

## Pantheon Report

Generated at 2019-02-05 20:38:11 (UTC).

Data path: Mexico on **em1** (*remote*) → AWS California 2 on **ens5** (*local*).

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against **time.stanford.edu** and have been applied to correct the timestamps in logs.

### System info:

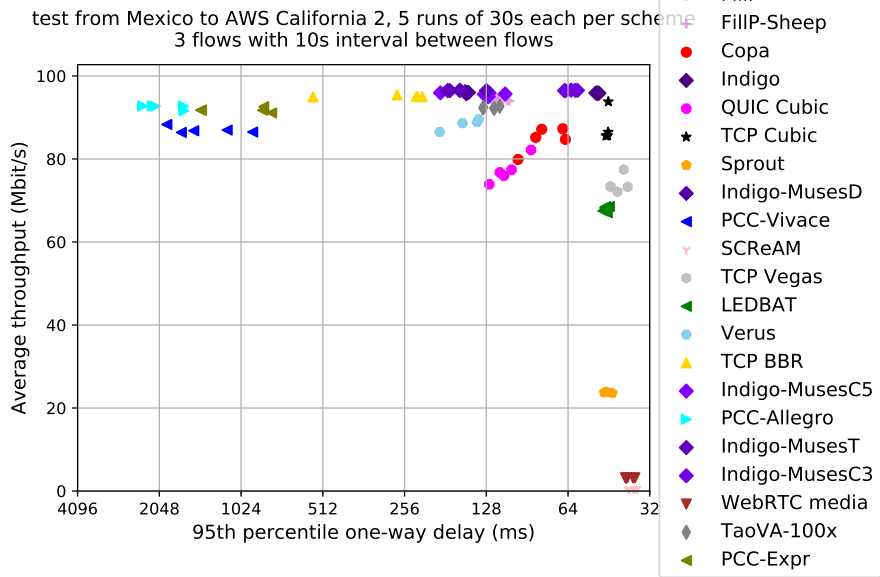
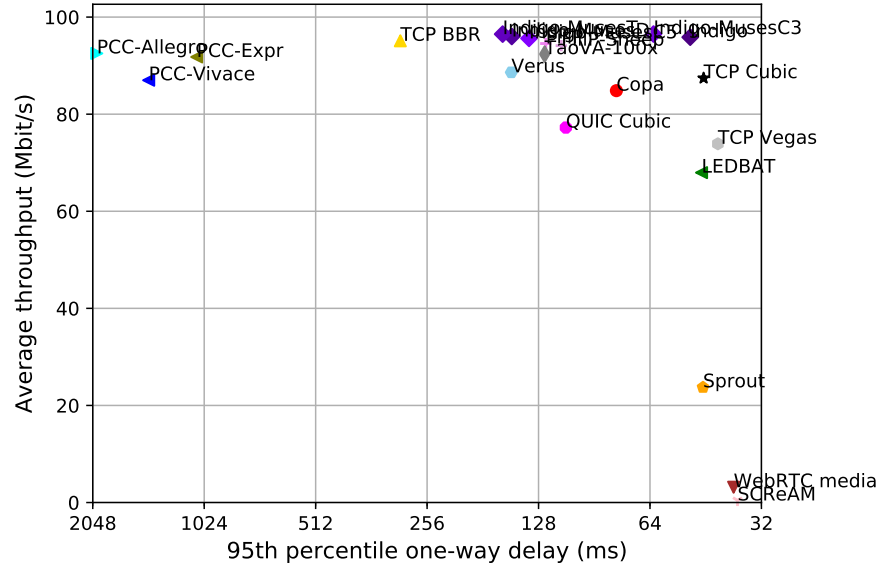
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third\_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4  
third\_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from Mexico to AWS California 2, 5 runs of 30s each per scheme  
3 flows with 10s interval between flows (mean of all runs by scheme)



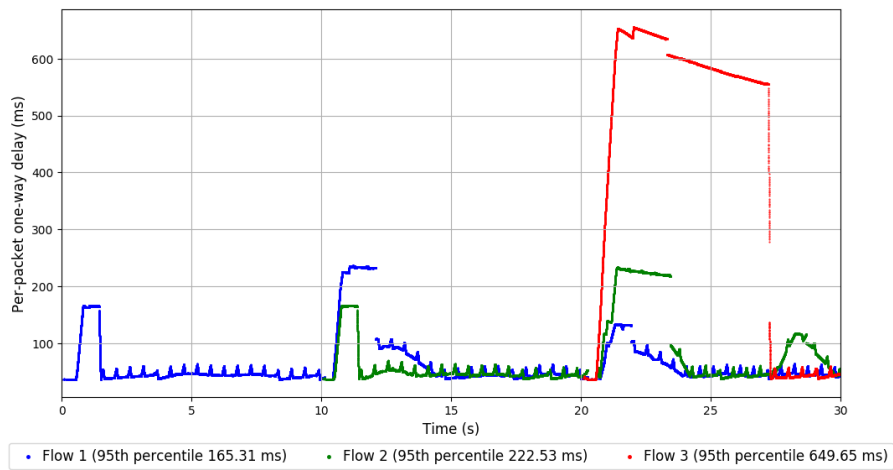
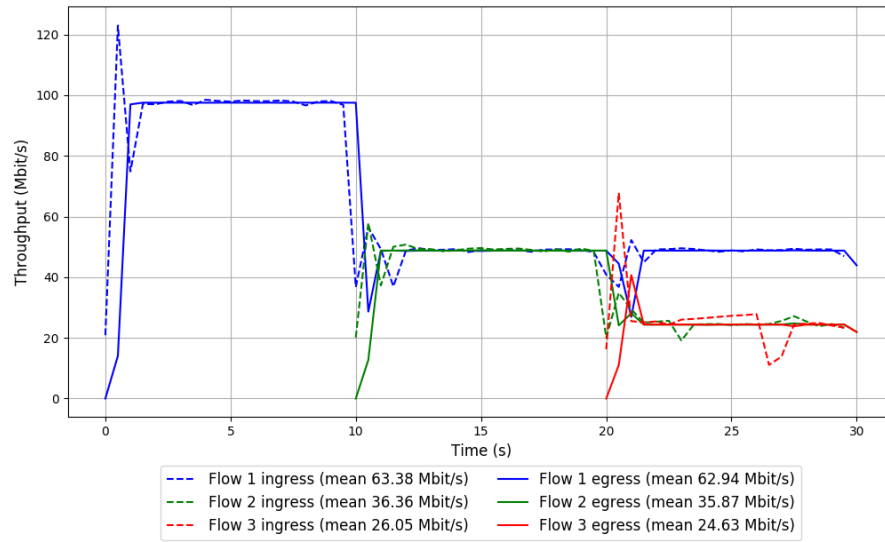
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	57.99	39.74	32.25	202.18	194.70	457.66	1.09	1.73	3.46
Copa	5	49.20	37.53	32.19	101.02	49.88	59.83	0.17	0.28	0.69
TCP Cubic	5	49.43	40.87	32.59	50.08	44.61	47.16	0.16	0.36	0.77
FillP	5	55.48	40.93	35.70	110.73	135.01	105.40	0.36	3.42	1.28
FillP-Sheep	5	57.35	41.68	27.30	101.09	105.57	140.50	0.30	0.55	1.57
Indigo	5	59.12	39.82	31.42	50.74	50.65	49.99	0.19	0.33	0.75
Indigo-MusesC3	5	61.15	41.67	28.39	57.73	67.59	88.32	0.22	0.49	1.19
Indigo-MusesC5	5	58.64	41.00	34.77	115.45	154.50	118.00	1.17	4.31	5.16
Indigo-MusesD	5	60.99	38.97	32.63	151.94	122.54	73.42	5.73	7.47	5.13
Indigo-MusesT	5	60.30	40.07	34.48	129.10	201.99	180.16	2.42	6.61	7.22
LEDBAT	5	41.48	29.16	21.39	46.05	46.76	48.02	0.18	0.36	0.96
PCC-Allegro	5	58.00	37.76	28.72	2026.27	1708.44	471.56	14.08	12.71	4.52
PCC-Expr	5	57.00	38.88	27.19	887.00	992.38	94.81	33.66	6.44	1.16
QUIC Cubic	5	42.73	36.84	30.45	96.64	118.31	151.15	0.21	0.43	1.02
SCReAM	5	0.21	0.21	0.22	37.13	37.11	37.09	0.18	0.40	0.71
Sprout	5	12.03	11.85	11.68	45.61	46.32	46.84	0.19	0.28	0.81
TaoVA-100x	5	54.40	41.42	31.38	118.85	125.14	149.08	0.65	1.19	2.79
TCP Vegas	5	37.86	37.73	33.00	50.67	39.11	43.36	0.21	0.31	0.72
Verus	5	53.40	39.00	28.16	143.43	120.41	224.66	0.29	0.54	1.81
PCC-Vivace	5	54.93	35.55	25.60	1463.78	821.07	133.65	4.90	4.57	1.29
WebRTC media	5	1.74	0.99	0.43	37.98	38.04	38.22	0.12	0.15	0.83

Run 1: Statistics of TCP BBR

Start at: 2019-02-05 18:32:04  
End at: 2019-02-05 18:32:34  
Local clock offset: 0.089 ms  
Remote clock offset: -5.997 ms

# Below is generated by plot.py at 2019-02-05 20:24:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.97 Mbit/s  
95th percentile per-packet one-way delay: 556.399 ms  
Loss rate: 1.56%  
-- Flow 1:  
Average throughput: 62.94 Mbit/s  
95th percentile per-packet one-way delay: 165.311 ms  
Loss rate: 0.89%  
-- Flow 2:  
Average throughput: 35.87 Mbit/s  
95th percentile per-packet one-way delay: 222.528 ms  
Loss rate: 1.67%  
-- Flow 3:  
Average throughput: 24.63 Mbit/s  
95th percentile per-packet one-way delay: 649.651 ms  
Loss rate: 6.07%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-02-05 18:57:49

End at: 2019-02-05 18:58:19

Local clock offset: -0.328 ms

Remote clock offset: -4.6 ms

# Below is generated by plot.py at 2019-02-05 20:24:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.10 Mbit/s

95th percentile per-packet one-way delay: 230.684 ms

Loss rate: 1.35%

-- Flow 1:

Average throughput: 55.51 Mbit/s

95th percentile per-packet one-way delay: 229.281 ms

Loss rate: 0.97%

-- Flow 2:

Average throughput: 47.31 Mbit/s

95th percentile per-packet one-way delay: 101.992 ms

Loss rate: 1.46%

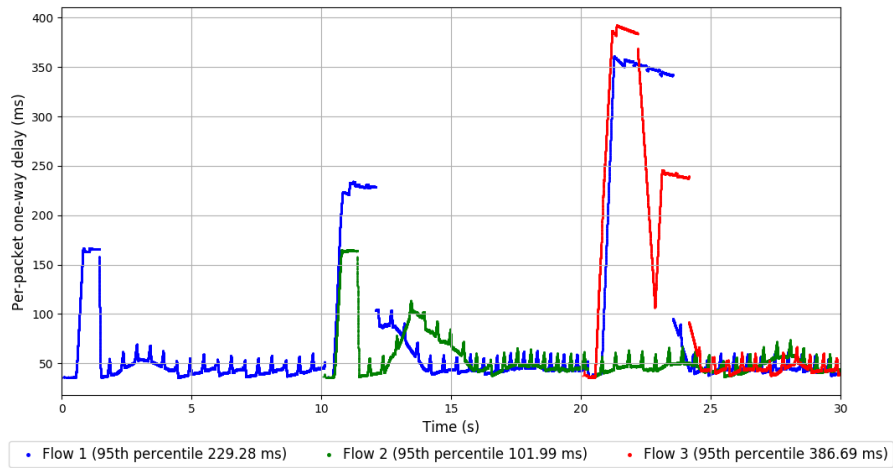
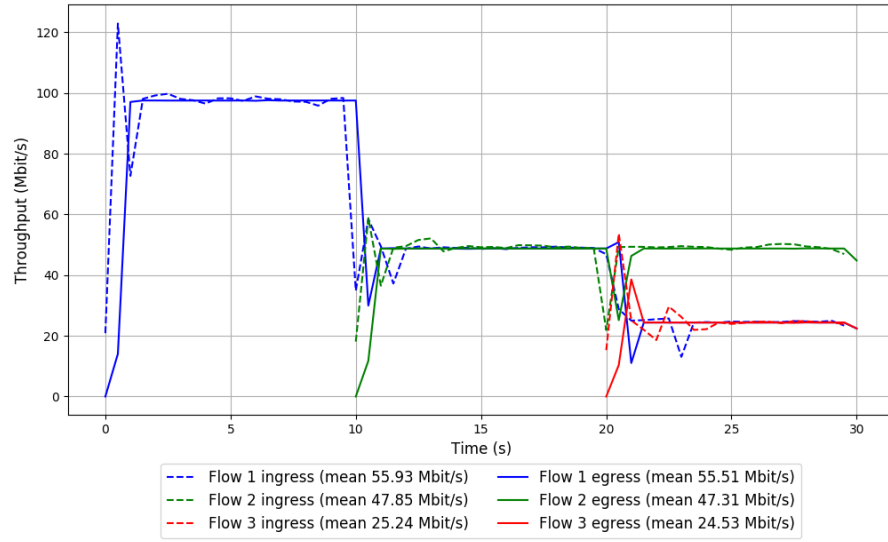
-- Flow 3:

Average throughput: 24.53 Mbit/s

95th percentile per-packet one-way delay: 386.695 ms

Loss rate: 3.46%

## Run 2: Report of TCP BBR — Data Link

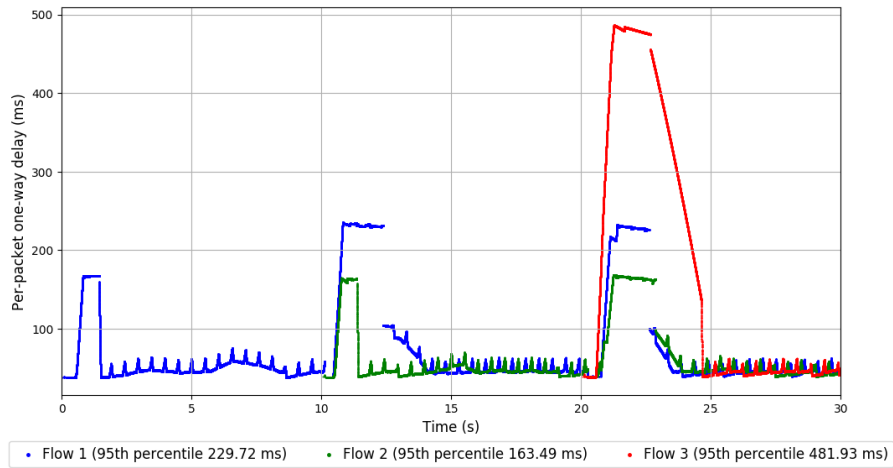
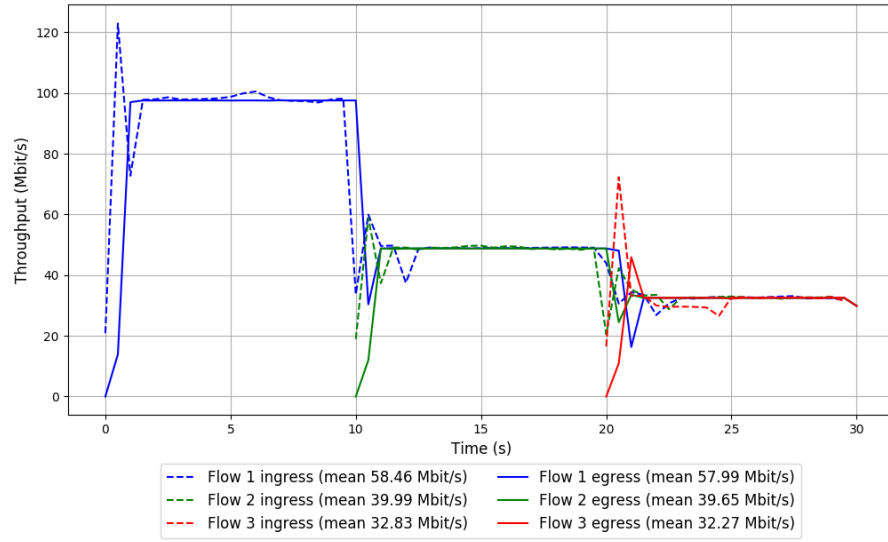


Run 3: Statistics of TCP BBR

Start at: 2019-02-05 19:23:40  
End at: 2019-02-05 19:24:10  
Local clock offset: -0.166 ms  
Remote clock offset: -5.112 ms

# Below is generated by plot.py at 2019-02-05 20:24:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.06 Mbit/s  
95th percentile per-packet one-way delay: 231.417 ms  
Loss rate: 1.21%  
-- Flow 1:  
Average throughput: 57.99 Mbit/s  
95th percentile per-packet one-way delay: 229.717 ms  
Loss rate: 1.01%  
-- Flow 2:  
Average throughput: 39.65 Mbit/s  
95th percentile per-packet one-way delay: 163.493 ms  
Loss rate: 1.20%  
-- Flow 3:  
Average throughput: 32.27 Mbit/s  
95th percentile per-packet one-way delay: 481.931 ms  
Loss rate: 2.36%

### Run 3: Report of TCP BBR — Data Link

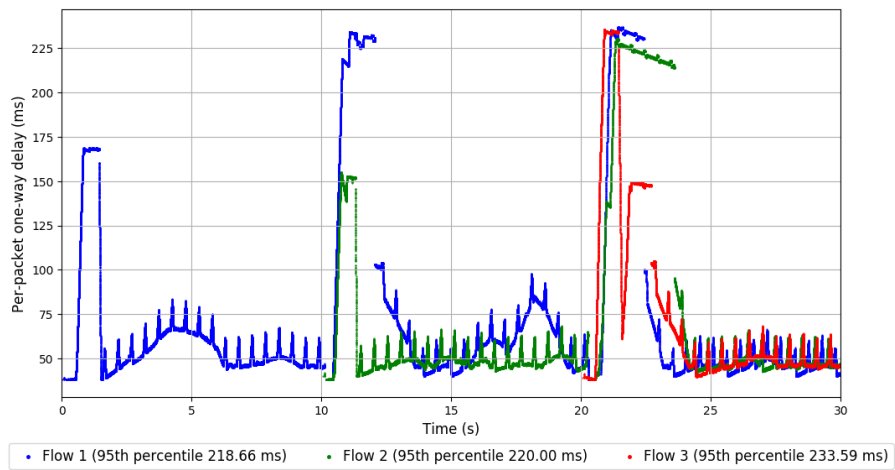
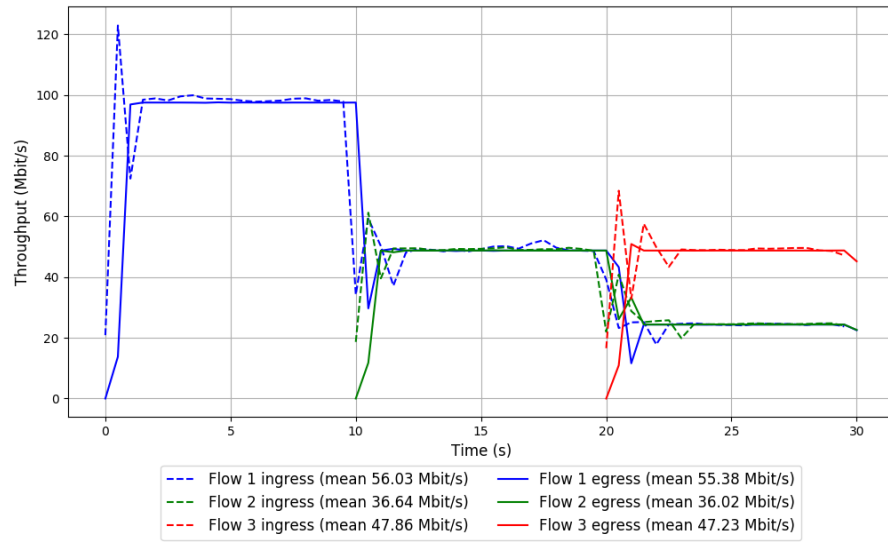


Run 4: Statistics of TCP BBR

Start at: 2019-02-05 19:49:59  
End at: 2019-02-05 19:50:29  
Local clock offset: -0.012 ms  
Remote clock offset: -4.628 ms

# Below is generated by plot.py at 2019-02-05 20:24:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.99 Mbit/s  
95th percentile per-packet one-way delay: 220.542 ms  
Loss rate: 1.63%  
-- Flow 1:  
Average throughput: 55.38 Mbit/s  
95th percentile per-packet one-way delay: 218.661 ms  
Loss rate: 1.36%  
-- Flow 2:  
Average throughput: 36.02 Mbit/s  
95th percentile per-packet one-way delay: 220.005 ms  
Loss rate: 2.03%  
-- Flow 3:  
Average throughput: 47.23 Mbit/s  
95th percentile per-packet one-way delay: 233.595 ms  
Loss rate: 1.96%

# Run 4: Report of TCP BBR — Data Link

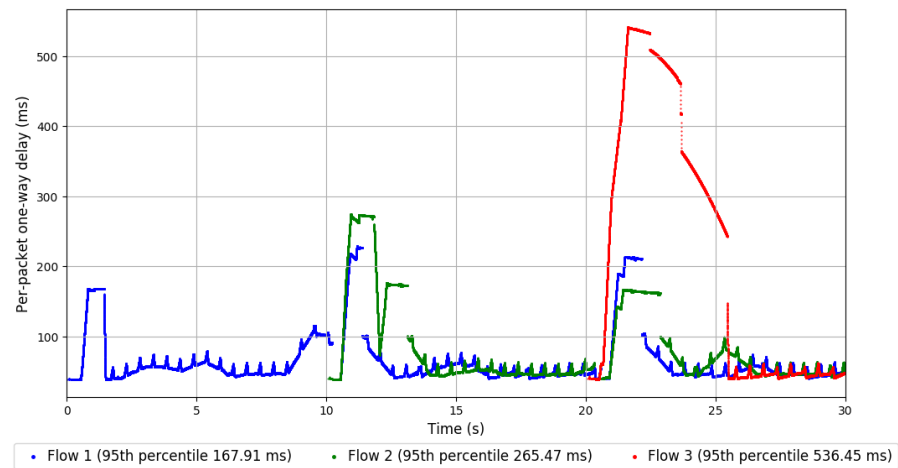
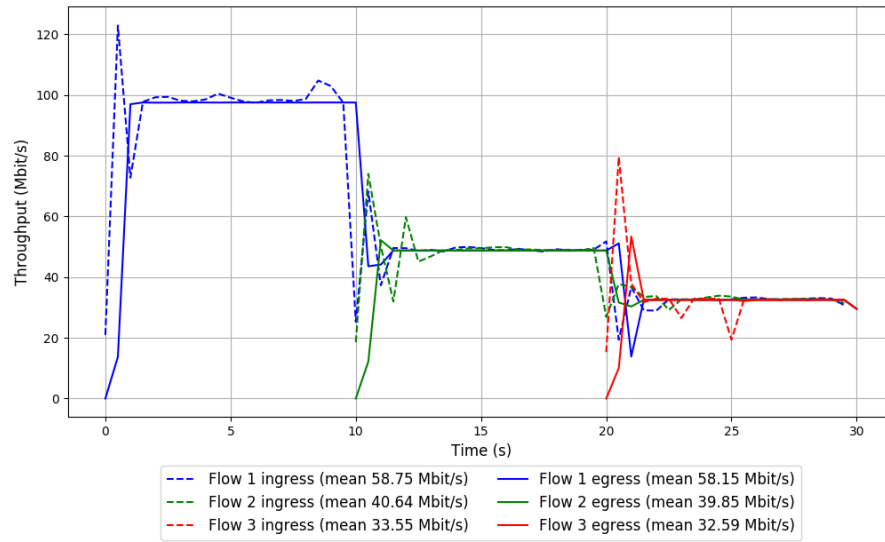


