

Pantheon Report

Generated at 2018-09-11 05:54:42 (UTC).

Data path: AWS India 2 on **ens5** (*local*) → Saudi Arabia on **enp2s0** (*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 **nets.org.sg** and have been applied to correct the timestamps in logs.

System info:

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

Git summary:

```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-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
```

Figure 10: Average throughput vs. 95th percentile one-way delay. The plot shows the performance of various congestion control algorithms. The x-axis represents the 95th percentile one-way delay in milliseconds (ms), ranging from 100 to 60. The y-axis represents the average throughput in Mbps, ranging from 0 to 400. The algorithms are plotted as follows:

Algorithm	95th percentile one-way delay (ms)	Average throughput (Mbps)
PCC-Allegro	~62	~450
FiLLP-Sheep	~65	~420
FiLLP	~72	~400
Indigo-Muses	~70	~320
TCP BBR	~68	~250
PCC-Cubic	~65	~210
Indigo	~82	~160
TCP Vegas	~65	~160
Verus	~98	~100
QUIC Cubic	~65	~80
LEDBAT	~65	~10
TCP Expor	~65	~10
Prague	~65	~10
BBR	~65	~10
media	~65	~10

Figure 10: Average throughput (Mbit/s) vs. 95th percentile one-way delay (ms) for various congestion control algorithms. The plot shows a trade-off between delay and throughput. Algorithms like PCC-Allegro and FillIP-Sheep achieve high throughput at low delay, while others like TCP Vegas and Verus show lower throughput at higher delay.

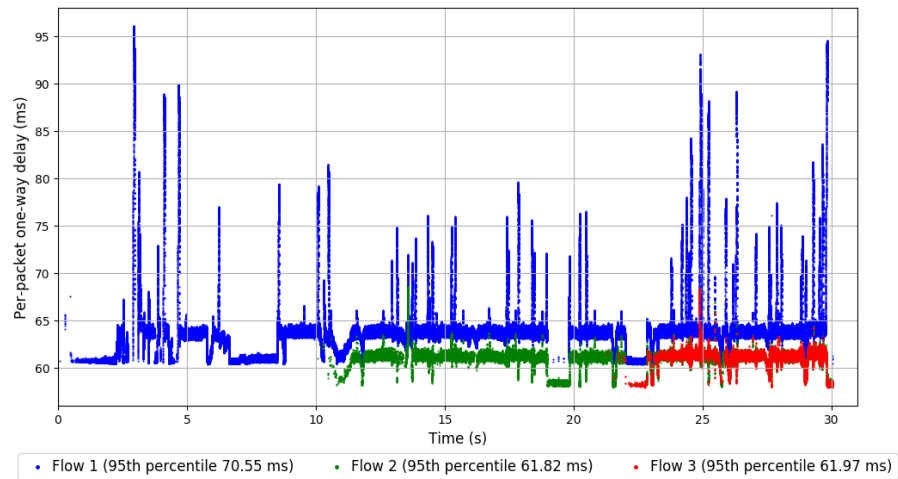
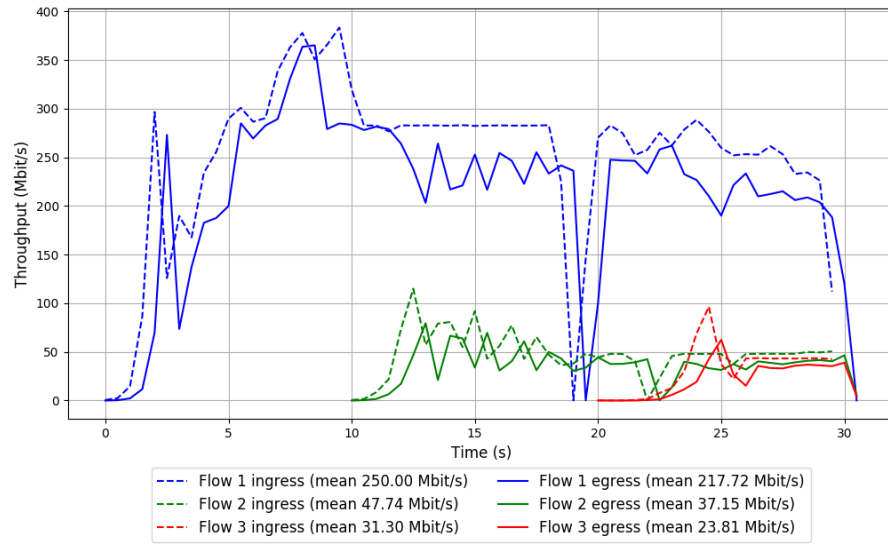
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	176.46	80.89	34.73	67.82	64.29	65.41	10.96	16.17	34.59
Copa	5	1.64	8.91	4.12	61.90	61.84	61.10	92.81	66.58	71.06
TCP Cubic	5	115.13	102.28	59.90	64.27	62.46	62.60	1.66	1.52	1.80
FillP	5	340.39	75.76	33.84	72.27	66.03	65.52	17.28	17.10	17.19
FillP-Sheep	5	257.78	190.56	95.46	65.05	66.77	63.93	18.93	23.09	25.00
Indigo	5	76.68	77.53	75.14	81.17	86.21	82.97	10.93	19.67	29.35
LEDBAT	5	9.22	6.27	3.01	64.48	64.16	63.29	0.00	0.00	0.00
Indigo-Muses	4	297.41	24.79	21.49	69.66	67.36	67.46	31.73	46.40	50.62
PCC-Allegro	5	427.98	38.17	29.07	64.67	63.95	65.54	4.91	2.23	2.82
PCC-Expr	5	8.96	7.70	2.58	61.23	61.24	61.27	33.57	30.16	46.17
QUIC Cubic	5	47.59	40.15	24.04	62.31	62.61	63.70	0.00	0.00	0.03
SCReAM	5	0.22	0.22	0.22	60.47	61.10	60.68	0.00	0.00	0.00
Sprout	5	2.25	1.45	1.38	64.07	63.37	63.38	0.00	0.00	0.00
TaoVA-100x	5	0.00	9.71	5.51	60.94	67.00	59.75	95.92	27.20	52.78
TCP Vegas	5	83.27	56.86	99.18	62.68	62.51	63.44	1.49	2.04	3.37
Verus	4	60.22	35.70	37.88	100.77	87.86	68.97	53.09	51.83	28.66
PCC-Vivace	5	170.66	40.57	18.70	63.44	62.49	63.28	1.37	1.17	0.82
WebRTC media	5	1.82	1.17	0.39	61.96	60.89	61.50	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-11 02:47:01
End at: 2018-09-11 02:47:31
Local clock offset: -0.512 ms
Remote clock offset: -38.907 ms

Below is generated by plot.py at 2018-09-11 05:35:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 250.26 Mbit/s
95th percentile per-packet one-way delay: 69.128 ms
Loss rate: 14.32%
-- Flow 1:
Average throughput: 217.72 Mbit/s
95th percentile per-packet one-way delay: 70.548 ms
Loss rate: 12.91%
-- Flow 2:
Average throughput: 37.15 Mbit/s
95th percentile per-packet one-way delay: 61.818 ms
Loss rate: 22.20%
-- Flow 3:
Average throughput: 23.81 Mbit/s
95th percentile per-packet one-way delay: 61.965 ms
Loss rate: 23.93%

Run 1: Report of TCP BBR — Data Link

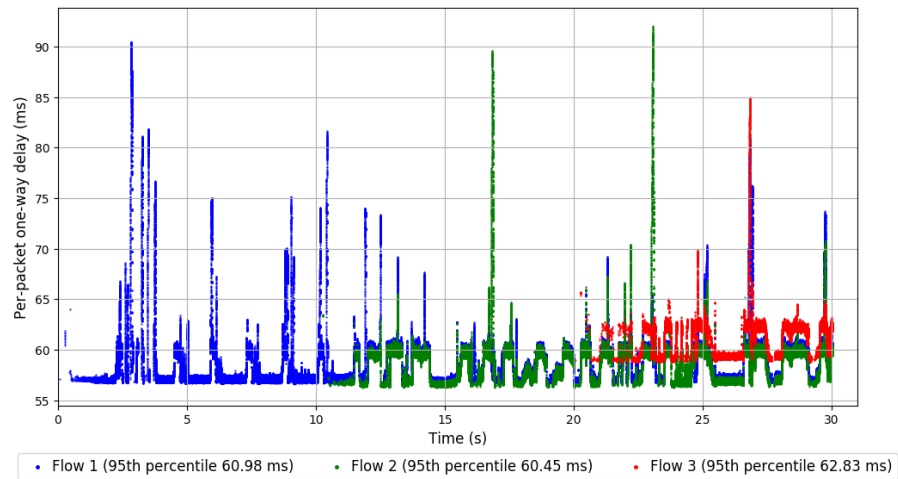
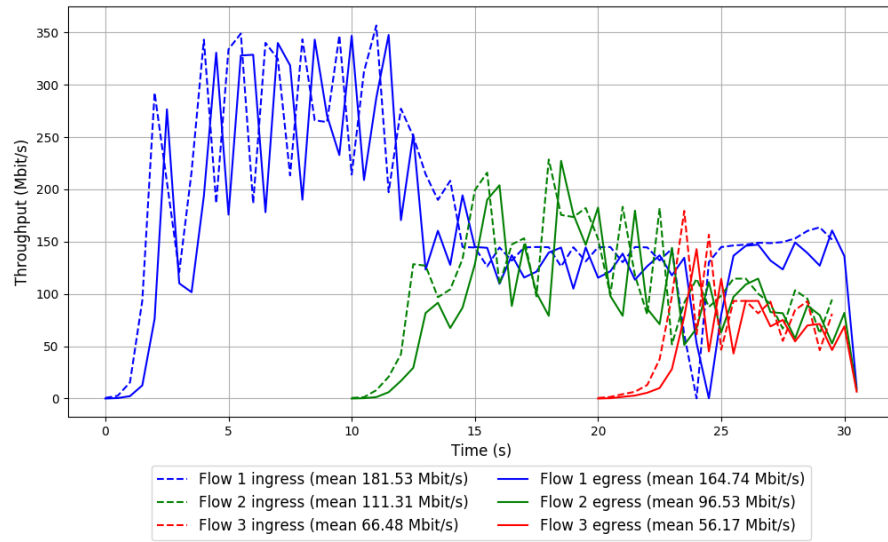


Run 2: Statistics of TCP BBR

Start at: 2018-09-11 03:12:52
End at: 2018-09-11 03:13:22
Local clock offset: -1.608 ms
Remote clock offset: -44.258 ms

Below is generated by plot.py at 2018-09-11 05:35:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 247.72 Mbit/s
95th percentile per-packet one-way delay: 62.384 ms
Loss rate: 10.81%
-- Flow 1:
Average throughput: 164.74 Mbit/s
95th percentile per-packet one-way delay: 60.983 ms
Loss rate: 9.24%
-- Flow 2:
Average throughput: 96.53 Mbit/s
95th percentile per-packet one-way delay: 60.449 ms
Loss rate: 13.27%
-- Flow 3:
Average throughput: 56.17 Mbit/s
95th percentile per-packet one-way delay: 62.825 ms
Loss rate: 15.50%

Run 2: Report of TCP BBR — Data Link

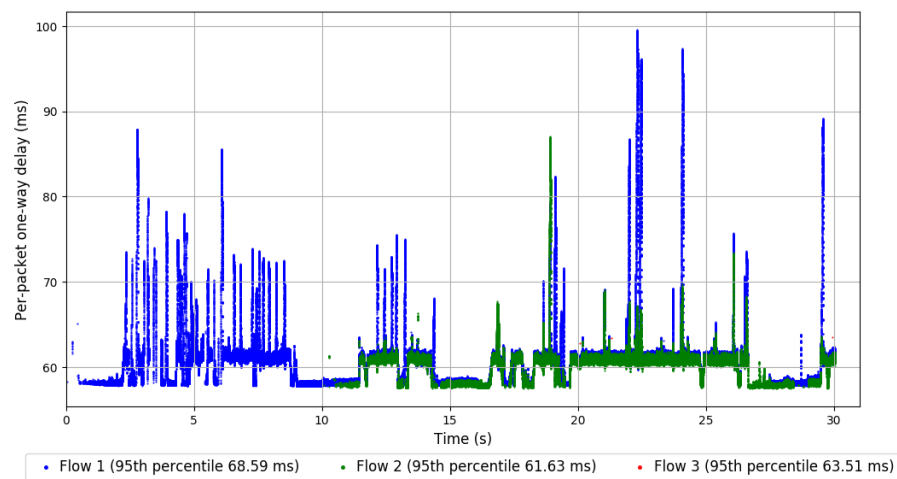
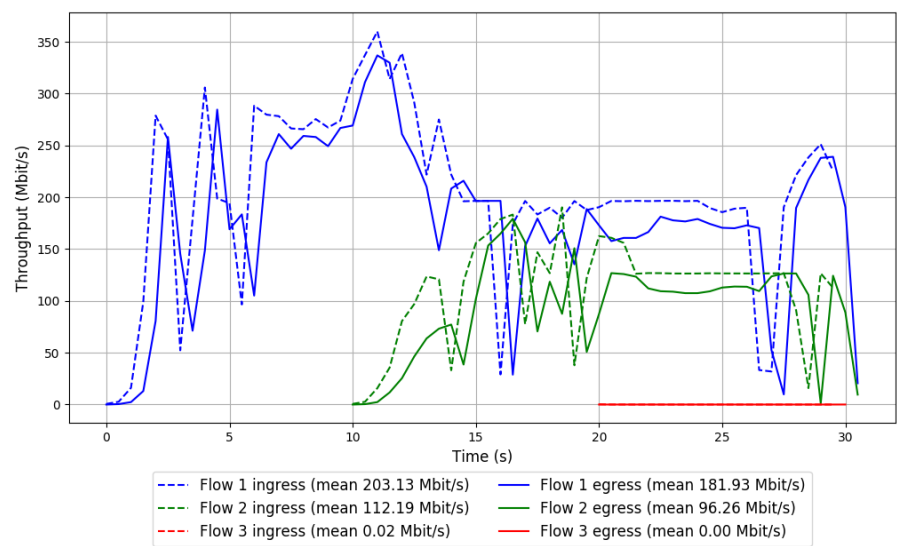


Run 3: Statistics of TCP BBR

Start at: 2018-09-11 03:38:54
End at: 2018-09-11 03:39:24
Local clock offset: 1.272 ms
Remote clock offset: -40.518 ms

Below is generated by plot.py at 2018-09-11 05:35:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 246.07 Mbit/s
95th percentile per-packet one-way delay: 66.030 ms
Loss rate: 11.44%
-- Flow 1:
Average throughput: 181.93 Mbit/s
95th percentile per-packet one-way delay: 68.595 ms
Loss rate: 10.42%
-- Flow 2:
Average throughput: 96.26 Mbit/s
95th percentile per-packet one-way delay: 61.632 ms
Loss rate: 14.19%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 63.512 ms
Loss rate: 92.60%

Run 3: Report of TCP BBR — Data Link

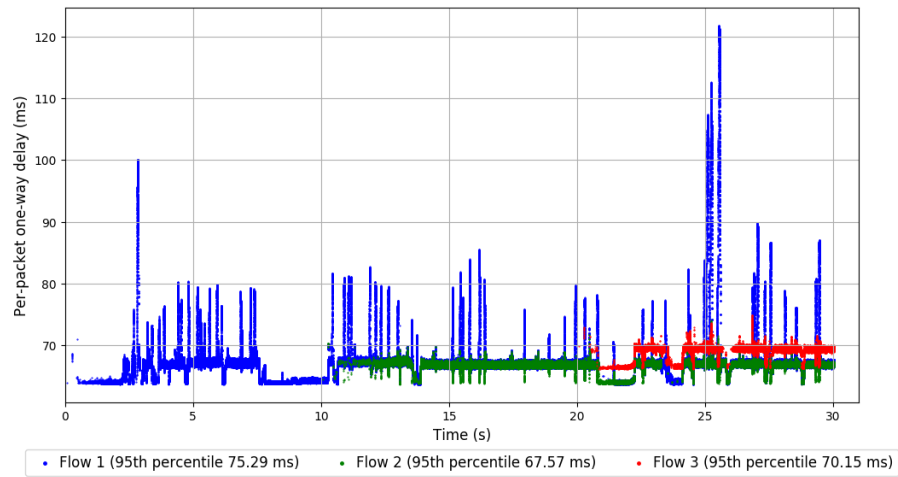
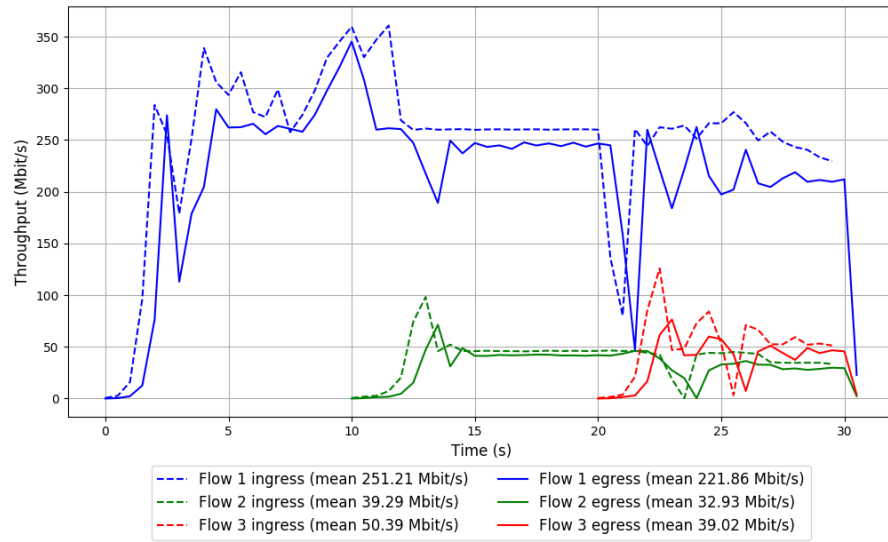


Run 4: Statistics of TCP BBR

Start at: 2018-09-11 04:16:21
End at: 2018-09-11 04:16:51
Local clock offset: 0.496 ms
Remote clock offset: -36.057 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 256.77 Mbit/s
95th percentile per-packet one-way delay: 73.944 ms
Loss rate: 12.69%
-- Flow 1:
Average throughput: 221.86 Mbit/s
95th percentile per-packet one-way delay: 75.290 ms
Loss rate: 11.67%
-- Flow 2:
Average throughput: 32.93 Mbit/s
95th percentile per-packet one-way delay: 67.574 ms
Loss rate: 16.16%
-- Flow 3:
Average throughput: 39.02 Mbit/s
95th percentile per-packet one-way delay: 70.146 ms
Loss rate: 22.57%

Run 4: Report of TCP BBR — Data Link

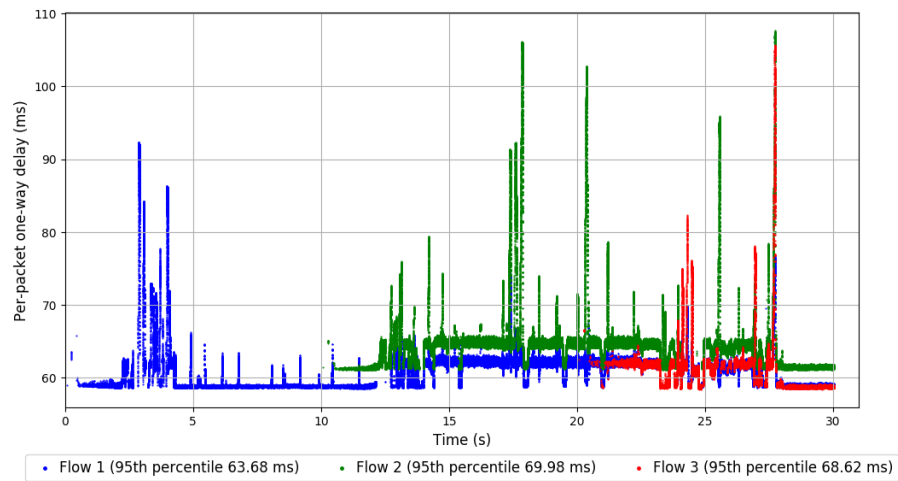
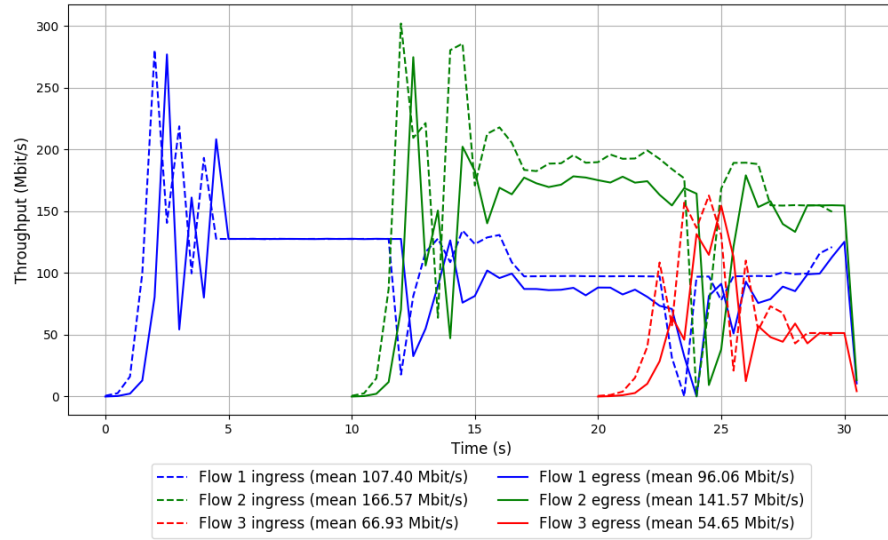


Run 5: Statistics of TCP BBR

Start at: 2018-09-11 04:53:54
End at: 2018-09-11 04:54:24
Local clock offset: 1.865 ms
Remote clock offset: -40.941 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 208.52 Mbit/s
95th percentile per-packet one-way delay: 66.983 ms
Loss rate: 13.34%
-- Flow 1:
Average throughput: 96.06 Mbit/s
95th percentile per-packet one-way delay: 63.682 ms
Loss rate: 10.56%
-- Flow 2:
Average throughput: 141.57 Mbit/s
95th percentile per-packet one-way delay: 69.979 ms
Loss rate: 15.02%
-- Flow 3:
Average throughput: 54.65 Mbit/s
95th percentile per-packet one-way delay: 68.617 ms
Loss rate: 18.37%

Run 5: Report of TCP BBR — Data Link

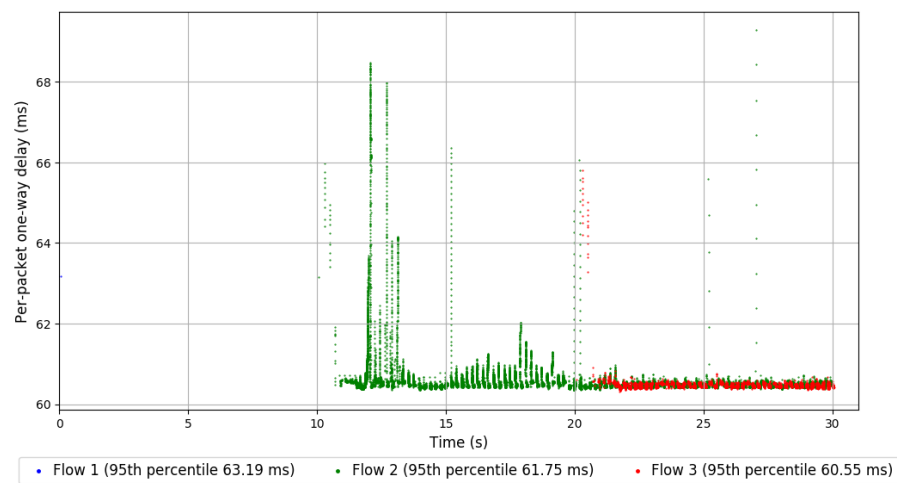
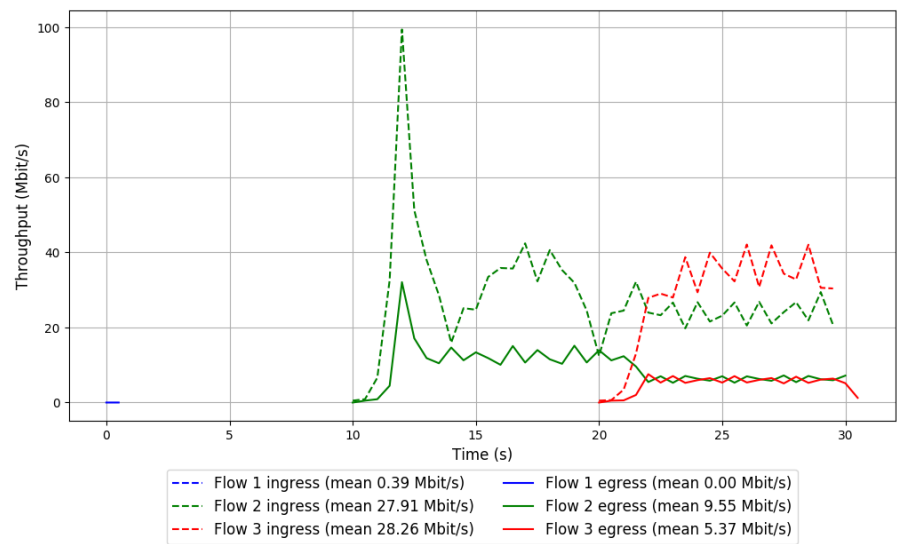


Run 1: Statistics of Copa

Start at: 2018-09-11 02:40:09
End at: 2018-09-11 02:40:39
Local clock offset: -0.319 ms
Remote clock offset: -36.537 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 61.322 ms
Loss rate: 70.90%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 63.187 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 9.55 Mbit/s
95th percentile per-packet one-way delay: 61.752 ms
Loss rate: 65.78%
-- Flow 3:
Average throughput: 5.37 Mbit/s
95th percentile per-packet one-way delay: 60.550 ms
Loss rate: 80.99%

Run 1: Report of Copa — Data Link

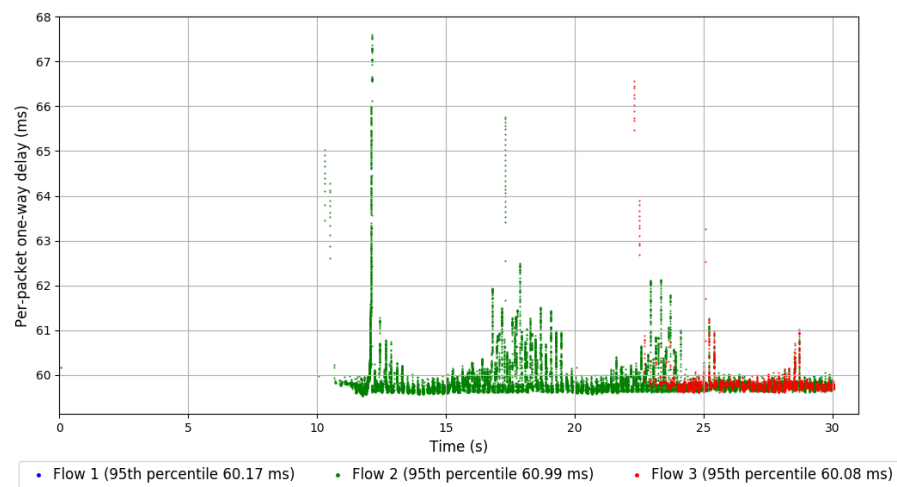
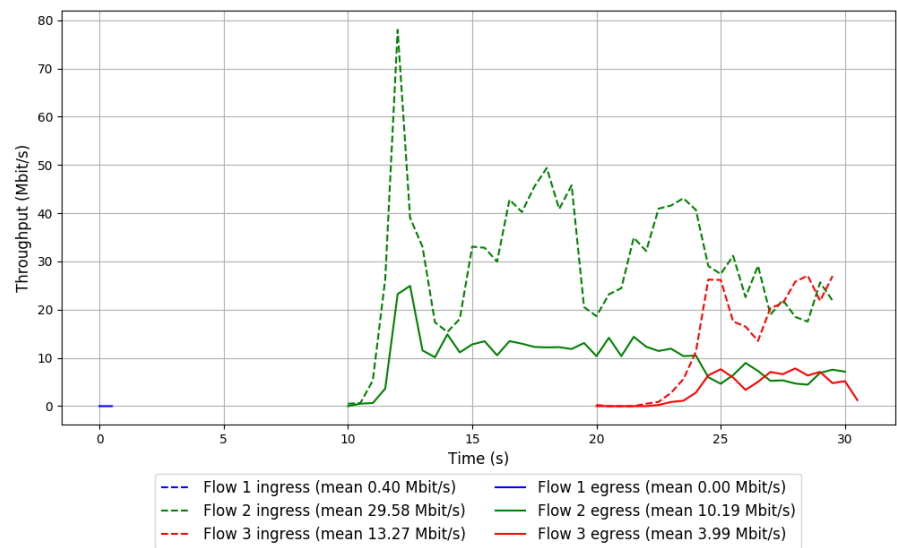


Run 2: Statistics of Copa

Start at: 2018-09-11 03:06:07
End at: 2018-09-11 03:06:37
Local clock offset: -0.556 ms
Remote clock offset: -39.415 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.09 Mbit/s
95th percentile per-packet one-way delay: 60.879 ms
Loss rate: 66.35%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 60.170 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 10.19 Mbit/s
95th percentile per-packet one-way delay: 60.987 ms
Loss rate: 65.54%
-- Flow 3:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 60.080 ms
Loss rate: 69.93%

Run 2: Report of Copa — Data Link

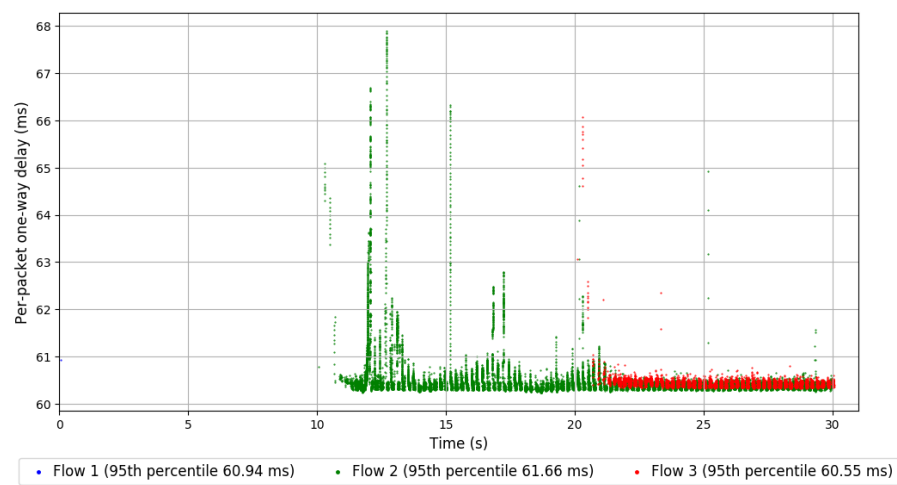
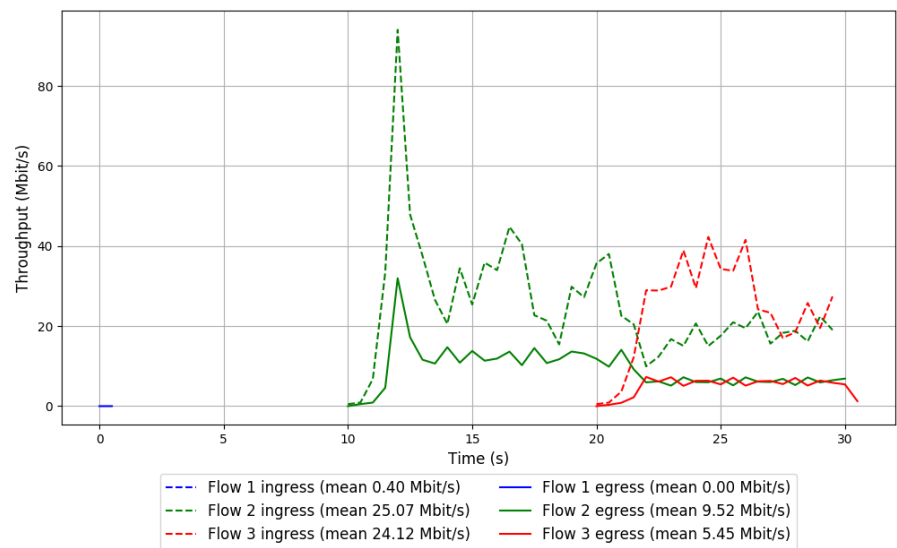


Run 3: Statistics of Copa

Start at: 2018-09-11 03:32:10
End at: 2018-09-11 03:32:40
Local clock offset: 1.641 ms
Remote clock offset: -37.753 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 61.342 ms
Loss rate: 67.04%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 60.941 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 61.658 ms
Loss rate: 62.03%
-- Flow 3:
Average throughput: 5.45 Mbit/s
95th percentile per-packet one-way delay: 60.551 ms
Loss rate: 77.41%

Run 3: Report of Copa — Data Link

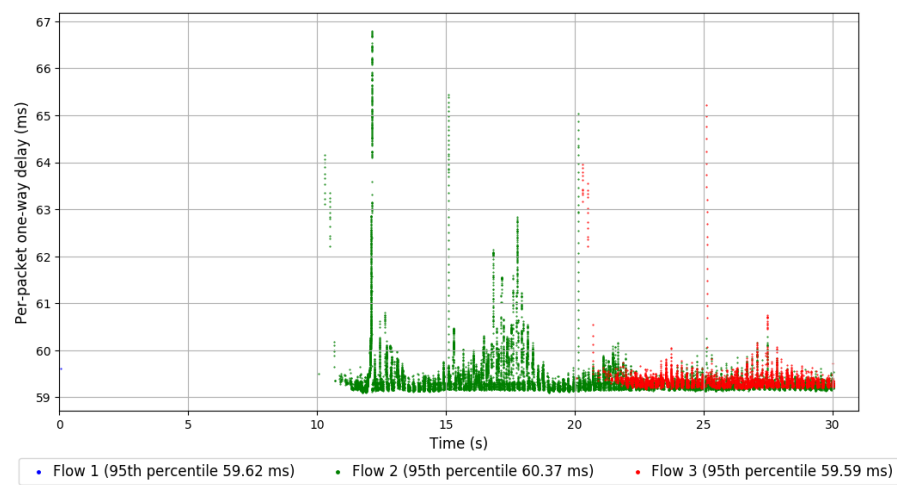
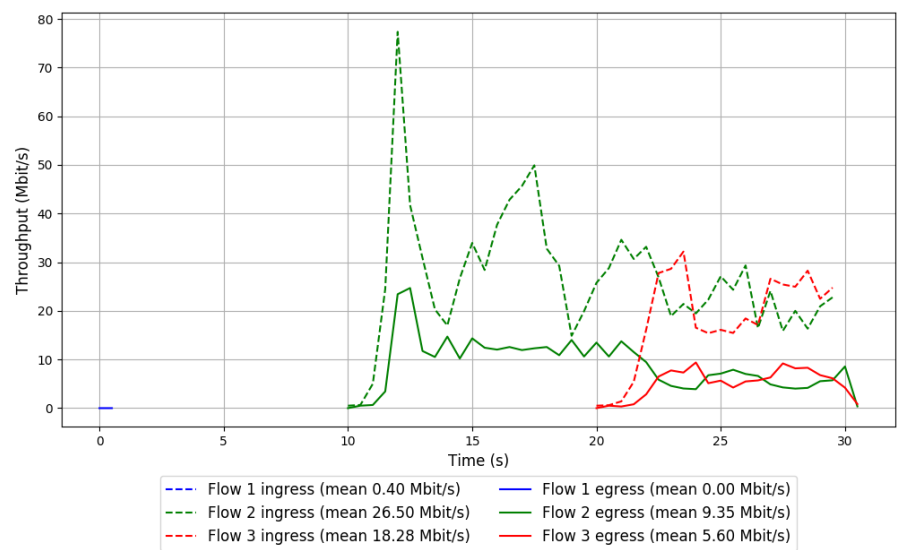


Run 4: Statistics of Copa

Start at: 2018-09-11 04:04:00
End at: 2018-09-11 04:04:30
Local clock offset: 0.391 ms
Remote clock offset: -40.749 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.09 Mbit/s
95th percentile per-packet one-way delay: 60.144 ms
Loss rate: 65.91%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 59.616 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 60.369 ms
Loss rate: 64.72%
-- Flow 3:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 59.588 ms
Loss rate: 69.35%

Run 4: Report of Copa — Data Link

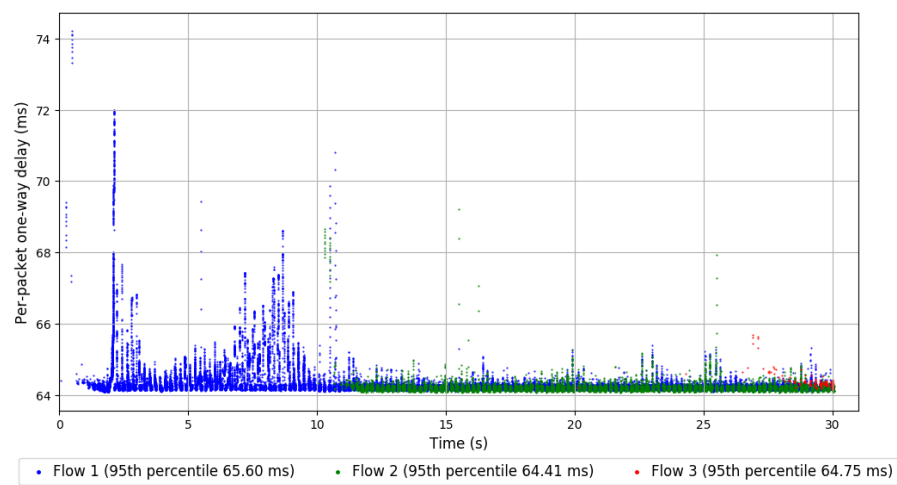
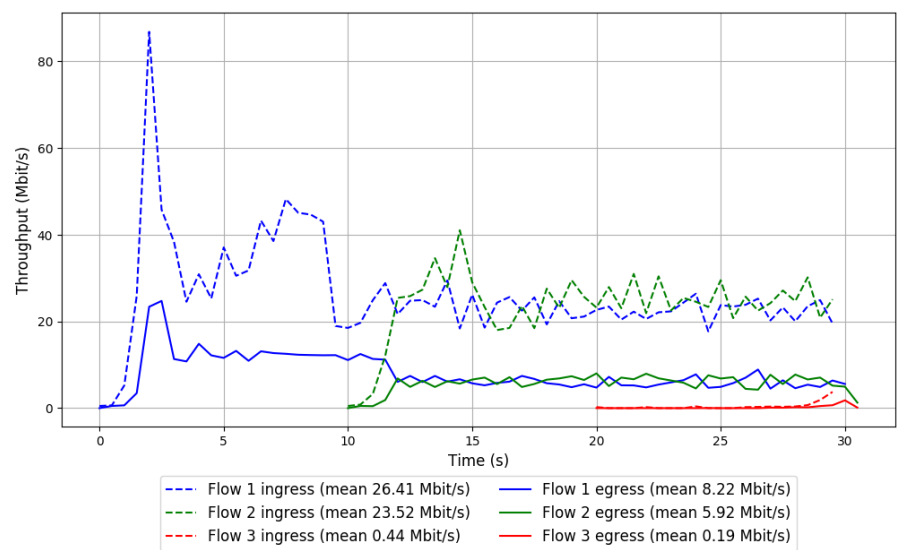


