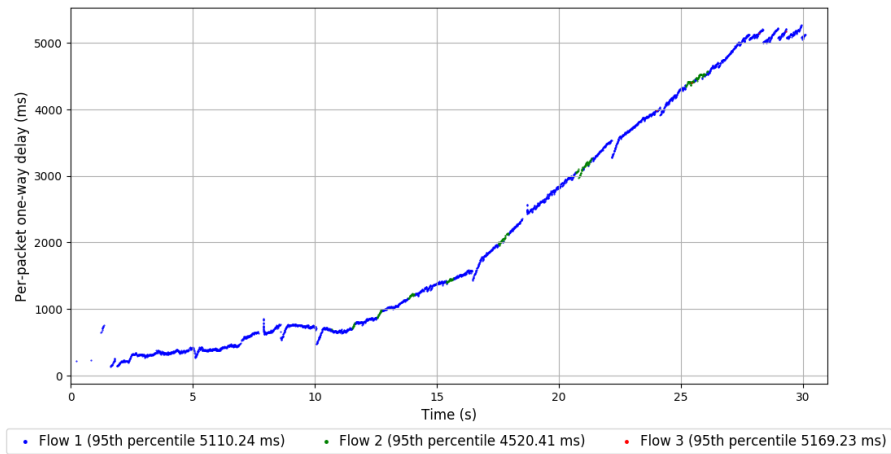
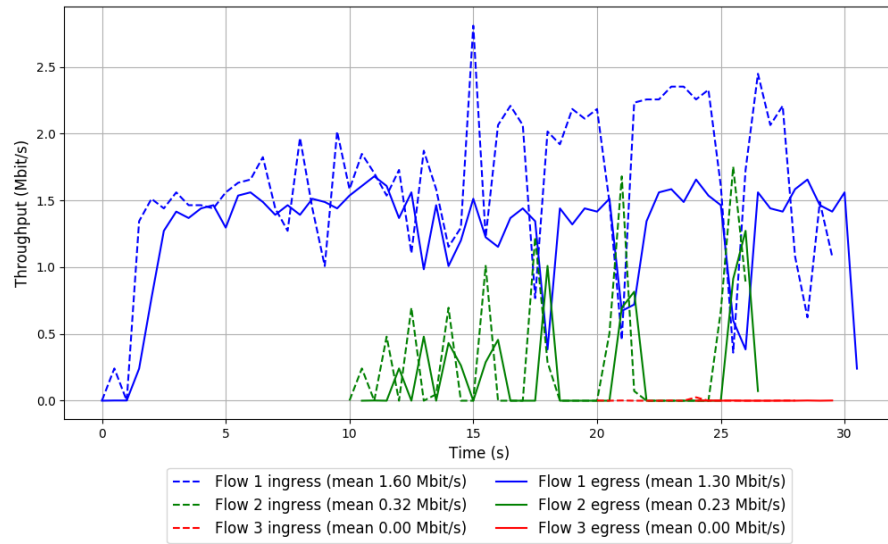


Run 1: Statistics of TCP Cubic

Start at: 2018-08-22 01:05:11
End at: 2018-08-22 01:05:41
Local clock offset: -11.972 ms
Remote clock offset: 6.907 ms

Below is generated by plot.py at 2018-08-22 01:58:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 5109.508 ms
Loss rate: 20.53%
-- Flow 1:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 5110.238 ms
Loss rate: 19.24%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 4520.406 ms
Loss rate: 32.30%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5169.225 ms
Loss rate: 82.43%

Run 1: Report of TCP Cubic — Data Link

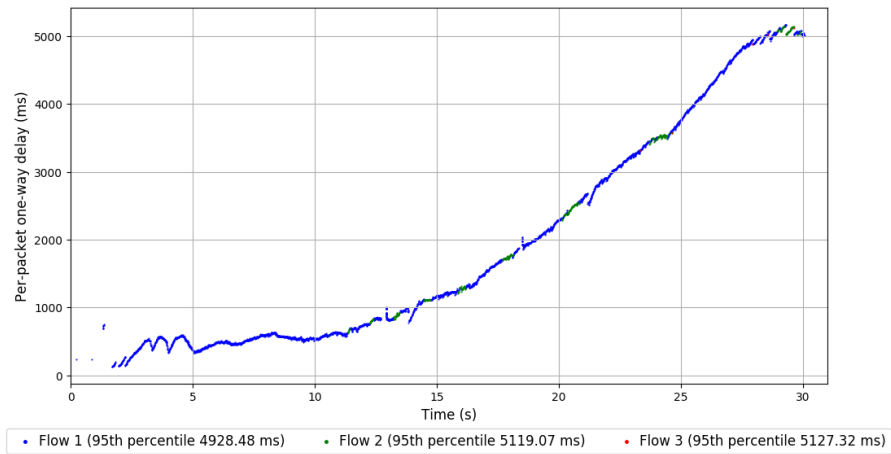
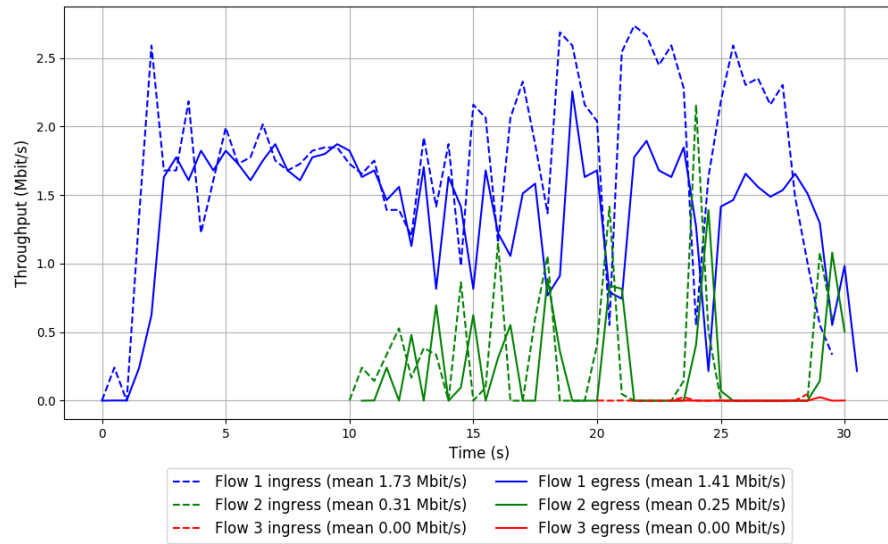


Run 2: Statistics of TCP Cubic

Start at: 2018-08-22 01:25:35
End at: 2018-08-22 01:26:05
Local clock offset: -14.368 ms
Remote clock offset: 1.214 ms

Below is generated by plot.py at 2018-08-22 01:58:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 5008.249 ms
Loss rate: 19.42%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 4928.477 ms
Loss rate: 19.02%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 5119.073 ms
Loss rate: 22.50%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5127.323 ms
Loss rate: 61.79%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-08-22 01:46:00

End at: 2018-08-22 01:46:30

Local clock offset: -7.434 ms

Remote clock offset: 1.835 ms

Below is generated by plot.py at 2018-08-22 01:58:48

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.20 Mbit/s

95th percentile per-packet one-way delay: 5535.653 ms

Loss rate: 23.27%

-- Flow 1:

Average throughput: 1.18 Mbit/s

95th percentile per-packet one-way delay: 5535.780 ms

Loss rate: 22.70%

-- Flow 2:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 5245.957 ms

Loss rate: 42.50%

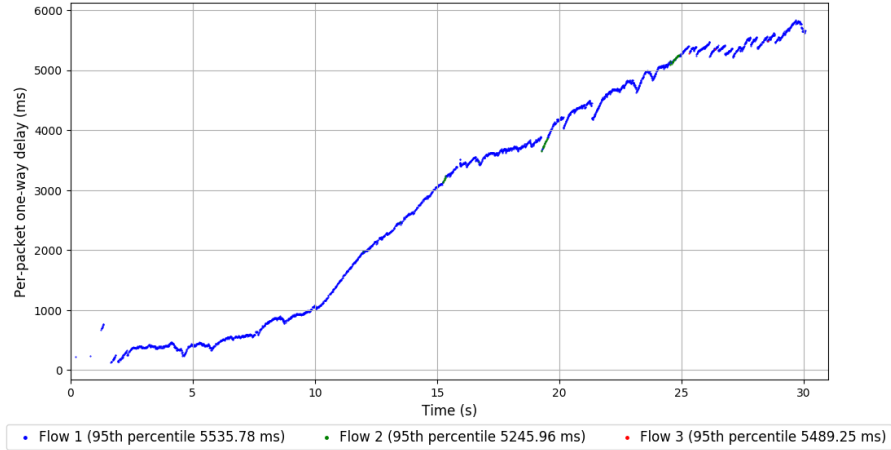
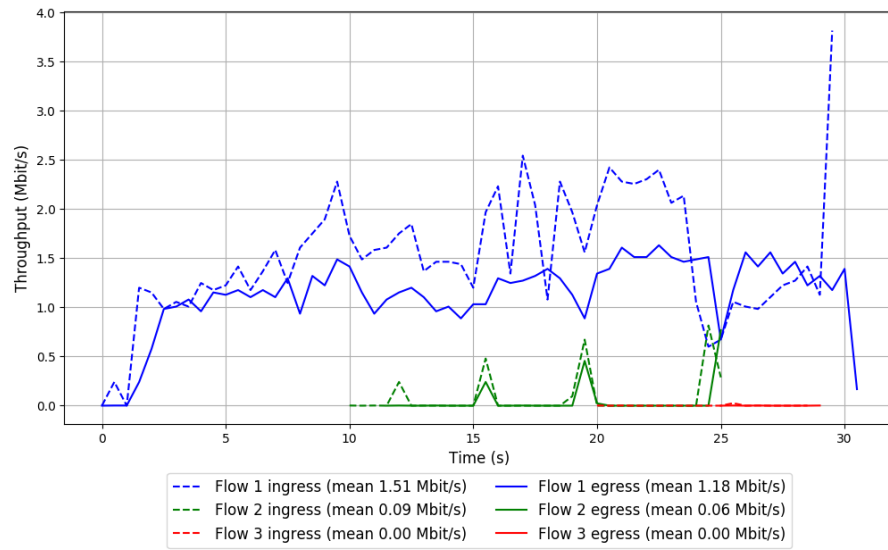
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5489.248 ms

Loss rate: 85.96%

Run 3: Report of TCP Cubic — Data Link

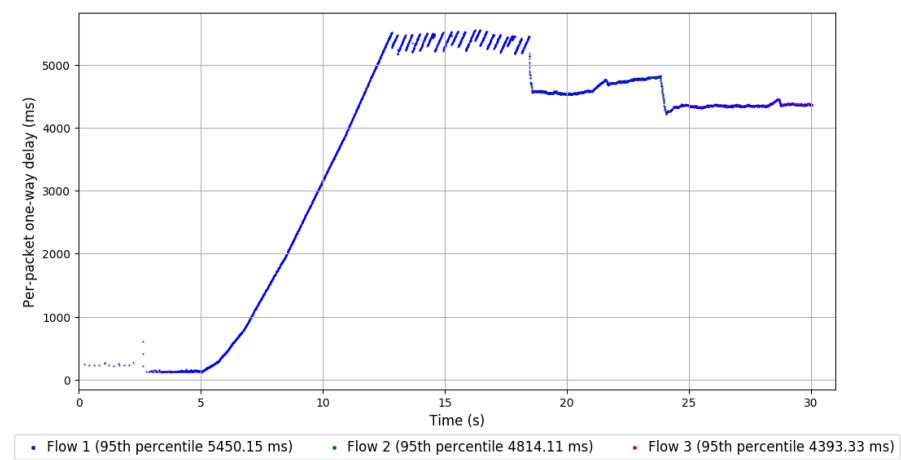
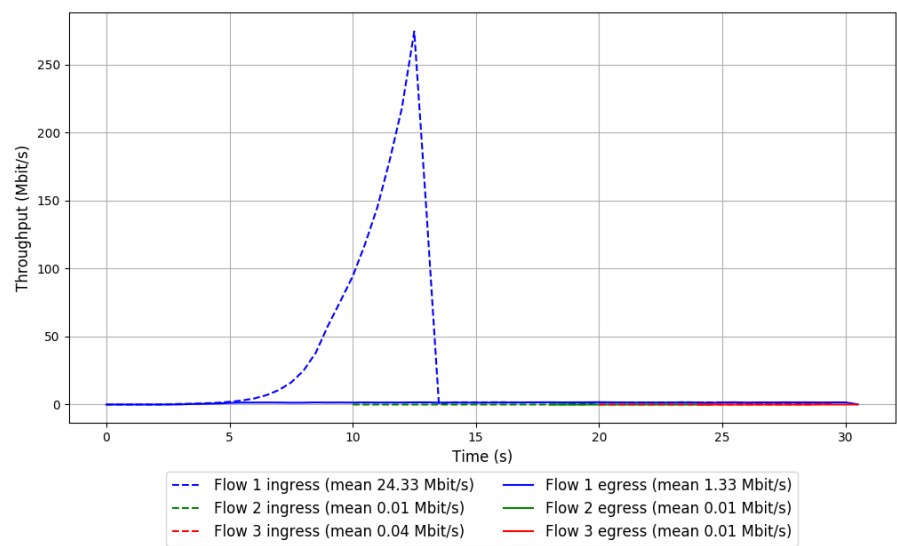


Run 1: Statistics of FillP

Start at: 2018-08-22 00:59:10
End at: 2018-08-22 00:59:40
Local clock offset: -12.875 ms
Remote clock offset: 1.721 ms

Below is generated by plot.py at 2018-08-22 01:59:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 5450.066 ms
Loss rate: 94.55%
-- Flow 1:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 5450.148 ms
Loss rate: 94.56%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 4814.106 ms
Loss rate: 25.29%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 4393.326 ms
Loss rate: 92.02%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-08-22 01:19:35

End at: 2018-08-22 01:20:05

Local clock offset: -13.93 ms

Remote clock offset: 4.87 ms

Below is generated by plot.py at 2018-08-22 01:59:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.33 Mbit/s

95th percentile per-packet one-way delay: 5496.630 ms

Loss rate: 95.05%

-- Flow 1:

Average throughput: 1.33 Mbit/s

95th percentile per-packet one-way delay: 5483.934 ms

Loss rate: 95.06%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4668.440 ms

Loss rate: 31.59%

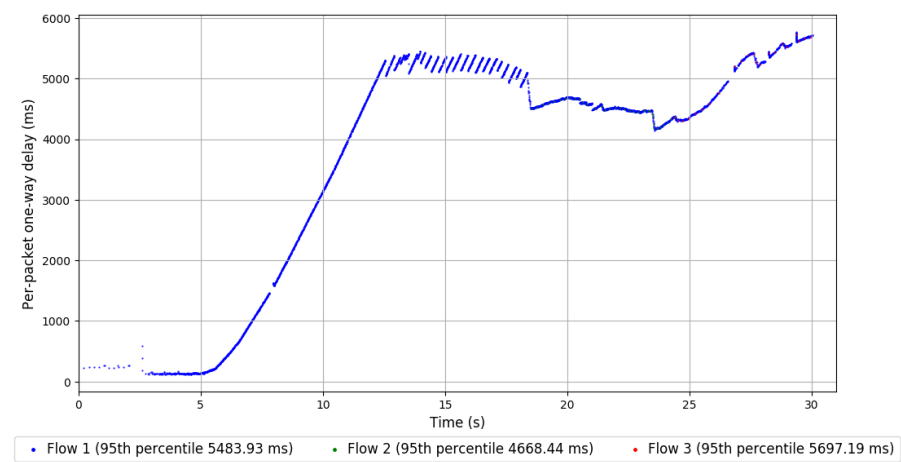
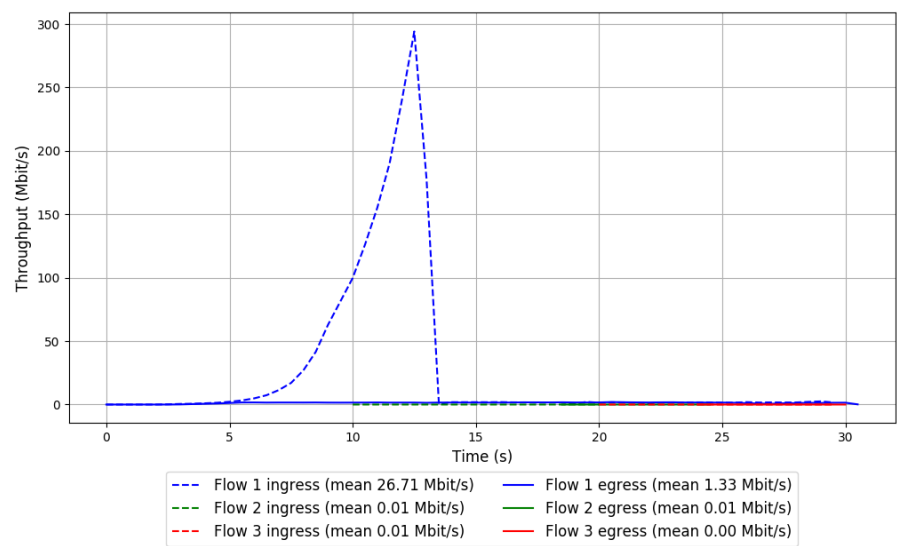
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5697.195 ms

