

Pantheon Report

Generated at 2018-11-30 01:41:01 (UTC).

Data path: AWS Brazil 1 on `ens5` (*local*) → Brazil on `p4p1` (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

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

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

System info:

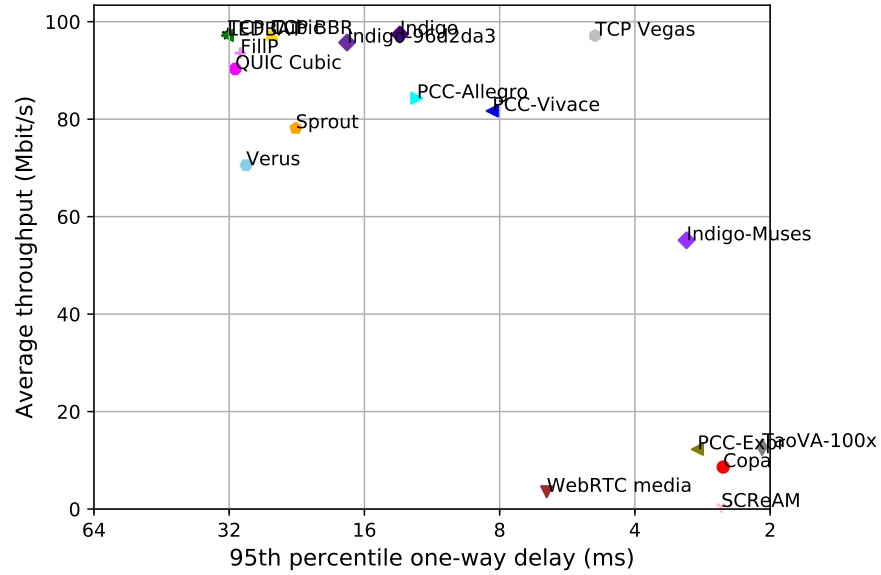
```
Linux 4.15.0-1027-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

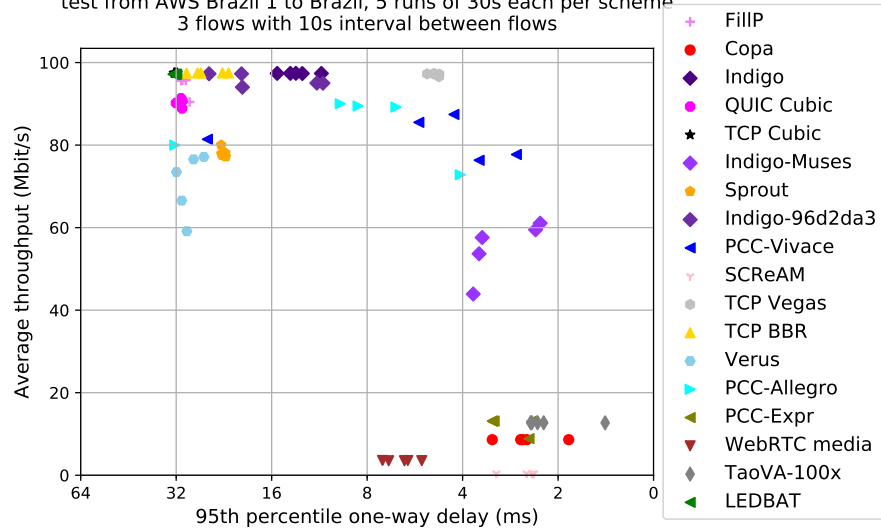
```
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows



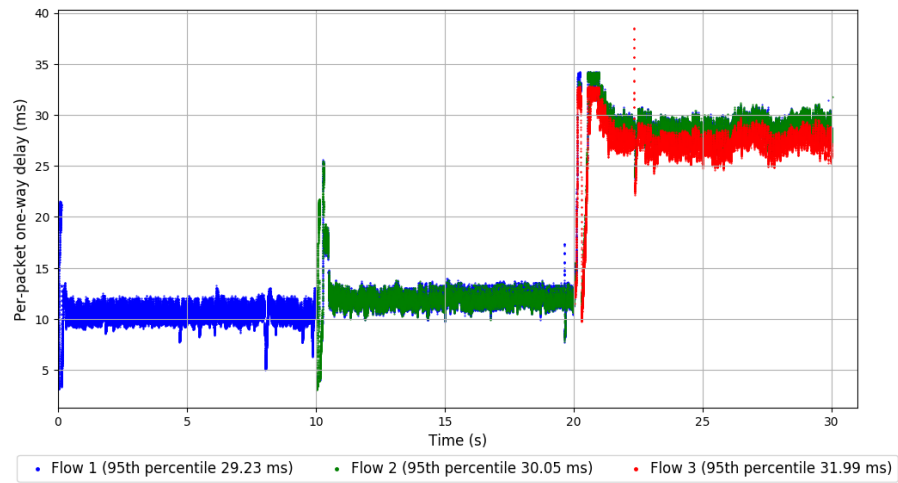
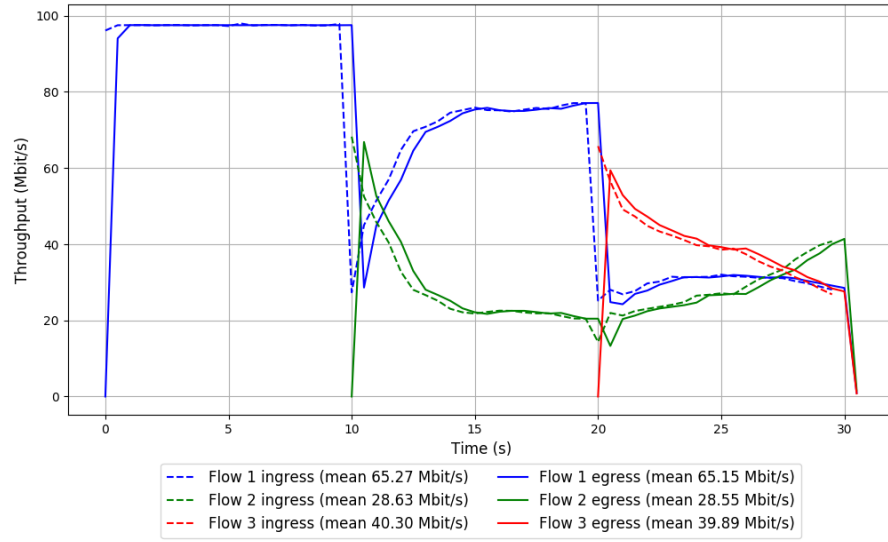
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	69.16	28.94	27.16	25.44	25.09	28.46	0.04	0.05	0.37
Copa	5	0.00	12.02	3.07	1.89	2.58	2.49	98.00	64.11	76.85
TCP Cubic	5	61.40	40.53	27.38	31.65	32.11	31.66	0.04	0.05	0.06
FillP	5	51.63	51.01	24.10	28.73	29.86	29.29	10.78	17.06	29.19
Indigo	5	46.34	43.07	68.92	11.19	13.16	14.14	0.00	0.00	0.02
Indigo-96d2da3	5	51.37	35.61	62.69	12.60	16.79	19.08	0.00	0.00	0.00
LEDBAT	5	64.28	34.38	30.16	32.35	31.91	31.99	0.03	0.08	0.13
Indigo-Muses	5	28.77	26.50	26.52	2.53	2.86	3.04	0.00	0.00	0.00
PCC-Allegro	5	65.29	22.53	12.24	11.68	12.72	14.10	0.05	0.13	0.32
PCC-Expr	5	6.96	6.12	4.01	2.61	2.91	2.94	41.43	28.96	26.92
QUIC Cubic	5	57.84	35.37	27.23	30.97	30.58	31.48	0.14	0.19	0.24
SCReAM	5	0.22	0.22	0.22	1.42	1.71	2.29	0.00	0.00	0.00
Sprout	5	42.30	38.31	31.34	21.60	22.45	24.73	0.00	0.00	0.00
TaoVA-100x	5	6.22	7.83	5.52	1.82	2.08	2.07	84.26	87.56	92.13
TCP Vegas	5	54.68	38.96	49.59	6.89	4.14	4.23	0.00	0.01	0.00
Verus	5	43.01	28.84	25.31	25.50	30.04	31.96	6.09	9.08	17.97
PCC-Vivace	5	51.79	33.52	22.98	6.99	8.17	10.07	0.04	0.04	0.04
WebRTC media	5	1.92	1.26	0.37	6.28	5.92	6.77	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-11-30 00:07:03
End at: 2018-11-30 00:07:33
Local clock offset: -3.651 ms
Remote clock offset: -0.274 ms

Below is generated by plot.py at 2018-11-30 01:32:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.43 Mbit/s
95th percentile per-packet one-way delay: 29.688 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 65.15 Mbit/s
95th percentile per-packet one-way delay: 29.235 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 28.55 Mbit/s
95th percentile per-packet one-way delay: 30.049 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 39.89 Mbit/s
95th percentile per-packet one-way delay: 31.993 ms
Loss rate: 0.88%

Run 1: Report of TCP BBR — Data Link

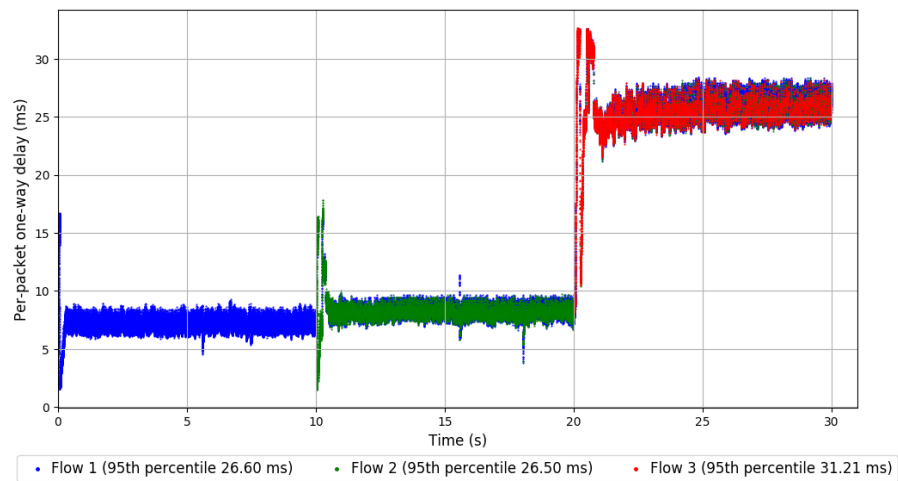
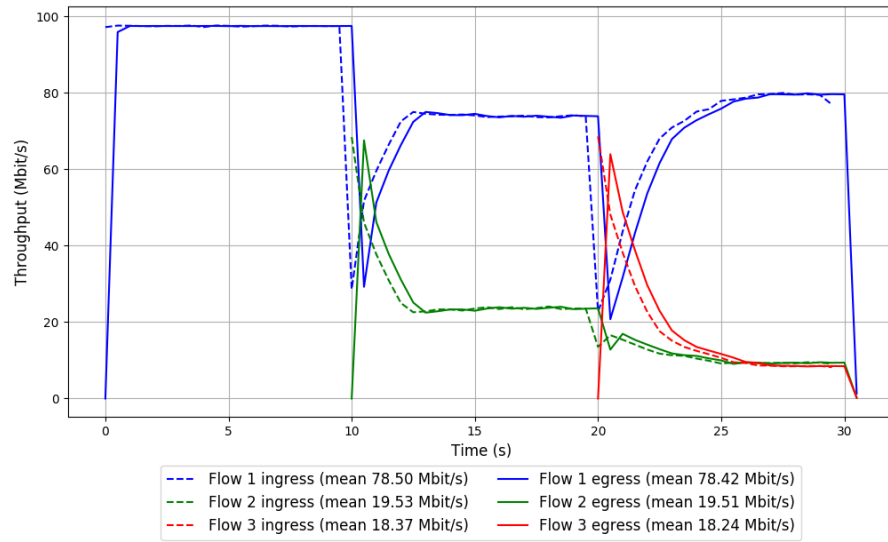


Run 2: Statistics of TCP BBR

Start at: 2018-11-30 00:27:32
End at: 2018-11-30 00:28:02
Local clock offset: -4.307 ms
Remote clock offset: -0.315 ms

Below is generated by plot.py at 2018-11-30 01:32:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 26.755 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 78.42 Mbit/s
95th percentile per-packet one-way delay: 26.603 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 19.51 Mbit/s
95th percentile per-packet one-way delay: 26.504 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 18.24 Mbit/s
95th percentile per-packet one-way delay: 31.214 ms
Loss rate: 0.50%

Run 2: Report of TCP BBR — Data Link

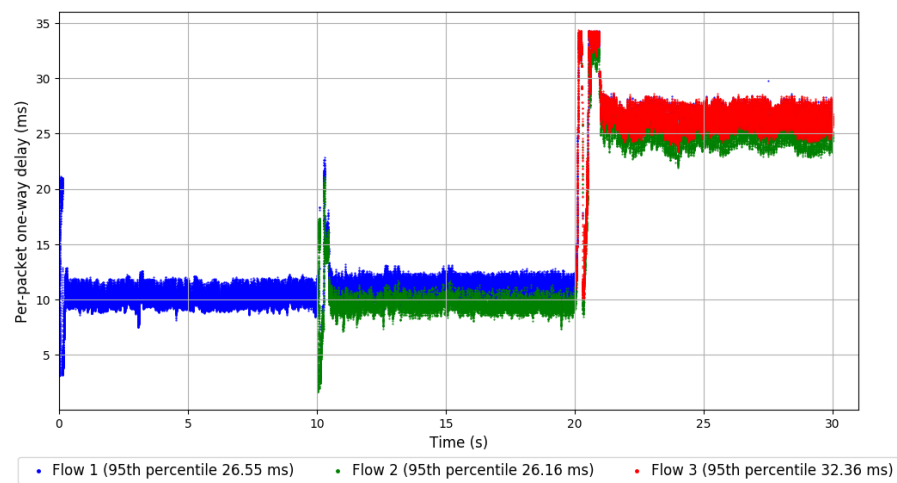
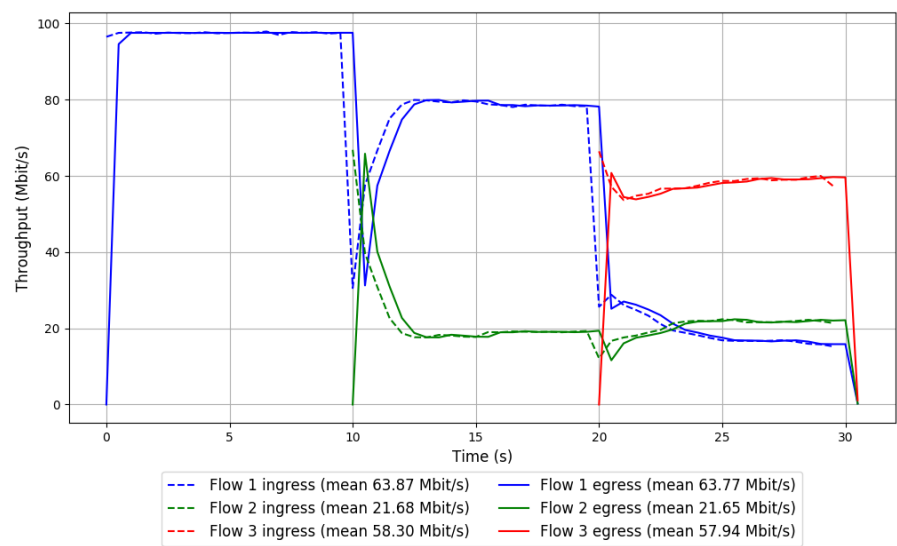


Run 3: Statistics of TCP BBR

Start at: 2018-11-30 00:48:00
End at: 2018-11-30 00:48:30
Local clock offset: -4.33 ms
Remote clock offset: -0.122 ms

Below is generated by plot.py at 2018-11-30 01:32:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 27.405 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 63.77 Mbit/s
95th percentile per-packet one-way delay: 26.547 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 21.65 Mbit/s
95th percentile per-packet one-way delay: 26.155 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 57.94 Mbit/s
95th percentile per-packet one-way delay: 32.361 ms
Loss rate: 0.47%

Run 3: Report of TCP BBR — Data Link

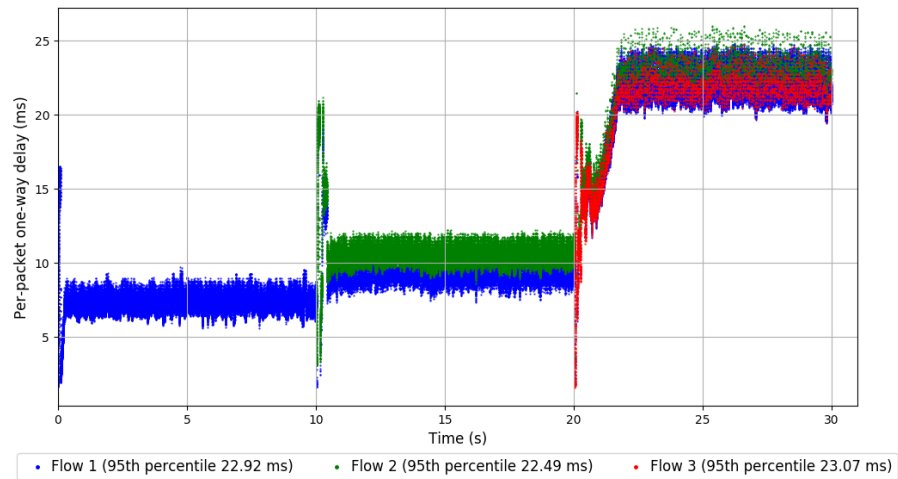
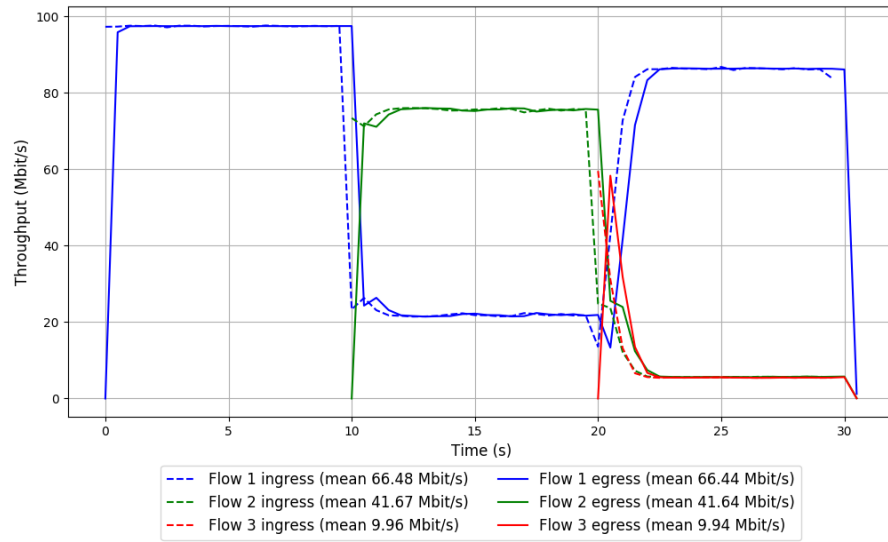


Run 4: Statistics of TCP BBR

Start at: 2018-11-30 01:08:27
End at: 2018-11-30 01:08:57
Local clock offset: -3.702 ms
Remote clock offset: -0.049 ms

Below is generated by plot.py at 2018-11-30 01:32:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 22.862 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.44 Mbit/s
95th percentile per-packet one-way delay: 22.920 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.64 Mbit/s
95th percentile per-packet one-way delay: 22.491 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.94 Mbit/s
95th percentile per-packet one-way delay: 23.065 ms
Loss rate: 0.02%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-11-30 01:28:57

End at: 2018-11-30 01:29:27

Local clock offset: -3.612 ms

Remote clock offset: 0.03 ms

Below is generated by plot.py at 2018-11-30 01:32:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 21.884 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 72.00 Mbit/s

95th percentile per-packet one-way delay: 21.881 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.35 Mbit/s

95th percentile per-packet one-way delay: 20.251 ms

Loss rate: 0.00%

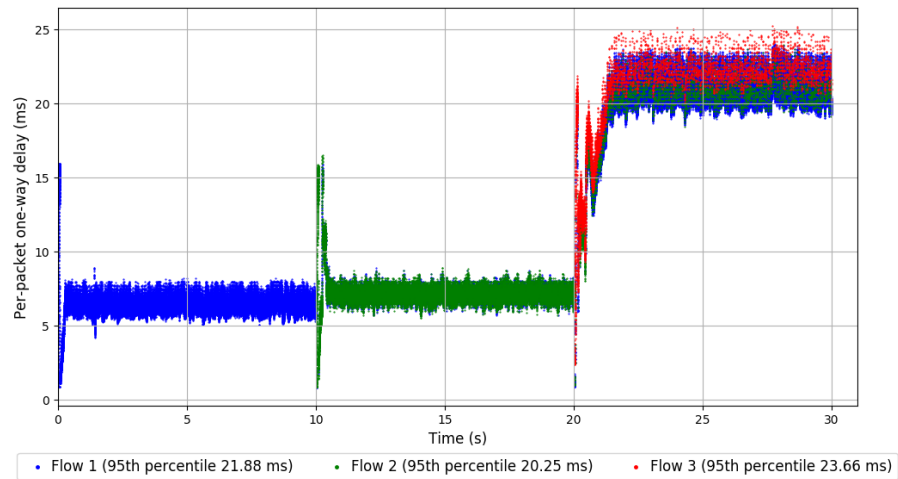
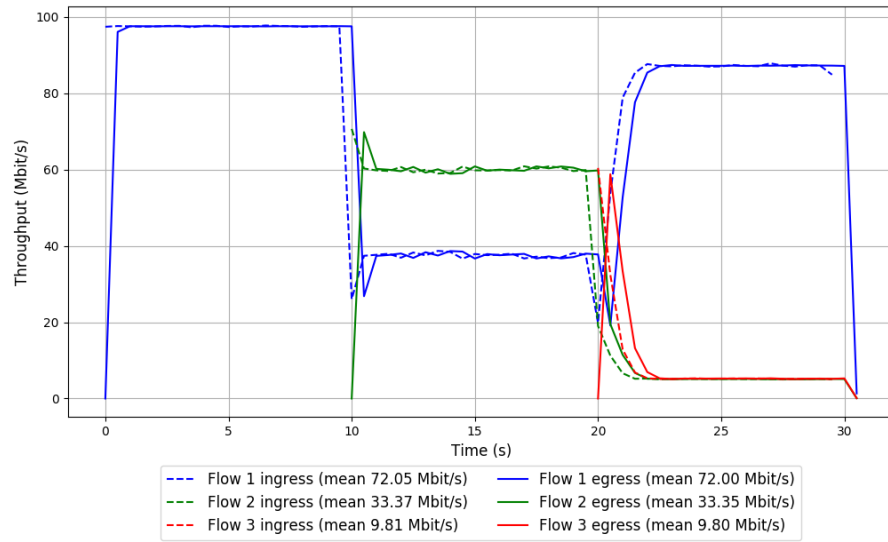
-- Flow 3:

Average throughput: 9.80 Mbit/s

95th percentile per-packet one-way delay: 23.658 ms

Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link

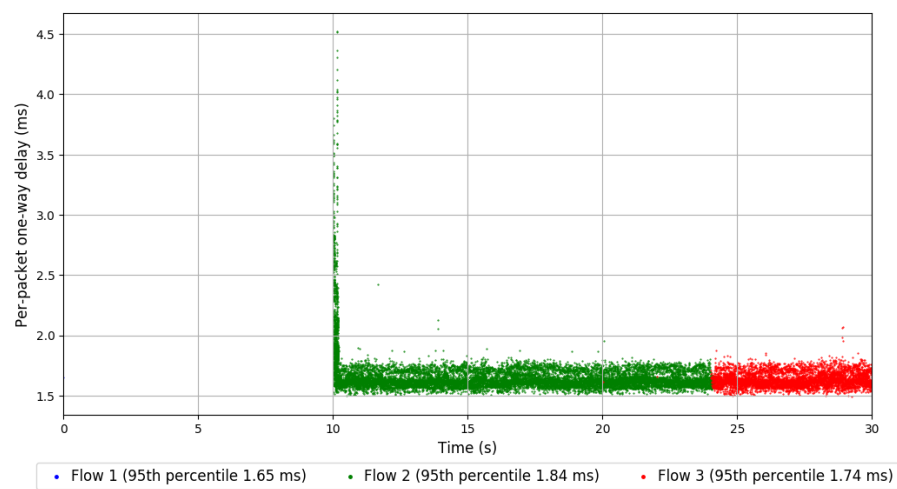
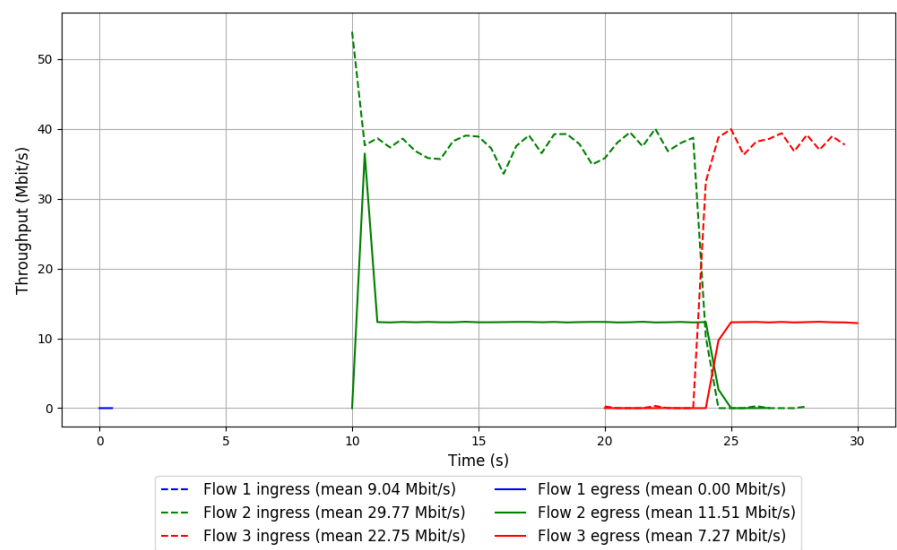


Run 1: Statistics of Copa

Start at: 2018-11-30 00:05:57
End at: 2018-11-30 00:06:27
Local clock offset: -3.676 ms
Remote clock offset: -0.386 ms

Below is generated by plot.py at 2018-11-30 01:32:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.61 Mbit/s
95th percentile per-packet one-way delay: 1.777 ms
Loss rate: 66.32%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.649 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 11.51 Mbit/s
95th percentile per-packet one-way delay: 1.844 ms
Loss rate: 65.60%
-- Flow 3:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 1.742 ms
Loss rate: 68.03%

Run 1: Report of Copa — Data Link

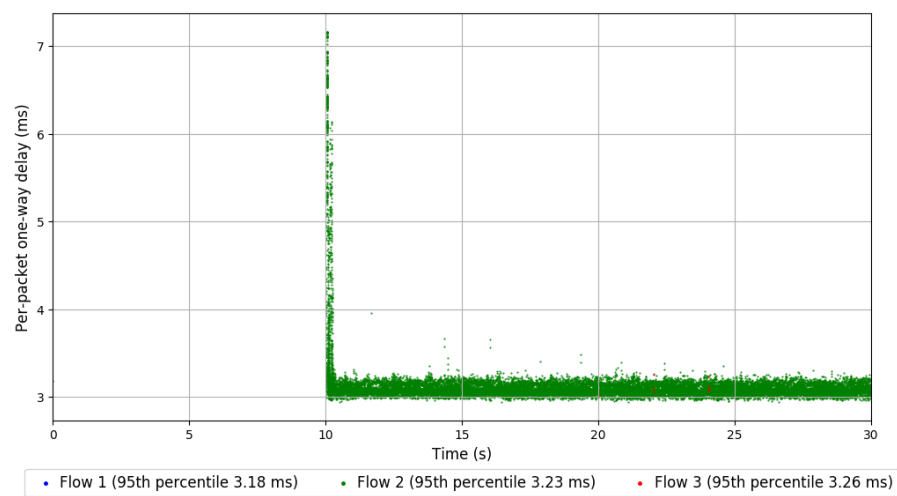
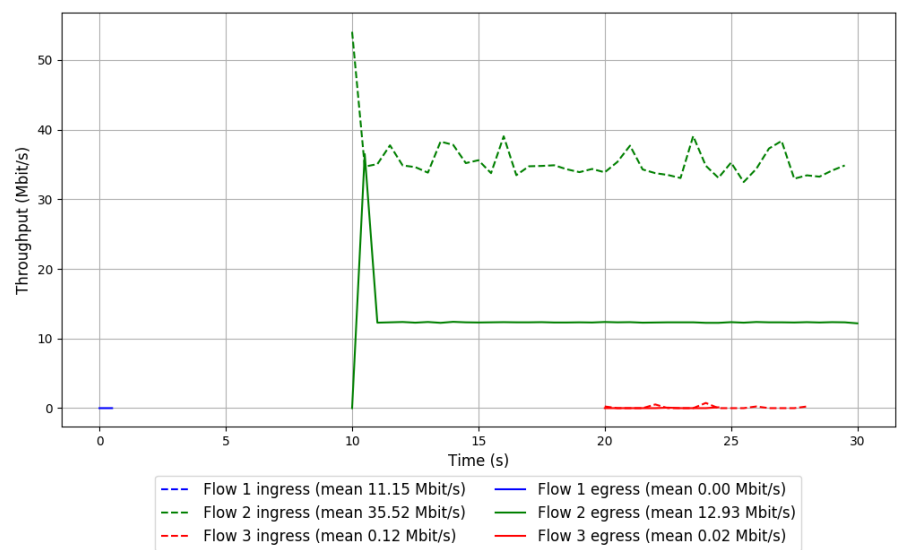


Run 2: Statistics of Copa

Start at: 2018-11-30 00:26:26
End at: 2018-11-30 00:26:56
Local clock offset: -4.276 ms
Remote clock offset: -0.287 ms

Below is generated by plot.py at 2018-11-30 01:32:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 3.225 ms
Loss rate: 63.64%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3.184 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 12.93 Mbit/s
95th percentile per-packet one-way delay: 3.225 ms
Loss rate: 63.60%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 3.256 ms
Loss rate: 90.27%

Run 2: Report of Copa — Data Link

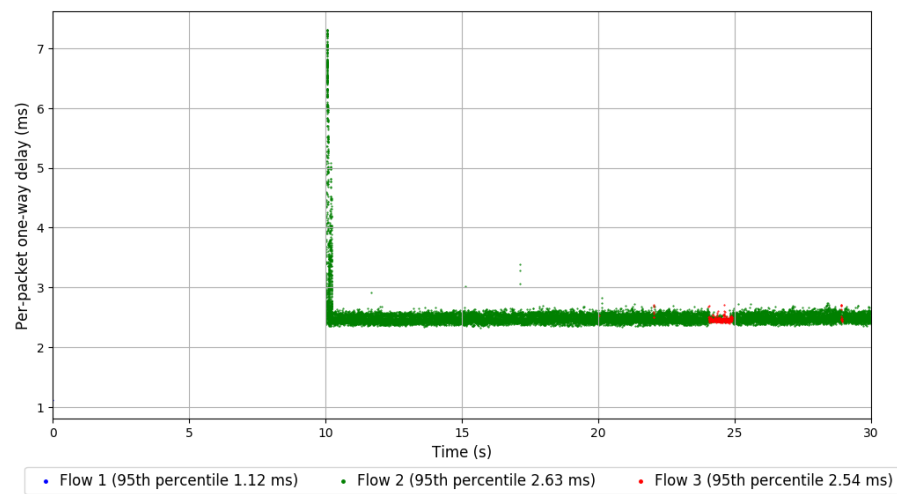
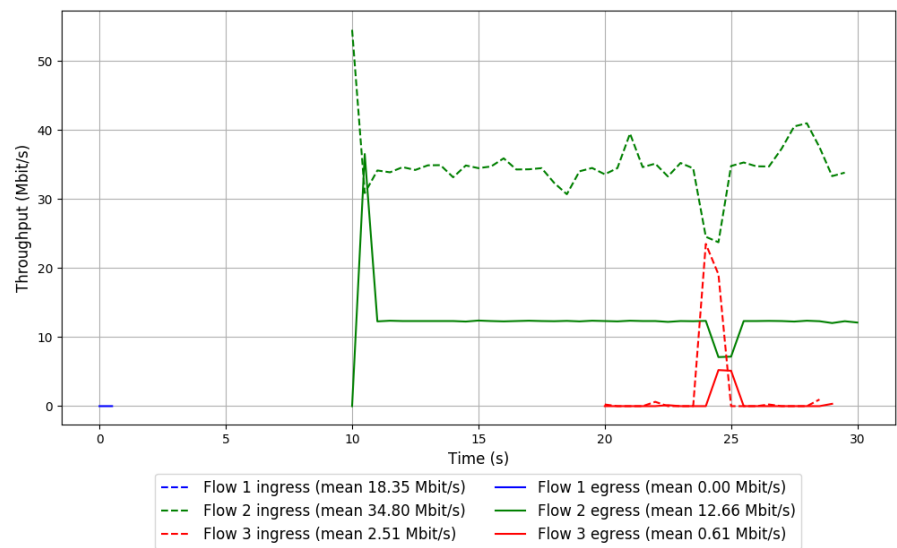


Run 3: Statistics of Copa

Start at: 2018-11-30 00:46:55
End at: 2018-11-30 00:47:25
Local clock offset: -3.639 ms
Remote clock offset: -0.145 ms

Below is generated by plot.py at 2018-11-30 01:32:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.624 ms
Loss rate: 63.99%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.117 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 12.66 Mbit/s
95th percentile per-packet one-way delay: 2.626 ms
Loss rate: 63.61%
-- Flow 3:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 2.540 ms
Loss rate: 75.74%

Run 3: Report of Copa — Data Link

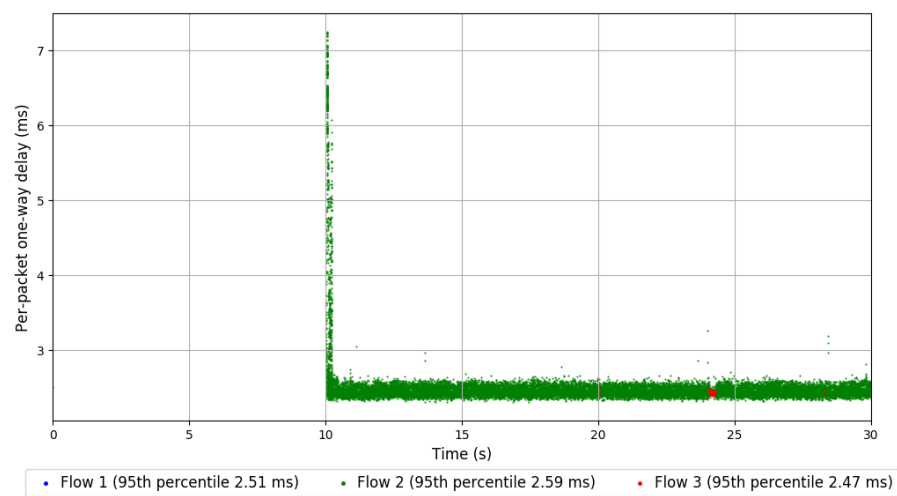
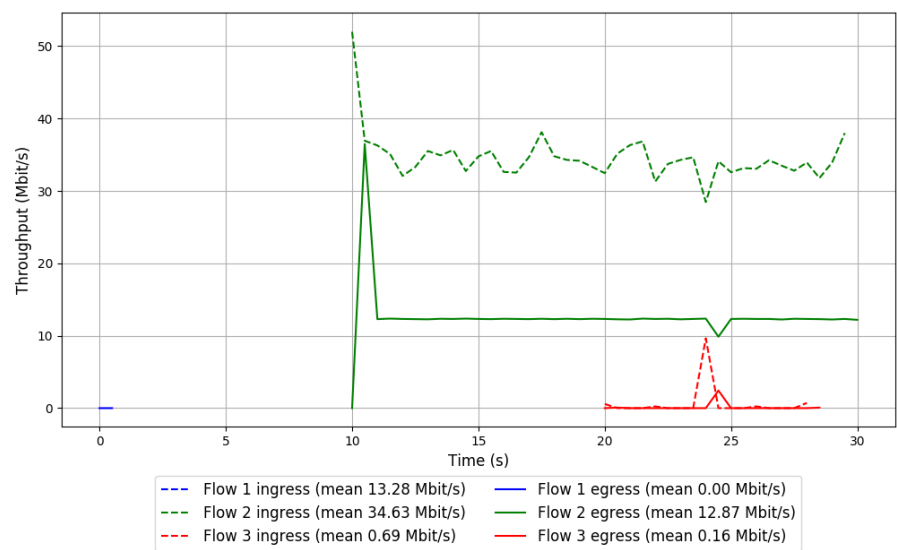


Run 4: Statistics of Copa

Start at: 2018-11-30 01:07:21
End at: 2018-11-30 01:07:51
Local clock offset: -3.007 ms
Remote clock offset: -0.056 ms

Below is generated by plot.py at 2018-11-30 01:32:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.587 ms
Loss rate: 62.96%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.506 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 12.87 Mbit/s
95th percentile per-packet one-way delay: 2.587 ms
Loss rate: 62.83%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 2.469 ms
Loss rate: 77.46%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-11-30 01:27:51

End at: 2018-11-30 01:28:21

Local clock offset: -3.586 ms

Remote clock offset: 0.005 ms

Below is generated by plot.py at 2018-11-30 01:32:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 8.62 Mbit/s

95th percentile per-packet one-way delay: 2.510 ms

Loss rate: 67.53%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 0.985 ms

Loss rate: 97.24%

-- Flow 2:

Average throughput: 10.14 Mbit/s

95th percentile per-packet one-way delay: 2.616 ms

Loss rate: 64.90%

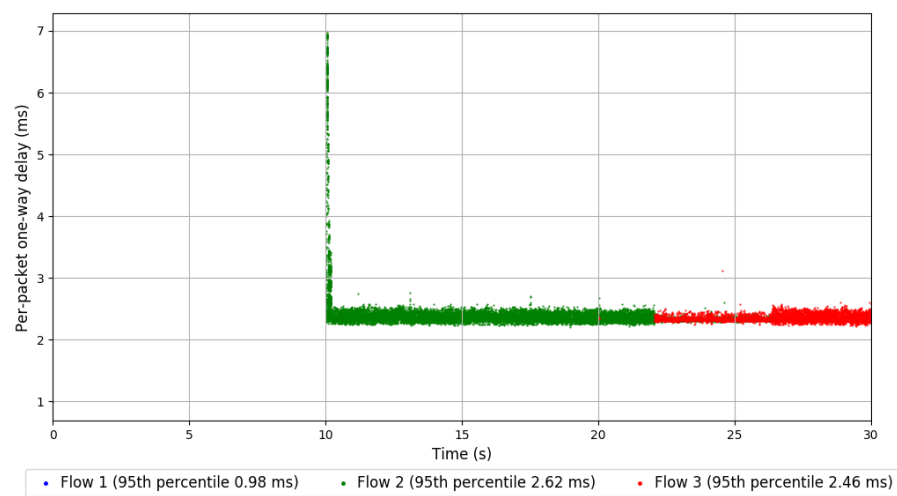
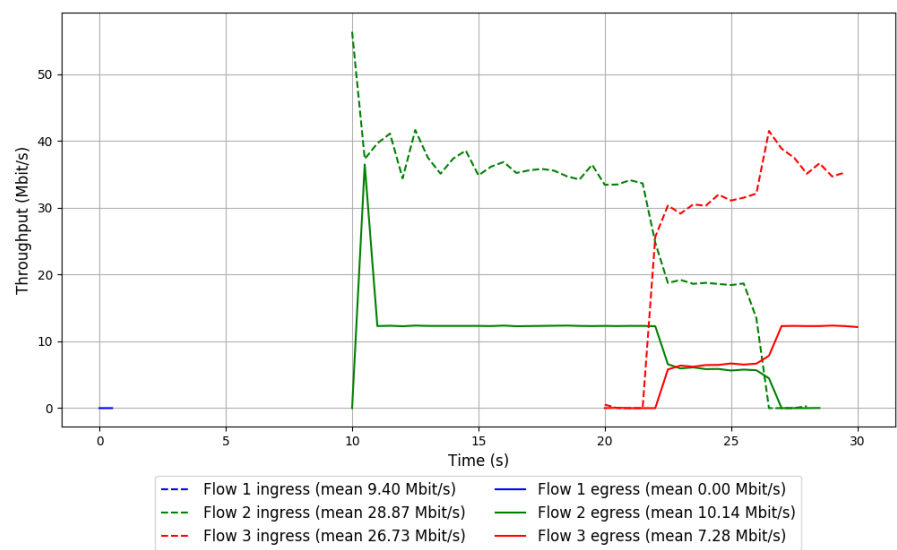
-- Flow 3:

Average throughput: 7.28 Mbit/s

95th percentile per-packet one-way delay: 2.456 ms

Loss rate: 72.77%

Run 5: Report of Copa — Data Link

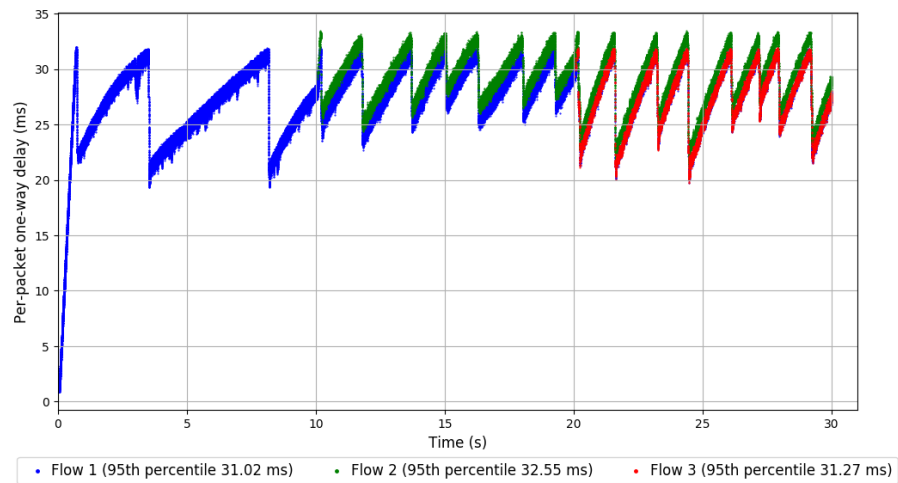
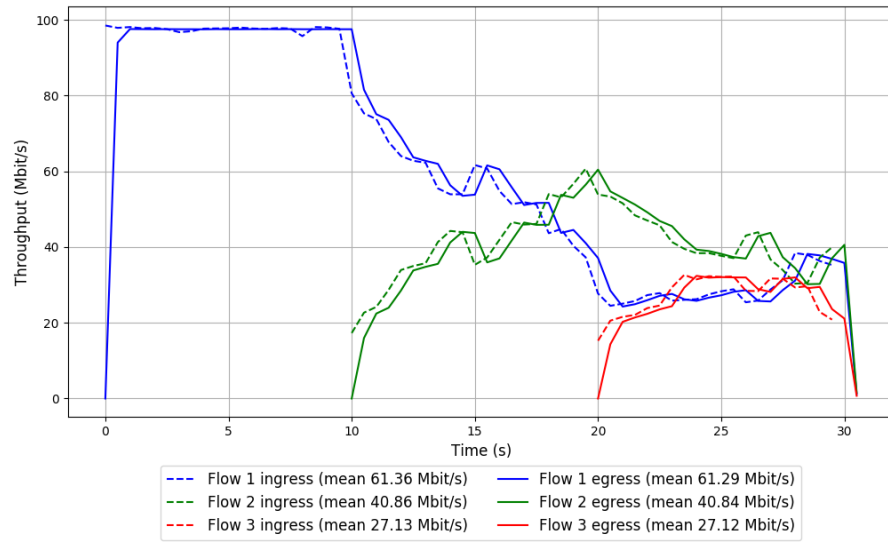


Run 1: Statistics of TCP Cubic

Start at: 2018-11-29 23:53:26
End at: 2018-11-29 23:53:57
Local clock offset: -3.241 ms
Remote clock offset: -0.335 ms

Below is generated by plot.py at 2018-11-30 01:32:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 31.749 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 61.29 Mbit/s
95th percentile per-packet one-way delay: 31.025 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 40.84 Mbit/s
95th percentile per-packet one-way delay: 32.548 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 27.12 Mbit/s
95th percentile per-packet one-way delay: 31.273 ms
Loss rate: 0.06%

Run 1: Report of TCP Cubic — Data Link

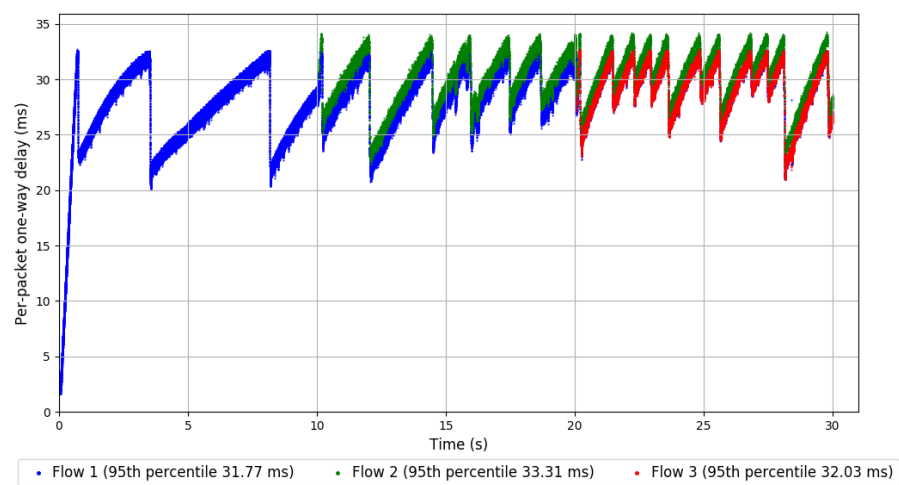
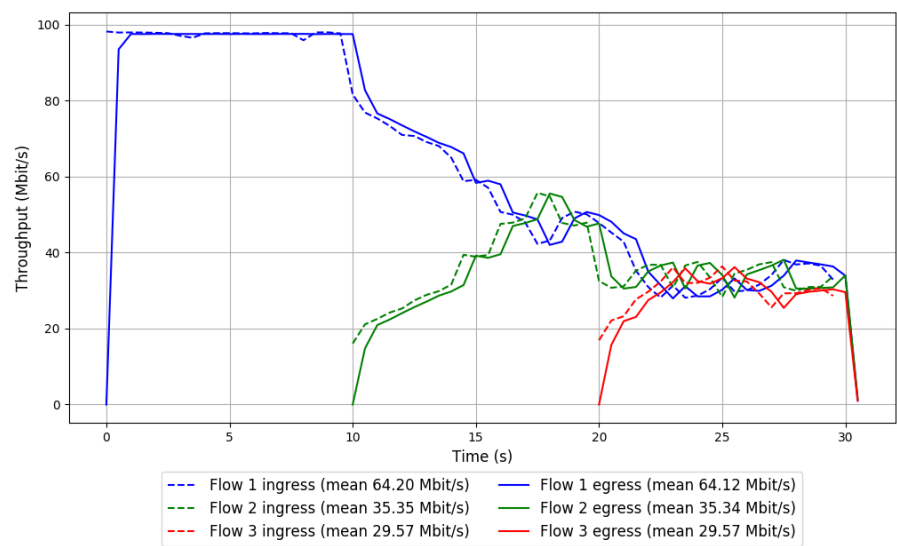


Run 2: Statistics of TCP Cubic

Start at: 2018-11-30 00:13:54
End at: 2018-11-30 00:14:24
Local clock offset: -3.499 ms
Remote clock offset: -0.25 ms

Below is generated by plot.py at 2018-11-30 01:32:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 32.500 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 64.12 Mbit/s
95th percentile per-packet one-way delay: 31.774 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 35.34 Mbit/s
95th percentile per-packet one-way delay: 33.307 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.57 Mbit/s
95th percentile per-packet one-way delay: 32.034 ms
Loss rate: 0.04%

Run 2: Report of TCP Cubic — Data Link

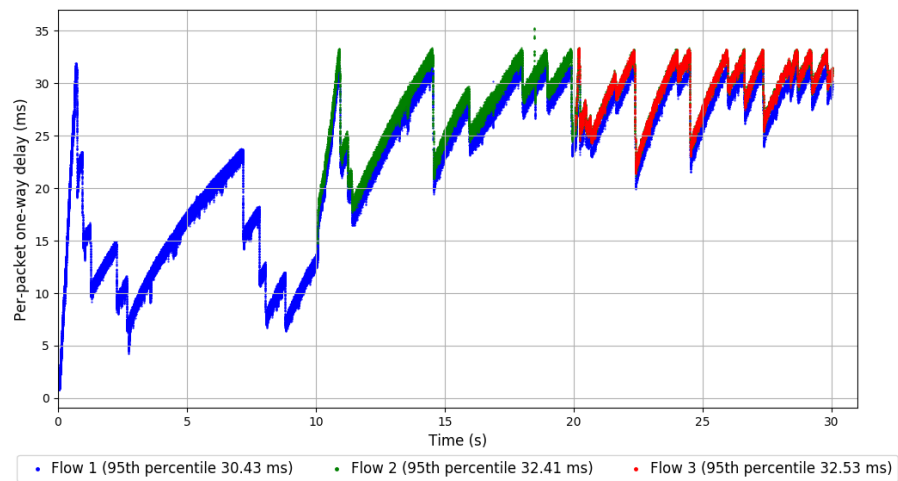
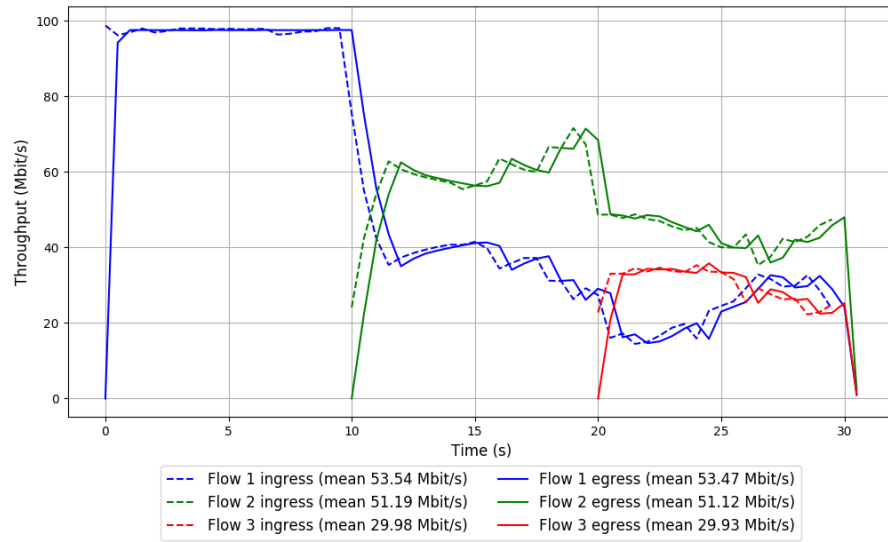


Run 3: Statistics of TCP Cubic

Start at: 2018-11-30 00:34:23
End at: 2018-11-30 00:34:53
Local clock offset: -3.668 ms
Remote clock offset: -0.266 ms

Below is generated by plot.py at 2018-11-30 01:32:33
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 32.062 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 53.47 Mbit/s
95th percentile per-packet one-way delay: 30.426 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 51.12 Mbit/s
95th percentile per-packet one-way delay: 32.415 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.93 Mbit/s
95th percentile per-packet one-way delay: 32.528 ms
Loss rate: 0.09%

Run 3: Report of TCP Cubic — Data Link

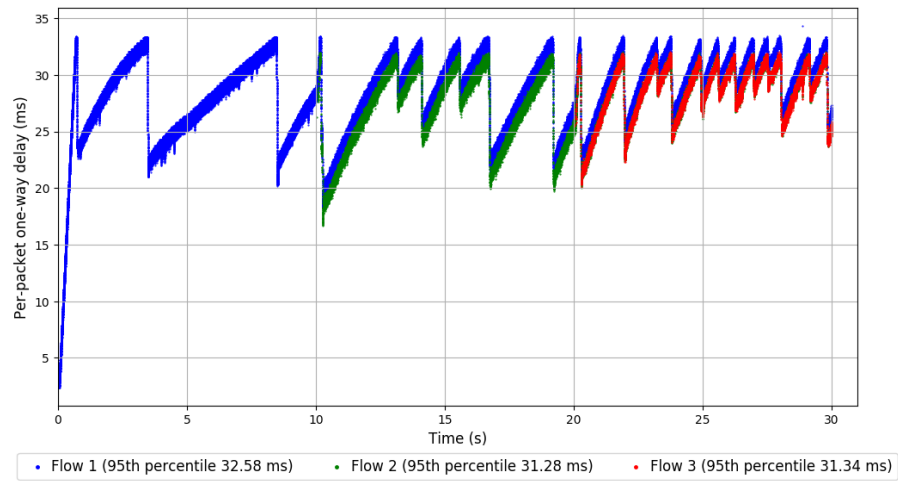
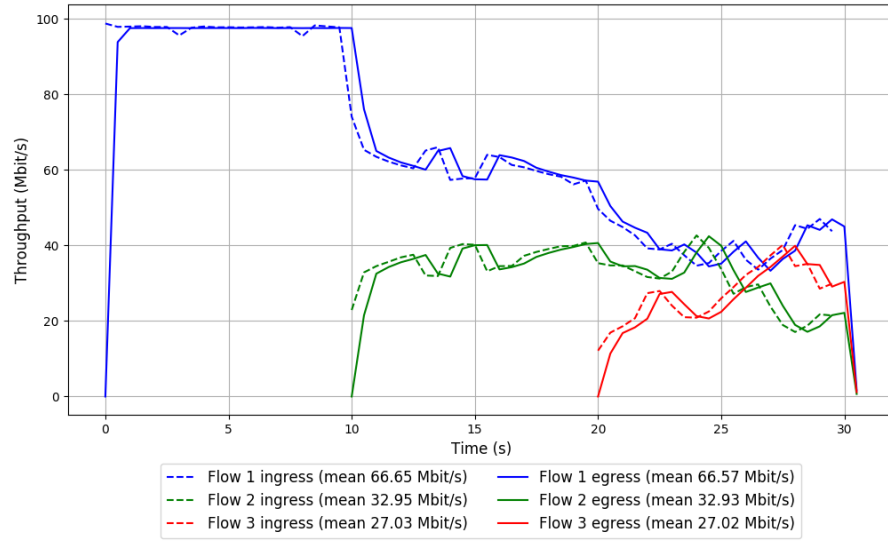


Run 4: Statistics of TCP Cubic

Start at: 2018-11-30 00:54:51
End at: 2018-11-30 00:55:21
Local clock offset: -3.269 ms
Remote clock offset: -0.116 ms

Below is generated by plot.py at 2018-11-30 01:33:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 32.372 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 66.57 Mbit/s
95th percentile per-packet one-way delay: 32.578 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 32.93 Mbit/s
95th percentile per-packet one-way delay: 31.276 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 27.02 Mbit/s
95th percentile per-packet one-way delay: 31.340 ms
Loss rate: 0.03%

Run 4: Report of TCP Cubic — Data Link

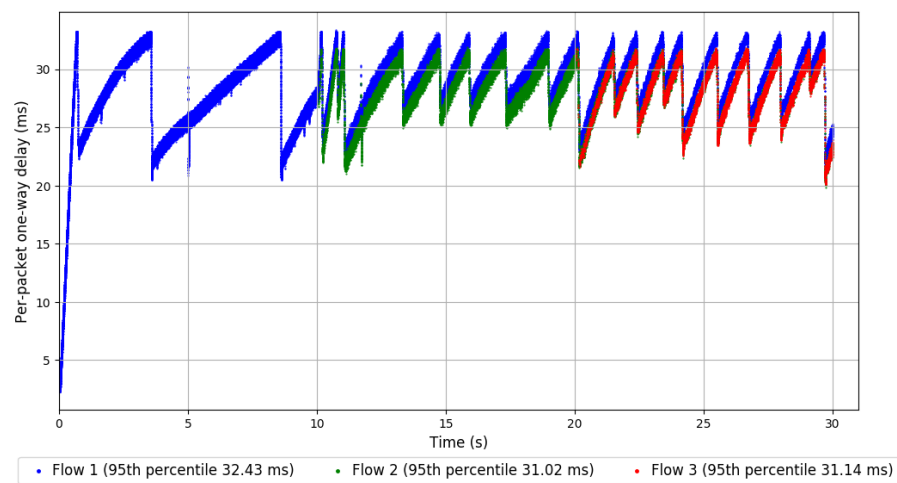
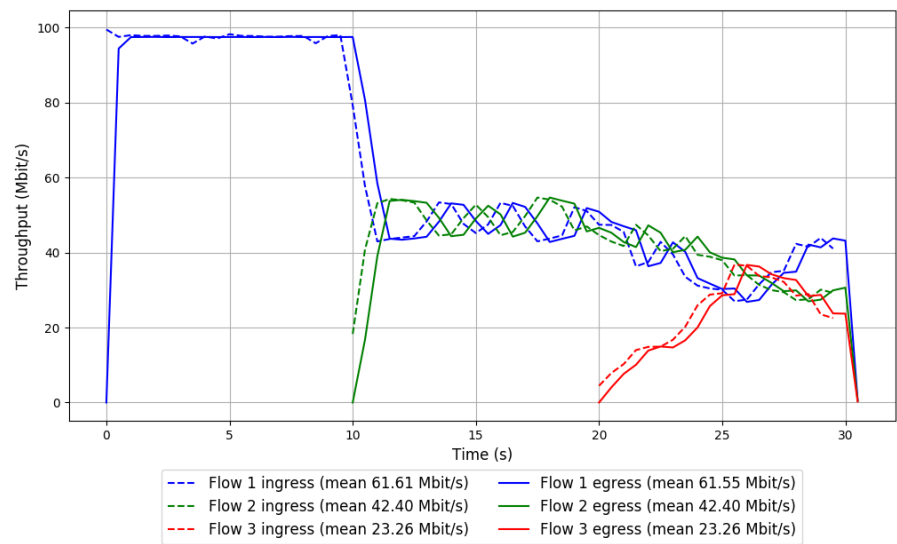


Run 5: Statistics of TCP Cubic

Start at: 2018-11-30 01:15:18
End at: 2018-11-30 01:15:48
Local clock offset: -2.958 ms
Remote clock offset: -0.042 ms

Below is generated by plot.py at 2018-11-30 01:33:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.194 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 61.55 Mbit/s
95th percentile per-packet one-way delay: 32.433 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 42.40 Mbit/s
95th percentile per-packet one-way delay: 31.018 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 23.26 Mbit/s
95th percentile per-packet one-way delay: 31.137 ms
Loss rate: 0.07%

Run 5: Report of TCP Cubic — Data Link

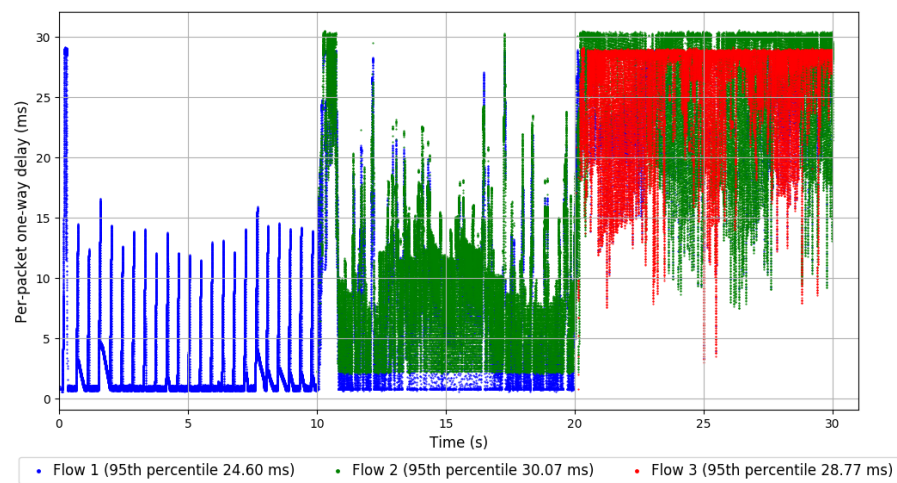
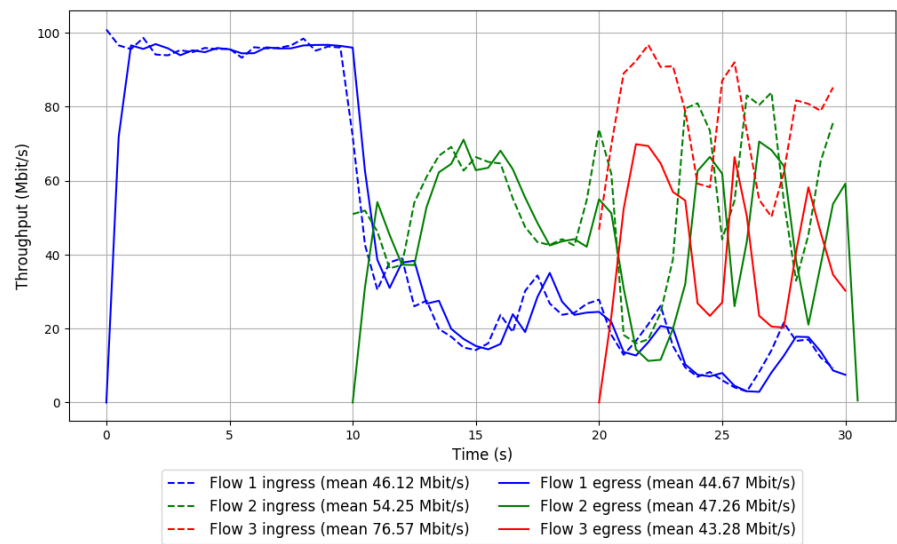


Run 1: Statistics of FillP

Start at: 2018-11-29 23:56:52
End at: 2018-11-29 23:57:22
Local clock offset: -3.125 ms
Remote clock offset: -0.446 ms

Below is generated by plot.py at 2018-11-30 01:33:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 29.022 ms
Loss rate: 15.84%
-- Flow 1:
Average throughput: 44.67 Mbit/s
95th percentile per-packet one-way delay: 24.601 ms
Loss rate: 3.09%
-- Flow 2:
Average throughput: 47.26 Mbit/s
95th percentile per-packet one-way delay: 30.066 ms
Loss rate: 12.77%
-- Flow 3:
Average throughput: 43.28 Mbit/s
95th percentile per-packet one-way delay: 28.767 ms
Loss rate: 43.42%

Run 1: Report of FillP — Data Link

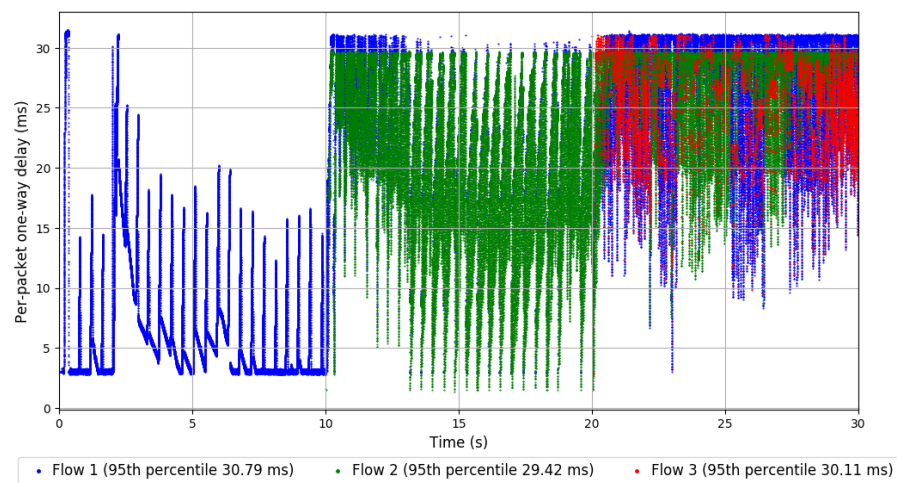
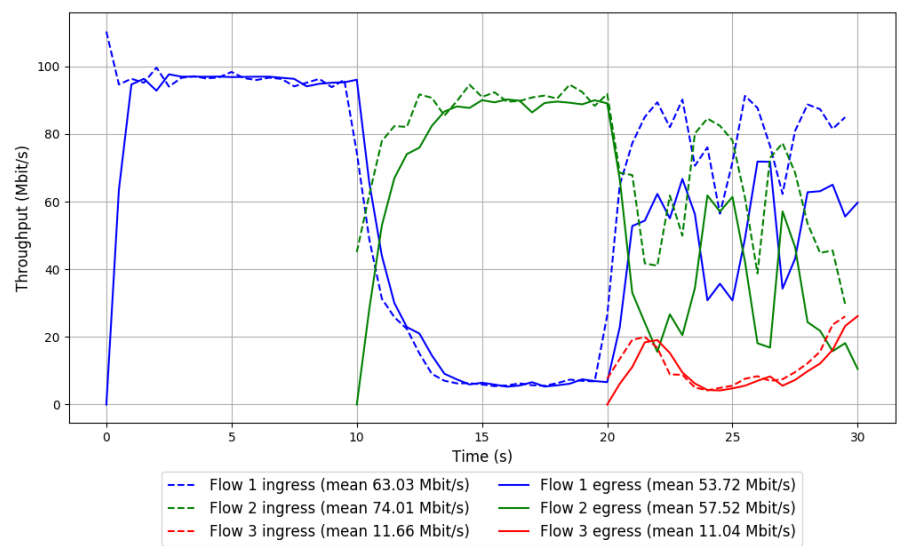


Run 2: Statistics of FillP

Start at: 2018-11-30 00:17:19
End at: 2018-11-30 00:17:49
Local clock offset: -3.739 ms
Remote clock offset: -0.292 ms

Below is generated by plot.py at 2018-11-30 01:33:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 30.590 ms
Loss rate: 17.55%
-- Flow 1:
Average throughput: 53.72 Mbit/s
95th percentile per-packet one-way delay: 30.785 ms
Loss rate: 14.69%
-- Flow 2:
Average throughput: 57.52 Mbit/s
95th percentile per-packet one-way delay: 29.416 ms
Loss rate: 22.18%
-- Flow 3:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 30.105 ms
Loss rate: 5.15%

Run 2: Report of FillP — Data Link

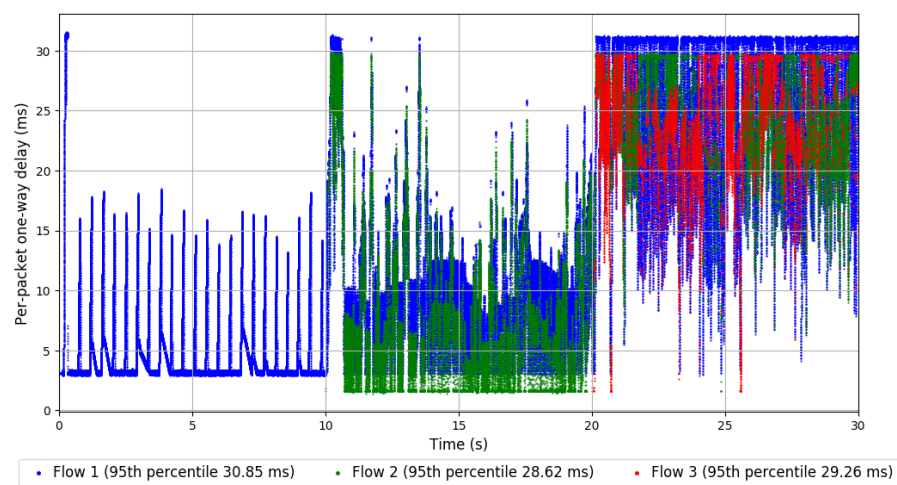
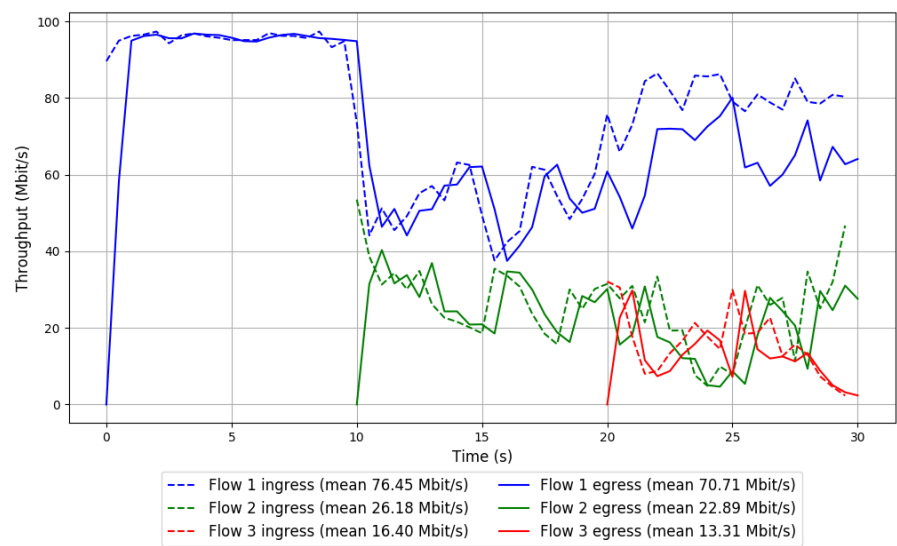


Run 3: Statistics of FillP

Start at: 2018-11-30 00:37:49
End at: 2018-11-30 00:38:19
Local clock offset: -4.457 ms
Remote clock offset: -0.172 ms

Below is generated by plot.py at 2018-11-30 01:33:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.36 Mbit/s
95th percentile per-packet one-way delay: 30.784 ms
Loss rate: 8.92%
-- Flow 1:
Average throughput: 70.71 Mbit/s
95th percentile per-packet one-way delay: 30.853 ms
Loss rate: 7.42%
-- Flow 2:
Average throughput: 22.89 Mbit/s
95th percentile per-packet one-way delay: 28.621 ms
Loss rate: 12.46%
-- Flow 3:
Average throughput: 13.31 Mbit/s
95th percentile per-packet one-way delay: 29.260 ms
Loss rate: 18.68%

Run 3: Report of FillP — Data Link

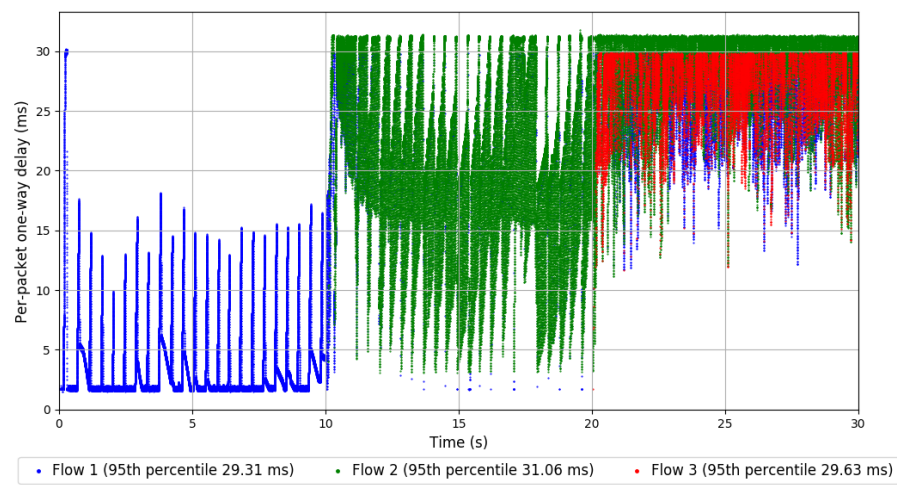
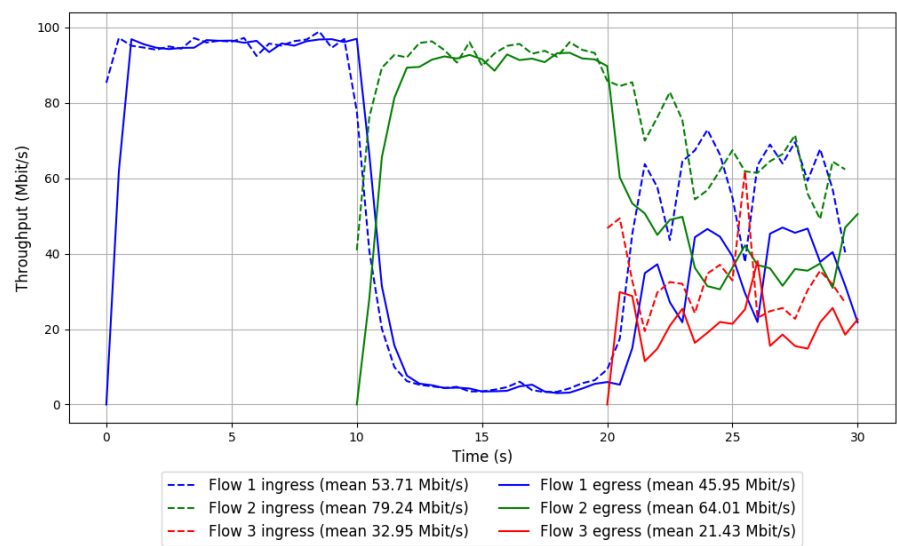


Run 4: Statistics of FillP

Start at: 2018-11-30 00:58:17
End at: 2018-11-30 00:58:47
Local clock offset: -3.945 ms
Remote clock offset: -0.117 ms

Below is generated by plot.py at 2018-11-30 01:33:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 30.881 ms
Loss rate: 18.42%
-- Flow 1:
Average throughput: 45.95 Mbit/s
95th percentile per-packet one-way delay: 29.308 ms
Loss rate: 14.39%
-- Flow 2:
Average throughput: 64.01 Mbit/s
95th percentile per-packet one-way delay: 31.062 ms
Loss rate: 19.11%
-- Flow 3:
Average throughput: 21.43 Mbit/s
95th percentile per-packet one-way delay: 29.631 ms
Loss rate: 34.86%

Run 4: Report of FillP — Data Link

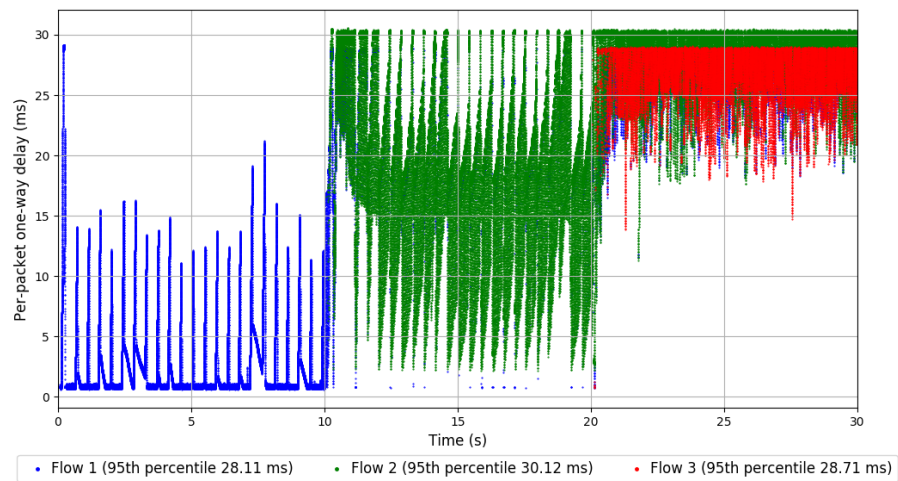
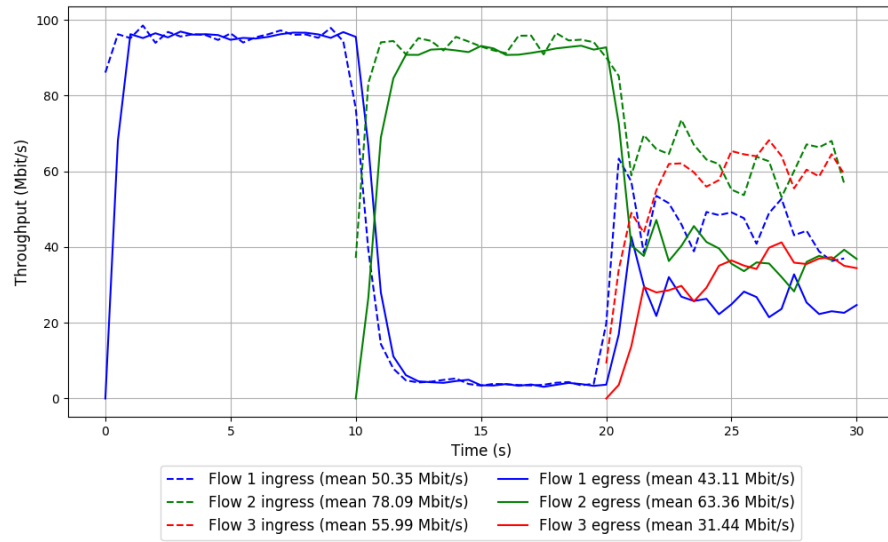


Run 5: Statistics of FillP

Start at: 2018-11-30 01:18:45
End at: 2018-11-30 01:19:15
Local clock offset: -3.184 ms
Remote clock offset: -0.035 ms

Below is generated by plot.py at 2018-11-30 01:34:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 29.825 ms
Loss rate: 20.76%
-- Flow 1:
Average throughput: 43.11 Mbit/s
95th percentile per-packet one-way delay: 28.111 ms
Loss rate: 14.32%
-- Flow 2:
Average throughput: 63.36 Mbit/s
95th percentile per-packet one-way delay: 30.116 ms
Loss rate: 18.76%
-- Flow 3:
Average throughput: 31.44 Mbit/s
95th percentile per-packet one-way delay: 28.709 ms
Loss rate: 43.83%