Run 5: Statistics of Copa

Start at: 2018-09-11 04:41:30
End at: 2018-09-11 04:42:00
Local clock offset: 2.344 ms
Remote clock offset: -35.028 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 65.199 ms
Loss rate: 71.04%
-- Flow 1:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 65.600 ms
Loss rate: 68.87%
-- Flow 2:
Average throughput: 5.92 Mbit/s
95th percentile per-packet one-way delay: 64.411 ms
Loss rate: 74.82%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 64.748 ms
Loss rate: 57.64%

Run 5: Report of Copa — Data Link

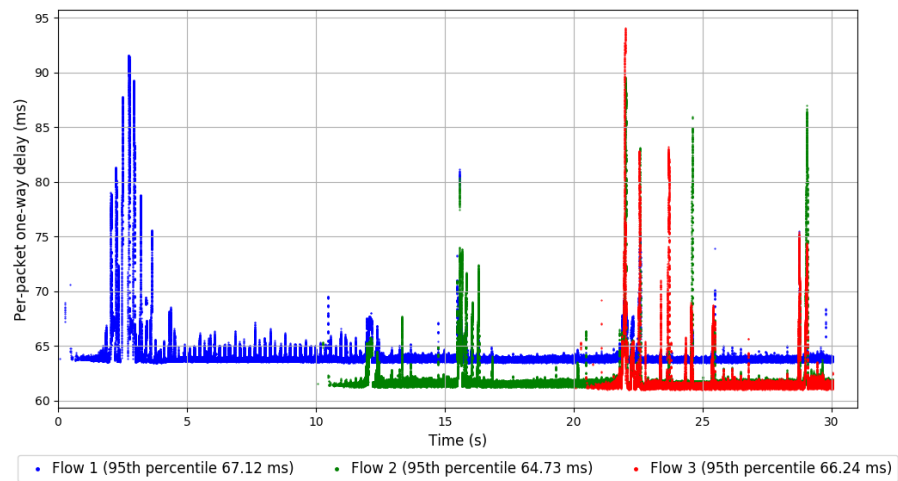
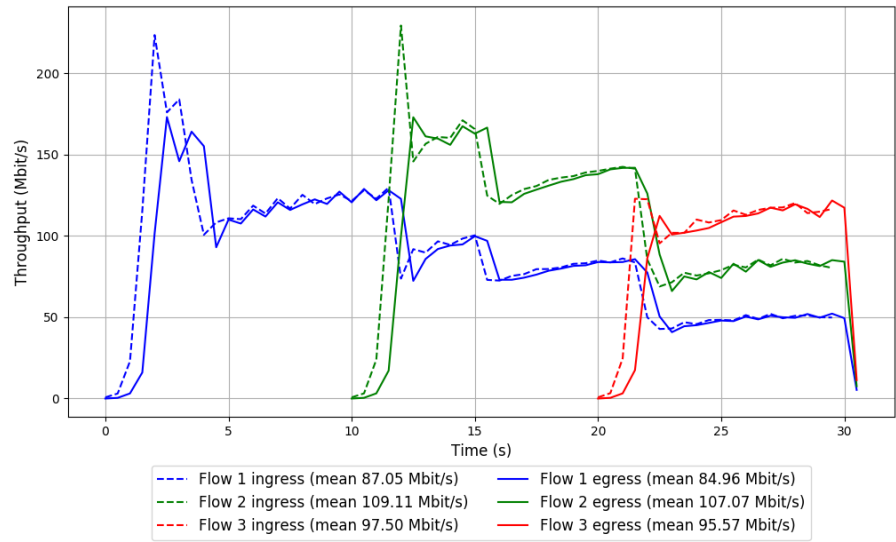


Run 1: Statistics of TCP Cubic

Start at: 2018-09-11 02:45:31
End at: 2018-09-11 02:46:01
Local clock offset: -1.65 ms
Remote clock offset: -36.954 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 188.13 Mbit/s
95th percentile per-packet one-way delay: 66.642 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 84.96 Mbit/s
95th percentile per-packet one-way delay: 67.124 ms
Loss rate: 2.40%
-- Flow 2:
Average throughput: 107.07 Mbit/s
95th percentile per-packet one-way delay: 64.734 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 66.239 ms
Loss rate: 1.97%

Run 1: Report of TCP Cubic — Data Link

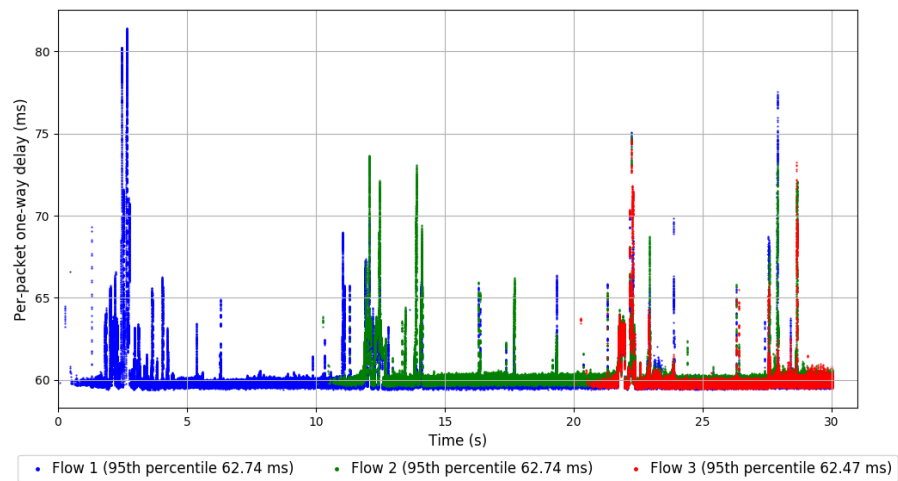
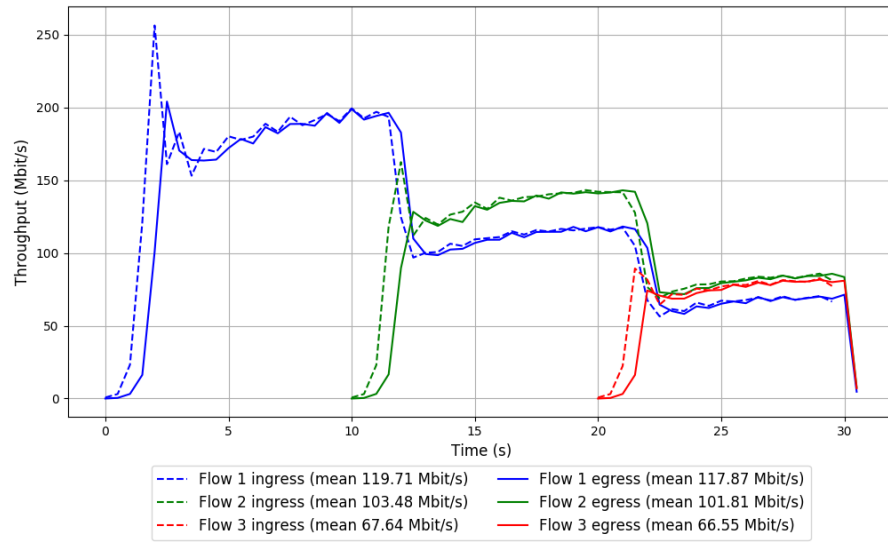


Run 2: Statistics of TCP Cubic

Start at: 2018-09-11 03:11:23
End at: 2018-09-11 03:11:53
Local clock offset: -0.253 ms
Remote clock offset: -39.673 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 207.82 Mbit/s
95th percentile per-packet one-way delay: 62.719 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 117.87 Mbit/s
95th percentile per-packet one-way delay: 62.738 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 101.81 Mbit/s
95th percentile per-packet one-way delay: 62.745 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 66.55 Mbit/s
95th percentile per-packet one-way delay: 62.465 ms
Loss rate: 1.61%

Run 2: Report of TCP Cubic — Data Link

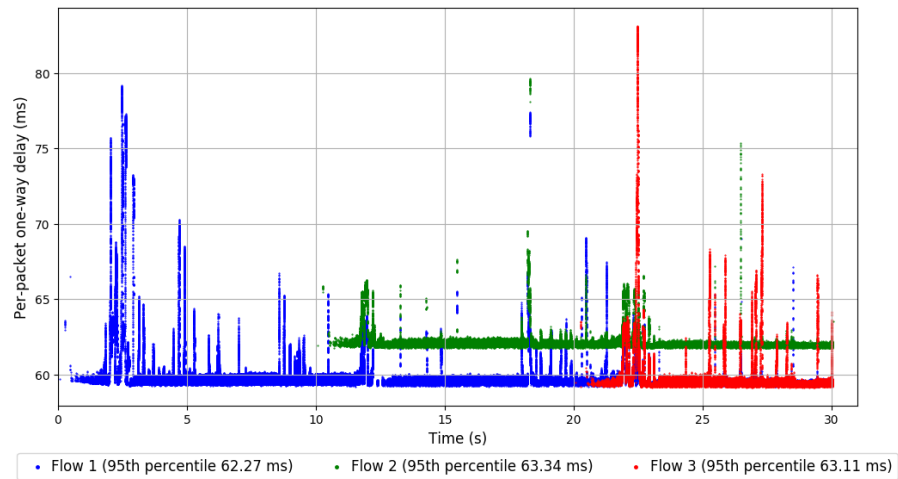
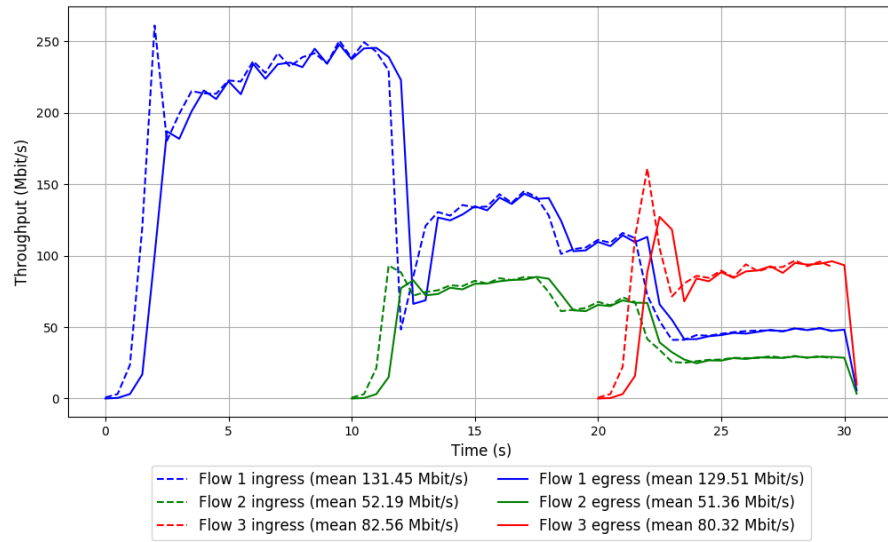


Run 3: Statistics of TCP Cubic

Start at: 2018-09-11 03:37:26
End at: 2018-09-11 03:37:56
Local clock offset: -0.127 ms
Remote clock offset: -40.366 ms

Below is generated by plot.py at 2018-09-11 05:35:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 190.42 Mbit/s
95th percentile per-packet one-way delay: 62.712 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 129.51 Mbit/s
95th percentile per-packet one-way delay: 62.275 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 51.36 Mbit/s
95th percentile per-packet one-way delay: 63.345 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 80.32 Mbit/s
95th percentile per-packet one-way delay: 63.110 ms
Loss rate: 2.70%

Run 3: Report of TCP Cubic — Data Link

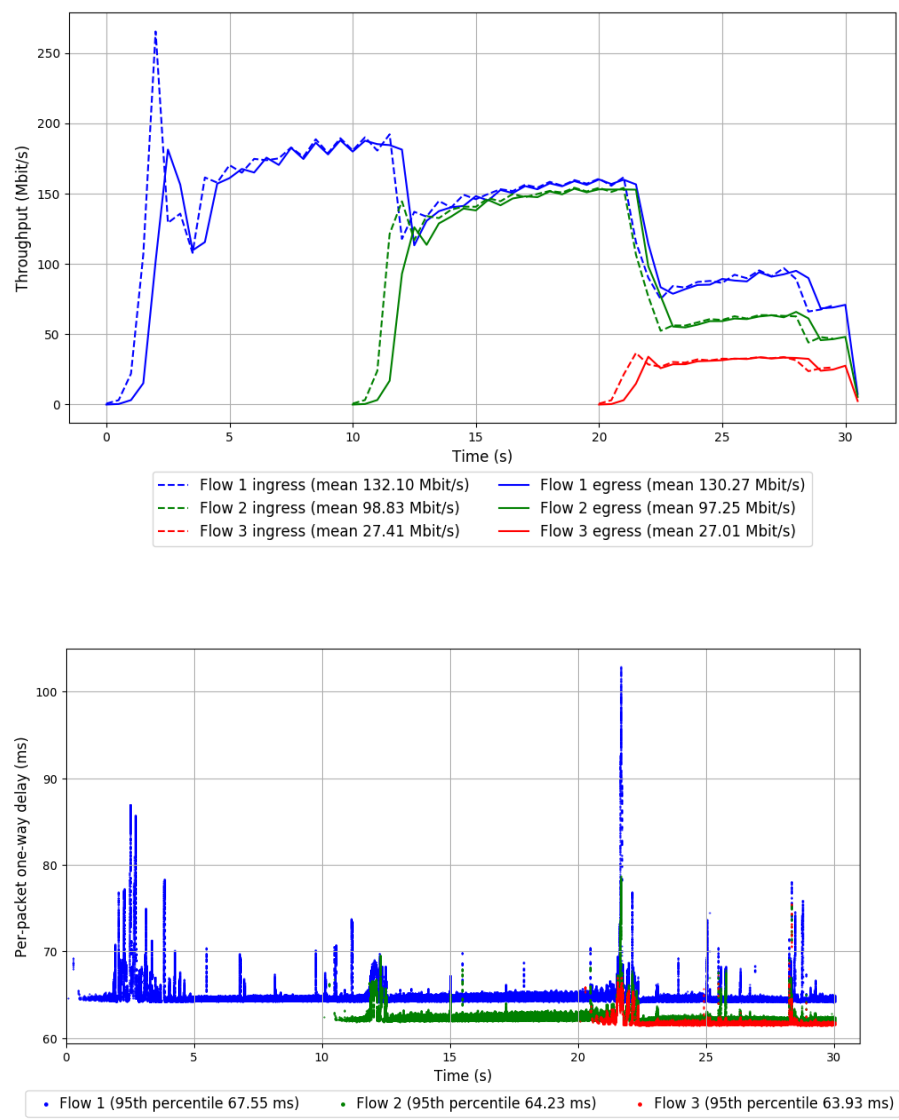


Run 4: Statistics of TCP Cubic

Start at: 2018-09-11 04:09:14
End at: 2018-09-11 04:09:44
Local clock offset: 0.514 ms
Remote clock offset: -37.981 ms

Below is generated by plot.py at 2018-09-11 05:36:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 204.03 Mbit/s
95th percentile per-packet one-way delay: 66.188 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 130.27 Mbit/s
95th percentile per-packet one-way delay: 67.545 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 97.25 Mbit/s
95th percentile per-packet one-way delay: 64.232 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 27.01 Mbit/s
95th percentile per-packet one-way delay: 63.934 ms
Loss rate: 1.45%

Run 4: Report of TCP Cubic — Data Link

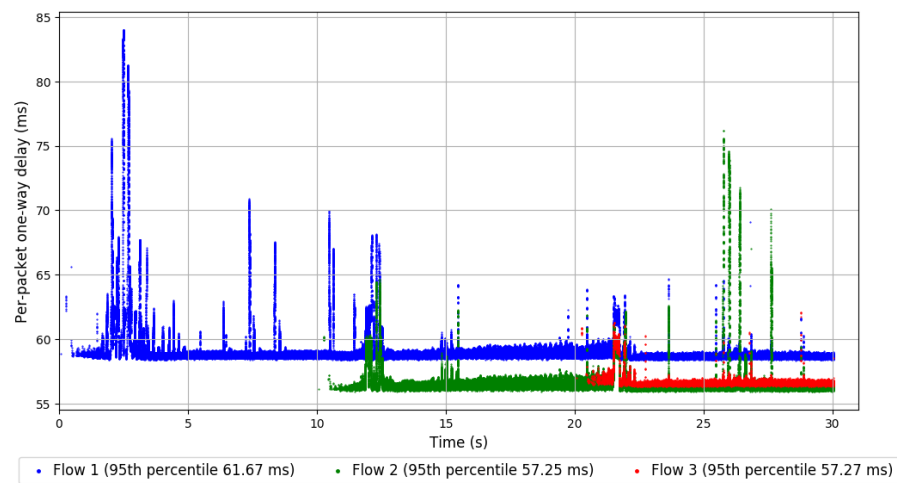
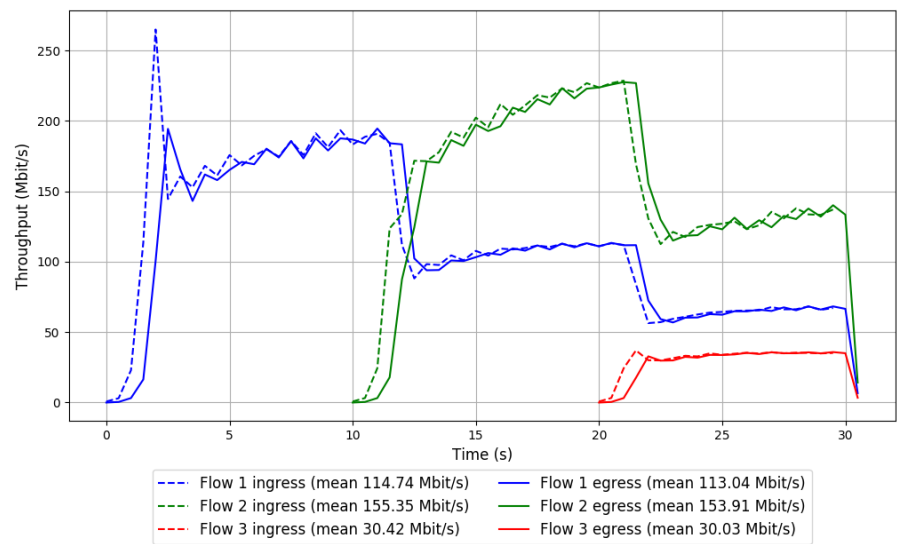


Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 04:52:22
End at: 2018-09-11 04:52:52
Local clock offset: 1.968 ms
Remote clock offset: -43.451 ms

Below is generated by plot.py at 2018-09-11 05:36:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 225.61 Mbit/s
95th percentile per-packet one-way delay: 59.679 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 113.04 Mbit/s
95th percentile per-packet one-way delay: 61.667 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 153.91 Mbit/s
95th percentile per-packet one-way delay: 57.253 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 30.03 Mbit/s
95th percentile per-packet one-way delay: 57.269 ms
Loss rate: 1.28%

Run 5: Report of TCP Cubic — Data Link

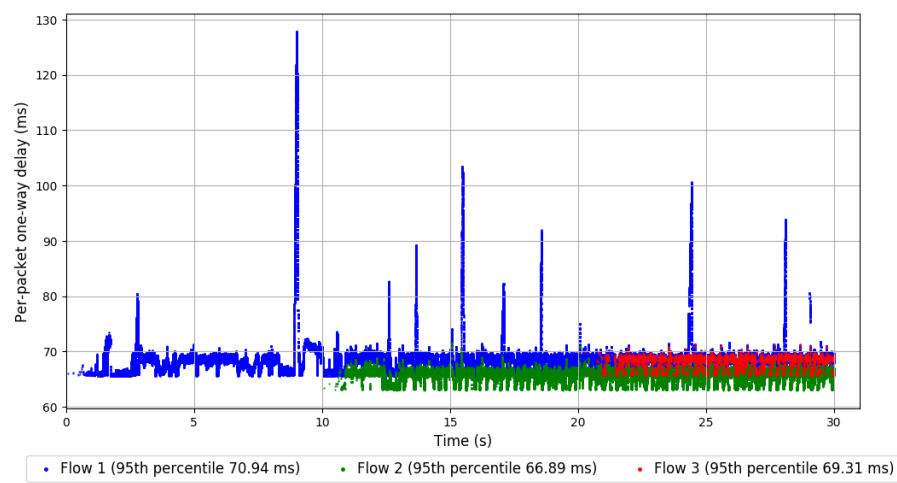
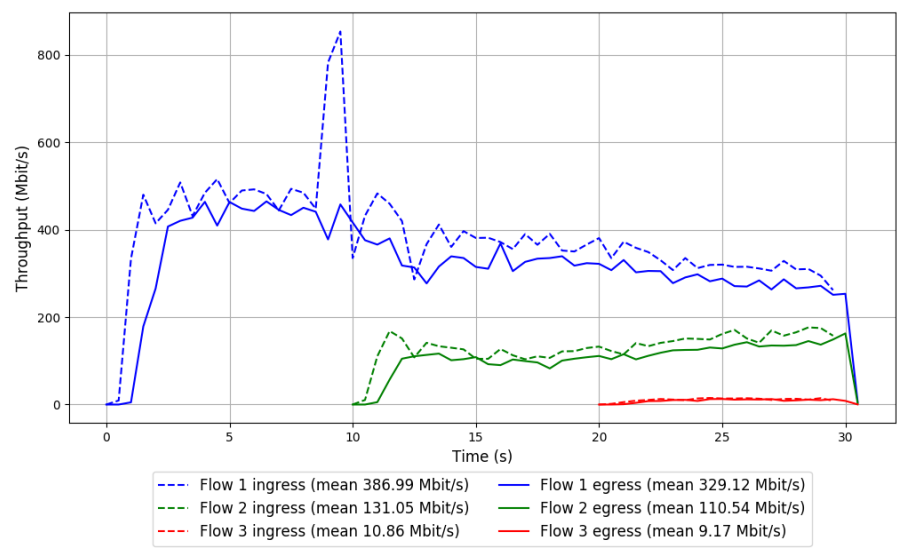


Run 1: Statistics of FillP

Start at: 2018-09-11 02:54:30
End at: 2018-09-11 02:55:00
Local clock offset: -1.842 ms
Remote clock offset: -35.276 ms

Below is generated by plot.py at 2018-09-11 05:40:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 405.78 Mbit/s
95th percentile per-packet one-way delay: 70.527 ms
Loss rate: 15.08%
-- Flow 1:
Average throughput: 329.12 Mbit/s
95th percentile per-packet one-way delay: 70.937 ms
Loss rate: 14.95%
-- Flow 2:
Average throughput: 110.54 Mbit/s
95th percentile per-packet one-way delay: 66.894 ms
Loss rate: 15.64%
-- Flow 3:
Average throughput: 9.17 Mbit/s
95th percentile per-packet one-way delay: 69.313 ms
Loss rate: 15.59%

Run 1: Report of FillP — Data Link

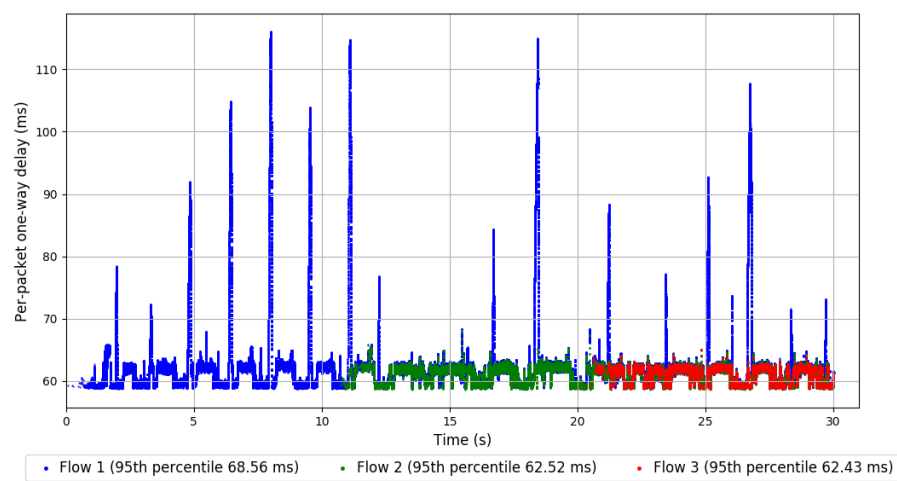
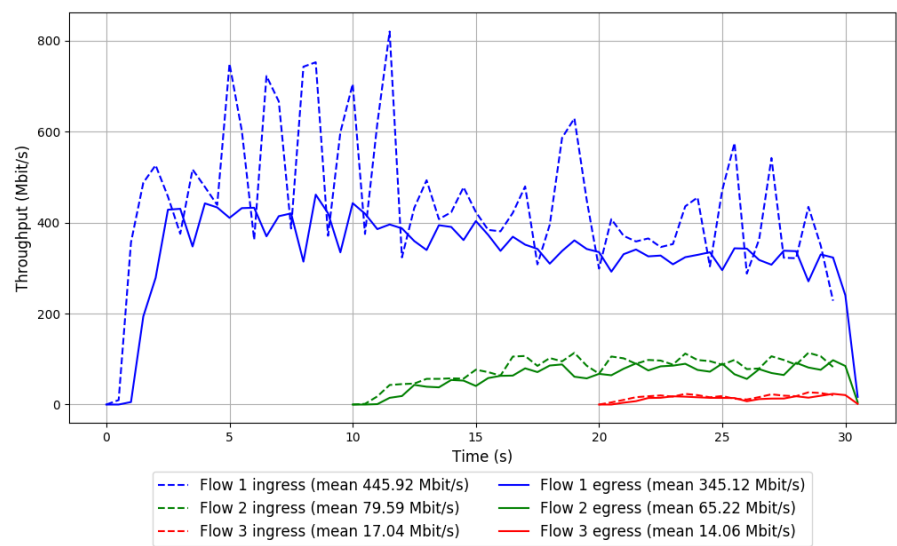


Run 2: Statistics of FillP

Start at: 2018-09-11 03:20:32
End at: 2018-09-11 03:21:02
Local clock offset: 0.224 ms
Remote clock offset: -40.411 ms

Below is generated by plot.py at 2018-09-11 05:40:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 392.76 Mbit/s
95th percentile per-packet one-way delay: 65.662 ms
Loss rate: 22.15%
-- Flow 1:
Average throughput: 345.12 Mbit/s
95th percentile per-packet one-way delay: 68.560 ms
Loss rate: 22.60%
-- Flow 2:
Average throughput: 65.22 Mbit/s
95th percentile per-packet one-way delay: 62.520 ms
Loss rate: 18.89%
-- Flow 3:
Average throughput: 14.06 Mbit/s
95th percentile per-packet one-way delay: 62.430 ms
Loss rate: 17.48%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-11 03:52:23

End at: 2018-09-11 03:52:53

Local clock offset: 1.007 ms

Remote clock offset: -36.1 ms

Below is generated by plot.py at 2018-09-11 05:40:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 401.67 Mbit/s

95th percentile per-packet one-way delay: 66.731 ms

Loss rate: 14.65%

-- Flow 1:

Average throughput: 344.60 Mbit/s

95th percentile per-packet one-way delay: 67.148 ms

Loss rate: 14.10%

-- Flow 2:

Average throughput: 30.82 Mbit/s

95th percentile per-packet one-way delay: 66.163 ms

Loss rate: 17.62%

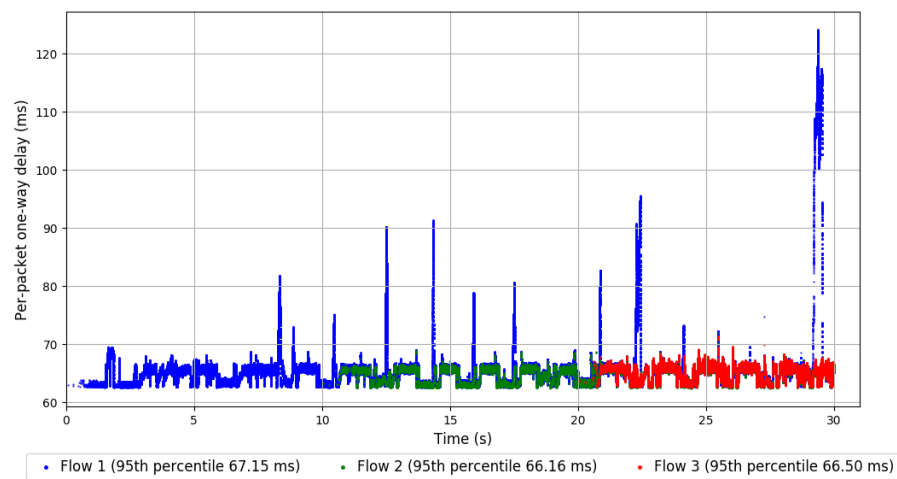
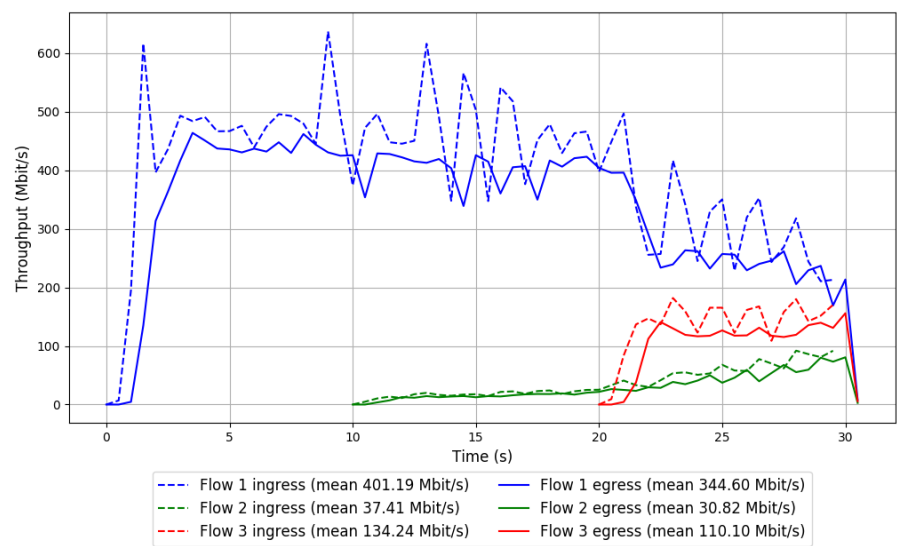
-- Flow 3:

Average throughput: 110.10 Mbit/s

95th percentile per-packet one-way delay: 66.501 ms

Loss rate: 17.96%

Run 3: Report of FillP — Data Link

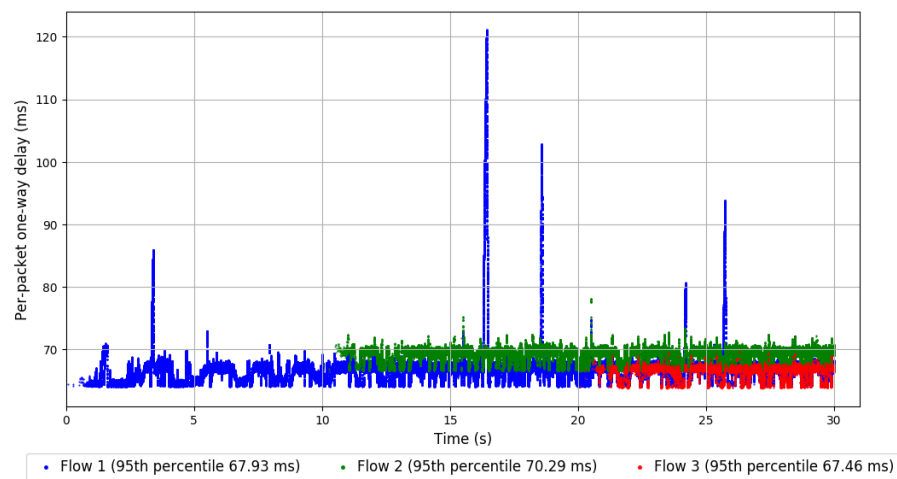
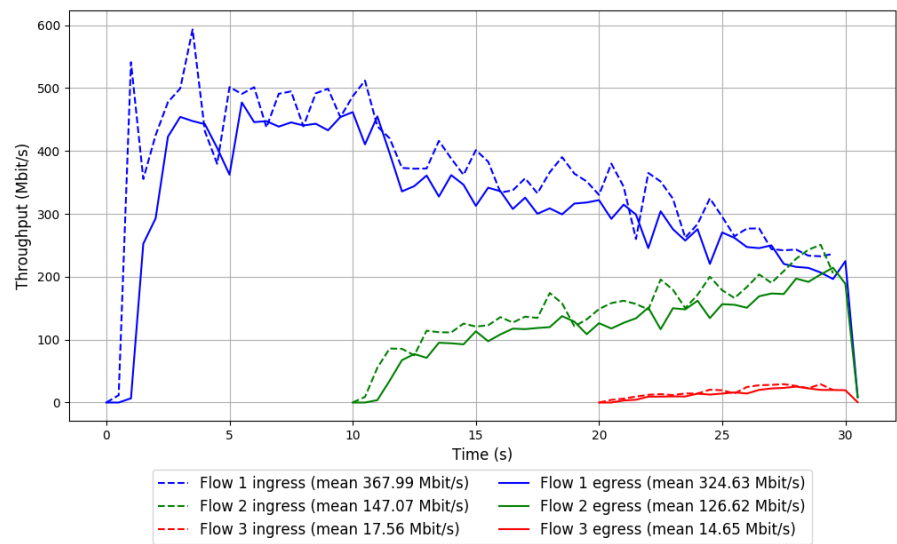


Run 4: Statistics of FillP

Start at: 2018-09-11 04:23:54
End at: 2018-09-11 04:24:24
Local clock offset: 0.011 ms
Remote clock offset: -36.493 ms

Below is generated by plot.py at 2018-09-11 05:40:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 413.78 Mbit/s
95th percentile per-packet one-way delay: 70.005 ms
Loss rate: 12.28%
-- Flow 1:
Average throughput: 324.63 Mbit/s
95th percentile per-packet one-way delay: 67.927 ms
Loss rate: 11.78%
-- Flow 2:
Average throughput: 126.62 Mbit/s
95th percentile per-packet one-way delay: 70.291 ms
Loss rate: 13.90%
-- Flow 3:
Average throughput: 14.65 Mbit/s
95th percentile per-packet one-way delay: 67.456 ms
Loss rate: 16.53%

Run 4: Report of FillP — Data Link

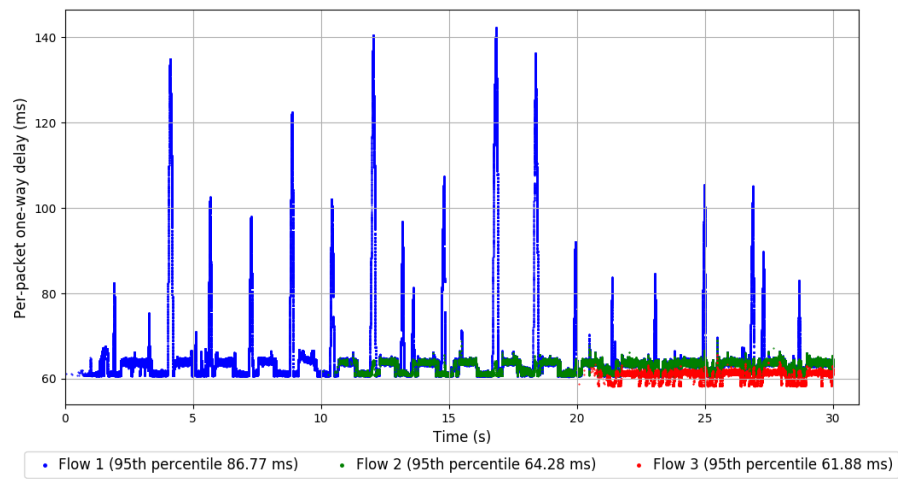
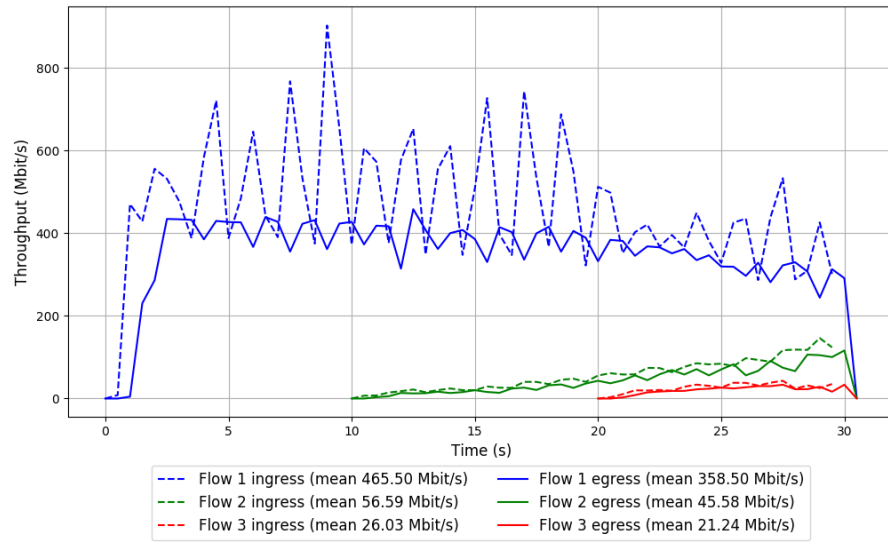


Run 5: Statistics of FillP

Start at: 2018-09-11 05:12:33
End at: 2018-09-11 05:13:03
Local clock offset: 1.126 ms
Remote clock offset: -40.965 ms

Below is generated by plot.py at 2018-09-11 05:40:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 395.89 Mbit/s
95th percentile per-packet one-way delay: 83.481 ms
Loss rate: 22.65%
-- Flow 1:
Average throughput: 358.50 Mbit/s
95th percentile per-packet one-way delay: 86.765 ms
Loss rate: 22.98%
-- Flow 2:
Average throughput: 45.58 Mbit/s
95th percentile per-packet one-way delay: 64.285 ms
Loss rate: 19.45%
-- Flow 3:
Average throughput: 21.24 Mbit/s
95th percentile per-packet one-way delay: 61.879 ms
Loss rate: 18.40%

Run 5: Report of FillP — Data Link

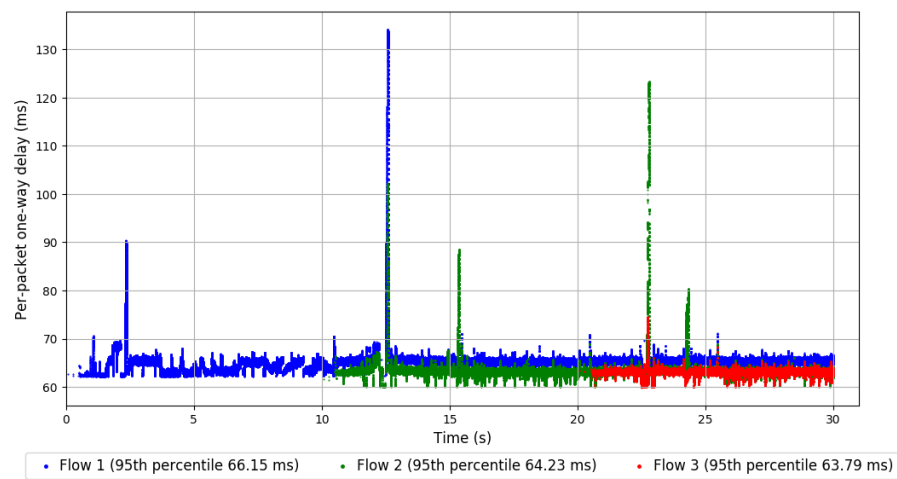
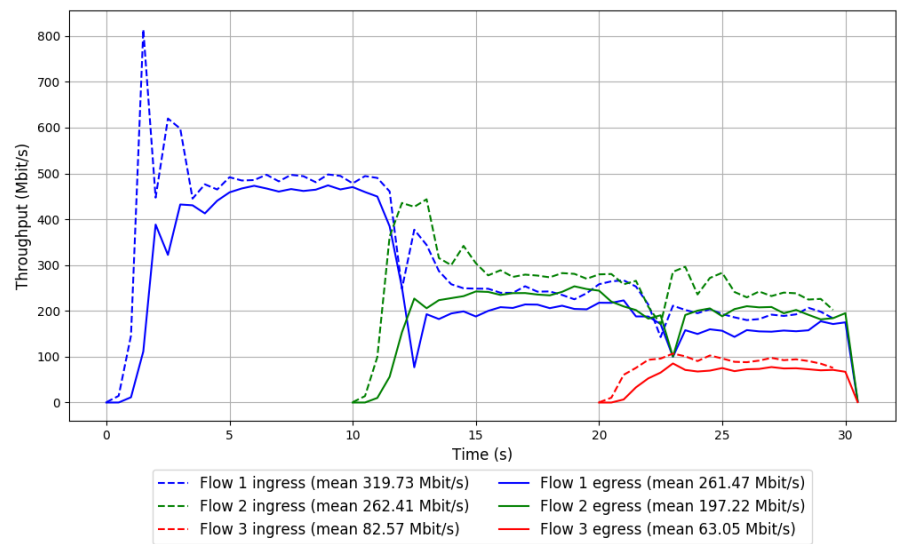