Loss rate: 77.65%

Run 2: Report of FillP — Data Link

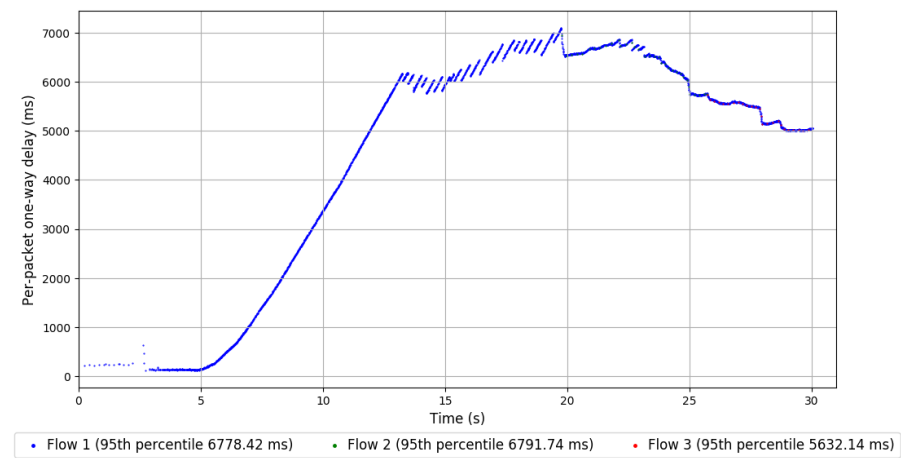
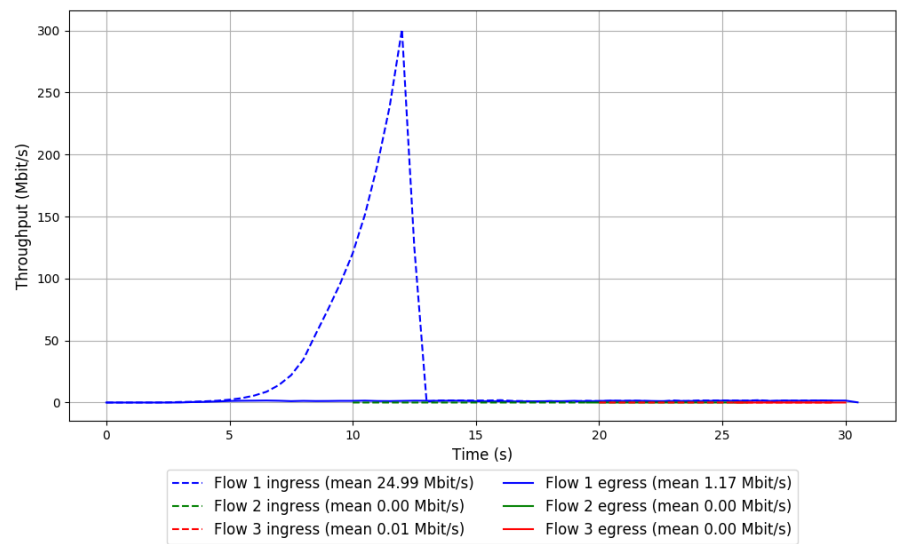


Run 3: Statistics of FillP

Start at: 2018-08-22 01:40:00
End at: 2018-08-22 01:40:30
Local clock offset: -12.098 ms
Remote clock offset: 5.546 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 6778.423 ms
Loss rate: 95.33%
-- Flow 1:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 6778.423 ms
Loss rate: 95.34%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6791.738 ms
Loss rate: 32.47%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5632.139 ms
Loss rate: 76.30%

Run 3: Report of FillP — Data Link

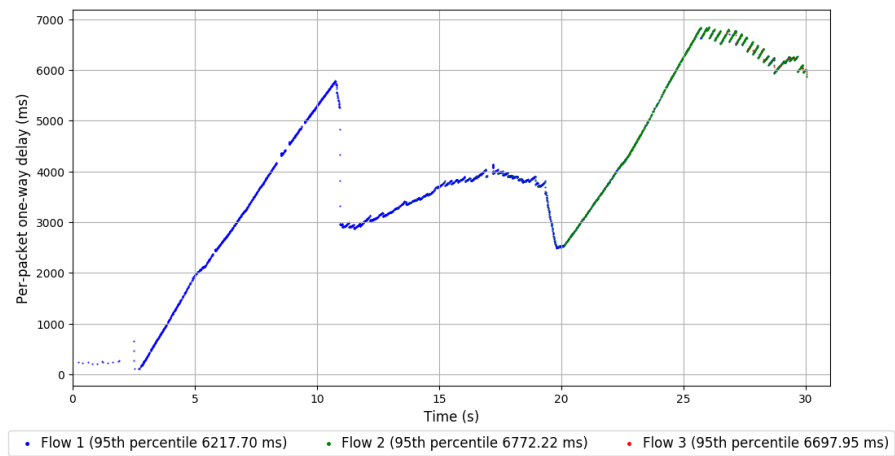
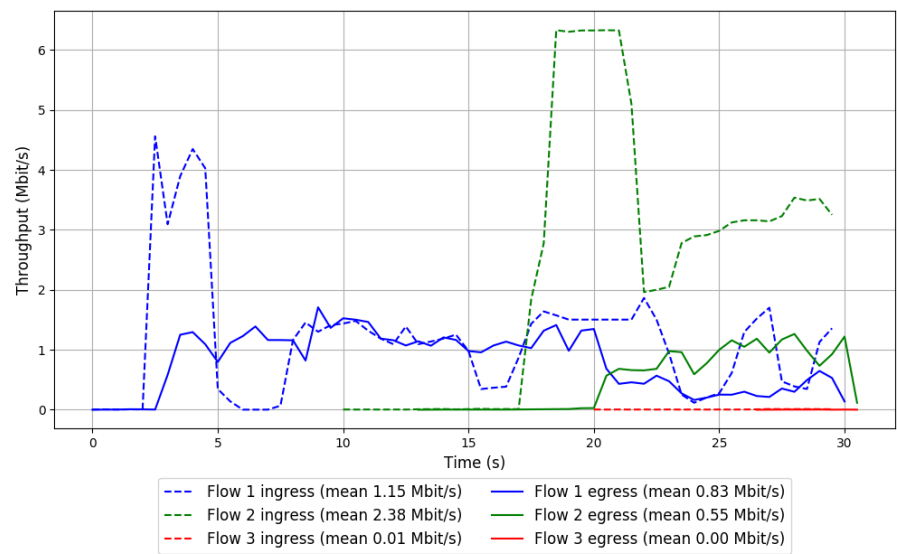


Run 1: Statistics of FillP-Sheep

Start at: 2018-08-22 01:01:34
End at: 2018-08-22 01:02:04
Local clock offset: -12.389 ms
Remote clock offset: 1.979 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 6676.410 ms
Loss rate: 59.09%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 6217.696 ms
Loss rate: 29.47%
-- Flow 2:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 6772.220 ms
Loss rate: 80.59%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6697.955 ms
Loss rate: 82.28%

Run 1: Report of FillP-Sheep — Data Link

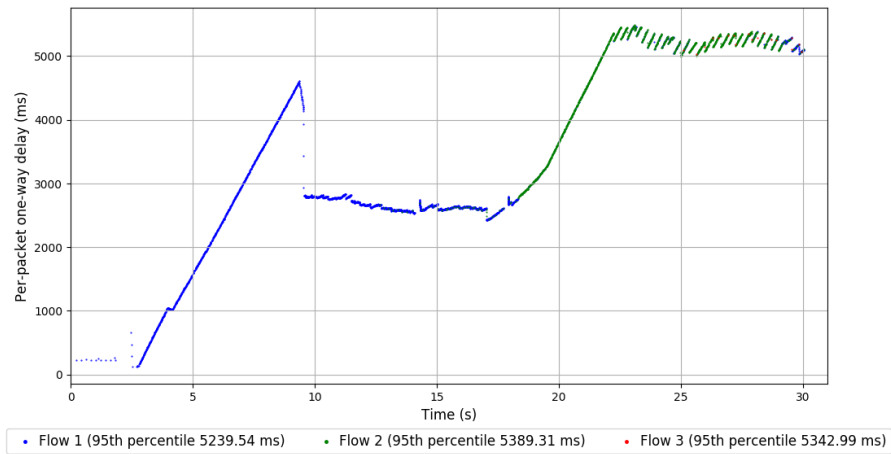
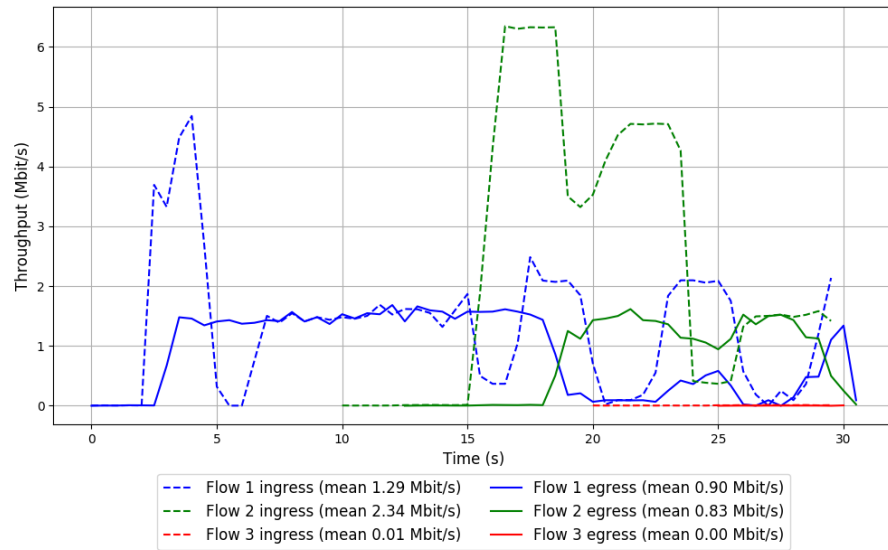


Run 2: Statistics of FillP-Sheep

Start at: 2018-08-22 01:21:59
End at: 2018-08-22 01:22:29
Local clock offset: -13.345 ms
Remote clock offset: 0.689 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 5340.548 ms
Loss rate: 51.74%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 5239.536 ms
Loss rate: 30.82%
-- Flow 2:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 5389.305 ms
Loss rate: 69.03%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5342.992 ms
Loss rate: 79.47%

Run 2: Report of FillP-Sheep — Data Link

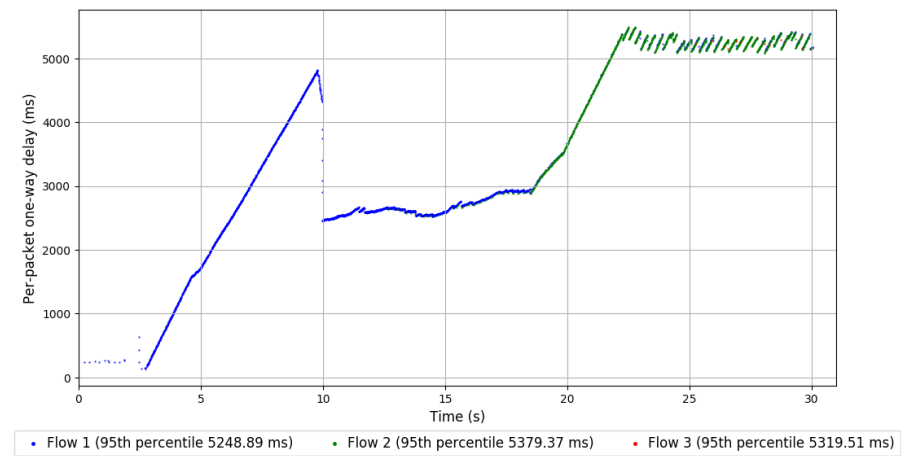
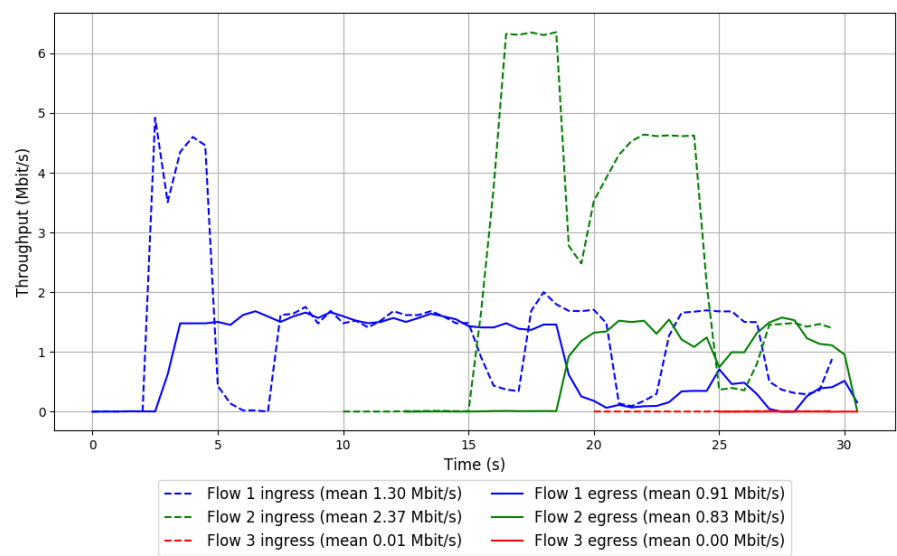


Run 3: Statistics of FillP-Sheep

Start at: 2018-08-22 01:42:24
End at: 2018-08-22 01:42:54
Local clock offset: -10.718 ms
Remote clock offset: 5.605 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 5339.318 ms
Loss rate: 51.76%
-- Flow 1:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 5248.890 ms
Loss rate: 30.34%
-- Flow 2:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 5379.373 ms
Loss rate: 69.40%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5319.505 ms
Loss rate: 82.80%

Run 3: Report of FillP-Sheep — Data Link

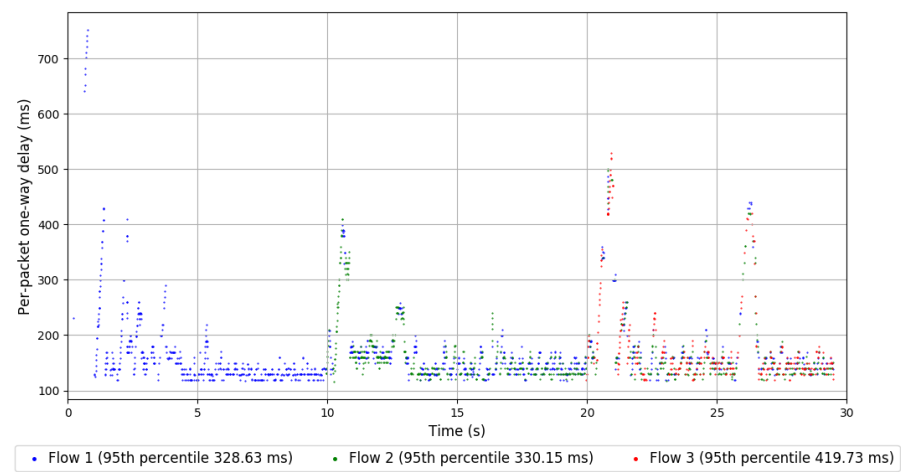
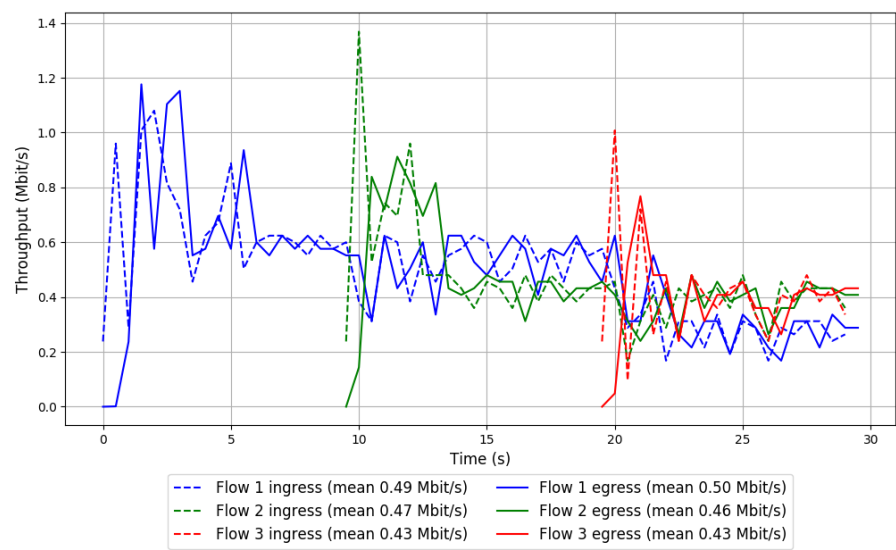


Run 1: Statistics of Indigo

Start at: 2018-08-22 00:57:58
End at: 2018-08-22 00:58:28
Local clock offset: -11.968 ms
Remote clock offset: 3.509 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 340.282 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 328.633 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 330.152 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 419.733 ms
Loss rate: 0.59%

Run 1: Report of Indigo — Data Link

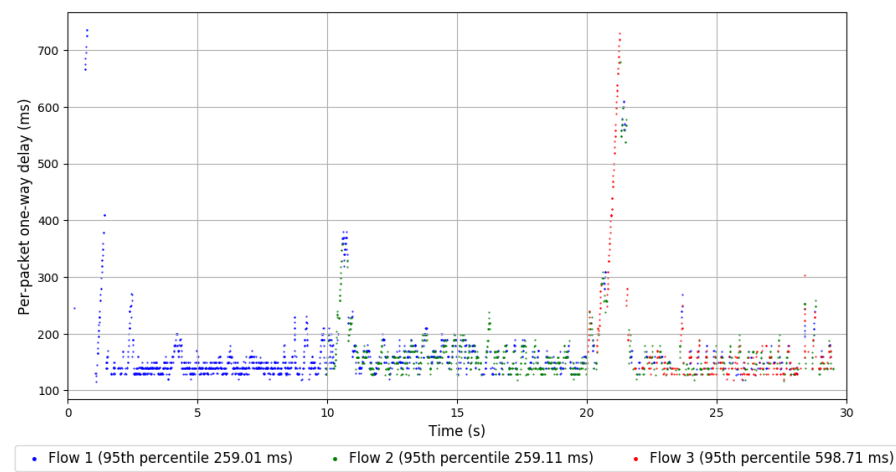
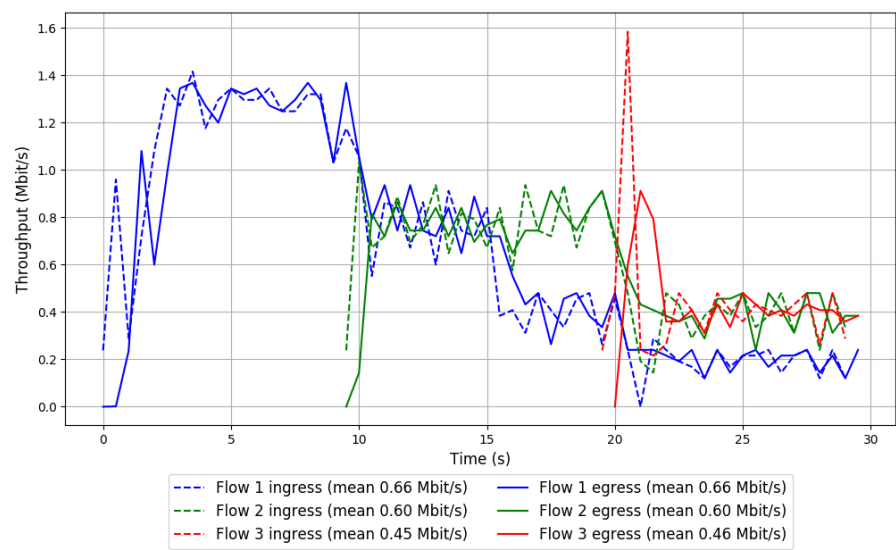


Run 2: Statistics of Indigo

Start at: 2018-08-22 01:18:22
End at: 2018-08-22 01:18:52
Local clock offset: -14.671 ms
Remote clock offset: 0.548 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 317.619 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 259.012 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 259.108 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 598.705 ms
Loss rate: 0.56%