Run 5: Statistics of TCP BBR

Start at: 2019-02-05 20:16:01  
End at: 2019-02-05 20:16:31  
Local clock offset: 0.129 ms  
Remote clock offset: -4.547 ms

# Below is generated by plot.py at 2019-02-05 20:24:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.45 Mbit/s  
95th percentile per-packet one-way delay: 272.727 ms  
Loss rate: 1.78%  
-- Flow 1:  
Average throughput: 58.15 Mbit/s  
95th percentile per-packet one-way delay: 167.910 ms  
Loss rate: 1.24%  
-- Flow 2:  
Average throughput: 39.85 Mbit/s  
95th percentile per-packet one-way delay: 265.469 ms  
Loss rate: 2.27%  
-- Flow 3:  
Average throughput: 32.59 Mbit/s  
95th percentile per-packet one-way delay: 536.449 ms  
Loss rate: 3.47%

# Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-02-05 18:18:22

End at: 2019-02-05 18:18:52

Local clock offset: 2.612 ms

Remote clock offset: -6.63 ms

# Below is generated by plot.py at 2019-02-05 20:25:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.19 Mbit/s

95th percentile per-packet one-way delay: 84.206 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 46.97 Mbit/s

95th percentile per-packet one-way delay: 109.671 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 39.68 Mbit/s

95th percentile per-packet one-way delay: 54.319 ms

Loss rate: 0.18%

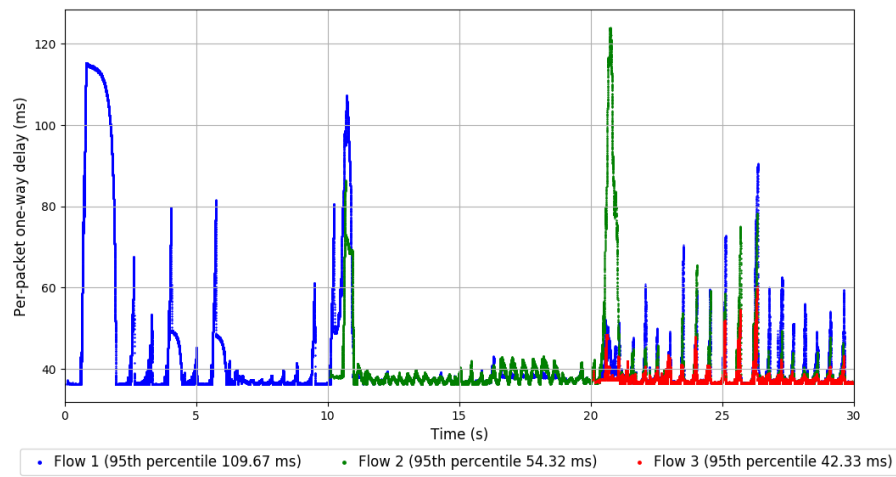
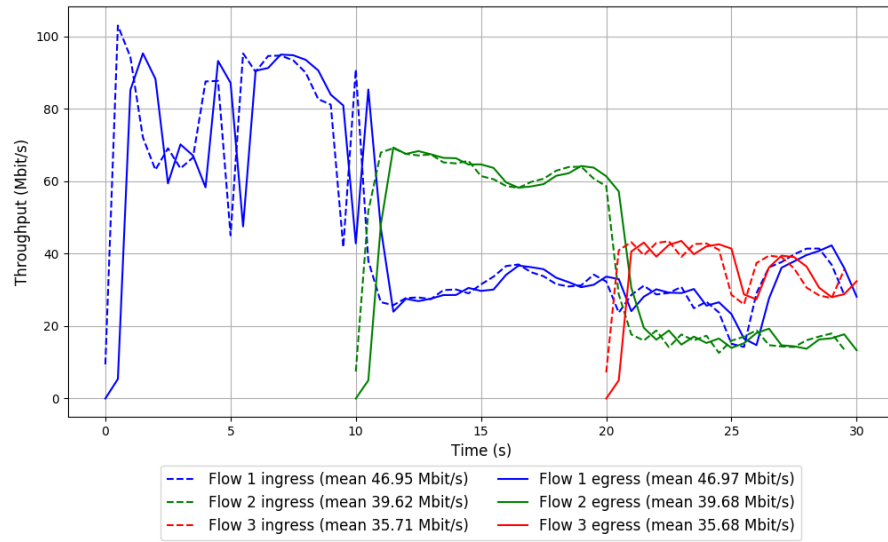
-- Flow 3:

Average throughput: 35.68 Mbit/s

95th percentile per-packet one-way delay: 42.331 ms

Loss rate: 0.72%

# Run 1: Report of Copa — Data Link

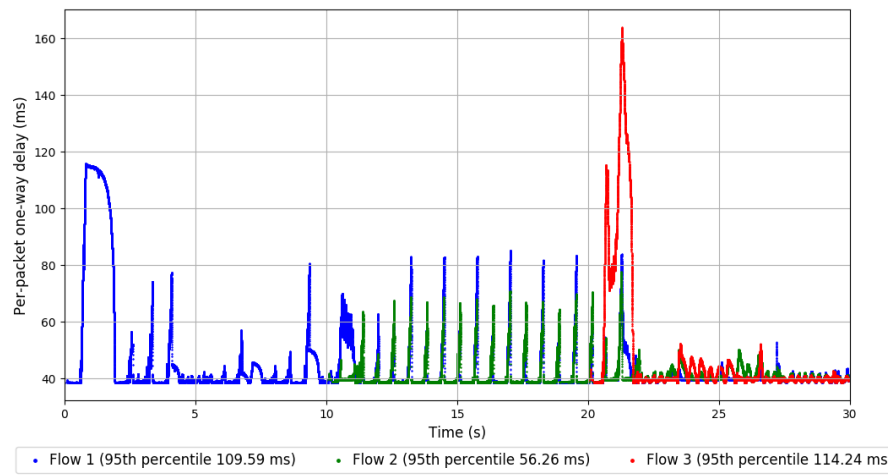
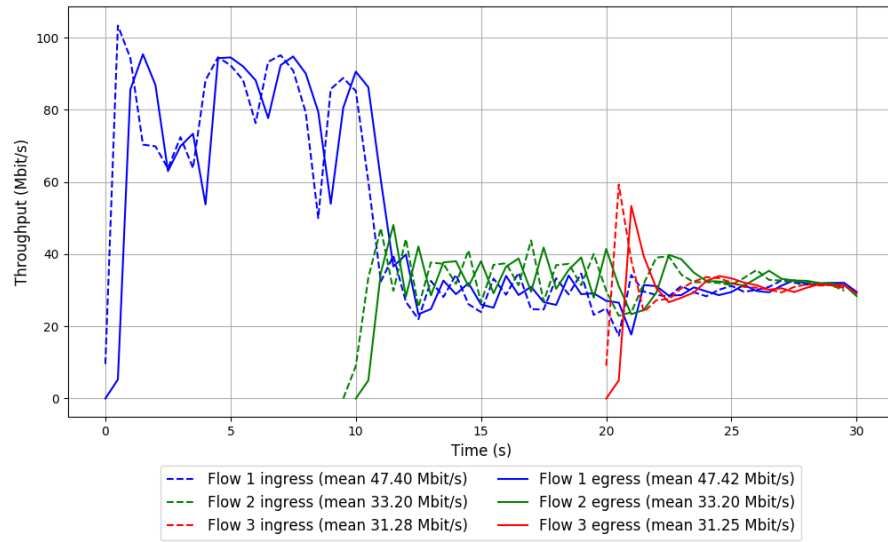


Run 2: Statistics of Copa

Start at: 2019-02-05 18:44:16  
End at: 2019-02-05 18:44:46  
Local clock offset: -0.738 ms  
Remote clock offset: -7.788 ms

# Below is generated by plot.py at 2019-02-05 20:25:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.88 Mbit/s  
95th percentile per-packet one-way delay: 97.784 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 47.42 Mbit/s  
95th percentile per-packet one-way delay: 109.590 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 33.20 Mbit/s  
95th percentile per-packet one-way delay: 56.256 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 31.25 Mbit/s  
95th percentile per-packet one-way delay: 114.242 ms  
Loss rate: 0.73%

## Run 2: Report of Copa — Data Link

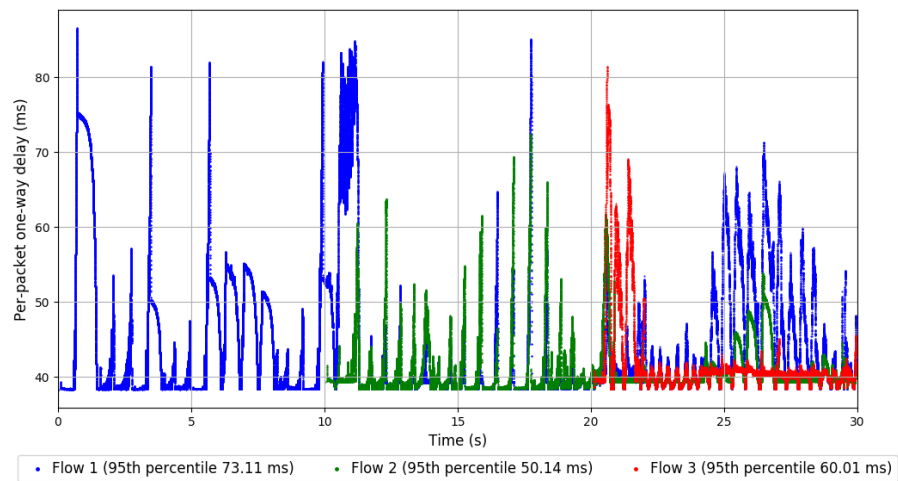
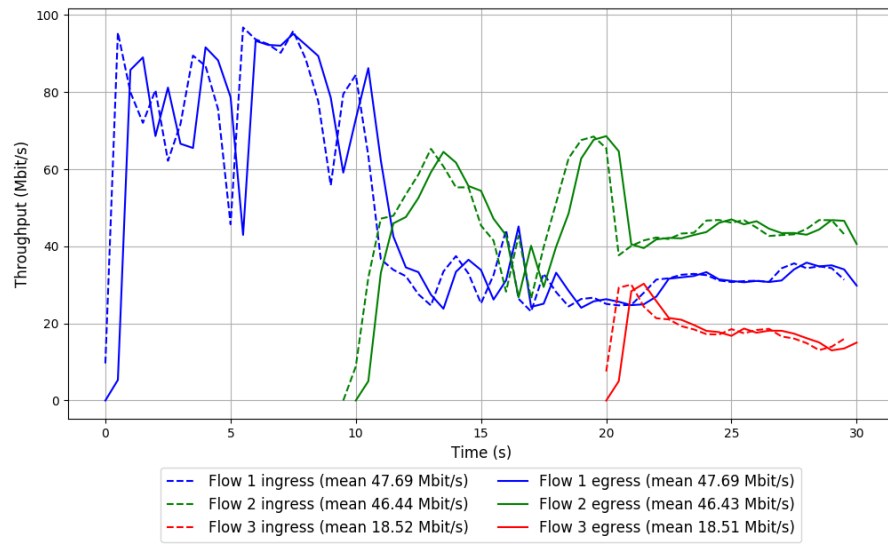