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-11 03:04:29
End at: 2018-09-11 03:04:59
Local clock offset: -0.712 ms
Remote clock offset: -38.988 ms

Below is generated by plot.py at 2018-09-11 05:41:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 413.63 Mbit/s
95th percentile per-packet one-way delay: 66.007 ms
Loss rate: 20.72%
-- Flow 1:
Average throughput: 261.47 Mbit/s
95th percentile per-packet one-way delay: 66.153 ms
Loss rate: 18.21%
-- Flow 2:
Average throughput: 197.22 Mbit/s
95th percentile per-packet one-way delay: 64.232 ms
Loss rate: 24.84%
-- Flow 3:
Average throughput: 63.05 Mbit/s
95th percentile per-packet one-way delay: 63.790 ms
Loss rate: 23.65%

Run 1: Report of FillP-Sheep — Data Link

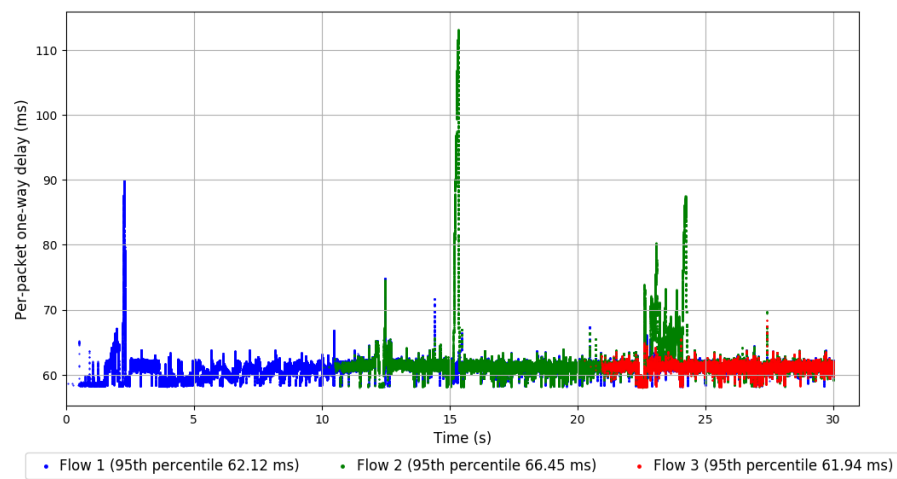
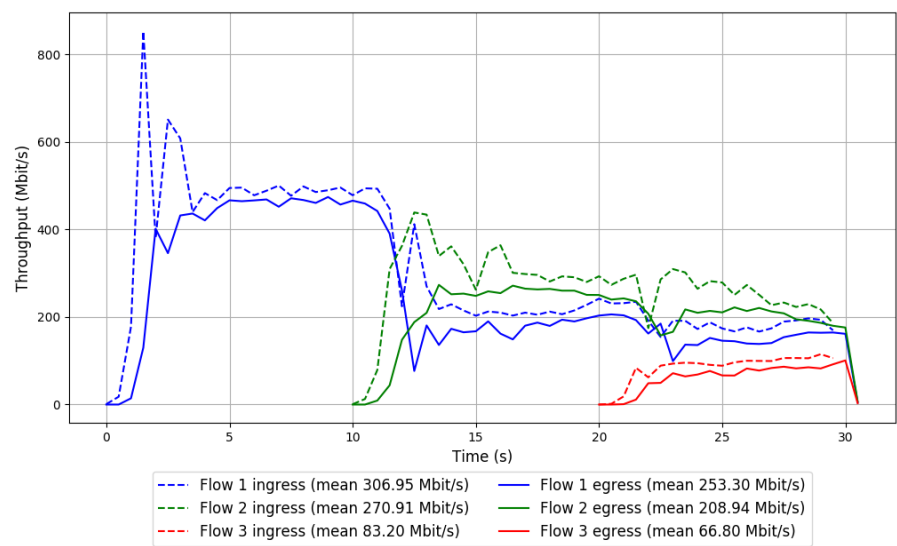


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-11 03:30:32
End at: 2018-09-11 03:31:02
Local clock offset: 1.261 ms
Remote clock offset: -40.184 ms

Below is generated by plot.py at 2018-09-11 05:42:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 414.09 Mbit/s
95th percentile per-packet one-way delay: 62.888 ms
Loss rate: 19.57%
-- Flow 1:
Average throughput: 253.30 Mbit/s
95th percentile per-packet one-way delay: 62.123 ms
Loss rate: 17.47%
-- Flow 2:
Average throughput: 208.94 Mbit/s
95th percentile per-packet one-way delay: 66.451 ms
Loss rate: 22.88%
-- Flow 3:
Average throughput: 66.80 Mbit/s
95th percentile per-packet one-way delay: 61.935 ms
Loss rate: 21.34%

Run 2: Report of FillP-Sheep — Data Link

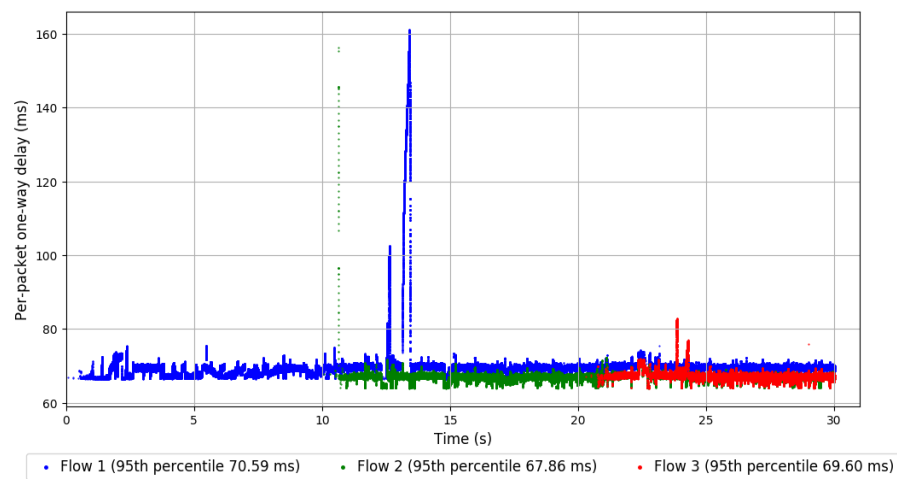
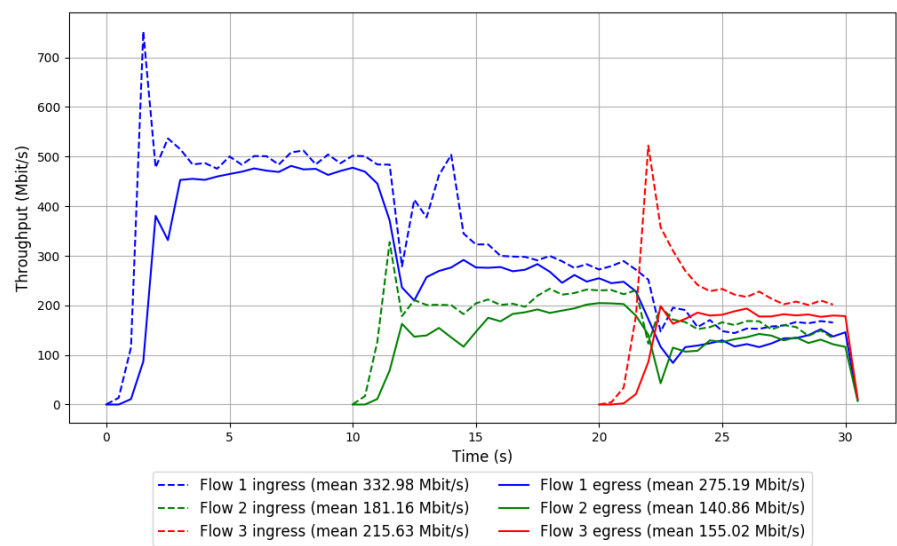


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-11 04:02:21
End at: 2018-09-11 04:02:51
Local clock offset: 0.303 ms
Remote clock offset: -36.035 ms

Below is generated by plot.py at 2018-09-11 05:43:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 419.25 Mbit/s
95th percentile per-packet one-way delay: 70.303 ms
Loss rate: 20.14%
-- Flow 1:
Average throughput: 275.19 Mbit/s
95th percentile per-packet one-way delay: 70.587 ms
Loss rate: 17.35%
-- Flow 2:
Average throughput: 140.86 Mbit/s
95th percentile per-packet one-way delay: 67.865 ms
Loss rate: 22.25%
-- Flow 3:
Average throughput: 155.02 Mbit/s
95th percentile per-packet one-way delay: 69.604 ms
Loss rate: 29.57%

Run 3: Report of FillP-Sheep — Data Link

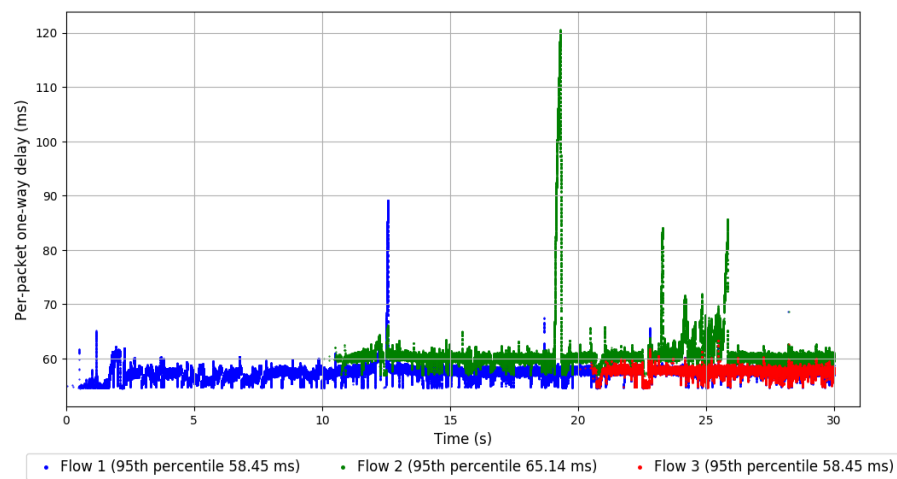
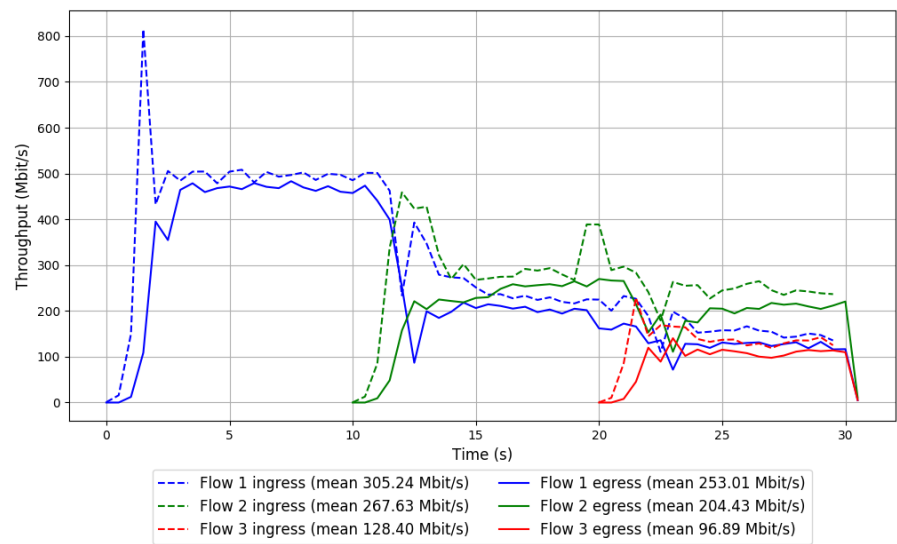


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-11 04:39:52
End at: 2018-09-11 04:40:22
Local clock offset: 1.055 ms
Remote clock offset: -45.527 ms

Below is generated by plot.py at 2018-09-11 05:46:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 421.24 Mbit/s
95th percentile per-packet one-way delay: 61.026 ms
Loss rate: 19.92%
-- Flow 1:
Average throughput: 253.01 Mbit/s
95th percentile per-packet one-way delay: 58.447 ms
Loss rate: 17.11%
-- Flow 2:
Average throughput: 204.43 Mbit/s
95th percentile per-packet one-way delay: 65.141 ms
Loss rate: 23.62%
-- Flow 3:
Average throughput: 96.89 Mbit/s
95th percentile per-packet one-way delay: 58.451 ms
Loss rate: 24.54%

Run 4: Report of FillP-Sheep — Data Link

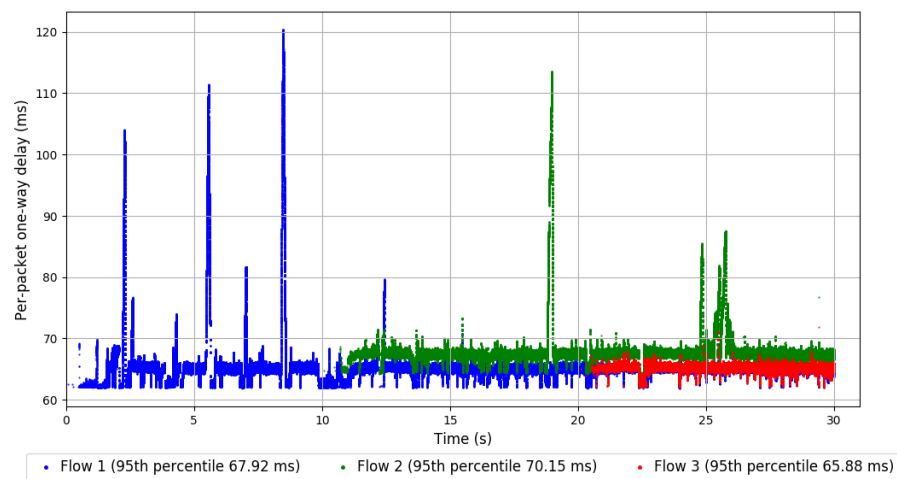
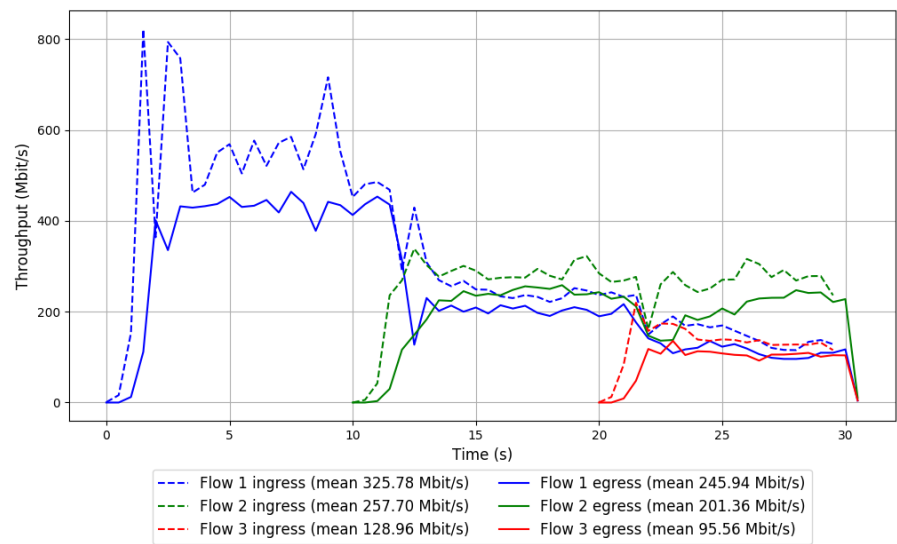


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 05:27:56
End at: 2018-09-11 05:28:26
Local clock offset: 0.727 ms
Remote clock offset: -35.658 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 411.65 Mbit/s
95th percentile per-packet one-way delay: 68.417 ms
Loss rate: 23.77%
-- Flow 1:
Average throughput: 245.94 Mbit/s
95th percentile per-packet one-way delay: 67.918 ms
Loss rate: 24.50%
-- Flow 2:
Average throughput: 201.36 Mbit/s
95th percentile per-packet one-way delay: 70.148 ms
Loss rate: 21.85%
-- Flow 3:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 65.878 ms
Loss rate: 25.90%

Run 5: Report of FillP-Sheep — Data Link

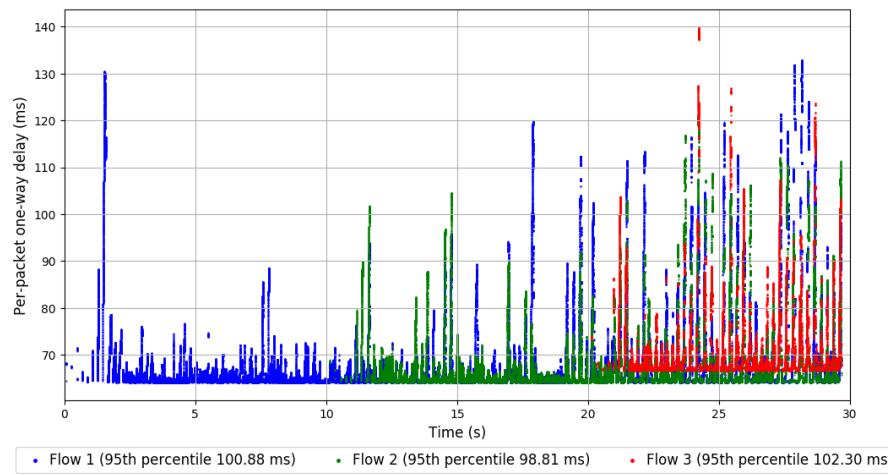
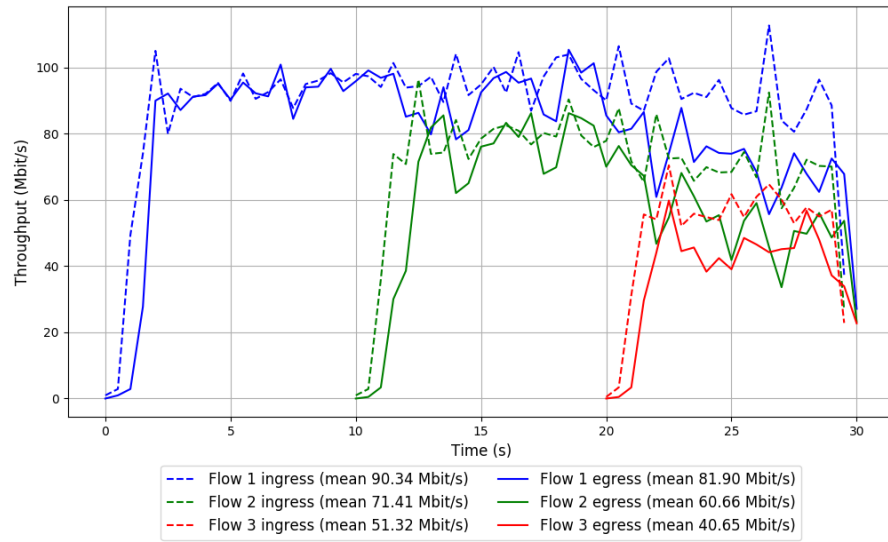


```
Run 1: Statistics of Indigo

Start at: 2018-09-11 02:50:11
End at: 2018-09-11 02:50:41
Local clock offset: -0.813 ms
Remote clock offset: -32.976 ms

# Below is generated by plot.py at 2018-09-11 05:47:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.99 Mbit/s
95th percentile per-packet one-way delay: 100.341 ms
Loss rate: 12.32%
-- Flow 1:
Average throughput: 81.90 Mbit/s
95th percentile per-packet one-way delay: 100.882 ms
Loss rate: 9.34%
-- Flow 2:
Average throughput: 60.66 Mbit/s
95th percentile per-packet one-way delay: 98.812 ms
Loss rate: 15.05%
-- Flow 3:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 102.301 ms
Loss rate: 20.84%
```

Run 1: Report of Indigo — Data Link

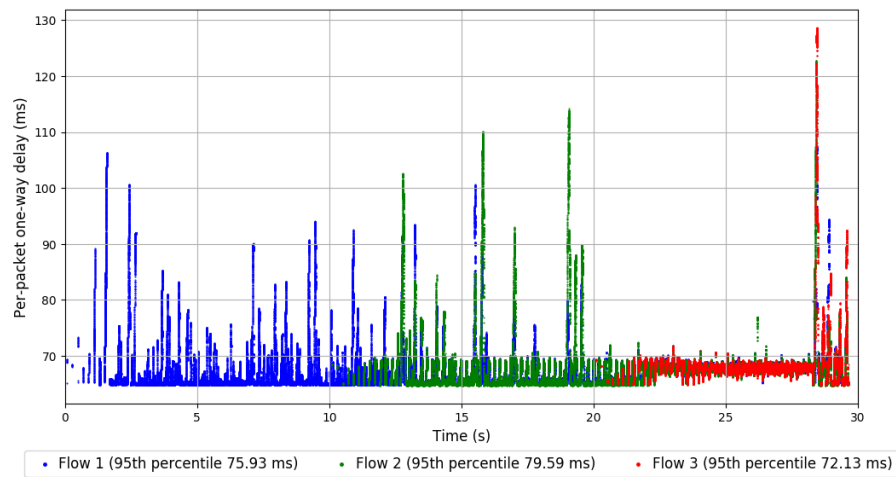
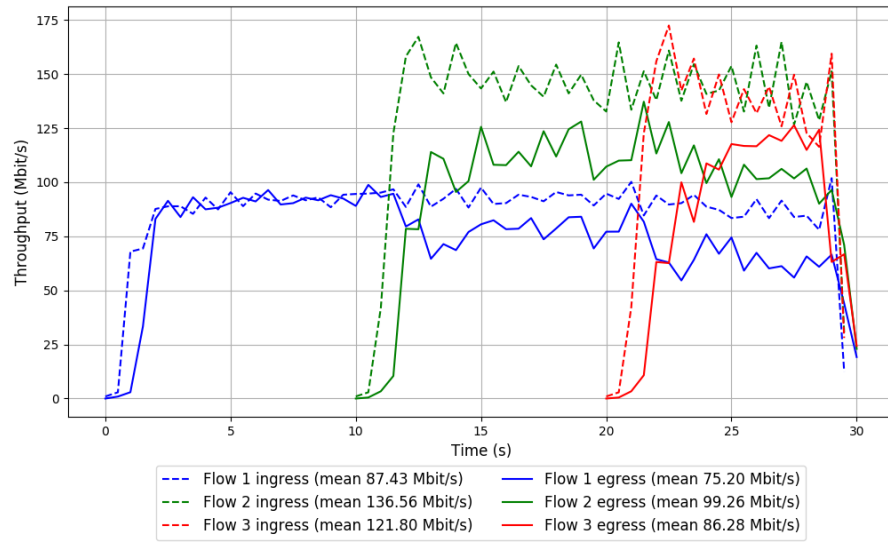


Run 2: Statistics of Indigo

Start at: 2018-09-11 03:16:10
End at: 2018-09-11 03:16:40
Local clock offset: 0.838 ms
Remote clock offset: -35.939 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 168.64 Mbit/s
95th percentile per-packet one-way delay: 76.540 ms
Loss rate: 22.29%
-- Flow 1:
Average throughput: 75.20 Mbit/s
95th percentile per-packet one-way delay: 75.932 ms
Loss rate: 13.99%
-- Flow 2:
Average throughput: 99.26 Mbit/s
95th percentile per-packet one-way delay: 79.592 ms
Loss rate: 27.32%
-- Flow 3:
Average throughput: 86.28 Mbit/s
95th percentile per-packet one-way delay: 72.134 ms
Loss rate: 29.17%

Run 2: Report of Indigo — Data Link

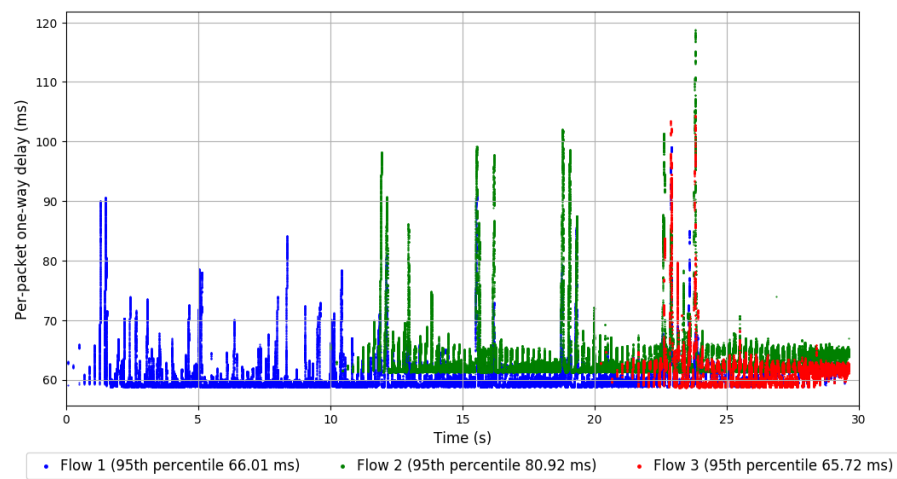
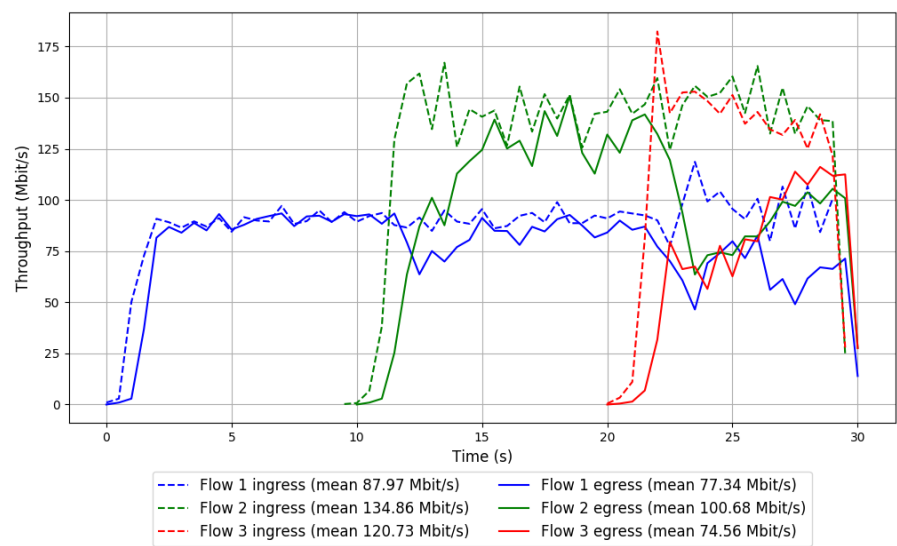


Run 3: Statistics of Indigo

Start at: 2018-09-11 03:48:00
End at: 2018-09-11 03:48:30
Local clock offset: 1.06 ms
Remote clock offset: -39.699 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 167.63 Mbit/s
95th percentile per-packet one-way delay: 69.970 ms
Loss rate: 22.24%
-- Flow 1:
Average throughput: 77.34 Mbit/s
95th percentile per-packet one-way delay: 66.007 ms
Loss rate: 12.07%
-- Flow 2:
Average throughput: 100.68 Mbit/s
95th percentile per-packet one-way delay: 80.920 ms
Loss rate: 25.34%
-- Flow 3:
Average throughput: 74.56 Mbit/s
95th percentile per-packet one-way delay: 65.723 ms
Loss rate: 38.25%

Run 3: Report of Indigo — Data Link

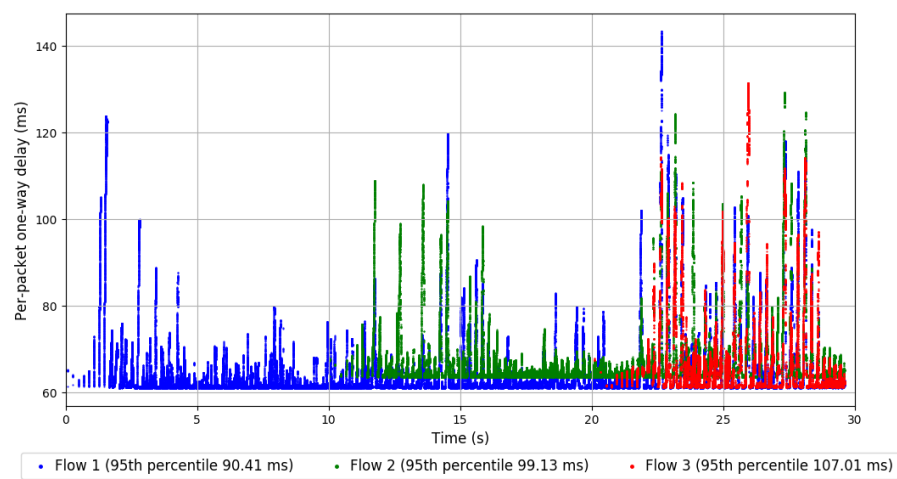
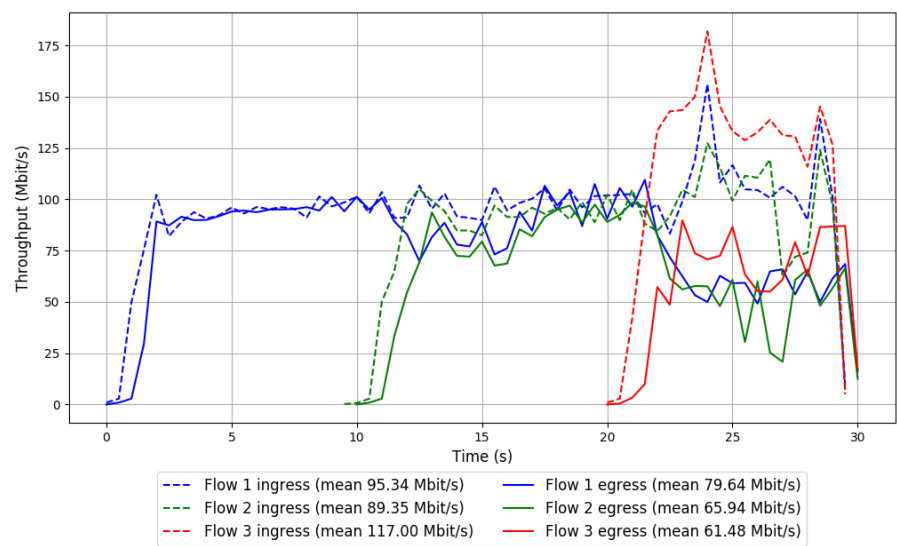


Run 4: Statistics of Indigo

Start at: 2018-09-11 04:19:33
End at: 2018-09-11 04:20:03
Local clock offset: 1.189 ms
Remote clock offset: -38.141 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 143.04 Mbit/s
95th percentile per-packet one-way delay: 98.991 ms
Loss rate: 25.53%
-- Flow 1:
Average throughput: 79.64 Mbit/s
95th percentile per-packet one-way delay: 90.408 ms
Loss rate: 16.47%
-- Flow 2:
Average throughput: 65.94 Mbit/s
95th percentile per-packet one-way delay: 99.132 ms
Loss rate: 26.20%
-- Flow 3:
Average throughput: 61.48 Mbit/s
95th percentile per-packet one-way delay: 107.009 ms
Loss rate: 47.48%

Run 4: Report of Indigo — Data Link

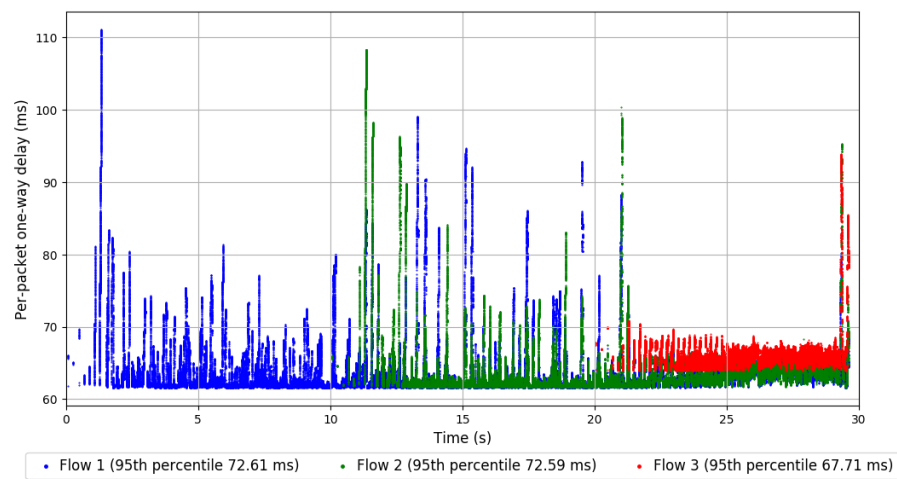
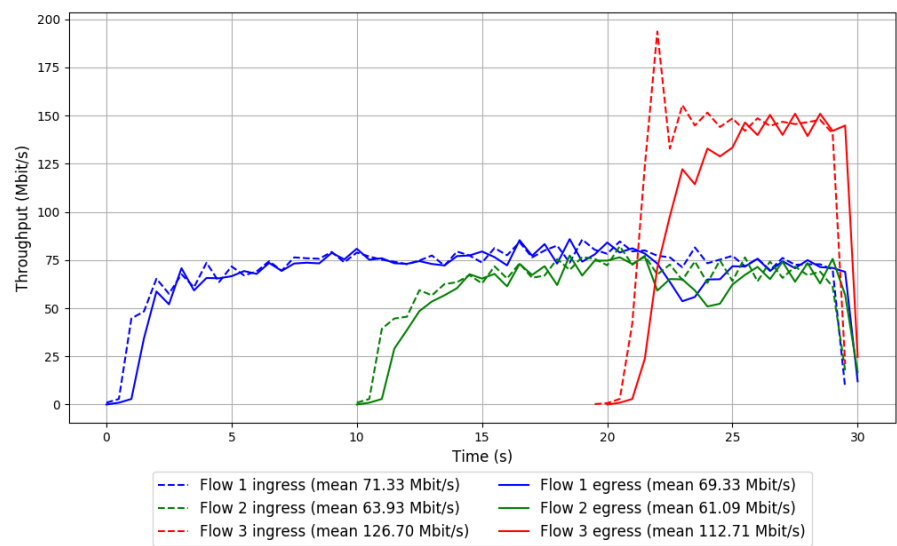


Run 5: Statistics of Indigo

Start at: 2018-09-11 05:02:38
End at: 2018-09-11 05:03:08
Local clock offset: 1.516 ms
Remote clock offset: -38.103 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 146.19 Mbit/s
95th percentile per-packet one-way delay: 70.758 ms
Loss rate: 5.42%
-- Flow 1:
Average throughput: 69.33 Mbit/s
95th percentile per-packet one-way delay: 72.606 ms
Loss rate: 2.80%
-- Flow 2:
Average throughput: 61.09 Mbit/s
95th percentile per-packet one-way delay: 72.591 ms
Loss rate: 4.42%
-- Flow 3:
Average throughput: 112.71 Mbit/s
95th percentile per-packet one-way delay: 67.706 ms
Loss rate: 11.01%

Run 5: Report of Indigo — Data Link

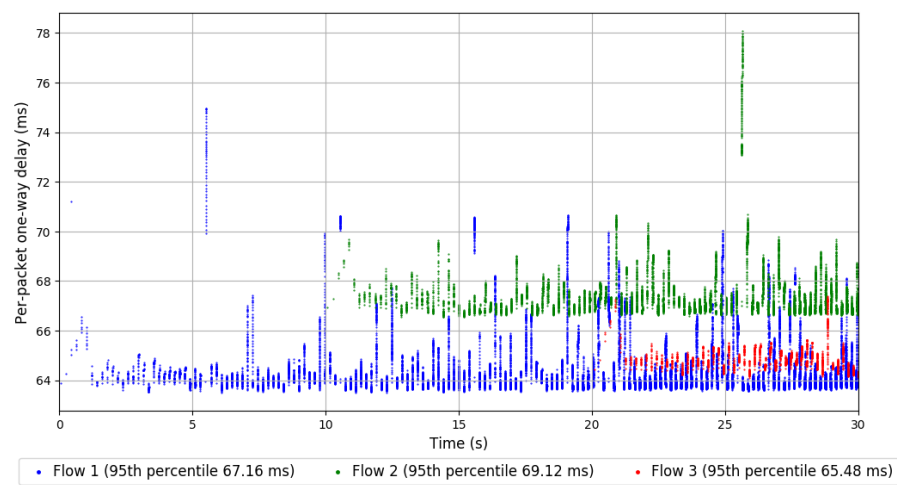
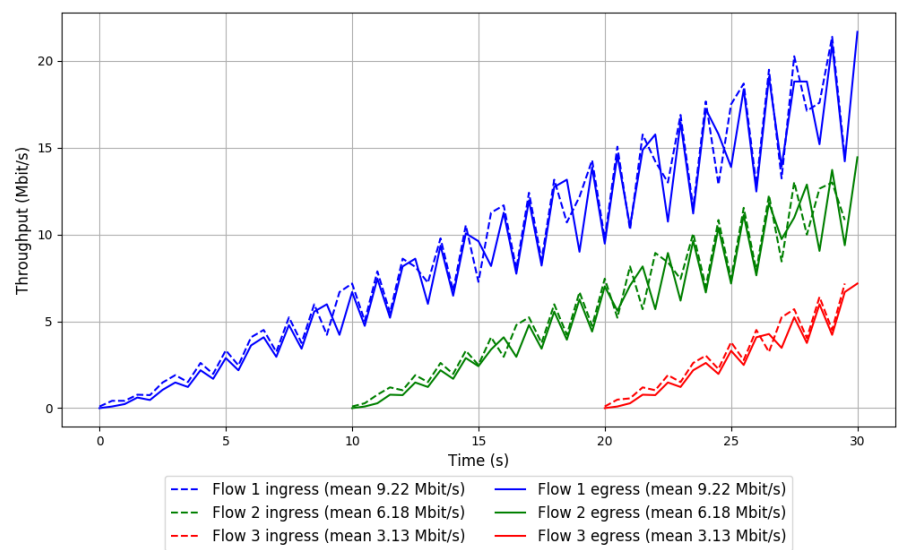


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-11 03:03:10
End at: 2018-09-11 03:03:40
Local clock offset: -0.086 ms
Remote clock offset: -34.264 ms

# Below is generated by plot.py at 2018-09-11 05:47:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.35 Mbit/s
95th percentile per-packet one-way delay: 68.190 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.22 Mbit/s
95th percentile per-packet one-way delay: 67.164 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.18 Mbit/s
95th percentile per-packet one-way delay: 69.117 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 65.485 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