Run 2: Report of Indigo — Data Link

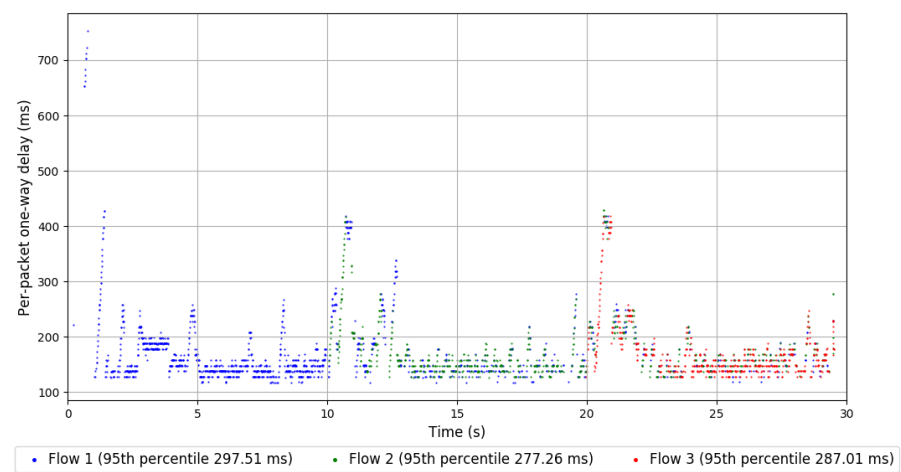
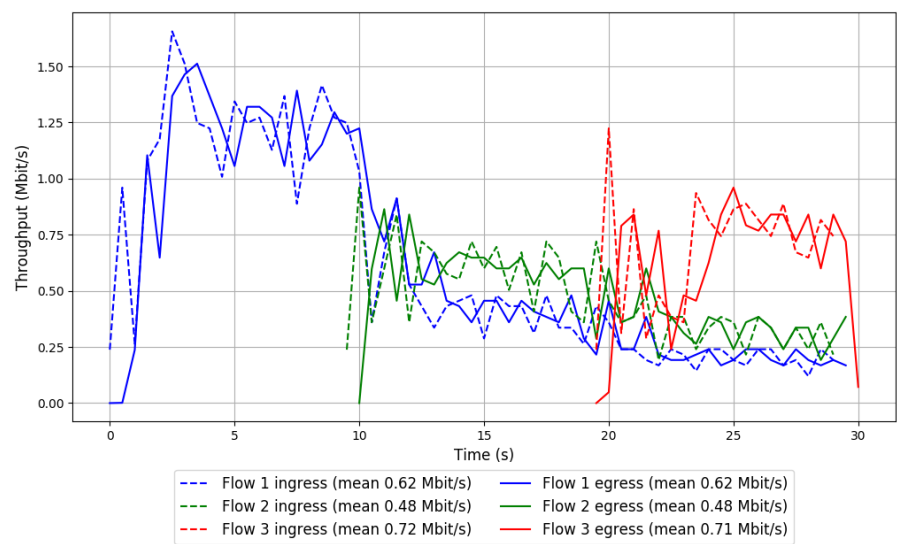


Run 3: Statistics of Indigo

Start at: 2018-08-22 01:38:48
End at: 2018-08-22 01:39:18
Local clock offset: -13.386 ms
Remote clock offset: 2.899 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 287.529 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 297.511 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 277.258 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 287.014 ms
Loss rate: 1.22%

Run 3: Report of Indigo — Data Link

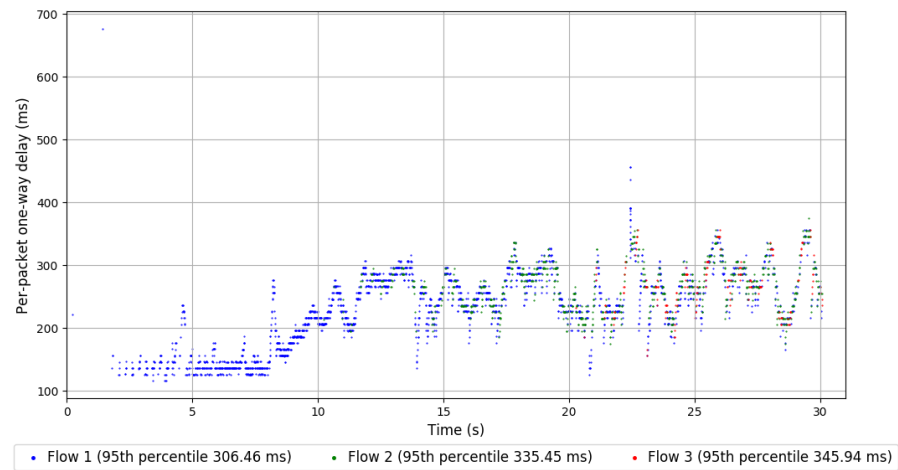
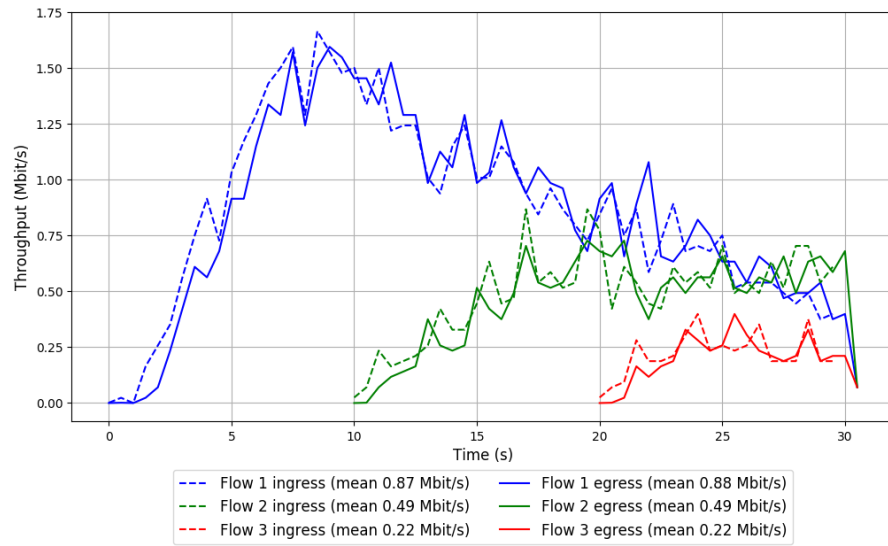


Run 1: Statistics of LEDBAT

Start at: 2018-08-22 01:07:35
End at: 2018-08-22 01:08:05
Local clock offset: -12.949 ms
Remote clock offset: 5.787 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 316.562 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 306.465 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 335.450 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 345.943 ms
Loss rate: 2.13%

Run 1: Report of LEDBAT — Data Link

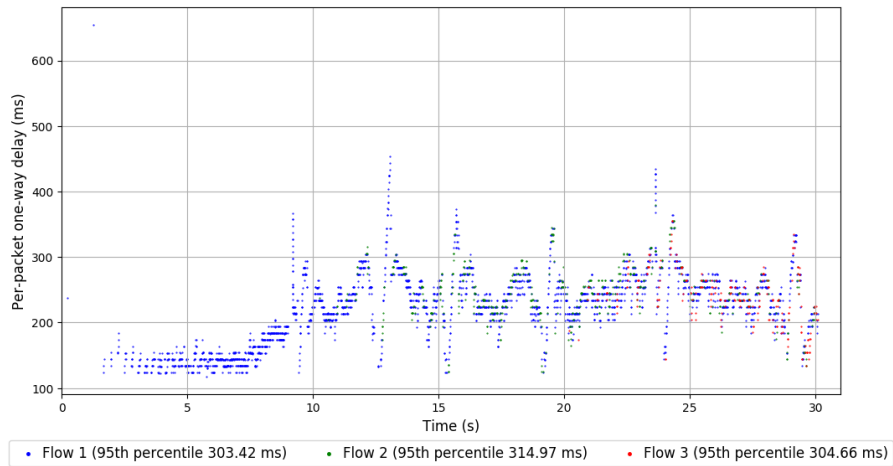
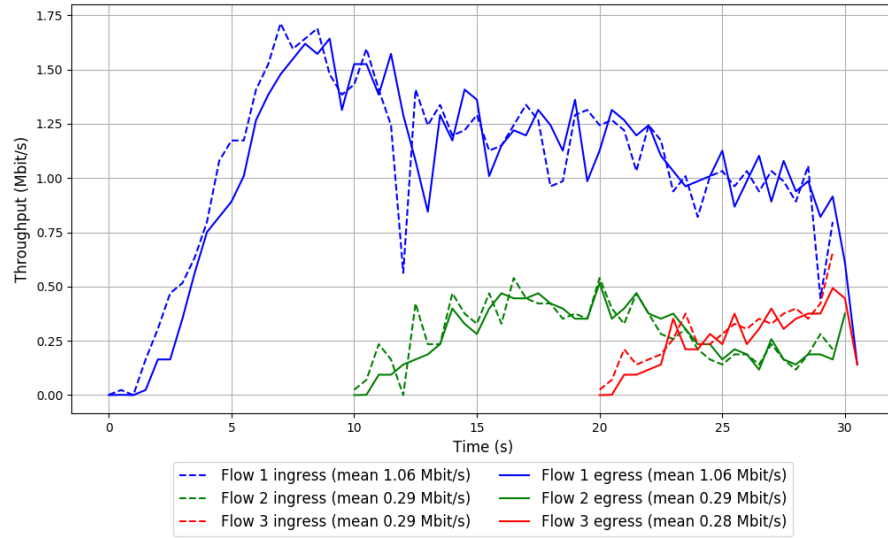


Run 2: Statistics of LEDBAT

Start at: 2018-08-22 01:27:59
End at: 2018-08-22 01:28:29
Local clock offset: -14.535 ms
Remote clock offset: 2.552 ms

Below is generated by plot.py at 2018-08-22 01:59:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 304.108 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 303.416 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 314.968 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 304.664 ms
Loss rate: 2.88%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-08-22 01:48:24

End at: 2018-08-22 01:48:54

Local clock offset: -7.027 ms

Remote clock offset: 7.855 ms

Below is generated by plot.py at 2018-08-22 01:59:03

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.28 Mbit/s

95th percentile per-packet one-way delay: 306.368 ms

Loss rate: 0.73%

-- Flow 1:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 305.886 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 316.269 ms

Loss rate: 0.00%

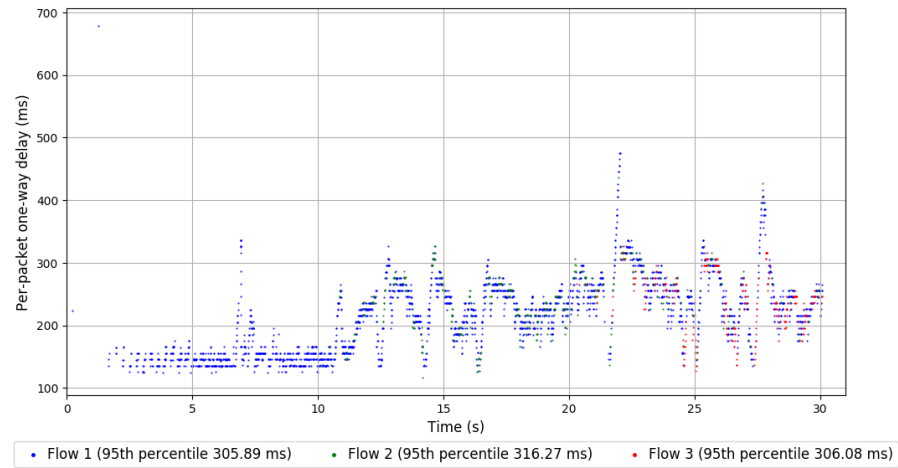
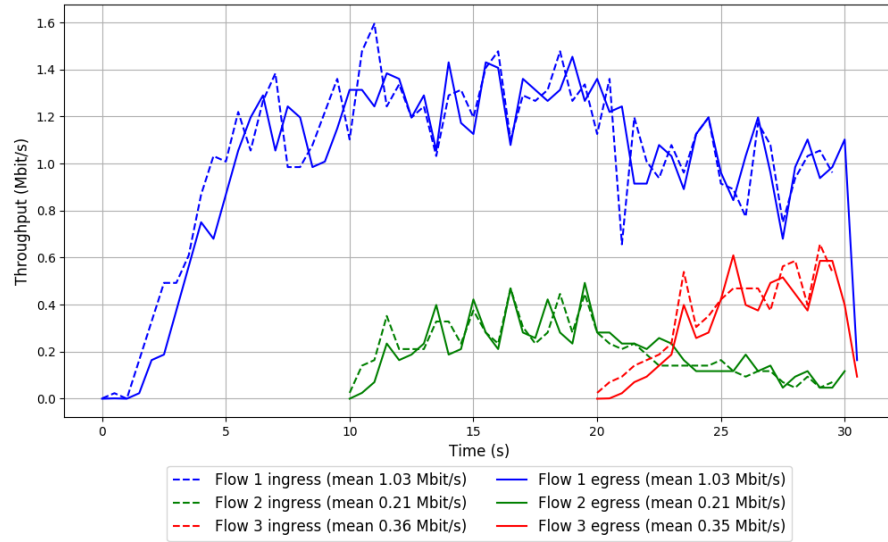
-- Flow 3:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 306.079 ms

Loss rate: 4.32%

Run 3: Report of LEDBAT — Data Link

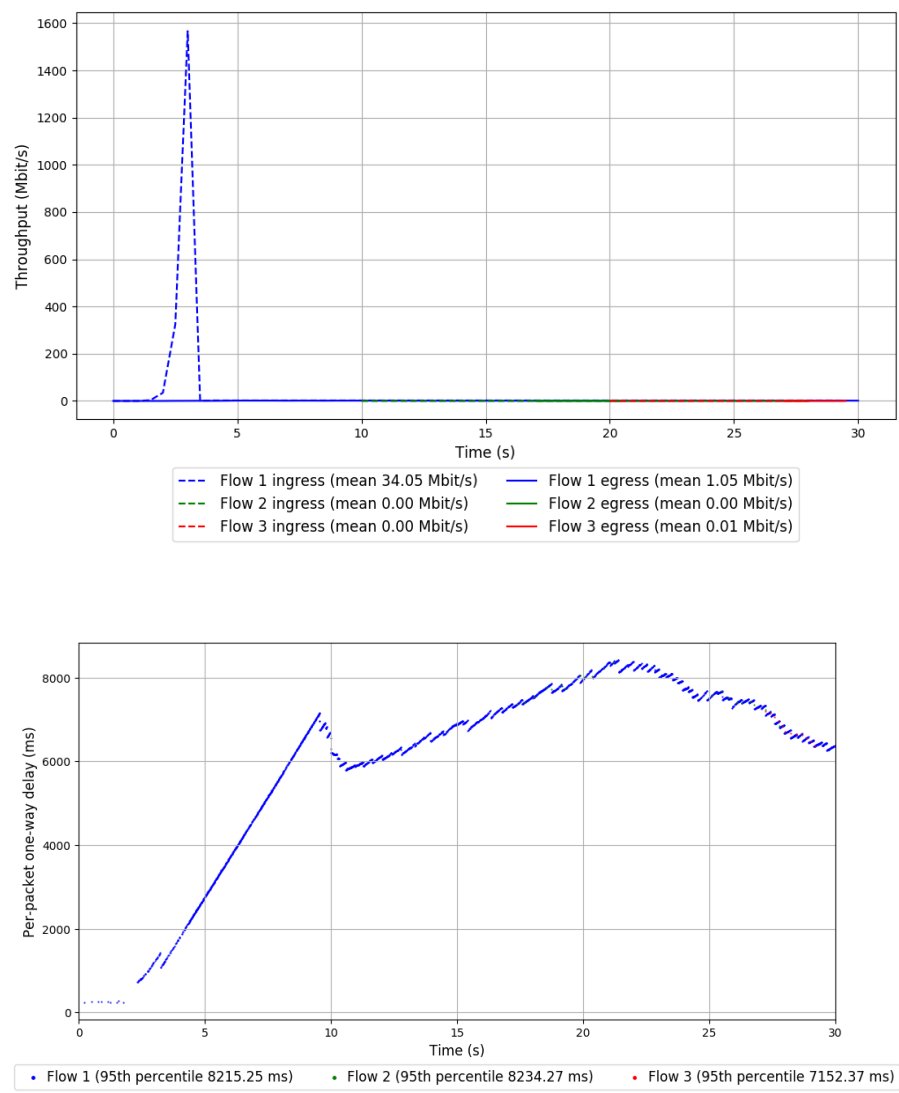


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-08-22 01:00:22
End at: 2018-08-22 01:00:52
Local clock offset: -13.008 ms
Remote clock offset: 6.587 ms