Run 5: Report of FillP — Data Link

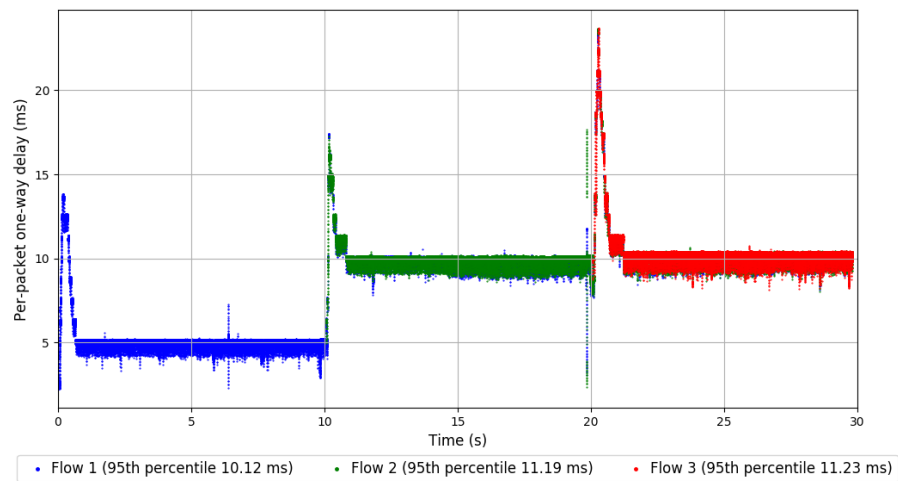
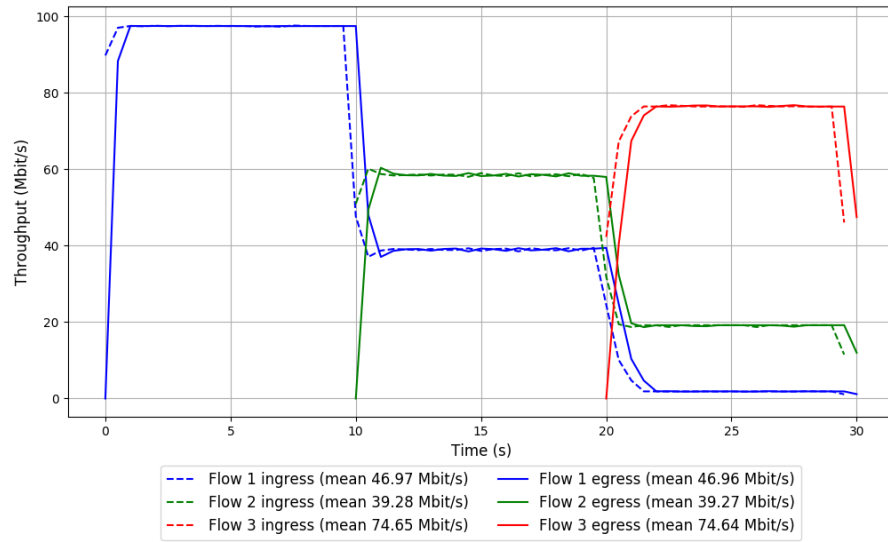



```
Run 1: Statistics of Indigo

Start at: 2018-11-29 23:47:45
End at: 2018-11-29 23:48:15
Local clock offset: -3.49 ms
Remote clock offset: -0.389 ms

# Below is generated by plot.py at 2018-11-30 01:34:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 11.150 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.96 Mbit/s
95th percentile per-packet one-way delay: 10.125 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.27 Mbit/s
95th percentile per-packet one-way delay: 11.192 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.64 Mbit/s
95th percentile per-packet one-way delay: 11.235 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

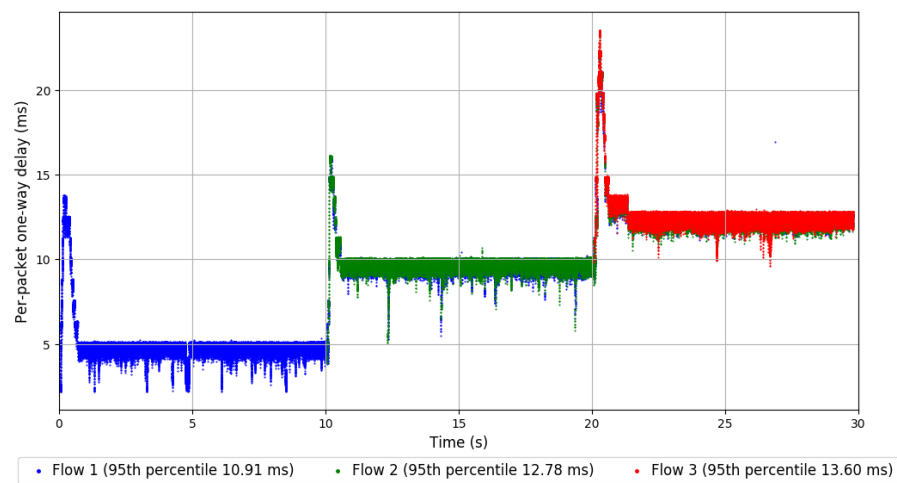
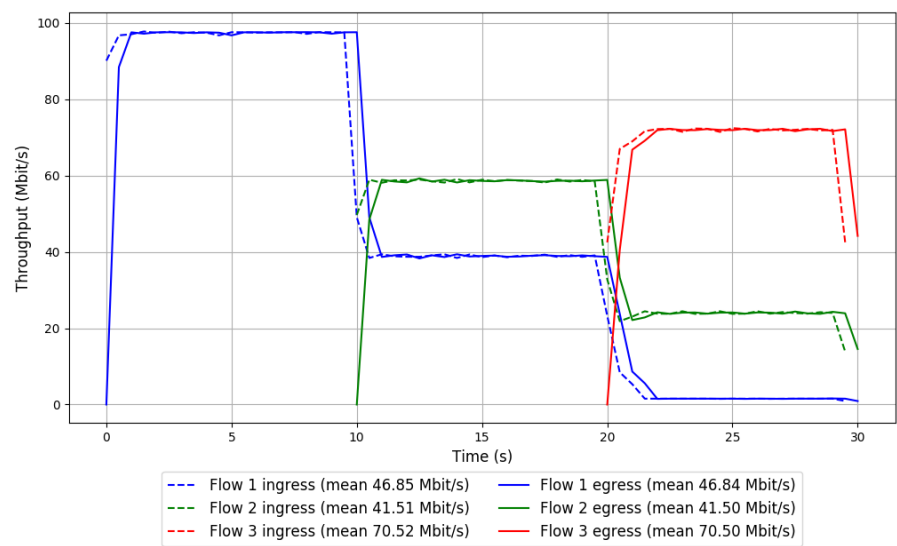


Run 2: Statistics of Indigo

Start at: 2018-11-30 00:08:12
End at: 2018-11-30 00:08:42
Local clock offset: -2.847 ms
Remote clock offset: -0.363 ms

Below is generated by plot.py at 2018-11-30 01:34:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.35 Mbit/s
95th percentile per-packet one-way delay: 12.806 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 10.911 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.50 Mbit/s
95th percentile per-packet one-way delay: 12.783 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.50 Mbit/s
95th percentile per-packet one-way delay: 13.602 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

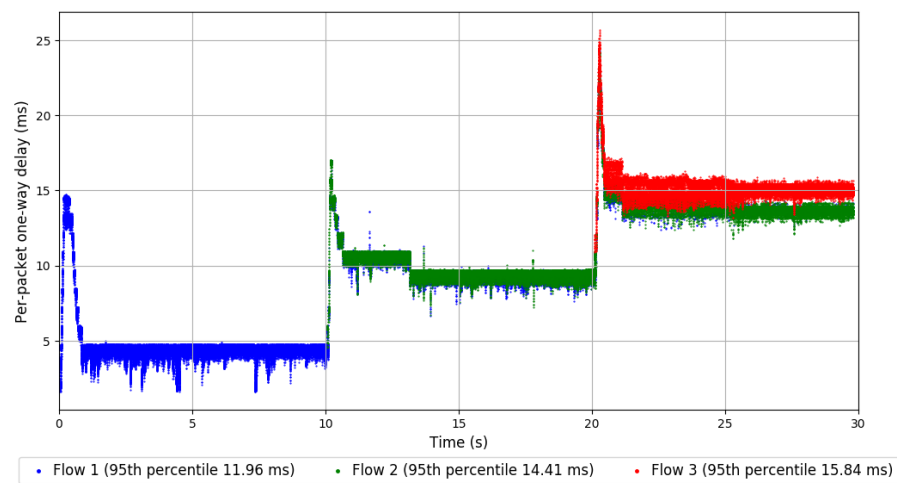
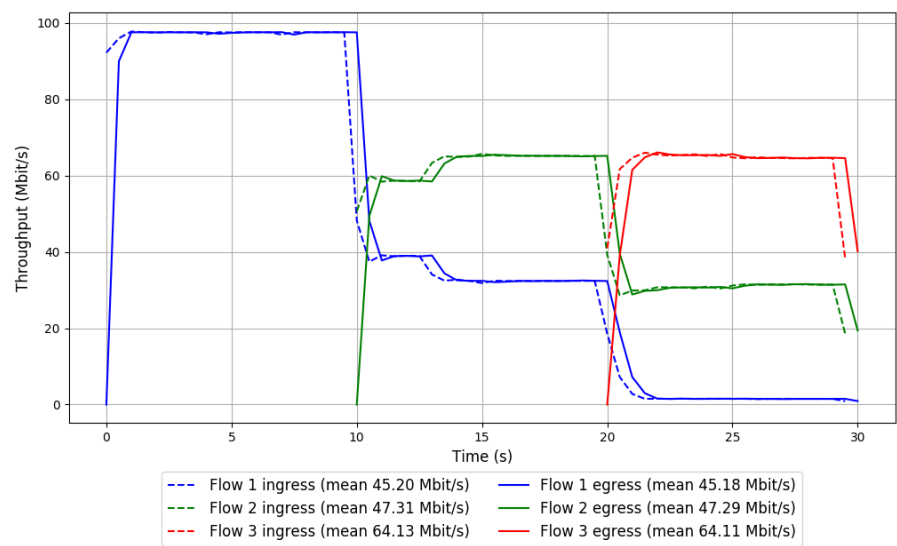


Run 3: Statistics of Indigo

Start at: 2018-11-30 00:28:42
End at: 2018-11-30 00:29:12
Local clock offset: -4.402 ms
Remote clock offset: -0.252 ms

Below is generated by plot.py at 2018-11-30 01:34:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 15.373 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.18 Mbit/s
95th percentile per-packet one-way delay: 11.955 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 14.406 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.11 Mbit/s
95th percentile per-packet one-way delay: 15.836 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

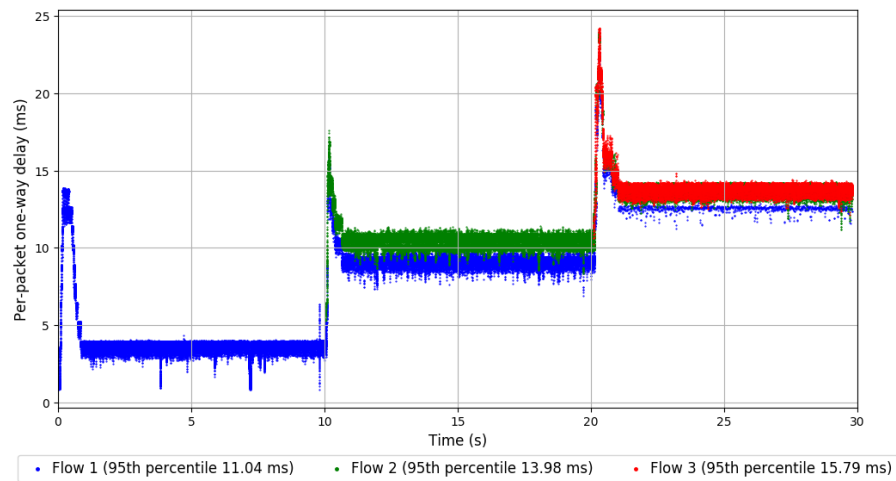
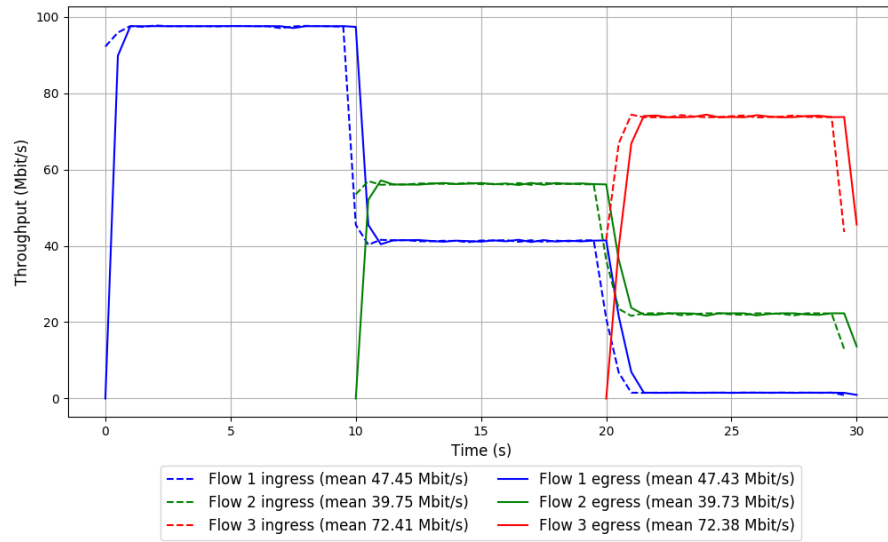


Run 4: Statistics of Indigo

Start at: 2018-11-30 00:49:10
End at: 2018-11-30 00:49:40
Local clock offset: -3.456 ms
Remote clock offset: -0.146 ms

Below is generated by plot.py at 2018-11-30 01:34:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 13.974 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.43 Mbit/s
95th percentile per-packet one-way delay: 11.037 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.73 Mbit/s
95th percentile per-packet one-way delay: 13.976 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 72.38 Mbit/s
95th percentile per-packet one-way delay: 15.790 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link

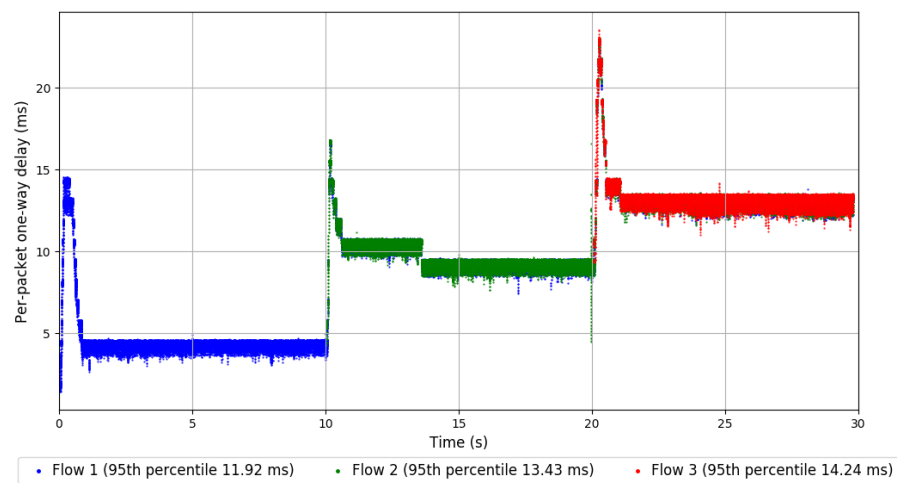
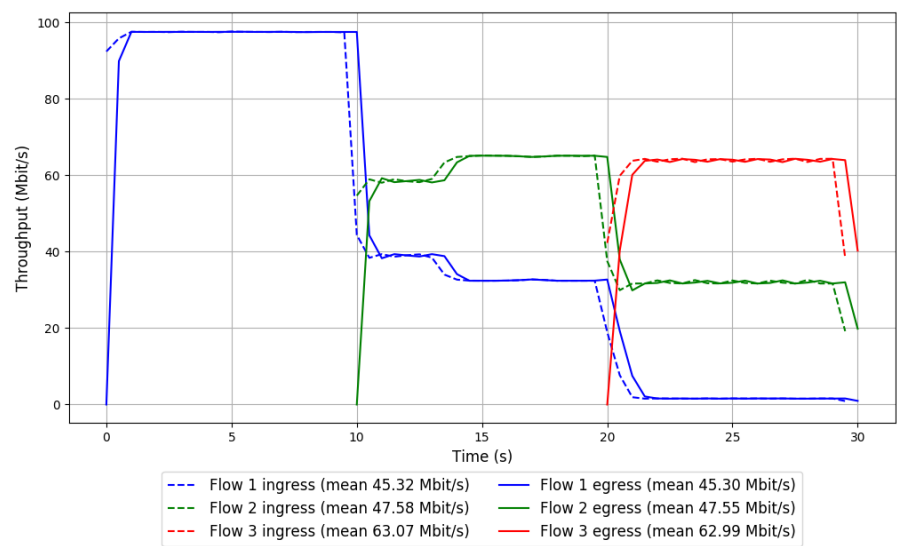


Run 5: Statistics of Indigo

Start at: 2018-11-30 01:09:37
End at: 2018-11-30 01:10:07
Local clock offset: -3.682 ms
Remote clock offset: -0.212 ms

Below is generated by plot.py at 2018-11-30 01:34:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 13.423 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 45.30 Mbit/s
95th percentile per-packet one-way delay: 11.921 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.55 Mbit/s
95th percentile per-packet one-way delay: 13.430 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 62.99 Mbit/s
95th percentile per-packet one-way delay: 14.239 ms
Loss rate: 0.09%

Run 5: Report of Indigo — Data Link

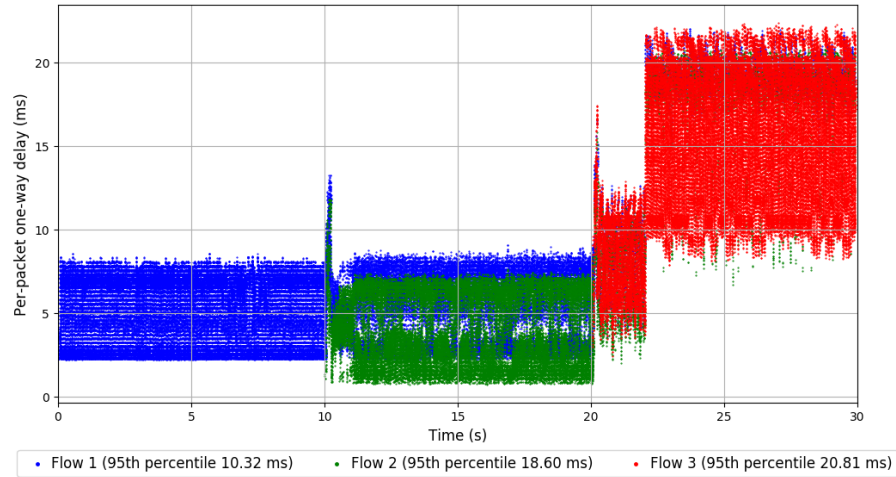
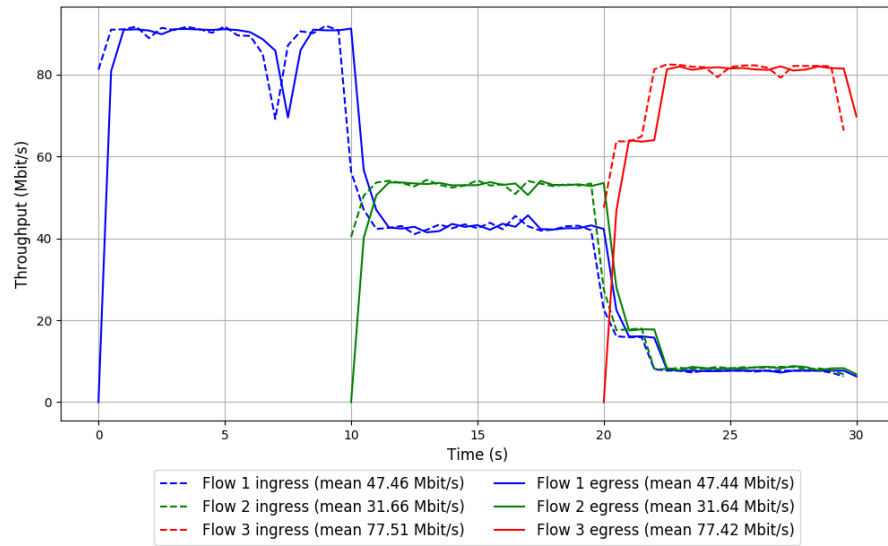


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-29 23:55:43
End at: 2018-11-29 23:56:13
Local clock offset: -3.153 ms
Remote clock offset: -0.403 ms

Below is generated by plot.py at 2018-11-30 01:34:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 19.791 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.44 Mbit/s
95th percentile per-packet one-way delay: 10.320 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.64 Mbit/s
95th percentile per-packet one-way delay: 18.602 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 77.42 Mbit/s
95th percentile per-packet one-way delay: 20.806 ms
Loss rate: 0.00%

Run 1: Report of Indigo-96d2da3 — Data Link

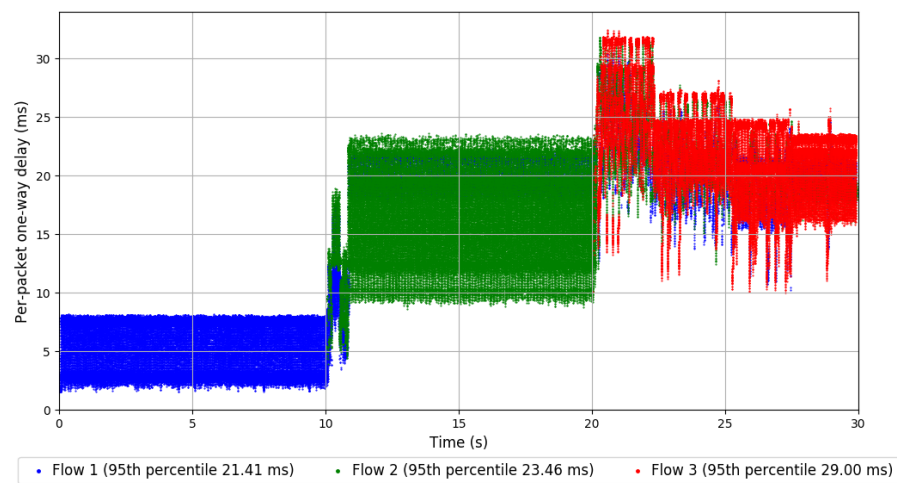
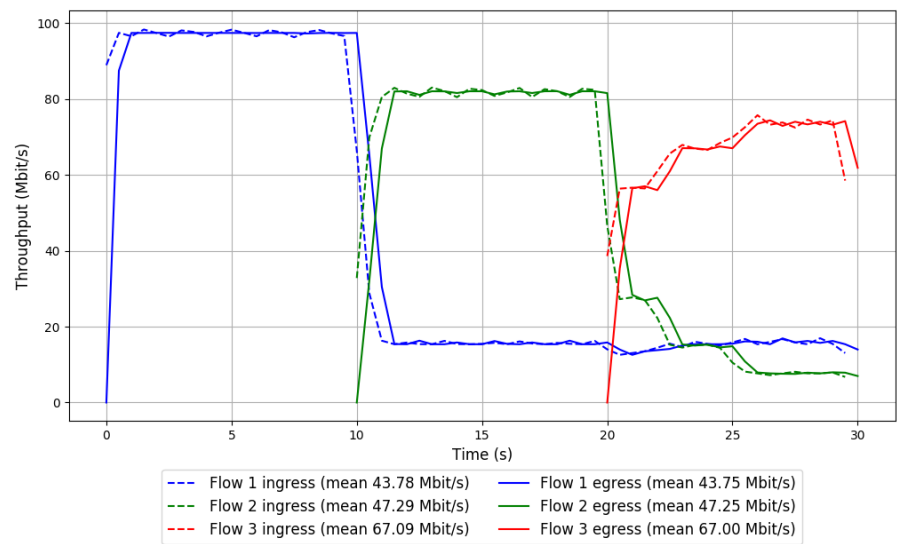


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-30 00:16:10
End at: 2018-11-30 00:16:40
Local clock offset: -3.611 ms
Remote clock offset: -0.261 ms

Below is generated by plot.py at 2018-11-30 01:34:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.28 Mbit/s
95th percentile per-packet one-way delay: 25.206 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.75 Mbit/s
95th percentile per-packet one-way delay: 21.408 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.25 Mbit/s
95th percentile per-packet one-way delay: 23.456 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 67.00 Mbit/s
95th percentile per-packet one-way delay: 28.999 ms
Loss rate: 0.00%

Run 2: Report of Indigo-96d2da3 — Data Link

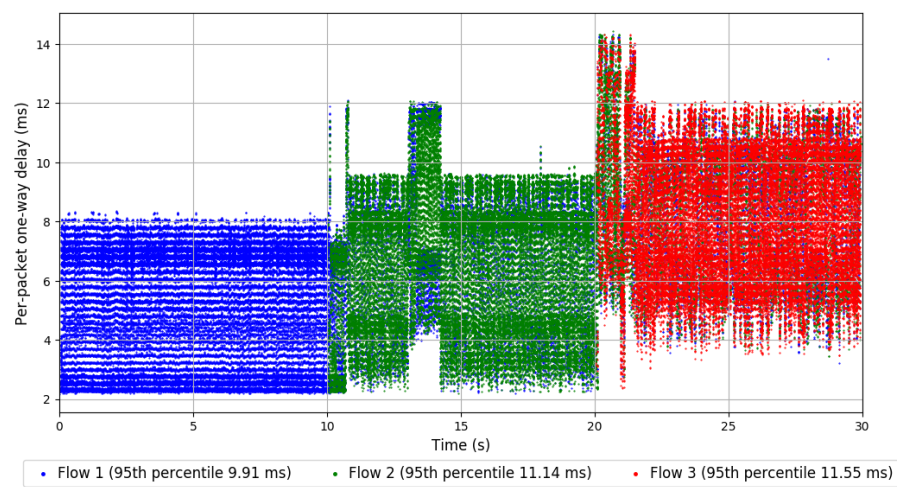
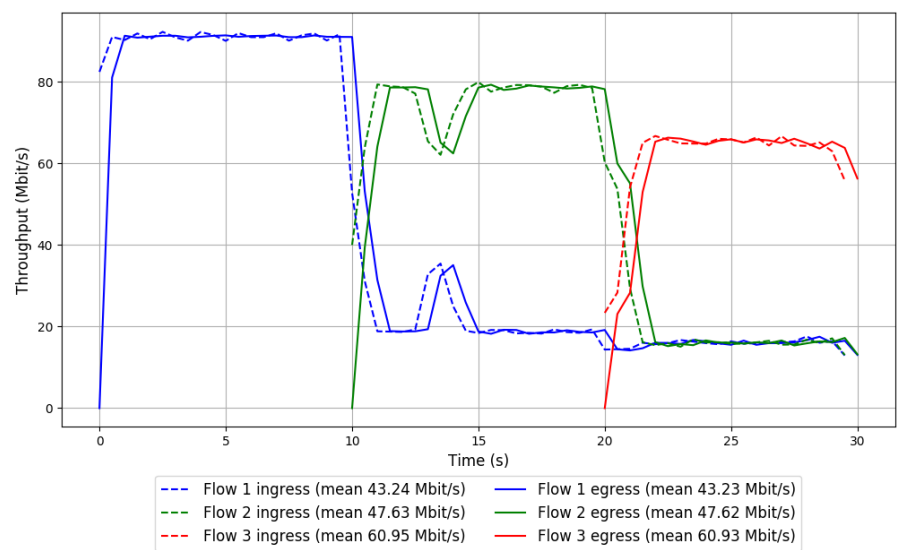


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-30 00:36:40
End at: 2018-11-30 00:37:10
Local clock offset: -3.678 ms
Remote clock offset: -0.225 ms

Below is generated by plot.py at 2018-11-30 01:35:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.01 Mbit/s
95th percentile per-packet one-way delay: 11.025 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.23 Mbit/s
95th percentile per-packet one-way delay: 9.914 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.62 Mbit/s
95th percentile per-packet one-way delay: 11.143 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.93 Mbit/s
95th percentile per-packet one-way delay: 11.554 ms
Loss rate: 0.00%

Run 3: Report of Indigo-96d2da3 — Data Link

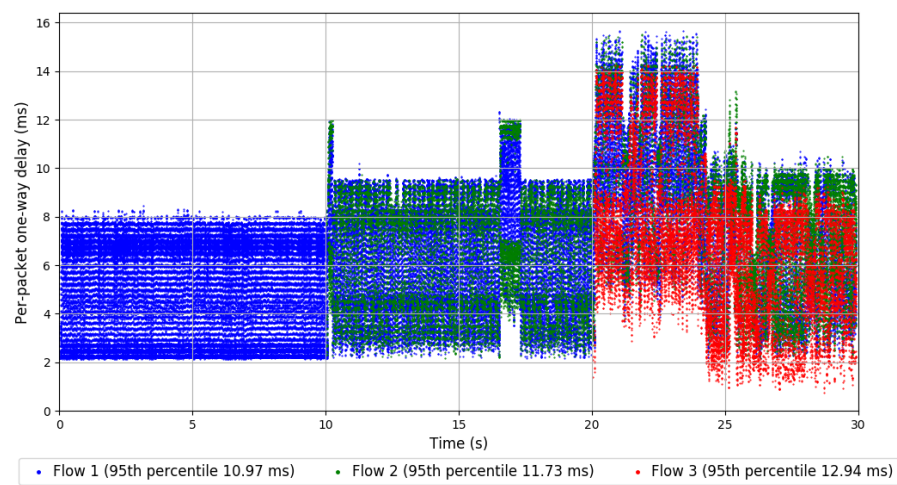
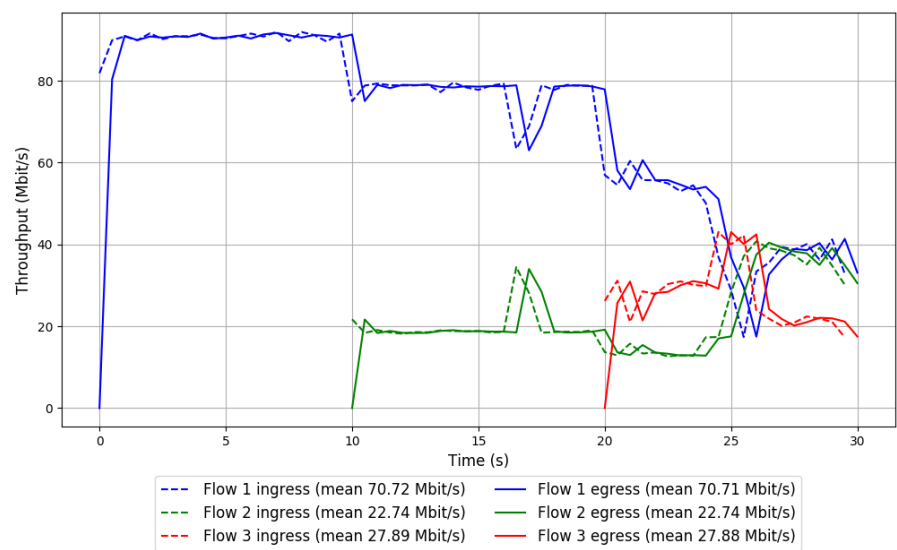


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-30 00:57:08
End at: 2018-11-30 00:57:38
Local clock offset: -3.144 ms
Remote clock offset: -0.249 ms

Below is generated by plot.py at 2018-11-30 01:35:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.03 Mbit/s
95th percentile per-packet one-way delay: 11.526 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.71 Mbit/s
95th percentile per-packet one-way delay: 10.969 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.74 Mbit/s
95th percentile per-packet one-way delay: 11.728 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.88 Mbit/s
95th percentile per-packet one-way delay: 12.938 ms
Loss rate: 0.00%

Run 4: Report of Indigo-96d2da3 — Data Link

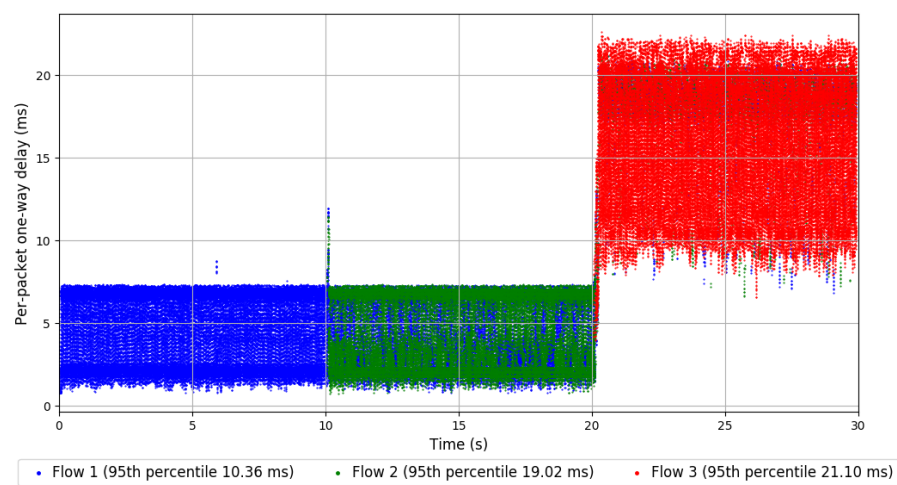
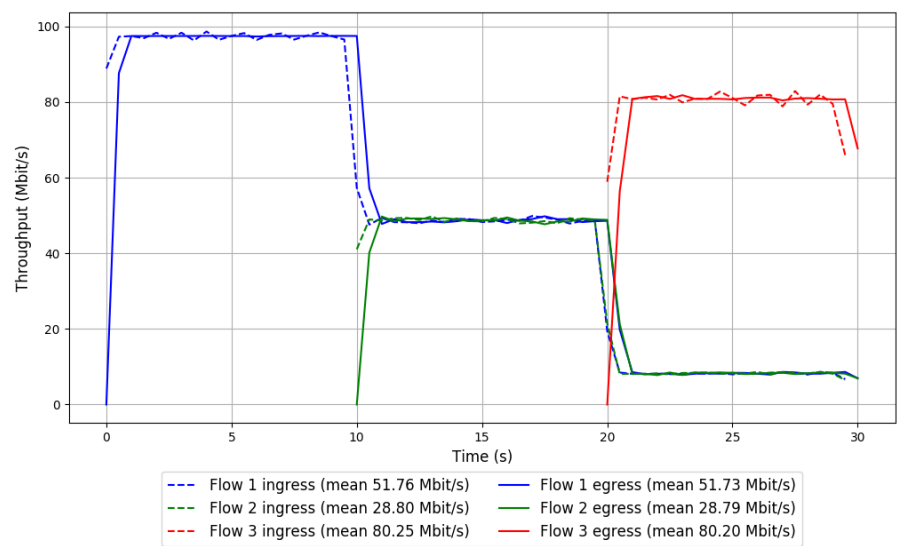


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-30 01:17:35
End at: 2018-11-30 01:18:05
Local clock offset: -3.082 ms
Remote clock offset: -0.042 ms

Below is generated by plot.py at 2018-11-30 01:35:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.28 Mbit/s
95th percentile per-packet one-way delay: 19.912 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.73 Mbit/s
95th percentile per-packet one-way delay: 10.364 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.79 Mbit/s
95th percentile per-packet one-way delay: 19.024 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 80.20 Mbit/s
95th percentile per-packet one-way delay: 21.096 ms
Loss rate: 0.00%

Run 5: Report of Indigo-96d2da3 — Data Link

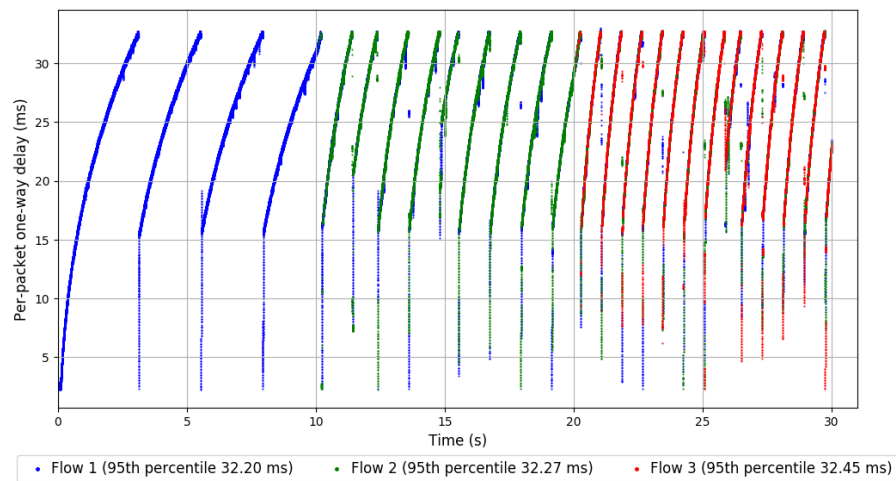
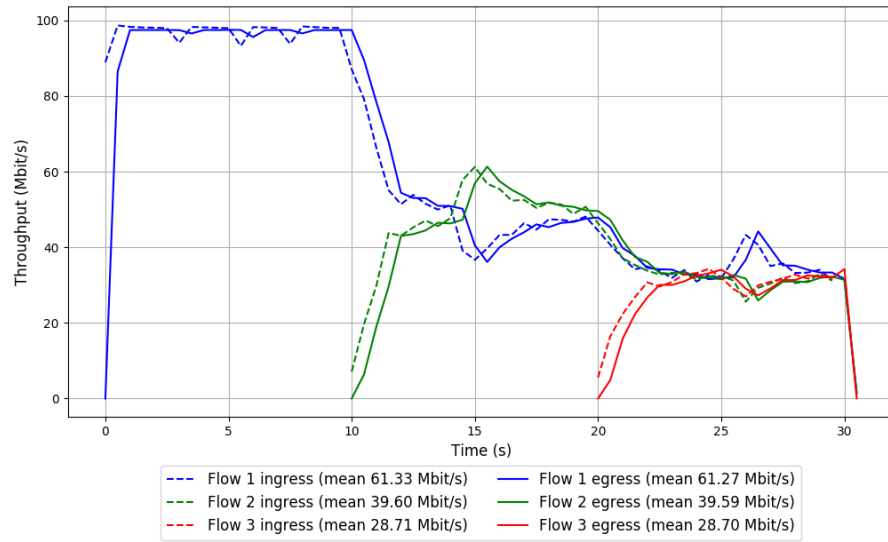


Run 1: Statistics of LEDBAT

Start at: 2018-11-29 23:50:05
End at: 2018-11-29 23:50:35
Local clock offset: -3.445 ms
Remote clock offset: -0.433 ms

Below is generated by plot.py at 2018-11-30 01:35:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 32.234 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 61.27 Mbit/s
95th percentile per-packet one-way delay: 32.195 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 39.59 Mbit/s
95th percentile per-packet one-way delay: 32.272 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 28.70 Mbit/s
95th percentile per-packet one-way delay: 32.454 ms
Loss rate: 0.09%

Run 1: Report of LEDBAT — Data Link

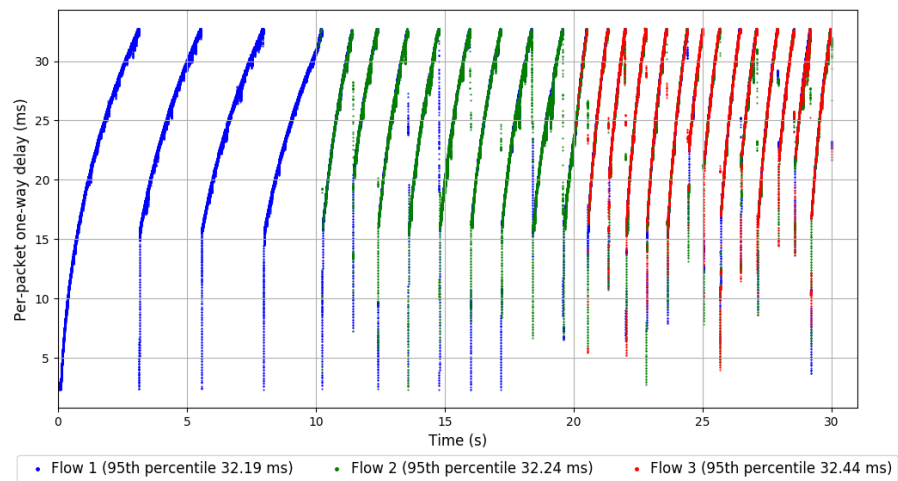
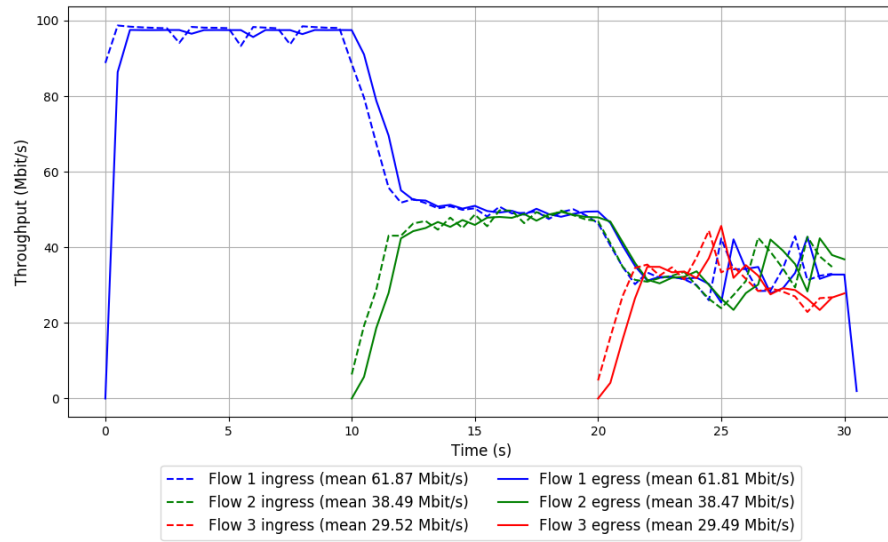


Run 2: Statistics of LEDBAT

Start at: 2018-11-30 00:10:32
End at: 2018-11-30 00:11:02
Local clock offset: -2.794 ms
Remote clock offset: -0.254 ms

Below is generated by plot.py at 2018-11-30 01:36:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.17 Mbit/s
95th percentile per-packet one-way delay: 32.226 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 61.81 Mbit/s
95th percentile per-packet one-way delay: 32.192 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 38.47 Mbit/s
95th percentile per-packet one-way delay: 32.242 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.49 Mbit/s
95th percentile per-packet one-way delay: 32.439 ms
Loss rate: 0.11%

Run 2: Report of LEDBAT — Data Link

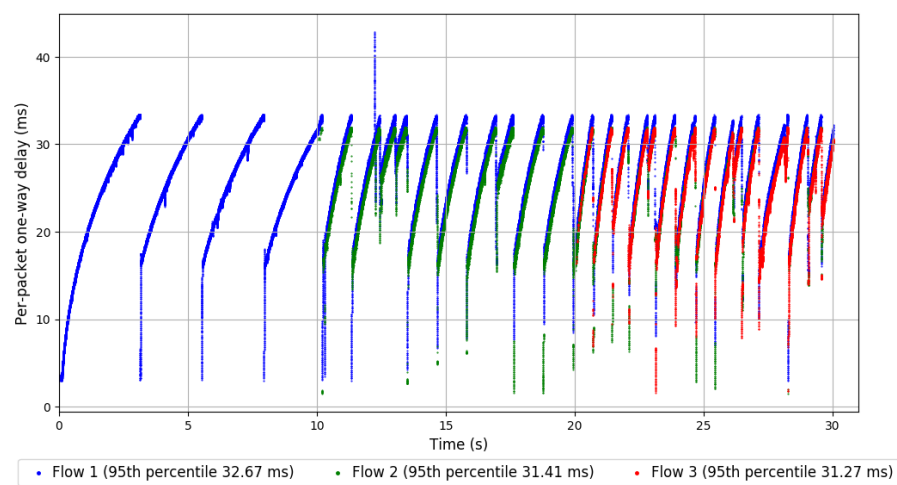
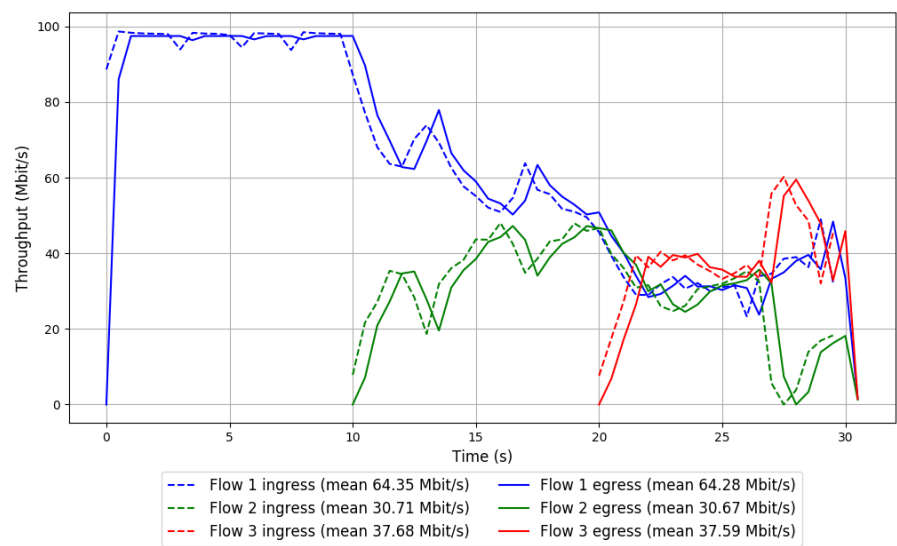


Run 3: Statistics of LEDBAT

Start at: 2018-11-30 00:31:01
End at: 2018-11-30 00:31:31
Local clock offset: -4.385 ms
Remote clock offset: -0.271 ms

Below is generated by plot.py at 2018-11-30 01:36:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.20 Mbit/s
95th percentile per-packet one-way delay: 32.400 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 64.28 Mbit/s
95th percentile per-packet one-way delay: 32.672 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 30.67 Mbit/s
95th percentile per-packet one-way delay: 31.413 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 31.274 ms
Loss rate: 0.08%

Run 3: Report of LEDBAT — Data Link

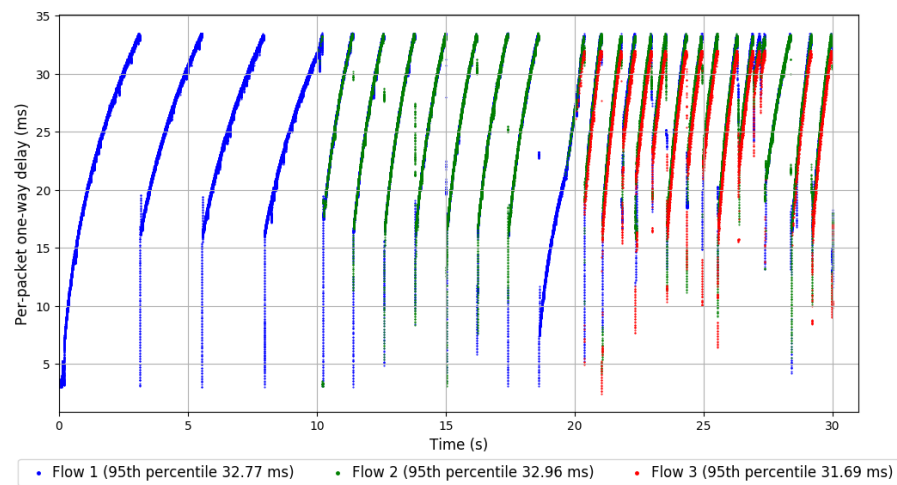
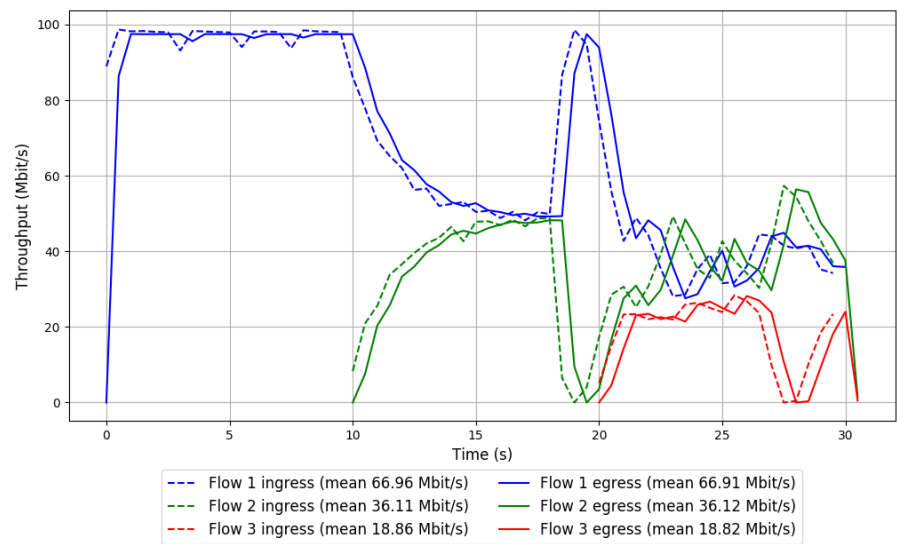


Run 4: Statistics of LEDBAT

Start at: 2018-11-30 00:51:29
End at: 2018-11-30 00:51:59
Local clock offset: -4.101 ms
Remote clock offset: -0.157 ms

Below is generated by plot.py at 2018-11-30 01:36:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.17 Mbit/s
95th percentile per-packet one-way delay: 32.768 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 66.91 Mbit/s
95th percentile per-packet one-way delay: 32.775 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 36.12 Mbit/s
95th percentile per-packet one-way delay: 32.956 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 18.82 Mbit/s
95th percentile per-packet one-way delay: 31.688 ms
Loss rate: 0.32%

Run 4: Report of LEDBAT — Data Link

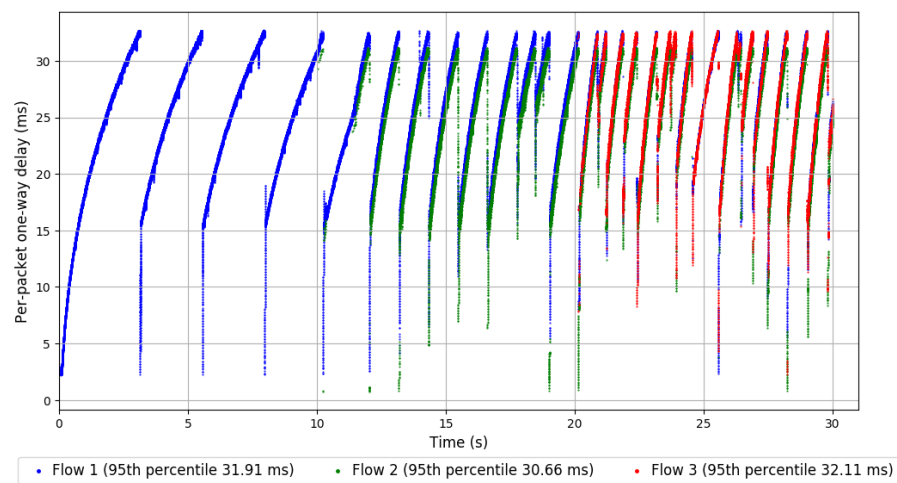
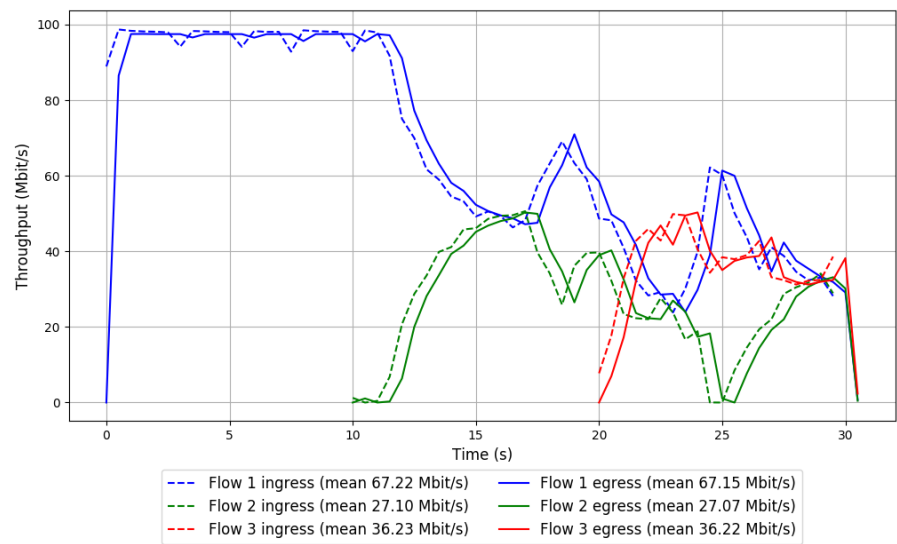


Run 5: Statistics of LEDBAT

Start at: 2018-11-30 01:11:56
End at: 2018-11-30 01:12:26
Local clock offset: -2.879 ms
Remote clock offset: -0.082 ms

Below is generated by plot.py at 2018-11-30 01:36:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.19 Mbit/s
95th percentile per-packet one-way delay: 31.871 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 67.15 Mbit/s
95th percentile per-packet one-way delay: 31.910 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 27.07 Mbit/s
95th percentile per-packet one-way delay: 30.662 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 36.22 Mbit/s
95th percentile per-packet one-way delay: 32.112 ms
Loss rate: 0.07%

Run 5: Report of LEDBAT — Data Link

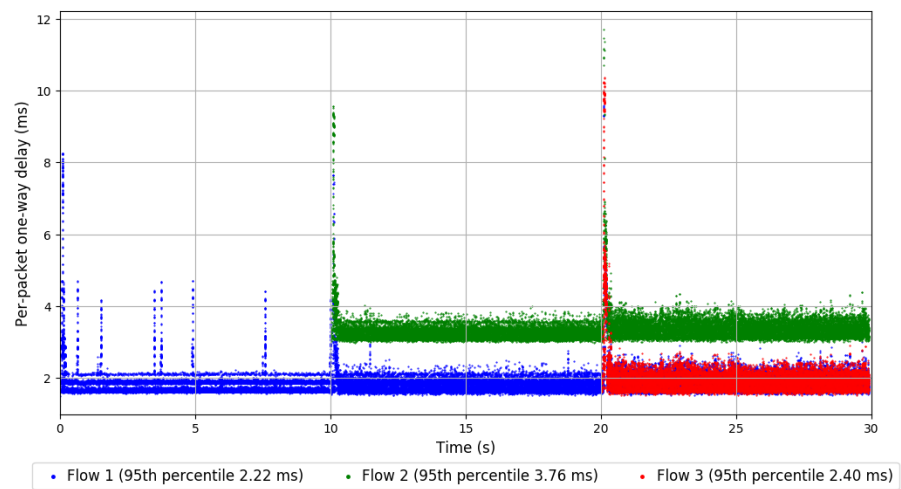
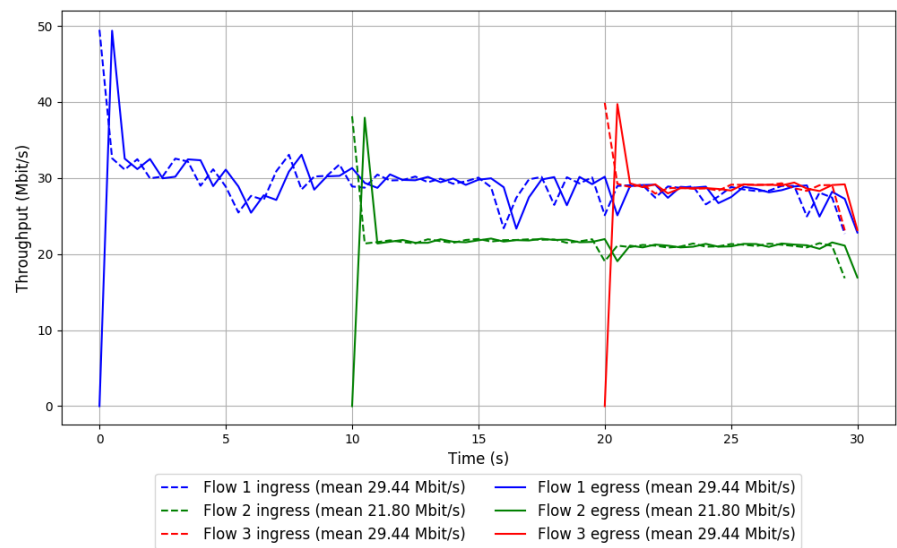


Run 1: Statistics of Indigo-Muses

Start at: 2018-11-30 00:01:27
End at: 2018-11-30 00:01:57
Local clock offset: -3.775 ms
Remote clock offset: -0.353 ms

Below is generated by plot.py at 2018-11-30 01:36:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 53.67 Mbit/s
95th percentile per-packet one-way delay: 3.549 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.44 Mbit/s
95th percentile per-packet one-way delay: 2.218 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.80 Mbit/s
95th percentile per-packet one-way delay: 3.758 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.44 Mbit/s
95th percentile per-packet one-way delay: 2.397 ms
Loss rate: 0.00%

Run 1: Report of Indigo-Muses — Data Link

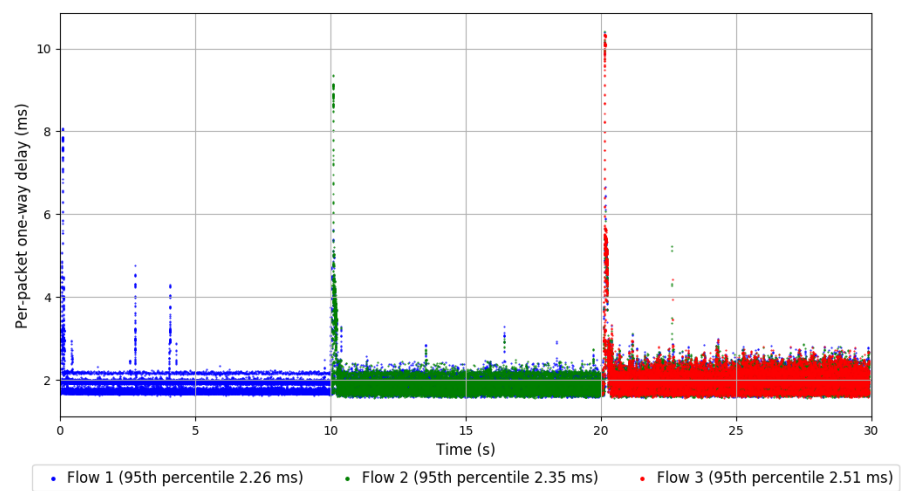
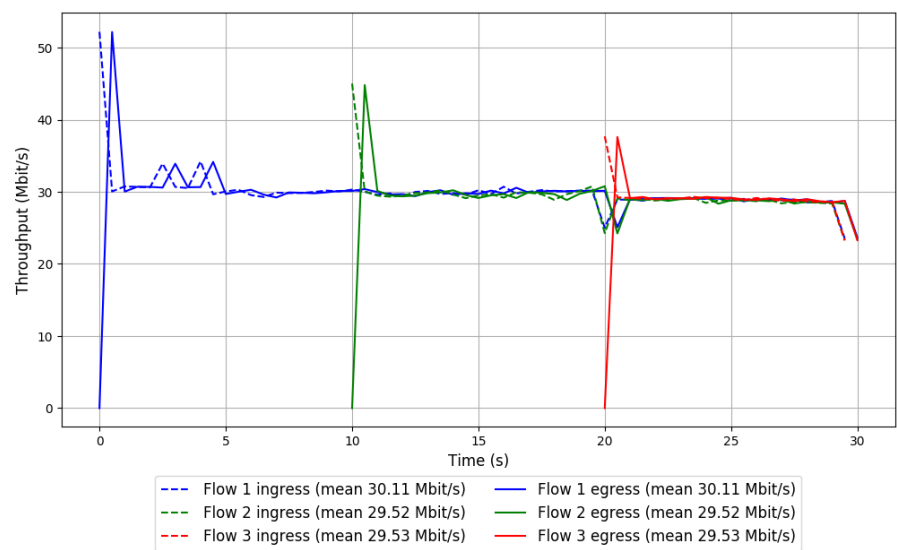


Run 2: Statistics of Indigo-Muses

Start at: 2018-11-30 00:21:55
End at: 2018-11-30 00:22:25
Local clock offset: -4.121 ms
Remote clock offset: -0.204 ms

Below is generated by plot.py at 2018-11-30 01:36:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 59.48 Mbit/s
95th percentile per-packet one-way delay: 2.355 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 30.11 Mbit/s
95th percentile per-packet one-way delay: 2.264 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.52 Mbit/s
95th percentile per-packet one-way delay: 2.355 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.53 Mbit/s
95th percentile per-packet one-way delay: 2.509 ms
Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-11-30 00:42:24

End at: 2018-11-30 00:42:54

Local clock offset: -4.495 ms

Remote clock offset: -0.14 ms

Below is generated by plot.py at 2018-11-30 01:36:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 57.60 Mbit/s

95th percentile per-packet one-way delay: 3.470 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 30.66 Mbit/s

95th percentile per-packet one-way delay: 2.212 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 29.58 Mbit/s

95th percentile per-packet one-way delay: 2.277 ms

Loss rate: 0.00%

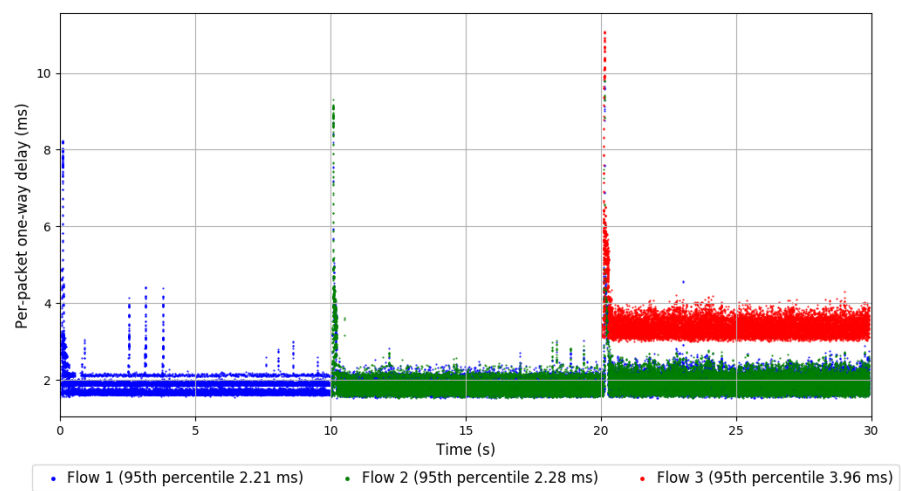
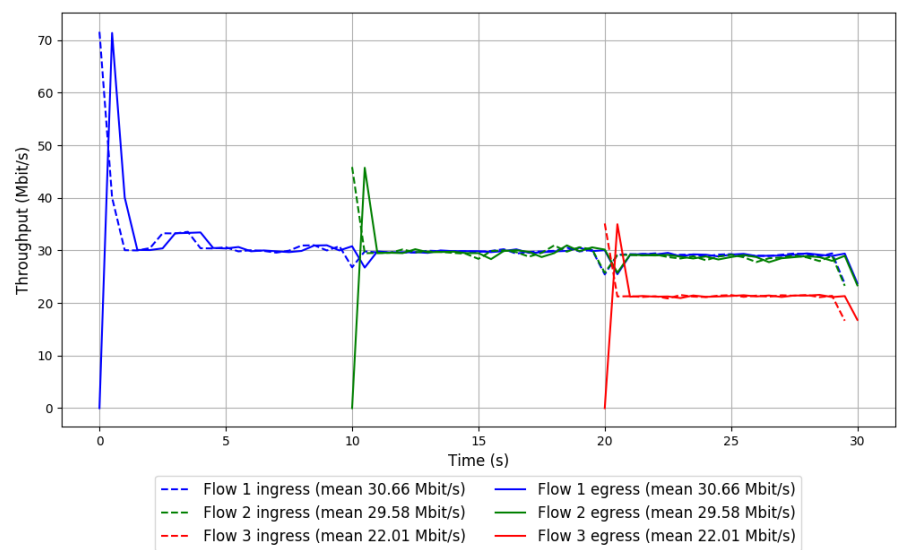
-- Flow 3:

Average throughput: 22.01 Mbit/s

95th percentile per-packet one-way delay: 3.965 ms

Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link

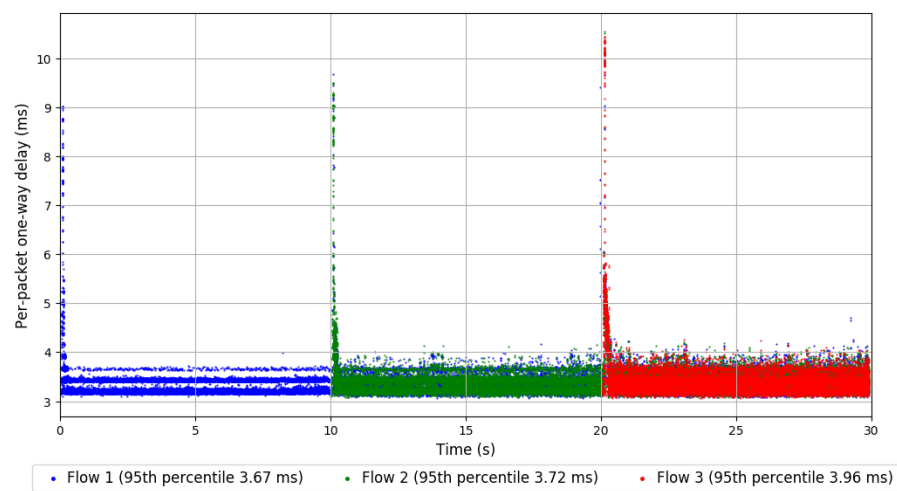
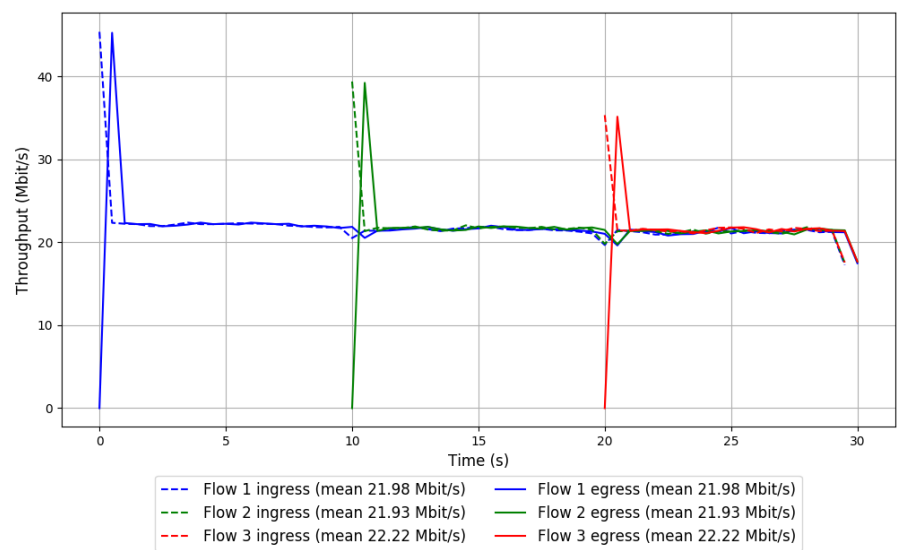


Run 4: Statistics of Indigo-Muses

Start at: 2018-11-30 01:02:51
End at: 2018-11-30 01:03:21
Local clock offset: -3.833 ms
Remote clock offset: -0.069 ms

Below is generated by plot.py at 2018-11-30 01:36:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 43.91 Mbit/s
95th percentile per-packet one-way delay: 3.703 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.98 Mbit/s
95th percentile per-packet one-way delay: 3.668 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.93 Mbit/s
95th percentile per-packet one-way delay: 3.722 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.22 Mbit/s
95th percentile per-packet one-way delay: 3.965 ms
Loss rate: 0.00%

Run 4: Report of Indigo-Muses — Data Link

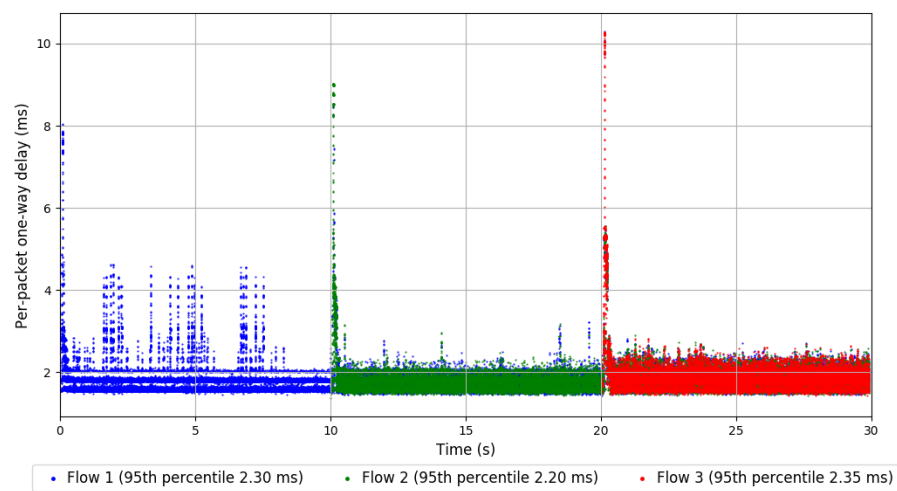
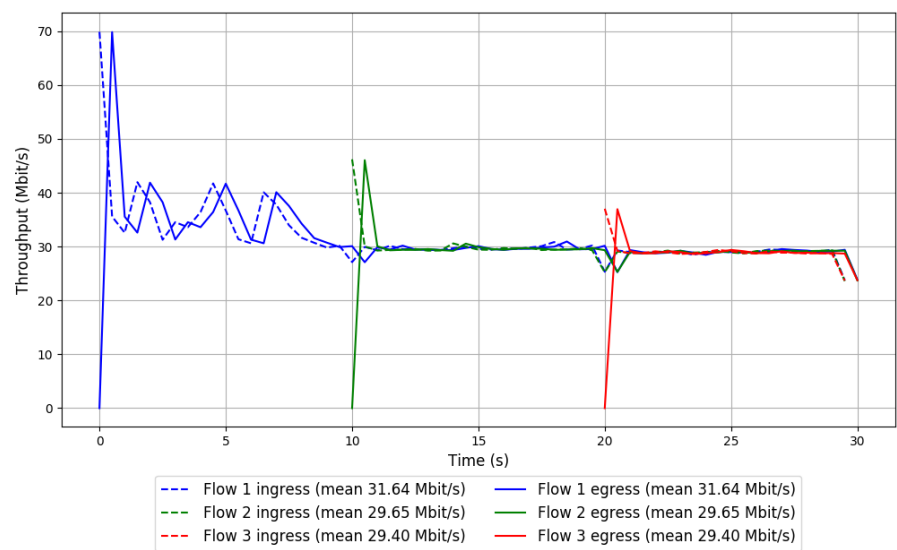


Run 5: Statistics of Indigo-Muses

Start at: 2018-11-30 01:23:20
End at: 2018-11-30 01:23:50
Local clock offset: -4.194 ms
Remote clock offset: -0.048 ms

Below is generated by plot.py at 2018-11-30 01:36:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 61.07 Mbit/s
95th percentile per-packet one-way delay: 2.277 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 31.64 Mbit/s
95th percentile per-packet one-way delay: 2.301 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.65 Mbit/s
95th percentile per-packet one-way delay: 2.200 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.40 Mbit/s
95th percentile per-packet one-way delay: 2.345 ms
Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link

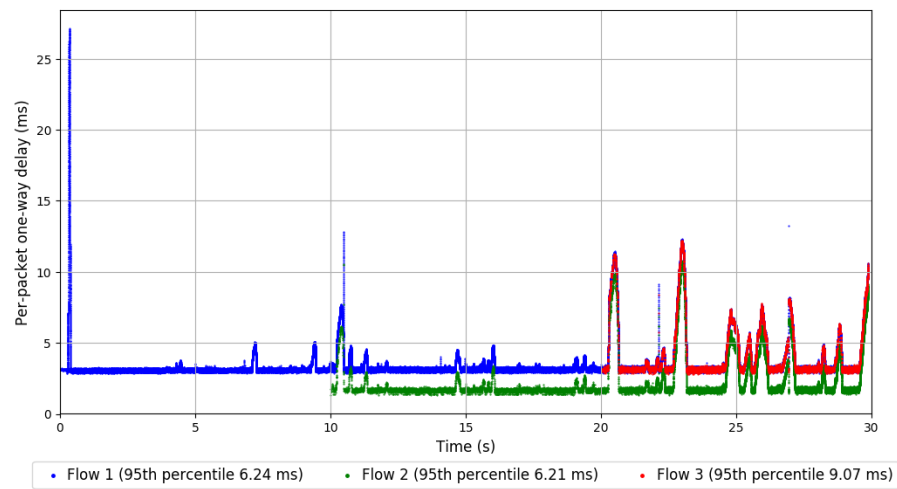
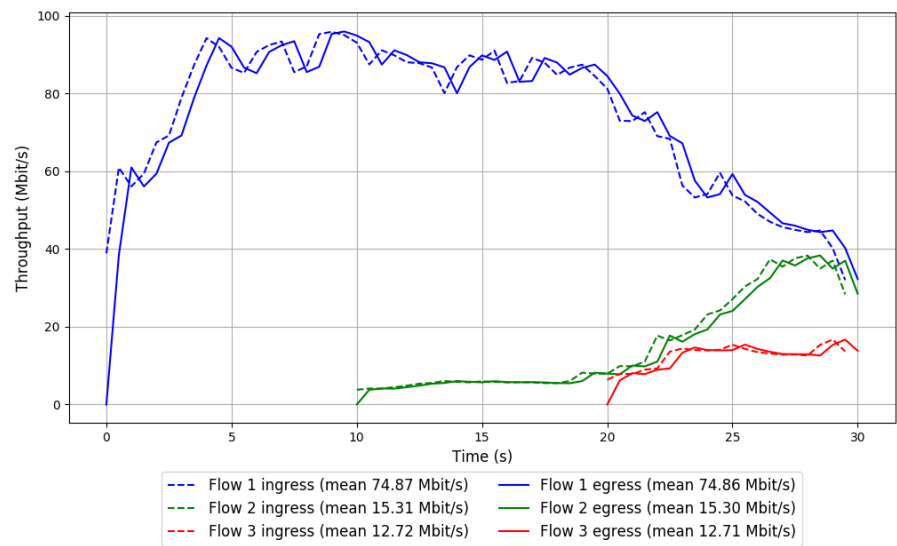