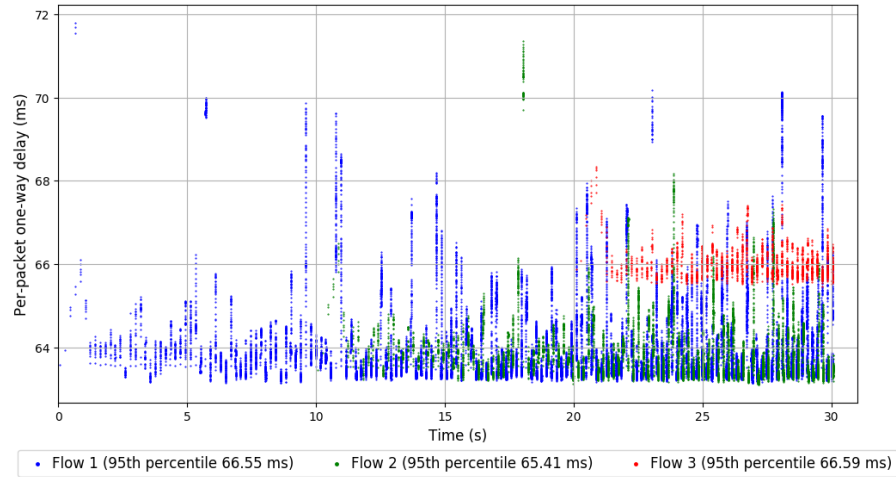
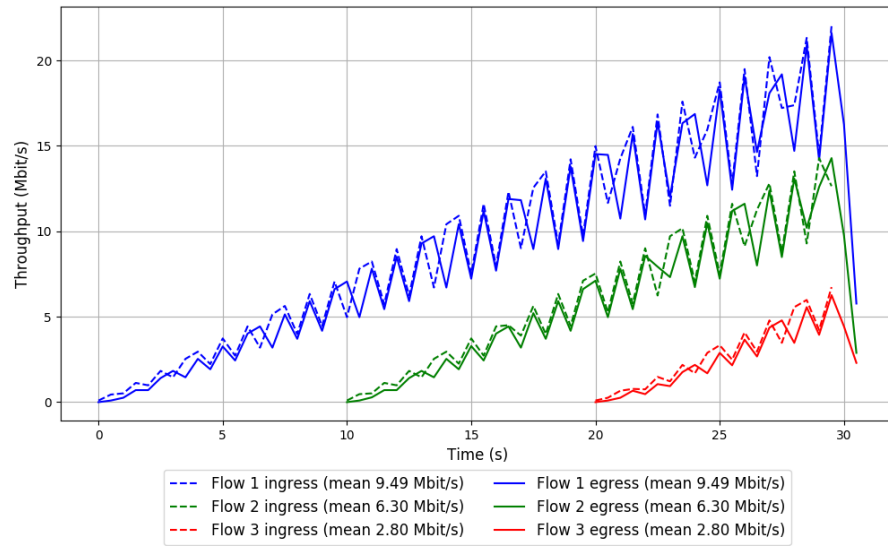


Run 2: Statistics of LEDBAT

Start at: 2018-09-11 03:29:12
End at: 2018-09-11 03:29:42
Local clock offset: -0.025 ms
Remote clock offset: -36.686 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.61 Mbit/s
95th percentile per-packet one-way delay: 66.382 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 66.545 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.30 Mbit/s
95th percentile per-packet one-way delay: 65.410 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.80 Mbit/s
95th percentile per-packet one-way delay: 66.594 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

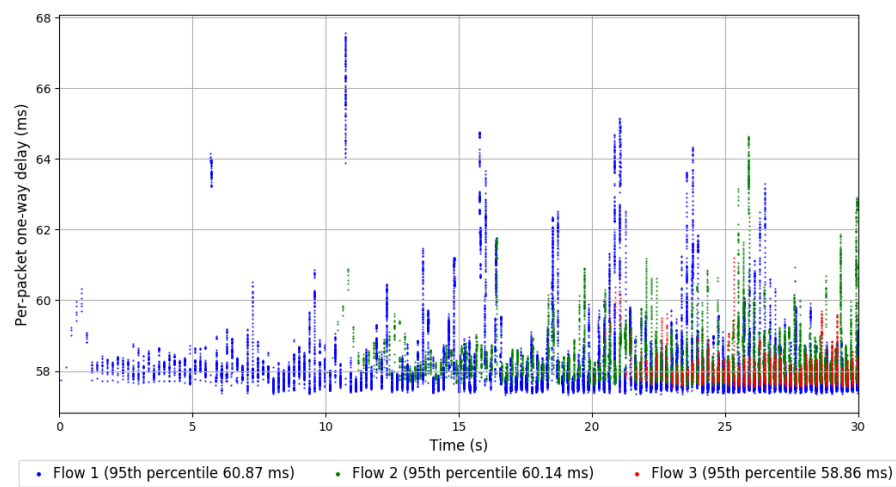
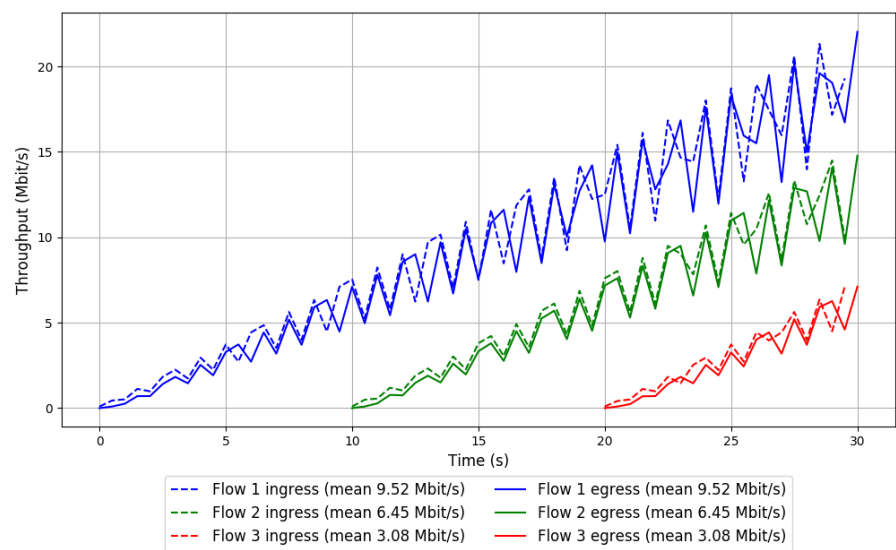


Run 3: Statistics of LEDBAT

Start at: 2018-09-11 04:01:02
End at: 2018-09-11 04:01:32
Local clock offset: 1.126 ms
Remote clock offset: -41.304 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.82 Mbit/s
95th percentile per-packet one-way delay: 60.450 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 60.874 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 60.142 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 58.862 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

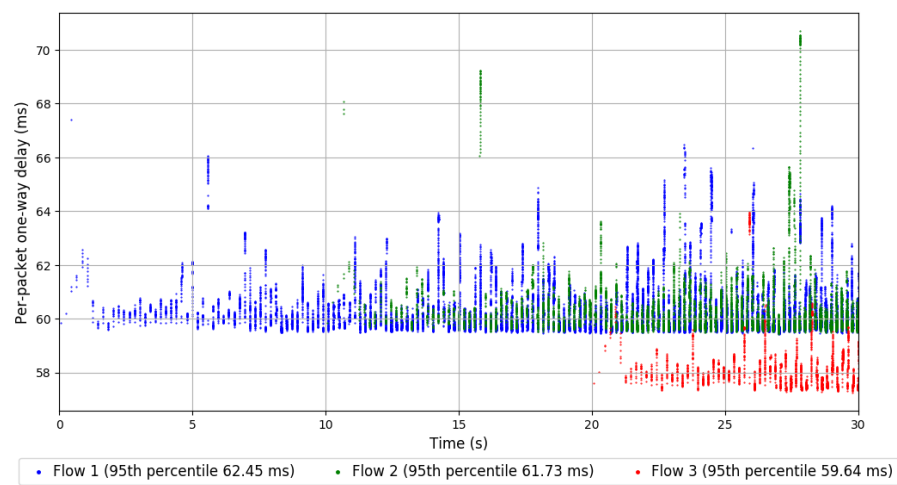
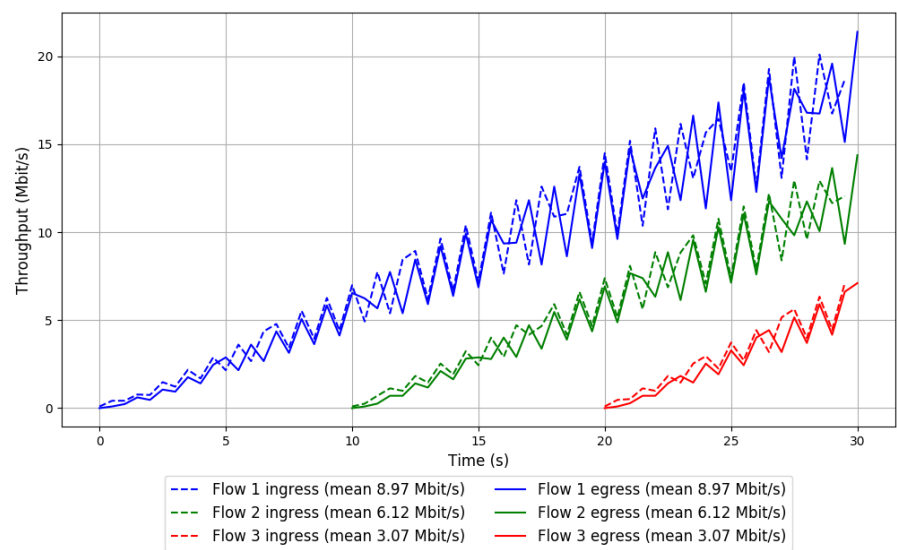


Run 4: Statistics of LEDBAT

Start at: 2018-09-11 04:38:33
End at: 2018-09-11 04:39:03
Local clock offset: 1.143 ms
Remote clock offset: -42.946 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.06 Mbit/s
95th percentile per-packet one-way delay: 62.113 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.97 Mbit/s
95th percentile per-packet one-way delay: 62.446 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 61.733 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 59.642 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

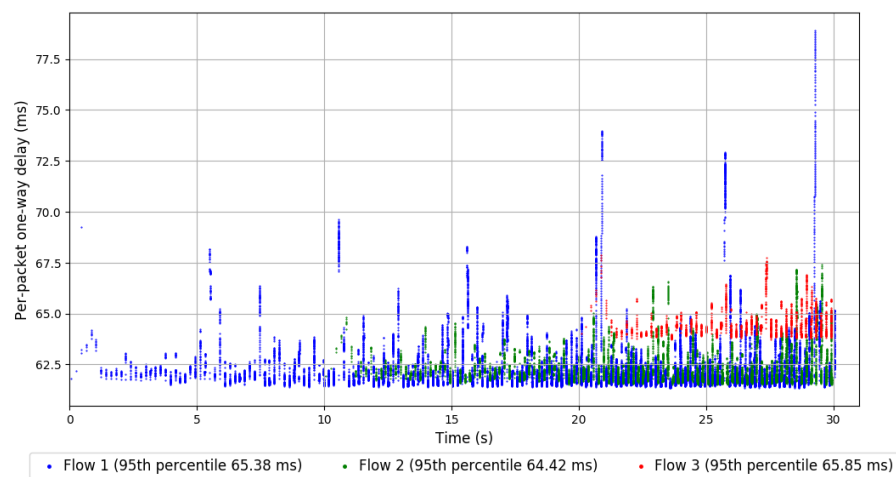
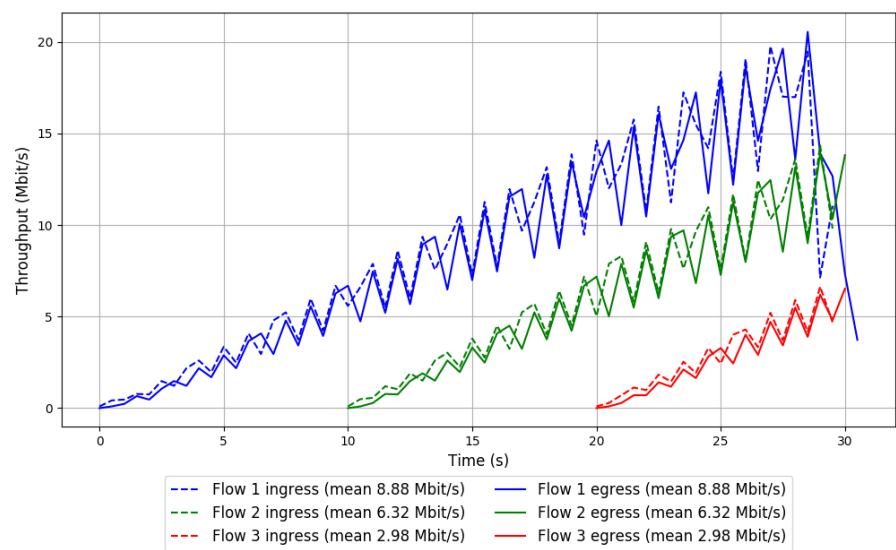


Run 5: Statistics of LEDBAT

Start at: 2018-09-11 05:26:36
End at: 2018-09-11 05:27:06
Local clock offset: 1.095 ms
Remote clock offset: -35.922 ms

Below is generated by plot.py at 2018-09-11 05:47:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.04 Mbit/s
95th percentile per-packet one-way delay: 65.218 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.88 Mbit/s
95th percentile per-packet one-way delay: 65.376 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.32 Mbit/s
95th percentile per-packet one-way delay: 64.415 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 65.853 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

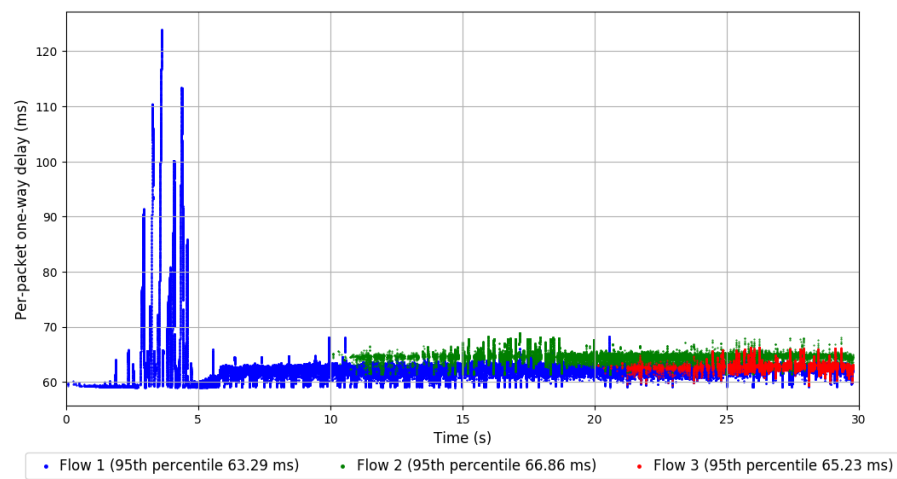
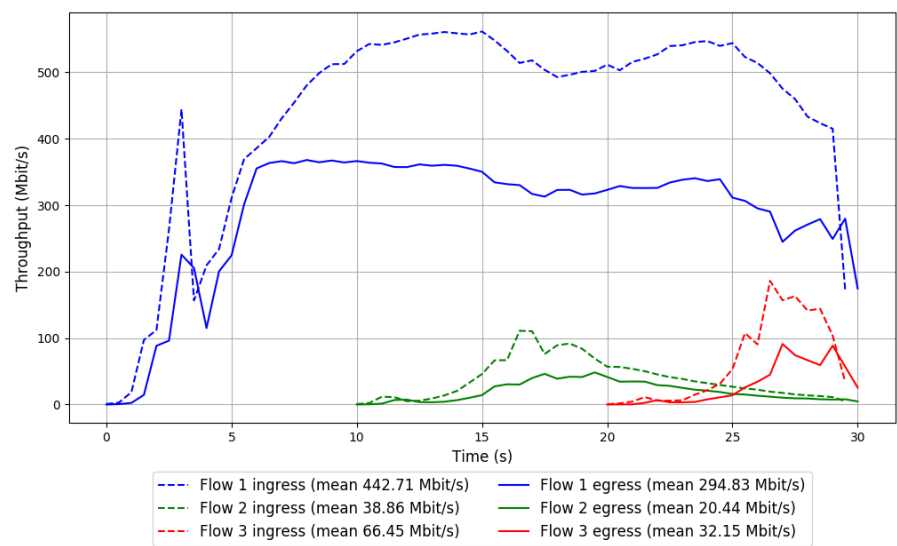


Run 1: Statistics of Indigo-Muses

Start at: 2018-09-11 02:48:35
End at: 2018-09-11 02:49:05
Local clock offset: -1.103 ms
Remote clock offset: -38.667 ms

Below is generated by plot.py at 2018-09-11 05:47:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 318.81 Mbit/s
95th percentile per-packet one-way delay: 64.661 ms
Loss rate: 34.94%
-- Flow 1:
Average throughput: 294.83 Mbit/s
95th percentile per-packet one-way delay: 63.291 ms
Loss rate: 33.40%
-- Flow 2:
Average throughput: 20.44 Mbit/s
95th percentile per-packet one-way delay: 66.855 ms
Loss rate: 47.40%
-- Flow 3:
Average throughput: 32.15 Mbit/s
95th percentile per-packet one-way delay: 65.234 ms
Loss rate: 51.69%

Run 1: Report of Indigo-Muses — Data Link

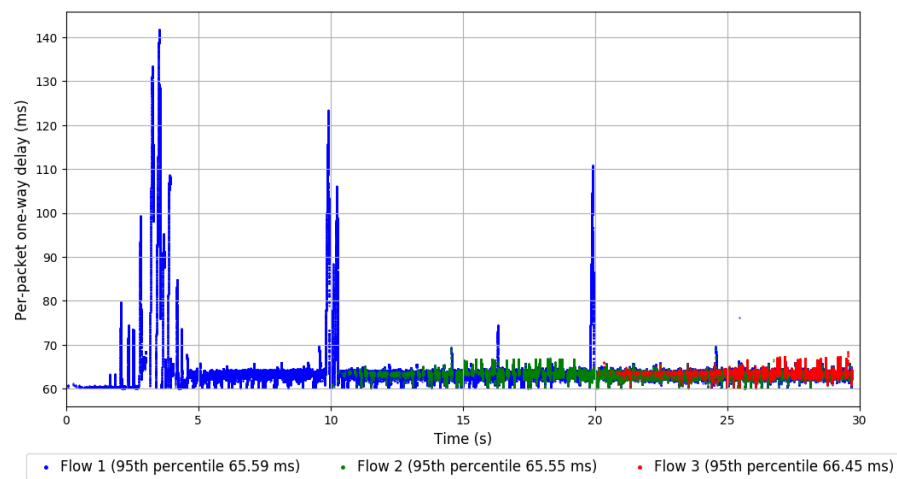
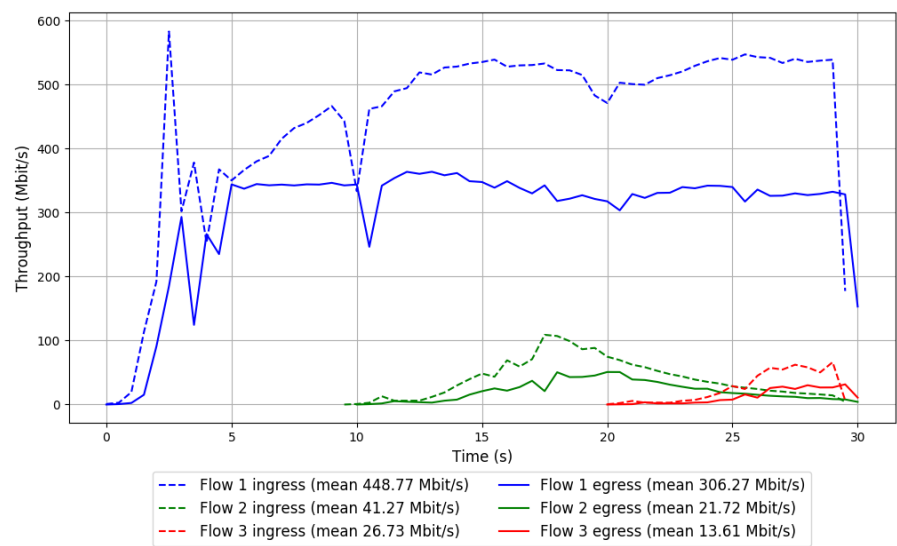


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-11 03:14:25
End at: 2018-09-11 03:14:55
Local clock offset: 1.487 ms
Remote clock offset: -37.385 ms

Below is generated by plot.py at 2018-09-11 05:47:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 325.08 Mbit/s
95th percentile per-packet one-way delay: 65.639 ms
Loss rate: 32.94%
-- Flow 1:
Average throughput: 306.27 Mbit/s
95th percentile per-packet one-way delay: 65.592 ms
Loss rate: 31.75%
-- Flow 2:
Average throughput: 21.72 Mbit/s
95th percentile per-packet one-way delay: 65.548 ms
Loss rate: 47.37%
-- Flow 3:
Average throughput: 13.61 Mbit/s
95th percentile per-packet one-way delay: 66.446 ms
Loss rate: 49.10%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-11 03:45:54

End at: 2018-09-11 03:46:24

Local clock offset: 0.883 ms

Remote clock offset: -40.787 ms

Run 3: Report of Indigo-Muses — Data Link

Figure is missing

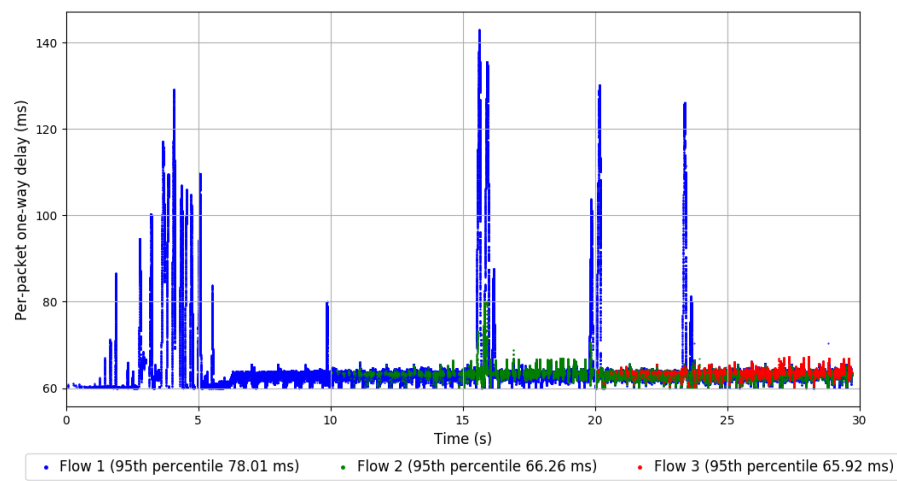
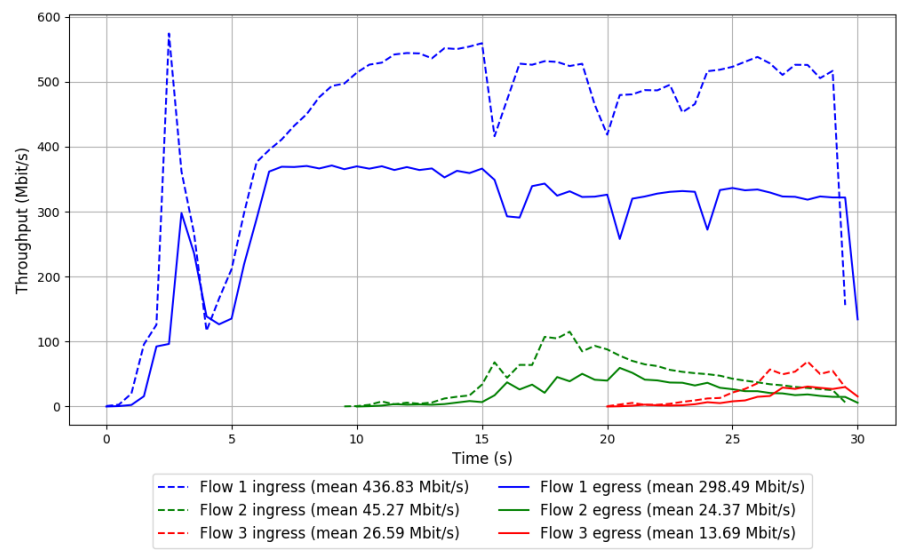
Figure is missing

Run 4: Statistics of Indigo-Muses

Start at: 2018-09-11 04:17:57
End at: 2018-09-11 04:18:27
Local clock offset: 1.525 ms
Remote clock offset: -38.633 ms

Below is generated by plot.py at 2018-09-11 05:47:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 319.09 Mbit/s
95th percentile per-packet one-way delay: 75.704 ms
Loss rate: 32.89%
-- Flow 1:
Average throughput: 298.49 Mbit/s
95th percentile per-packet one-way delay: 78.013 ms
Loss rate: 31.66%
-- Flow 2:
Average throughput: 24.37 Mbit/s
95th percentile per-packet one-way delay: 66.260 ms
Loss rate: 46.19%
-- Flow 3:
Average throughput: 13.69 Mbit/s
95th percentile per-packet one-way delay: 65.917 ms
Loss rate: 48.50%

Run 4: Report of Indigo-Muses — Data Link

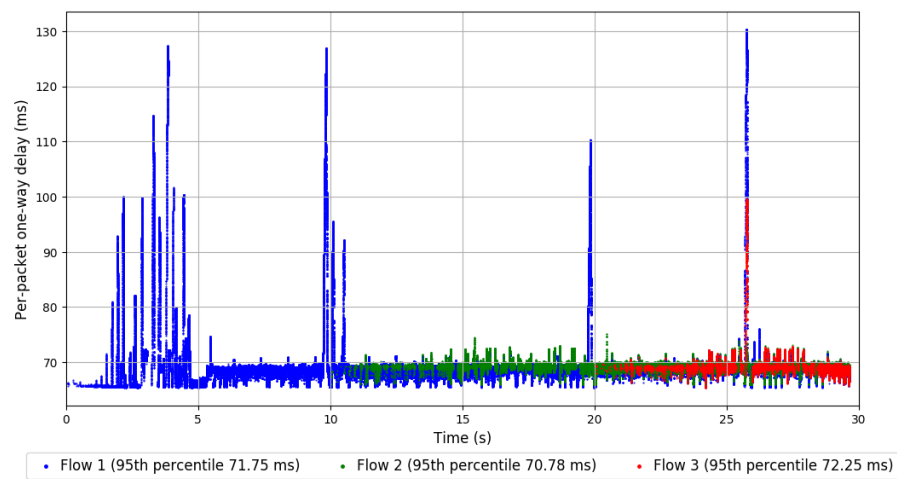
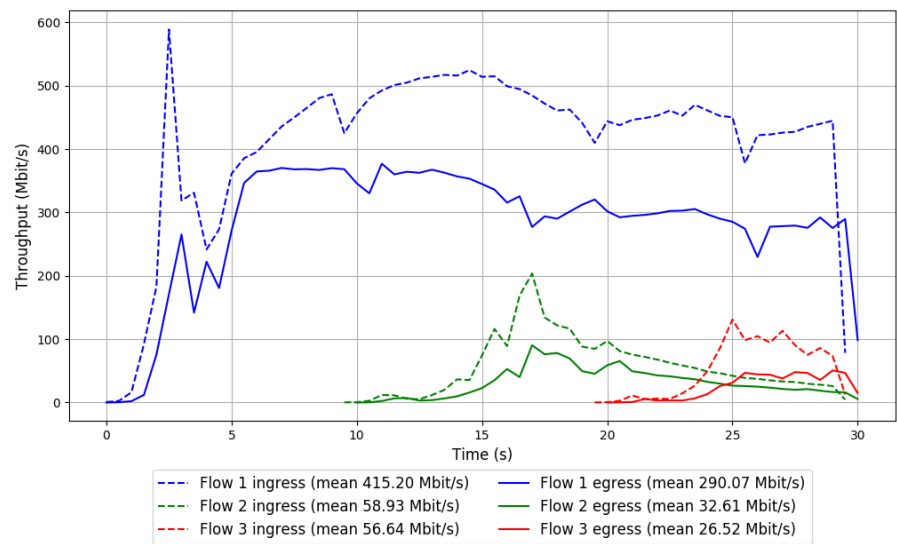


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-11 05:00:53
End at: 2018-09-11 05:01:23
Local clock offset: 1.754 ms
Remote clock offset: -36.427 ms

Below is generated by plot.py at 2018-09-11 05:47:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 320.30 Mbit/s
95th percentile per-packet one-way delay: 71.743 ms
Loss rate: 32.23%
-- Flow 1:
Average throughput: 290.07 Mbit/s
95th percentile per-packet one-way delay: 71.751 ms
Loss rate: 30.13%
-- Flow 2:
Average throughput: 32.61 Mbit/s
95th percentile per-packet one-way delay: 70.782 ms
Loss rate: 44.66%
-- Flow 3:
Average throughput: 26.52 Mbit/s
95th percentile per-packet one-way delay: 72.255 ms
Loss rate: 53.18%

Run 5: Report of Indigo-Muses — Data Link

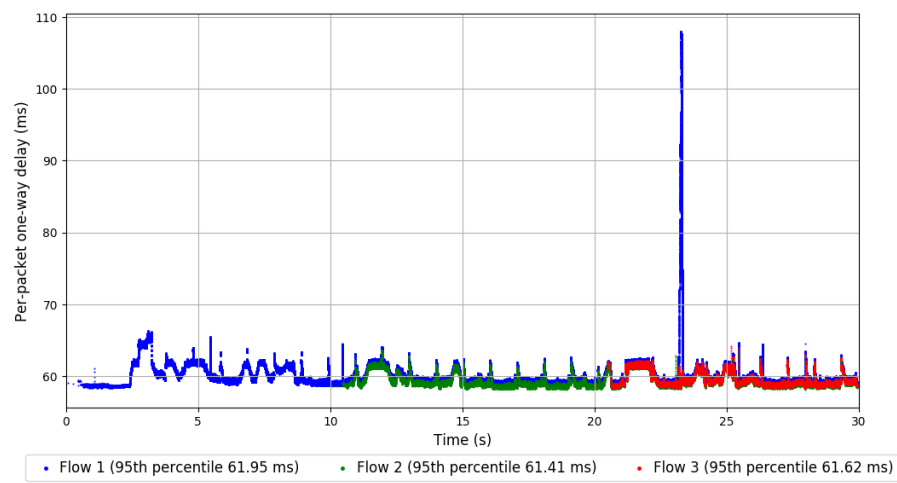
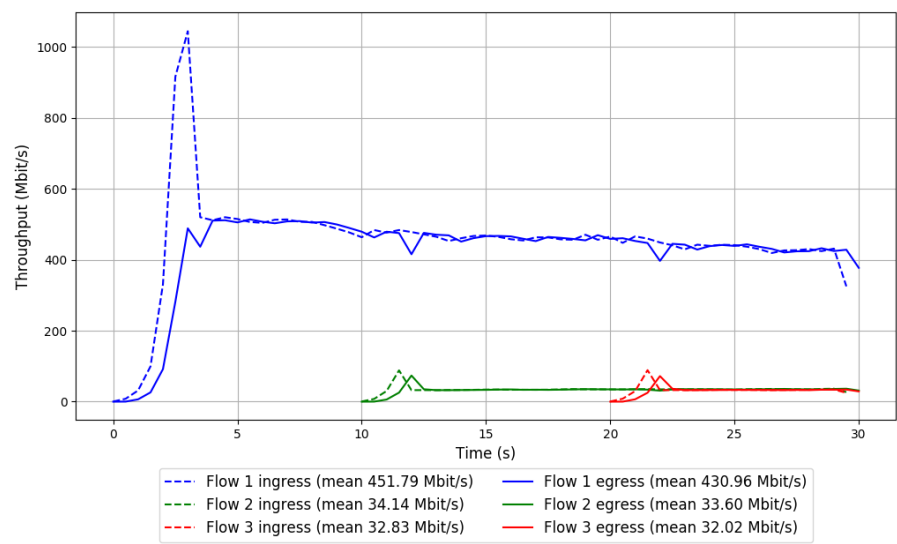


Run 1: Statistics of PCC-Allegro

Start at: 2018-09-11 03:00:10
End at: 2018-09-11 03:00:40
Local clock offset: -0.114 ms
Remote clock offset: -39.127 ms

Below is generated by plot.py at 2018-09-11 05:49:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 463.87 Mbit/s
95th percentile per-packet one-way delay: 61.933 ms
Loss rate: 4.42%
-- Flow 1:
Average throughput: 430.96 Mbit/s
95th percentile per-packet one-way delay: 61.949 ms
Loss rate: 4.61%
-- Flow 2:
Average throughput: 33.60 Mbit/s
95th percentile per-packet one-way delay: 61.414 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 32.02 Mbit/s
95th percentile per-packet one-way delay: 61.618 ms
Loss rate: 2.48%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-11 03:26:11

End at: 2018-09-11 03:26:41

Local clock offset: 2.069 ms

Remote clock offset: -34.054 ms

Below is generated by plot.py at 2018-09-11 05:49:26

Datalink statistics

-- Total of 3 flows:

Average throughput: 442.78 Mbit/s

95th percentile per-packet one-way delay: 67.107 ms

Loss rate: 4.98%

-- Flow 1:

Average throughput: 397.36 Mbit/s

95th percentile per-packet one-way delay: 67.049 ms

Loss rate: 5.25%

-- Flow 2:

Average throughput: 59.83 Mbit/s

95th percentile per-packet one-way delay: 67.064 ms

Loss rate: 2.67%

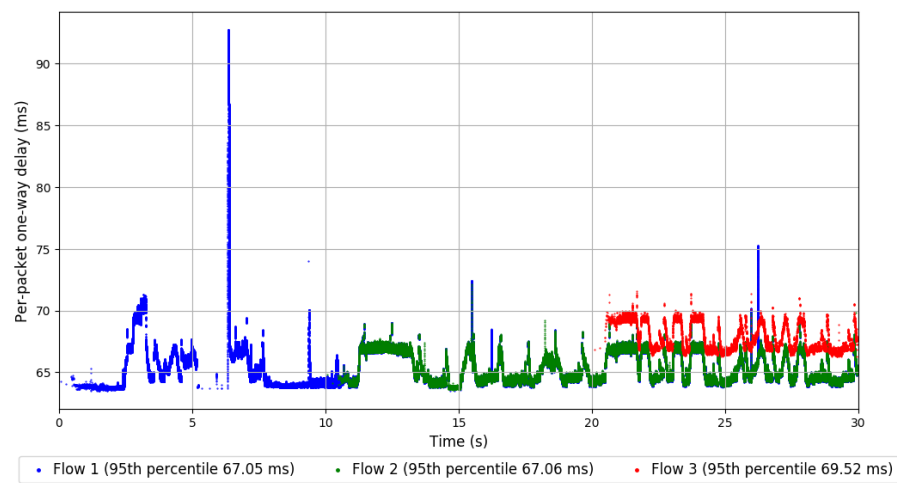
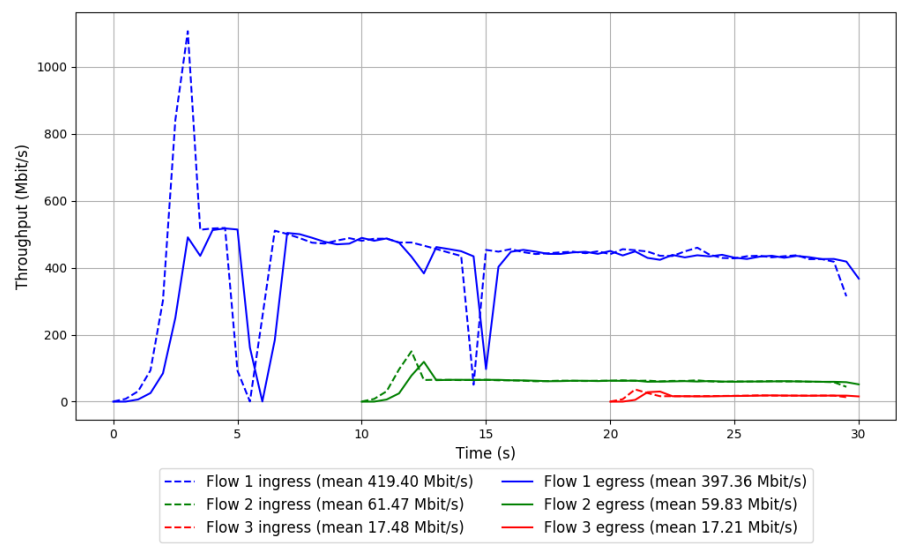
-- Flow 3:

Average throughput: 17.21 Mbit/s

95th percentile per-packet one-way delay: 69.515 ms

Loss rate: 1.56%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-11 03:58:00

End at: 2018-09-11 03:58:30

Local clock offset: 0.515 ms

Remote clock offset: -35.066 ms

Below is generated by plot.py at 2018-09-11 05:52:50

Datalink statistics

-- Total of 3 flows:

Average throughput: 471.67 Mbit/s

95th percentile per-packet one-way delay: 67.764 ms

Loss rate: 4.67%

-- Flow 1:

Average throughput: 440.31 Mbit/s

95th percentile per-packet one-way delay: 67.572 ms

Loss rate: 4.84%

-- Flow 2:

Average throughput: 31.50 Mbit/s

95th percentile per-packet one-way delay: 67.575 ms

Loss rate: 2.09%

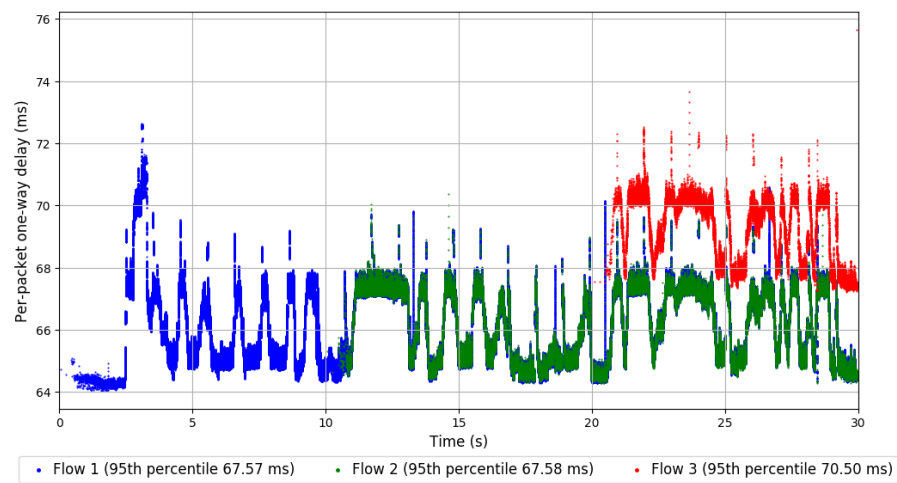
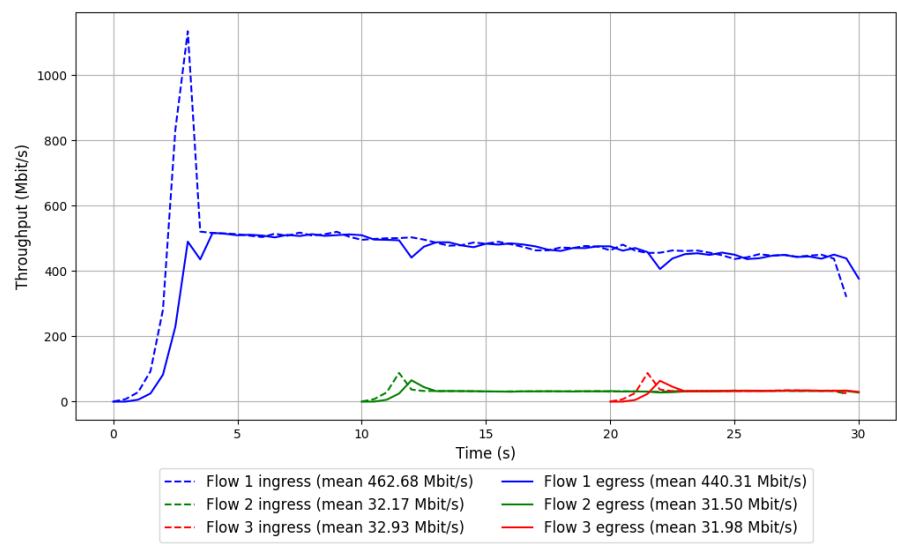
-- Flow 3:

Average throughput: 31.98 Mbit/s

95th percentile per-packet one-way delay: 70.498 ms

Loss rate: 2.83%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-11 04:35:29

End at: 2018-09-11 04:35:59

Local clock offset: 1.943 ms

Remote clock offset: -41.152 ms

Below is generated by plot.py at 2018-09-11 05:52:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 473.74 Mbit/s

95th percentile per-packet one-way delay: 64.195 ms

Loss rate: 4.78%

-- Flow 1:

Average throughput: 442.32 Mbit/s

95th percentile per-packet one-way delay: 64.211 ms

Loss rate: 4.91%

-- Flow 2:

Average throughput: 31.67 Mbit/s

95th percentile per-packet one-way delay: 61.236 ms

Loss rate: 2.46%

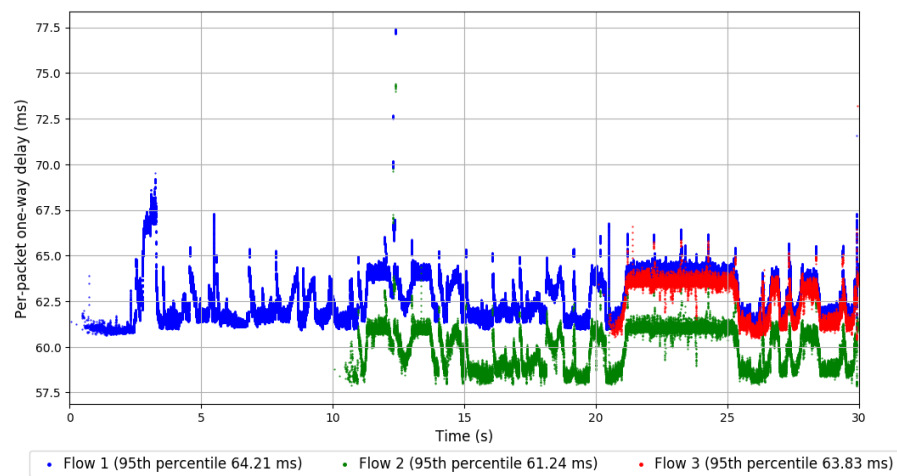
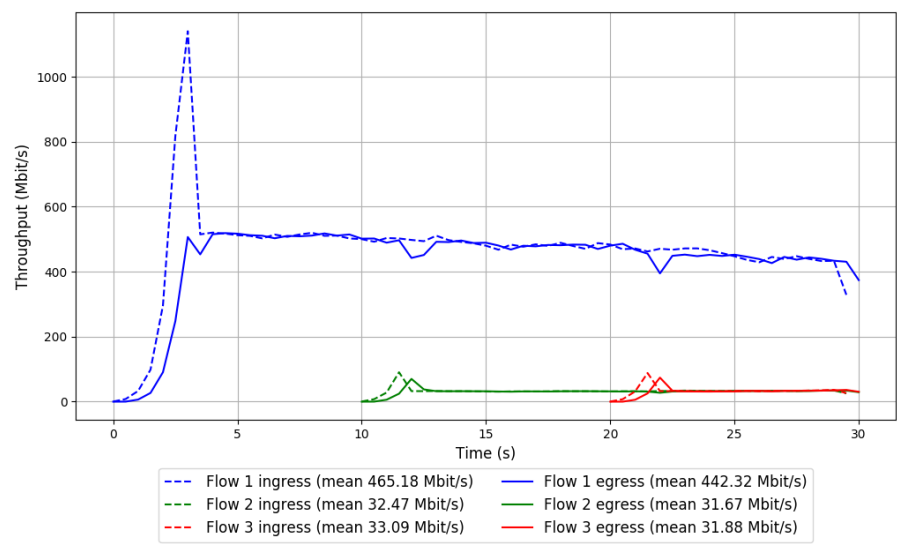
-- Flow 3:

Average throughput: 31.88 Mbit/s

95th percentile per-packet one-way delay: 63.833 ms

Loss rate: 3.59%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 05:18:16

End at: 2018-09-11 05:18:46

Local clock offset: 1.902 ms

Remote clock offset: -38.429 ms

Below is generated by plot.py at 2018-09-11 05:53:15

Datalink statistics

-- Total of 3 flows:

Average throughput: 462.35 Mbit/s

95th percentile per-packet one-way delay: 62.560 ms

Loss rate: 4.80%

-- Flow 1:

Average throughput: 428.94 Mbit/s

95th percentile per-packet one-way delay: 62.576 ms

Loss rate: 4.96%

-- Flow 2:

Average throughput: 34.24 Mbit/s

95th percentile per-packet one-way delay: 62.453 ms

Loss rate: 2.35%

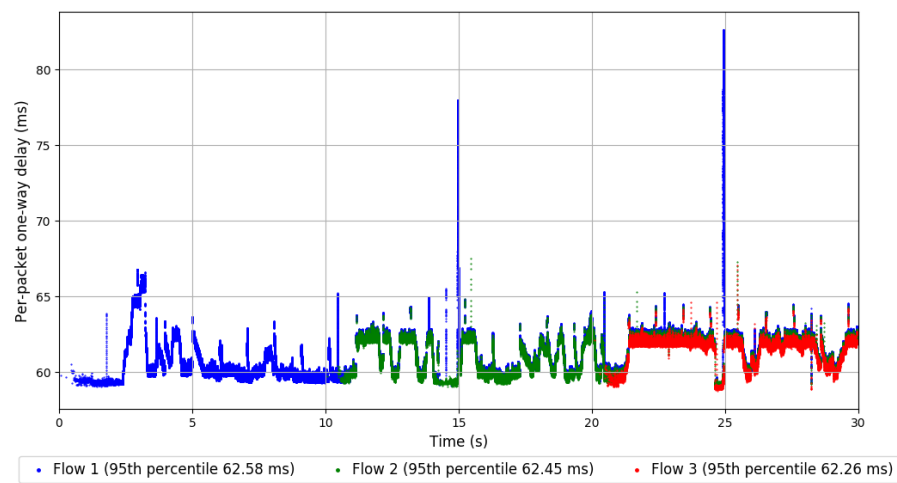
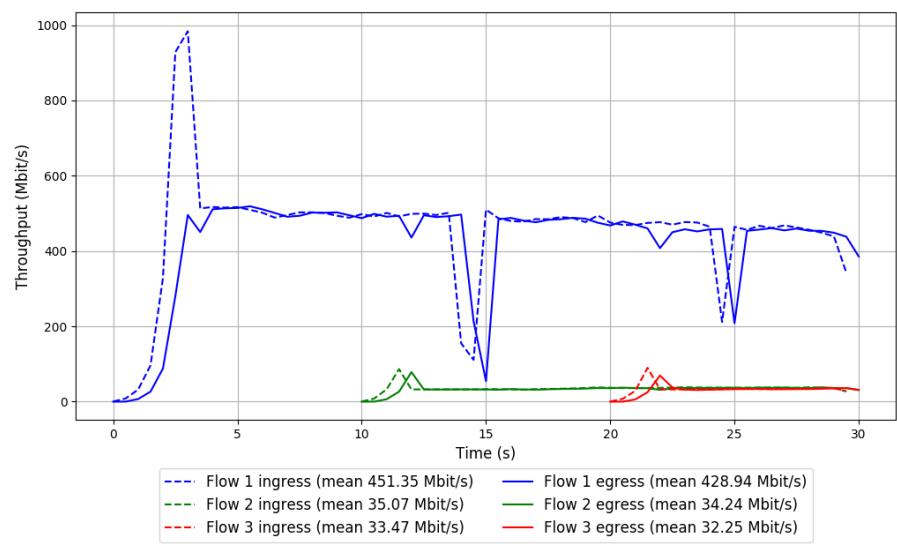
-- Flow 3:

Average throughput: 32.25 Mbit/s

95th percentile per-packet one-way delay: 62.256 ms

Loss rate: 3.65%

Run 5: Report of PCC-Allegro — Data Link

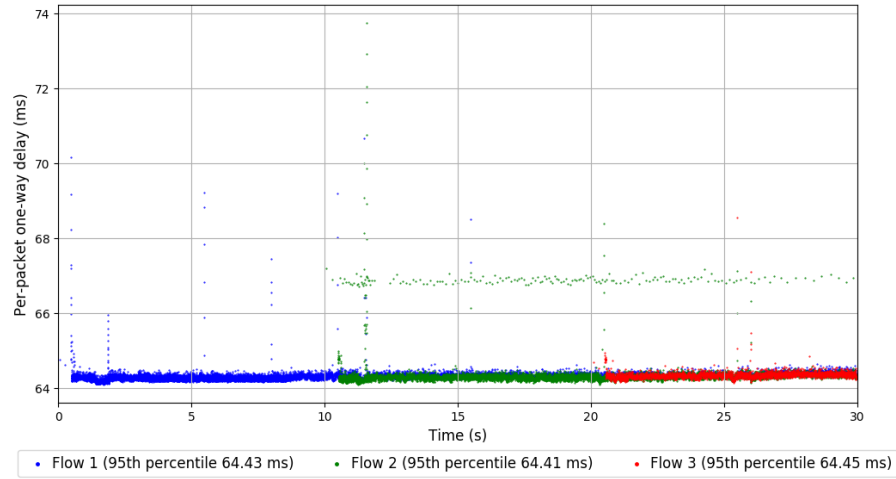
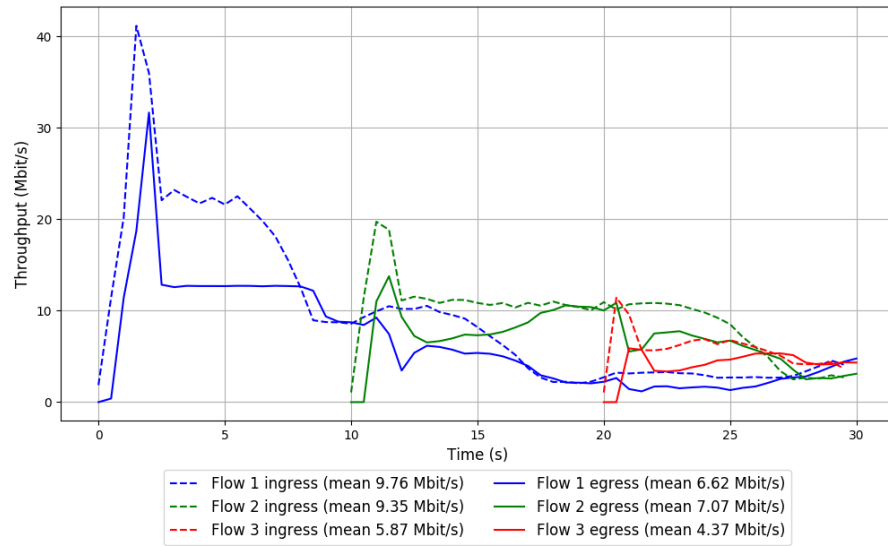


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-11 02:57:34
End at: 2018-09-11 02:58:04
Local clock offset: -0.284 ms
Remote clock offset: -32.954 ms

# Below is generated by plot.py at 2018-09-11 05:53:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 64.425 ms
Loss rate: 28.75%
-- Flow 1:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 64.427 ms
Loss rate: 32.16%
-- Flow 2:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 64.406 ms
Loss rate: 24.39%
-- Flow 3:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 64.448 ms
Loss rate: 25.55%
```

Run 1: Report of PCC-Expr — Data Link

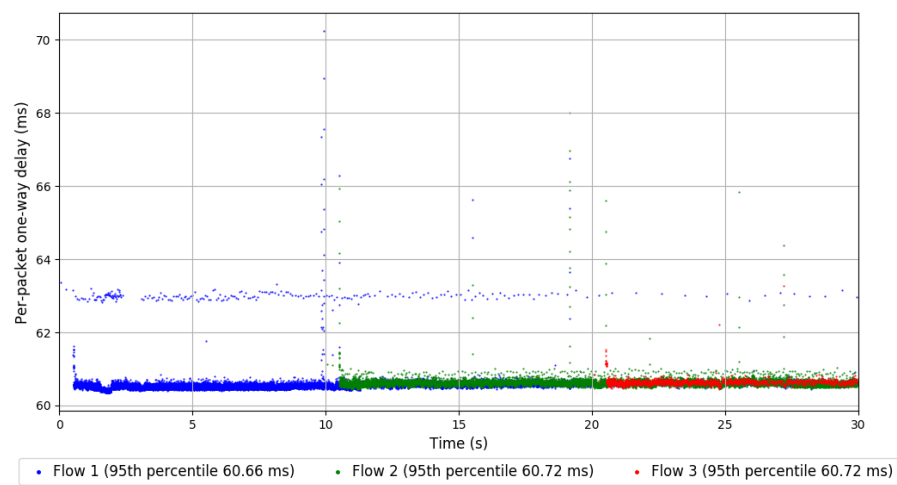
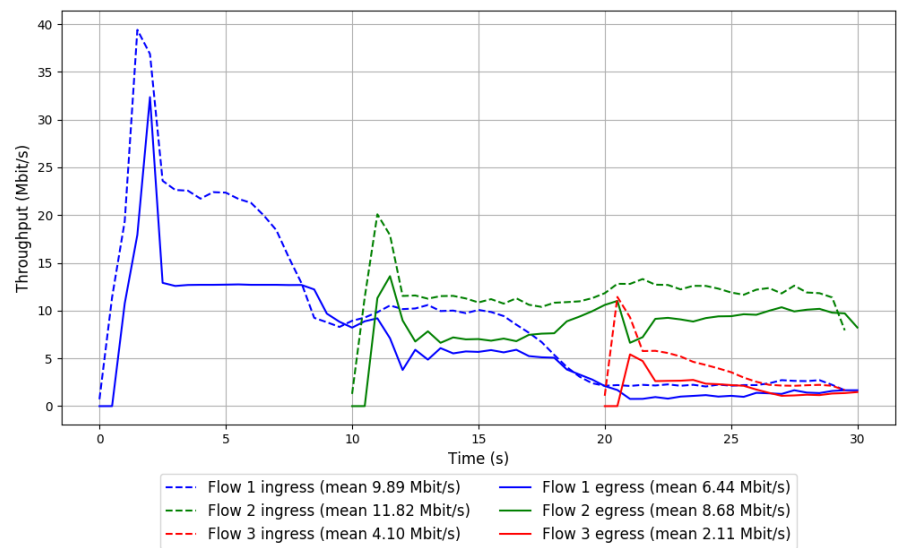


Run 2: Statistics of PCC-Expr

Start at: 2018-09-11 03:23:35
End at: 2018-09-11 03:24:05
Local clock offset: 1.34 ms
Remote clock offset: -37.907 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.91 Mbit/s
95th percentile per-packet one-way delay: 60.697 ms
Loss rate: 32.42%
-- Flow 1:
Average throughput: 6.44 Mbit/s
95th percentile per-packet one-way delay: 60.658 ms
Loss rate: 34.89%
-- Flow 2:
Average throughput: 8.68 Mbit/s
95th percentile per-packet one-way delay: 60.715 ms
Loss rate: 26.54%
-- Flow 3:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 60.717 ms
Loss rate: 48.50%

Run 2: Report of PCC-Expr — Data Link

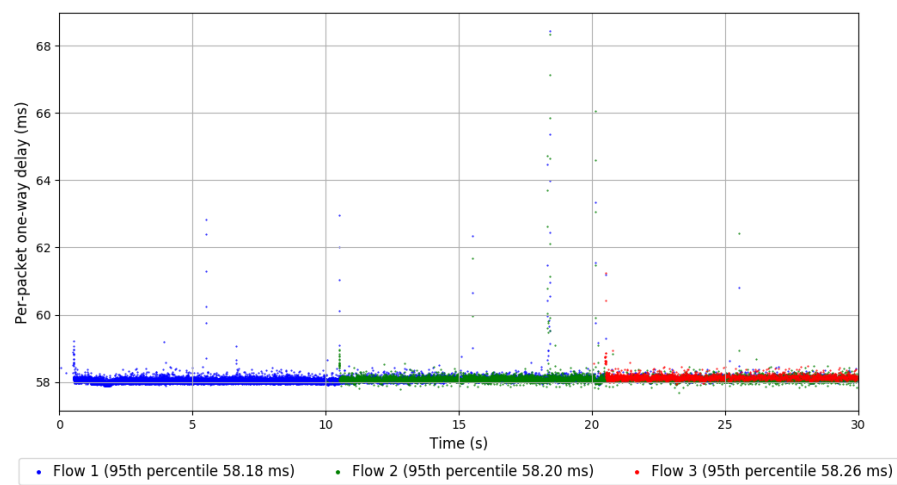
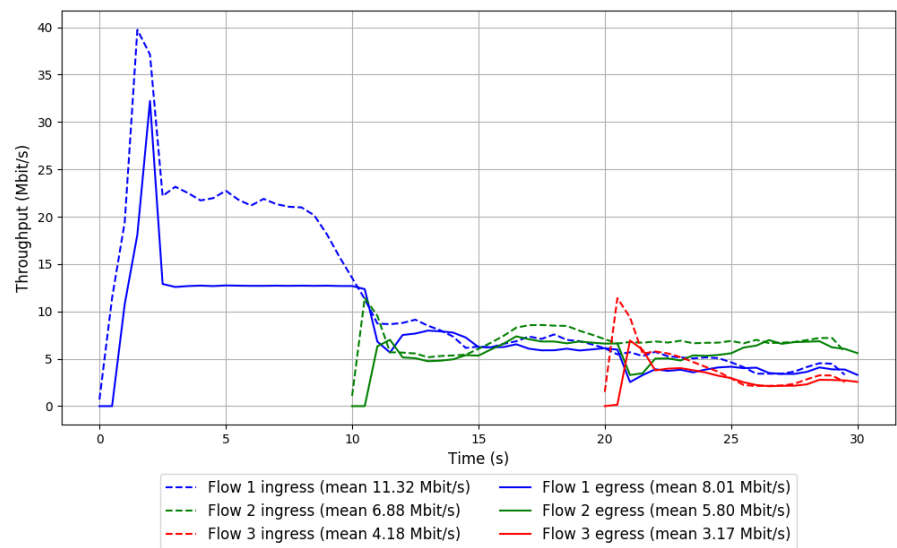


Run 3: Statistics of PCC-Expr

Start at: 2018-09-11 03:55:25
End at: 2018-09-11 03:55:55
Local clock offset: 1.302 ms
Remote clock offset: -40.803 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.91 Mbit/s
95th percentile per-packet one-way delay: 58.199 ms
Loss rate: 25.28%
-- Flow 1:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 58.178 ms
Loss rate: 29.26%
-- Flow 2:
Average throughput: 5.80 Mbit/s
95th percentile per-packet one-way delay: 58.203 ms
Loss rate: 15.76%
-- Flow 3:
Average throughput: 3.17 Mbit/s
95th percentile per-packet one-way delay: 58.264 ms
Loss rate: 24.22%

Run 3: Report of PCC-Expr — Data Link

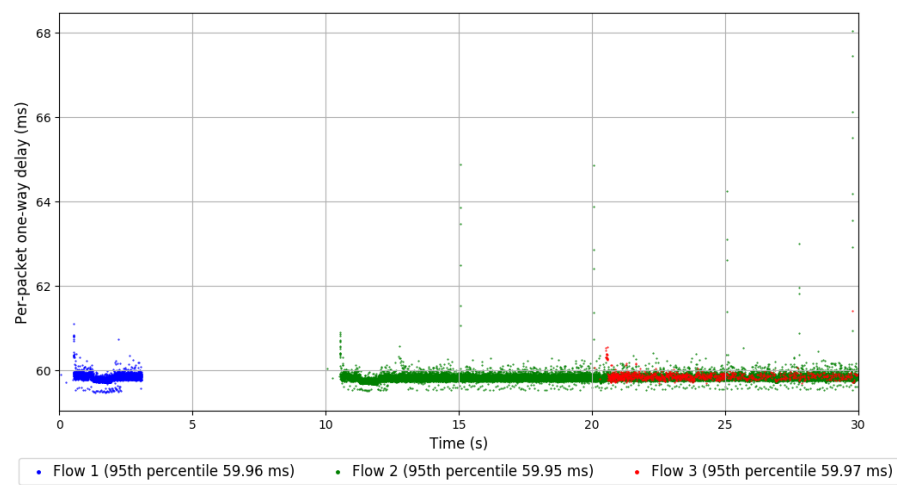
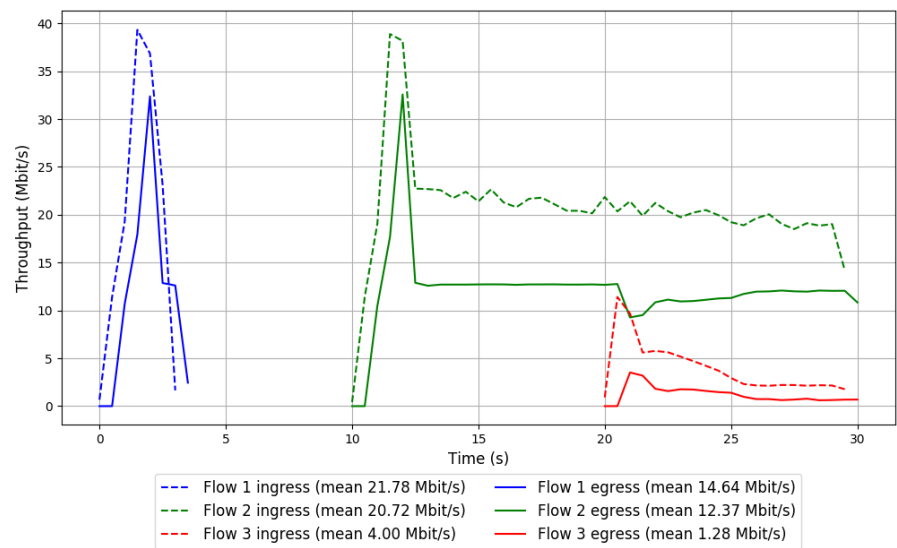


Run 4: Statistics of PCC-Expr

Start at: 2018-09-11 04:32:32
End at: 2018-09-11 04:33:02
Local clock offset: 0.377 ms
Remote clock offset: -41.054 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 10.14 Mbit/s
95th percentile per-packet one-way delay: 59.954 ms
Loss rate: 41.44%
-- Flow 1:
Average throughput: 14.64 Mbit/s
95th percentile per-packet one-way delay: 59.960 ms
Loss rate: 32.78%
-- Flow 2:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 59.951 ms
Loss rate: 40.28%
-- Flow 3:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 59.966 ms
Loss rate: 68.07%

Run 4: Report of PCC-Expr — Data Link

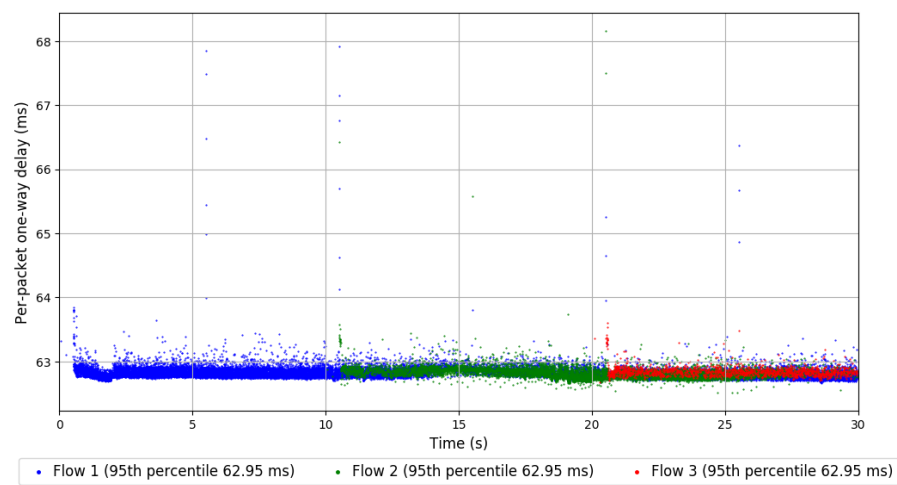
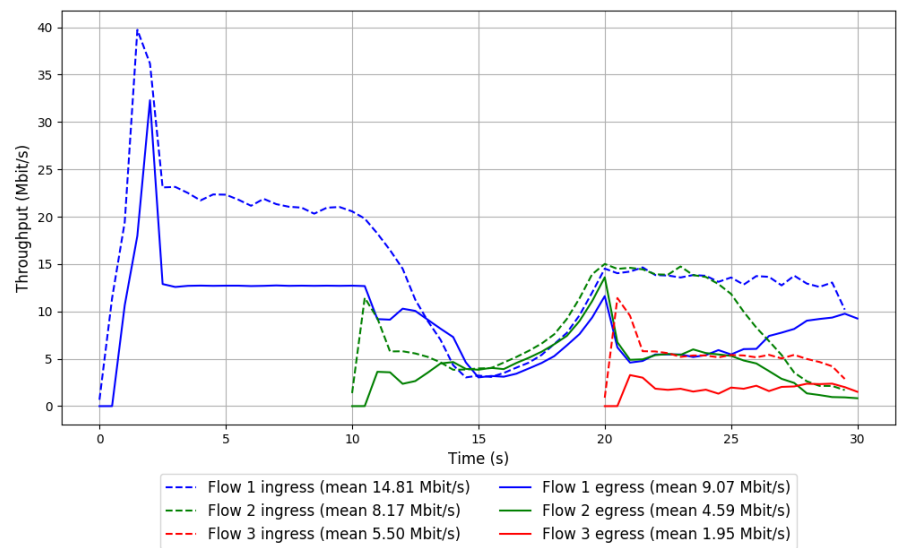


Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 05:15:40
End at: 2018-09-11 05:16:10
Local clock offset: 1.345 ms
Remote clock offset: -35.774 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 62.948 ms
Loss rate: 42.12%
-- Flow 1:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 62.949 ms
Loss rate: 38.74%
-- Flow 2:
Average throughput: 4.59 Mbit/s
95th percentile per-packet one-way delay: 62.947 ms
Loss rate: 43.84%
-- Flow 3:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 62.948 ms
Loss rate: 64.51%

Run 5: Report of PCC-Expr — Data Link

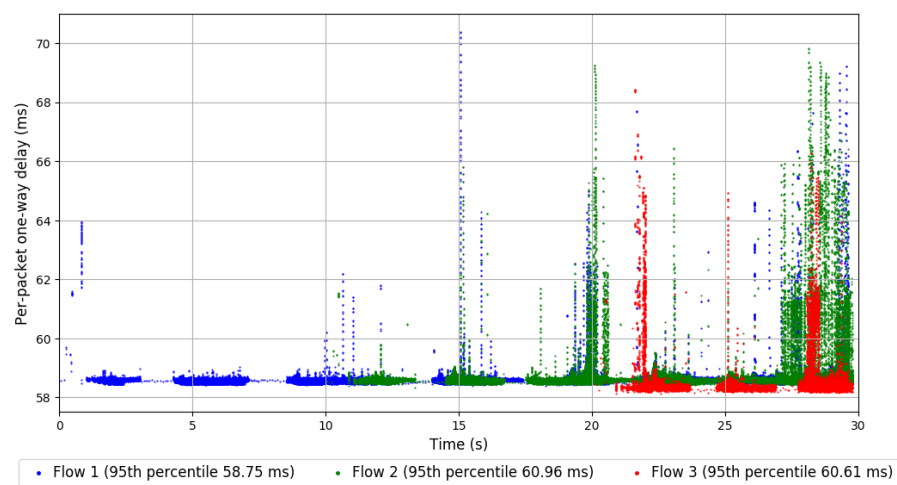
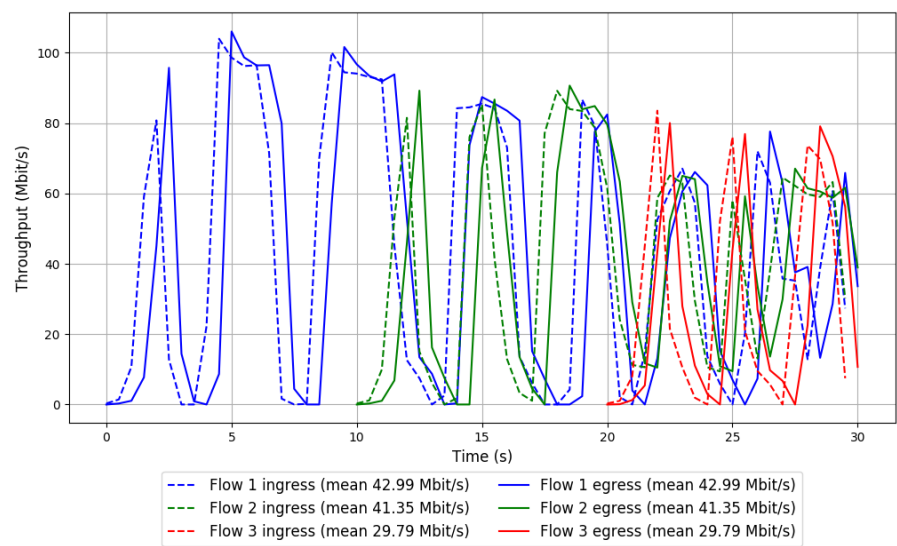


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-11 02:44:06
End at: 2018-09-11 02:44:36
Local clock offset: -0.475 ms
Remote clock offset: -38.537 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.08 Mbit/s
95th percentile per-packet one-way delay: 59.449 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.99 Mbit/s
95th percentile per-packet one-way delay: 58.747 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.35 Mbit/s
95th percentile per-packet one-way delay: 60.961 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.79 Mbit/s
95th percentile per-packet one-way delay: 60.614 ms
Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link

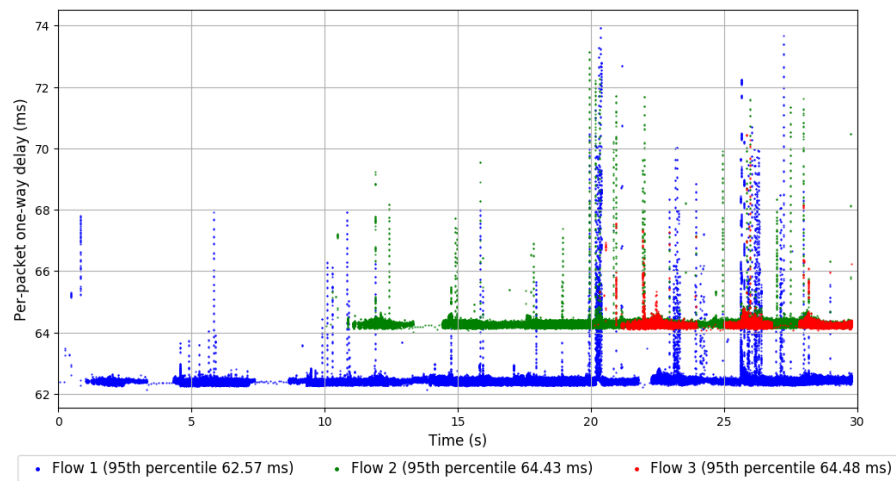
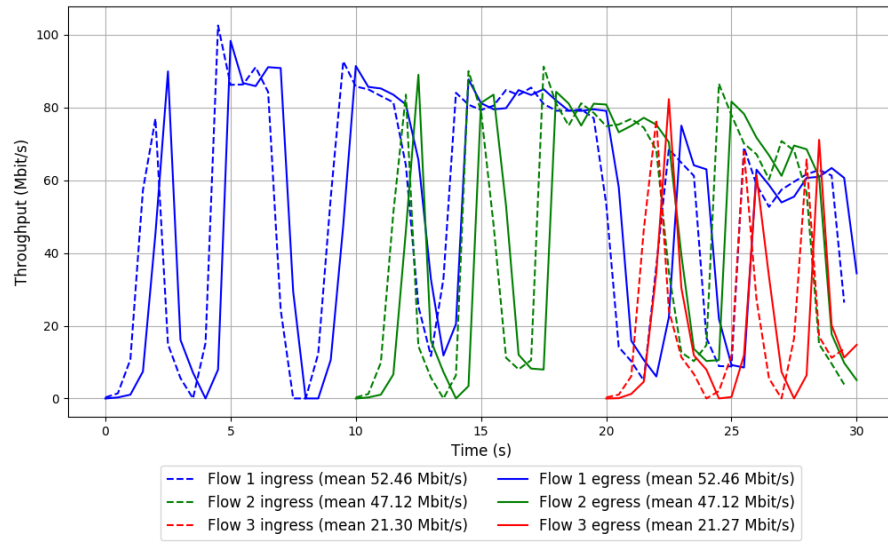


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-11 03:10:00
End at: 2018-09-11 03:10:30
Local clock offset: 0.643 ms
Remote clock offset: -36.4 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.56 Mbit/s
95th percentile per-packet one-way delay: 64.392 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.46 Mbit/s
95th percentile per-packet one-way delay: 62.568 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.12 Mbit/s
95th percentile per-packet one-way delay: 64.432 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.27 Mbit/s
95th percentile per-packet one-way delay: 64.478 ms
Loss rate: 0.12%

Run 2: Report of QUIC Cubic — Data Link

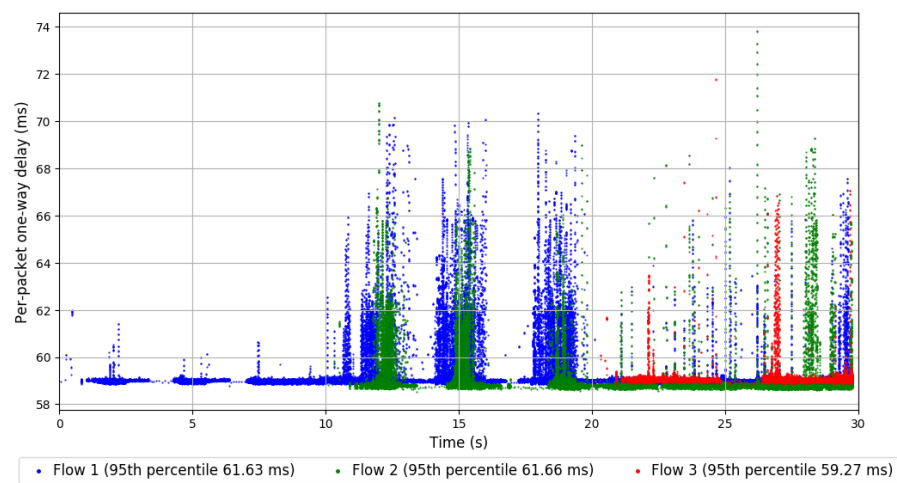
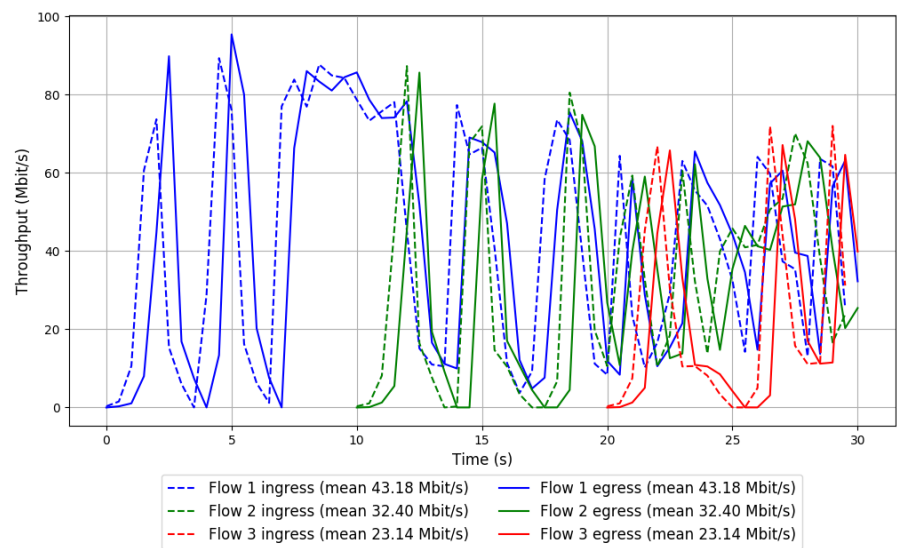


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-11 03:36:03
End at: 2018-09-11 03:36:33
Local clock offset: 0.911 ms
Remote clock offset: -39.943 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 72.14 Mbit/s
95th percentile per-packet one-way delay: 61.518 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.18 Mbit/s
95th percentile per-packet one-way delay: 61.633 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 61.655 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.14 Mbit/s
95th percentile per-packet one-way delay: 59.270 ms
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

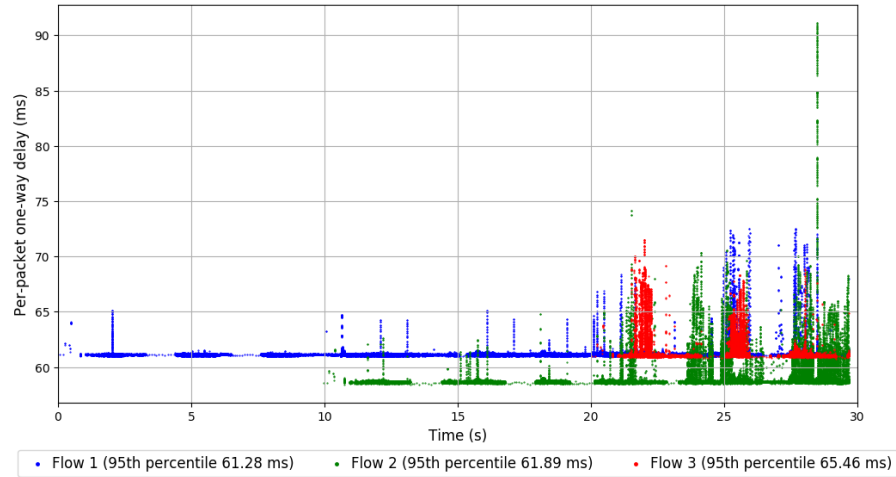
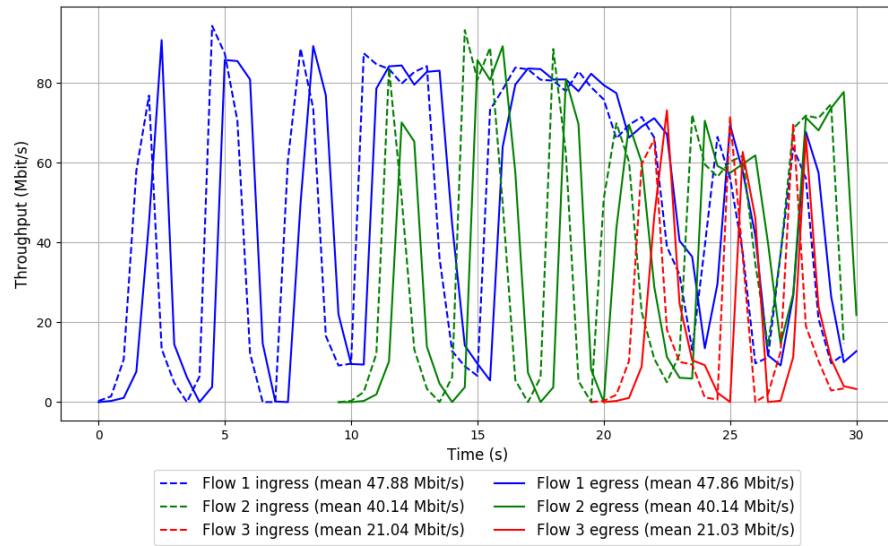


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-11 04:07:52
End at: 2018-09-11 04:08:22
Local clock offset: -0.372 ms
Remote clock offset: -41.981 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 81.43 Mbit/s
95th percentile per-packet one-way delay: 61.823 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 47.86 Mbit/s
95th percentile per-packet one-way delay: 61.281 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 40.14 Mbit/s
95th percentile per-packet one-way delay: 61.887 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.03 Mbit/s
95th percentile per-packet one-way delay: 65.458 ms
Loss rate: 0.04%

Run 4: Report of QUIC Cubic — Data Link

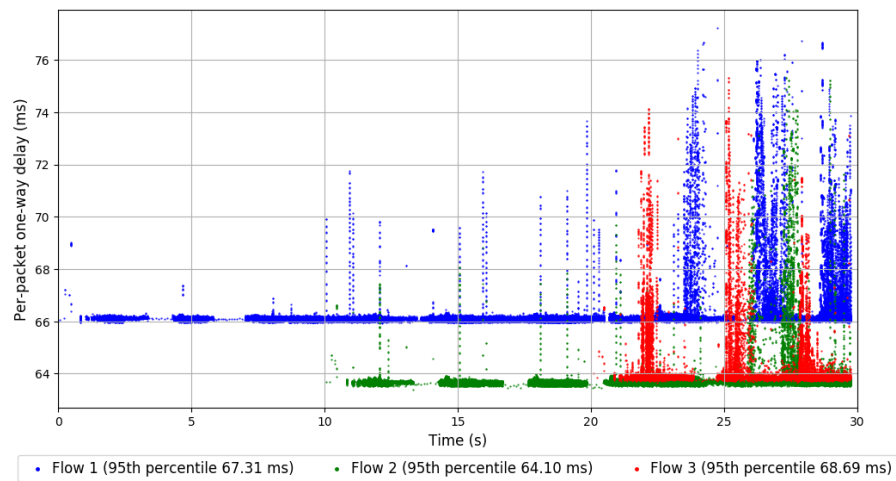
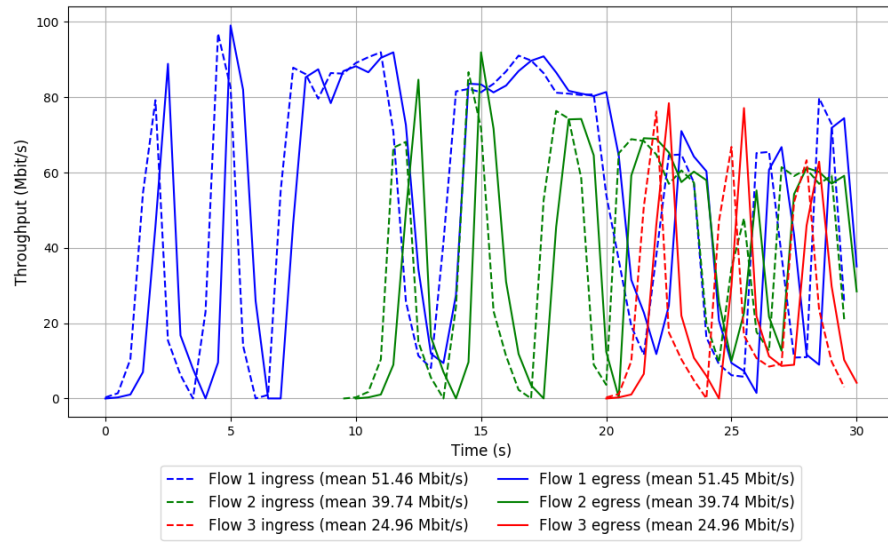


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 04:50:51
End at: 2018-09-11 04:51:21
Local clock offset: 1.423 ms
Remote clock offset: -36.422 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.93 Mbit/s
95th percentile per-packet one-way delay: 66.799 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.45 Mbit/s
95th percentile per-packet one-way delay: 67.308 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 39.74 Mbit/s
95th percentile per-packet one-way delay: 64.101 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.96 Mbit/s
95th percentile per-packet one-way delay: 68.693 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

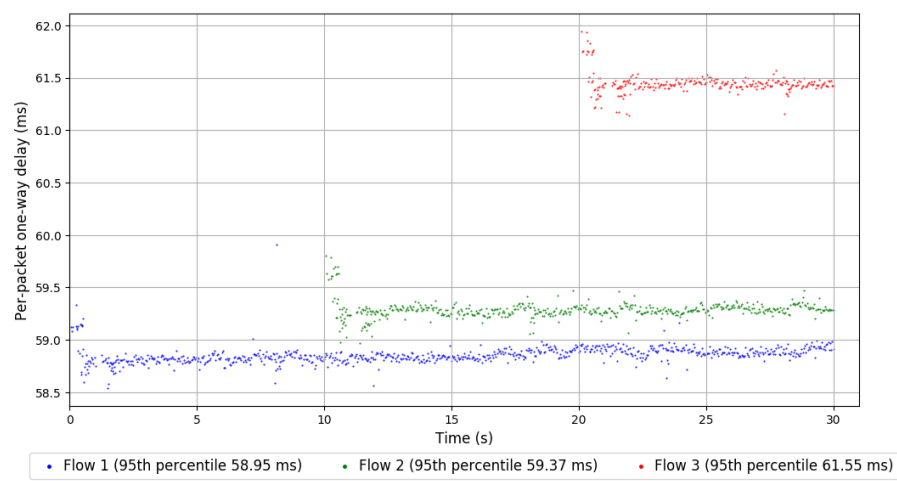
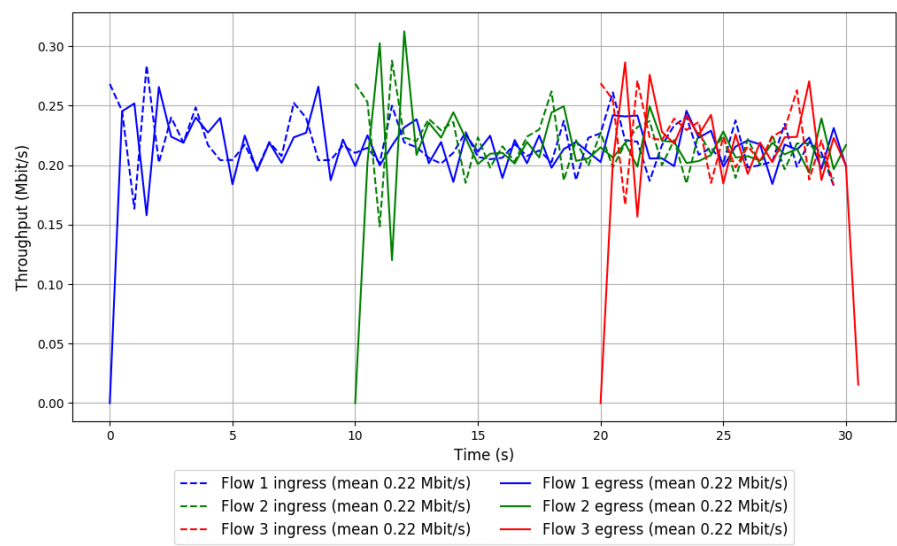