# Below is generated by plot.py at 2018-08-22 01:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 8215.248 ms
Loss rate: 96.94%
-- Flow 1:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 8215.248 ms
Loss rate: 96.95%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8234.271 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 7152.373 ms
Loss rate: 41.55%
```

Run 1: Report of PCC-Allegro — Data Link

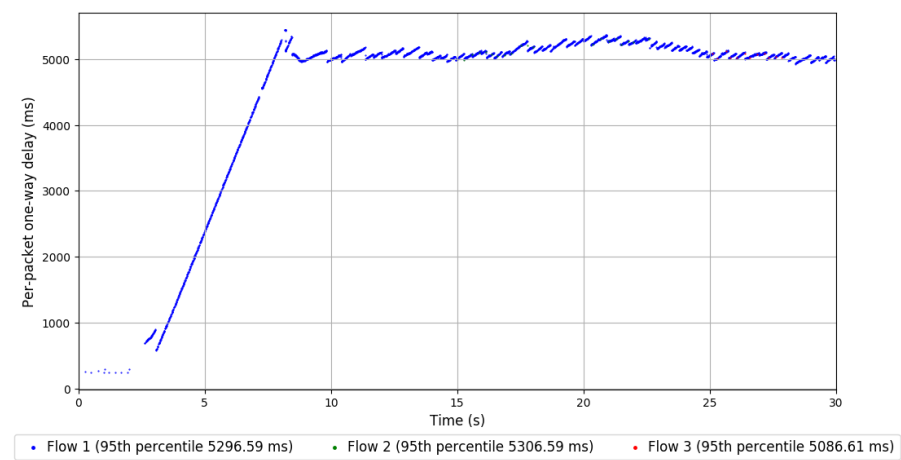
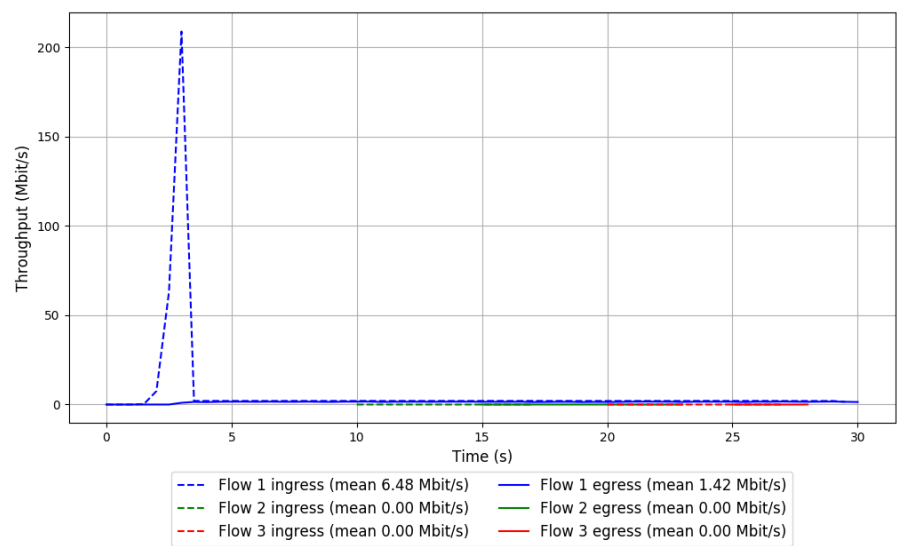


Run 2: Statistics of PCC-Allegro

Start at: 2018-08-22 01:20:47
End at: 2018-08-22 01:21:17
Local clock offset: -14.024 ms
Remote clock offset: 3.251 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 5296.594 ms
Loss rate: 78.21%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 5296.586 ms
Loss rate: 78.23%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5306.591 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5086.615 ms
Loss rate: 44.83%

Run 2: Report of PCC-Allegro — Data Link

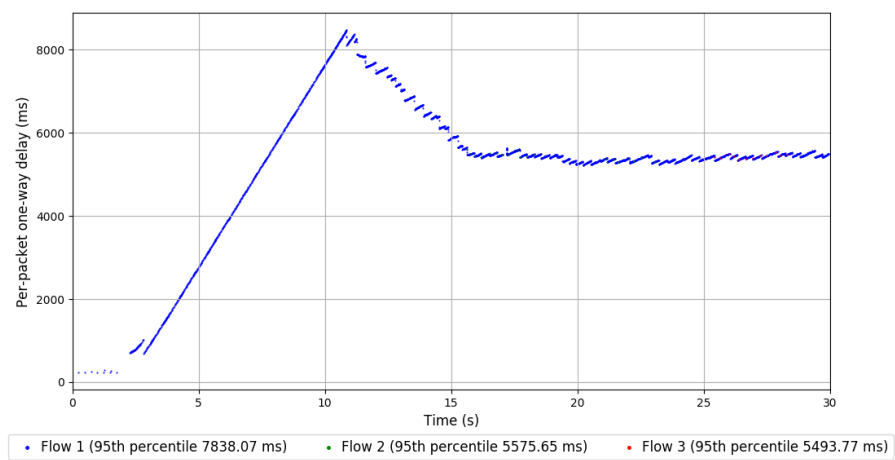
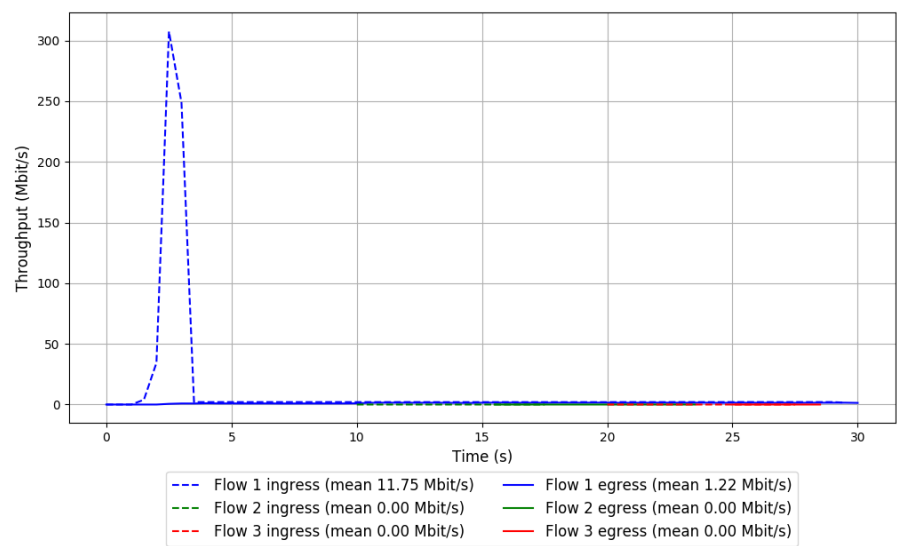


Run 3: Statistics of PCC-Allegro

Start at: 2018-08-22 01:41:12
End at: 2018-08-22 01:41:42
Local clock offset: -10.258 ms
Remote clock offset: 3.024 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 7837.428 ms
Loss rate: 89.65%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 7838.074 ms
Loss rate: 89.66%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5575.653 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5493.773 ms
Loss rate: 44.83%

Run 3: Report of PCC-Allegro — Data Link

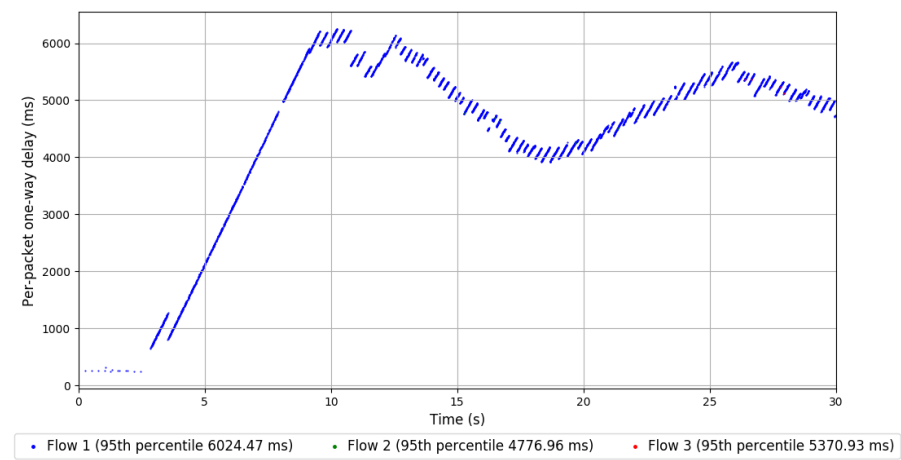
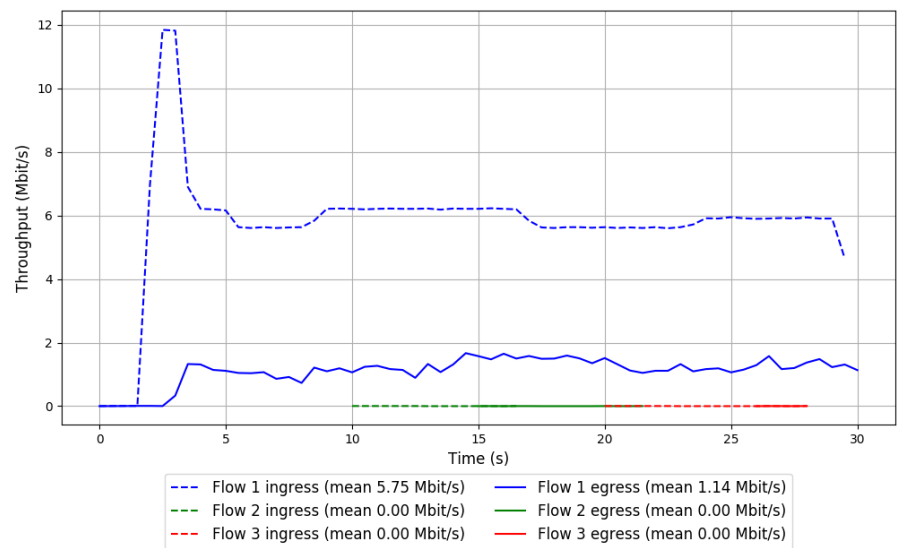


```
Run 1: Statistics of PCC-Expr

Start at: 2018-08-22 01:15:58
End at: 2018-08-22 01:16:28
Local clock offset: -14.503 ms
Remote clock offset: 0.67 ms