Run 3: Statistics of Copa

Start at: 2019-02-05 19:09:56  
End at: 2019-02-05 19:10:26  
Local clock offset: -0.388 ms  
Remote clock offset: -6.223 ms

# Below is generated by plot.py at 2019-02-05 20:25:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 84.72 Mbit/s  
95th percentile per-packet one-way delay: 65.442 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 47.69 Mbit/s  
95th percentile per-packet one-way delay: 73.115 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 46.43 Mbit/s  
95th percentile per-packet one-way delay: 50.136 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 18.51 Mbit/s  
95th percentile per-packet one-way delay: 60.005 ms  
Loss rate: 0.70%

### Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-02-05 19:36:05

End at: 2019-02-05 19:36:35

Local clock offset: -0.108 ms

Remote clock offset: -3.32 ms

# Below is generated by plot.py at 2019-02-05 20:26:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.28 Mbit/s

95th percentile per-packet one-way delay: 66.914 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 55.56 Mbit/s

95th percentile per-packet one-way delay: 102.959 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 25.28 Mbit/s

95th percentile per-packet one-way delay: 41.241 ms

Loss rate: 0.28%

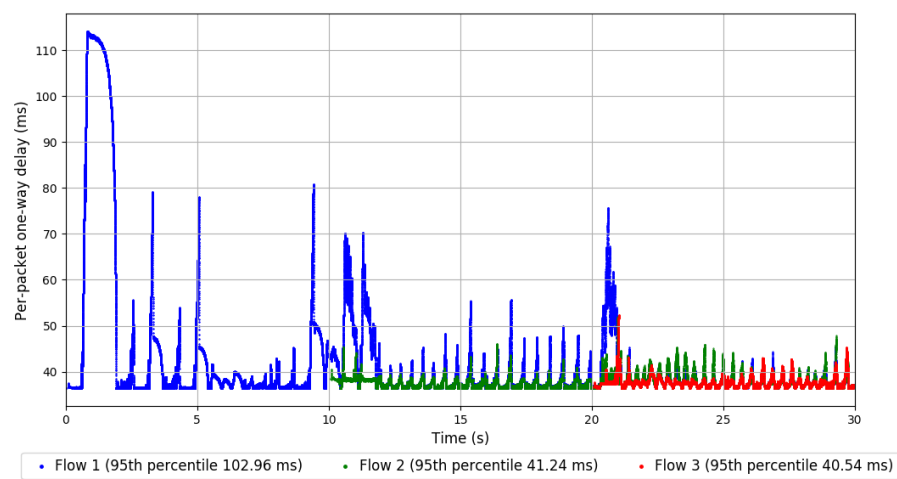
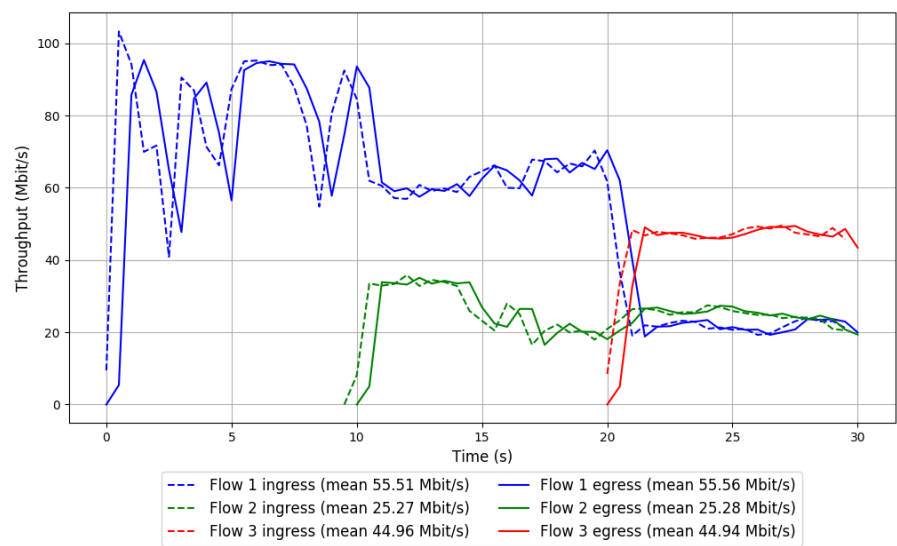
-- Flow 3:

Average throughput: 44.94 Mbit/s

95th percentile per-packet one-way delay: 40.543 ms

Loss rate: 0.68%

Run 4: Report of Copa — Data Link

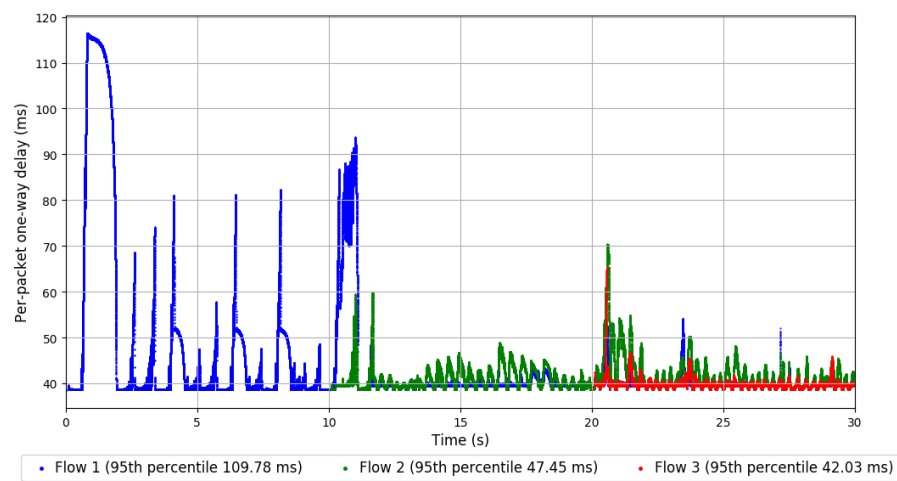
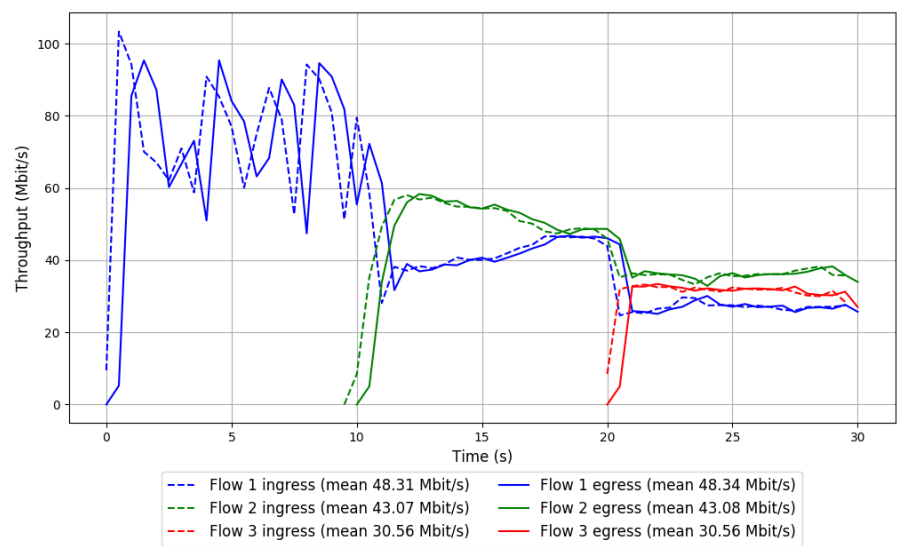


Run 5: Statistics of Copa

Start at: 2019-02-05 20:02:25  
End at: 2019-02-05 20:02:55  
Local clock offset: 0.166 ms  
Remote clock offset: -4.777 ms

# Below is generated by plot.py at 2019-02-05 20:26:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.15 Mbit/s  
95th percentile per-packet one-way delay: 79.991 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 48.34 Mbit/s  
95th percentile per-packet one-way delay: 109.783 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 43.08 Mbit/s  
95th percentile per-packet one-way delay: 47.449 ms  
Loss rate: 0.28%  
-- Flow 3:  
Average throughput: 30.56 Mbit/s  
95th percentile per-packet one-way delay: 42.035 ms  
Loss rate: 0.63%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-02-05 18:20:51

End at: 2019-02-05 18:21:21

Local clock offset: 1.842 ms

Remote clock offset: -6.47 ms

# Below is generated by plot.py at 2019-02-05 20:26:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.49 Mbit/s

95th percentile per-packet one-way delay: 45.538 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 48.27 Mbit/s

95th percentile per-packet one-way delay: 49.972 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 40.54 Mbit/s

95th percentile per-packet one-way delay: 44.778 ms

Loss rate: 0.55%

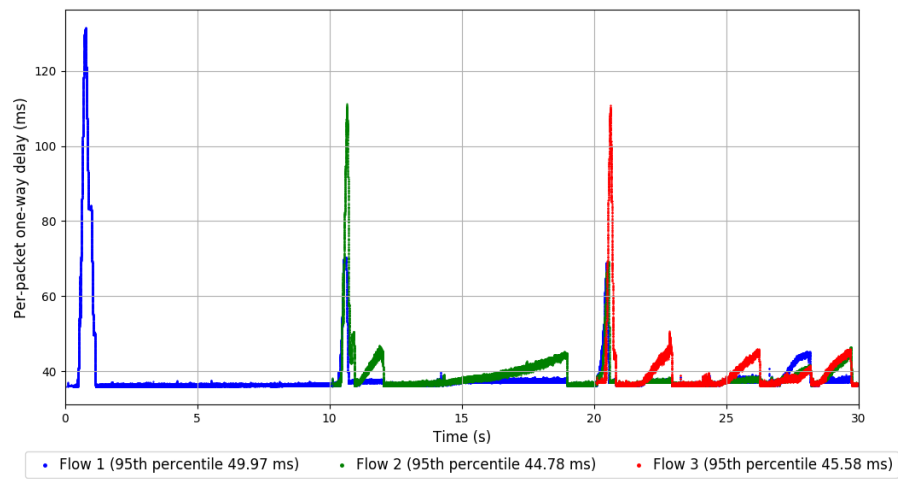
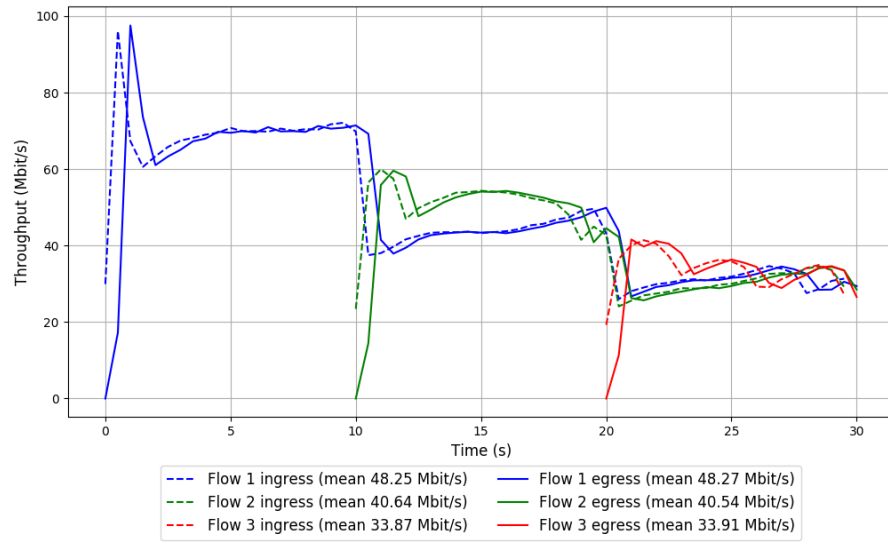
-- Flow 3:

Average throughput: 33.91 Mbit/s

95th percentile per-packet one-way delay: 45.579 ms

Loss rate: 0.54%

# Run 1: Report of TCP Cubic — Data Link

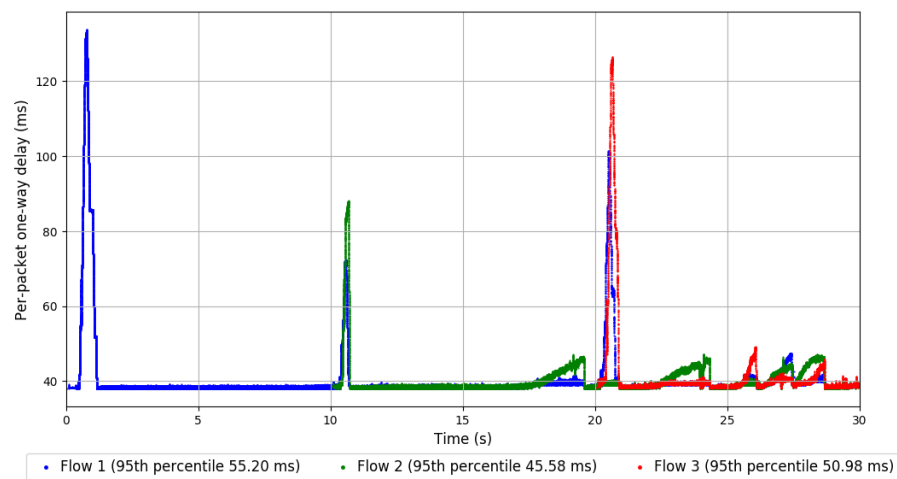
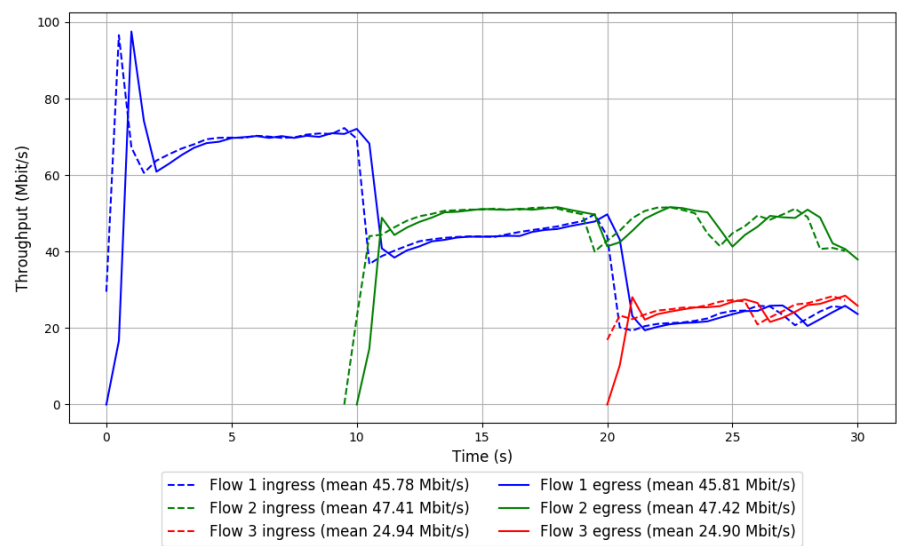


Run 2: Statistics of TCP Cubic

Start at: 2019-02-05 18:46:45  
End at: 2019-02-05 18:47:15  
Local clock offset: -0.723 ms  
Remote clock offset: -7.179 ms

# Below is generated by plot.py at 2019-02-05 20:26:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.62 Mbit/s  
95th percentile per-packet one-way delay: 46.164 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 45.81 Mbit/s  
95th percentile per-packet one-way delay: 55.198 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 47.42 Mbit/s  
95th percentile per-packet one-way delay: 45.584 ms  
Loss rate: 0.30%  
-- Flow 3:  
Average throughput: 24.90 Mbit/s  
95th percentile per-packet one-way delay: 50.975 ms  
Loss rate: 0.79%

Run 2: Report of TCP Cubic — Data Link

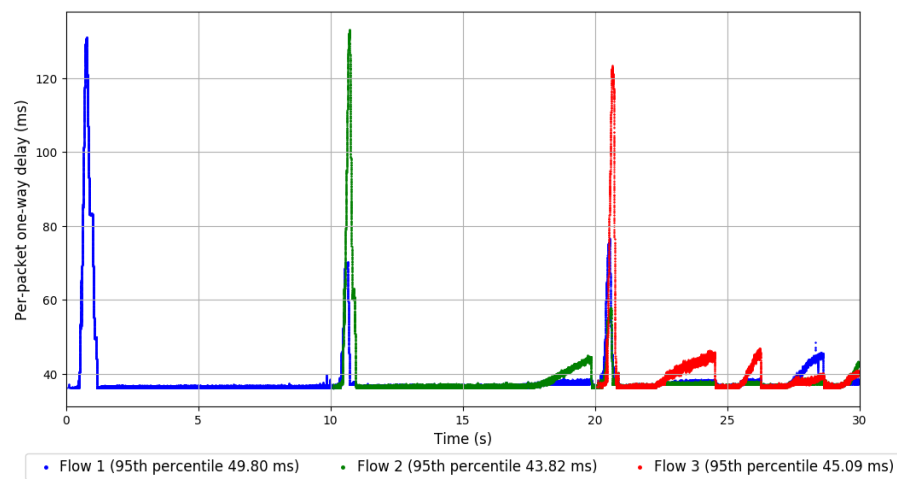
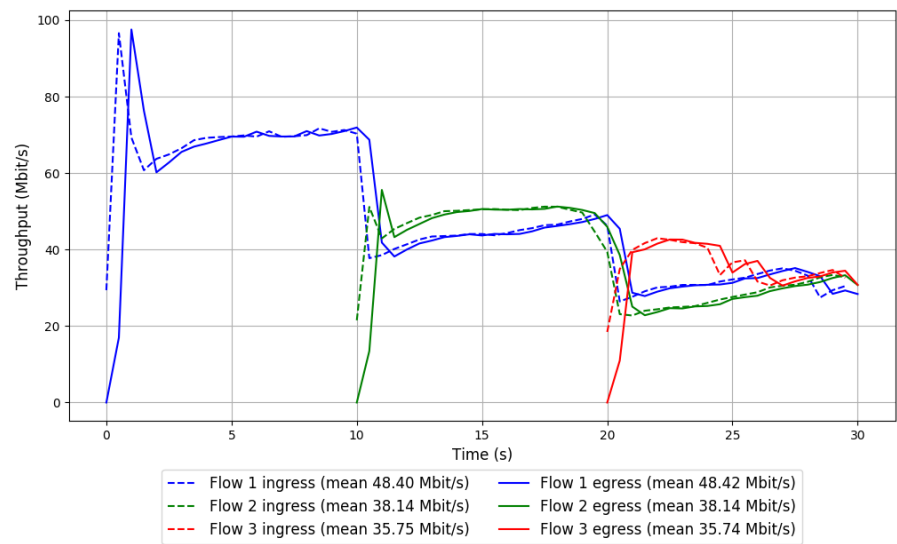


Run 3: Statistics of TCP Cubic

Start at: 2019-02-05 19:12:25  
End at: 2019-02-05 19:12:55  
Local clock offset: -0.432 ms  
Remote clock offset: -3.843 ms

# Below is generated by plot.py at 2019-02-05 20:26:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.63 Mbit/s  
95th percentile per-packet one-way delay: 45.727 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 48.42 Mbit/s  
95th percentile per-packet one-way delay: 49.795 ms  
Loss rate: 0.17%  
-- Flow 2:  
Average throughput: 38.14 Mbit/s  
95th percentile per-packet one-way delay: 43.819 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 35.74 Mbit/s  
95th percentile per-packet one-way delay: 45.089 ms  
Loss rate: 0.65%

Run 3: Report of TCP Cubic — Data Link

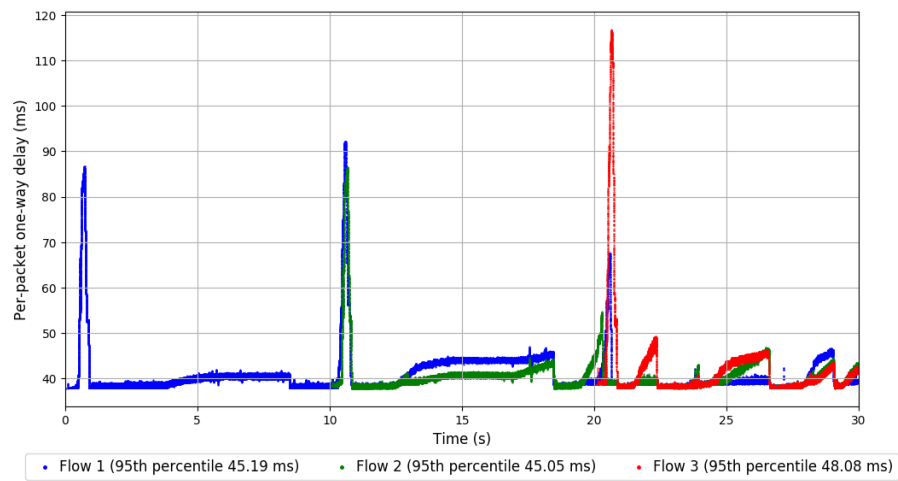
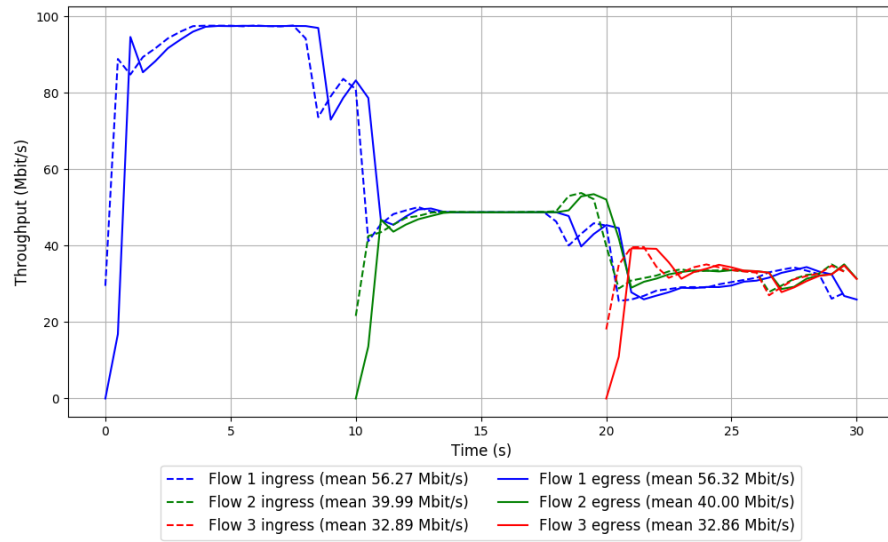


Run 4: Statistics of TCP Cubic

Start at: 2019-02-05 19:38:37  
End at: 2019-02-05 19:39:07  
Local clock offset: -0.093 ms  
Remote clock offset: -4.578 ms