```
Run 1: Statistics of SReAM

Start at: 2018-09-11 02:58:53
End at: 2018-09-11 02:59:23
Local clock offset: -1.091 ms
Remote clock offset: -39.483 ms

# Below is generated by plot.py at 2018-09-11 05:53:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 61.461 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.953 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.371 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.547 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

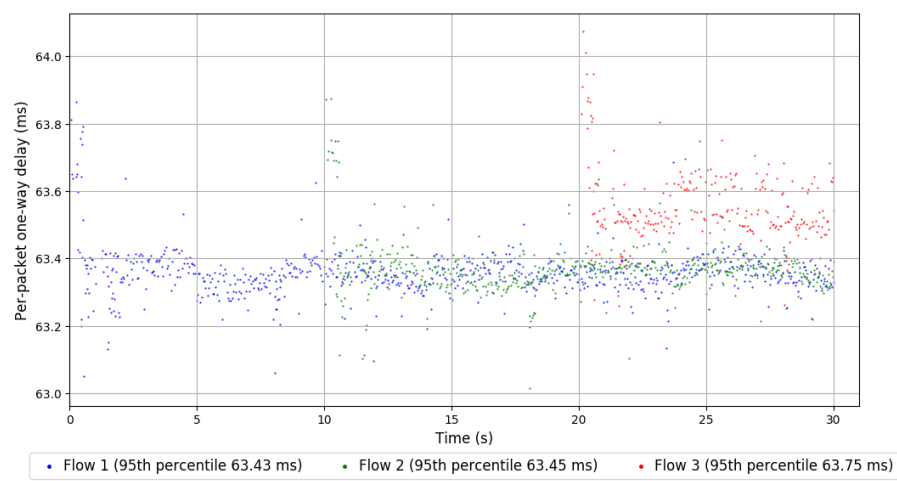
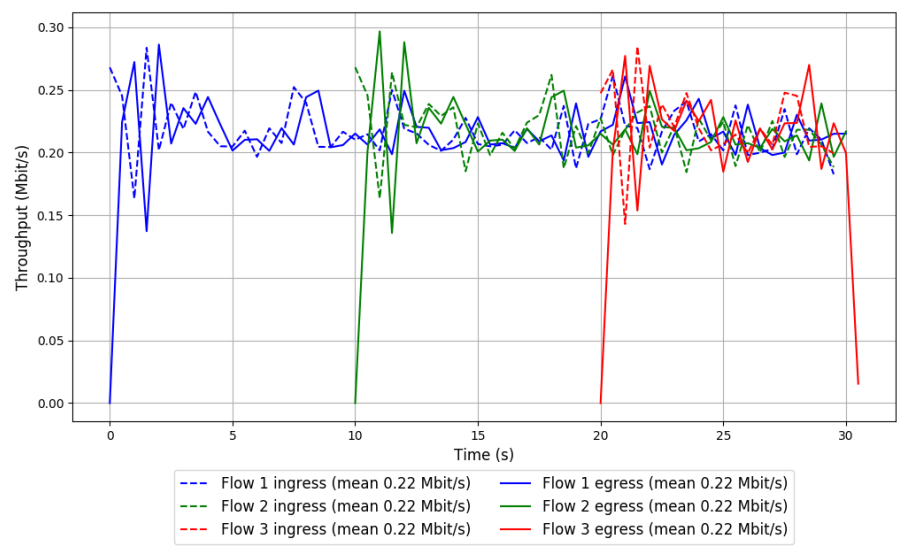


Run 2: Statistics of SReAM

Start at: 2018-09-11 03:24:54
End at: 2018-09-11 03:25:24
Local clock offset: 1.872 ms
Remote clock offset: -34.542 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 63.628 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.429 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.449 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.752 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

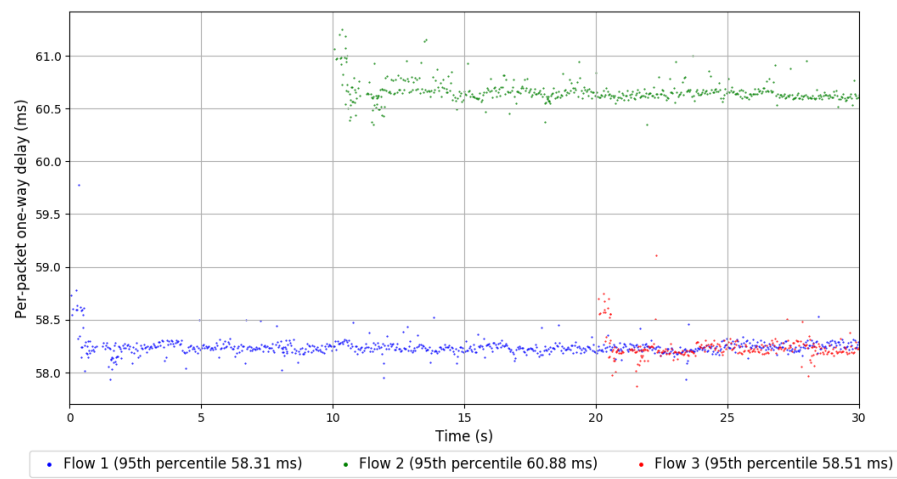
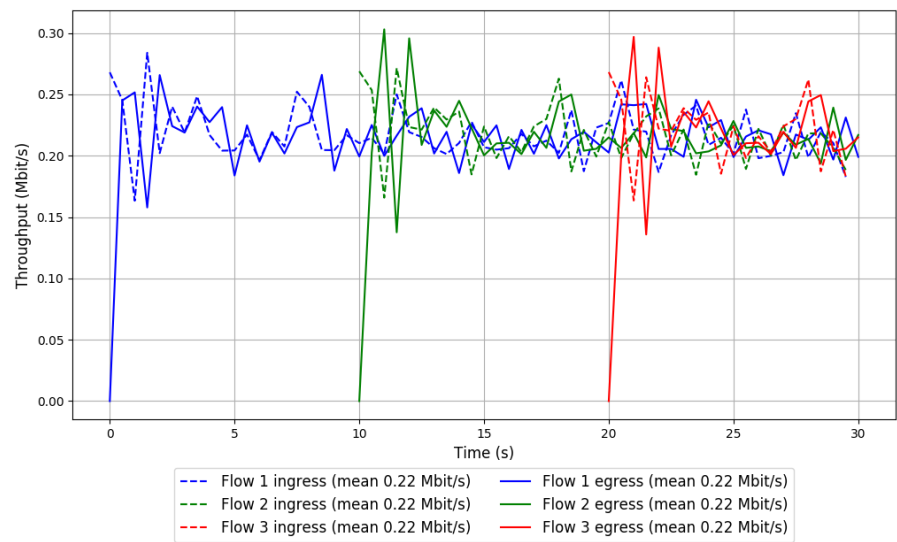


Run 3: Statistics of SReAM

Start at: 2018-09-11 03:56:44
End at: 2018-09-11 03:57:14
Local clock offset: 1.244 ms
Remote clock offset: -40.645 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 60.740 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.314 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.876 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.506 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

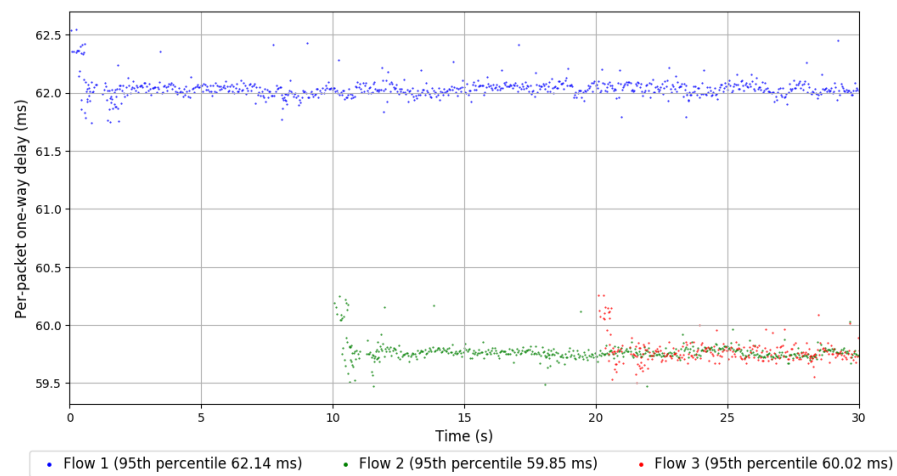
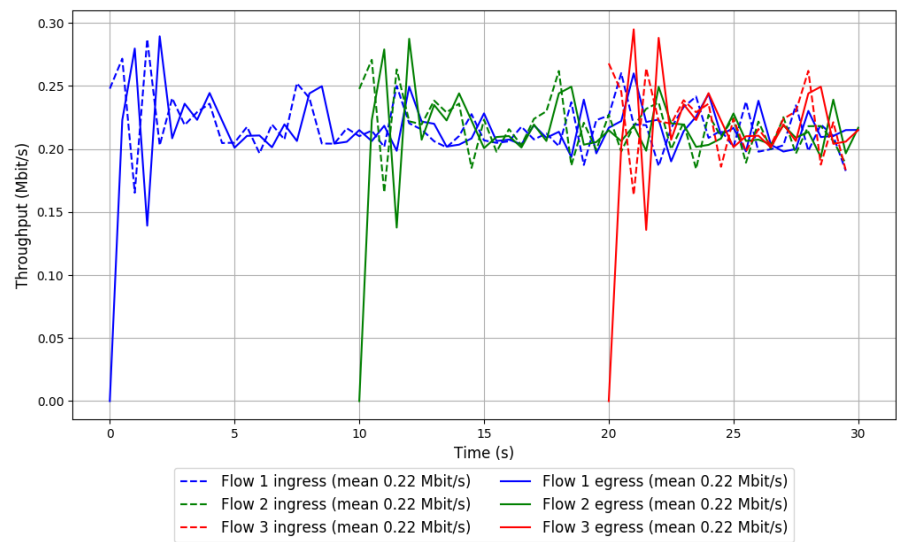


Run 4: Statistics of SReAM

Start at: 2018-09-11 04:34:12
End at: 2018-09-11 04:34:42
Local clock offset: 1.307 ms
Remote clock offset: -40.407 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.091 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.139 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.855 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.018 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

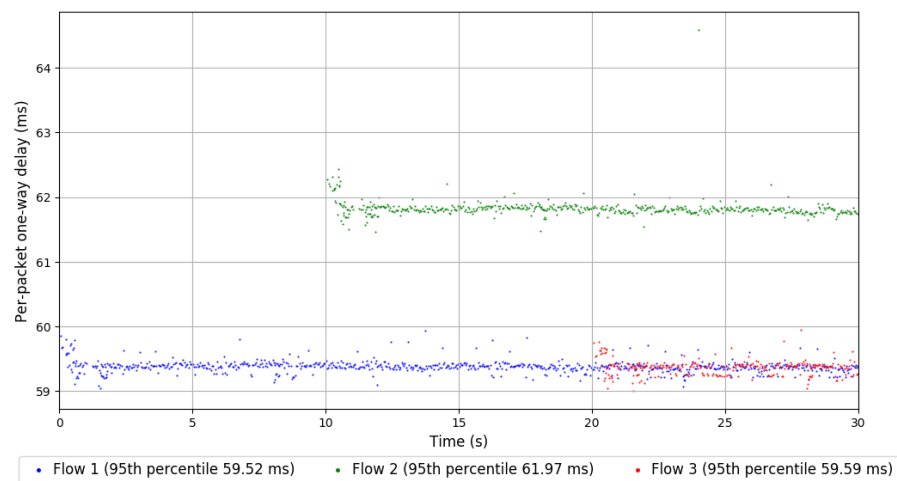
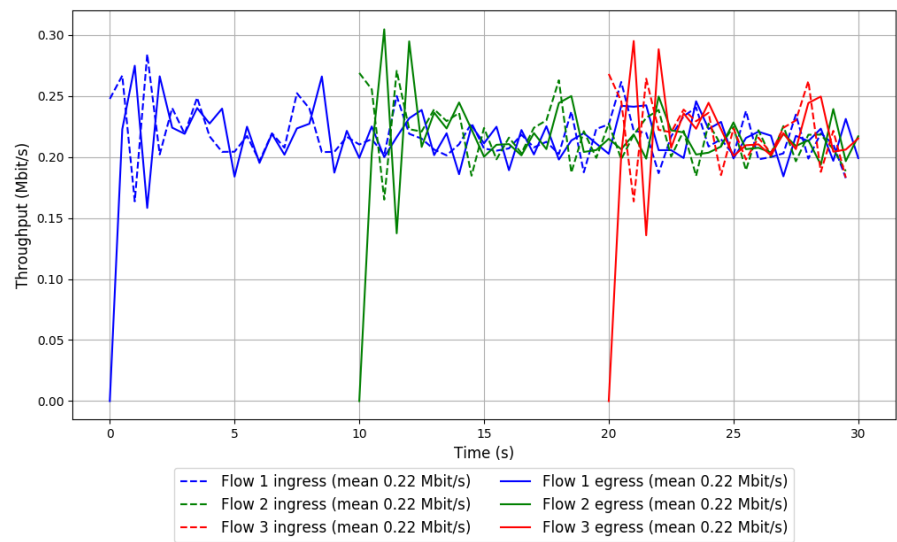


Run 5: Statistics of SReAM

Start at: 2018-09-11 05:17:00
End at: 2018-09-11 05:17:30
Local clock offset: 0.647 ms
Remote clock offset: -39.831 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 61.864 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.521 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.967 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.588 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

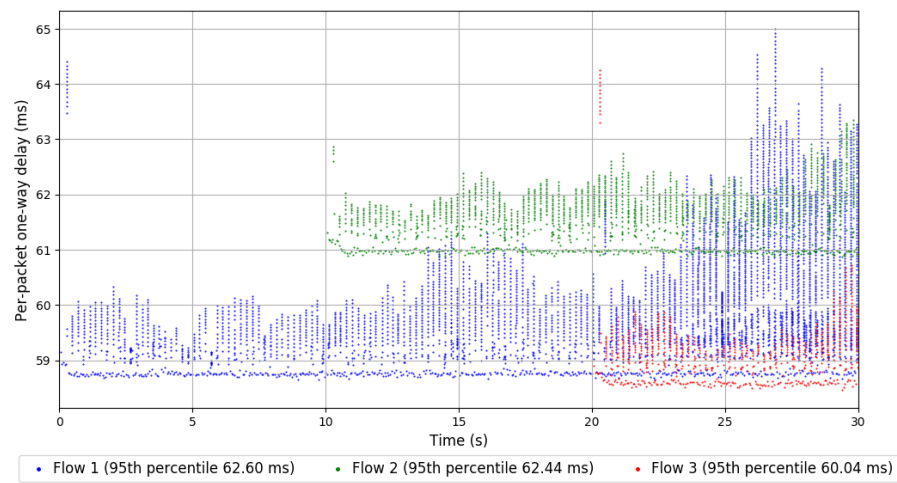
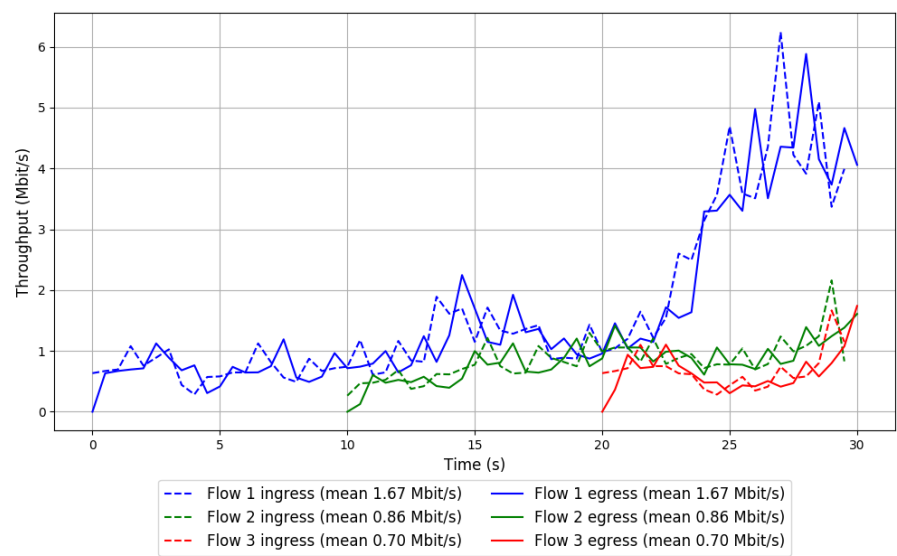


Run 1: Statistics of Sprout

Start at: 2018-09-11 02:42:49
End at: 2018-09-11 02:43:19
Local clock offset: -0.373 ms
Remote clock offset: -38.163 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.47 Mbit/s
95th percentile per-packet one-way delay: 62.485 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 62.598 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 62.439 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 60.043 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

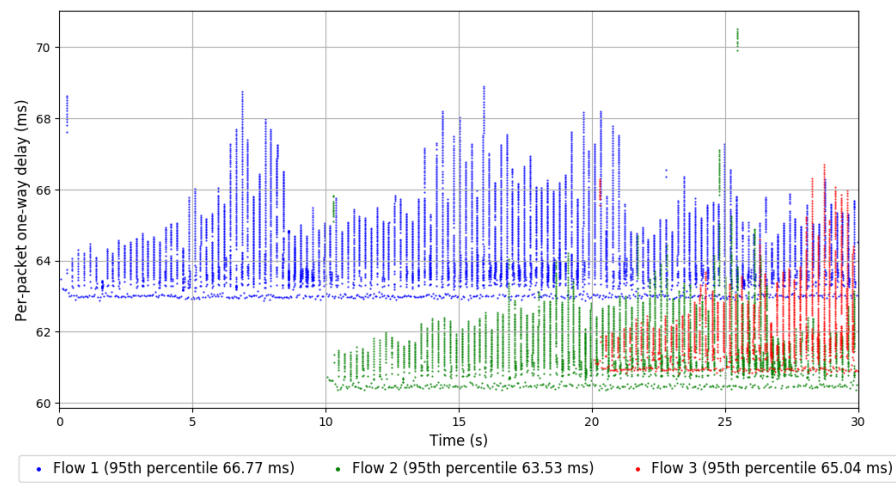
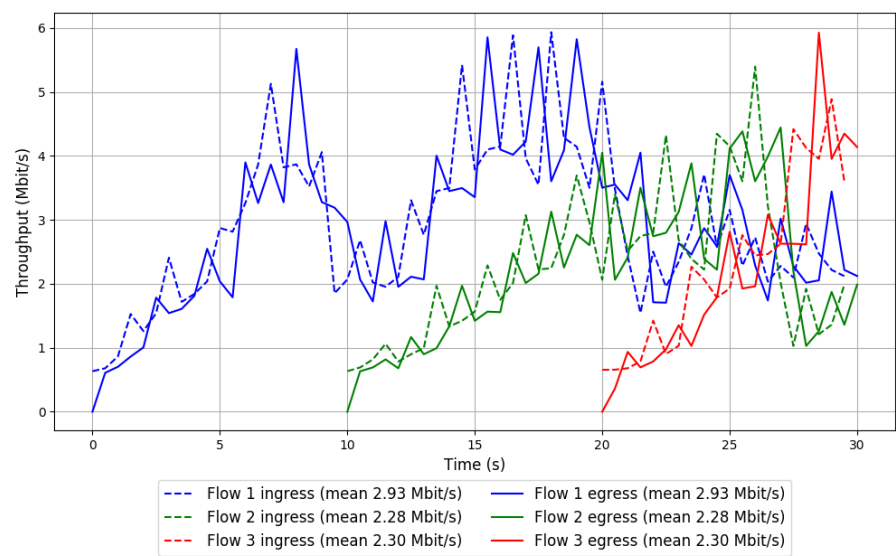


Run 2: Statistics of Sprout

Start at: 2018-09-11 03:08:43
End at: 2018-09-11 03:09:13
Local clock offset: 0.28 ms
Remote clock offset: -37.765 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 5.20 Mbit/s
95th percentile per-packet one-way delay: 66.252 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 66.765 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 63.527 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 65.041 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

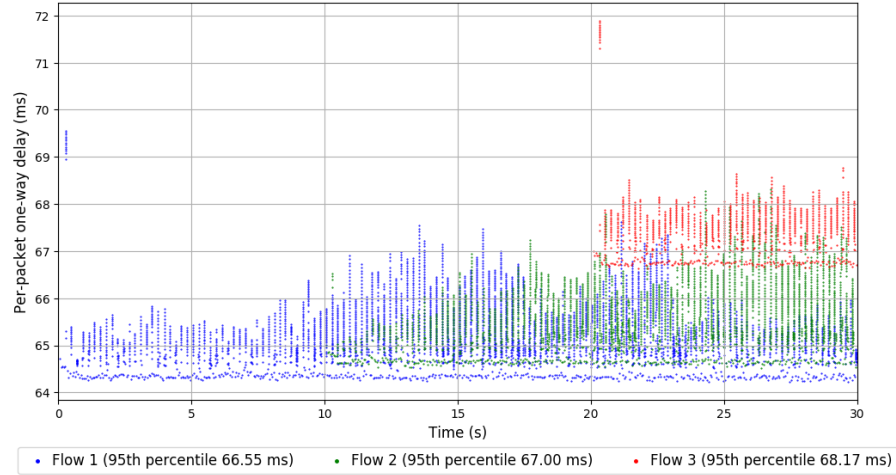
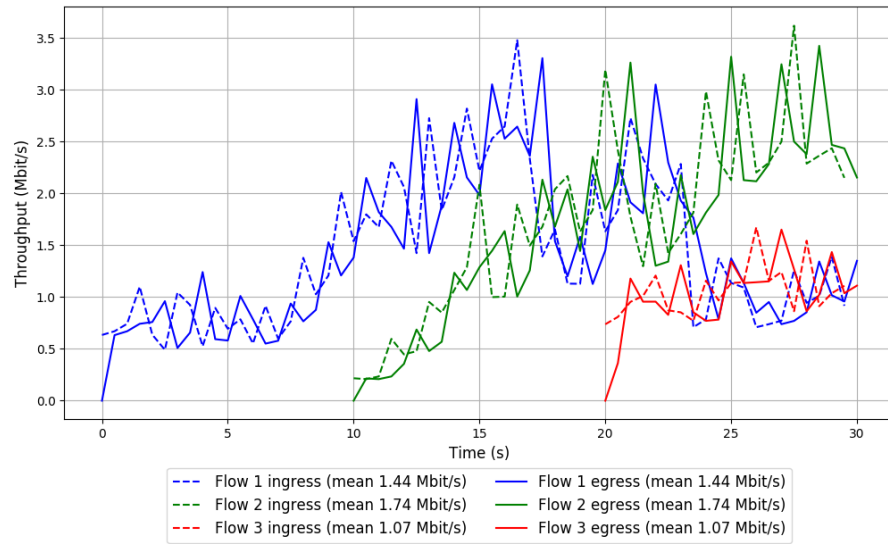


Run 3: Statistics of Sprout

Start at: 2018-09-11 03:34:46
End at: 2018-09-11 03:35:16
Local clock offset: 0.283 ms
Remote clock offset: -34.963 ms

```
# Below is generated by plot.py at 2018-09-11 05:53:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 67.665 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 66.548 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 67.005 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 68.165 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

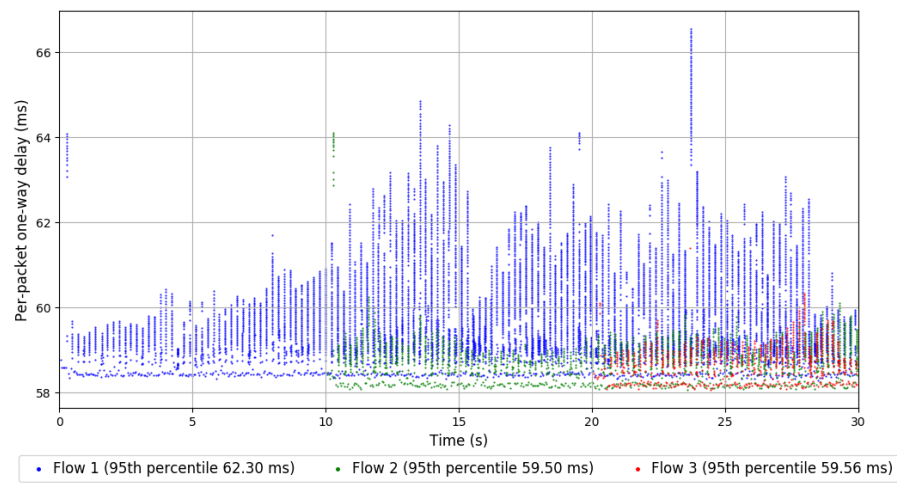
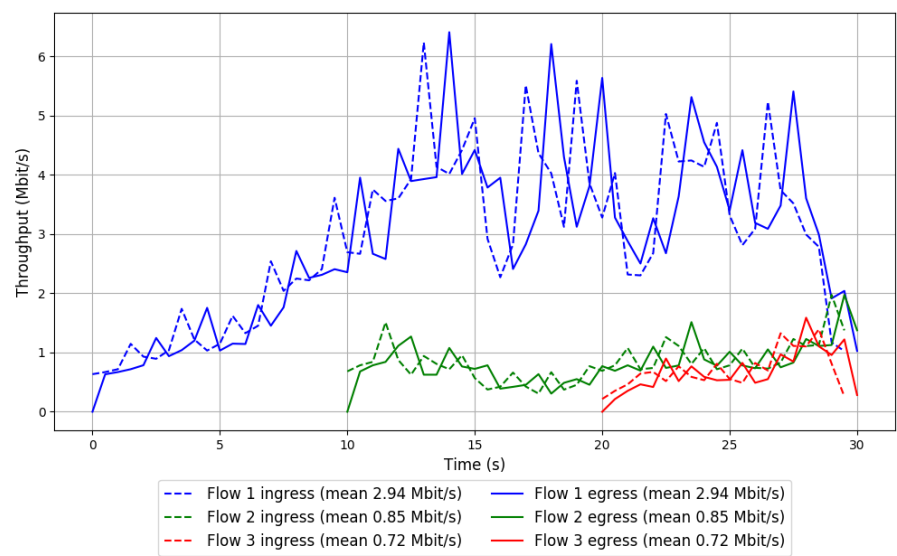


Run 4: Statistics of Sprout

Start at: 2018-09-11 04:06:36
End at: 2018-09-11 04:07:06
Local clock offset: 0.729 ms
Remote clock offset: -41.184 ms

```
# Below is generated by plot.py at 2018-09-11 05:53:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 62.106 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 62.303 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 59.502 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 59.563 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

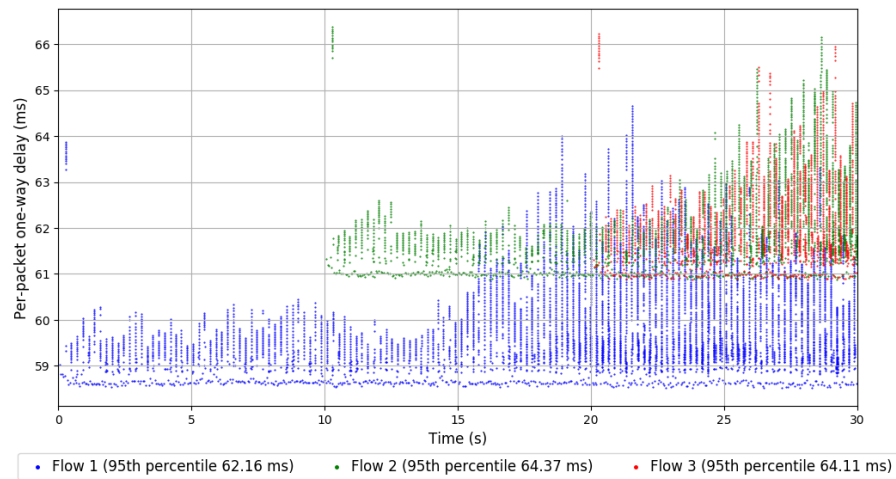
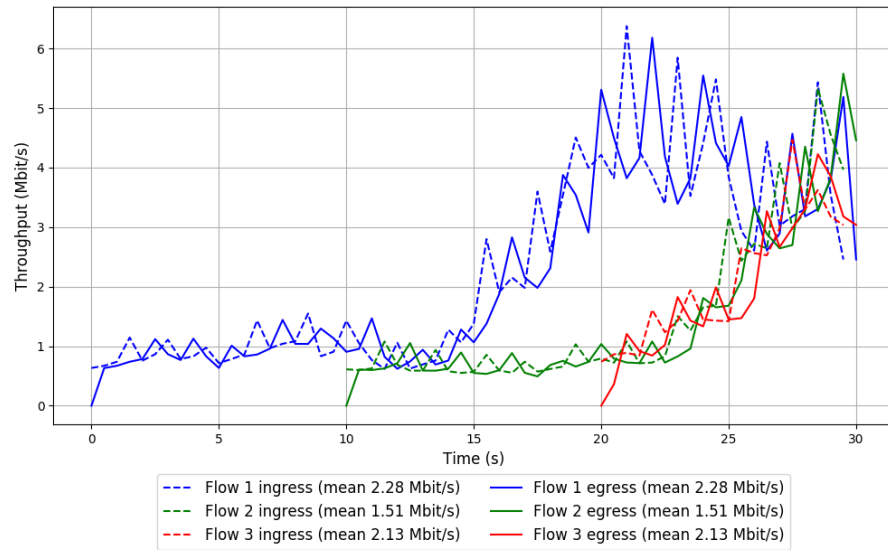


Run 5: Statistics of Sprout

Start at: 2018-09-11 04:44:07
End at: 2018-09-11 04:44:37
Local clock offset: 1.263 ms
Remote clock offset: -41.507 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 63.559 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 62.159 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 64.366 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 64.107 ms
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

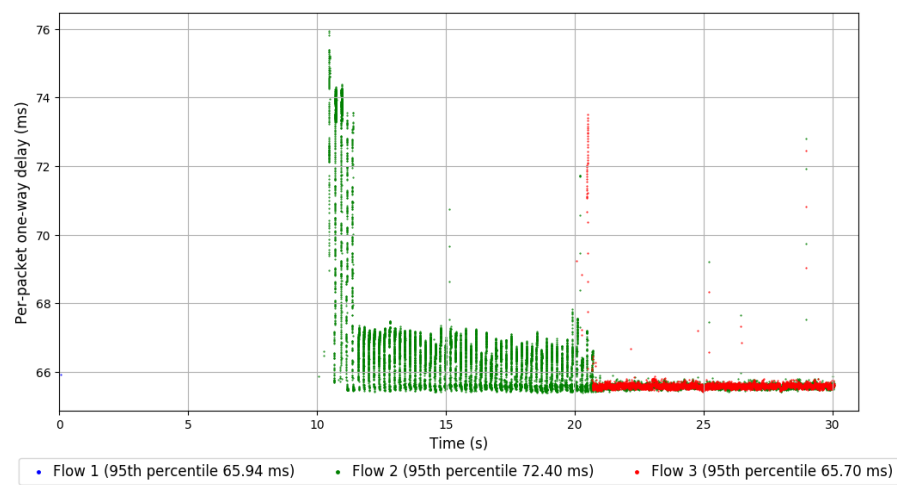
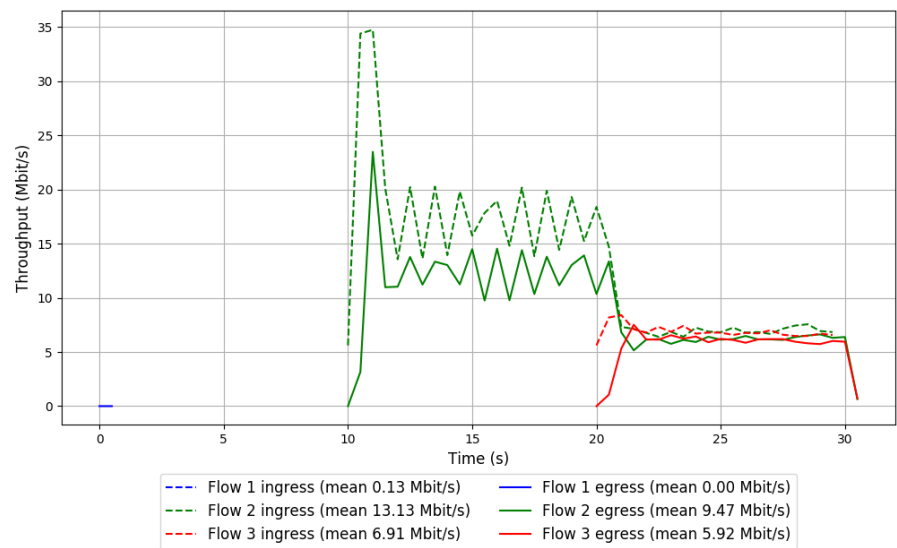


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-11 02:53:11
End at: 2018-09-11 02:53:41
Local clock offset: -0.918 ms
Remote clock offset: -32.182 ms