# Below is generated by plot.py at 2018-08-22 01:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 6024.472 ms
Loss rate: 80.30%
-- Flow 1:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 6024.472 ms
Loss rate: 80.30%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4776.958 ms
Loss rate: 65.27%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5370.933 ms
Loss rate: 76.30%
```

Run 1: Report of PCC-Expr — Data Link

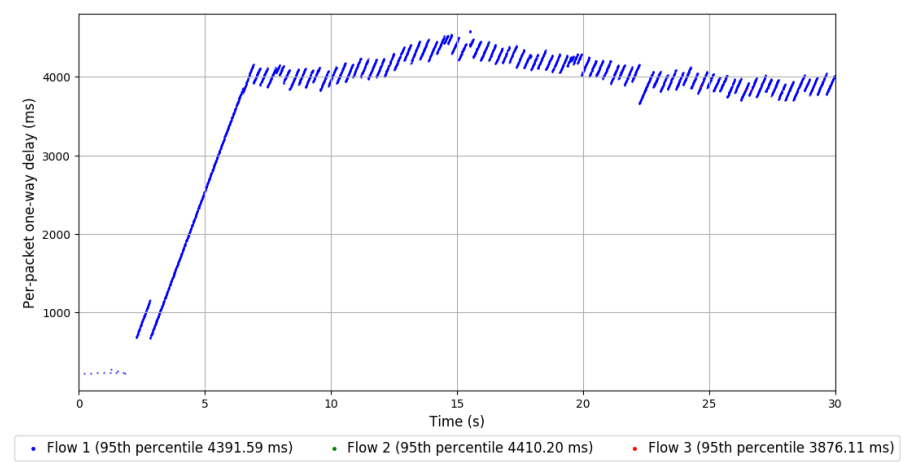
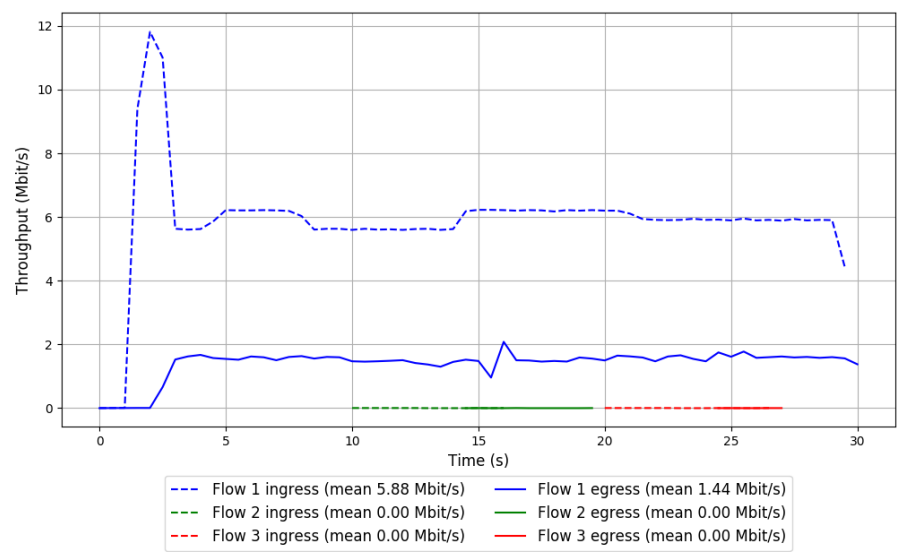


Run 2: Statistics of PCC-Expr

Start at: 2018-08-22 01:36:24
End at: 2018-08-22 01:36:54
Local clock offset: -15.935 ms
Remote clock offset: 3.058 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 4391.587 ms
Loss rate: 75.59%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 4391.587 ms
Loss rate: 75.59%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4410.204 ms
Loss rate: 73.05%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3876.105 ms
Loss rate: 80.84%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-08-22 01:56:48

End at: 2018-08-22 01:57:18

Local clock offset: -4.403 ms

Remote clock offset: 2.078 ms

Below is generated by plot.py at 2018-08-22 01:59:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.34 Mbit/s

95th percentile per-packet one-way delay: 4803.232 ms

Loss rate: 77.23%

-- Flow 1:

Average throughput: 1.34 Mbit/s

95th percentile per-packet one-way delay: 4801.436 ms

Loss rate: 77.23%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4899.794 ms

Loss rate: 80.84%

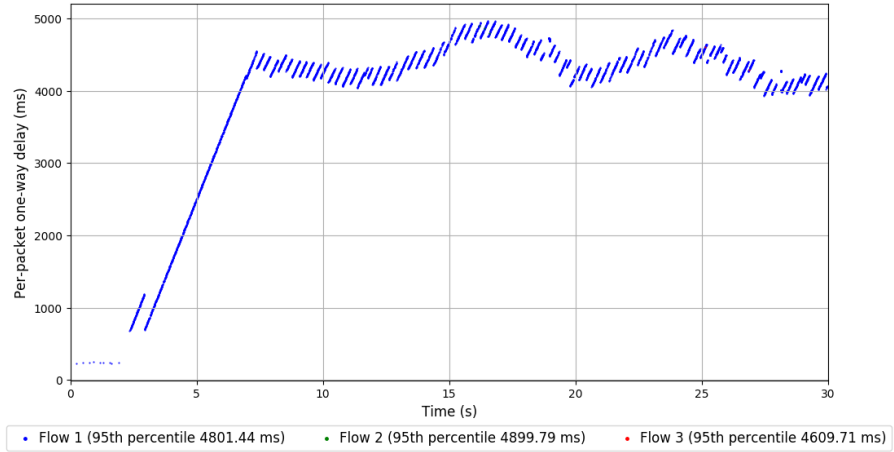
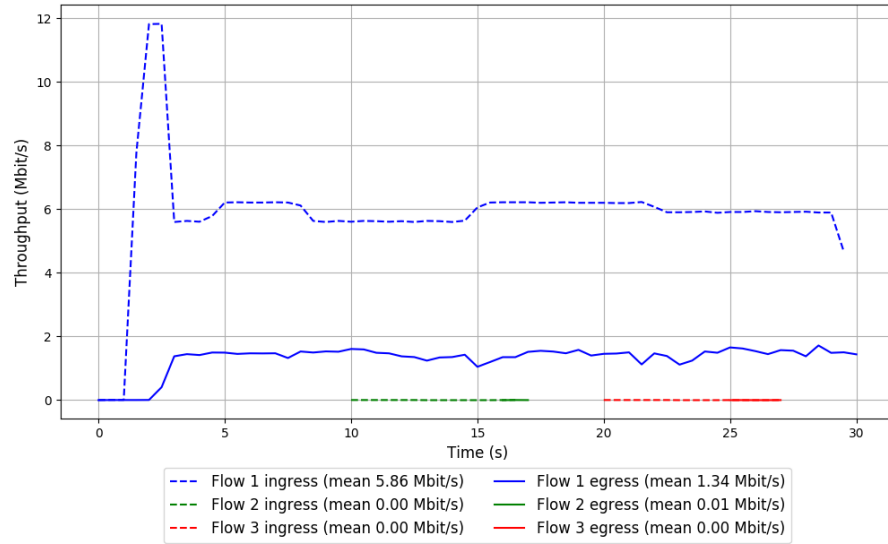
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4609.709 ms

Loss rate: 86.15%

Run 3: Report of PCC-Expr — Data Link

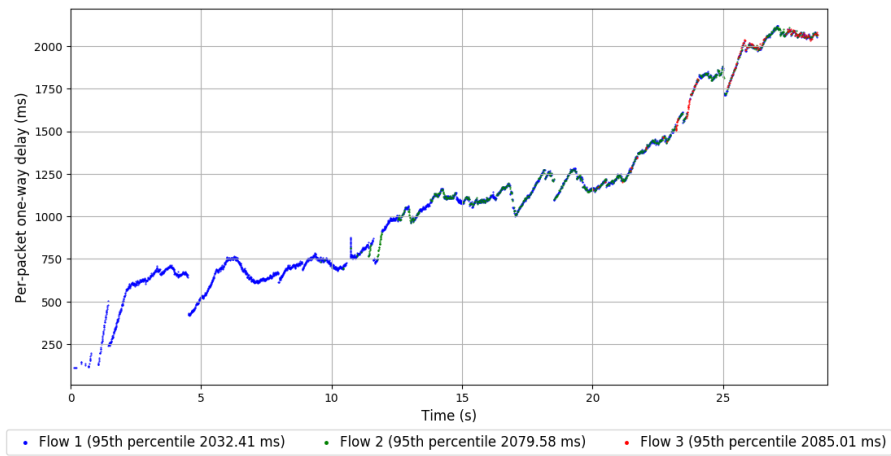
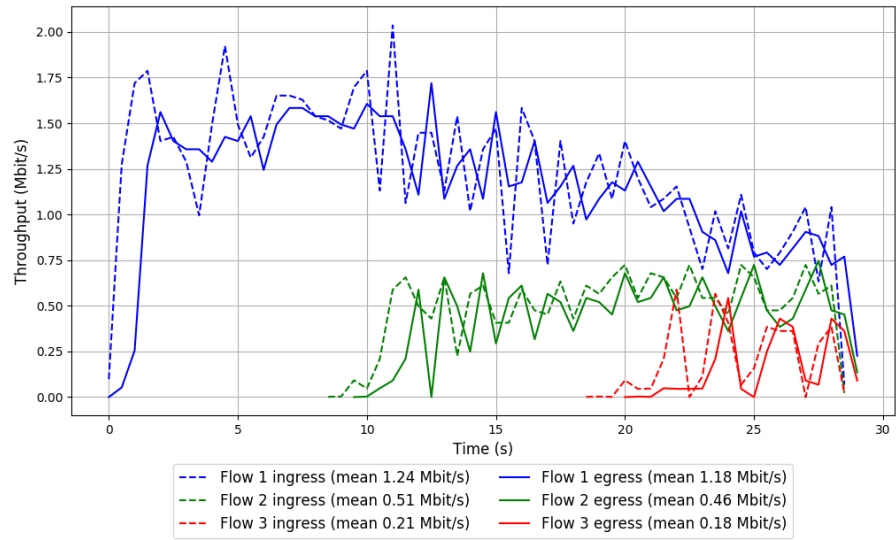


Run 1: Statistics of QUIC Cubic

Start at: 2018-08-22 01:03:59
End at: 2018-08-22 01:04:29
Local clock offset: -11.837 ms
Remote clock offset: 1.856 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 2062.351 ms
Loss rate: 7.42%
-- Flow 1:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 2032.406 ms
Loss rate: 5.10%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 2079.578 ms
Loss rate: 12.10%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 2085.009 ms
Loss rate: 24.77%

Run 1: Report of QUIC Cubic — Data Link

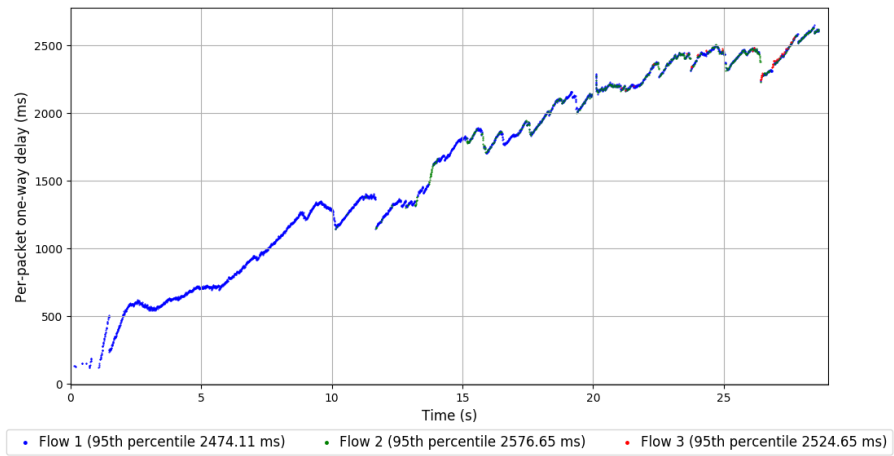
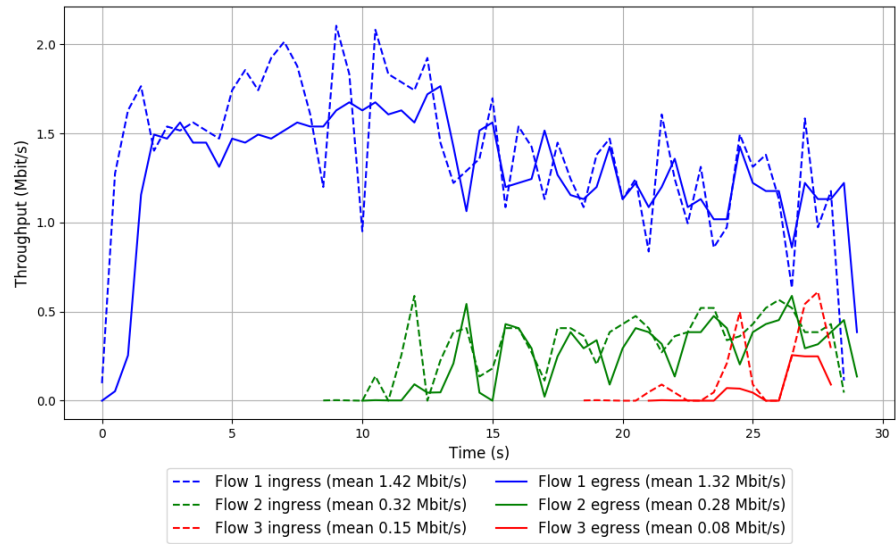


Run 2: Statistics of QUIC Cubic

Start at: 2018-08-22 01:24:23
End at: 2018-08-22 01:24:53
Local clock offset: -14.369 ms
Remote clock offset: 2.167 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 2487.226 ms
Loss rate: 9.95%
-- Flow 1:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 2474.113 ms
Loss rate: 6.89%
-- Flow 2:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 2576.654 ms
Loss rate: 18.26%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 2524.653 ms
Loss rate: 62.13%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-08-22 01:44:48

End at: 2018-08-22 01:45:18

Local clock offset: -7.368 ms

Remote clock offset: 1.754 ms

Below is generated by plot.py at 2018-08-22 01:59:11

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.25 Mbit/s

95th percentile per-packet one-way delay: 2790.539 ms

Loss rate: 8.59%

-- Flow 1:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 2494.335 ms

Loss rate: 5.49%

-- Flow 2:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 2912.216 ms

Loss rate: 13.40%

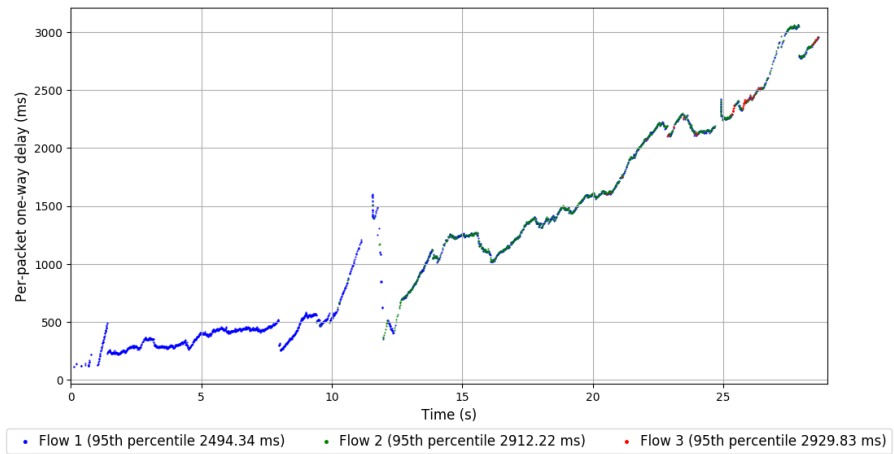
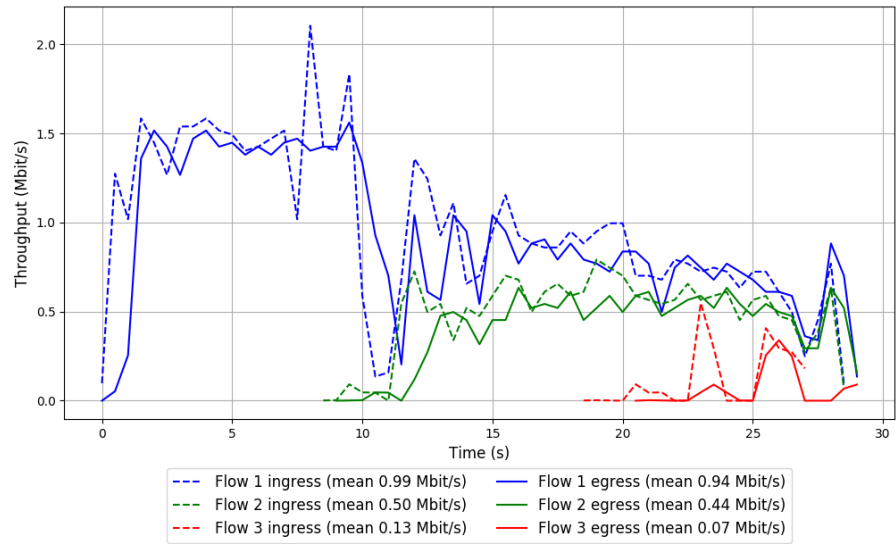
-- Flow 3:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 2929.827 ms

Loss rate: 45.57%

Run 3: Report of QUIC Cubic — Data Link

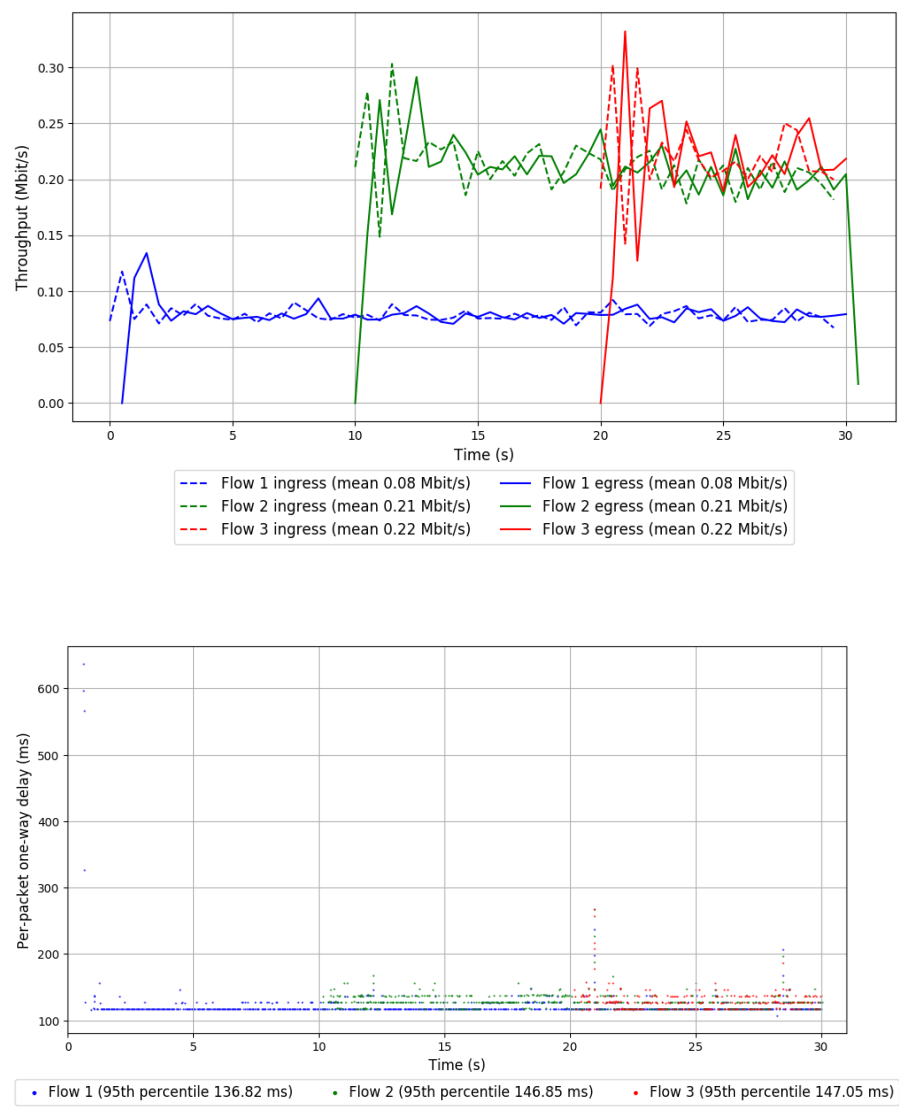


Run 1: Statistics of SCReAM

Start at: 2018-08-22 01:17:11
End at: 2018-08-22 01:17:41
Local clock offset: -14.586 ms
Remote clock offset: 0.638 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 138.210 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 136.824 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 146.848 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 147.054 ms
Loss rate: 0.70%

Run 1: Report of SReAM — Data Link

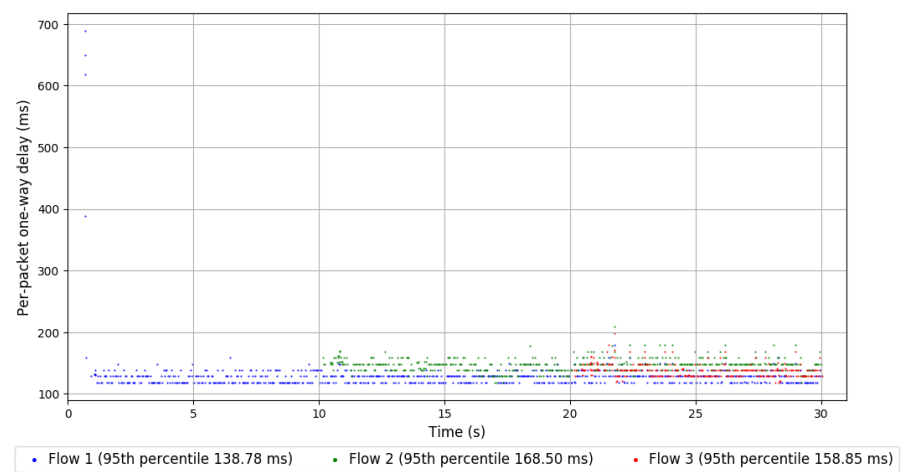
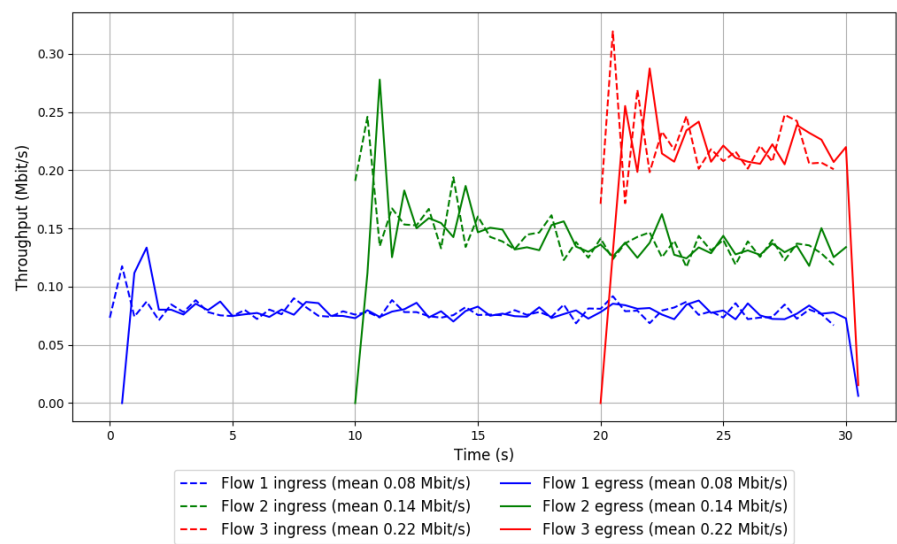


Run 2: Statistics of SCReAM

Start at: 2018-08-22 01:37:36
End at: 2018-08-22 01:38:06
Local clock offset: -15.491 ms
Remote clock offset: 2.916 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 158.602 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 138.776 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 168.505 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 158.854 ms
Loss rate: 0.35%

Run 2: Report of SReAM — Data Link

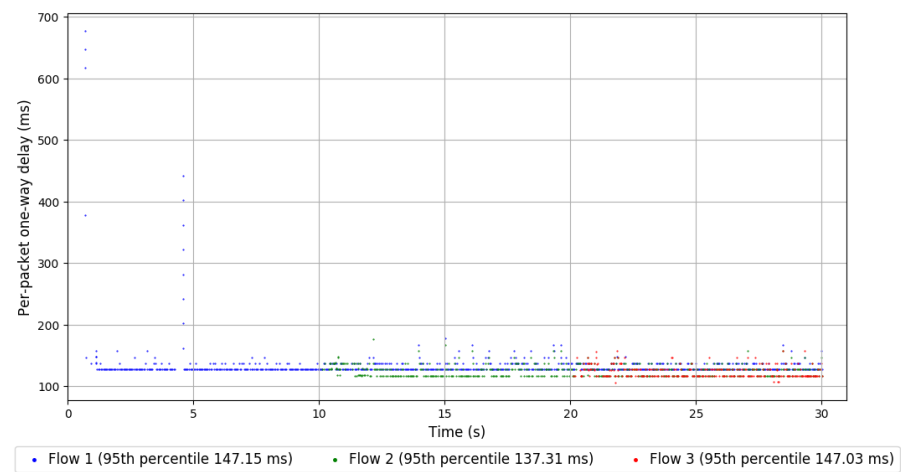
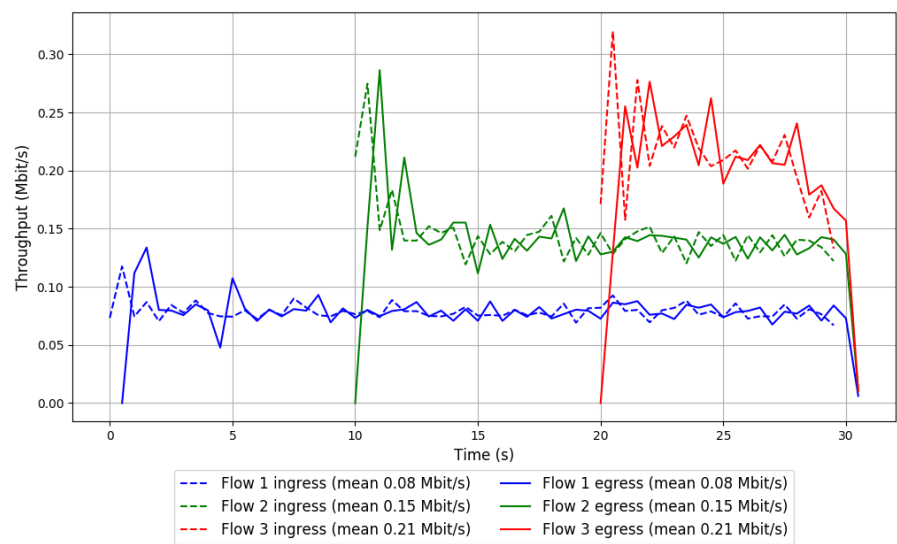


Run 3: Statistics of SCReAM

Start at: 2018-08-22 01:58:01
End at: 2018-08-22 01:58:31
Local clock offset: -4.046 ms
Remote clock offset: 2.109 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 147.088 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 147.146 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 137.313 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 147.025 ms
Loss rate: 0.25%

Run 3: Report of SReAM — Data Link

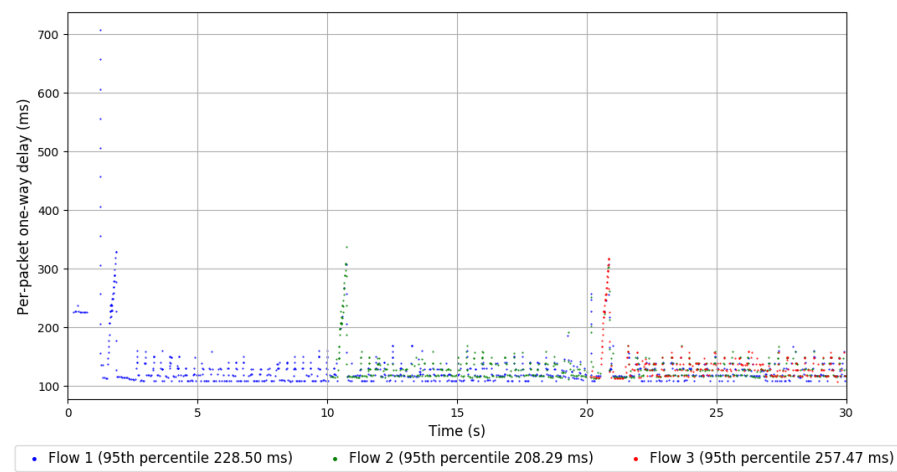
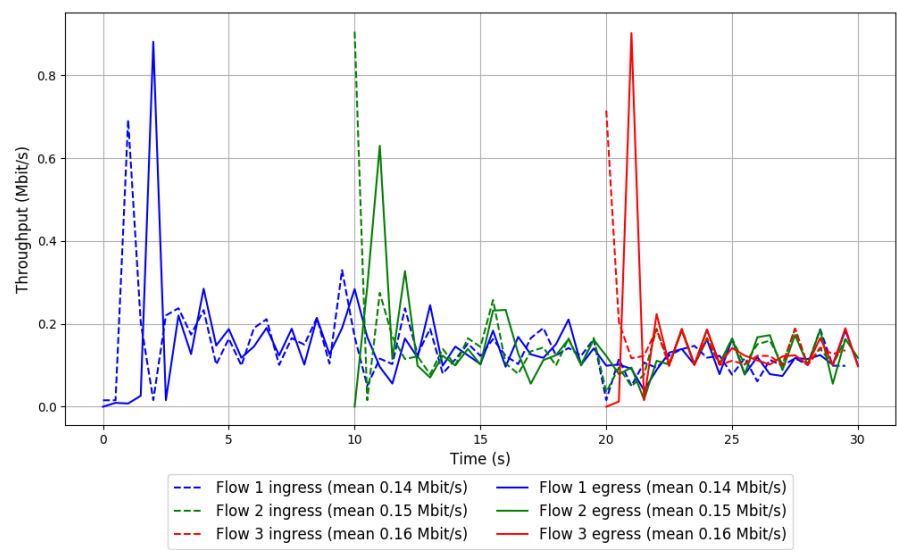


Run 1: Statistics of Sprout

Start at: 2018-08-22 01:02:47
End at: 2018-08-22 01:03:17
Local clock offset: -12.508 ms
Remote clock offset: 5.79 ms

Below is generated by plot.py at 2018-08-22 01:59:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 236.188 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 228.505 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 208.288 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 257.473 ms
Loss rate: 1.34%

Run 1: Report of Sprout — Data Link

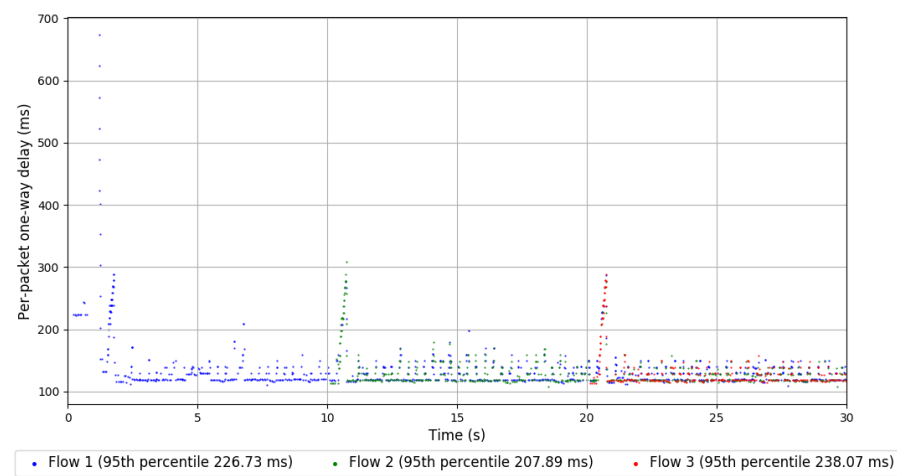
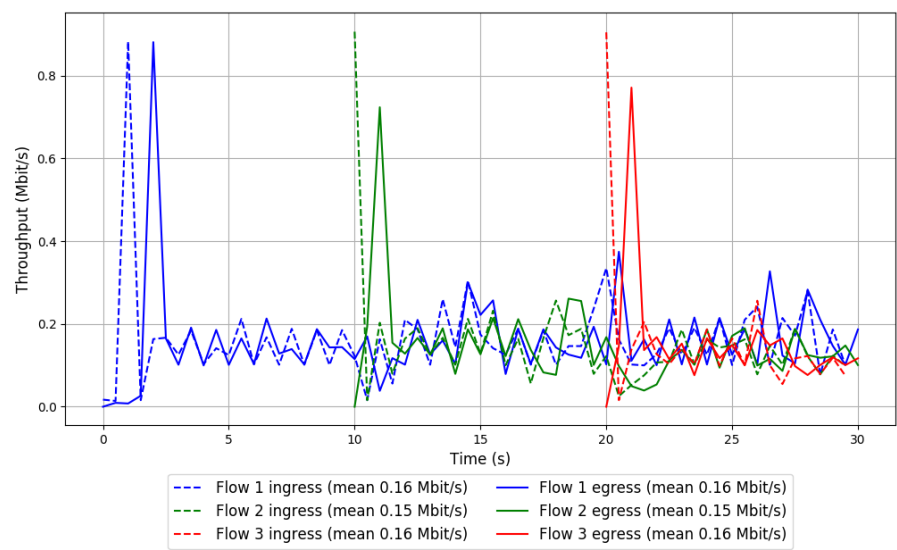


Run 2: Statistics of Sprout

Start at: 2018-08-22 01:23:11
End at: 2018-08-22 01:23:41
Local clock offset: -14.203 ms
Remote clock offset: 0.868 ms