```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-29 23:59:10
End at: 2018-11-29 23:59:40
Local clock offset: -3.83 ms
Remote clock offset: -0.439 ms

# Below is generated by plot.py at 2018-11-30 01:37:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.23 Mbit/s
95th percentile per-packet one-way delay: 6.489 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 74.86 Mbit/s
95th percentile per-packet one-way delay: 6.235 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.30 Mbit/s
95th percentile per-packet one-way delay: 6.211 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.71 Mbit/s
95th percentile per-packet one-way delay: 9.075 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link

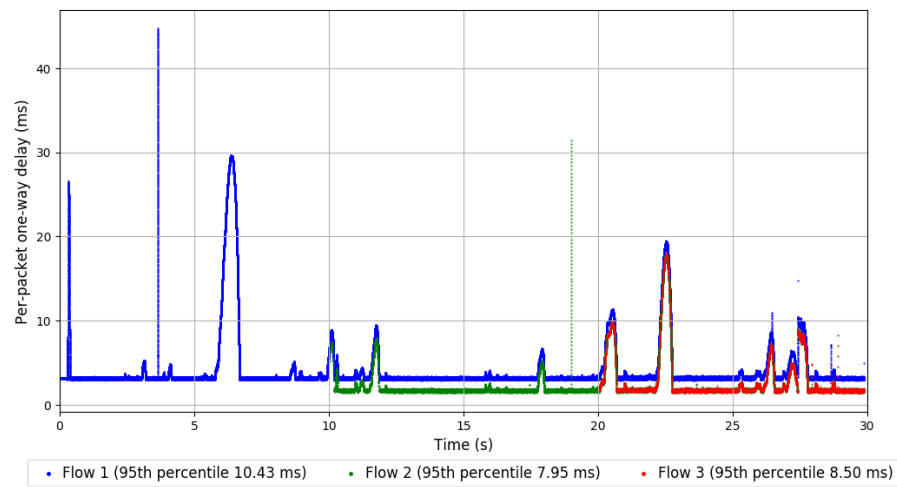
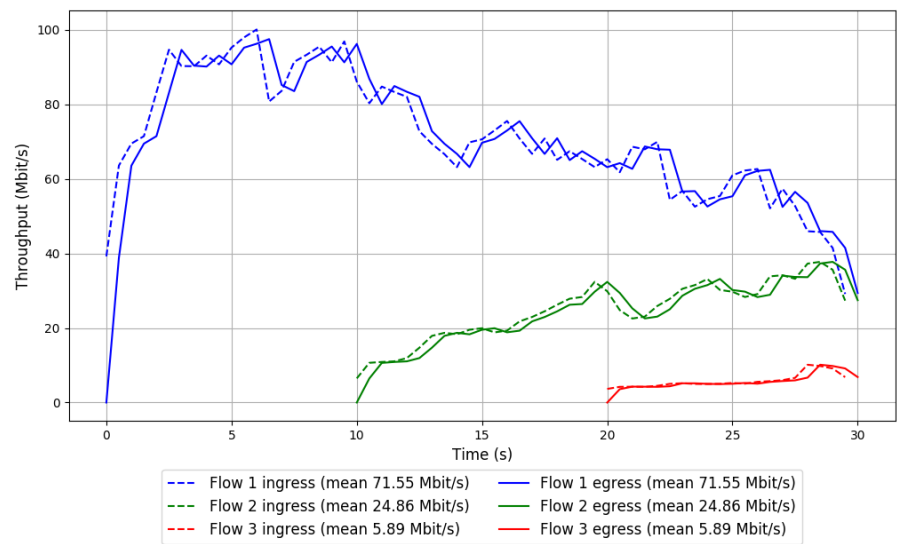


Run 2: Statistics of PCC-Allegro

Start at: 2018-11-30 00:19:38
End at: 2018-11-30 00:20:08
Local clock offset: -3.95 ms
Remote clock offset: -0.238 ms

Below is generated by plot.py at 2018-11-30 01:37:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.02 Mbit/s
95th percentile per-packet one-way delay: 9.719 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.55 Mbit/s
95th percentile per-packet one-way delay: 10.433 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.86 Mbit/s
95th percentile per-packet one-way delay: 7.952 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 8.503 ms
Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link

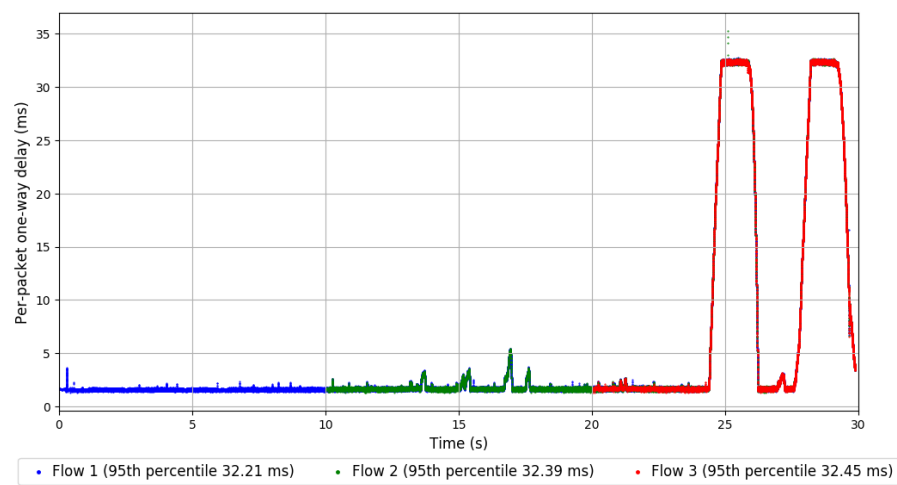
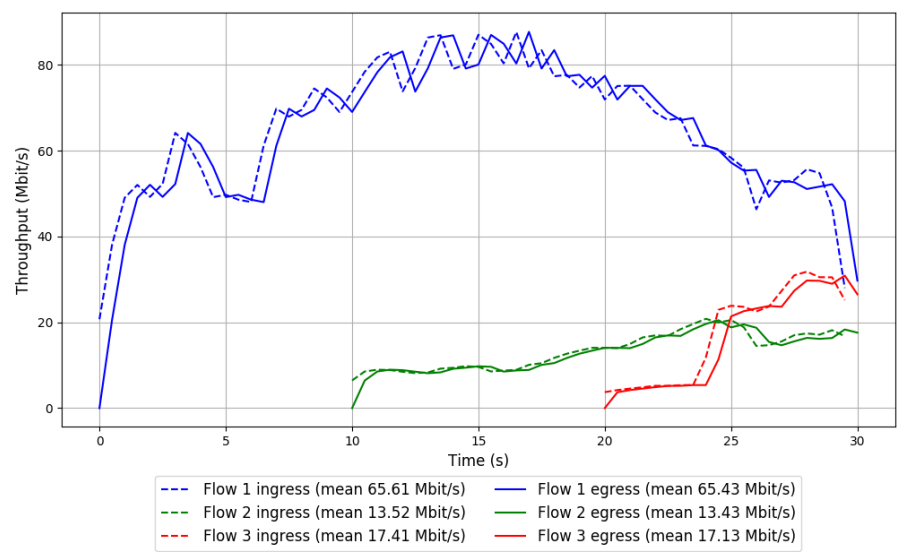


Run 3: Statistics of PCC-Allegro

Start at: 2018-11-30 00:40:07
End at: 2018-11-30 00:40:37
Local clock offset: -4.47 ms
Remote clock offset: -0.253 ms

Below is generated by plot.py at 2018-11-30 01:37:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.01 Mbit/s
95th percentile per-packet one-way delay: 32.318 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 65.43 Mbit/s
95th percentile per-packet one-way delay: 32.209 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 13.43 Mbit/s
95th percentile per-packet one-way delay: 32.392 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 17.13 Mbit/s
95th percentile per-packet one-way delay: 32.454 ms
Loss rate: 1.59%

Run 3: Report of PCC-Allegro — Data Link

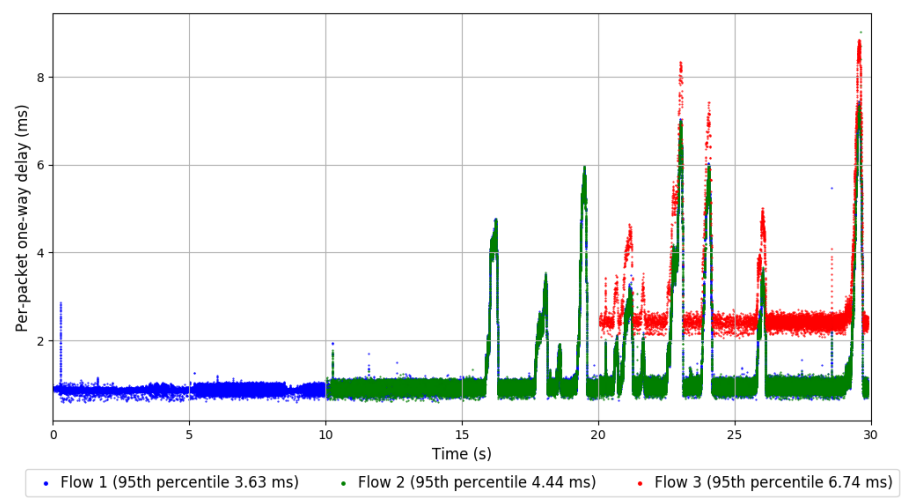
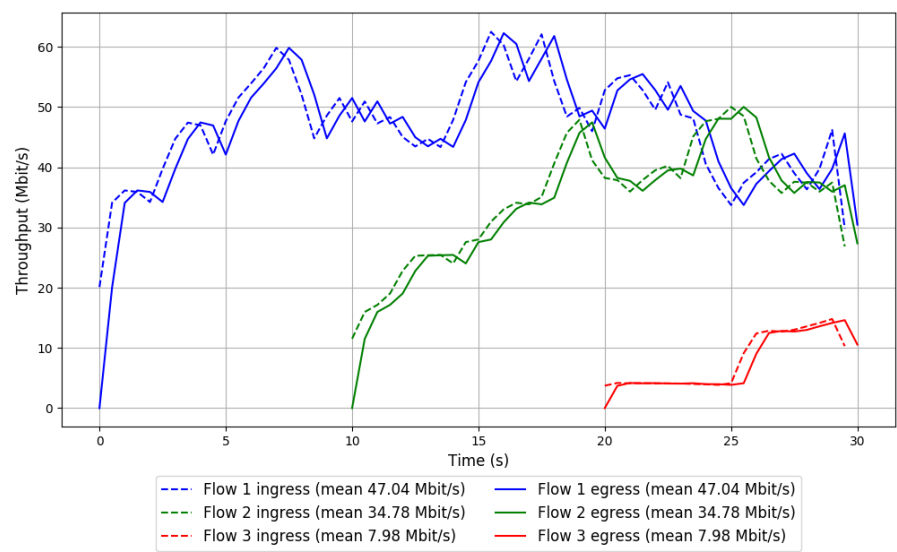