# Below is generated by plot.py at 2018-09-11 05:53:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 70.628 ms
Loss rate: 25.03%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 65.940 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.47 Mbit/s
95th percentile per-packet one-way delay: 72.400 ms
Loss rate: 27.85%
-- Flow 3:
Average throughput: 5.92 Mbit/s
95th percentile per-packet one-way delay: 65.700 ms
Loss rate: 14.27%
```

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

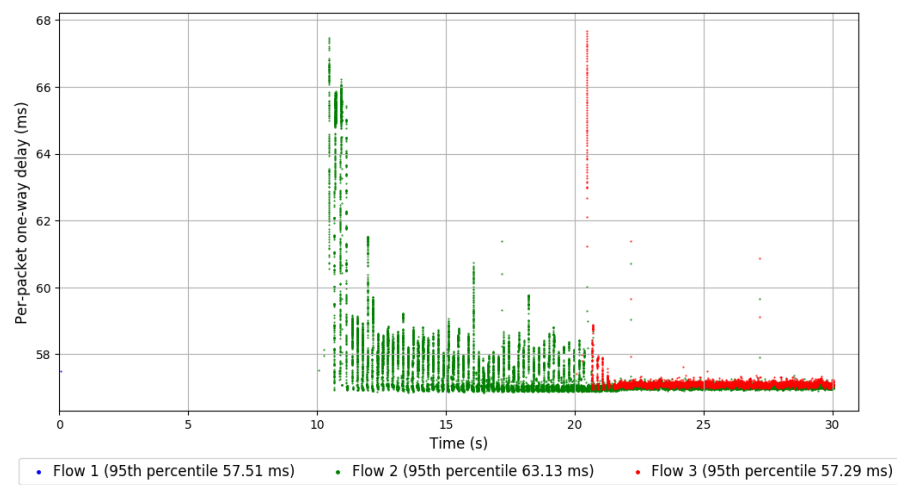
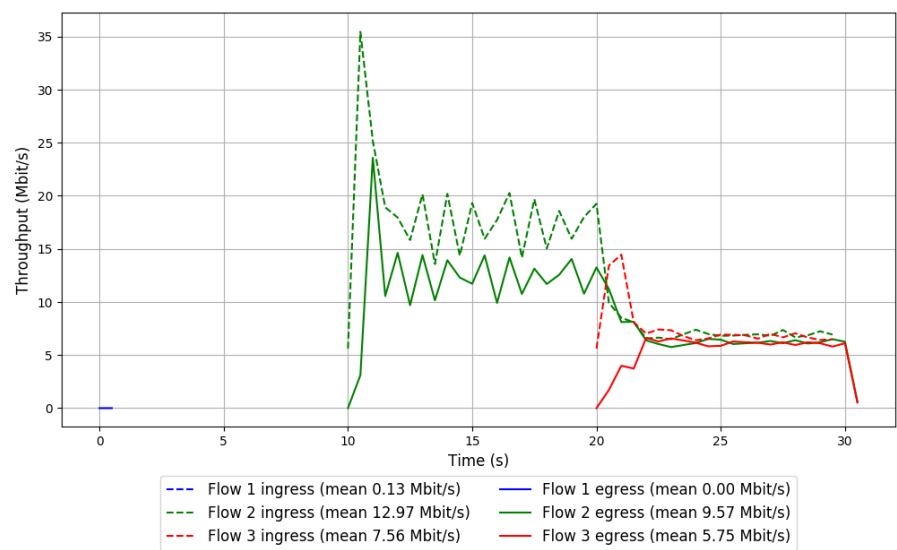


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-11 03:19:13
End at: 2018-09-11 03:19:43
Local clock offset: -0.372 ms
Remote clock offset: -42.924 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 61.387 ms
Loss rate: 25.68%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 57.505 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.57 Mbit/s
95th percentile per-packet one-way delay: 63.132 ms
Loss rate: 26.20%
-- Flow 3:
Average throughput: 5.75 Mbit/s
95th percentile per-packet one-way delay: 57.287 ms
Loss rate: 23.87%

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

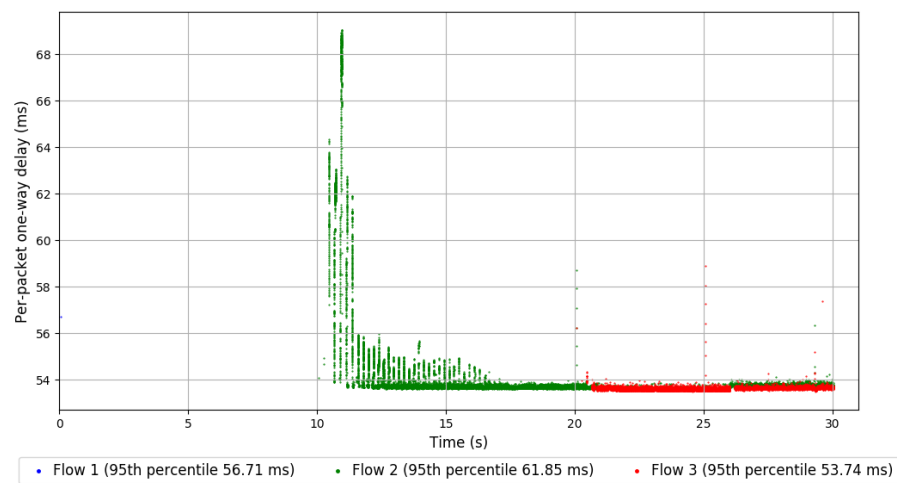
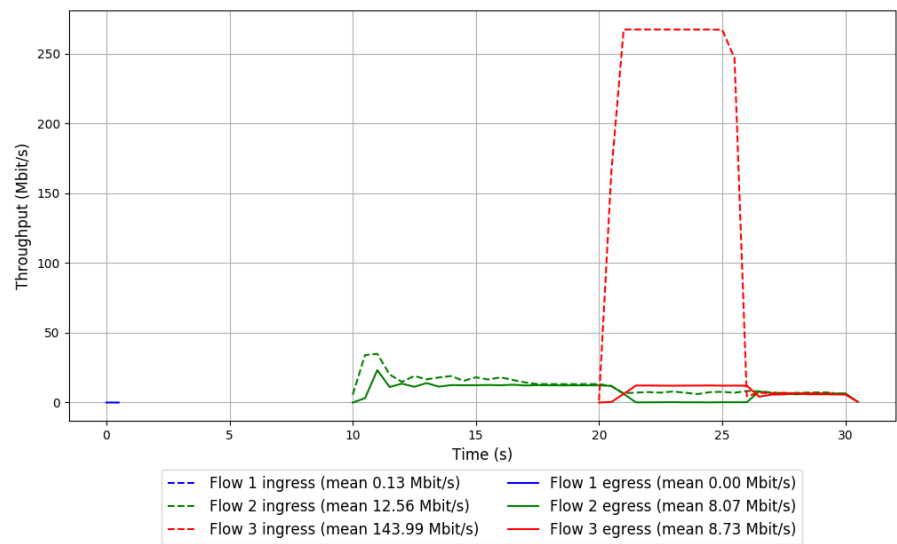


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-11 03:51:04
End at: 2018-09-11 03:51:34
Local clock offset: 1.006 ms
Remote clock offset: -45.356 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 58.958 ms
Loss rate: 85.28%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 56.712 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 61.851 ms
Loss rate: 35.77%
-- Flow 3:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 53.741 ms
Loss rate: 93.94%

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

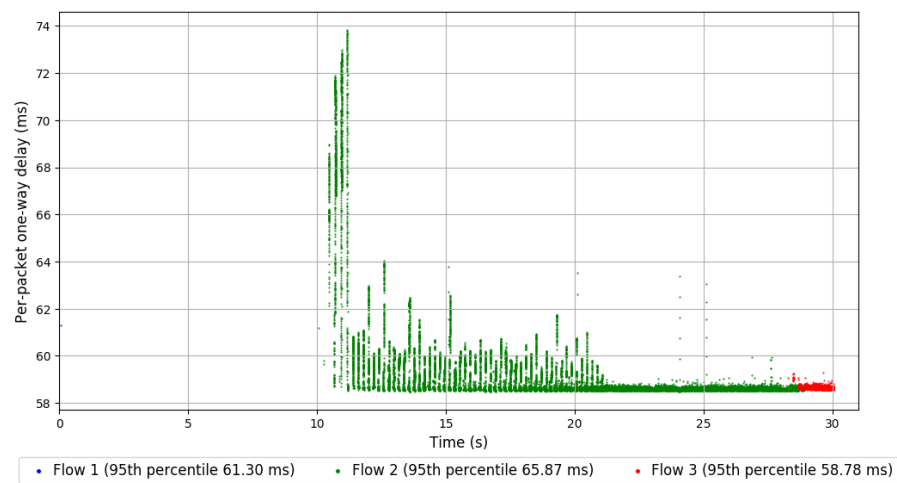
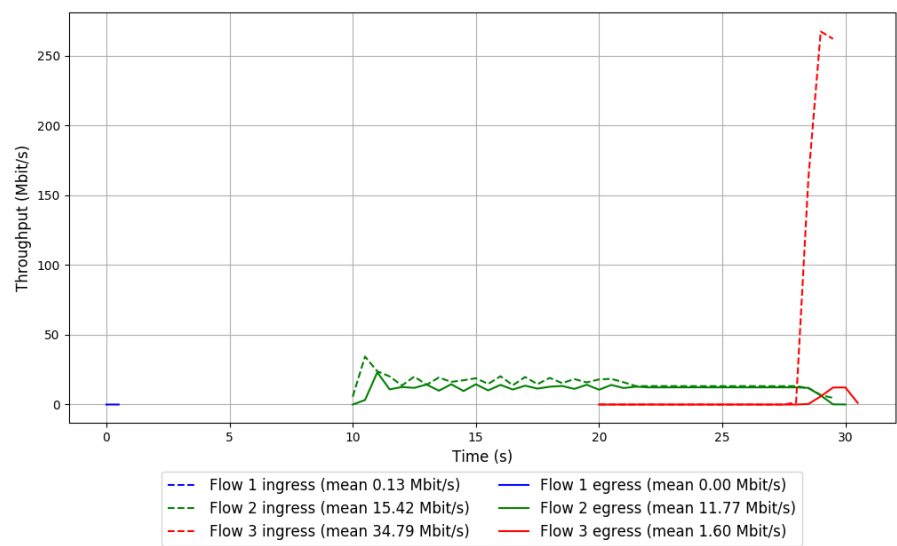


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-11 04:22:35
End at: 2018-09-11 04:23:05
Local clock offset: 1.153 ms
Remote clock offset: -40.996 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.27 Mbit/s
95th percentile per-packet one-way delay: 64.788 ms
Loss rate: 62.11%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 61.297 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 65.867 ms
Loss rate: 24.63%
-- Flow 3:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 58.778 ms
Loss rate: 95.40%

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

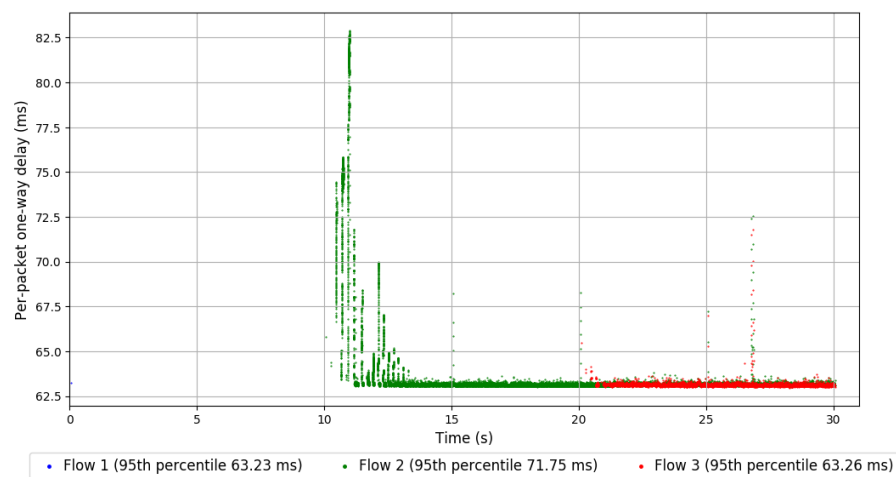
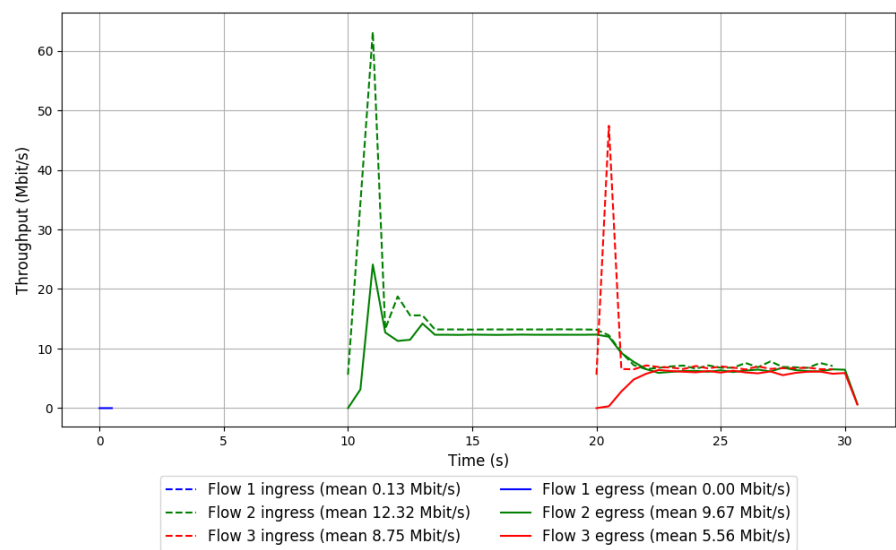


Run 5: Statistics of TaoVA-100x

Start at: 2018-09-11 05:11:13
End at: 2018-09-11 05:11:43
Local clock offset: 0.937 ms
Remote clock offset: -36.553 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 69.216 ms
Loss rate: 25.45%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 63.233 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.67 Mbit/s
95th percentile per-packet one-way delay: 71.746 ms
Loss rate: 21.55%
-- Flow 3:
Average throughput: 5.56 Mbit/s
95th percentile per-packet one-way delay: 63.261 ms
Loss rate: 36.43%

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

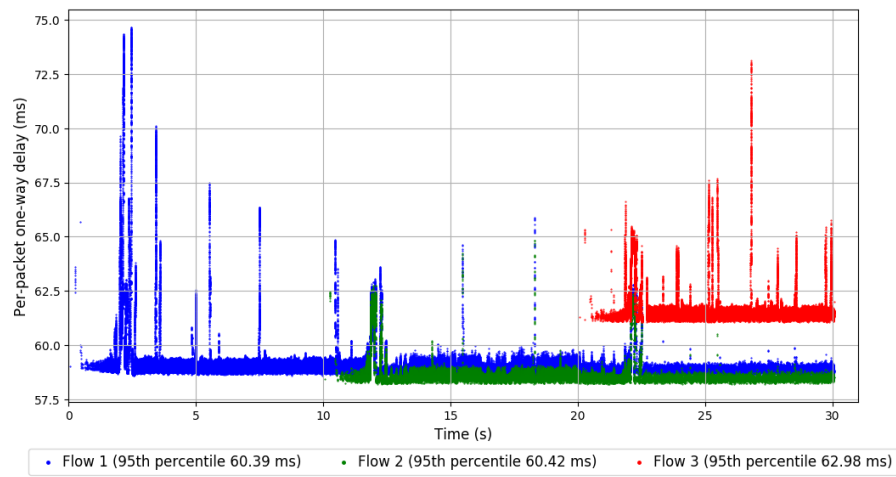
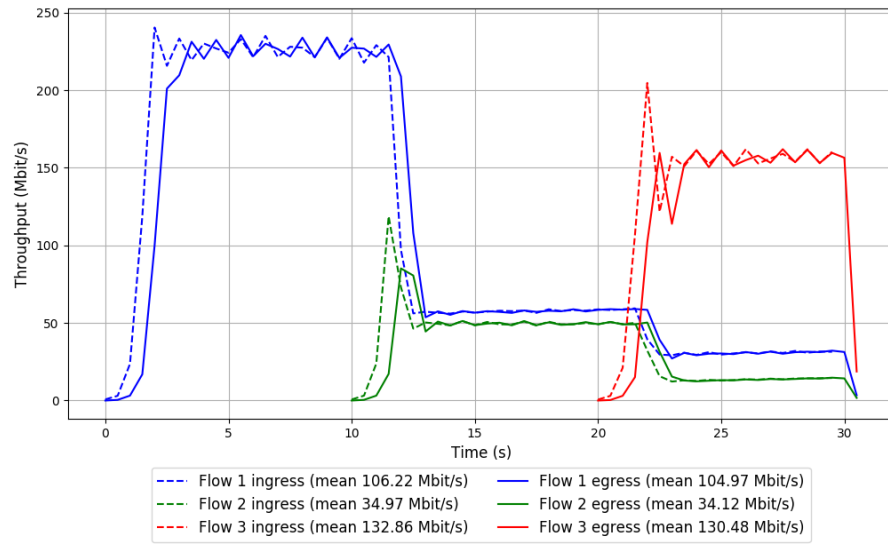


Run 1: Statistics of TCP Vegas

Start at: 2018-09-11 02:56:07
End at: 2018-09-11 02:56:37
Local clock offset: -0.749 ms
Remote clock offset: -38.981 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 171.07 Mbit/s
95th percentile per-packet one-way delay: 61.757 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 104.97 Mbit/s
95th percentile per-packet one-way delay: 60.392 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 34.12 Mbit/s
95th percentile per-packet one-way delay: 60.422 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 130.48 Mbit/s
95th percentile per-packet one-way delay: 62.975 ms
Loss rate: 1.80%

Run 1: Report of TCP Vegas — Data Link

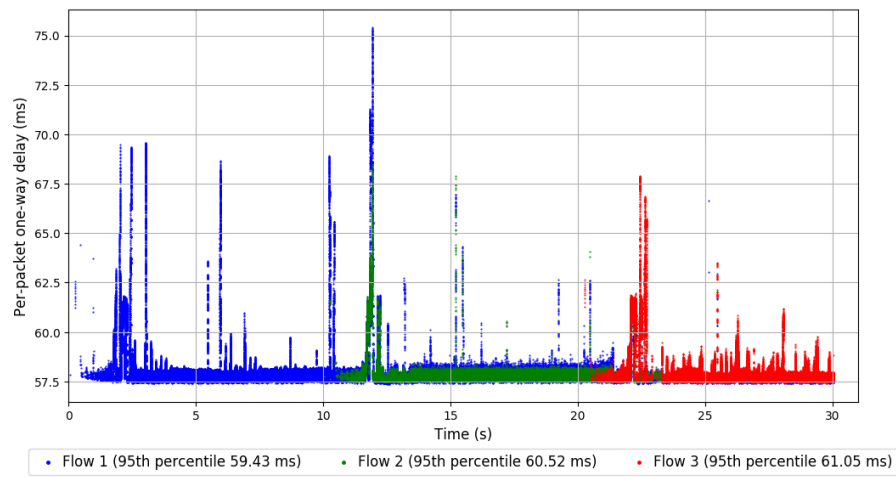
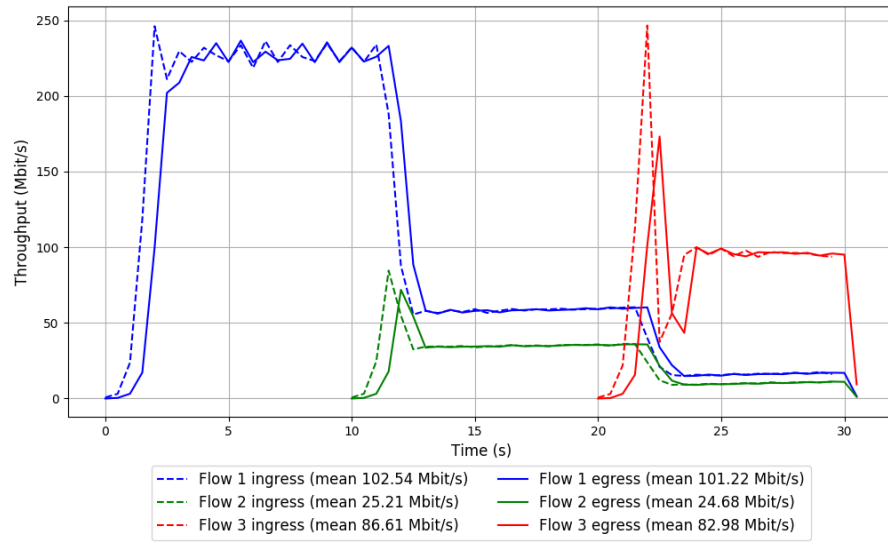


Run 2: Statistics of TCP Vegas

Start at: 2018-09-11 03:22:08
End at: 2018-09-11 03:22:38
Local clock offset: 1.753 ms
Remote clock offset: -40.304 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 145.23 Mbit/s
95th percentile per-packet one-way delay: 60.362 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 101.22 Mbit/s
95th percentile per-packet one-way delay: 59.427 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 24.68 Mbit/s
95th percentile per-packet one-way delay: 60.521 ms
Loss rate: 2.12%
-- Flow 3:
Average throughput: 82.98 Mbit/s
95th percentile per-packet one-way delay: 61.049 ms
Loss rate: 4.18%

Run 2: Report of TCP Vegas — Data Link

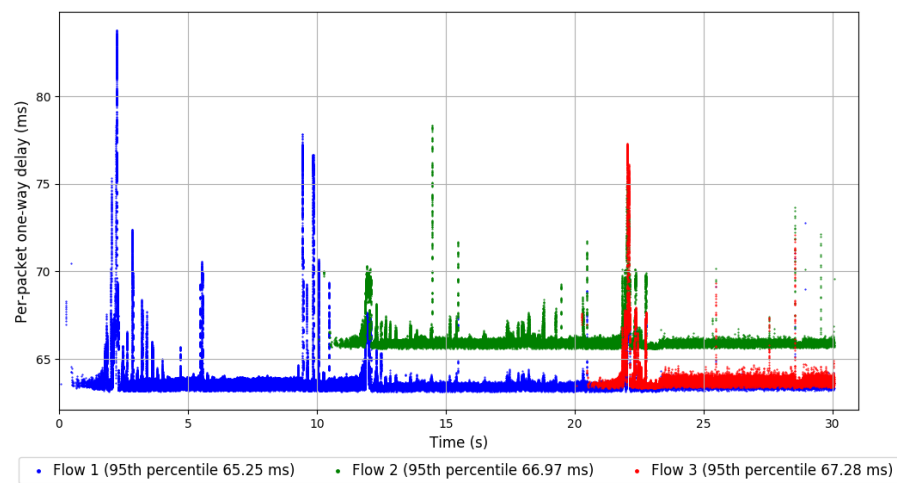
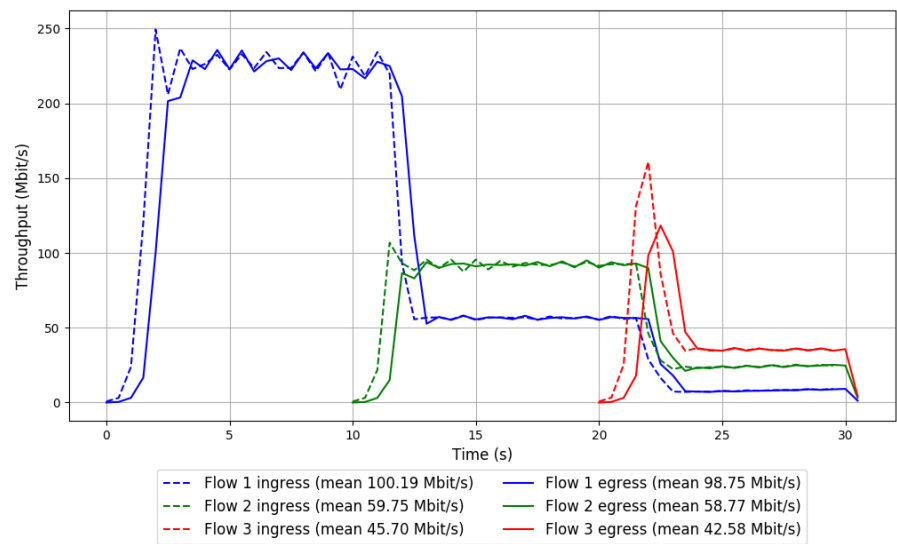


Run 3: Statistics of TCP Vegas

Start at: 2018-09-11 03:53:59
End at: 2018-09-11 03:54:29
Local clock offset: 0.369 ms
Remote clock offset: -36.264 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 152.08 Mbit/s
95th percentile per-packet one-way delay: 66.485 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 98.75 Mbit/s
95th percentile per-packet one-way delay: 65.247 ms
Loss rate: 1.43%
-- Flow 2:
Average throughput: 58.77 Mbit/s
95th percentile per-packet one-way delay: 66.969 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 42.58 Mbit/s
95th percentile per-packet one-way delay: 67.281 ms
Loss rate: 6.82%

Run 3: Report of TCP Vegas — Data Link

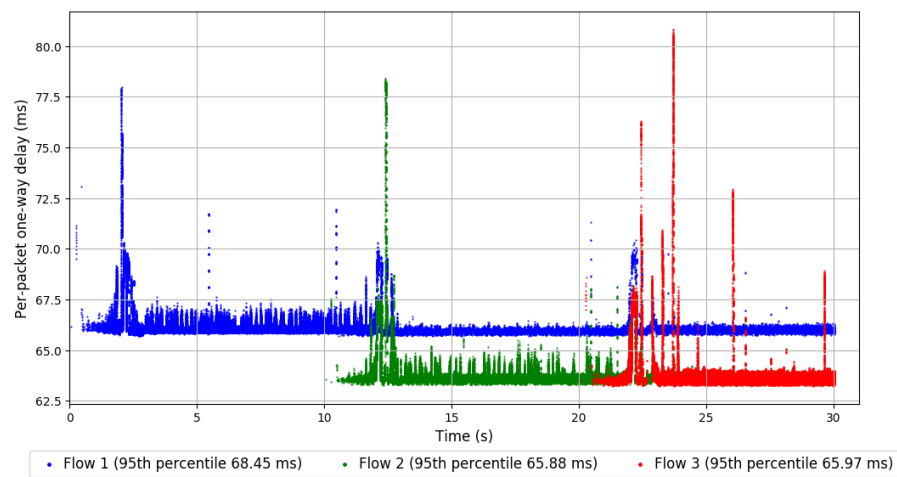
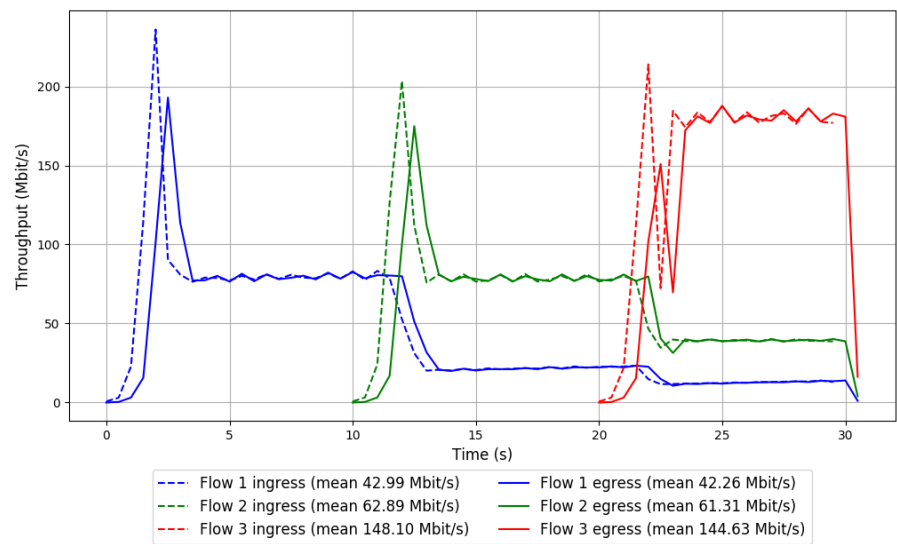


Run 4: Statistics of TCP Vegas

Start at: 2018-09-11 04:30:57
End at: 2018-09-11 04:31:27
Local clock offset: 1.097 ms
Remote clock offset: -36.566 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 131.16 Mbit/s
95th percentile per-packet one-way delay: 66.836 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 42.26 Mbit/s
95th percentile per-packet one-way delay: 68.453 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 61.31 Mbit/s
95th percentile per-packet one-way delay: 65.881 ms
Loss rate: 2.51%
-- Flow 3:
Average throughput: 144.63 Mbit/s
95th percentile per-packet one-way delay: 65.967 ms
Loss rate: 2.34%

Run 4: Report of TCP Vegas — Data Link

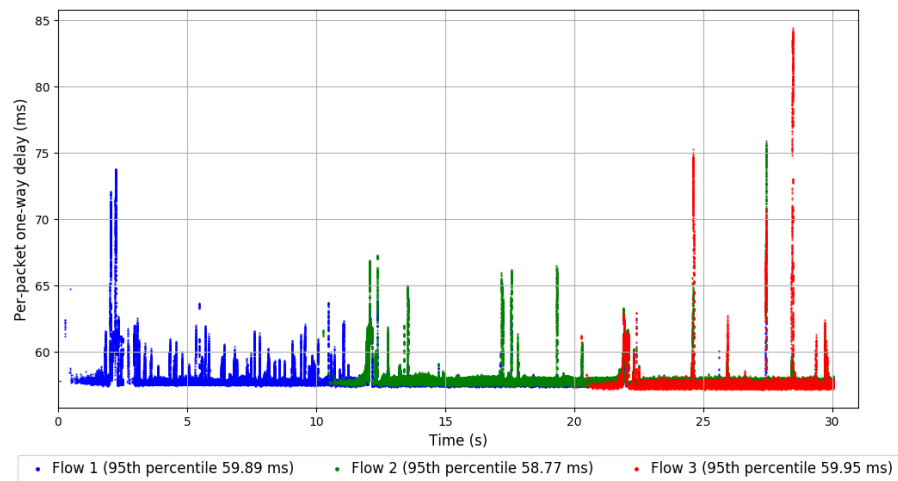
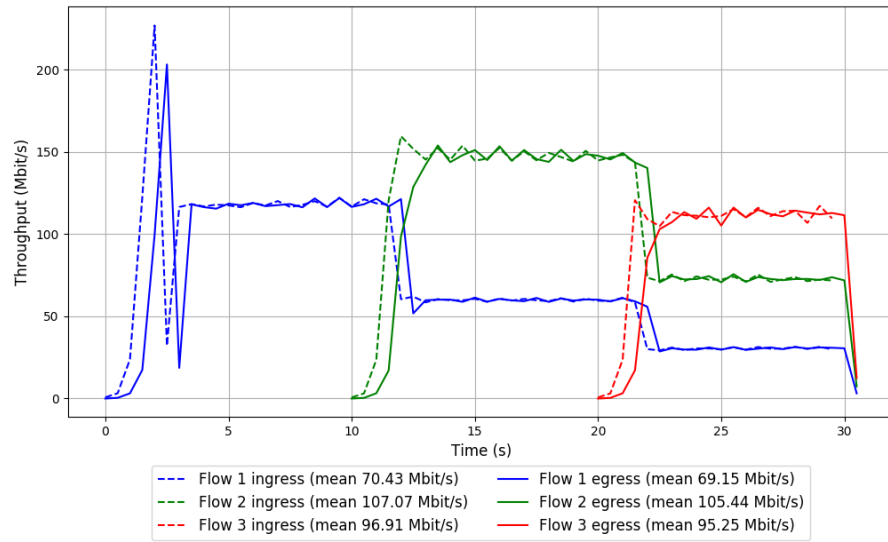


Run 5: Statistics of TCP Vegas

Start at: 2018-09-11 05:14:13
End at: 2018-09-11 05:14:43
Local clock offset: 1.912 ms
Remote clock offset: -40.487 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 171.10 Mbit/s
95th percentile per-packet one-way delay: 59.507 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 69.15 Mbit/s
95th percentile per-packet one-way delay: 59.890 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 105.44 Mbit/s
95th percentile per-packet one-way delay: 58.767 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 95.25 Mbit/s
95th percentile per-packet one-way delay: 59.950 ms
Loss rate: 1.71%

Run 5: Report of TCP Vegas — Data Link

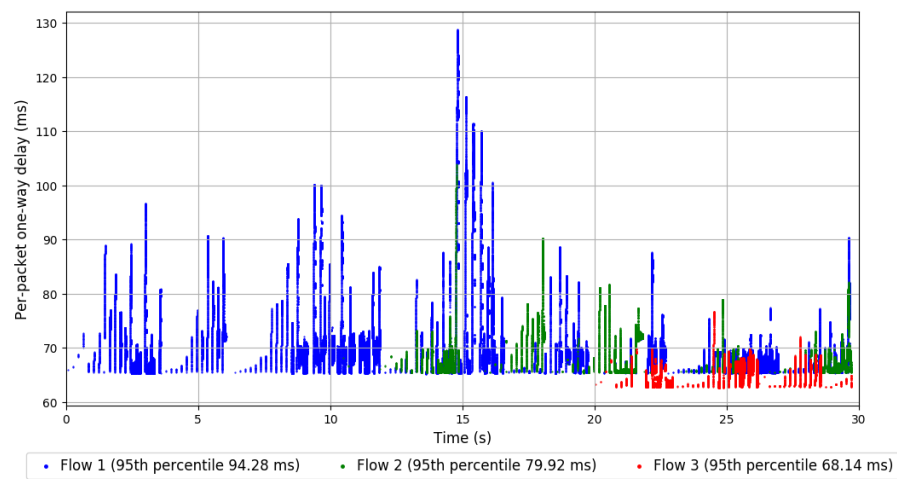
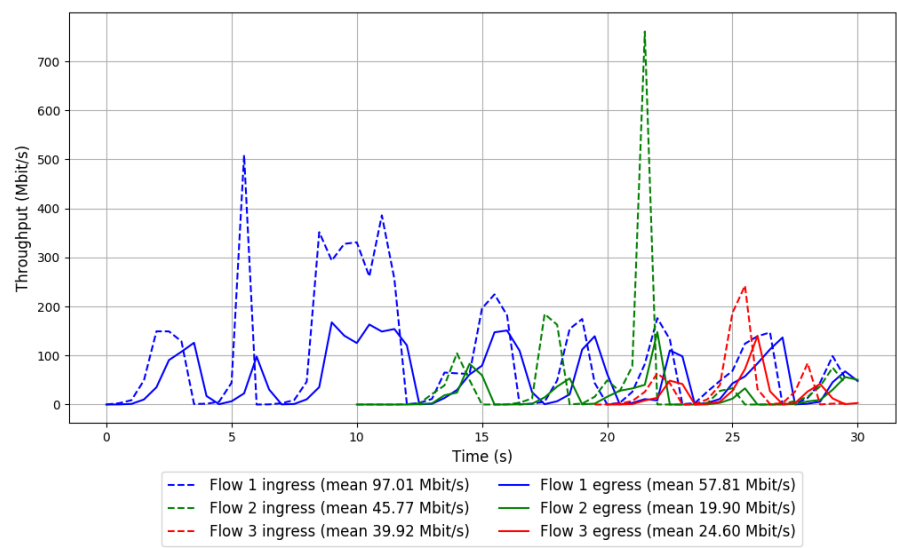


Run 1: Statistics of Verus

Start at: 2018-09-11 03:01:45
End at: 2018-09-11 03:02:15
Local clock offset: -0.427 ms
Remote clock offset: -35.319 ms

Below is generated by plot.py at 2018-09-11 05:53:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 78.68 Mbit/s
95th percentile per-packet one-way delay: 90.181 ms
Loss rate: 43.64%
-- Flow 1:
Average throughput: 57.81 Mbit/s
95th percentile per-packet one-way delay: 94.283 ms
Loss rate: 40.40%
-- Flow 2:
Average throughput: 19.90 Mbit/s
95th percentile per-packet one-way delay: 79.916 ms
Loss rate: 56.53%
-- Flow 3:
Average throughput: 24.60 Mbit/s
95th percentile per-packet one-way delay: 68.144 ms
Loss rate: 38.37%

Run 1: Report of Verus — Data Link

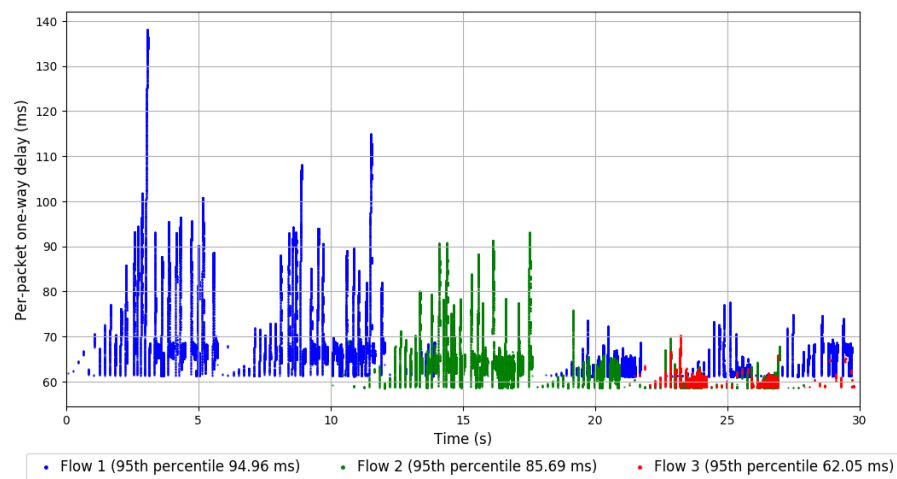
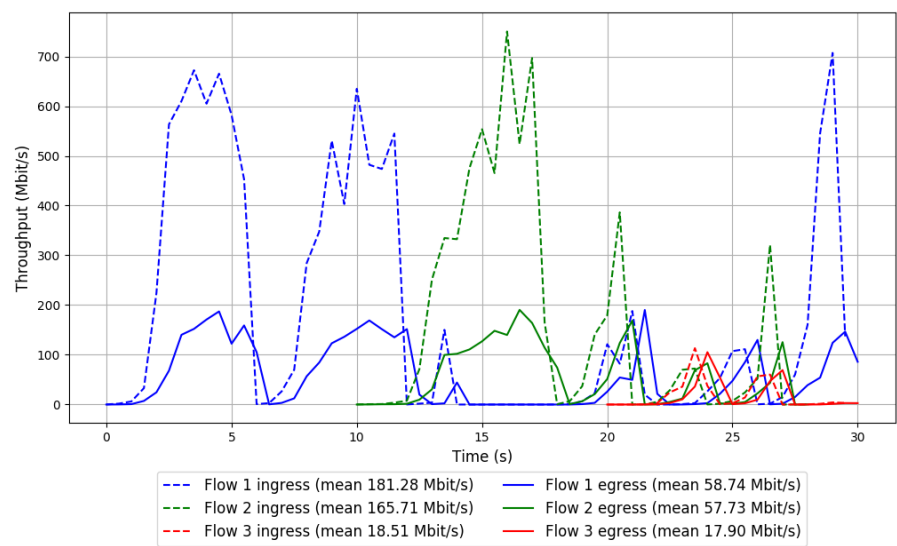


Run 2: Statistics of Verus

Start at: 2018-09-11 03:27:44
End at: 2018-09-11 03:28:14
Local clock offset: 1.102 ms
Remote clock offset: -40.013 ms

Below is generated by plot.py at 2018-09-11 05:53:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 99.02 Mbit/s
95th percentile per-packet one-way delay: 92.050 ms
Loss rate: 65.52%
-- Flow 1:
Average throughput: 58.74 Mbit/s
95th percentile per-packet one-way delay: 94.964 ms
Loss rate: 67.59%
-- Flow 2:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 85.695 ms
Loss rate: 65.53%
-- Flow 3:
Average throughput: 17.90 Mbit/s
95th percentile per-packet one-way delay: 62.053 ms
Loss rate: 3.36%

Run 2: Report of Verus — Data Link

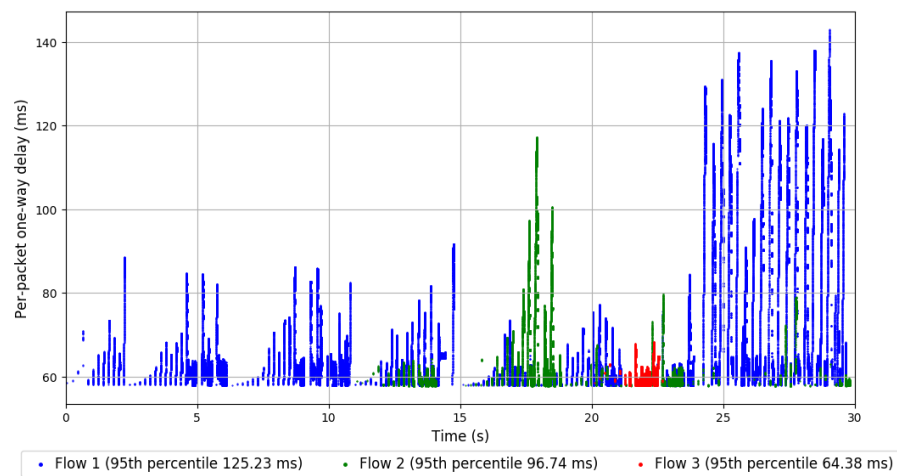
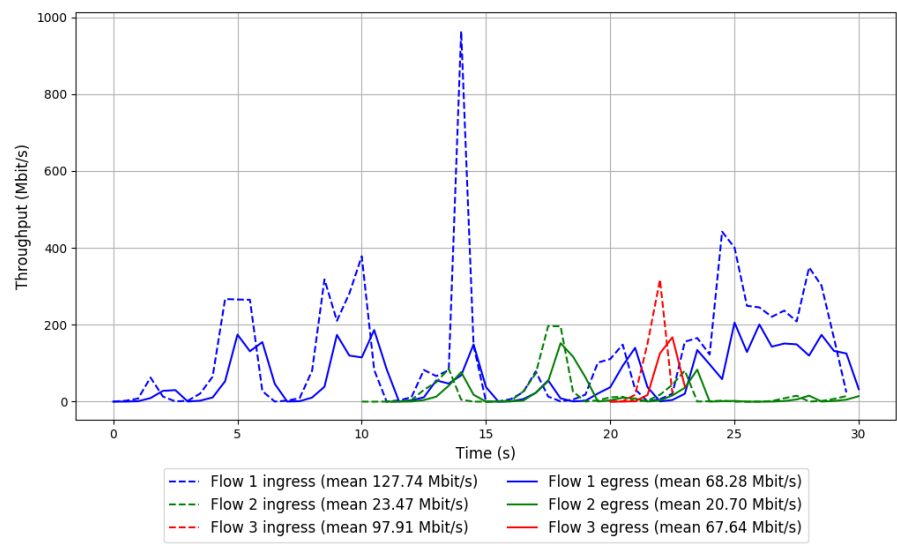


Run 3: Statistics of Verus