```
# Below is generated by plot.py at 2018-08-22 01:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 223.804 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 226.732 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 207.894 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 238.073 ms
Loss rate: 0.05%
```


Run 2: Report of Sprout — Data Link

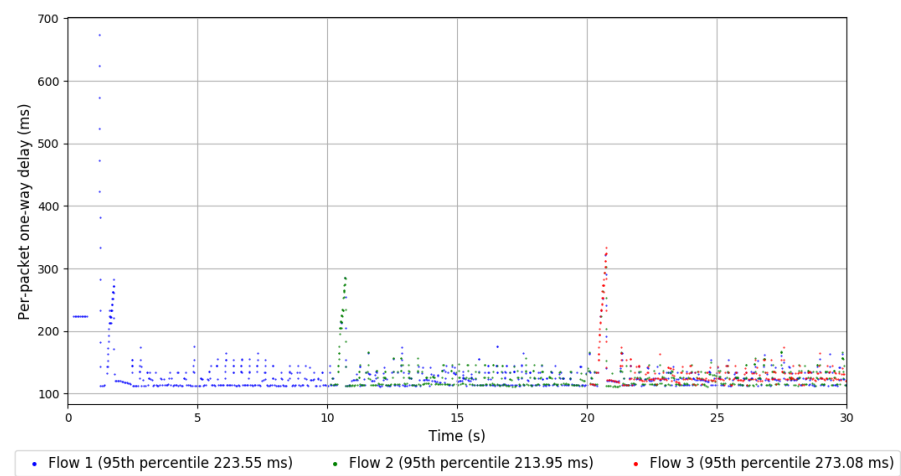
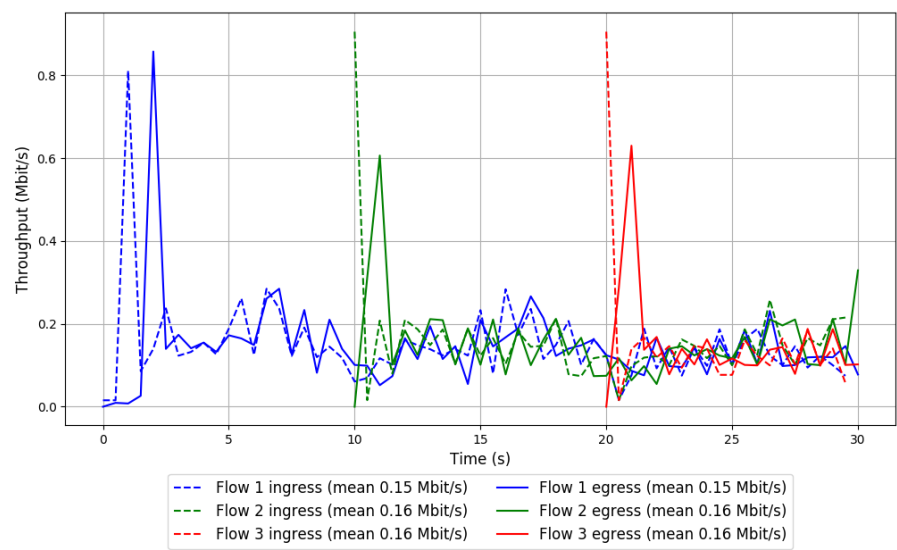


Run 3: Statistics of Sprout

Start at: 2018-08-22 01:43:36
End at: 2018-08-22 01:44:06
Local clock offset: -9.054 ms
Remote clock offset: 2.952 ms

```
# Below is generated by plot.py at 2018-08-22 01:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 224.459 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 223.550 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 213.950 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 273.084 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

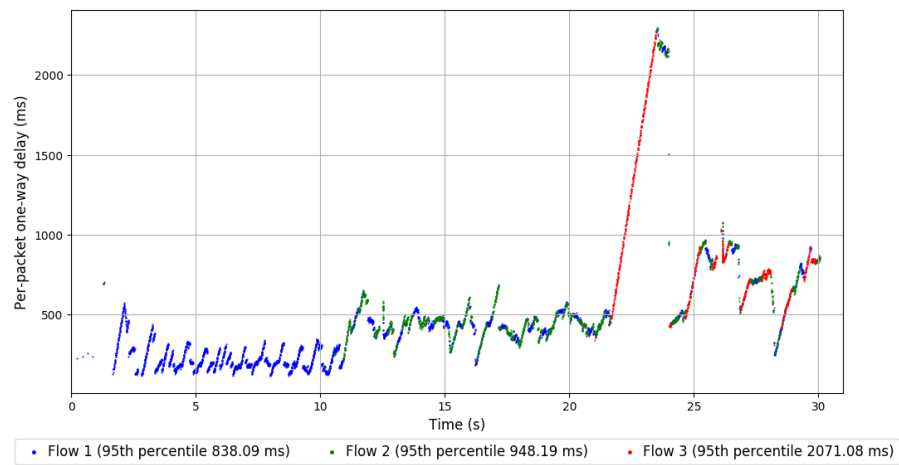
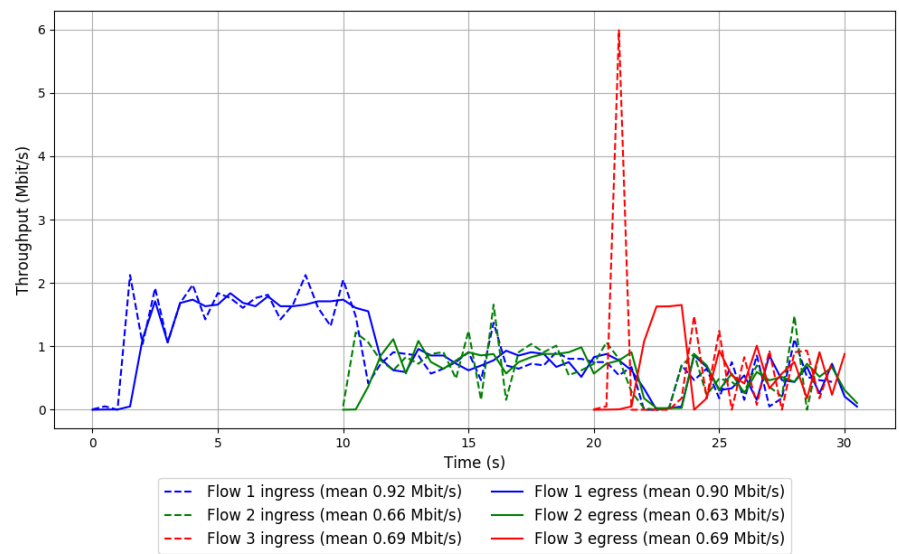


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-08-22 01:12:23
End at: 2018-08-22 01:12:53
Local clock offset: -13.387 ms
Remote clock offset: 4.376 ms