# Below is generated by plot.py at 2019-02-05 20:26:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.81 Mbit/s  
95th percentile per-packet one-way delay: 45.458 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 56.32 Mbit/s  
95th percentile per-packet one-way delay: 45.186 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 40.00 Mbit/s  
95th percentile per-packet one-way delay: 45.054 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 32.86 Mbit/s  
95th percentile per-packet one-way delay: 48.081 ms  
Loss rate: 0.74%

#### Run 4: Report of TCP Cubic — Data Link

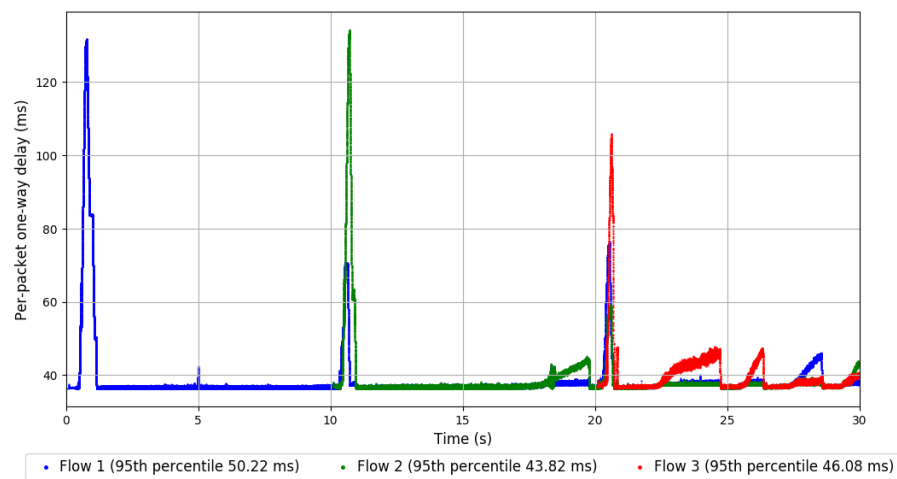
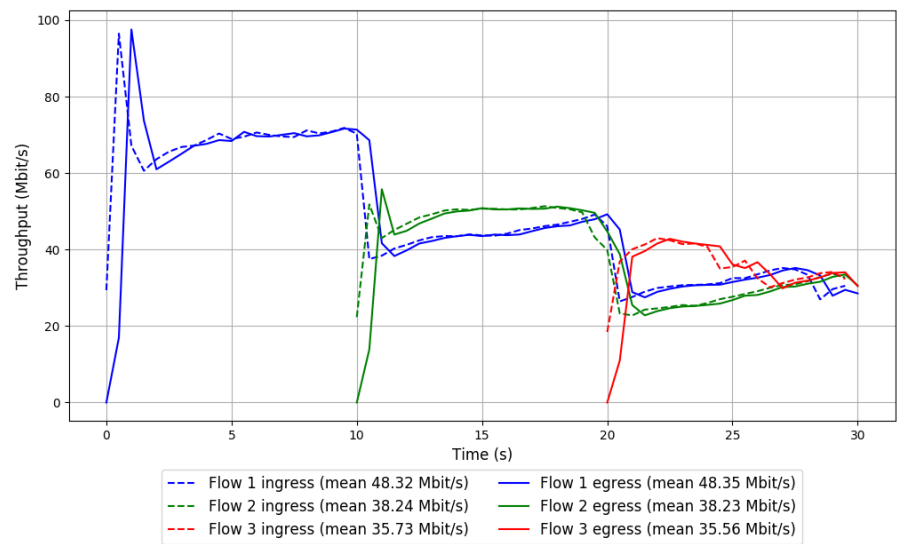


Run 5: Statistics of TCP Cubic

Start at: 2019-02-05 20:04:56  
End at: 2019-02-05 20:05:26  
Local clock offset: 0.161 ms  
Remote clock offset: -2.532 ms

# Below is generated by plot.py at 2019-02-05 20:26:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.57 Mbit/s  
95th percentile per-packet one-way delay: 46.383 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 48.35 Mbit/s  
95th percentile per-packet one-way delay: 50.224 ms  
Loss rate: 0.16%  
-- Flow 2:  
Average throughput: 38.23 Mbit/s  
95th percentile per-packet one-way delay: 43.818 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 35.56 Mbit/s  
95th percentile per-packet one-way delay: 46.078 ms  
Loss rate: 1.12%

Run 5: Report of TCP Cubic — Data Link

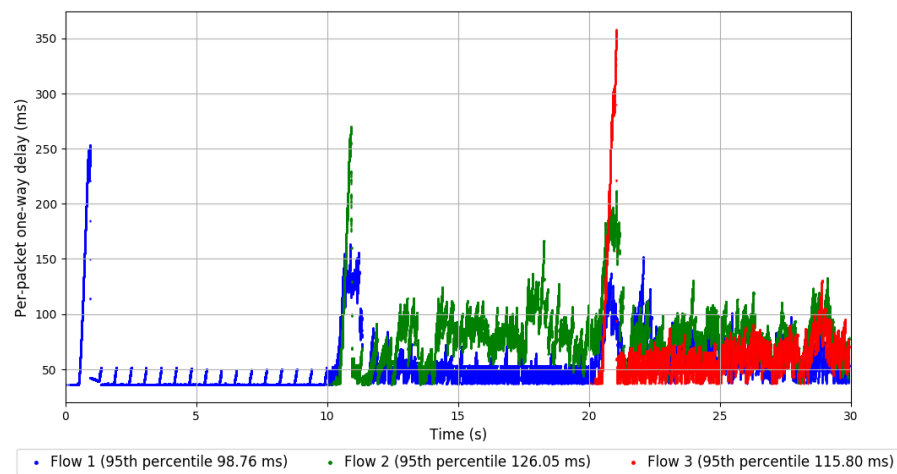
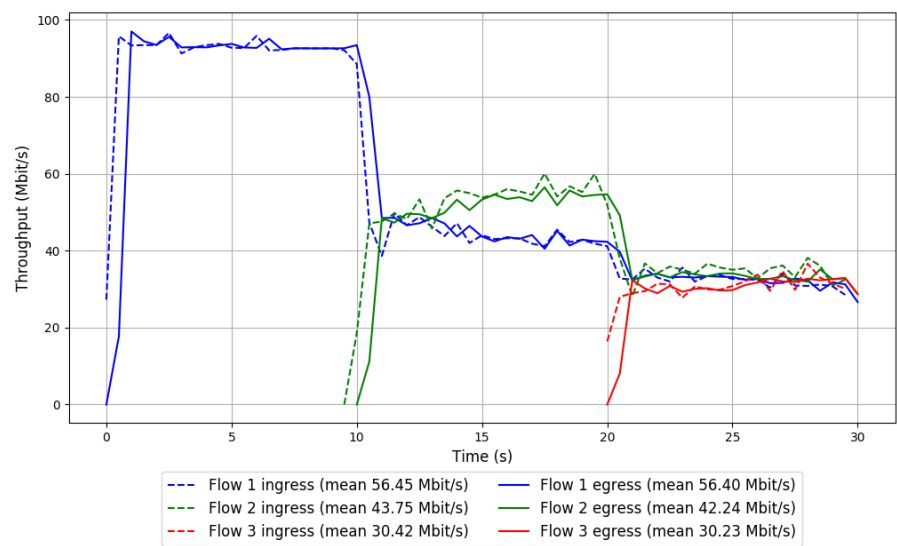


Run 1: Statistics of FillP

Start at: 2019-02-05 18:37:02  
End at: 2019-02-05 18:37:32  
Local clock offset: -0.306 ms  
Remote clock offset: -5.708 ms

# Below is generated by plot.py at 2019-02-05 20:27:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.51 Mbit/s  
95th percentile per-packet one-way delay: 116.103 ms  
Loss rate: 1.46%  
-- Flow 1:  
Average throughput: 56.40 Mbit/s  
95th percentile per-packet one-way delay: 98.764 ms  
Loss rate: 0.30%  
-- Flow 2:  
Average throughput: 42.24 Mbit/s  
95th percentile per-packet one-way delay: 126.053 ms  
Loss rate: 3.76%  
-- Flow 3:  
Average throughput: 30.23 Mbit/s  
95th percentile per-packet one-way delay: 115.798 ms  
Loss rate: 1.28%

Run 1: Report of FillP — Data Link

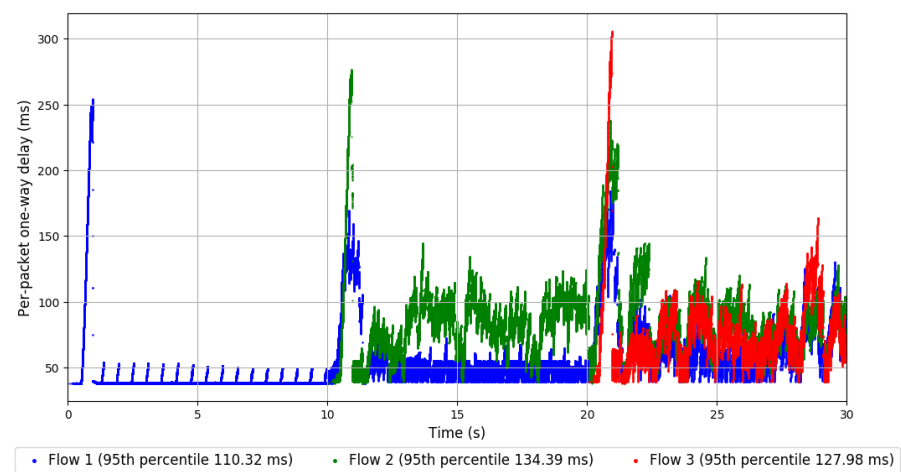
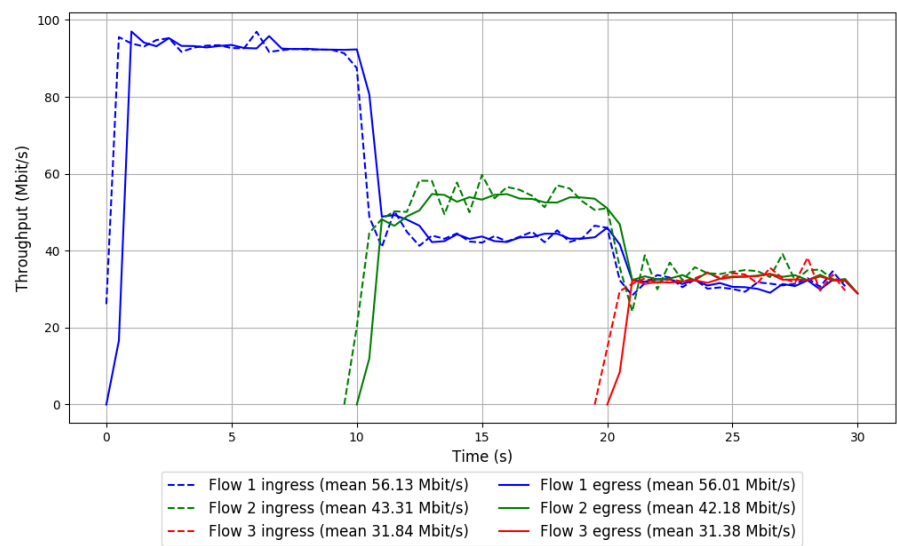


Run 2: Statistics of FillP

Start at: 2019-02-05 19:02:46  
End at: 2019-02-05 19:03:16  
Local clock offset: -0.311 ms  
Remote clock offset: -6.561 ms