Run 4: Statistics of PCC-Allegro

Start at: 2018-11-30 01:00:34
End at: 2018-11-30 01:01:04
Local clock offset: -3.046 ms
Remote clock offset: -0.132 ms

Below is generated by plot.py at 2018-11-30 01:37:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 72.81 Mbit/s
95th percentile per-packet one-way delay: 4.068 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.04 Mbit/s
95th percentile per-packet one-way delay: 3.634 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.78 Mbit/s
95th percentile per-packet one-way delay: 4.437 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 6.744 ms
Loss rate: 0.00%

Run 4: Report of PCC-Allegro — Data Link

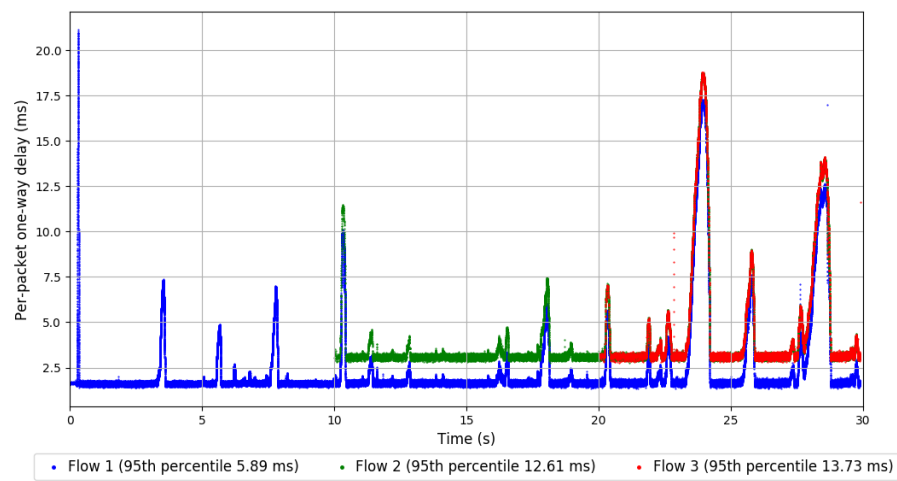
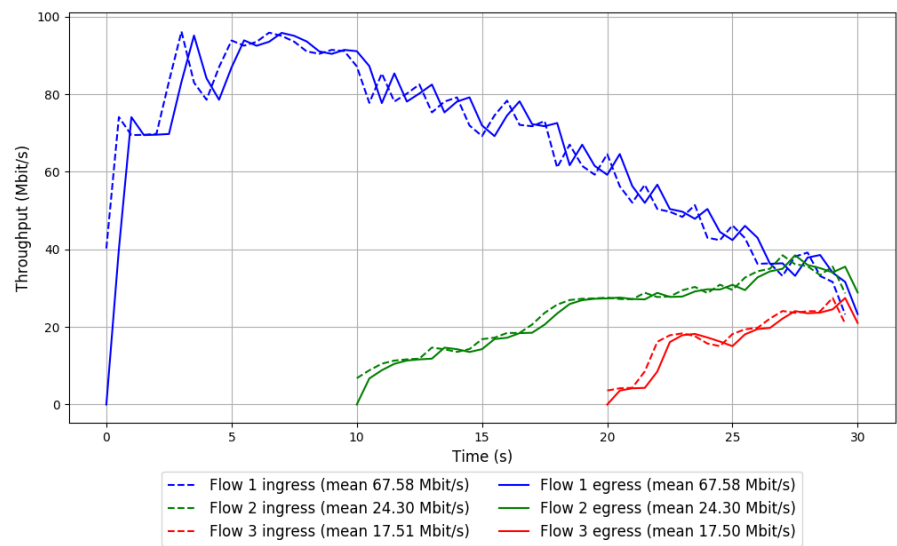


Run 5: Statistics of PCC-Allegro

Start at: 2018-11-30 01:21:03
End at: 2018-11-30 01:21:33
Local clock offset: -4.093 ms
Remote clock offset: -0.052 ms

Below is generated by plot.py at 2018-11-30 01:37:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.48 Mbit/s
95th percentile per-packet one-way delay: 8.541 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 67.58 Mbit/s
95th percentile per-packet one-way delay: 5.891 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.30 Mbit/s
95th percentile per-packet one-way delay: 12.610 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.50 Mbit/s
95th percentile per-packet one-way delay: 13.728 ms
Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link

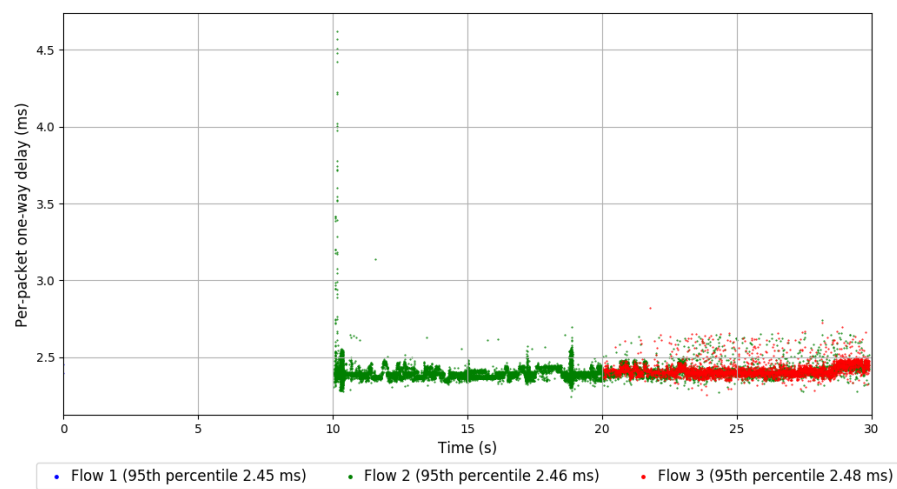
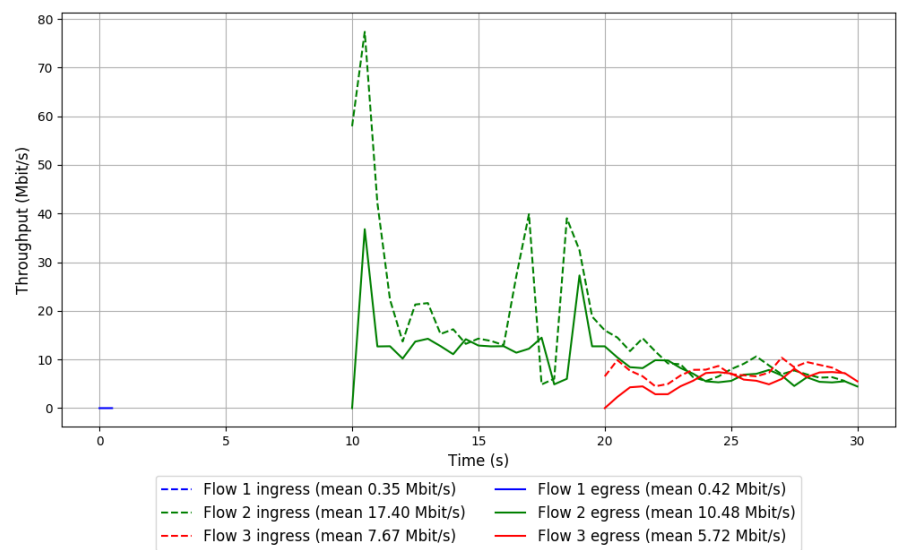


```
Run 1: Statistics of PCC-Expr

Start at: 2018-11-29 23:52:21
End at: 2018-11-29 23:52:51
Local clock offset: -3.295 ms
Remote clock offset: -0.371 ms

# Below is generated by plot.py at 2018-11-30 01:37:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 2.470 ms
Loss rate: 37.15%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 2.452 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.48 Mbit/s
95th percentile per-packet one-way delay: 2.465 ms
Loss rate: 39.73%
-- Flow 3:
Average throughput: 5.72 Mbit/s
95th percentile per-packet one-way delay: 2.481 ms
Loss rate: 25.34%
```

Run 1: Report of PCC-Expr — Data Link

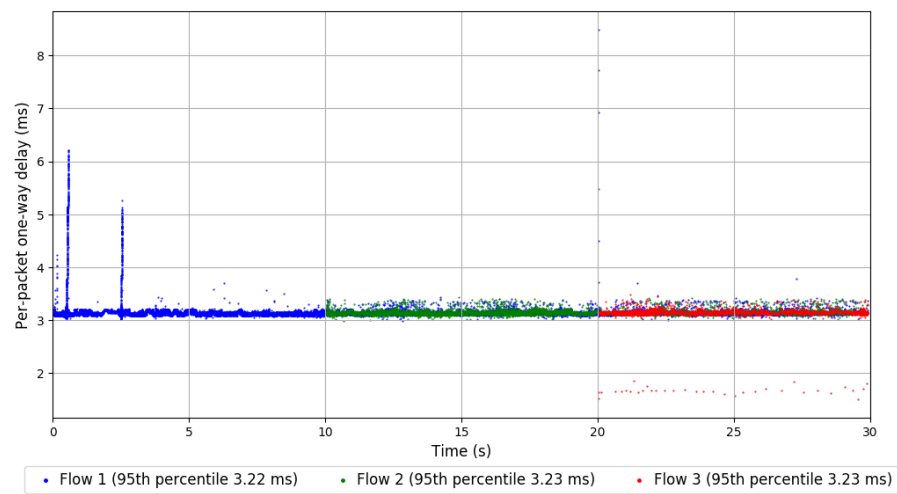
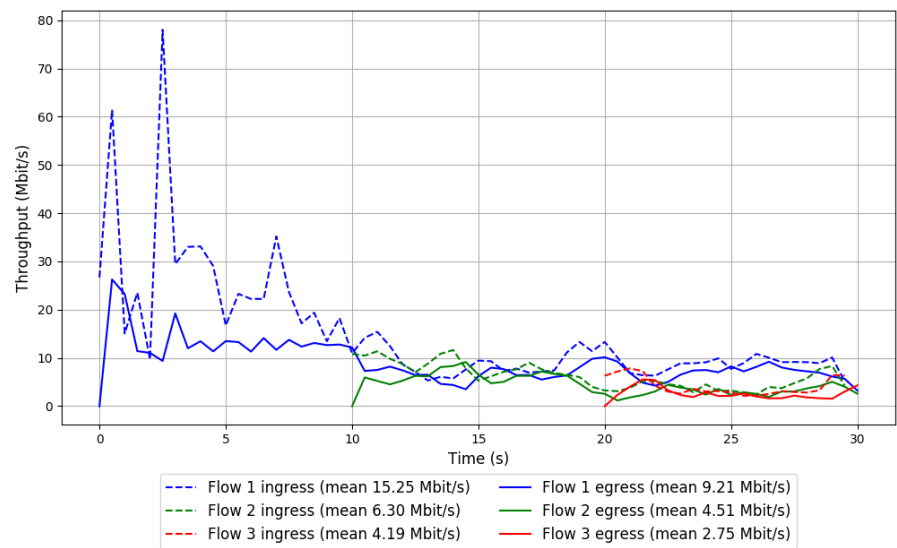


Run 2: Statistics of PCC-Expr

Start at: 2018-11-30 00:12:48
End at: 2018-11-30 00:13:18
Local clock offset: -3.529 ms
Remote clock offset: -0.287 ms

Below is generated by plot.py at 2018-11-30 01:37:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 3.224 ms
Loss rate: 36.98%
-- Flow 1:
Average throughput: 9.21 Mbit/s
95th percentile per-packet one-way delay: 3.220 ms
Loss rate: 39.60%
-- Flow 2:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 3.227 ms
Loss rate: 28.30%
-- Flow 3:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 3.235 ms
Loss rate: 34.49%

Run 2: Report of PCC-Expr — Data Link

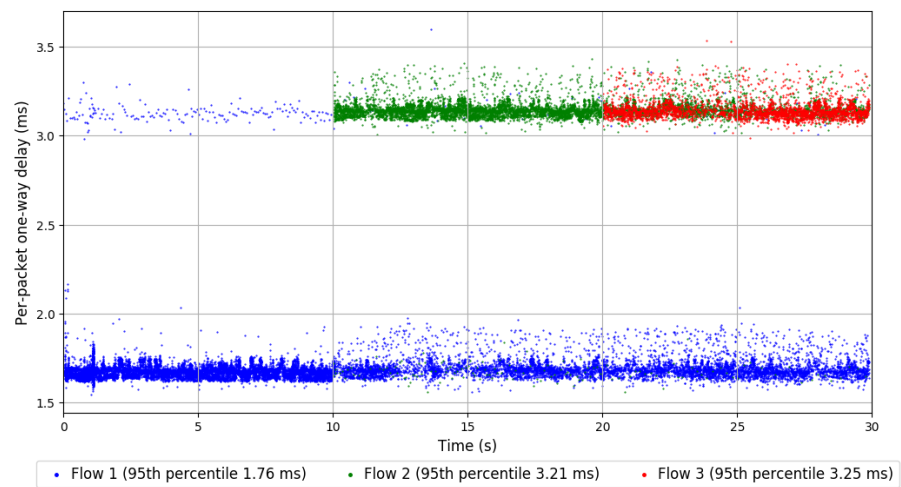
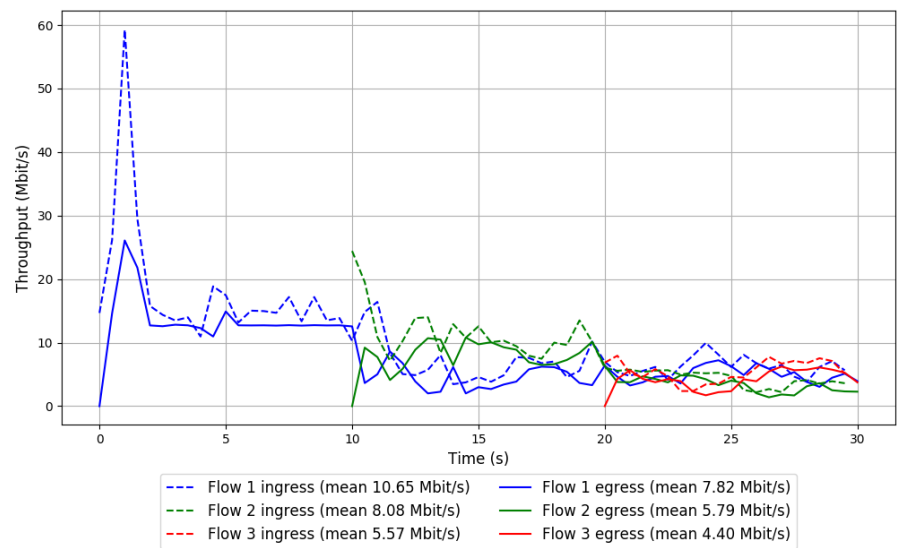


Run 3: Statistics of PCC-Expr

Start at: 2018-11-30 00:33:17
End at: 2018-11-30 00:33:47
Local clock offset: -4.428 ms
Remote clock offset: -0.213 ms

Below is generated by plot.py at 2018-11-30 01:37:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 3.182 ms
Loss rate: 26.57%
-- Flow 1:
Average throughput: 7.82 Mbit/s
95th percentile per-packet one-way delay: 1.765 ms
Loss rate: 26.60%
-- Flow 2:
Average throughput: 5.79 Mbit/s
95th percentile per-packet one-way delay: 3.214 ms
Loss rate: 28.37%
-- Flow 3:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 3.247 ms
Loss rate: 21.12%

Run 3: Report of PCC-Expr — Data Link

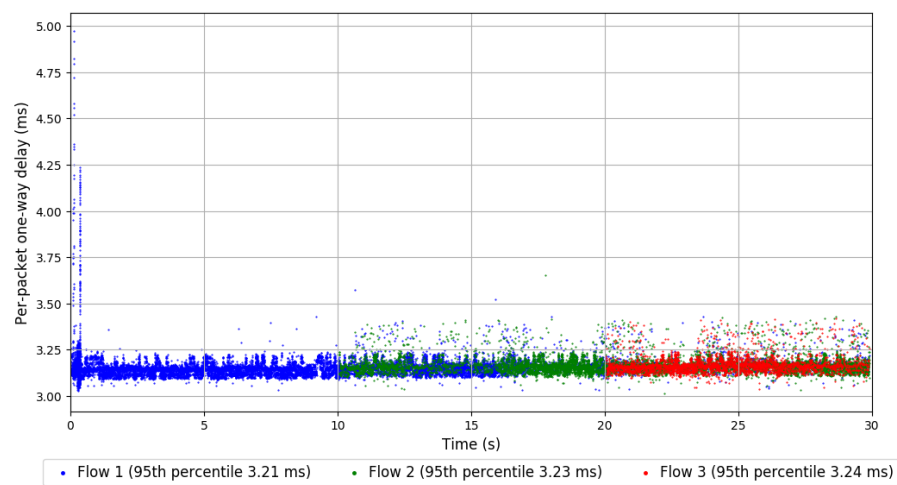
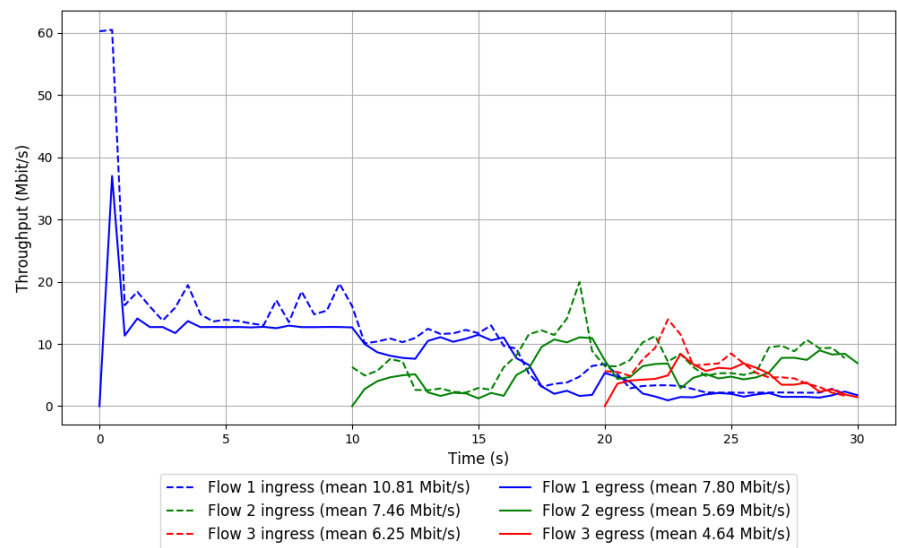


Run 4: Statistics of PCC-Expr

Start at: 2018-11-30 00:53:45
End at: 2018-11-30 00:54:15
Local clock offset: -4.017 ms
Remote clock offset: -0.128 ms

Below is generated by plot.py at 2018-11-30 01:37:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 3.221 ms
Loss rate: 26.42%
-- Flow 1:
Average throughput: 7.80 Mbit/s
95th percentile per-packet one-way delay: 3.215 ms
Loss rate: 27.80%
-- Flow 2:
Average throughput: 5.69 Mbit/s
95th percentile per-packet one-way delay: 3.228 ms
Loss rate: 23.70%
-- Flow 3:
Average throughput: 4.64 Mbit/s
95th percentile per-packet one-way delay: 3.242 ms
Loss rate: 25.76%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-11-30 01:14:12

End at: 2018-11-30 01:14:42

Local clock offset: -2.864 ms

Remote clock offset: -0.03 ms

Below is generated by plot.py at 2018-11-30 01:37:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 13.12 Mbit/s

95th percentile per-packet one-way delay: 2.420 ms

Loss rate: 26.90%

-- Flow 1:

Average throughput: 9.54 Mbit/s

95th percentile per-packet one-way delay: 2.416 ms

Loss rate: 27.42%

-- Flow 2:

Average throughput: 4.12 Mbit/s

95th percentile per-packet one-way delay: 2.433 ms

Loss rate: 24.69%

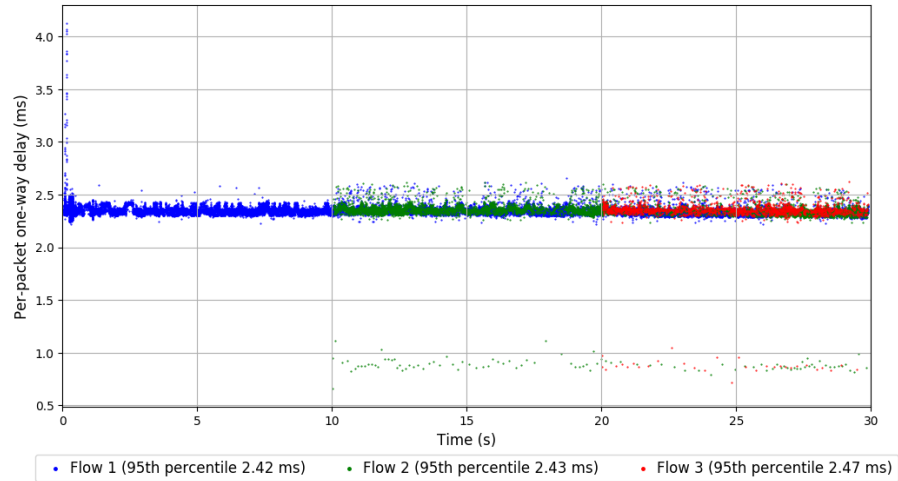
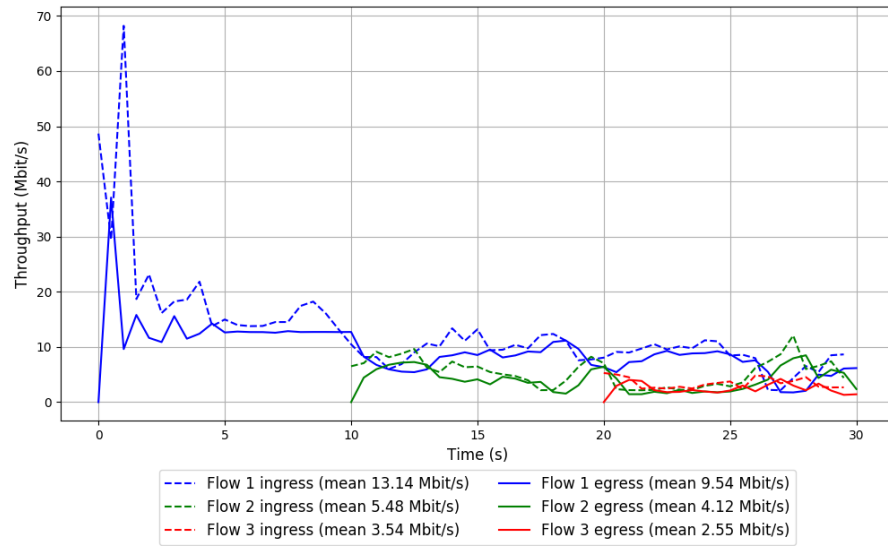
-- Flow 3:

Average throughput: 2.55 Mbit/s

95th percentile per-packet one-way delay: 2.474 ms

Loss rate: 27.91%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-29 23:48:56

End at: 2018-11-29 23:49:26

Local clock offset: -4.267 ms

Remote clock offset: -0.41 ms

Below is generated by plot.py at 2018-11-30 01:38:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.21 Mbit/s

95th percentile per-packet one-way delay: 32.054 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 57.37 Mbit/s

95th percentile per-packet one-way delay: 31.978 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 35.28 Mbit/s

95th percentile per-packet one-way delay: 32.197 ms

Loss rate: 0.22%

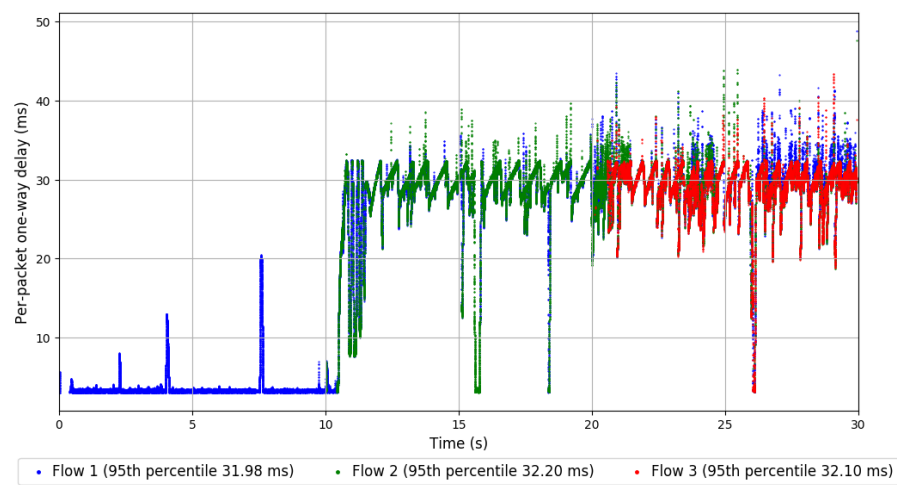
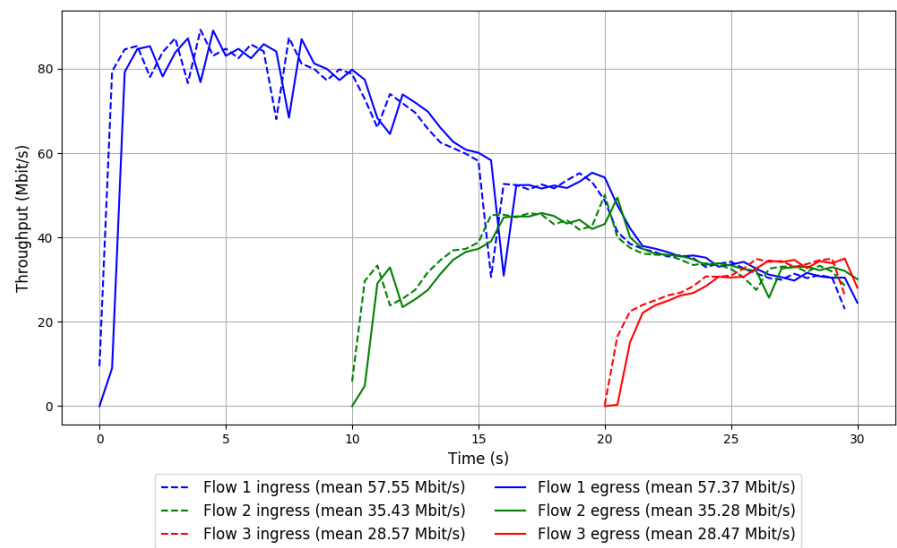
-- Flow 3:

Average throughput: 28.47 Mbit/s

95th percentile per-packet one-way delay: 32.101 ms

Loss rate: 0.23%

Run 1: Report of QUIC Cubic — Data Link

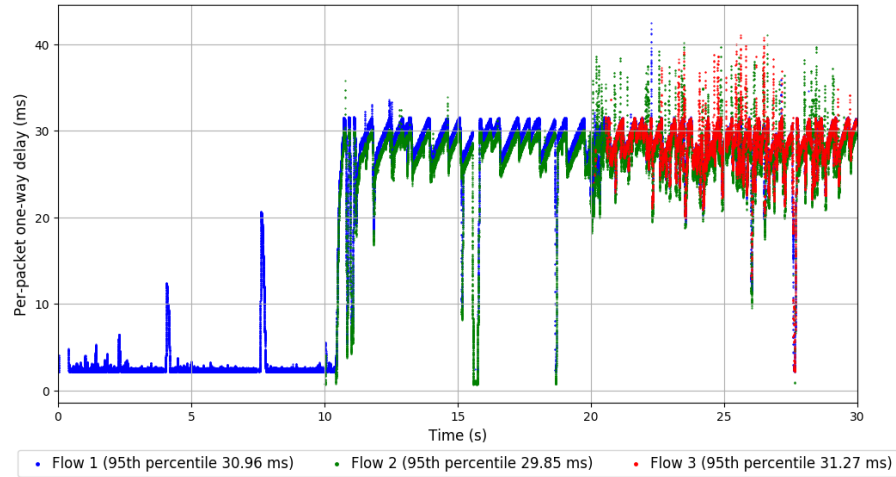
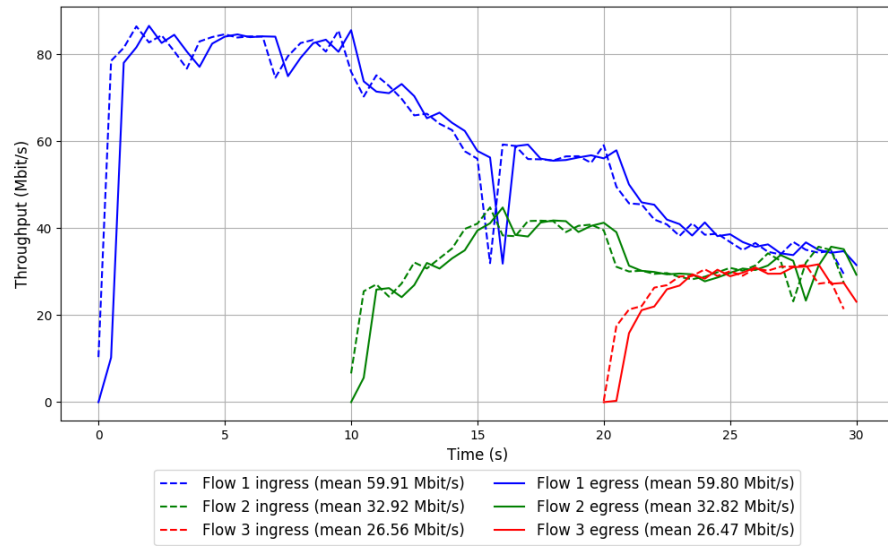


Run 2: Statistics of QUIC Cubic

Start at: 2018-11-30 00:09:23
End at: 2018-11-30 00:09:53
Local clock offset: -2.845 ms
Remote clock offset: -0.357 ms

Below is generated by plot.py at 2018-11-30 01:38:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.34 Mbit/s
95th percentile per-packet one-way delay: 30.948 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 59.80 Mbit/s
95th percentile per-packet one-way delay: 30.963 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 32.82 Mbit/s
95th percentile per-packet one-way delay: 29.850 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 26.47 Mbit/s
95th percentile per-packet one-way delay: 31.272 ms
Loss rate: 0.27%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-11-30 00:29:52

End at: 2018-11-30 00:30:22

Local clock offset: -4.432 ms

Remote clock offset: -0.29 ms

Below is generated by plot.py at 2018-11-30 01:38:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 90.77 Mbit/s

95th percentile per-packet one-way delay: 30.576 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 58.00 Mbit/s

95th percentile per-packet one-way delay: 30.493 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 34.66 Mbit/s

95th percentile per-packet one-way delay: 30.633 ms

Loss rate: 0.21%

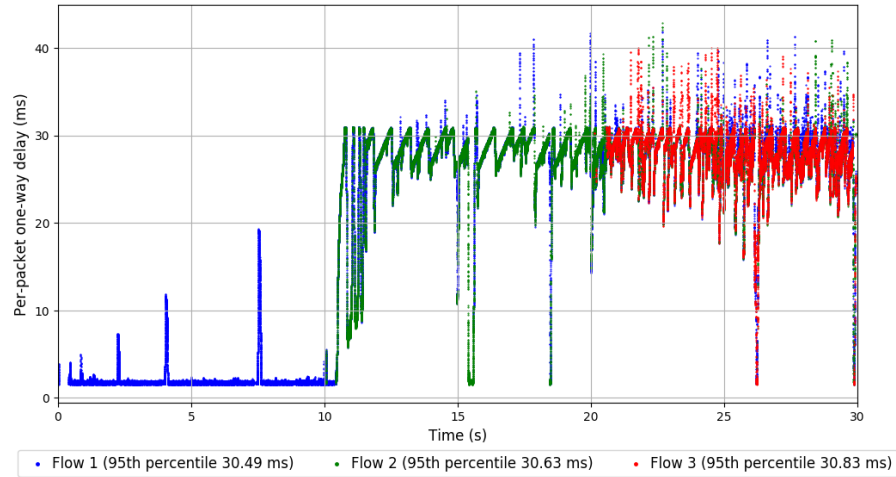
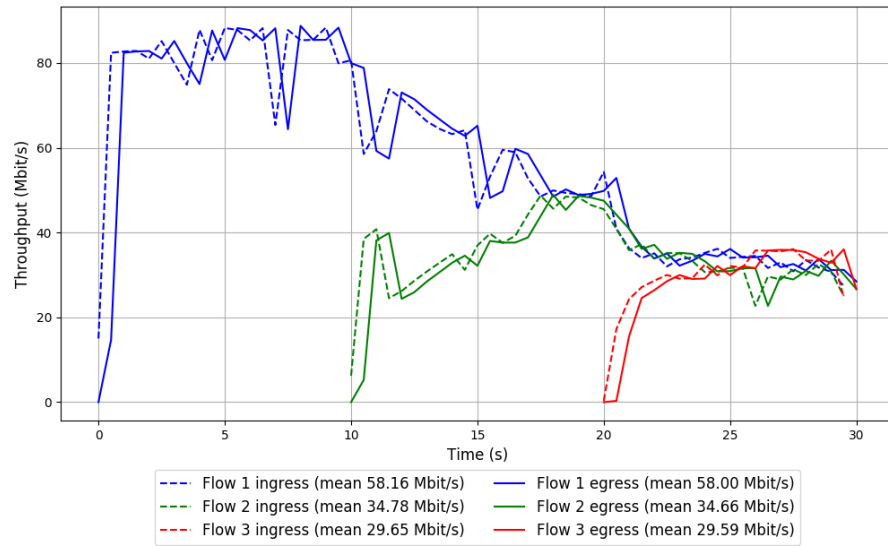
-- Flow 3:

Average throughput: 29.59 Mbit/s

95th percentile per-packet one-way delay: 30.831 ms

Loss rate: 0.21%

Run 3: Report of QUIC Cubic — Data Link

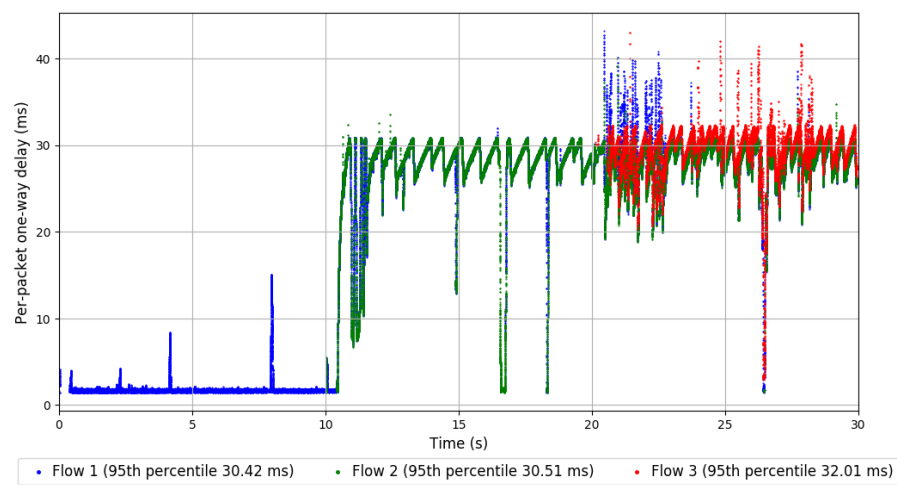
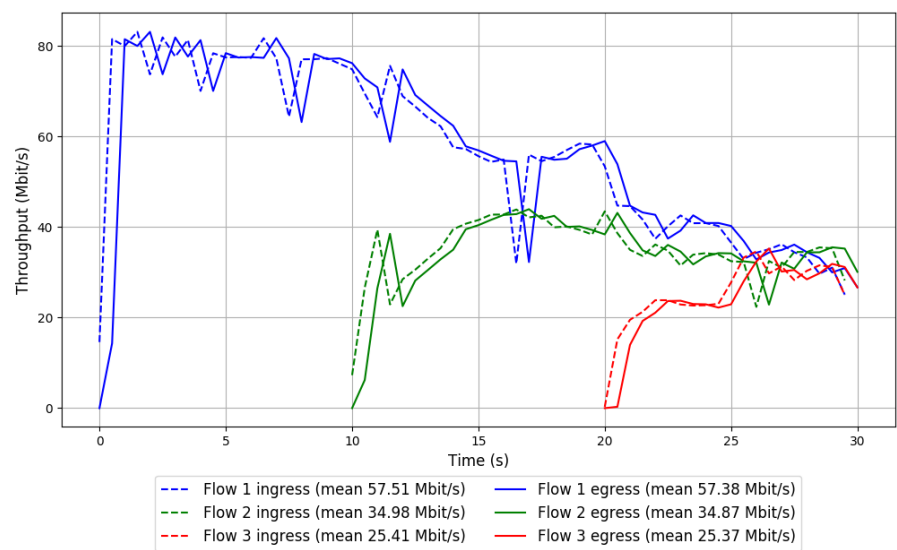


Run 4: Statistics of QUIC Cubic

Start at: 2018-11-30 00:50:20
End at: 2018-11-30 00:50:50
Local clock offset: -4.147 ms
Remote clock offset: -0.233 ms

Below is generated by plot.py at 2018-11-30 01:38:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.89 Mbit/s
95th percentile per-packet one-way delay: 30.654 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 57.38 Mbit/s
95th percentile per-packet one-way delay: 30.419 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 34.87 Mbit/s
95th percentile per-packet one-way delay: 30.509 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 25.37 Mbit/s
95th percentile per-packet one-way delay: 32.014 ms
Loss rate: 0.20%

Run 4: Report of QUIC Cubic — Data Link

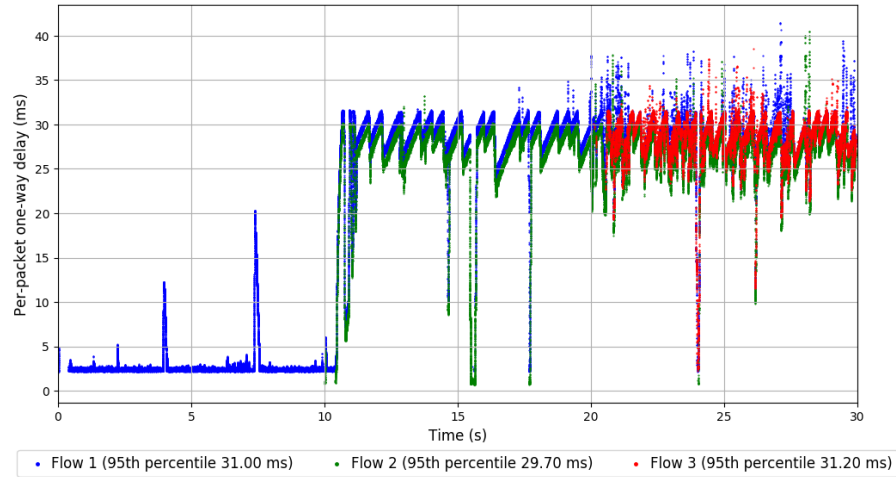
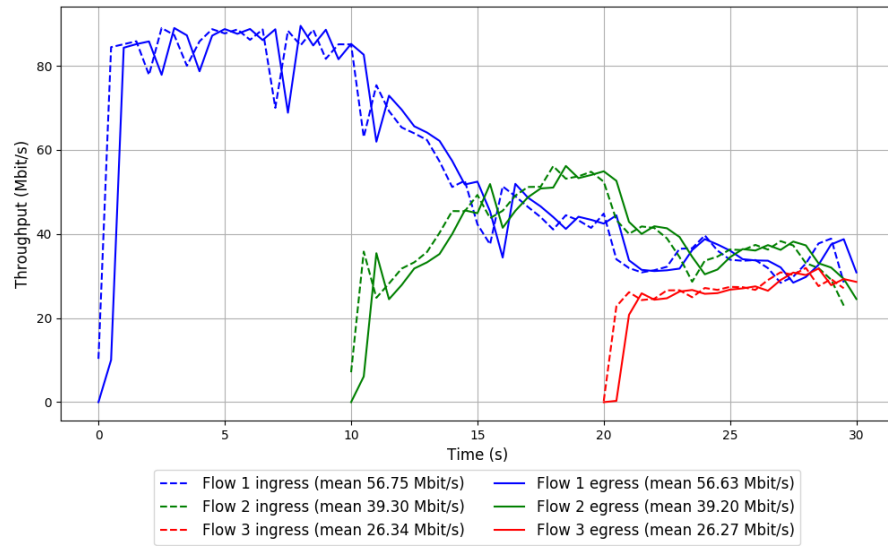