# Below is generated by plot.py at 2018-08-22 01:59:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 1454.862 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 838.092 ms
Loss rate: 1.51%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 948.187 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 2071.082 ms
Loss rate: 5.47%
```

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

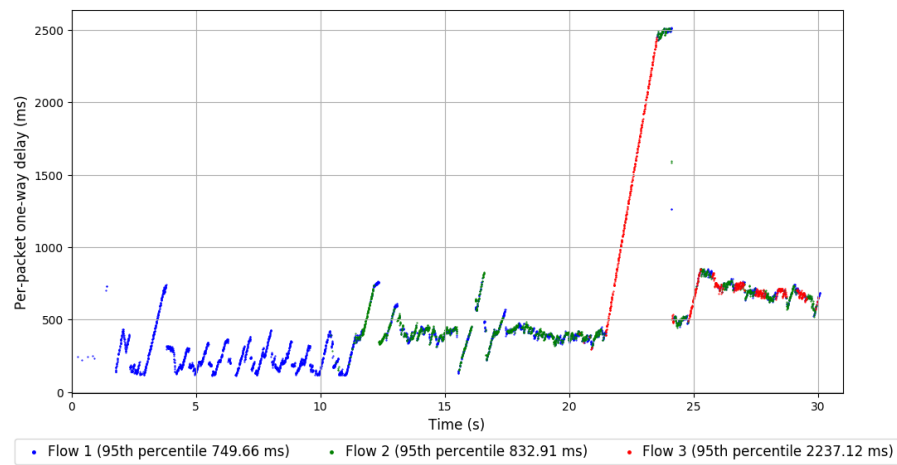
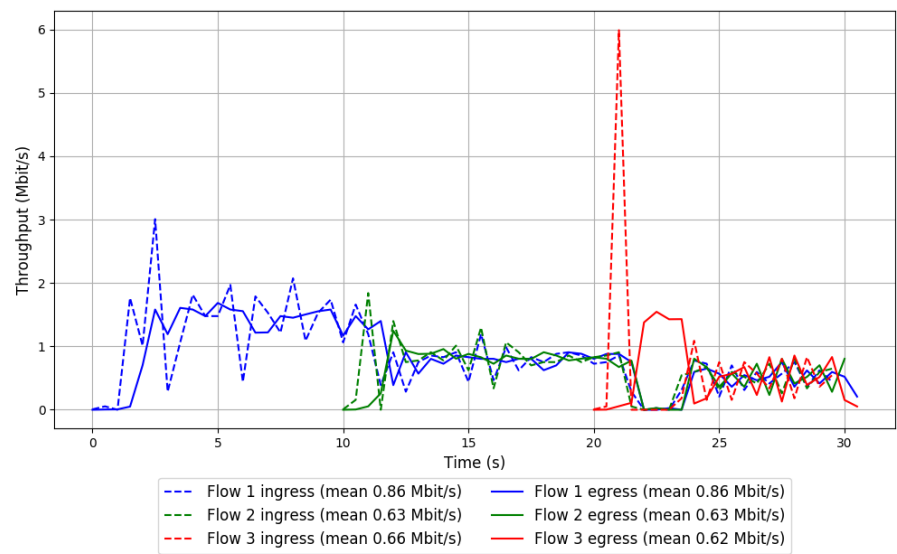


Run 2: Statistics of TaoVA-100x

Start at: 2018-08-22 01:32:48
End at: 2018-08-22 01:33:18
Local clock offset: -14.133 ms
Remote clock offset: 2.809 ms

Below is generated by plot.py at 2018-08-22 01:59:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 1550.501 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 749.659 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 832.911 ms
Loss rate: 2.86%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 2237.125 ms
Loss rate: 6.09%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-08-22 01:53:12

End at: 2018-08-22 01:53:42

Local clock offset: -5.304 ms

Remote clock offset: 1.928 ms

Below is generated by plot.py at 2018-08-22 01:59:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 826.571 ms

Loss rate: 2.43%

-- Flow 1:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 768.621 ms

Loss rate: 1.31%

-- Flow 2:

Average throughput: 0.63 Mbit/s

95th percentile per-packet one-way delay: 867.356 ms

Loss rate: 3.33%

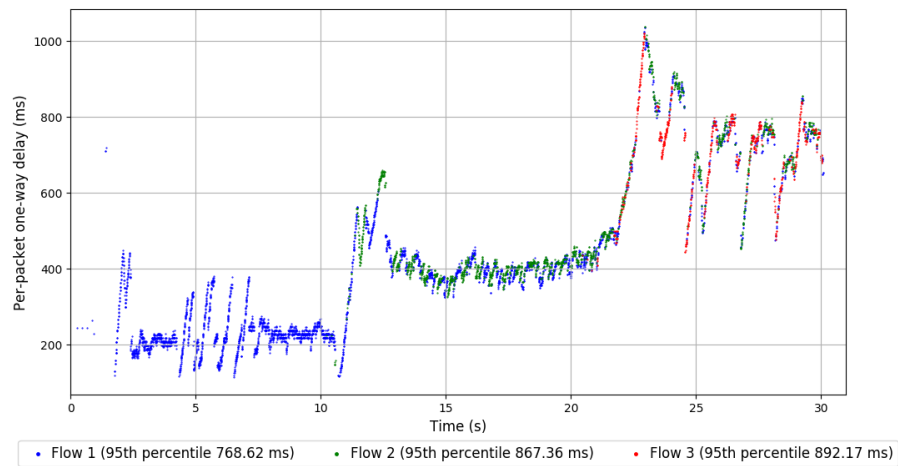
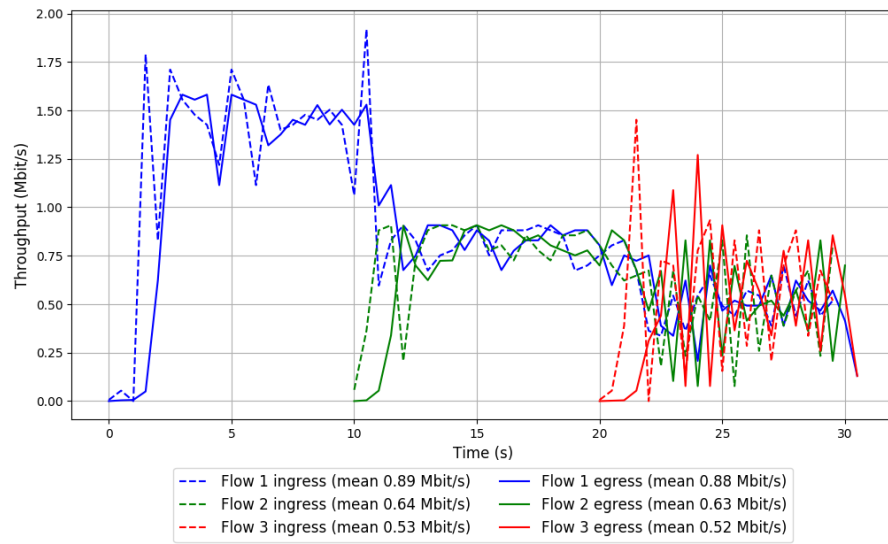
-- Flow 3:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 892.168 ms

Loss rate: 5.85%

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

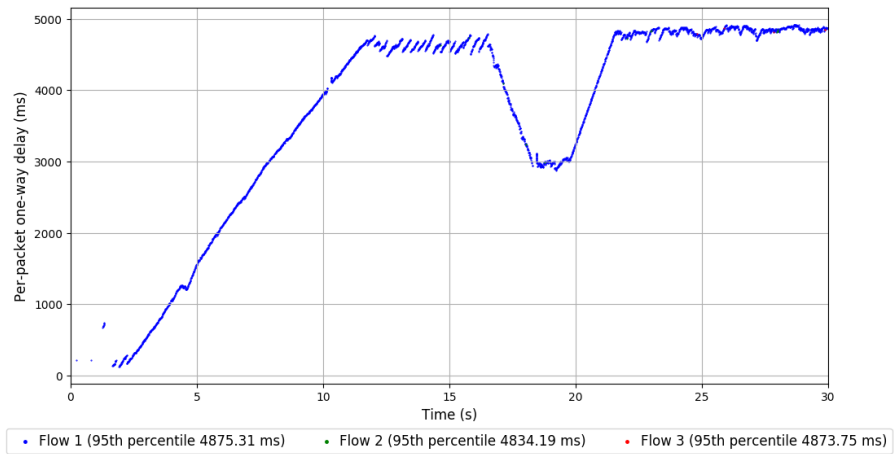
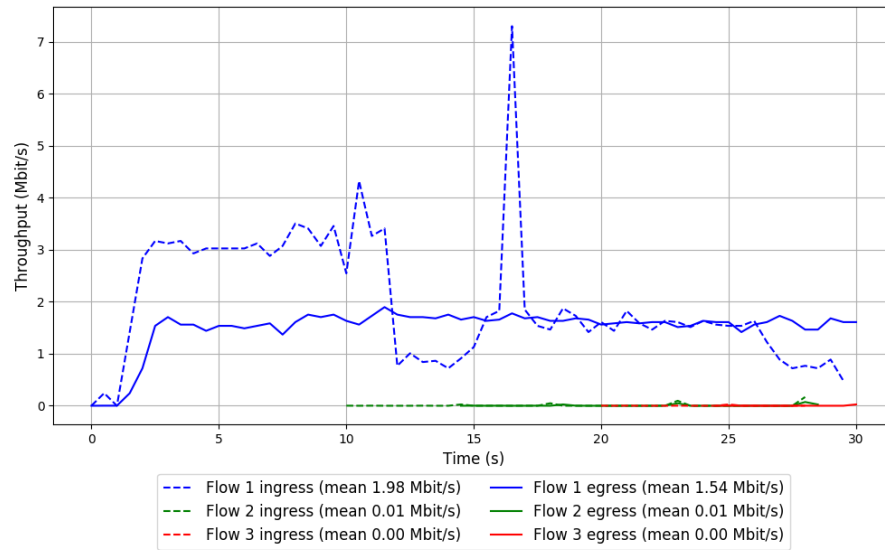


Run 1: Statistics of TCP Vegas

Start at: 2018-08-22 01:13:35
End at: 2018-08-22 01:14:05
Local clock offset: -14.228 ms
Remote clock offset: 4.55 ms

Below is generated by plot.py at 2018-08-22 01:59:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 4875.304 ms
Loss rate: 22.53%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 4875.313 ms
Loss rate: 22.46%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 4834.186 ms
Loss rate: 48.72%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4873.749 ms
Loss rate: 8.58%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-08-22 01:34:00

End at: 2018-08-22 01:34:30

Local clock offset: -15.05 ms

Remote clock offset: 6.77 ms

Below is generated by plot.py at 2018-08-22 01:59:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 5349.464 ms

Loss rate: 22.04%

-- Flow 1:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 5349.464 ms

Loss rate: 21.91%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 5296.145 ms

Loss rate: 52.06%

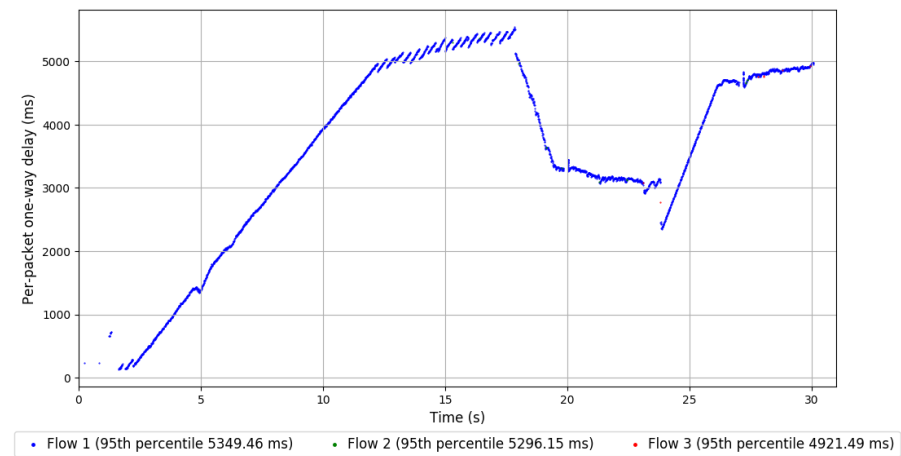
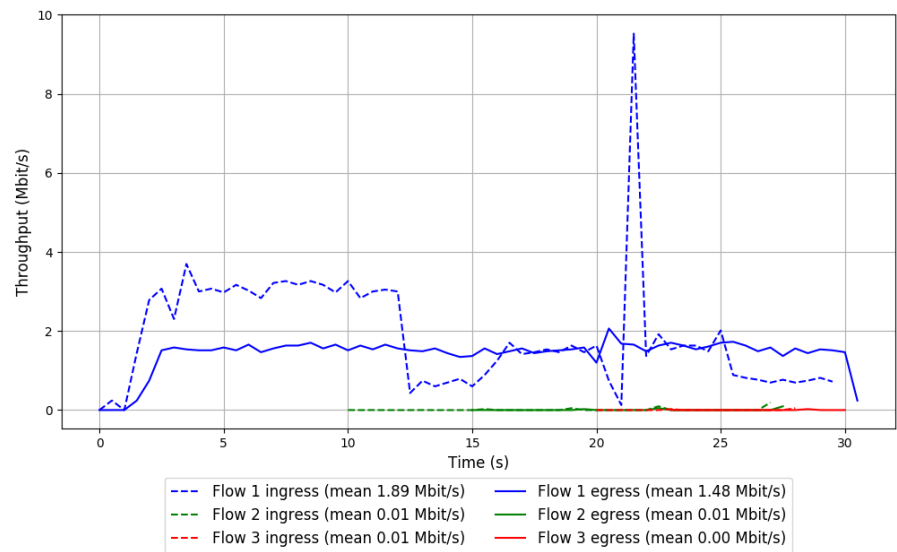
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 4921.492 ms

Loss rate: 60.75%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-08-22 01:54:24

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

Local clock offset: -4.935 ms

Remote clock offset: 2.917 ms

Below is generated by plot.py at 2018-08-22 01:59:17

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 5416.896 ms

Loss rate: 23.22%

-- Flow 1:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 5416.894 ms

Loss rate: 23.09%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 5397.932 ms

Loss rate: 52.06%

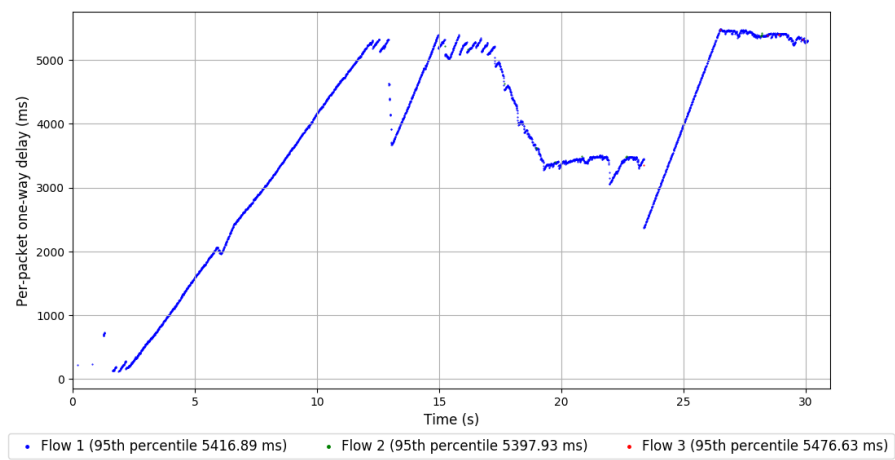
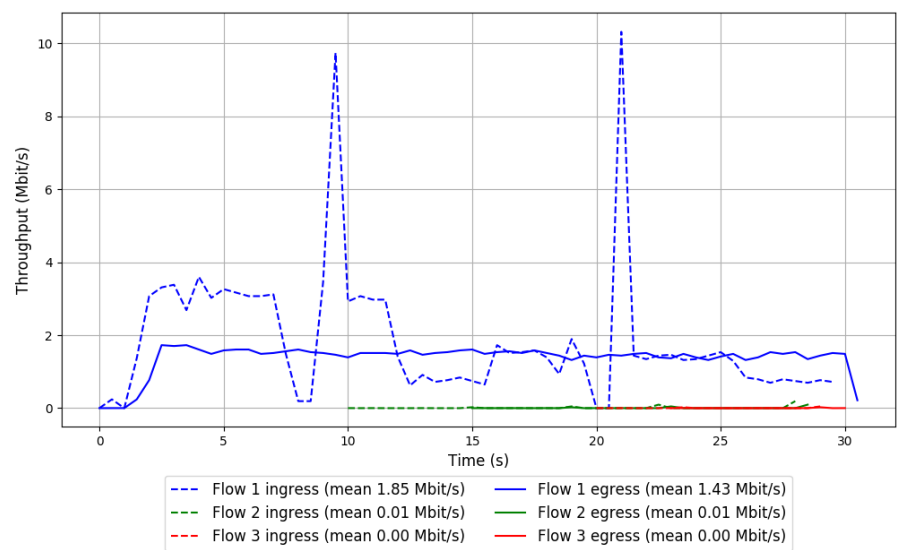
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5476.626 ms

Loss rate: 61.79%

Run 3: Report of TCP Vegas — Data Link

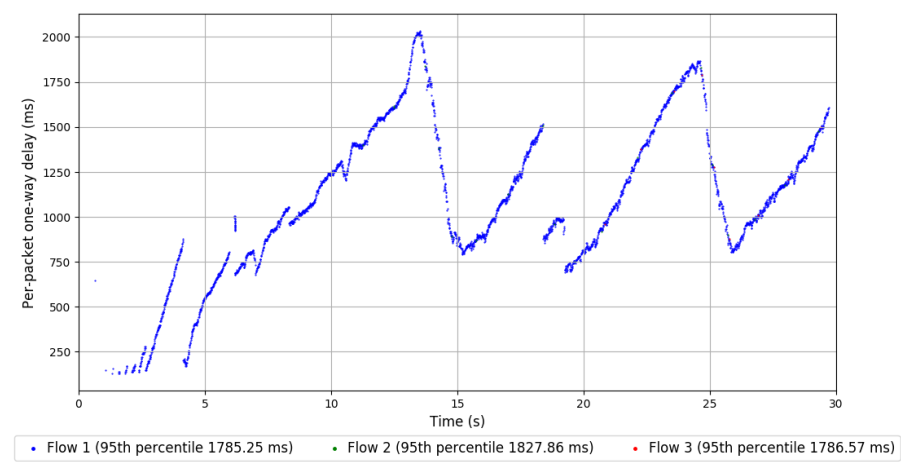
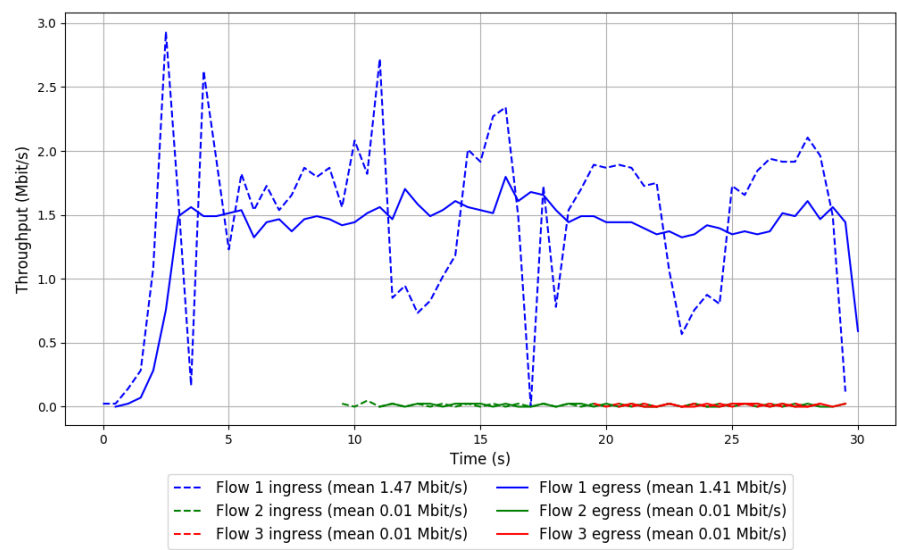


Run 1: Statistics of Verus

Start at: 2018-08-22 01:11:11
End at: 2018-08-22 01:11:41
Local clock offset: -14.04 ms
Remote clock offset: 1.867 ms

Below is generated by plot.py at 2018-08-22 01:59:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 1786.571 ms
Loss rate: 5.98%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 1785.248 ms
Loss rate: 5.97%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1827.858 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1786.571 ms
Loss rate: 10.00%

Run 1: Report of Verus — Data Link

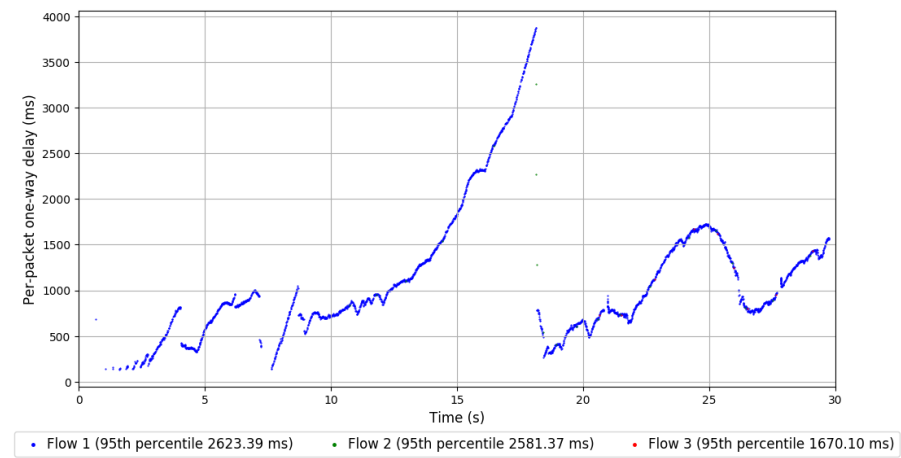
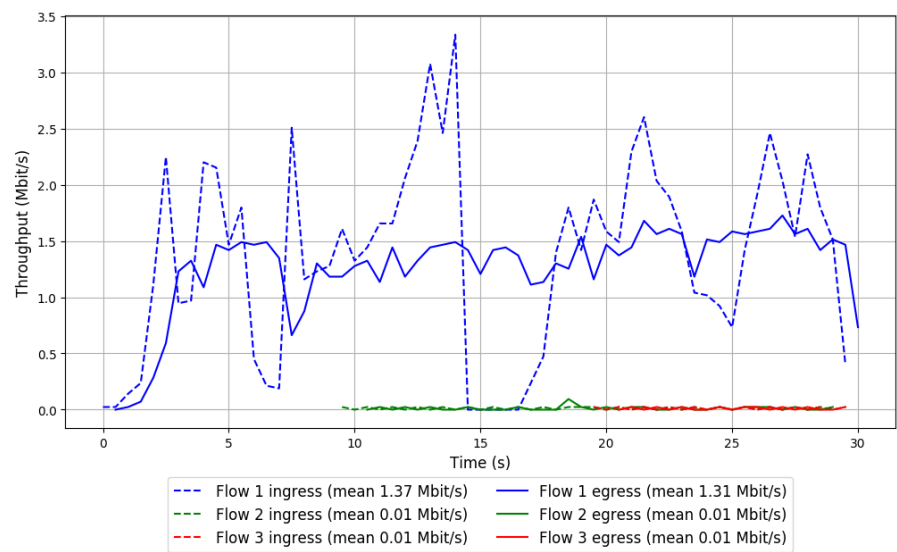


Run 2: Statistics of Verus

Start at: 2018-08-22 01:31:35
End at: 2018-08-22 01:32:05
Local clock offset: -14.821 ms
Remote clock offset: 6.703 ms

Below is generated by plot.py at 2018-08-22 01:59:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 2623.389 ms
Loss rate: 6.07%
-- Flow 1:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 2623.389 ms