Start at: 2018-09-11 03:59:35
End at: 2018-09-11 04:00:05
Local clock offset: 0.82 ms
Remote clock offset: -41.383 ms

Below is generated by plot.py at 2018-09-11 05:53:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 86.97 Mbit/s
95th percentile per-packet one-way delay: 122.220 ms
Loss rate: 42.56%
-- Flow 1:
Average throughput: 68.28 Mbit/s
95th percentile per-packet one-way delay: 125.227 ms
Loss rate: 46.55%
-- Flow 2:
Average throughput: 20.70 Mbit/s
95th percentile per-packet one-way delay: 96.743 ms
Loss rate: 16.27%
-- Flow 3:
Average throughput: 67.64 Mbit/s
95th percentile per-packet one-way delay: 64.377 ms
Loss rate: 30.90%

Run 3: Report of Verus — Data Link

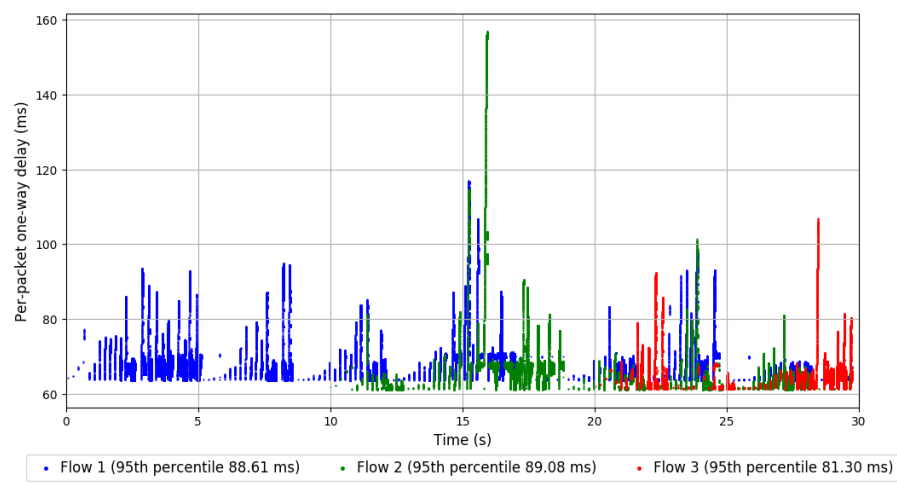
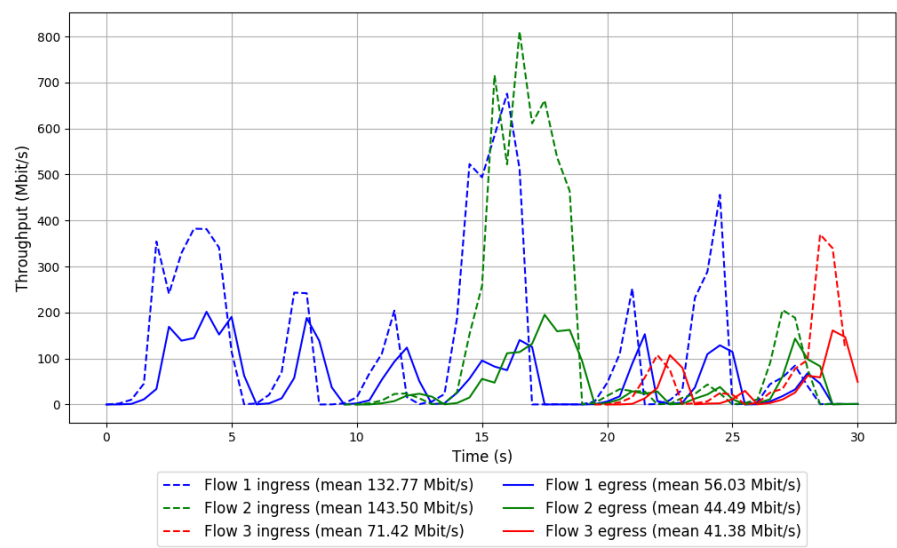


Run 4: Statistics of Verus

Start at: 2018-09-11 04:37:05
End at: 2018-09-11 04:37:35
Local clock offset: 1.124 ms
Remote clock offset: -38.992 ms

Below is generated by plot.py at 2018-09-11 05:53:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 99.01 Mbit/s
95th percentile per-packet one-way delay: 88.021 ms
Loss rate: 60.56%
-- Flow 1:
Average throughput: 56.03 Mbit/s
95th percentile per-packet one-way delay: 88.607 ms
Loss rate: 57.80%
-- Flow 2:
Average throughput: 44.49 Mbit/s
95th percentile per-packet one-way delay: 89.078 ms
Loss rate: 68.99%
-- Flow 3:
Average throughput: 41.38 Mbit/s
95th percentile per-packet one-way delay: 81.295 ms
Loss rate: 42.03%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-11 05:19:51

End at: 2018-09-11 05:20:21

Local clock offset: 1.809 ms

Remote clock offset: -36.498 ms

Run 5: Report of Verus — Data Link

Figure is missing

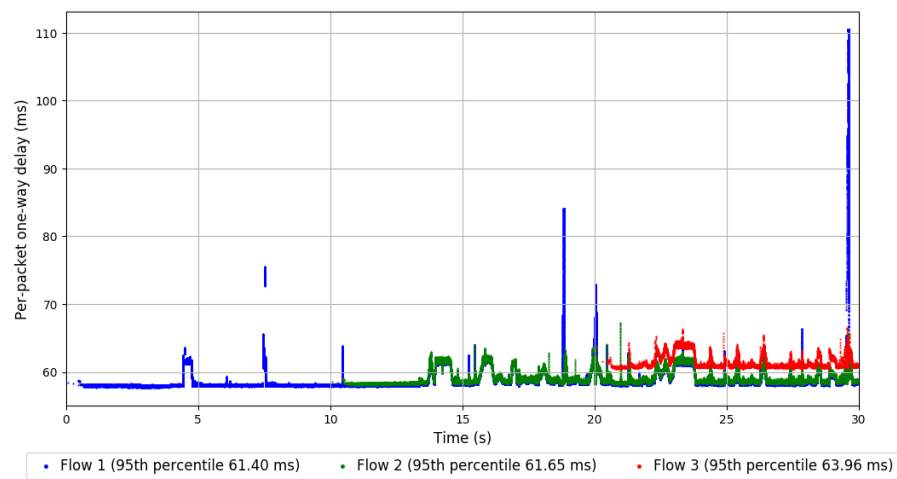
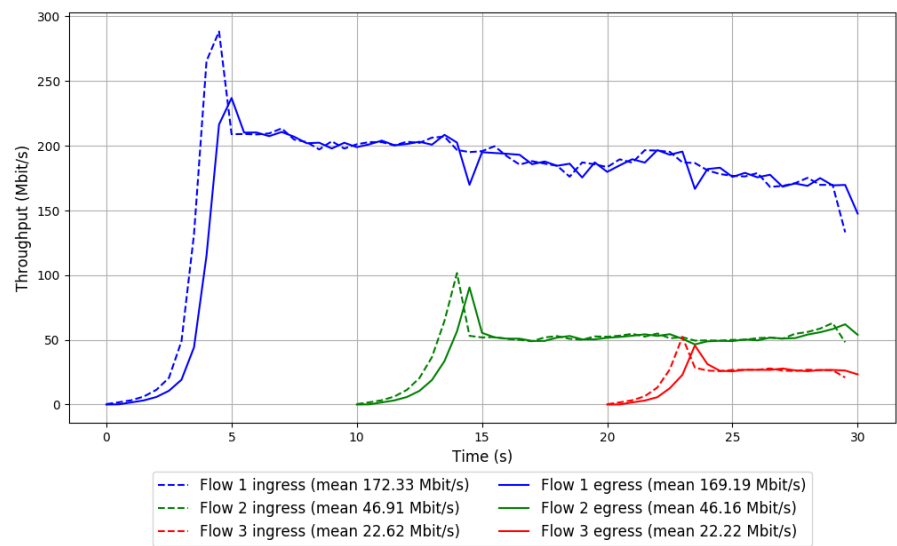
Figure is missing

Run 1: Statistics of PCC-Vivace

Start at: 2018-09-11 02:51:38
End at: 2018-09-11 02:52:08
Local clock offset: 0.164 ms
Remote clock offset: -38.373 ms

Below is generated by plot.py at 2018-09-11 05:54:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 207.22 Mbit/s
95th percentile per-packet one-way delay: 61.563 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 169.19 Mbit/s
95th percentile per-packet one-way delay: 61.400 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 46.16 Mbit/s
95th percentile per-packet one-way delay: 61.653 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 22.22 Mbit/s
95th percentile per-packet one-way delay: 63.960 ms
Loss rate: 1.81%

Run 1: Report of PCC-Vivace — Data Link

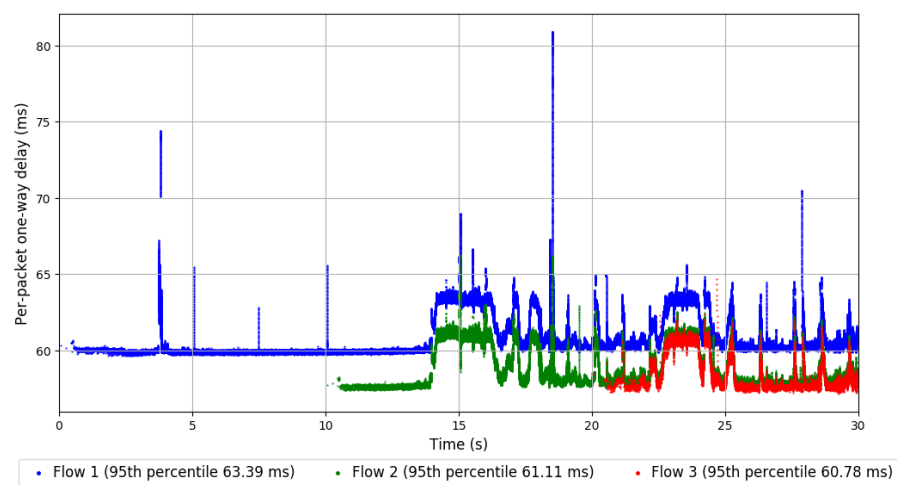
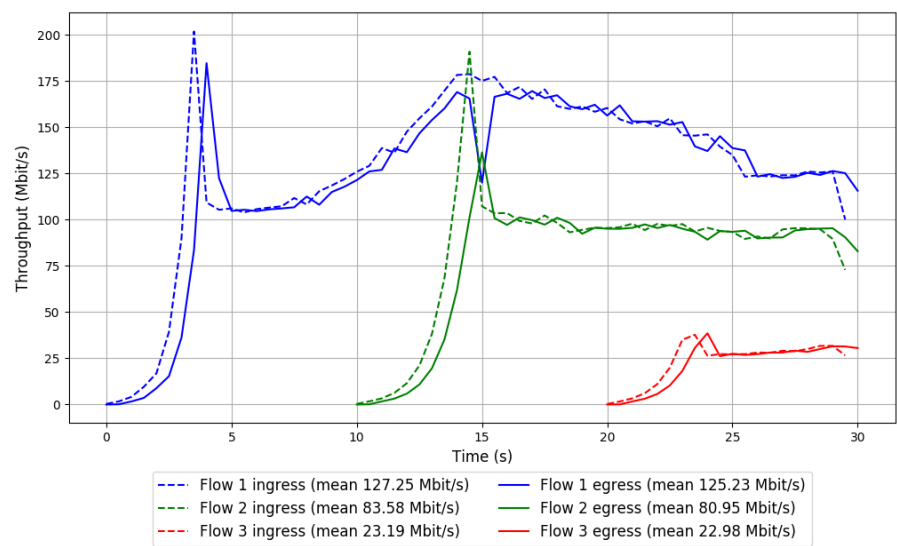


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-11 03:17:41
End at: 2018-09-11 03:18:11
Local clock offset: 1.602 ms
Remote clock offset: -40.325 ms

Below is generated by plot.py at 2018-09-11 05:54:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 186.66 Mbit/s
95th percentile per-packet one-way delay: 63.326 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 125.23 Mbit/s
95th percentile per-packet one-way delay: 63.391 ms
Loss rate: 1.61%
-- Flow 2:
Average throughput: 80.95 Mbit/s
95th percentile per-packet one-way delay: 61.111 ms
Loss rate: 3.15%
-- Flow 3:
Average throughput: 22.98 Mbit/s
95th percentile per-packet one-way delay: 60.779 ms
Loss rate: 0.88%

Run 2: Report of PCC-Vivace — Data Link

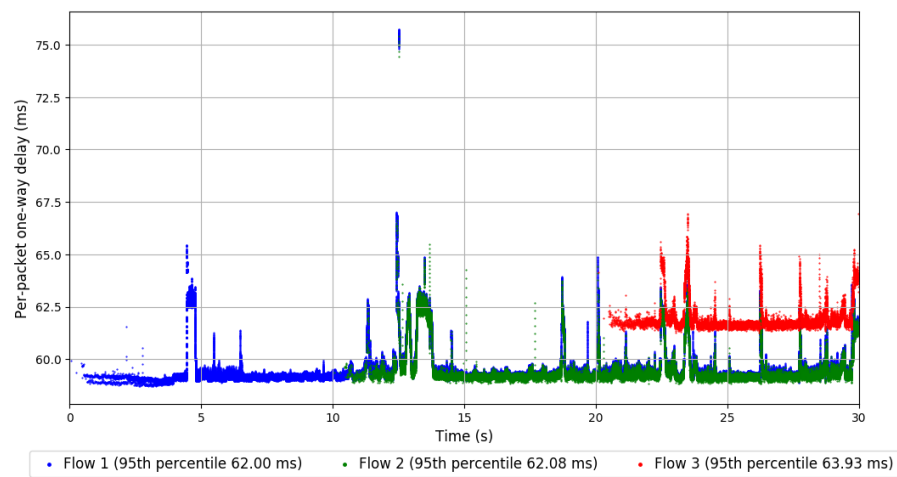
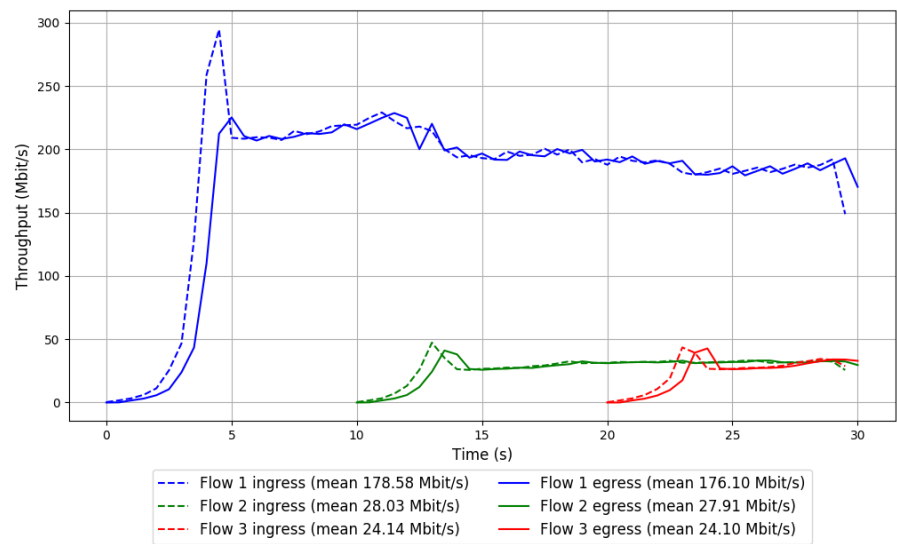


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-11 03:49:31
End at: 2018-09-11 03:50:01
Local clock offset: 2.287 ms
Remote clock offset: -38.492 ms

Below is generated by plot.py at 2018-09-11 05:54:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 202.59 Mbit/s
95th percentile per-packet one-way delay: 62.152 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 176.10 Mbit/s
95th percentile per-packet one-way delay: 62.003 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 27.91 Mbit/s
95th percentile per-packet one-way delay: 62.082 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 24.10 Mbit/s
95th percentile per-packet one-way delay: 63.934 ms
Loss rate: 0.16%

Run 3: Report of PCC-Vivace — Data Link

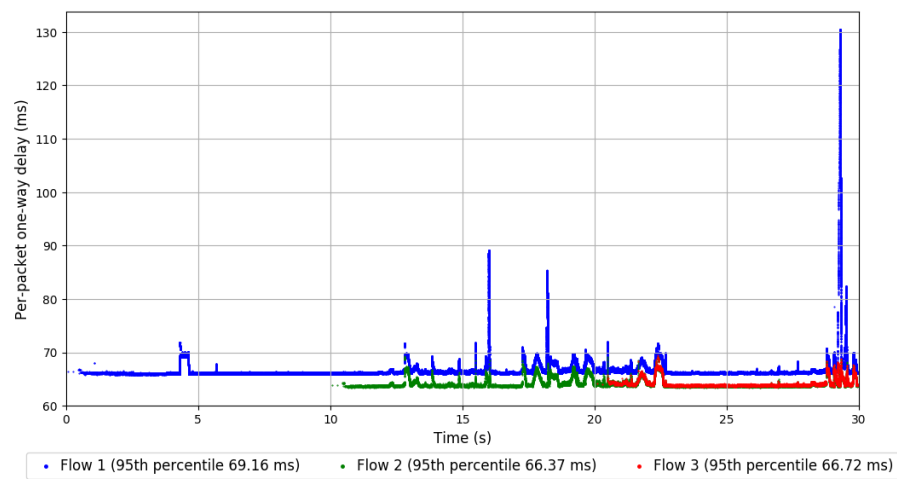
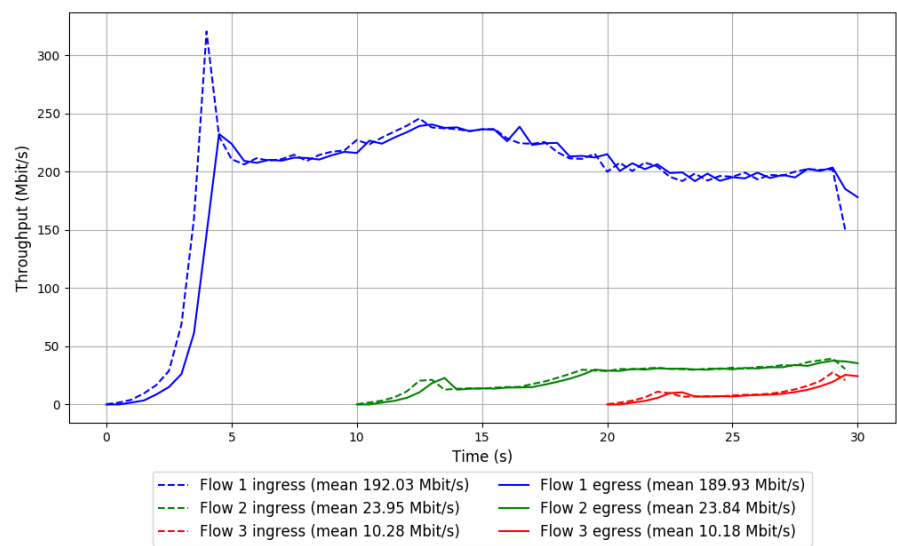


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-11 04:21:02
End at: 2018-09-11 04:21:32
Local clock offset: 0.562 ms
Remote clock offset: -36.364 ms

Below is generated by plot.py at 2018-09-11 05:54:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 209.14 Mbit/s
95th percentile per-packet one-way delay: 69.030 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 189.93 Mbit/s
95th percentile per-packet one-way delay: 69.157 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 23.84 Mbit/s
95th percentile per-packet one-way delay: 66.366 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 10.18 Mbit/s
95th percentile per-packet one-way delay: 66.725 ms
Loss rate: 0.91%

Run 4: Report of PCC-Vivace — Data Link

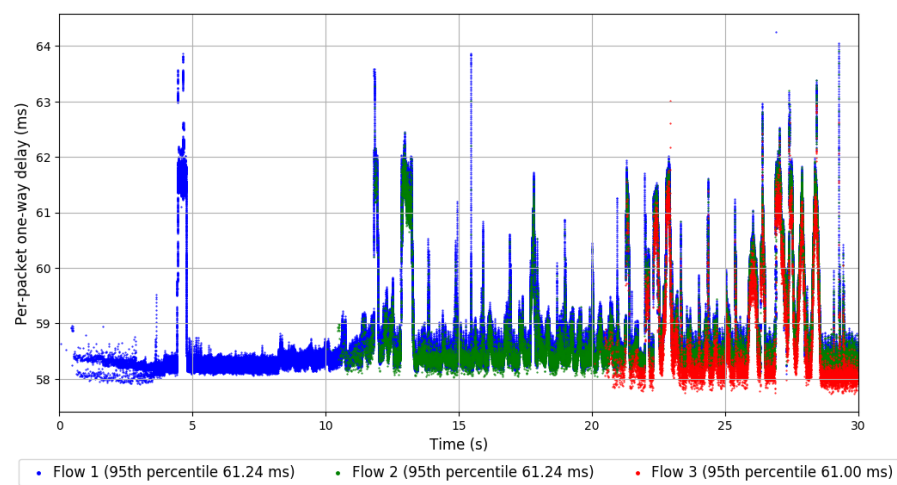
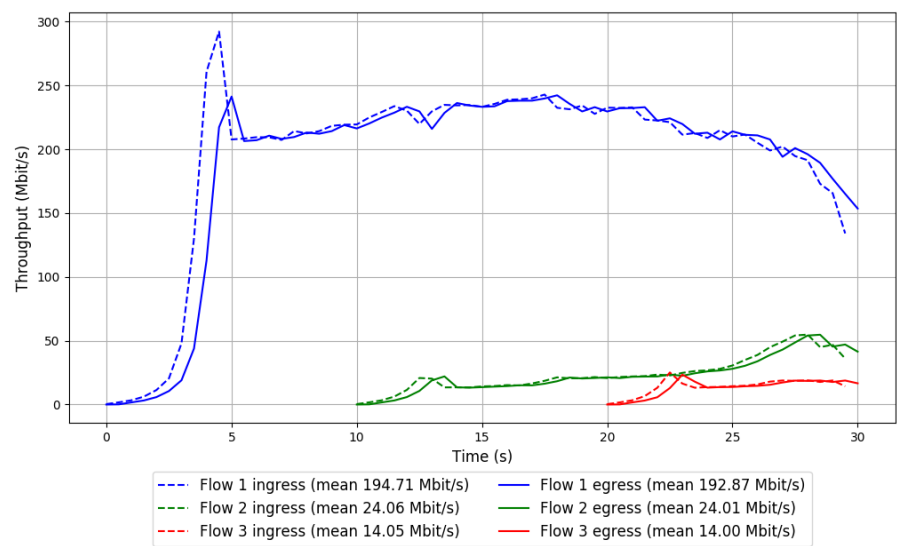


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-11 05:04:06
End at: 2018-09-11 05:04:36
Local clock offset: 1.266 ms
Remote clock offset: -41.679 ms

Below is generated by plot.py at 2018-09-11 05:54:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 213.46 Mbit/s
95th percentile per-packet one-way delay: 61.231 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 192.87 Mbit/s
95th percentile per-packet one-way delay: 61.241 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 24.01 Mbit/s
95th percentile per-packet one-way delay: 61.239 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 14.00 Mbit/s
95th percentile per-packet one-way delay: 60.997 ms
Loss rate: 0.35%

Run 5: Report of PCC-Vivace — Data Link

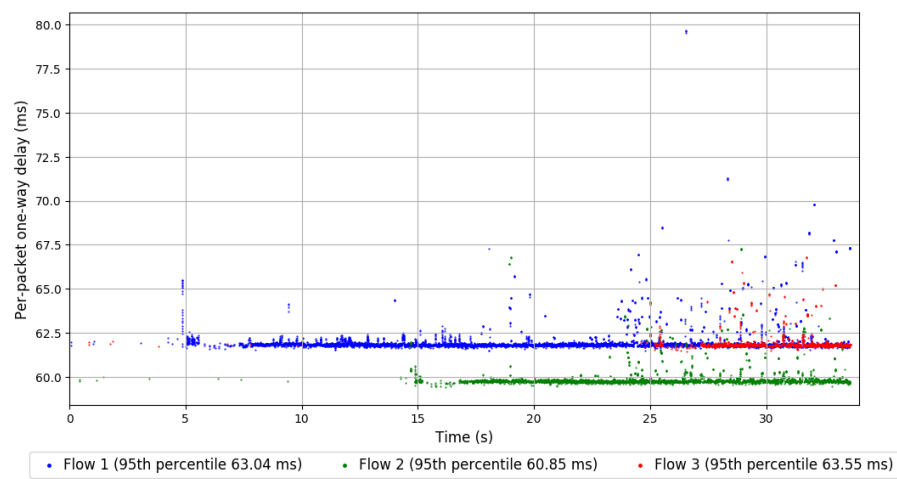
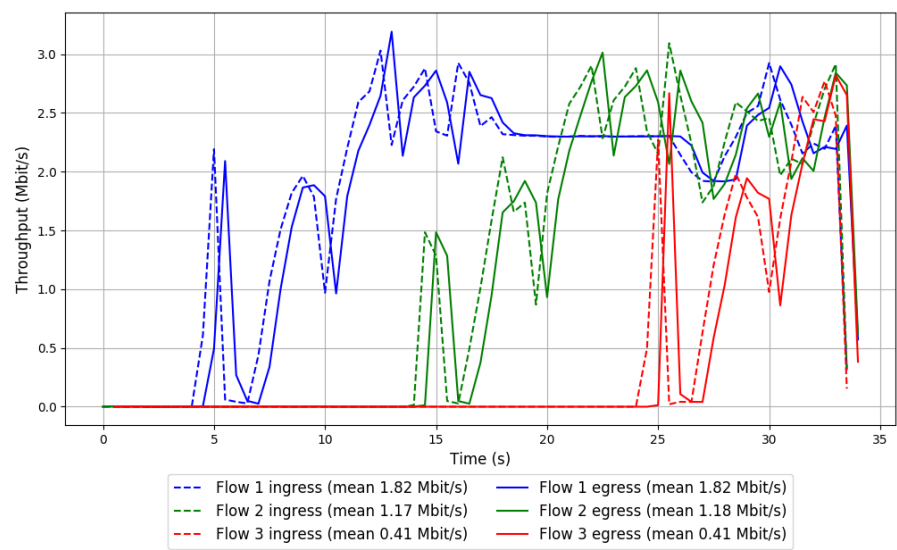


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-11 02:41:31
End at: 2018-09-11 02:42:01
Local clock offset: -0.503 ms
Remote clock offset: -37.686 ms

# Below is generated by plot.py at 2018-09-11 05:54:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 62.533 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 63.041 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 60.849 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 63.550 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

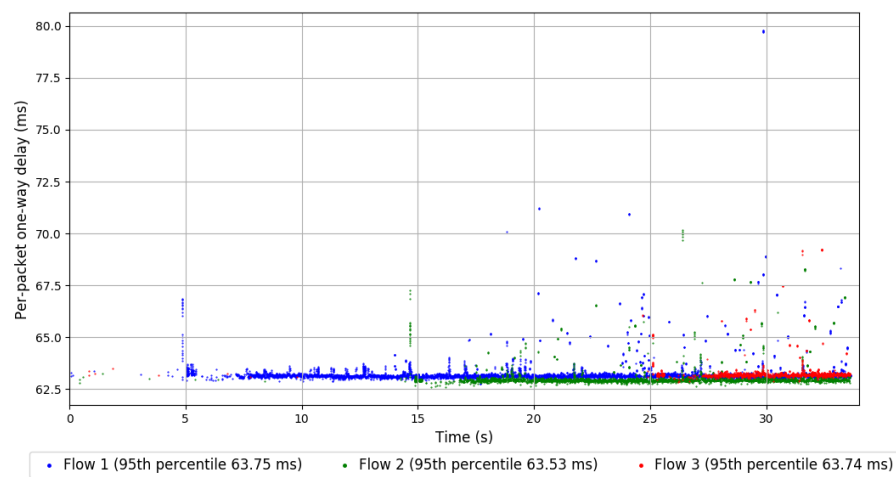
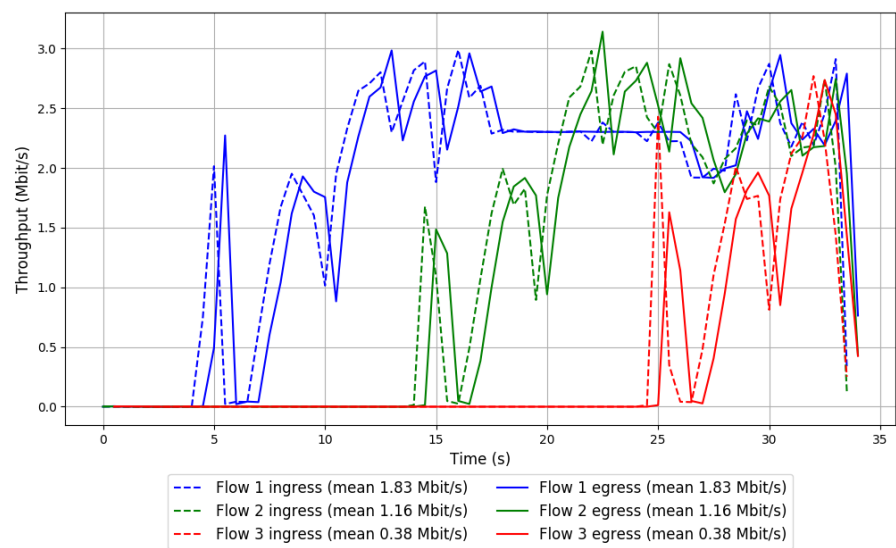


Run 2: Statistics of WebRTC media

Start at: 2018-09-11 03:07:25
End at: 2018-09-11 03:07:55
Local clock offset: 0.333 ms
Remote clock offset: -35.336 ms

Below is generated by plot.py at 2018-09-11 05:54:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 63.693 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 63.746 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 63.534 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 63.736 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

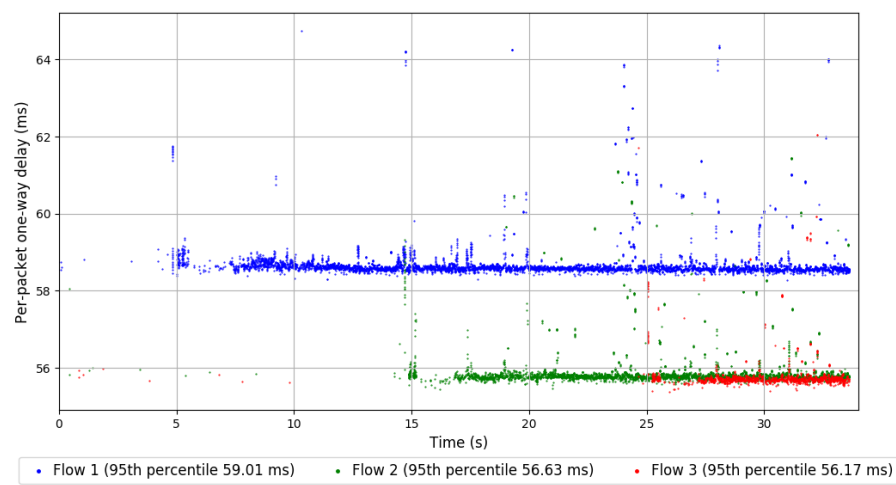
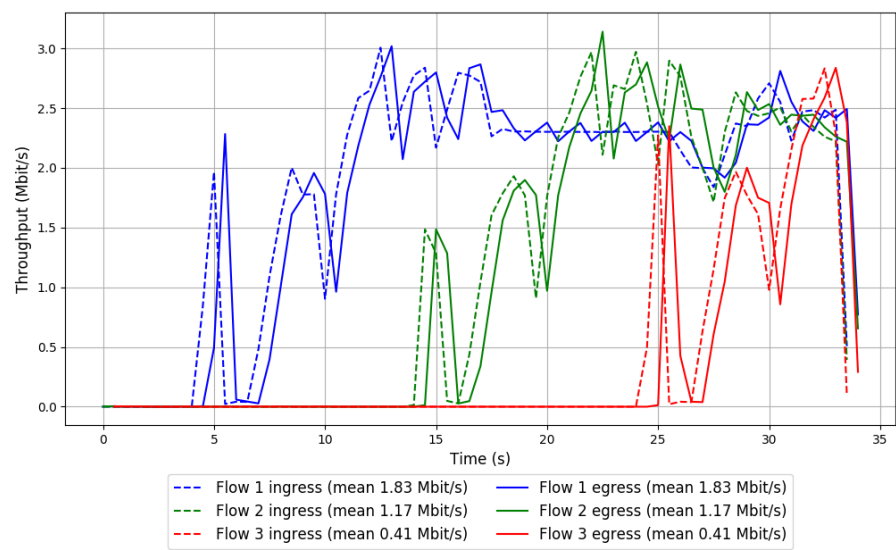


Run 3: Statistics of WebRTC media

Start at: 2018-09-11 03:33:28
End at: 2018-09-11 03:33:58
Local clock offset: 1.373 ms
Remote clock offset: -42.641 ms

Below is generated by plot.py at 2018-09-11 05:54:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.39 Mbit/s
95th percentile per-packet one-way delay: 58.840 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 59.014 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 56.626 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 56.173 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

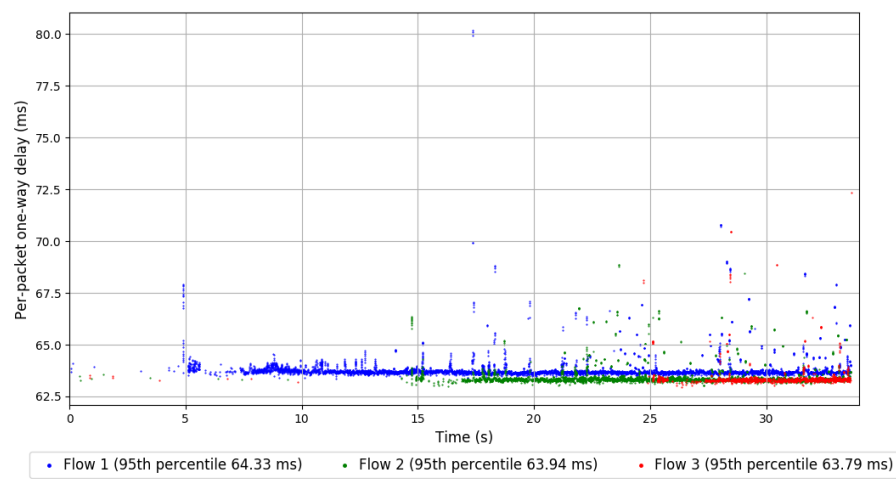
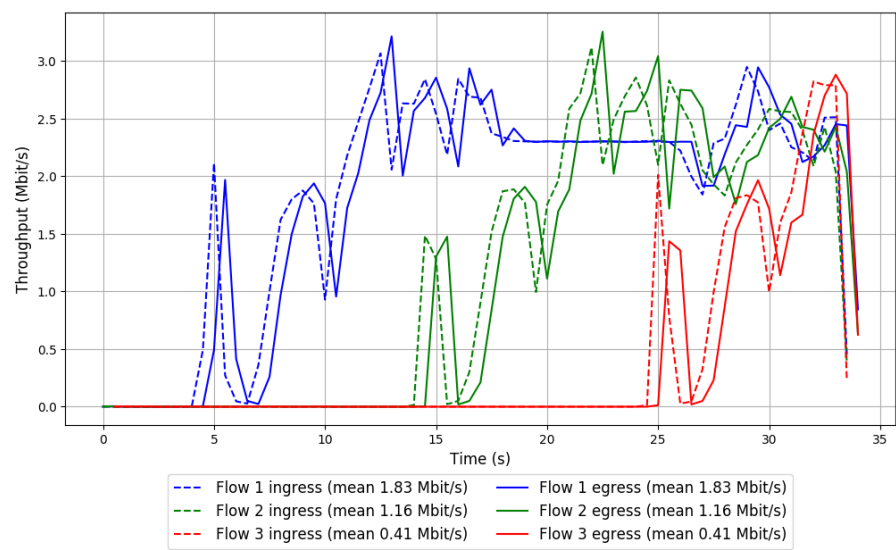


Run 4: Statistics of WebRTC media

Start at: 2018-09-11 04:05:18
End at: 2018-09-11 04:05:48
Local clock offset: 0.316 ms
Remote clock offset: -36.639 ms

Below is generated by plot.py at 2018-09-11 05:54:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 64.219 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 64.327 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 63.940 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 63.789 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 04:42:49
End at: 2018-09-11 04:43:19
Local clock offset: 0.862 ms
Remote clock offset: -41.756 ms

Below is generated by plot.py at 2018-09-11 05:54:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 59.724 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 59.671 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 59.523 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 60.272 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