Run 5: Statistics of QUIC Cubic

Start at: 2018-11-30 01:10:47
End at: 2018-11-30 01:11:17
Local clock offset: -2.897 ms
Remote clock offset: -0.084 ms

Below is generated by plot.py at 2018-11-30 01:38:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.35 Mbit/s
95th percentile per-packet one-way delay: 30.907 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 56.63 Mbit/s
95th percentile per-packet one-way delay: 31.000 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 39.20 Mbit/s
95th percentile per-packet one-way delay: 29.701 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 26.27 Mbit/s
95th percentile per-packet one-way delay: 31.205 ms
Loss rate: 0.29%

Run 5: Report of QUIC Cubic — Data Link

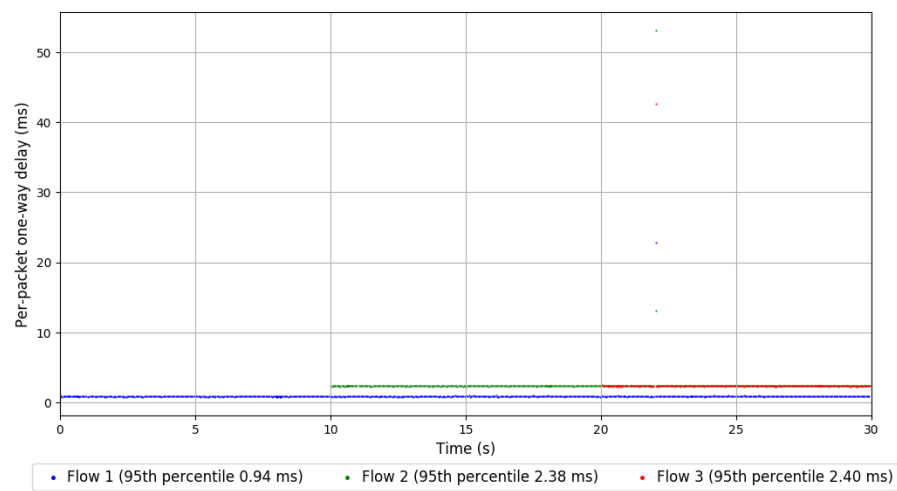
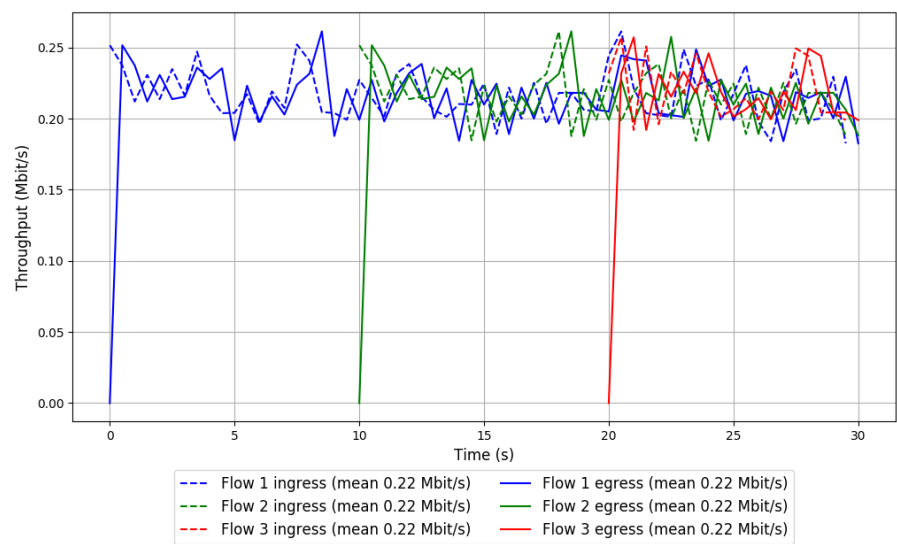


Run 1: Statistics of SReAM

Start at: 2018-11-29 23:51:15
End at: 2018-11-29 23:51:45
Local clock offset: -3.317 ms
Remote clock offset: -0.417 ms

Below is generated by plot.py at 2018-11-30 01:38:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.382 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.938 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.383 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.401 ms
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

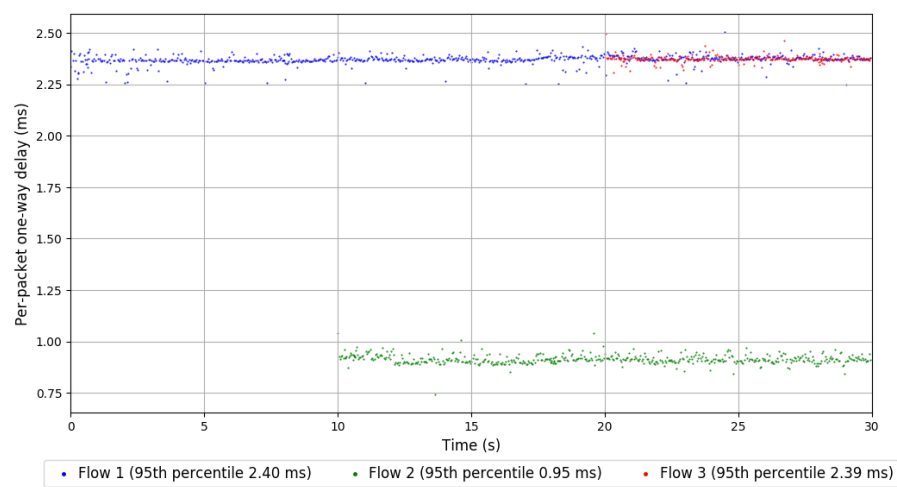
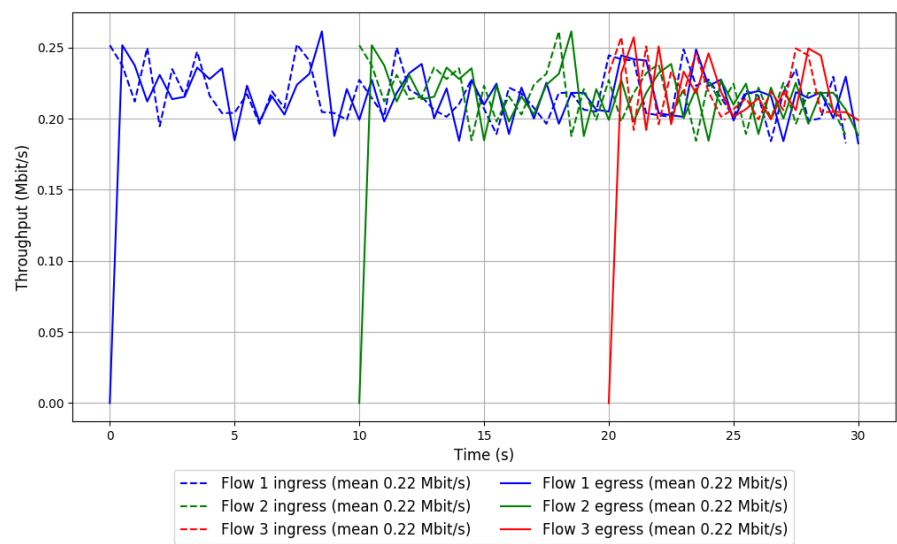


Run 2: Statistics of SReAM

Start at: 2018-11-30 00:11:43
End at: 2018-11-30 00:12:13
Local clock offset: -2.776 ms
Remote clock offset: -0.306 ms

Below is generated by plot.py at 2018-11-30 01:38:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.396 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.402 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.951 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.393 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

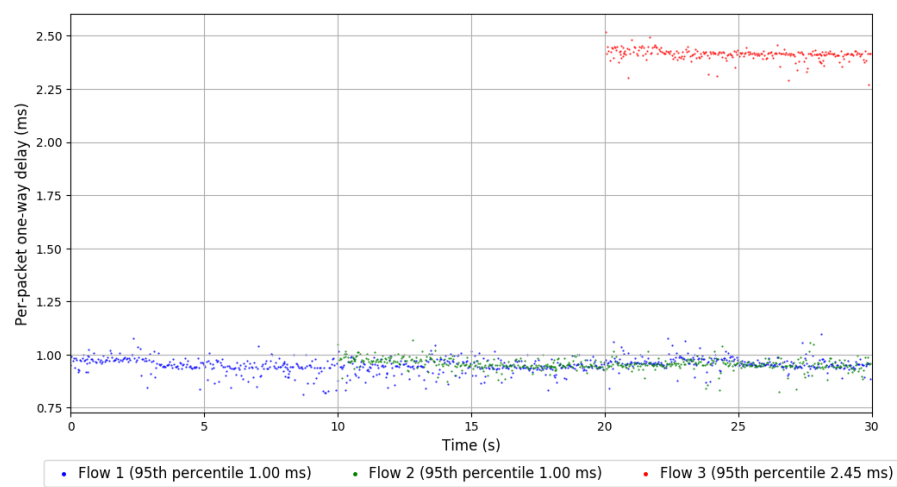
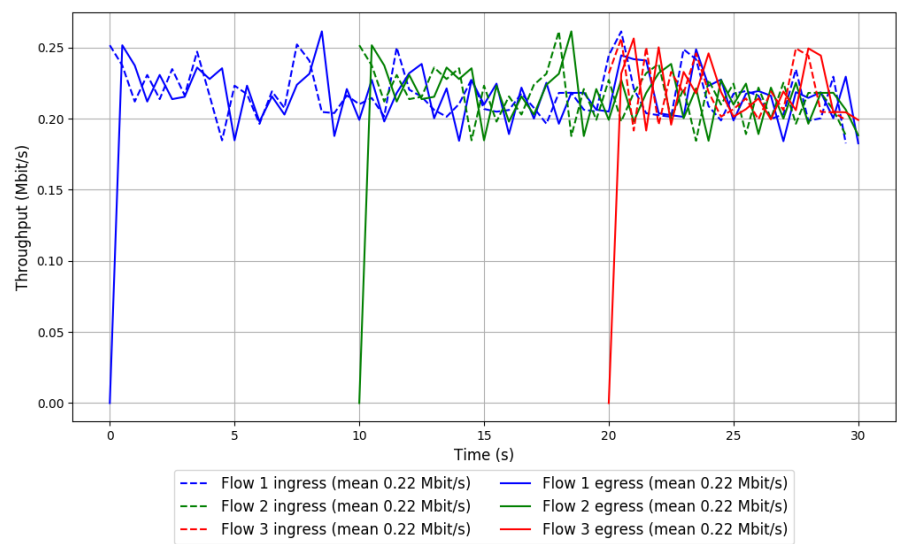


Run 3: Statistics of SReAM

Start at: 2018-11-30 00:32:12
End at: 2018-11-30 00:32:42
Local clock offset: -3.7 ms
Remote clock offset: -0.257 ms

Below is generated by plot.py at 2018-11-30 01:38:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.422 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.002 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.997 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.448 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

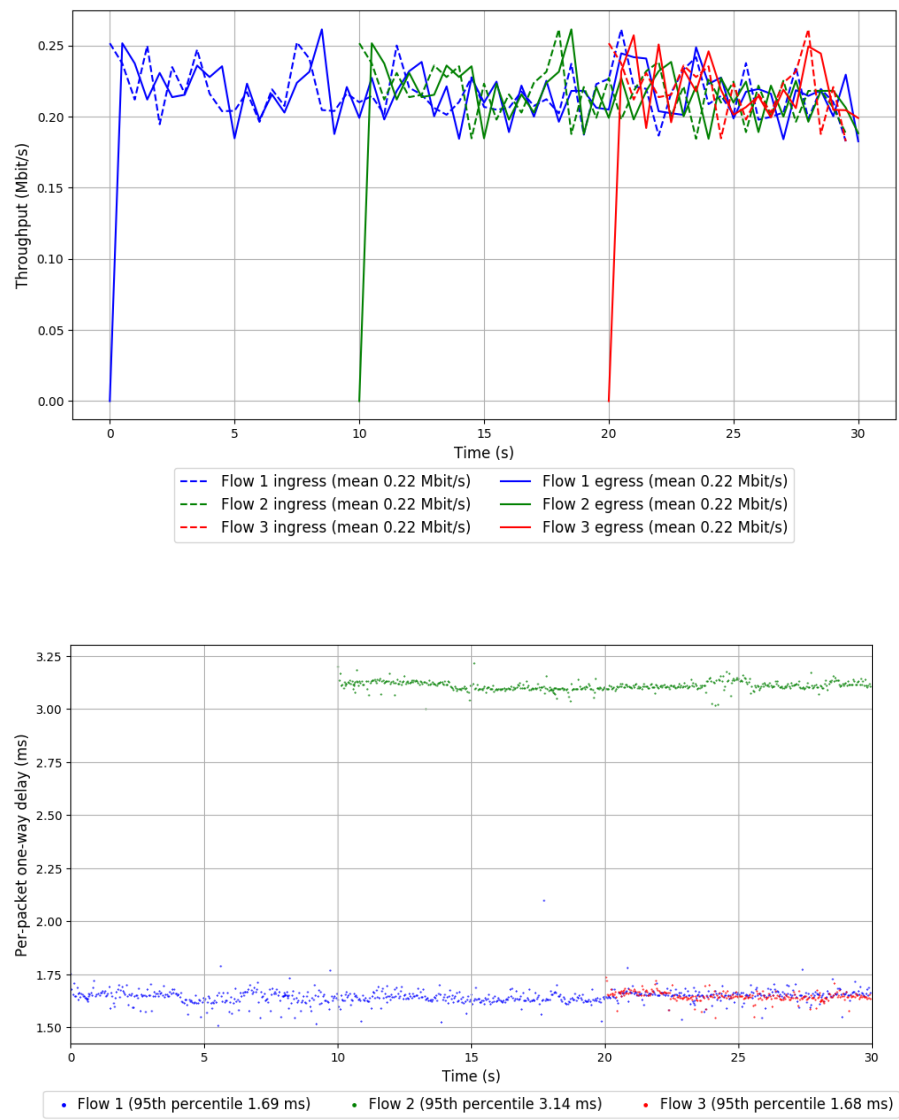


Run 4: Statistics of SReAM

Start at: 2018-11-30 00:52:40
End at: 2018-11-30 00:53:10
Local clock offset: -4.059 ms
Remote clock offset: -0.222 ms

Below is generated by plot.py at 2018-11-30 01:38:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 3.132 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.688 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.142 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.678 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

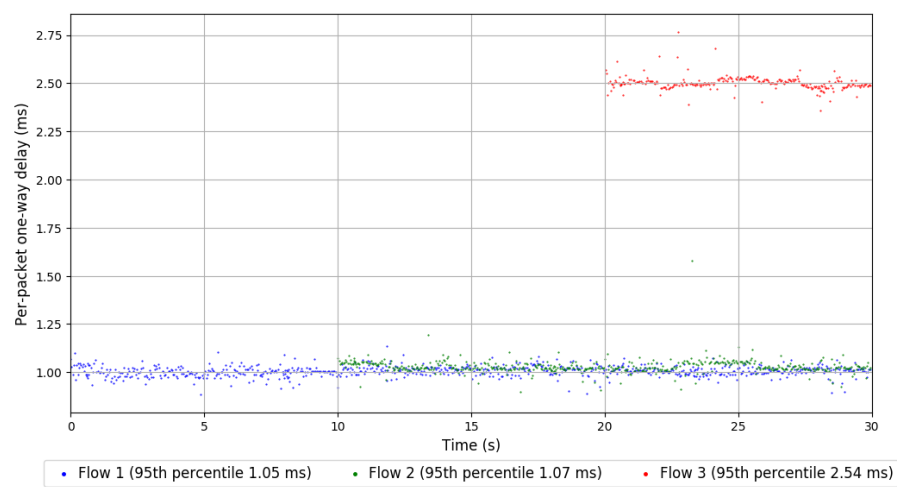
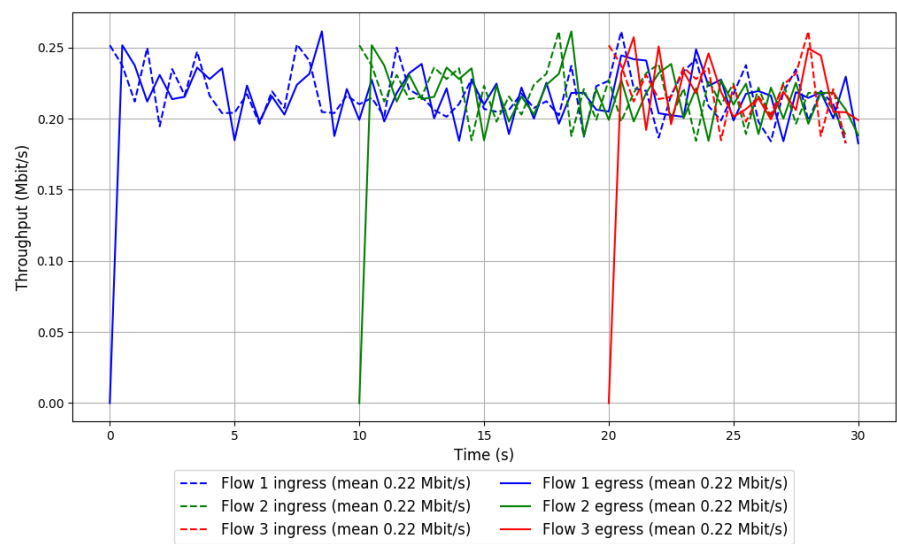


Run 5: Statistics of SReAM

Start at: 2018-11-30 01:13:07
End at: 2018-11-30 01:13:37
Local clock offset: -2.944 ms
Remote clock offset: -0.014 ms

Below is generated by plot.py at 2018-11-30 01:38:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.513 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.046 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.072 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.539 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

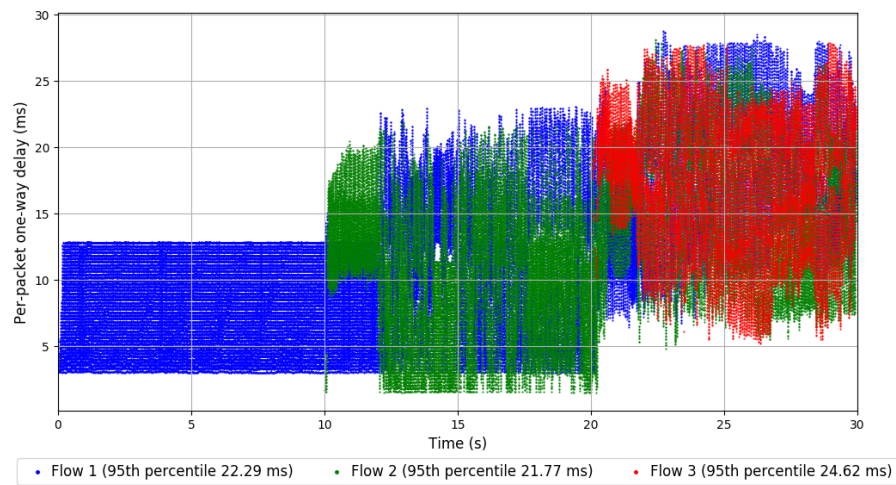
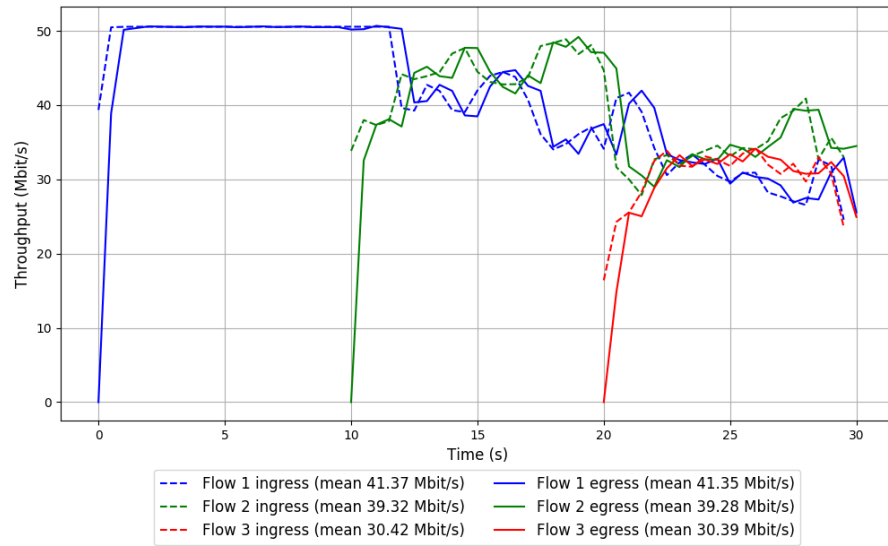


Run 1: Statistics of Sprout

Start at: 2018-11-30 00:04:50
End at: 2018-11-30 00:05:20
Local clock offset: -3.706 ms
Remote clock offset: -0.429 ms

Below is generated by plot.py at 2018-11-30 01:38:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.53 Mbit/s
95th percentile per-packet one-way delay: 22.858 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.35 Mbit/s
95th percentile per-packet one-way delay: 22.289 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.28 Mbit/s
95th percentile per-packet one-way delay: 21.766 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.39 Mbit/s
95th percentile per-packet one-way delay: 24.625 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

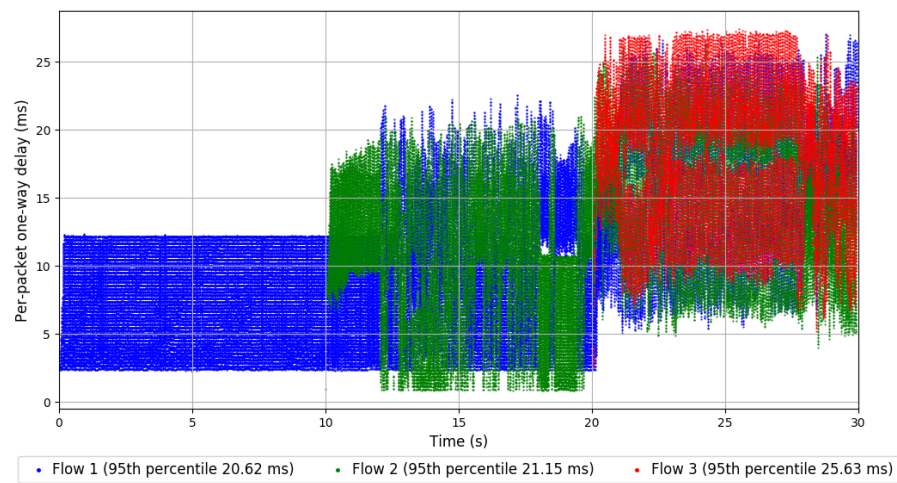
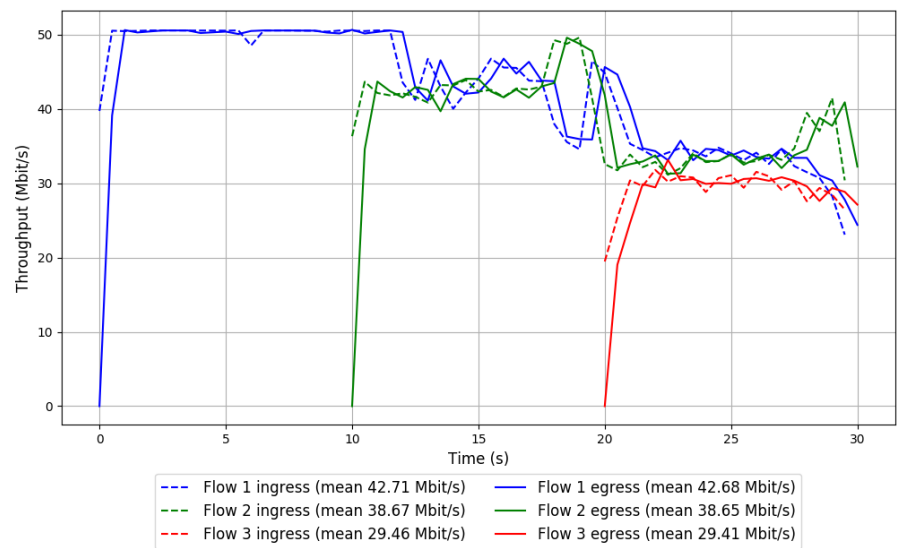


Run 2: Statistics of Sprout

Start at: 2018-11-30 00:25:19
End at: 2018-11-30 00:25:49
Local clock offset: -3.474 ms
Remote clock offset: -0.225 ms

```
# Below is generated by plot.py at 2018-11-30 01:38:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.10 Mbit/s
95th percentile per-packet one-way delay: 22.394 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.68 Mbit/s
95th percentile per-packet one-way delay: 20.621 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.65 Mbit/s
95th percentile per-packet one-way delay: 21.152 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.41 Mbit/s
95th percentile per-packet one-way delay: 25.629 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

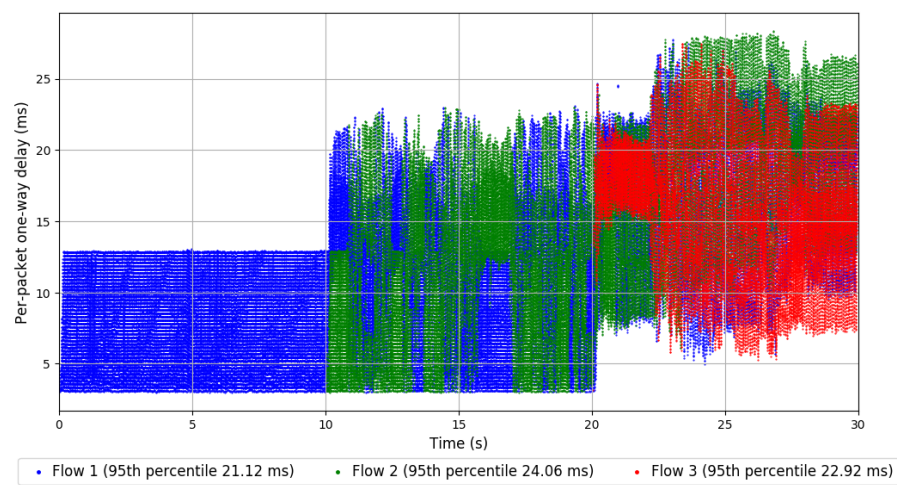
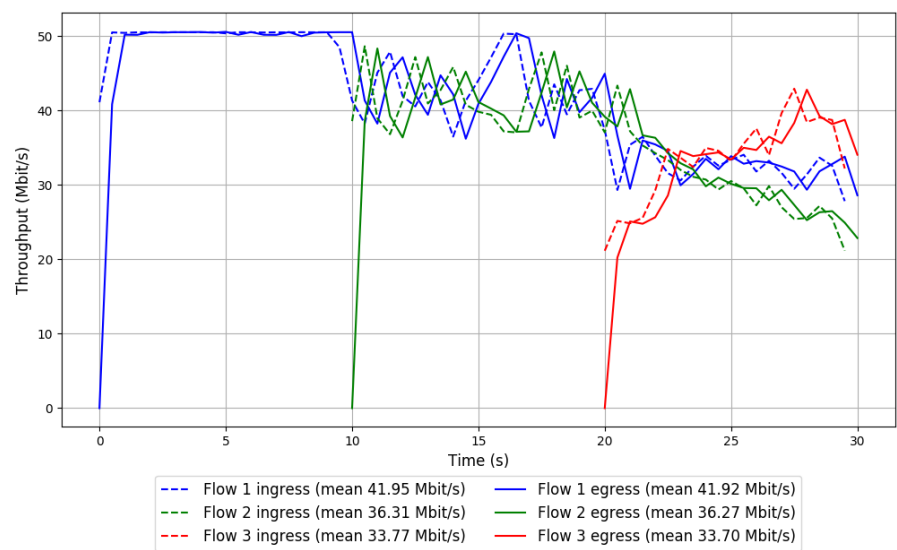


Run 3: Statistics of Sprout

Start at: 2018-11-30 00:45:47
End at: 2018-11-30 00:46:17
Local clock offset: -4.417 ms
Remote clock offset: -0.217 ms

```
# Below is generated by plot.py at 2018-11-30 01:38:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.21 Mbit/s
95th percentile per-packet one-way delay: 22.333 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.92 Mbit/s
95th percentile per-packet one-way delay: 21.116 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 36.27 Mbit/s
95th percentile per-packet one-way delay: 24.062 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.70 Mbit/s
95th percentile per-packet one-way delay: 22.918 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

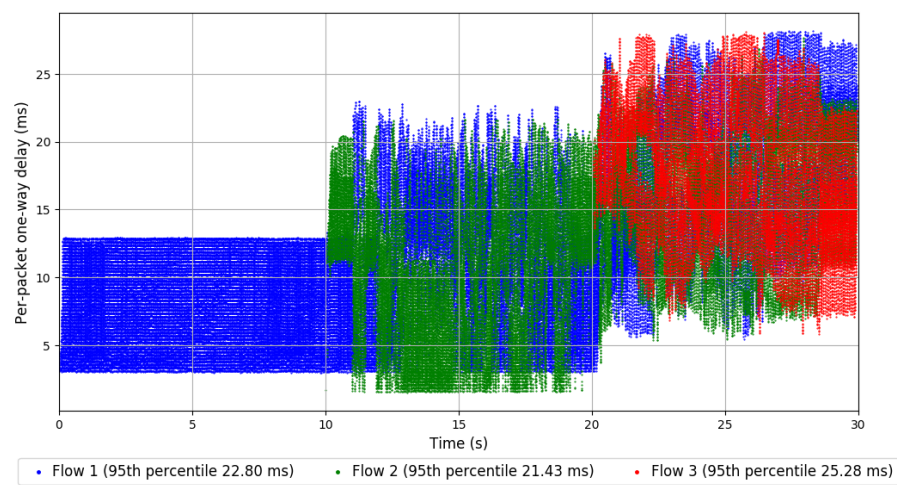
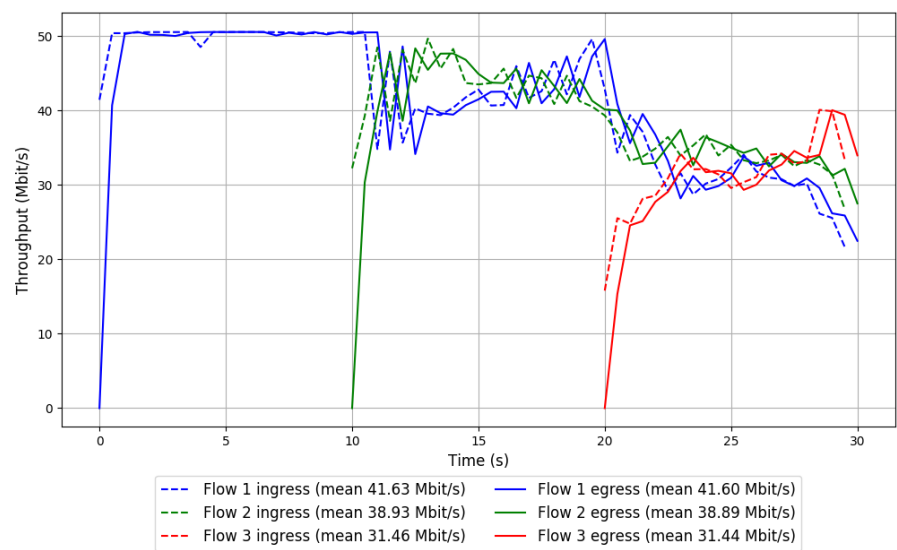


Run 4: Statistics of Sprout

Start at: 2018-11-30 01:06:14
End at: 2018-11-30 01:06:44
Local clock offset: -3.721 ms
Remote clock offset: -0.119 ms

```
# Below is generated by plot.py at 2018-11-30 01:39:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.88 Mbit/s
95th percentile per-packet one-way delay: 23.044 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.60 Mbit/s
95th percentile per-packet one-way delay: 22.801 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.89 Mbit/s
95th percentile per-packet one-way delay: 21.434 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.44 Mbit/s
95th percentile per-packet one-way delay: 25.283 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

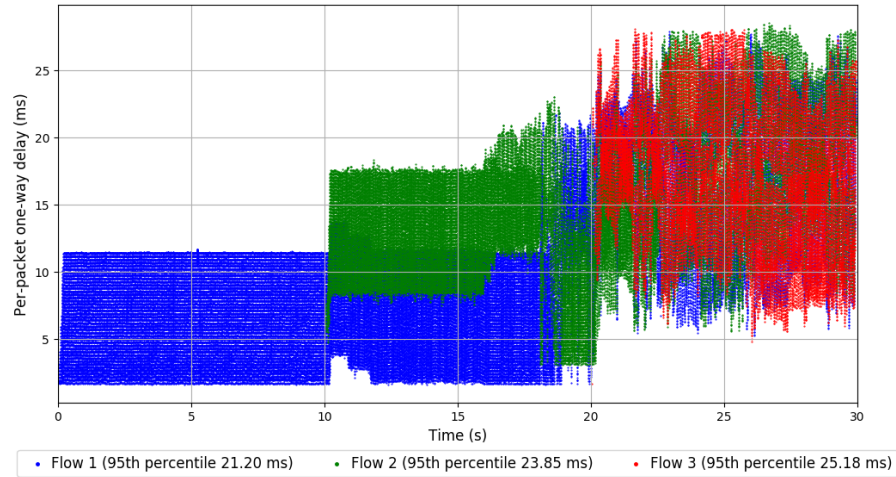
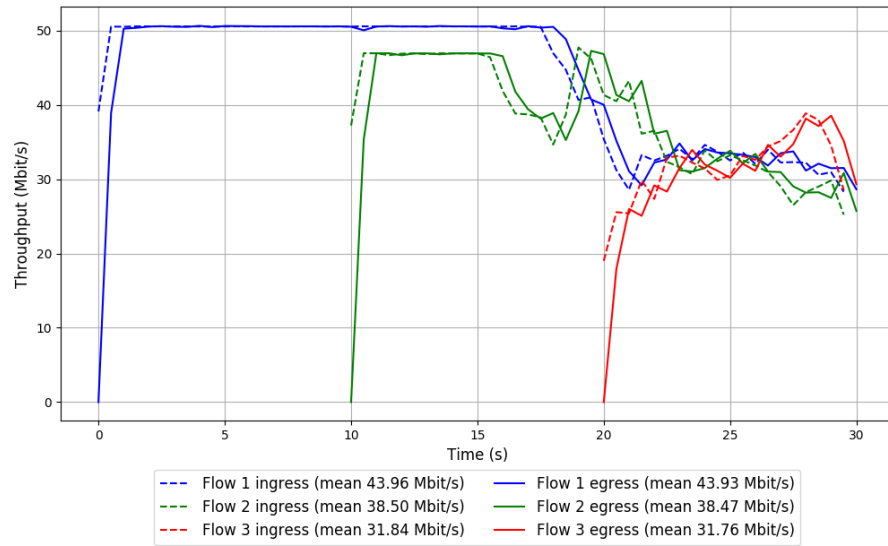


Run 5: Statistics of Sprout

Start at: 2018-11-30 01:26:44
End at: 2018-11-30 01:27:14
Local clock offset: -4.313 ms
Remote clock offset: 0.057 ms

```
# Below is generated by plot.py at 2018-11-30 01:39:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.03 Mbit/s
95th percentile per-packet one-way delay: 23.082 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.93 Mbit/s
95th percentile per-packet one-way delay: 21.195 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.47 Mbit/s
95th percentile per-packet one-way delay: 23.846 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.76 Mbit/s
95th percentile per-packet one-way delay: 25.177 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

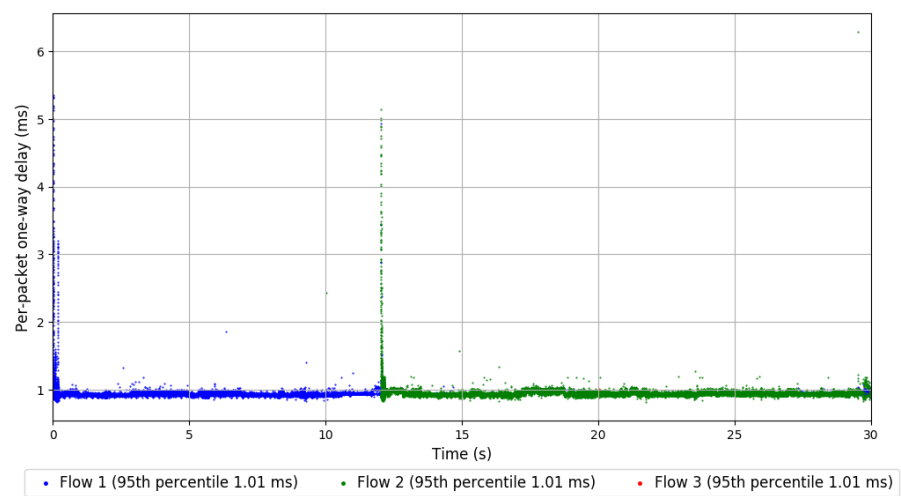
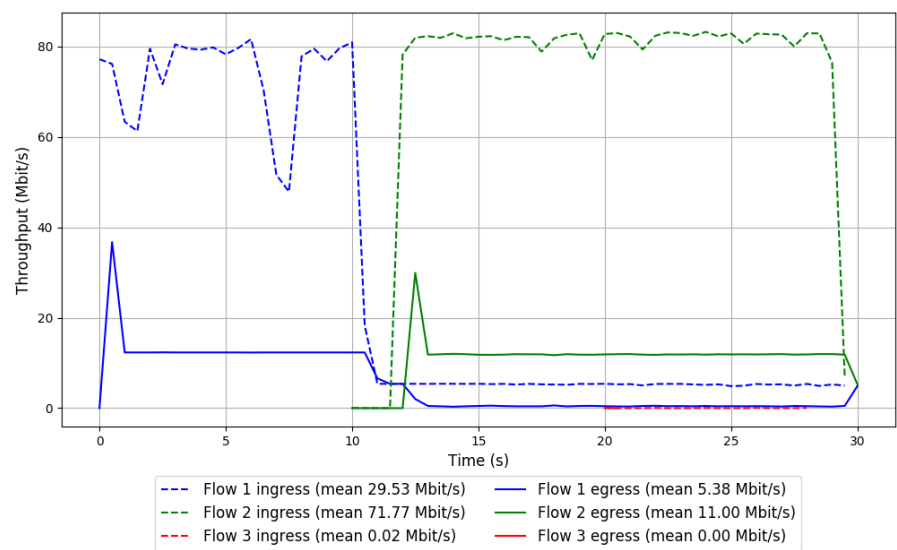


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-11-29 23:54:36
End at: 2018-11-29 23:55:06
Local clock offset: -3.203 ms
Remote clock offset: -0.349 ms