Loss rate: 6.04%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2581.371 ms
Loss rate: 9.09%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1670.101 ms
Loss rate: 10.00%

Run 2: Report of Verus — Data Link

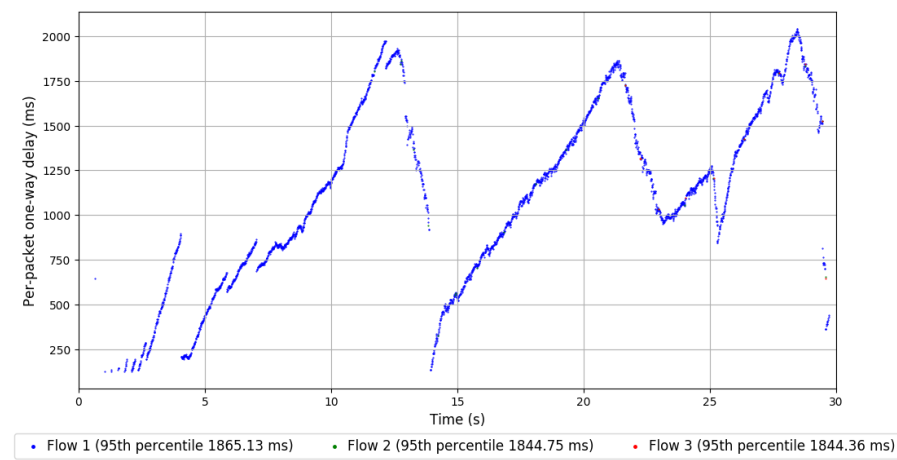
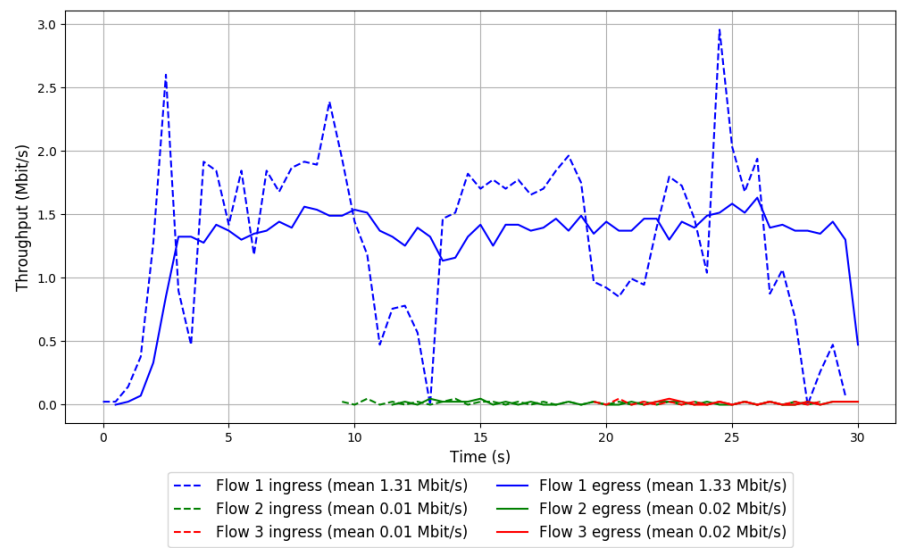


Run 3: Statistics of Verus

Start at: 2018-08-22 01:52:00
End at: 2018-08-22 01:52:30
Local clock offset: -4.882 ms
Remote clock offset: 1.943 ms

Below is generated by plot.py at 2018-08-22 01:59:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 1864.577 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 1865.132 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 1844.750 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 1844.362 ms
Loss rate: 0.00%

Run 3: Report of Verus — Data Link

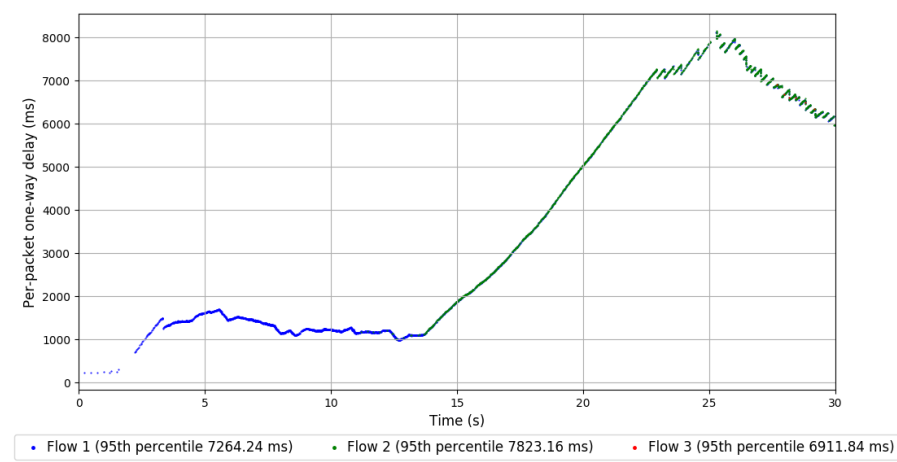
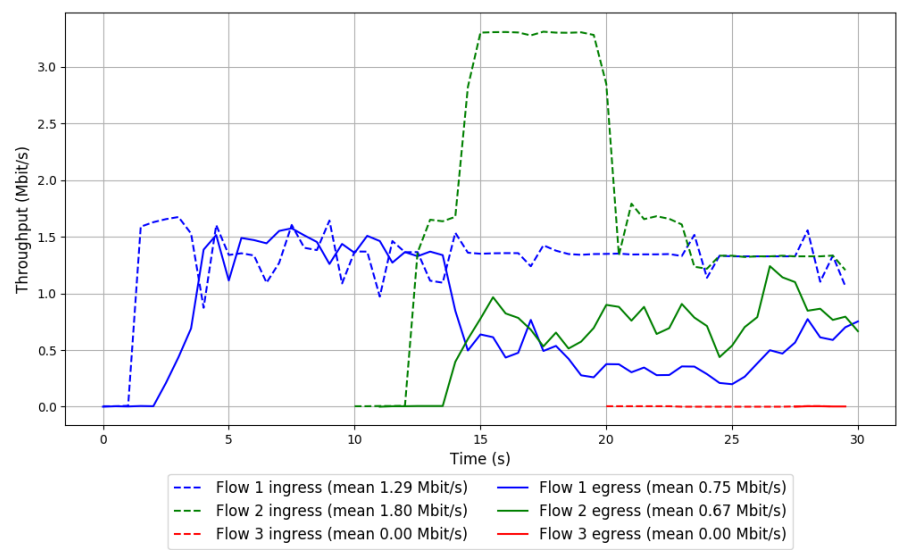


Run 1: Statistics of PCC-Vivace

Start at: 2018-08-22 01:09:59
End at: 2018-08-22 01:10:29
Local clock offset: -14.013 ms
Remote clock offset: 1.878 ms

Below is generated by plot.py at 2018-08-22 01:59:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 7671.340 ms
Loss rate: 53.02%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 7264.237 ms
Loss rate: 41.83%
-- Flow 2:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 7823.159 ms
Loss rate: 65.03%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6911.836 ms
Loss rate: 68.93%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-08-22 01:30:23

End at: 2018-08-22 01:30:53

Local clock offset: -13.96 ms

Remote clock offset: 1.563 ms

Below is generated by plot.py at 2018-08-22 01:59:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.13 Mbit/s

95th percentile per-packet one-way delay: 3823.501 ms

Loss rate: 15.07%

-- Flow 1:

Average throughput: 1.13 Mbit/s

95th percentile per-packet one-way delay: 3823.290 ms

Loss rate: 15.07%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3731.921 ms

Loss rate: 10.64%

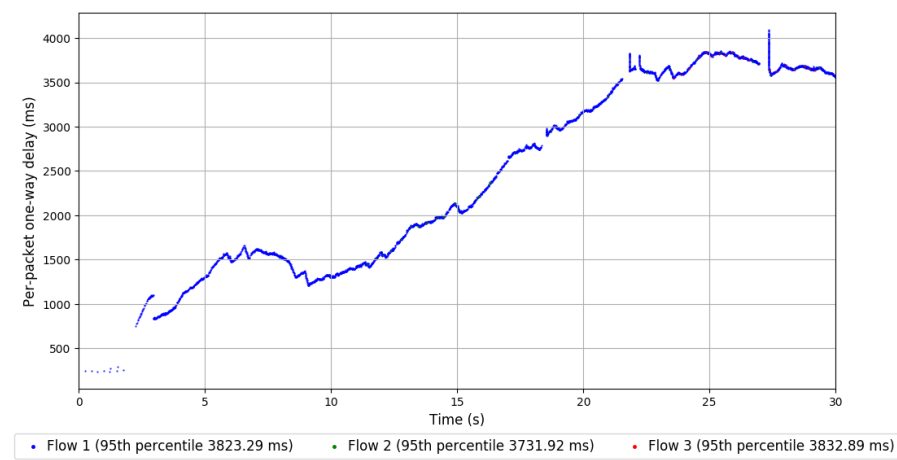
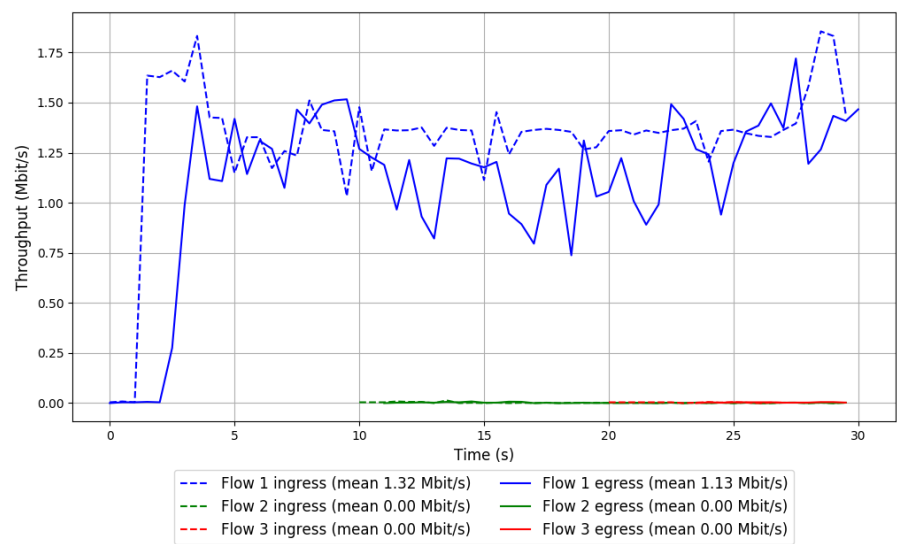
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3832.893 ms

Loss rate: 10.61%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-08-22 01:50:48

End at: 2018-08-22 01:51:18

Local clock offset: -4.617 ms

Remote clock offset: 2.925 ms

Below is generated by plot.py at 2018-08-22 01:59:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 1.35 Mbit/s

95th percentile per-packet one-way delay: 5606.821 ms

Loss rate: 44.09%

-- Flow 1:

Average throughput: 0.86 Mbit/s

95th percentile per-packet one-way delay: 5581.944 ms

Loss rate: 35.55%

-- Flow 2:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 5627.451 ms

Loss rate: 54.46%

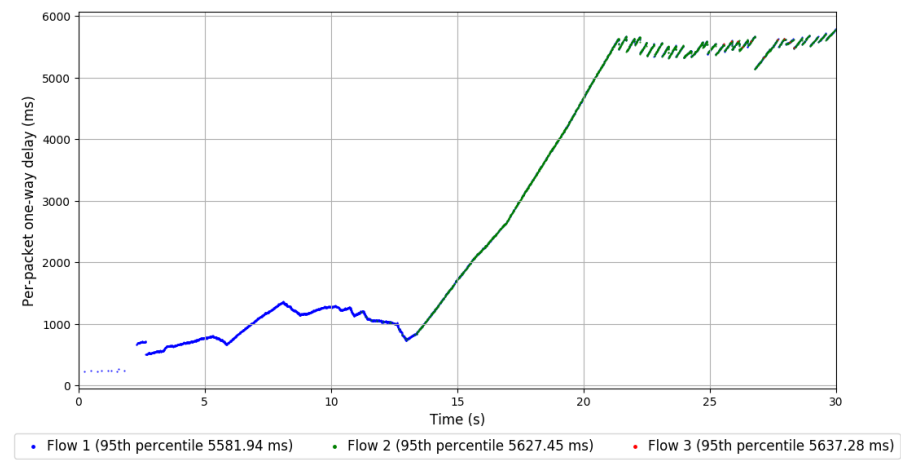
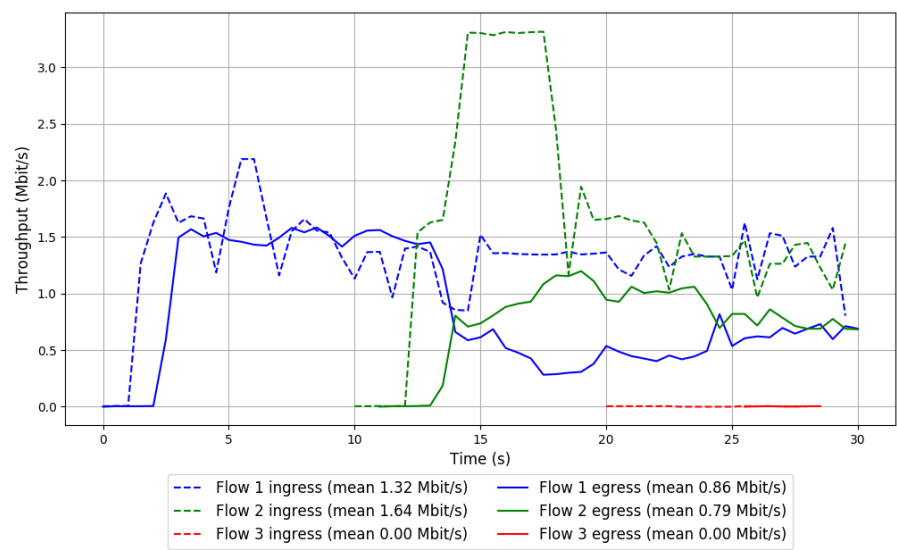
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5637.278 ms

Loss rate: 54.02%

Run 3: Report of PCC-Vivace — Data Link

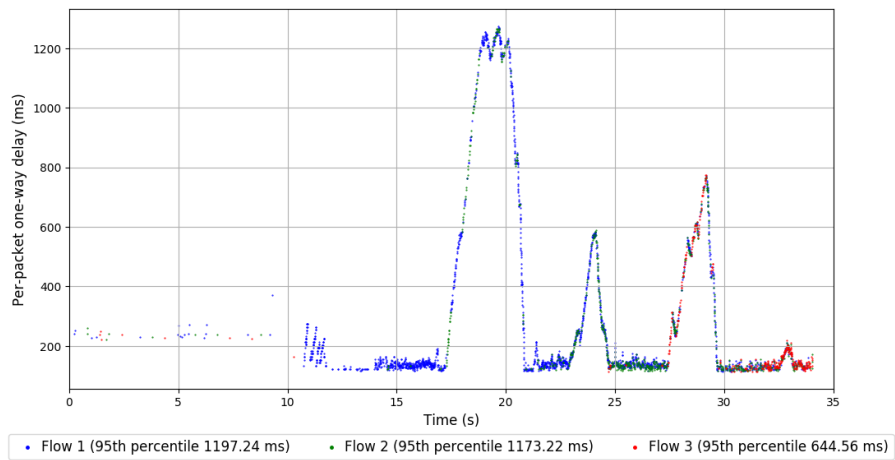
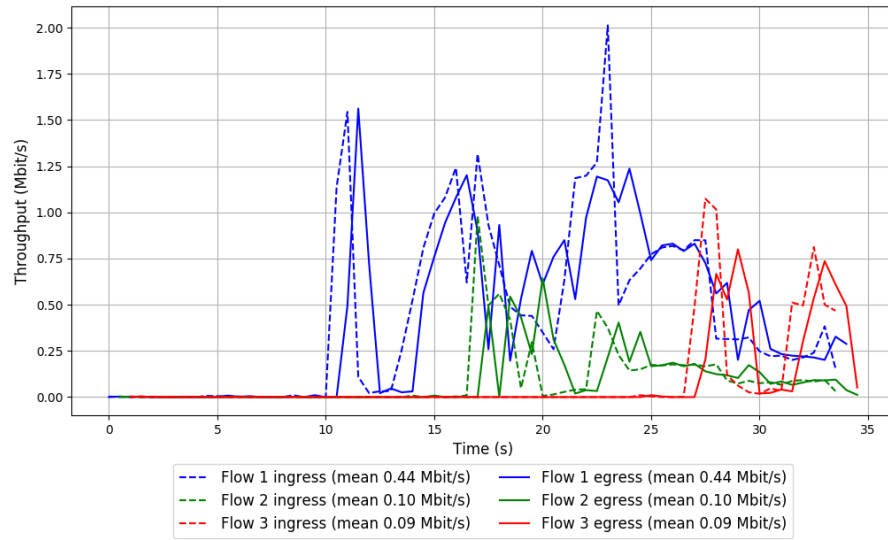


Run 1: Statistics of WebRTC media

Start at: 2018-08-22 01:14:47
End at: 2018-08-22 01:15:17
Local clock offset: -14.343 ms
Remote clock offset: 5.461 ms

Below is generated by plot.py at 2018-08-22 01:59:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 1175.955 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1197.242 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 1173.216 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 644.563 ms
Loss rate: 1.21%

Run 1: Report of WebRTC media — Data Link

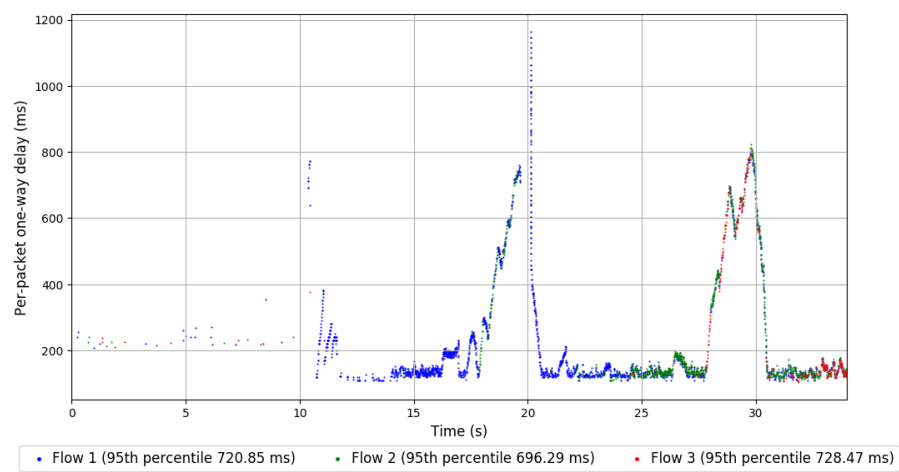
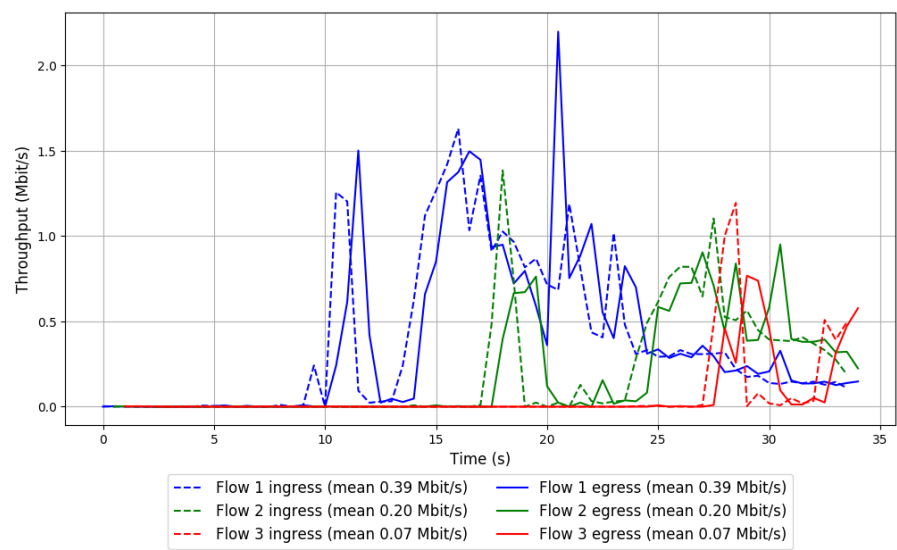


Run 2: Statistics of WebRTC media

Start at: 2018-08-22 01:35:12
End at: 2018-08-22 01:35:42
Local clock offset: -14.307 ms
Remote clock offset: 2.864 ms

Below is generated by plot.py at 2018-08-22 01:59:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 717.778 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 720.846 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 696.287 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 728.467 ms
Loss rate: 1.07%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-08-22 01:55:36

End at: 2018-08-22 01:56:06

Local clock offset: -3.907 ms

Remote clock offset: 5.736 ms

Below is generated by plot.py at 2018-08-22 01:59:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 1512.866 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 0.29 Mbit/s

95th percentile per-packet one-way delay: 1200.804 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1594.611 ms

Loss rate: 0.07%

-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 1730.083 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