# Below is generated by plot.py at 2018-11-30 01:39:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.70 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 83.58%
-- Flow 1:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 81.80%
-- Flow 2:
Average throughput: 11.00 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 84.68%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.009 ms
Loss rate: 99.16%
```

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

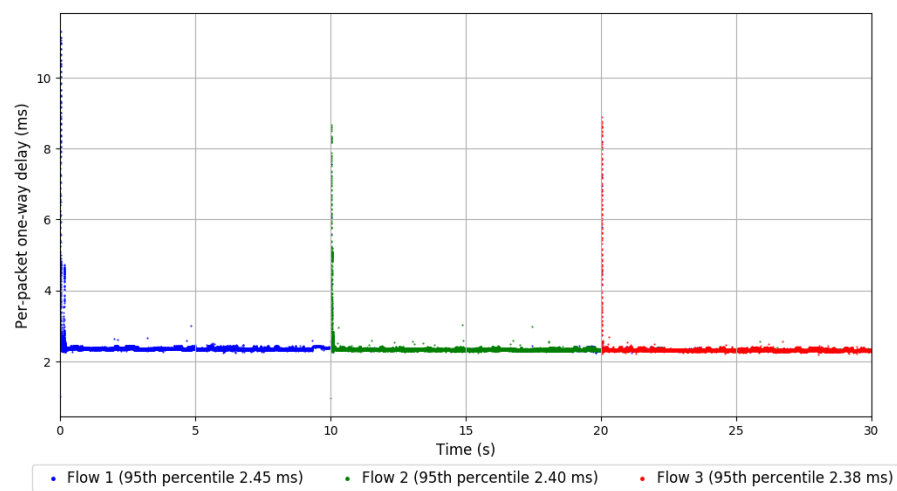
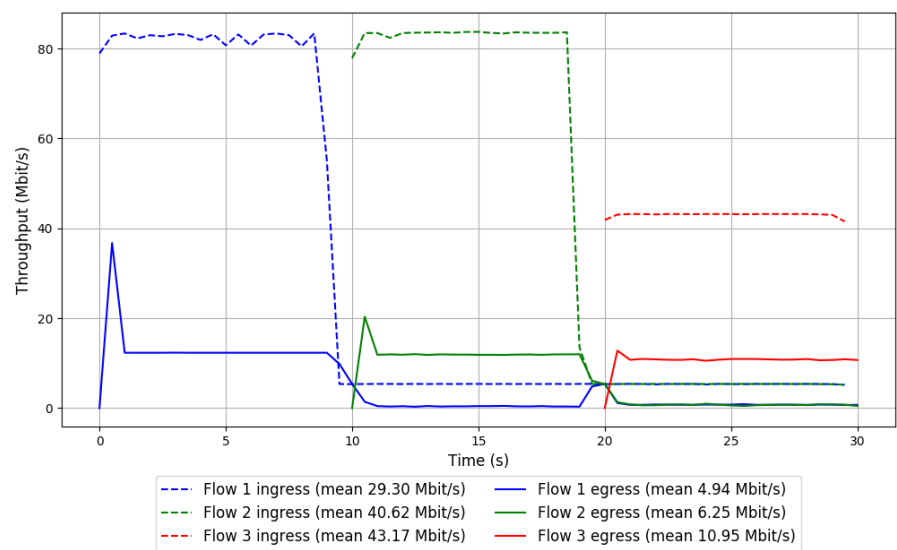


Run 2: Statistics of TaoVA-100x

Start at: 2018-11-30 00:15:03
End at: 2018-11-30 00:15:33
Local clock offset: -2.782 ms
Remote clock offset: -0.251 ms

Below is generated by plot.py at 2018-11-30 01:39:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.421 ms
Loss rate: 82.00%
-- Flow 1:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 2.454 ms
Loss rate: 83.17%
-- Flow 2:
Average throughput: 6.25 Mbit/s
95th percentile per-packet one-way delay: 2.401 ms
Loss rate: 84.63%
-- Flow 3:
Average throughput: 10.95 Mbit/s
95th percentile per-packet one-way delay: 2.383 ms
Loss rate: 74.63%

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

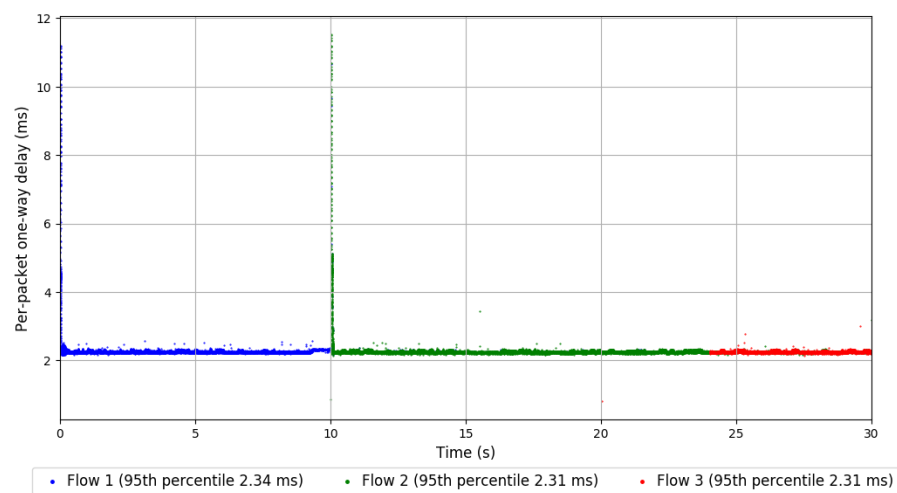
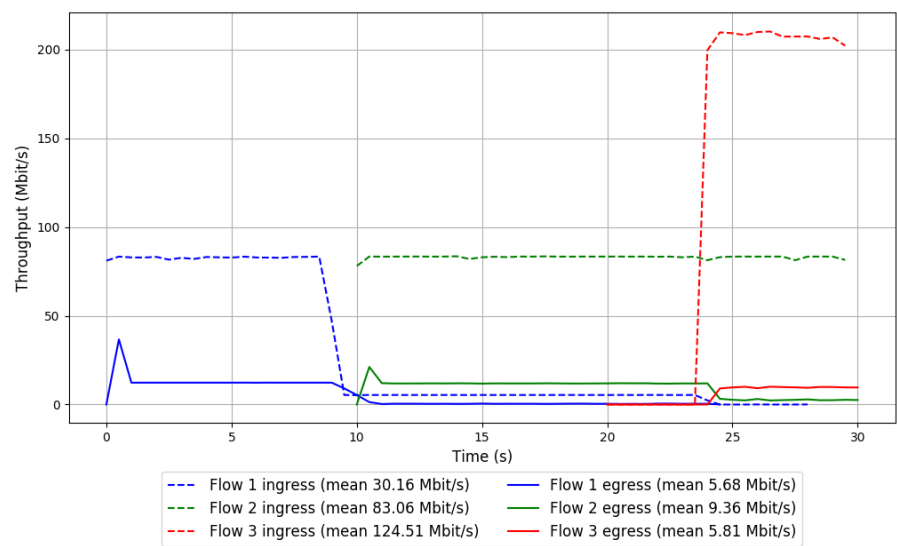


Run 3: Statistics of TaoVA-100x

Start at: 2018-11-30 00:35:32
End at: 2018-11-30 00:36:02
Local clock offset: -3.674 ms
Remote clock offset: -0.296 ms

Below is generated by plot.py at 2018-11-30 01:39:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.321 ms
Loss rate: 89.81%
-- Flow 1:
Average throughput: 5.68 Mbit/s
95th percentile per-packet one-way delay: 2.338 ms
Loss rate: 83.86%
-- Flow 2:
Average throughput: 9.36 Mbit/s
95th percentile per-packet one-way delay: 2.314 ms
Loss rate: 88.73%
-- Flow 3:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 2.311 ms
Loss rate: 95.33%

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

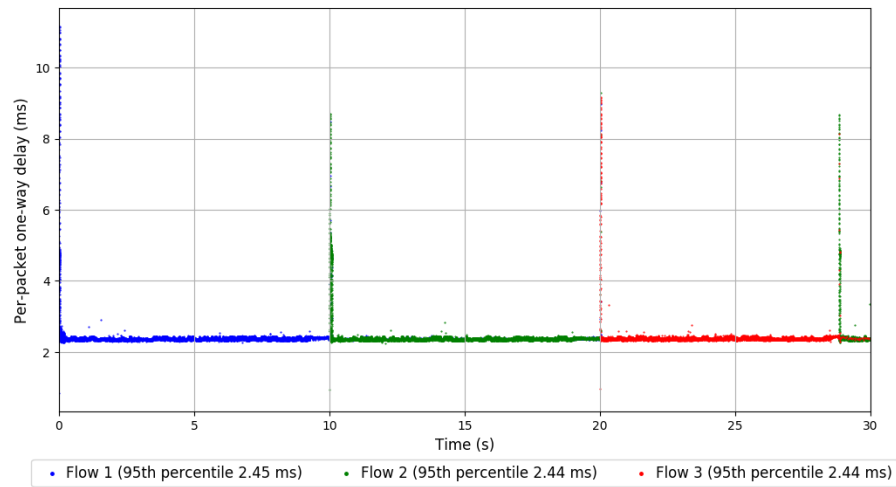
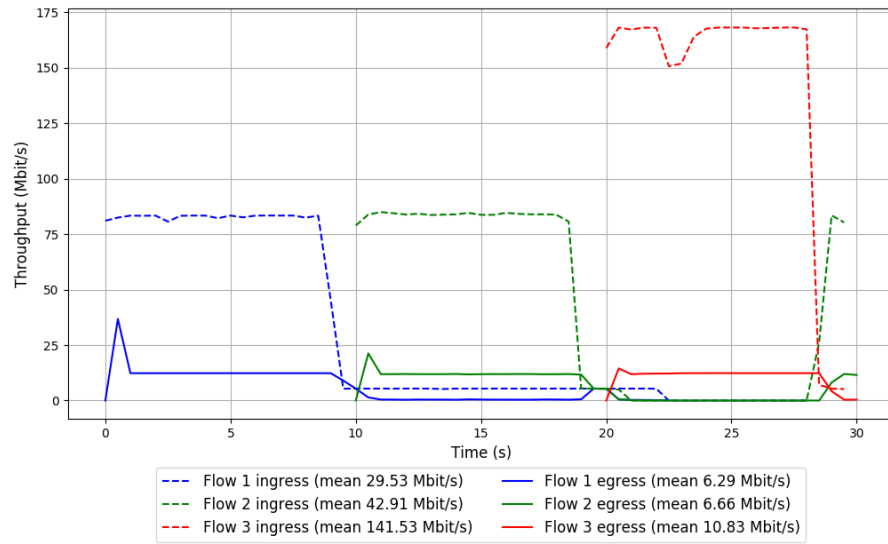


Run 4: Statistics of TaoVA-100x

Start at: 2018-11-30 00:56:00
End at: 2018-11-30 00:56:30
Local clock offset: -3.234 ms
Remote clock offset: -0.194 ms

Below is generated by plot.py at 2018-11-30 01:39:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.440 ms
Loss rate: 87.72%
-- Flow 1:
Average throughput: 6.29 Mbit/s
95th percentile per-packet one-way delay: 2.446 ms
Loss rate: 83.20%
-- Flow 2:
Average throughput: 6.66 Mbit/s
95th percentile per-packet one-way delay: 2.445 ms
Loss rate: 84.47%
-- Flow 3:
Average throughput: 10.83 Mbit/s
95th percentile per-packet one-way delay: 2.438 ms
Loss rate: 92.37%

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

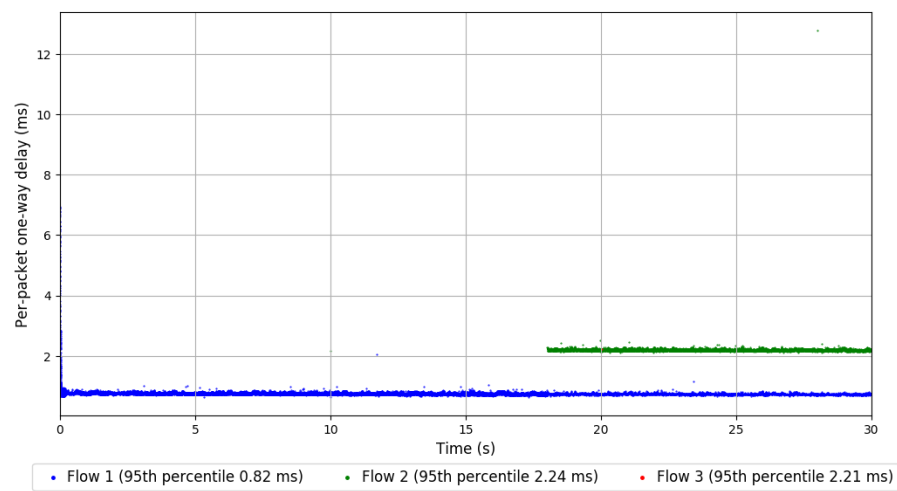
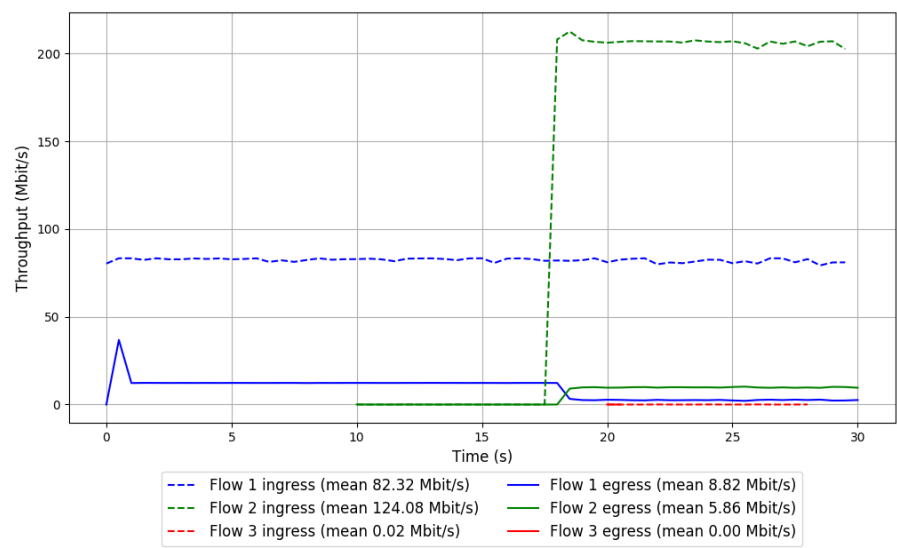


Run 5: Statistics of TaoVA-100x

Start at: 2018-11-30 01:16:27
End at: 2018-11-30 01:16:57
Local clock offset: -2.989 ms
Remote clock offset: -0.083 ms

Below is generated by plot.py at 2018-11-30 01:39:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 2.220 ms
Loss rate: 92.29%
-- Flow 1:
Average throughput: 8.82 Mbit/s
95th percentile per-packet one-way delay: 0.823 ms
Loss rate: 89.29%
-- Flow 2:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 2.243 ms
Loss rate: 95.28%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.215 ms
Loss rate: 99.16%

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

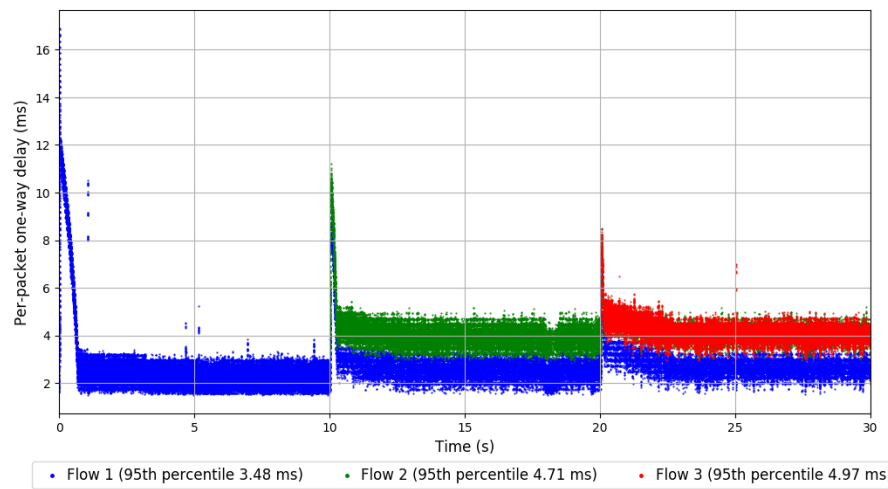
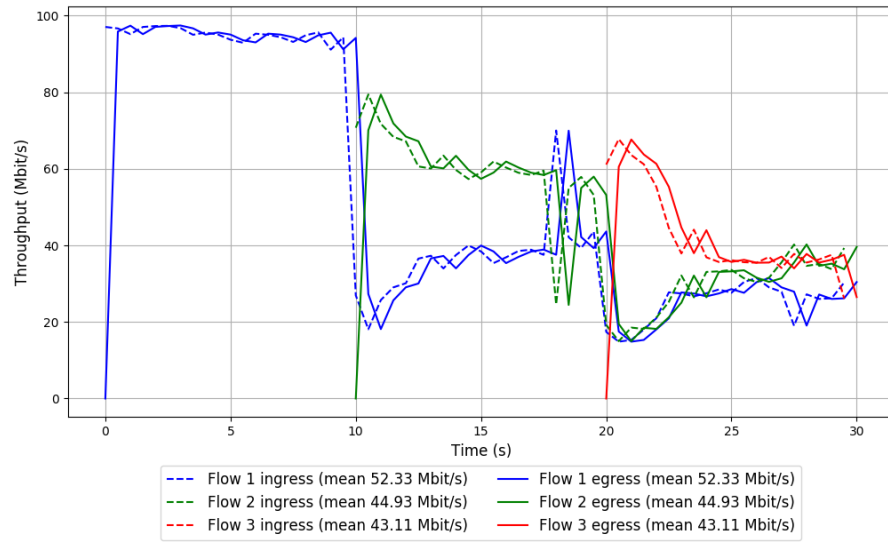


Run 1: Statistics of TCP Vegas

Start at: 2018-11-30 00:00:18
End at: 2018-11-30 00:00:48
Local clock offset: -3.789 ms
Remote clock offset: -0.385 ms

Below is generated by plot.py at 2018-11-30 01:39:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.59 Mbit/s
95th percentile per-packet one-way delay: 4.748 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.33 Mbit/s
95th percentile per-packet one-way delay: 3.477 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.93 Mbit/s
95th percentile per-packet one-way delay: 4.715 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.11 Mbit/s
95th percentile per-packet one-way delay: 4.975 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

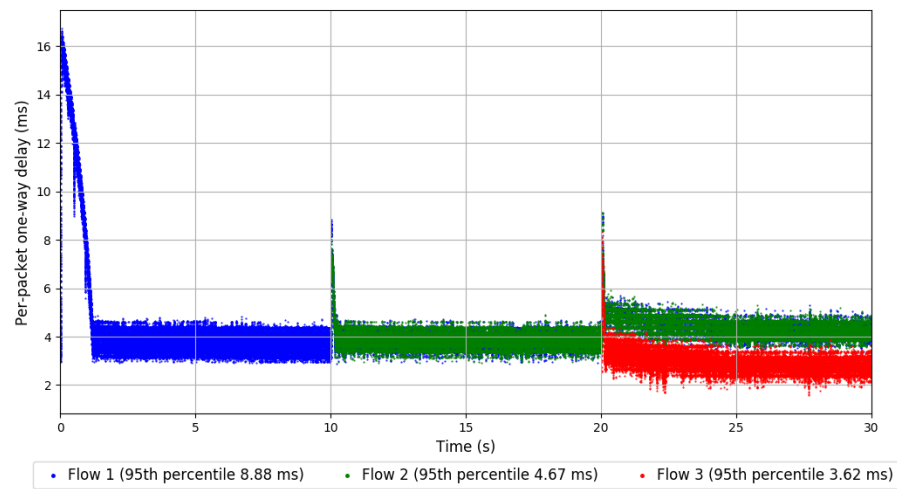
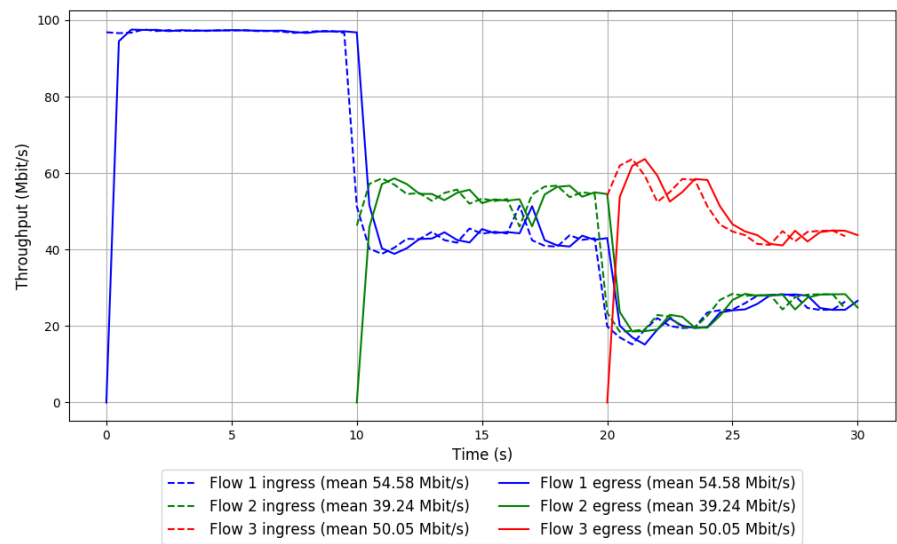


Run 2: Statistics of TCP Vegas

Start at: 2018-11-30 00:20:46
End at: 2018-11-30 00:21:16
Local clock offset: -4.032 ms
Remote clock offset: -0.338 ms

Below is generated by plot.py at 2018-11-30 01:39:46
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.35 Mbit/s
95th percentile per-packet one-way delay: 4.918 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.58 Mbit/s
95th percentile per-packet one-way delay: 8.876 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.24 Mbit/s
95th percentile per-packet one-way delay: 4.673 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.05 Mbit/s
95th percentile per-packet one-way delay: 3.625 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-11-30 00:41:15

End at: 2018-11-30 00:41:45

Local clock offset: -4.496 ms

Remote clock offset: -0.16 ms

Below is generated by plot.py at 2018-11-30 01:39:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.17 Mbit/s

95th percentile per-packet one-way delay: 4.736 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 56.33 Mbit/s

95th percentile per-packet one-way delay: 5.358 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 37.34 Mbit/s

95th percentile per-packet one-way delay: 3.486 ms

Loss rate: 0.00%

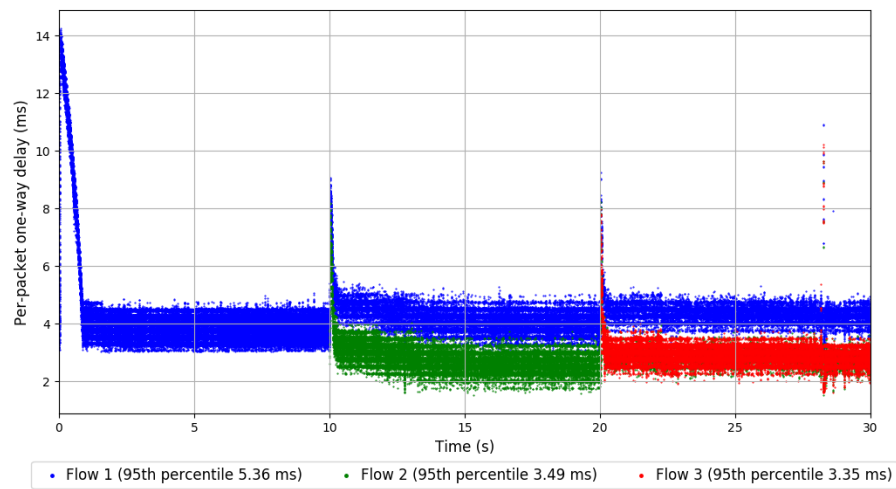
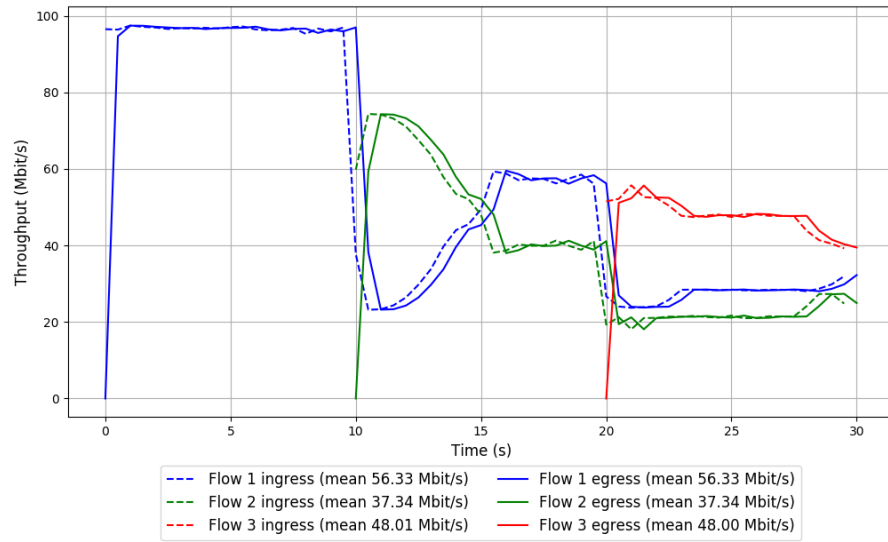
-- Flow 3:

Average throughput: 48.00 Mbit/s

95th percentile per-packet one-way delay: 3.350 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

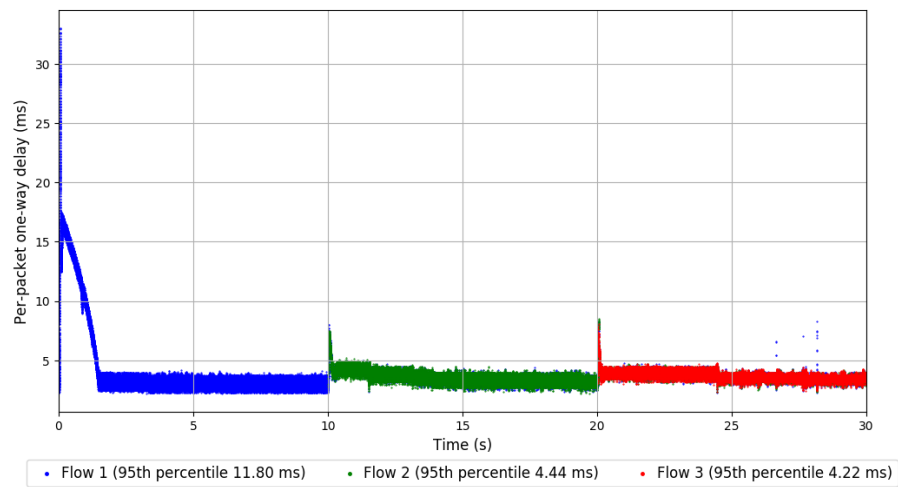
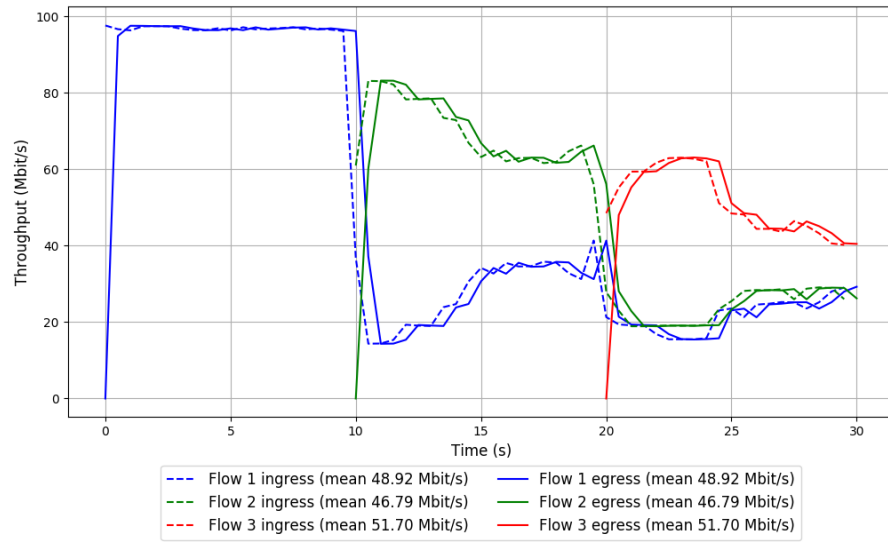


Run 4: Statistics of TCP Vegas

Start at: 2018-11-30 01:01:42
End at: 2018-11-30 01:02:12
Local clock offset: -3.025 ms
Remote clock offset: -0.136 ms

Below is generated by plot.py at 2018-11-30 01:40:03
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.27 Mbit/s
95th percentile per-packet one-way delay: 5.176 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.92 Mbit/s
95th percentile per-packet one-way delay: 11.803 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.79 Mbit/s
95th percentile per-packet one-way delay: 4.438 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 51.70 Mbit/s
95th percentile per-packet one-way delay: 4.223 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-11-30 01:22:11

End at: 2018-11-30 01:22:41

Local clock offset: -4.139 ms

Remote clock offset: 0.036 ms

Below is generated by plot.py at 2018-11-30 01:40:05

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.26 Mbit/s

95th percentile per-packet one-way delay: 4.948 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 61.26 Mbit/s

95th percentile per-packet one-way delay: 4.951 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 26.50 Mbit/s

95th percentile per-packet one-way delay: 3.407 ms

Loss rate: 0.07%

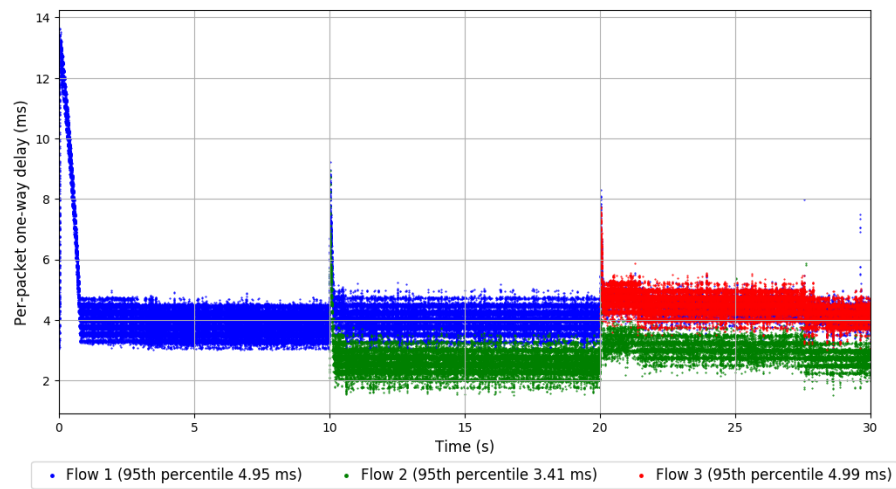
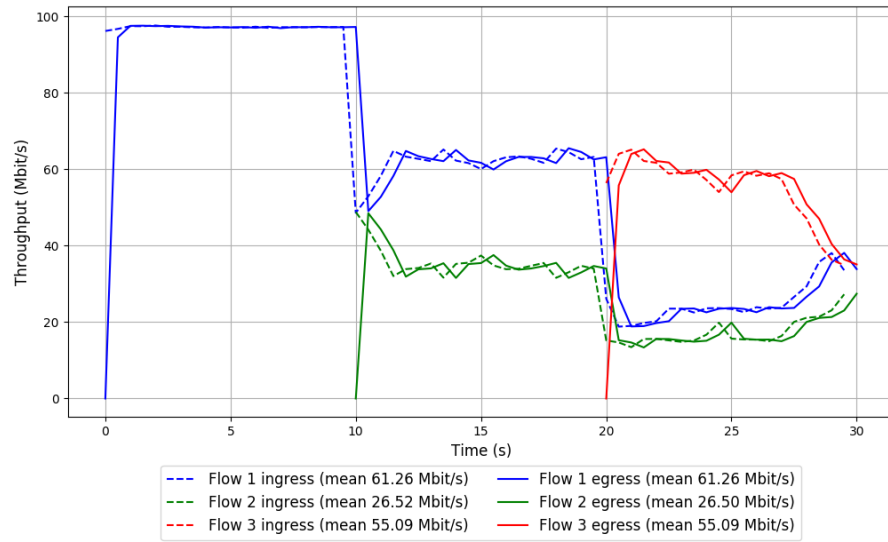
-- Flow 3:

Average throughput: 55.09 Mbit/s

95th percentile per-packet one-way delay: 4.993 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

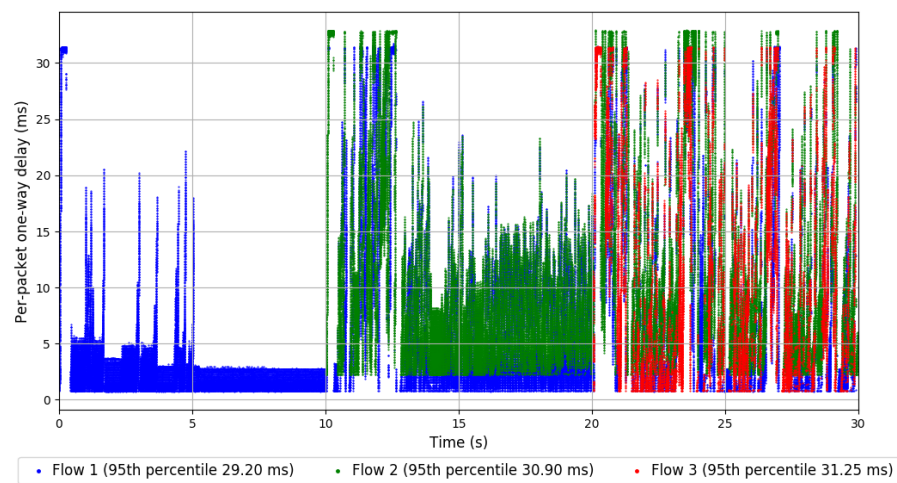
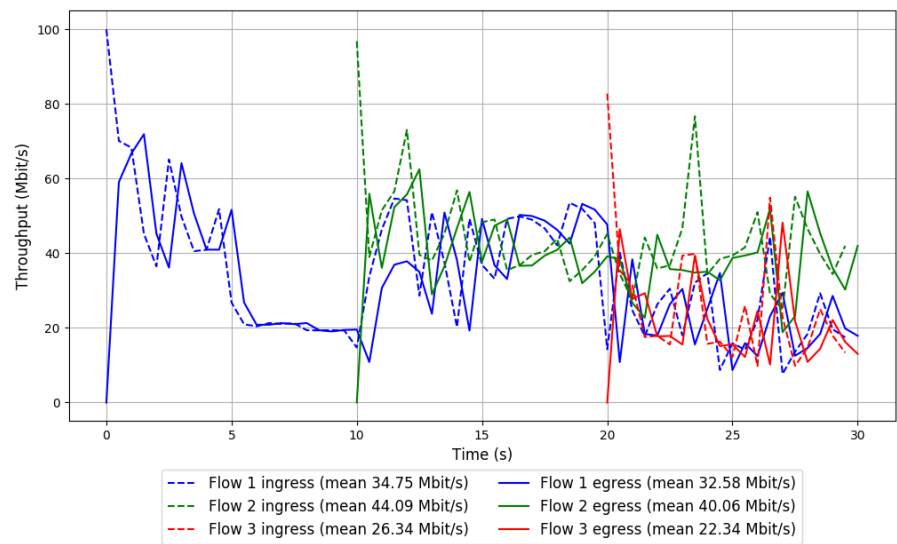


Run 1: Statistics of Verus

Start at: 2018-11-29 23:58:01
End at: 2018-11-29 23:58:31
Local clock offset: -3.088 ms
Remote clock offset: -0.439 ms

Below is generated by plot.py at 2018-11-30 01:40:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 66.54 Mbit/s
95th percentile per-packet one-way delay: 30.743 ms
Loss rate: 8.44%
-- Flow 1:
Average throughput: 32.58 Mbit/s
95th percentile per-packet one-way delay: 29.197 ms
Loss rate: 6.22%
-- Flow 2:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 30.902 ms
Loss rate: 9.13%
-- Flow 3:
Average throughput: 22.34 Mbit/s
95th percentile per-packet one-way delay: 31.255 ms
Loss rate: 14.98%

Run 1: Report of Verus — Data Link

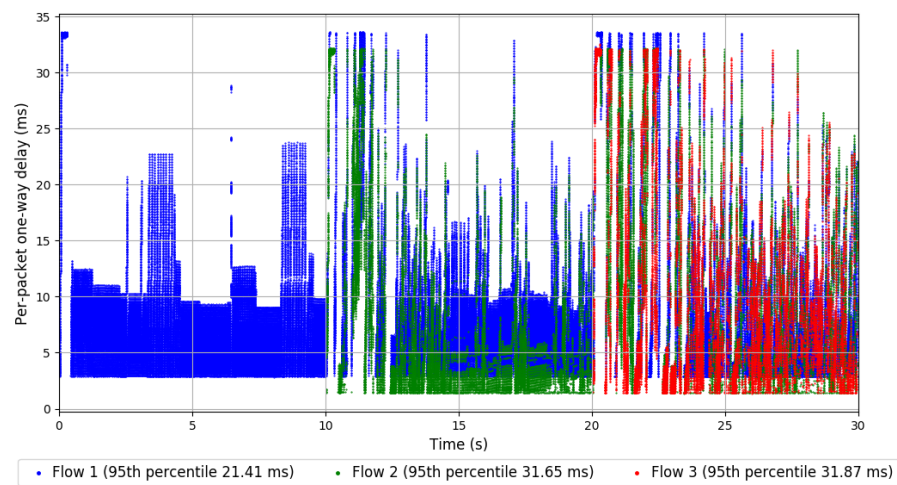
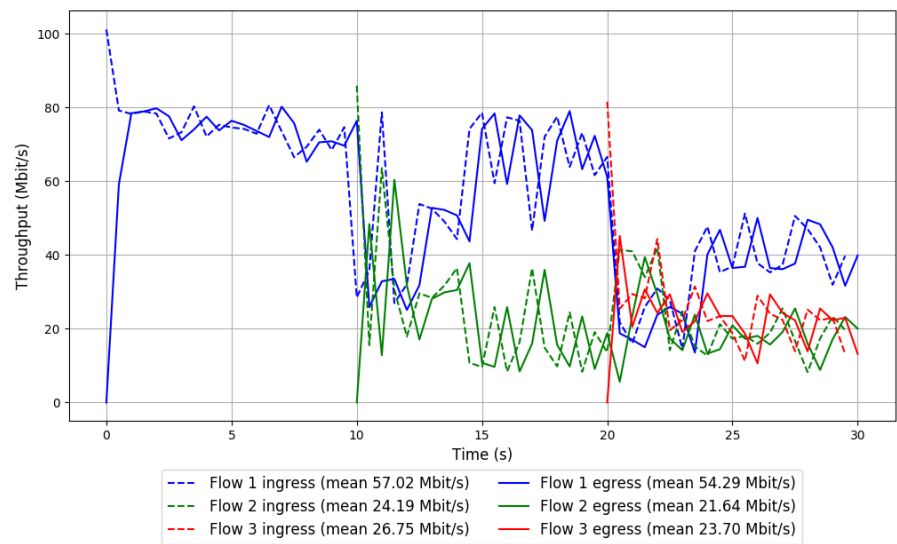


Run 2: Statistics of Verus

Start at: 2018-11-30 00:18:28
End at: 2018-11-30 00:18:58
Local clock offset: -3.851 ms
Remote clock offset: -0.359 ms

Below is generated by plot.py at 2018-11-30 01:40:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 76.54 Mbit/s
95th percentile per-packet one-way delay: 28.216 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 54.29 Mbit/s
95th percentile per-packet one-way delay: 21.406 ms
Loss rate: 4.76%
-- Flow 2:
Average throughput: 21.64 Mbit/s
95th percentile per-packet one-way delay: 31.647 ms
Loss rate: 10.56%
-- Flow 3:
Average throughput: 23.70 Mbit/s
95th percentile per-packet one-way delay: 31.866 ms
Loss rate: 11.35%

Run 2: Report of Verus — Data Link

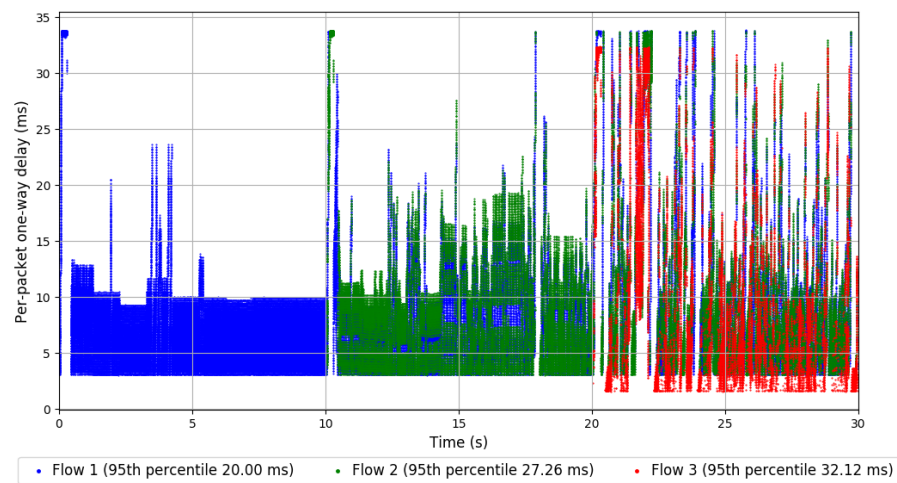
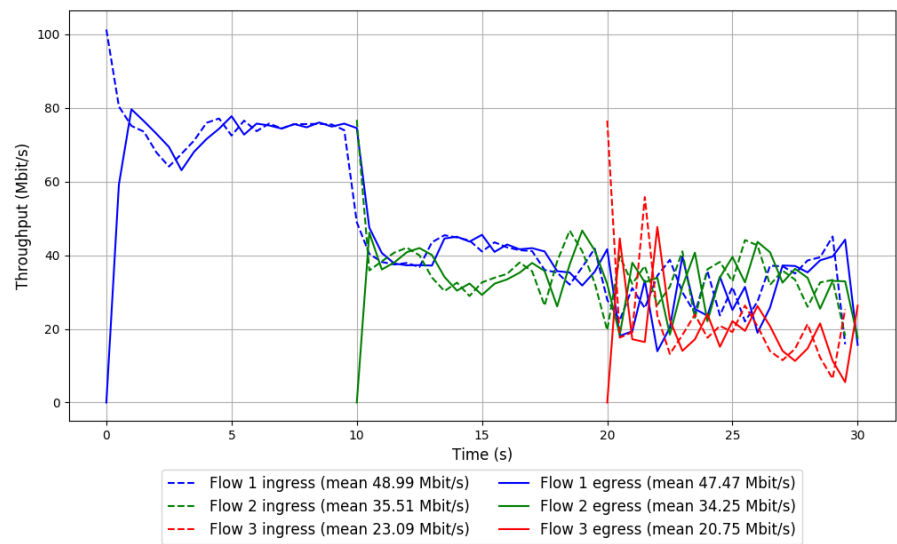


Run 3: Statistics of Verus

Start at: 2018-11-30 00:38:57
End at: 2018-11-30 00:39:27
Local clock offset: -4.47 ms
Remote clock offset: -0.139 ms

Below is generated by plot.py at 2018-11-30 01:40:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 77.14 Mbit/s
95th percentile per-packet one-way delay: 26.170 ms
Loss rate: 3.89%
-- Flow 1:
Average throughput: 47.47 Mbit/s
95th percentile per-packet one-way delay: 20.003 ms
Loss rate: 3.10%
-- Flow 2:
Average throughput: 34.25 Mbit/s
95th percentile per-packet one-way delay: 27.262 ms
Loss rate: 3.53%
-- Flow 3:
Average throughput: 20.75 Mbit/s
95th percentile per-packet one-way delay: 32.115 ms
Loss rate: 10.10%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-11-30 00:59:26

End at: 2018-11-30 00:59:56

Local clock offset: -3.837 ms

Remote clock offset: -0.24 ms

Below is generated by plot.py at 2018-11-30 01:40:24

Datalink statistics

-- Total of 3 flows:

Average throughput: 59.12 Mbit/s

95th percentile per-packet one-way delay: 29.616 ms

Loss rate: 6.15%

-- Flow 1:

Average throughput: 32.17 Mbit/s

95th percentile per-packet one-way delay: 26.133 ms

Loss rate: 5.06%

-- Flow 2:

Average throughput: 26.85 Mbit/s

95th percentile per-packet one-way delay: 29.371 ms

Loss rate: 5.49%

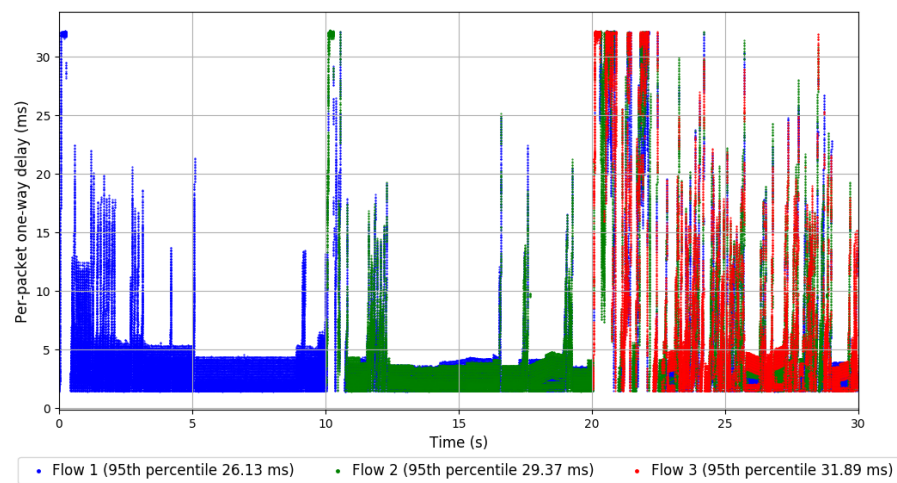
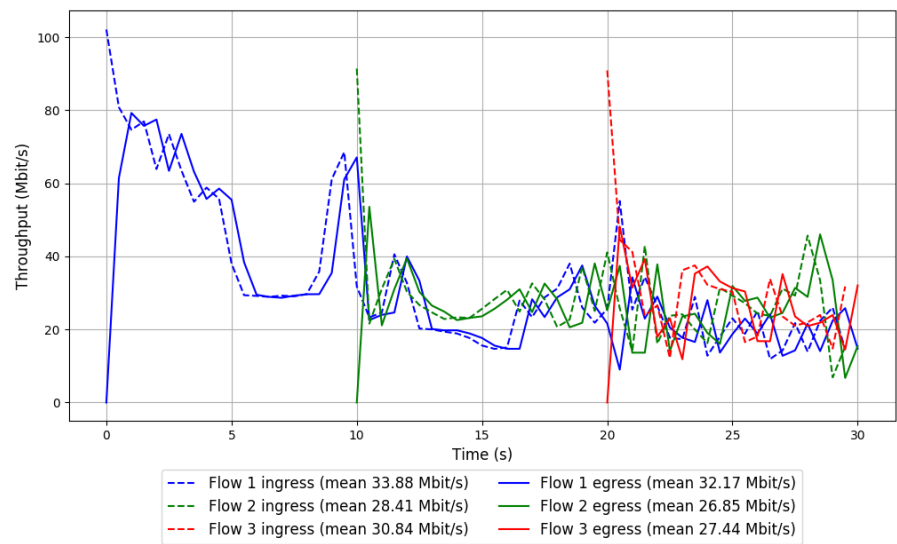
-- Flow 3:

Average throughput: 27.44 Mbit/s

95th percentile per-packet one-way delay: 31.888 ms

Loss rate: 11.00%

Run 4: Report of Verus — Data Link

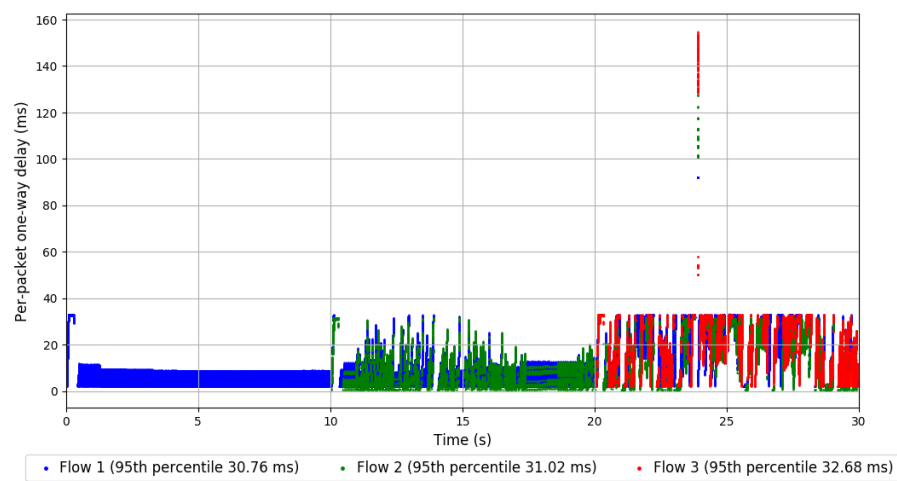
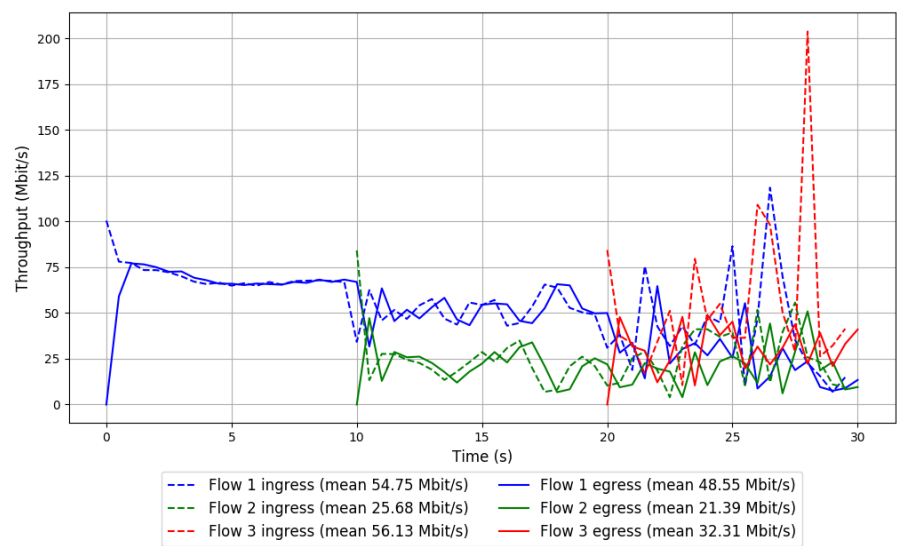


Run 5: Statistics of Verus

Start at: 2018-11-30 01:19:54
End at: 2018-11-30 01:20:24
Local clock offset: -3.26 ms
Remote clock offset: -0.147 ms

Below is generated by plot.py at 2018-11-30 01:40:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 73.47 Mbit/s
95th percentile per-packet one-way delay: 31.937 ms
Loss rate: 18.72%
-- Flow 1:
Average throughput: 48.55 Mbit/s
95th percentile per-packet one-way delay: 30.762 ms
Loss rate: 11.31%
-- Flow 2:
Average throughput: 21.39 Mbit/s
95th percentile per-packet one-way delay: 31.025 ms
Loss rate: 16.67%
-- Flow 3:
Average throughput: 32.31 Mbit/s
95th percentile per-packet one-way delay: 32.684 ms
Loss rate: 42.44%

Run 5: Report of Verus — Data Link

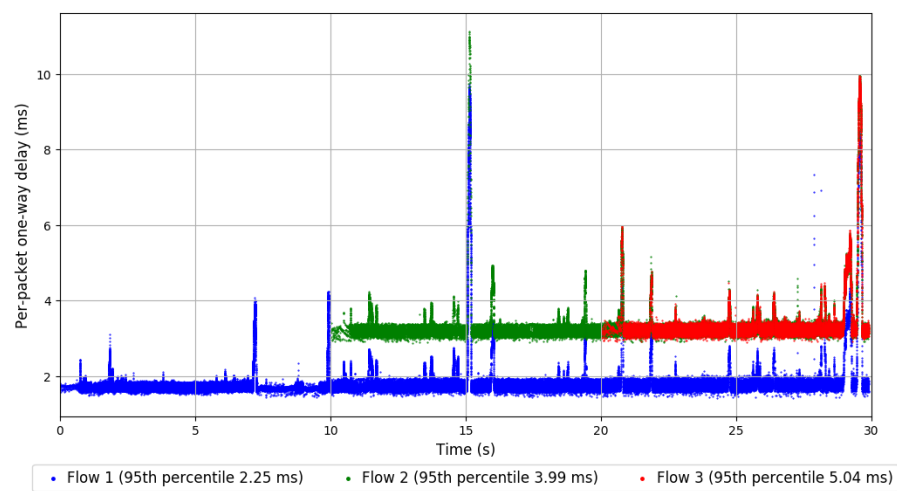
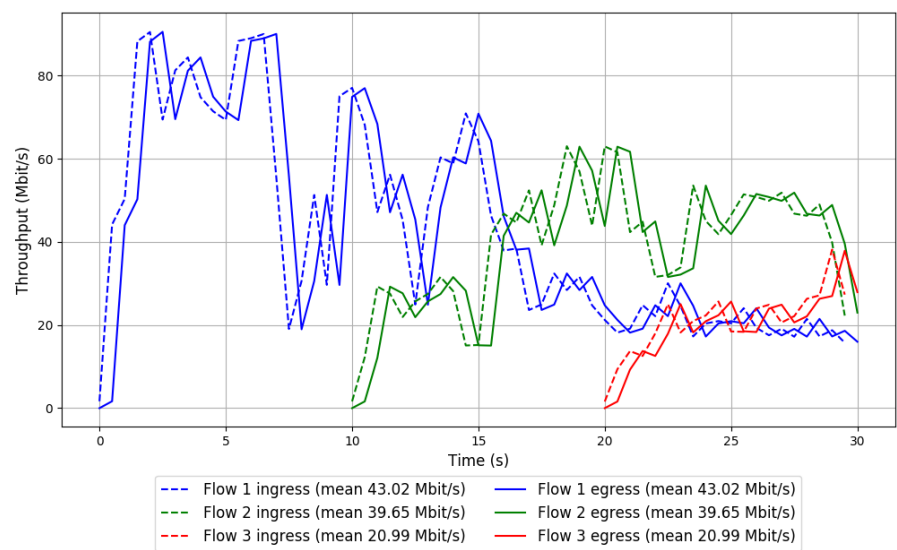


Run 1: Statistics of PCC-Vivace

Start at: 2018-11-30 00:03:40
End at: 2018-11-30 00:04:10
Local clock offset: -3.779 ms
Remote clock offset: -0.367 ms

Below is generated by plot.py at 2018-11-30 01:40:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 76.33 Mbit/s
95th percentile per-packet one-way delay: 3.548 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.02 Mbit/s
95th percentile per-packet one-way delay: 2.254 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.65 Mbit/s
95th percentile per-packet one-way delay: 3.986 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.99 Mbit/s
95th percentile per-packet one-way delay: 5.044 ms
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link

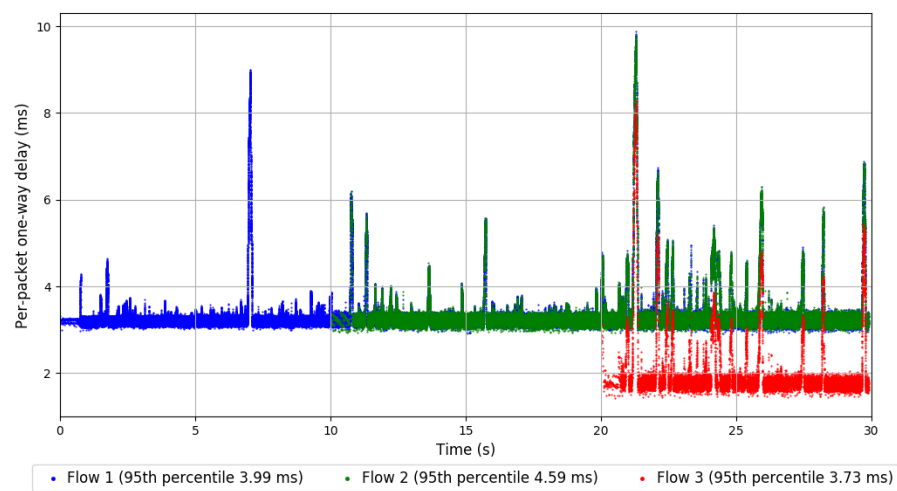
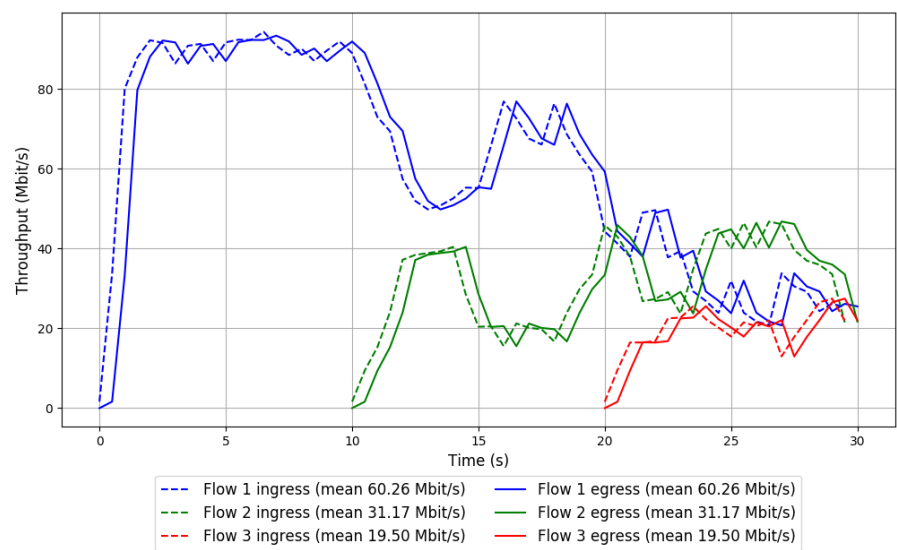


Run 2: Statistics of PCC-Vivace

Start at: 2018-11-30 00:24:09
End at: 2018-11-30 00:24:39
Local clock offset: -4.253 ms
Remote clock offset: -0.244 ms

Below is generated by plot.py at 2018-11-30 01:40:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.43 Mbit/s
95th percentile per-packet one-way delay: 4.261 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.26 Mbit/s
95th percentile per-packet one-way delay: 3.988 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.17 Mbit/s
95th percentile per-packet one-way delay: 4.594 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.50 Mbit/s
95th percentile per-packet one-way delay: 3.730 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-11-30 00:44:37

End at: 2018-11-30 00:45:07

Local clock offset: -4.495 ms

Remote clock offset: -0.11 ms

Below is generated by plot.py at 2018-11-30 01:40:58

Datalink statistics

-- Total of 3 flows:

Average throughput: 77.72 Mbit/s

95th percentile per-packet one-way delay: 2.708 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.78 Mbit/s

95th percentile per-packet one-way delay: 2.318 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 31.97 Mbit/s

95th percentile per-packet one-way delay: 2.953 ms

Loss rate: 0.00%

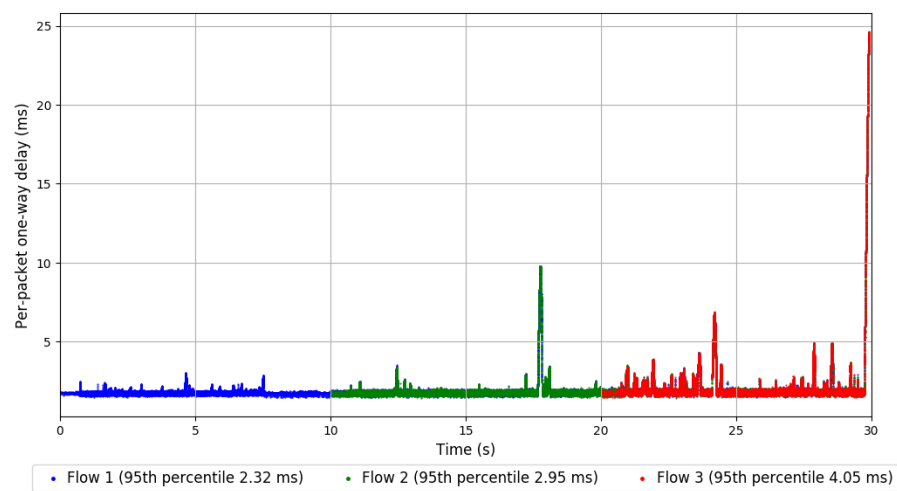
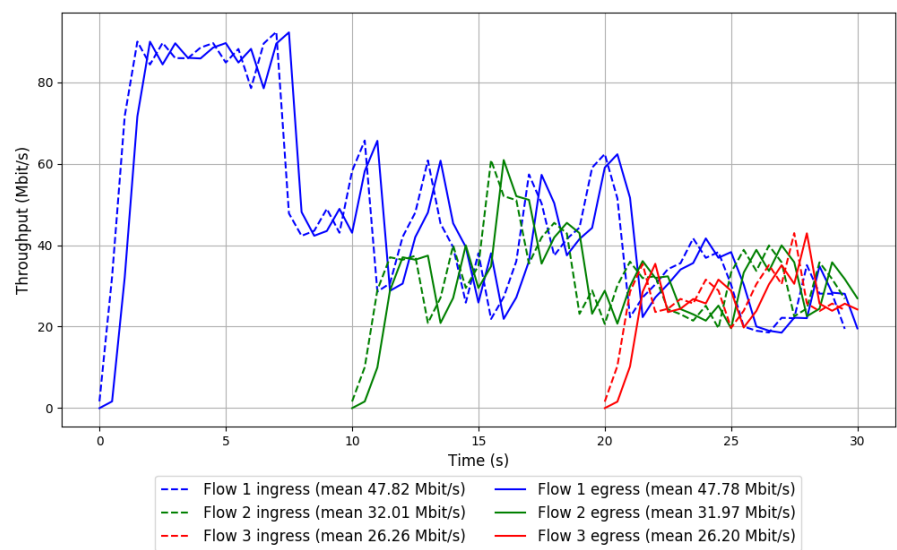
-- Flow 3:

Average throughput: 26.20 Mbit/s

95th percentile per-packet one-way delay: 4.047 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

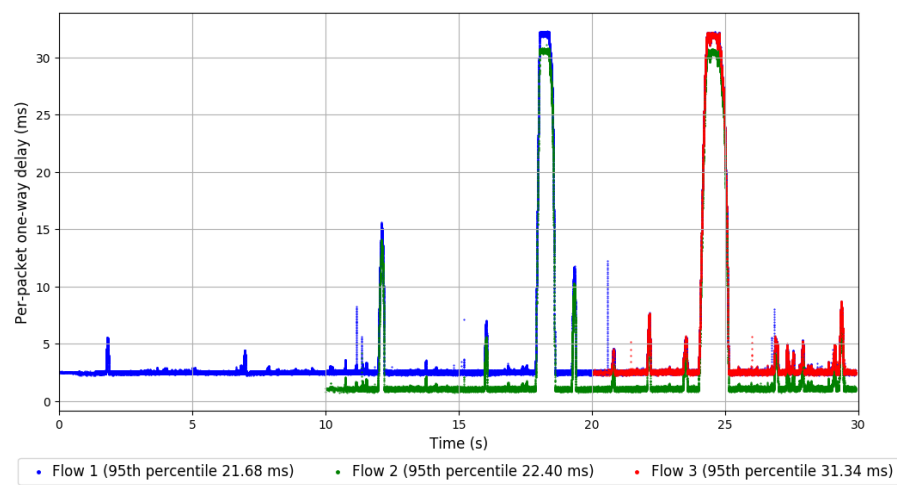
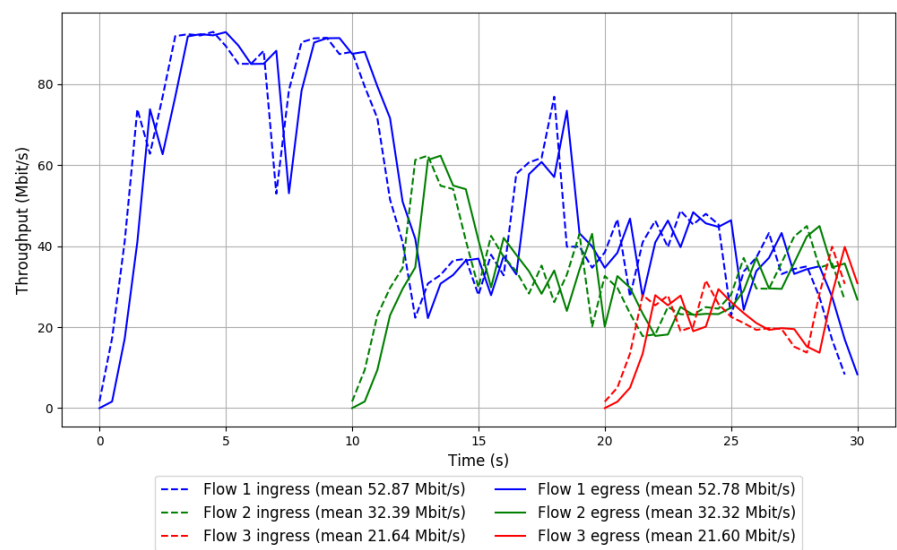


Run 4: Statistics of PCC-Vivace

Start at: 2018-11-30 01:05:04
End at: 2018-11-30 01:05:34
Local clock offset: -3.048 ms
Remote clock offset: -0.047 ms

Below is generated by plot.py at 2018-11-30 01:40:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 81.42 Mbit/s
95th percentile per-packet one-way delay: 25.518 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 52.78 Mbit/s
95th percentile per-packet one-way delay: 21.680 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 32.32 Mbit/s
95th percentile per-packet one-way delay: 22.400 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 21.60 Mbit/s
95th percentile per-packet one-way delay: 31.341 ms
Loss rate: 0.18%

Run 4: Report of PCC-Vivace — Data Link

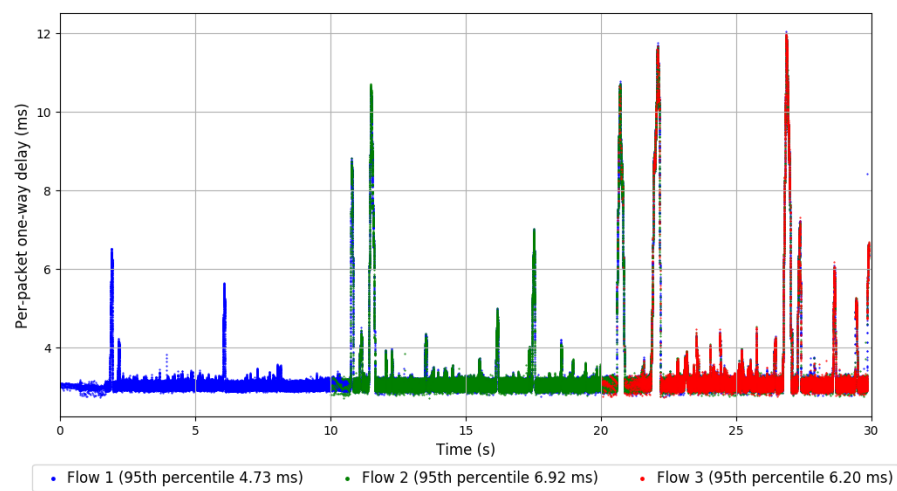
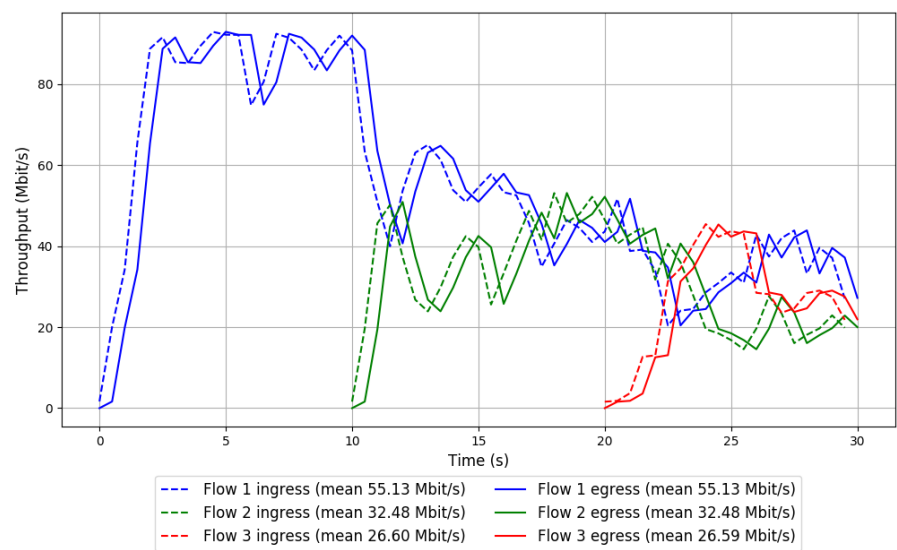


Run 5: Statistics of PCC-Vivace

Start at: 2018-11-30 01:25:34
End at: 2018-11-30 01:26:04
Local clock offset: -4.331 ms
Remote clock offset: -0.153 ms

Below is generated by plot.py at 2018-11-30 01:40:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.51 Mbit/s
95th percentile per-packet one-way delay: 5.497 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.13 Mbit/s
95th percentile per-packet one-way delay: 4.727 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.48 Mbit/s
95th percentile per-packet one-way delay: 6.918 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.59 Mbit/s
95th percentile per-packet one-way delay: 6.196 ms
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-11-30 00:02:34

End at: 2018-11-30 00:03:04

Local clock offset: -3.807 ms

Remote clock offset: -0.38 ms

Below is generated by plot.py at 2018-11-30 01:40:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.51 Mbit/s

95th percentile per-packet one-way delay: 6.840 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 7.347 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.23 Mbit/s

95th percentile per-packet one-way delay: 5.720 ms

Loss rate: 0.00%

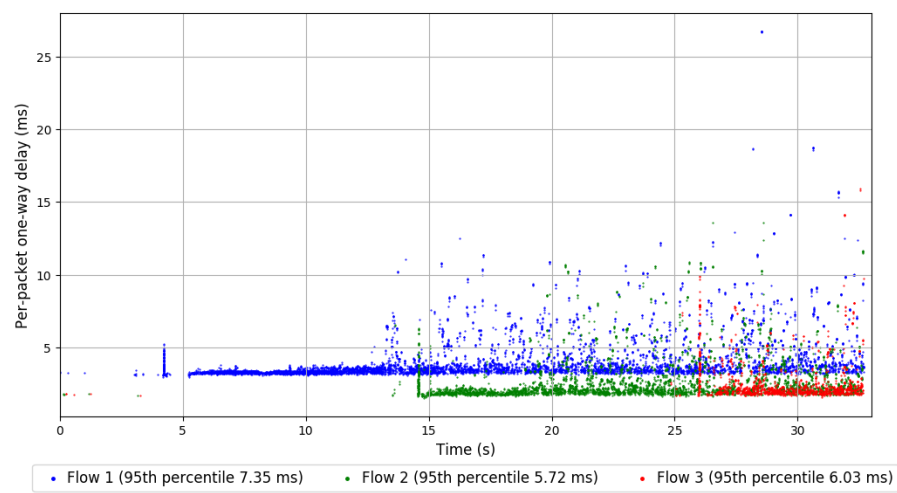
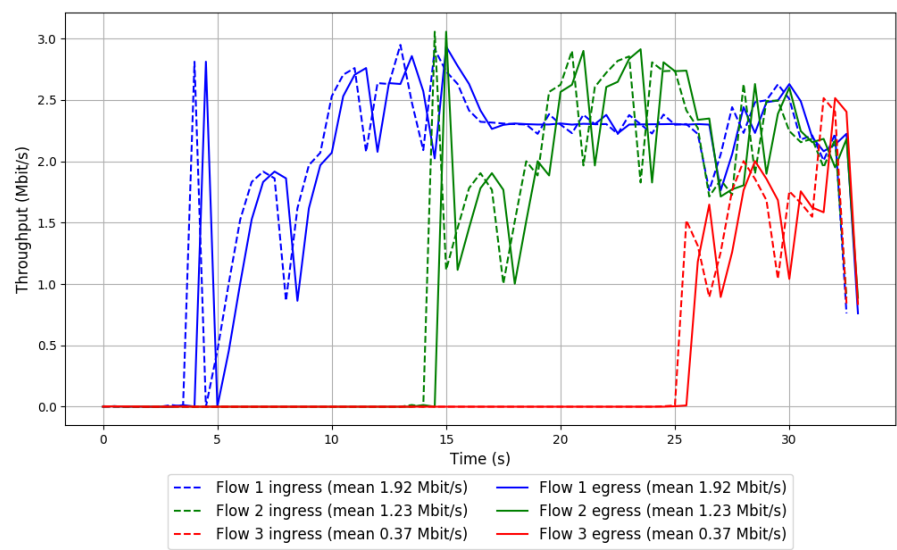
-- Flow 3:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 6.027 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

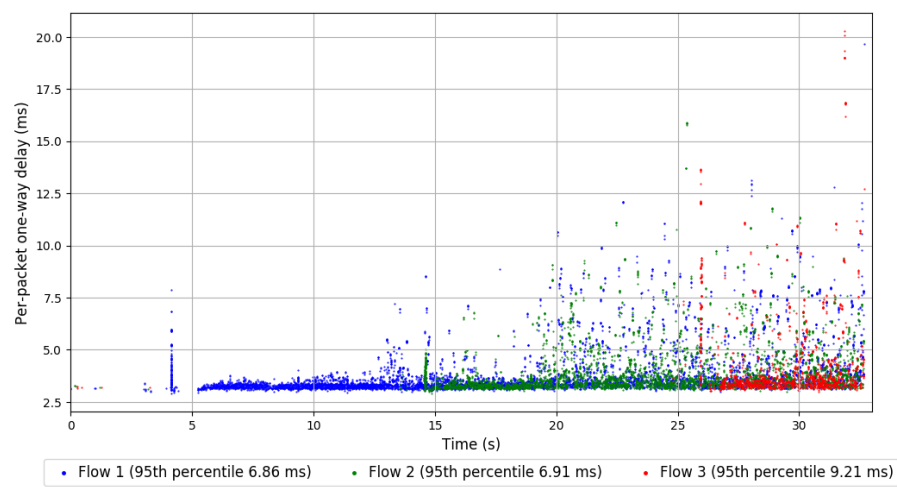
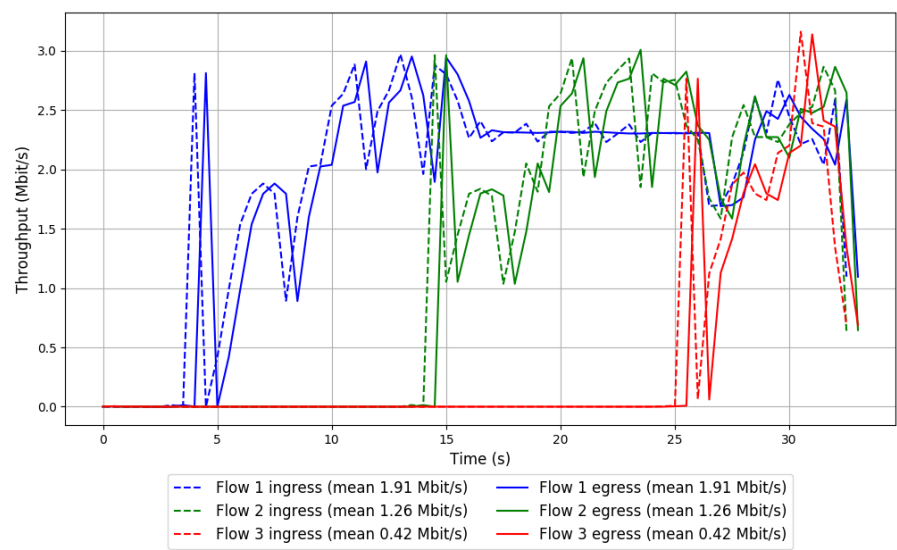


Run 2: Statistics of WebRTC media

Start at: 2018-11-30 00:23:03
End at: 2018-11-30 00:23:33
Local clock offset: -4.119 ms
Remote clock offset: -0.212 ms

Below is generated by plot.py at 2018-11-30 01:40:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 7.154 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 6.864 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 6.907 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 9.208 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

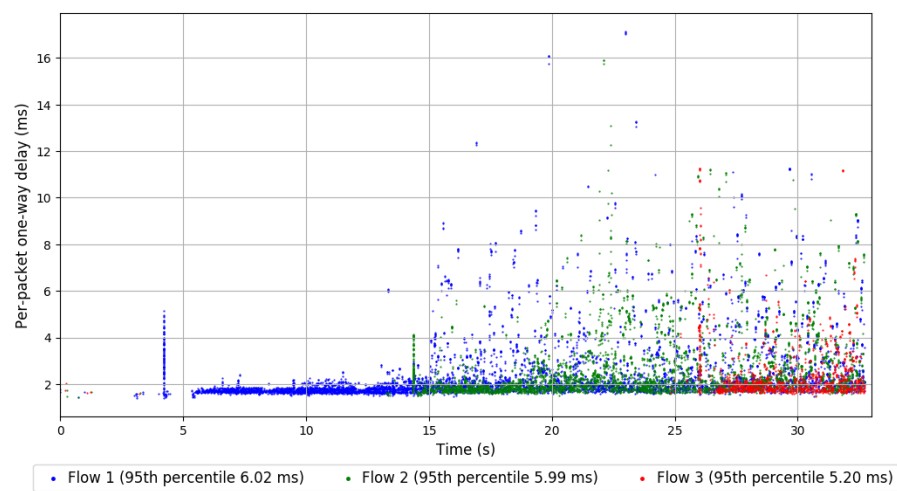
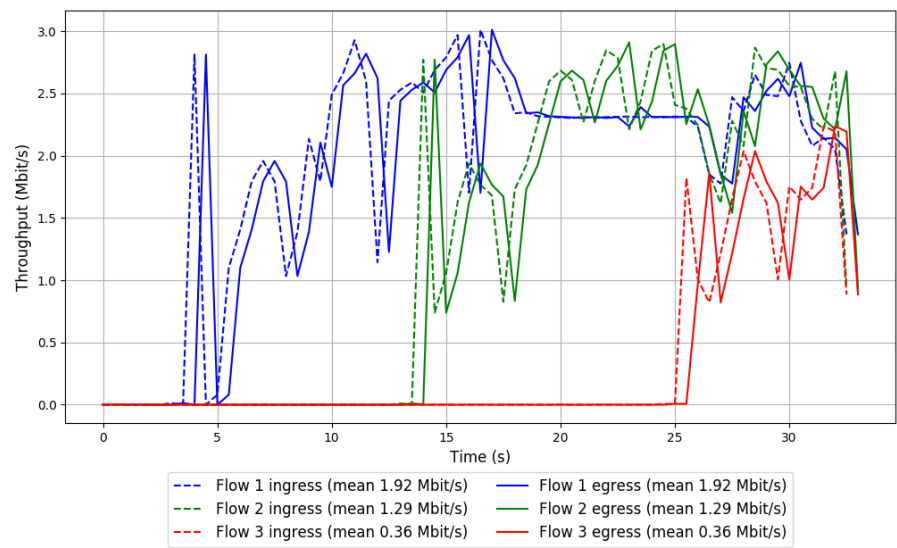


Run 3: Statistics of WebRTC media

Start at: 2018-11-30 00:43:32
End at: 2018-11-30 00:44:02
Local clock offset: -4.5 ms
Remote clock offset: -0.211 ms

Below is generated by plot.py at 2018-11-30 01:40:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 5.954 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 6.016 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 5.994 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 5.202 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

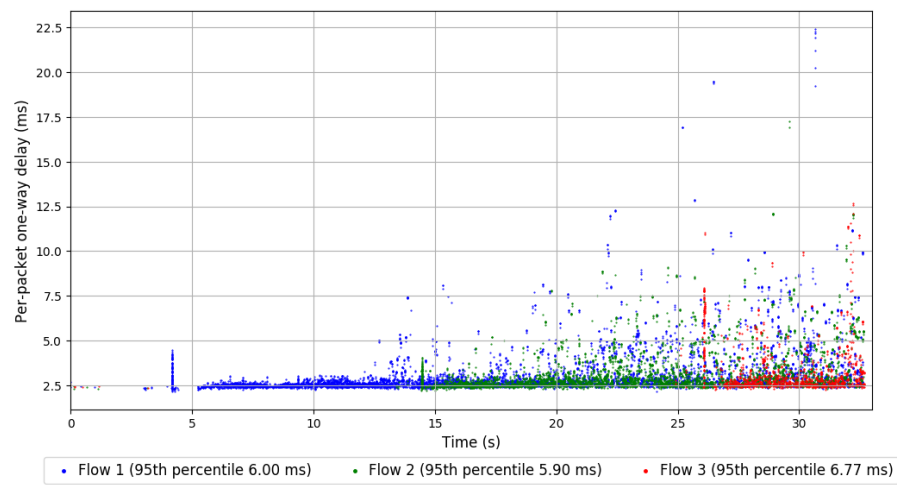
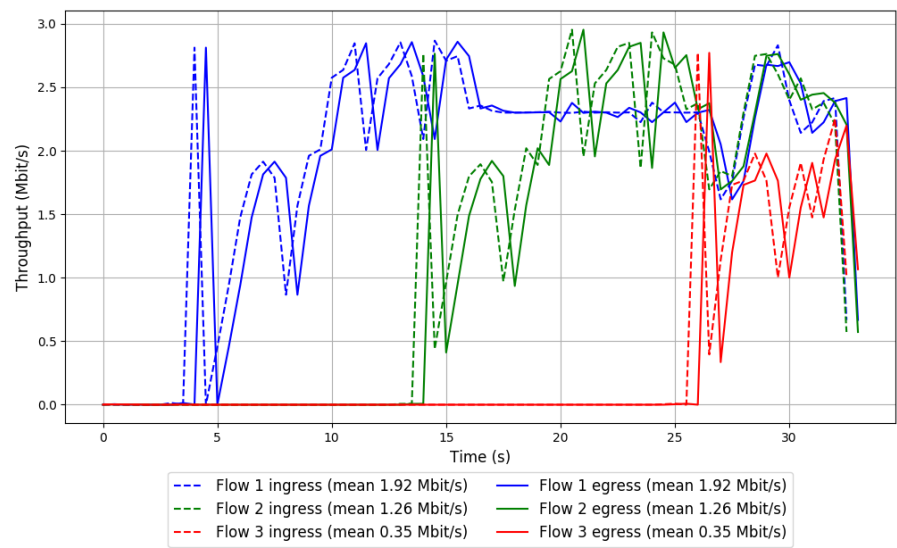


Run 4: Statistics of WebRTC media

Start at: 2018-11-30 01:03:58
End at: 2018-11-30 01:04:28
Local clock offset: -2.992 ms
Remote clock offset: -0.115 ms

```
# Below is generated by plot.py at 2018-11-30 01:40:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 6.100 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 5.995 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 5.896 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 6.768 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-30 01:24:28

End at: 2018-11-30 01:24:58

Local clock offset: -4.253 ms

Remote clock offset: 0.021 ms

Below is generated by plot.py at 2018-11-30 01:40:59

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.53 Mbit/s

95th percentile per-packet one-way delay: 5.380 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 5.184 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.25 Mbit/s

95th percentile per-packet one-way delay: 5.084 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 6.667 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