# Below is generated by plot.py at 2019-02-05 20:27:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.49 Mbit/s  
95th percentile per-packet one-way delay: 123.151 ms  
Loss rate: 1.33%  
-- Flow 1:  
Average throughput: 56.01 Mbit/s  
95th percentile per-packet one-way delay: 110.319 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 42.18 Mbit/s  
95th percentile per-packet one-way delay: 134.392 ms  
Loss rate: 2.91%  
-- Flow 3:  
Average throughput: 31.38 Mbit/s  
95th percentile per-packet one-way delay: 127.977 ms  
Loss rate: 2.08%

Run 2: Report of FillP — Data Link

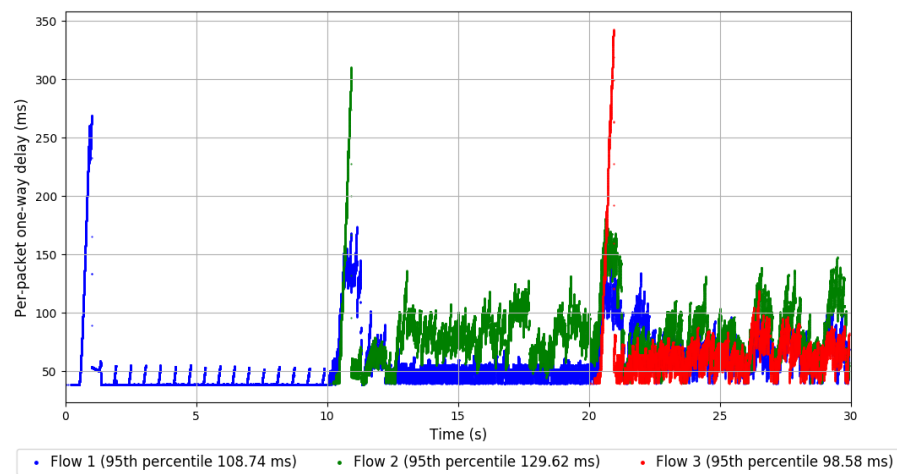
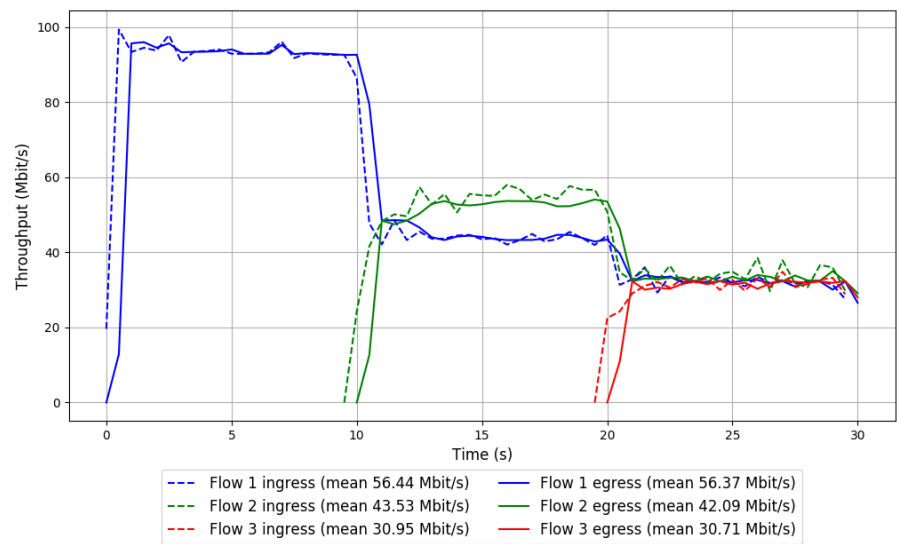


Run 3: Statistics of FillP

Start at: 2019-02-05 19:28:51  
End at: 2019-02-05 19:29:21  
Local clock offset: -0.091 ms  
Remote clock offset: -5.739 ms

# Below is generated by plot.py at 2019-02-05 20:27:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.57 Mbit/s  
95th percentile per-packet one-way delay: 119.611 ms  
Loss rate: 1.43%  
-- Flow 1:  
Average throughput: 56.37 Mbit/s  
95th percentile per-packet one-way delay: 108.738 ms  
Loss rate: 0.33%  
-- Flow 2:  
Average throughput: 42.09 Mbit/s  
95th percentile per-packet one-way delay: 129.618 ms  
Loss rate: 3.62%  
-- Flow 3:  
Average throughput: 30.71 Mbit/s  
95th percentile per-packet one-way delay: 98.576 ms  
Loss rate: 1.31%

Run 3: Report of FillP — Data Link

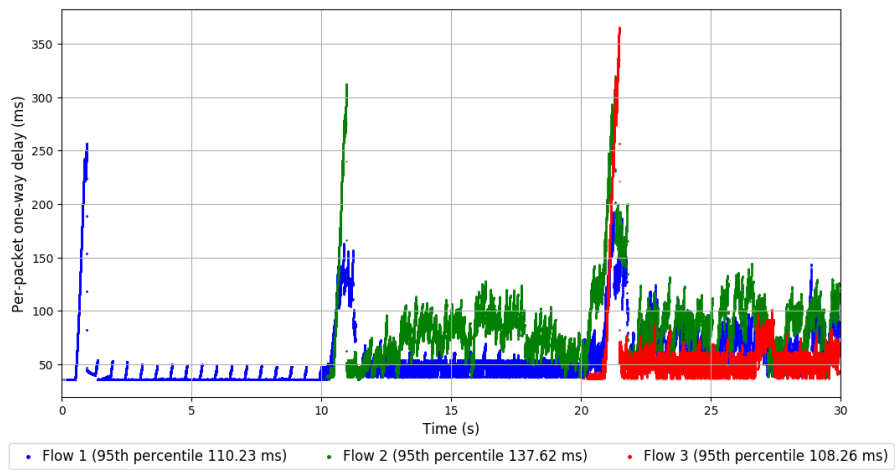
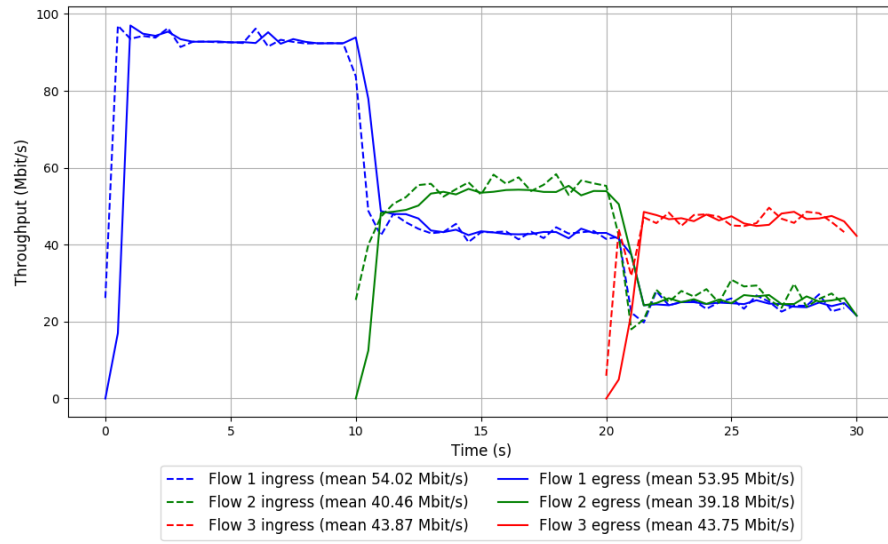


Run 4: Statistics of FillP

Start at: 2019-02-05 19:55:12  
End at: 2019-02-05 19:55:42  
Local clock offset: 0.124 ms  
Remote clock offset: -2.499 ms

# Below is generated by plot.py at 2019-02-05 20:27:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.51 Mbit/s  
95th percentile per-packet one-way delay: 124.188 ms  
Loss rate: 1.28%  
-- Flow 1:  
Average throughput: 53.95 Mbit/s  
95th percentile per-packet one-way delay: 110.233 ms  
Loss rate: 0.29%  
-- Flow 2:  
Average throughput: 39.18 Mbit/s  
95th percentile per-packet one-way delay: 137.622 ms  
Loss rate: 3.45%  
-- Flow 3:  
Average throughput: 43.75 Mbit/s  
95th percentile per-packet one-way delay: 108.258 ms  
Loss rate: 0.92%

# Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-02-05 20:21:07

End at: 2019-02-05 20:21:37

Local clock offset: 0.164 ms

Remote clock offset: -4.1 ms

# Below is generated by plot.py at 2019-02-05 20:28:02

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.67 Mbit/s

95th percentile per-packet one-way delay: 128.792 ms

Loss rate: 1.35%

-- Flow 1:

Average throughput: 54.68 Mbit/s

95th percentile per-packet one-way delay: 125.620 ms

Loss rate: 0.52%

-- Flow 2:

Average throughput: 38.97 Mbit/s

95th percentile per-packet one-way delay: 147.388 ms

Loss rate: 3.35%

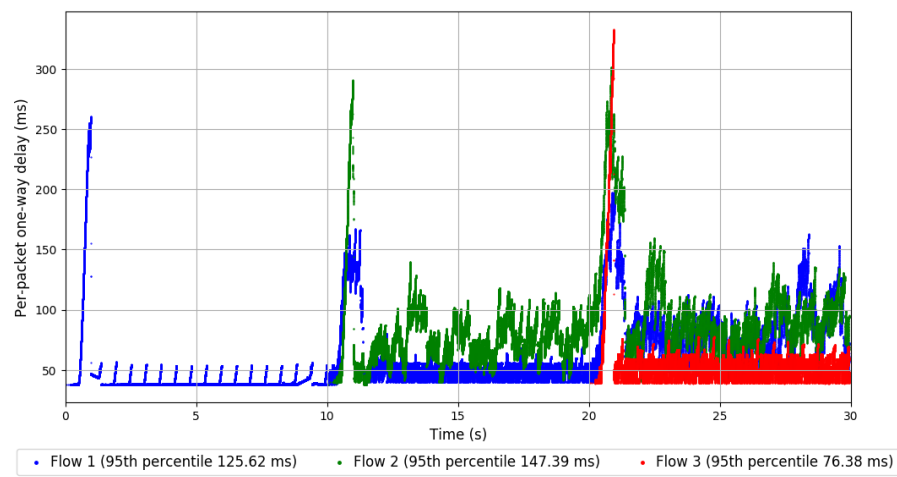
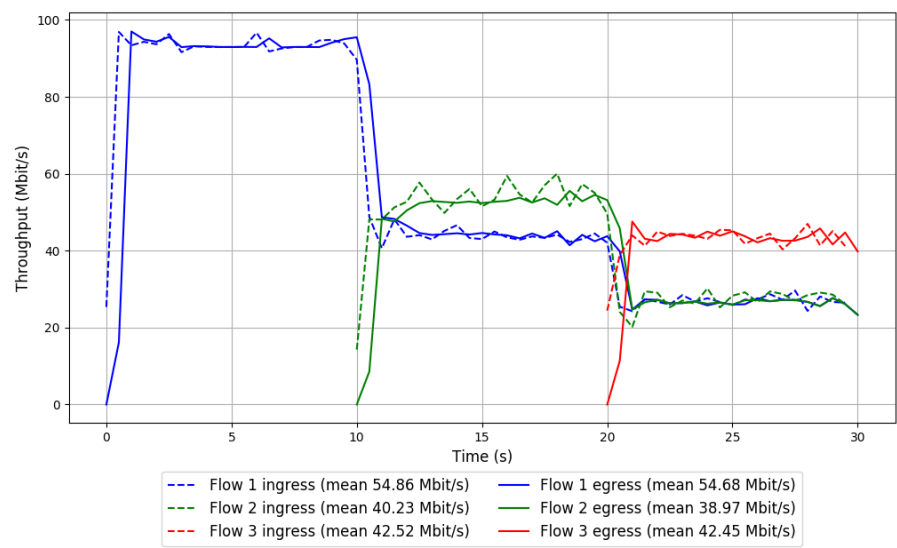
-- Flow 3:

Average throughput: 42.45 Mbit/s

95th percentile per-packet one-way delay: 76.381 ms

Loss rate: 0.82%

Run 5: Report of FillP — Data Link

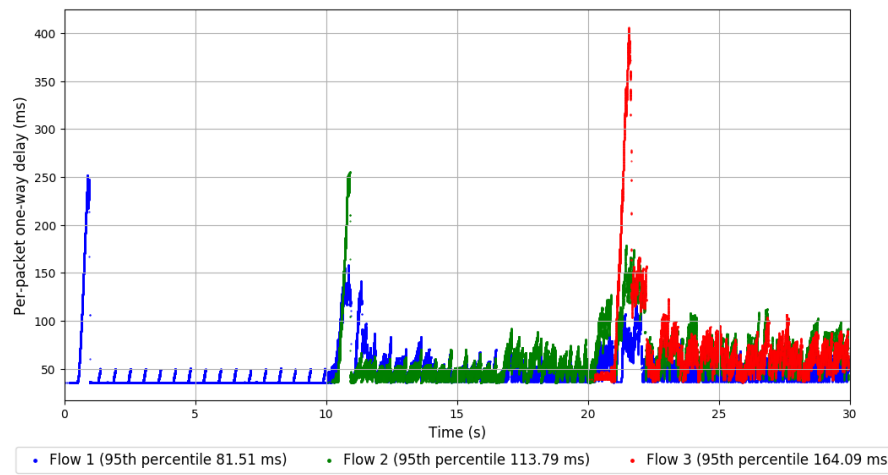
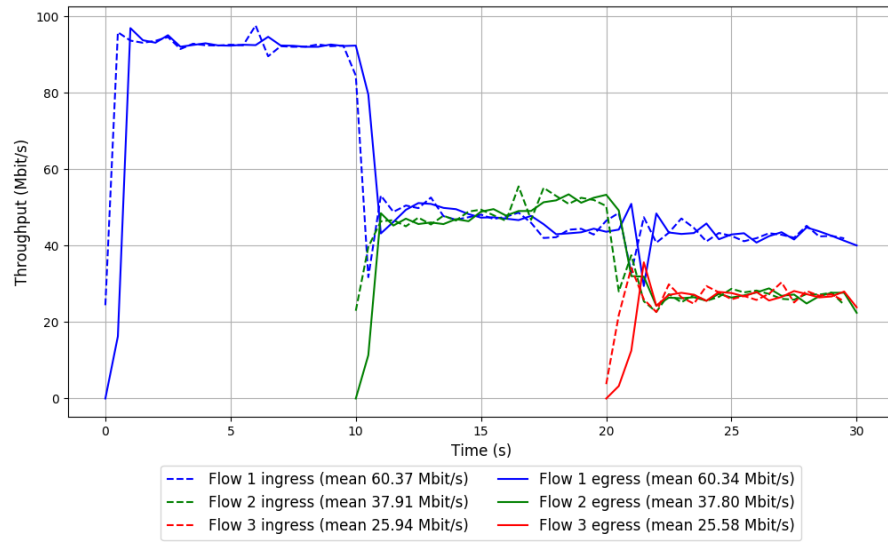


Run 1: Statistics of FillP-Sheep

Start at: 2019-02-05 18:33:18  
End at: 2019-02-05 18:33:48  
Local clock offset: -0.021 ms  
Remote clock offset: -5.591 ms

# Below is generated by plot.py at 2019-02-05 20:28:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.96 Mbit/s  
95th percentile per-packet one-way delay: 105.221 ms  
Loss rate: 0.51%  
-- Flow 1:  
Average throughput: 60.34 Mbit/s  
95th percentile per-packet one-way delay: 81.512 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 37.80 Mbit/s  
95th percentile per-packet one-way delay: 113.794 ms  
Loss rate: 0.61%  
-- Flow 3:  
Average throughput: 25.58 Mbit/s  
95th percentile per-packet one-way delay: 164.094 ms  
Loss rate: 1.94%

# Run 1: Report of FillP-Sheep — Data Link

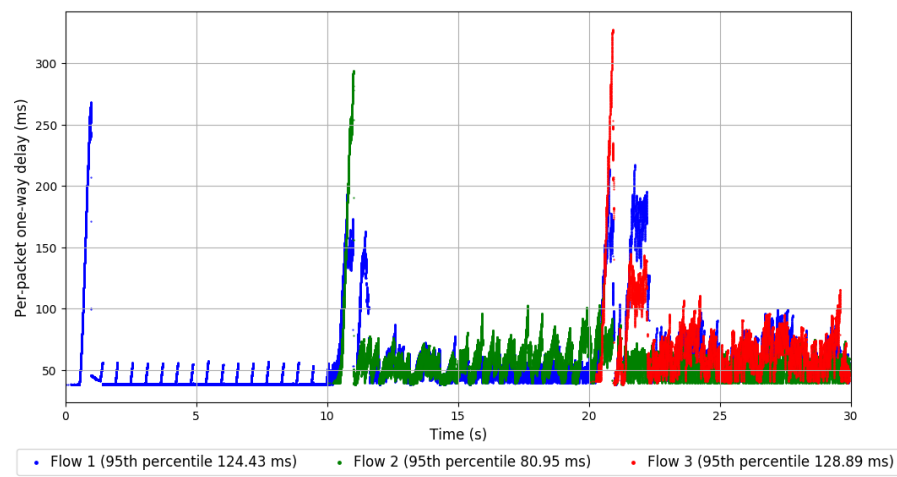
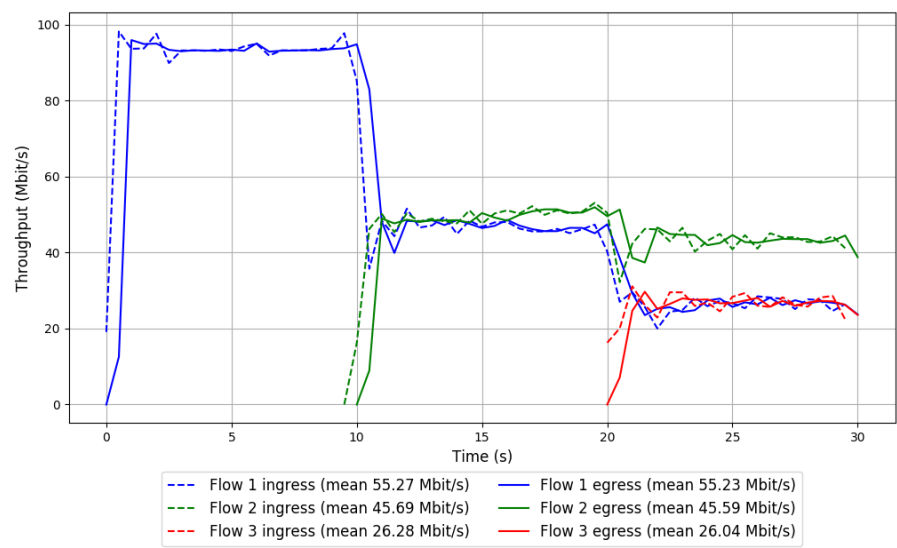


Run 2: Statistics of FillP-Sheep

Start at: 2019-02-05 18:59:03  
End at: 2019-02-05 18:59:33  
Local clock offset: -0.326 ms  
Remote clock offset: -6.798 ms

# Below is generated by plot.py at 2019-02-05 20:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.18 Mbit/s  
95th percentile per-packet one-way delay: 107.541 ms  
Loss rate: 0.45%  
-- Flow 1:  
Average throughput: 55.23 Mbit/s  
95th percentile per-packet one-way delay: 124.426 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 45.59 Mbit/s  
95th percentile per-packet one-way delay: 80.948 ms  
Loss rate: 0.55%  
-- Flow 3:  
Average throughput: 26.04 Mbit/s  
95th percentile per-packet one-way delay: 128.893 ms  
Loss rate: 1.27%

Run 2: Report of FillP-Sheep — Data Link

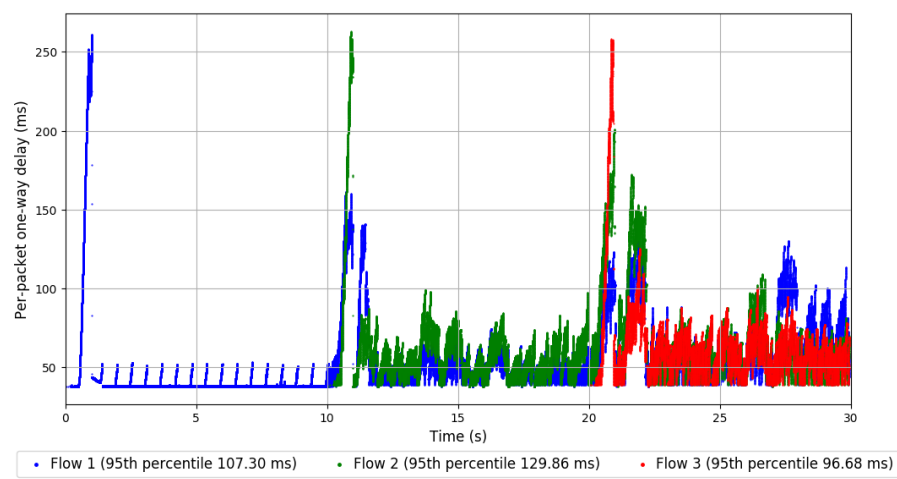
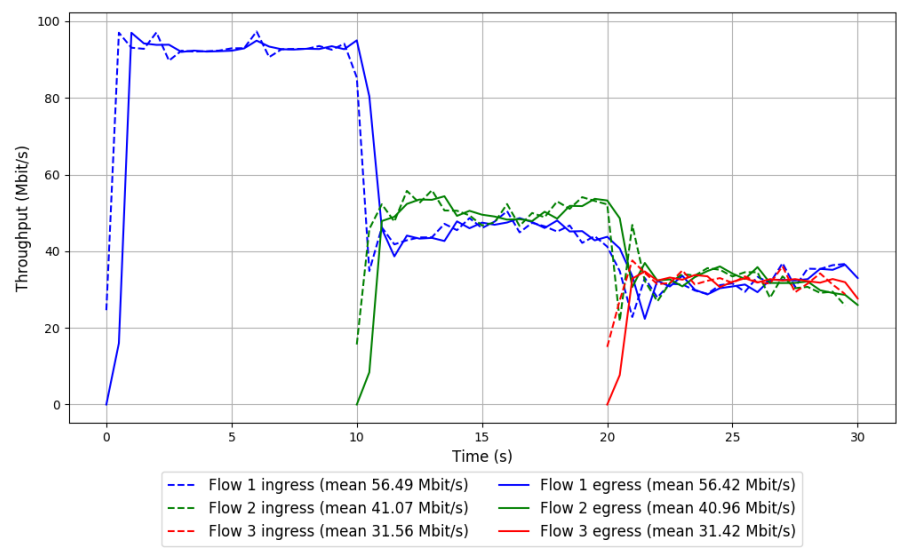


Run 3: Statistics of FillP-Sheep

Start at: 2019-02-05 19:24:59  
End at: 2019-02-05 19:25:29  
Local clock offset: -0.153 ms  
Remote clock offset: -5.395 ms

# Below is generated by plot.py at 2019-02-05 20:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.07 Mbit/s  
95th percentile per-packet one-way delay: 110.884 ms  
Loss rate: 0.47%  
-- Flow 1:  
Average throughput: 56.42 Mbit/s  
95th percentile per-packet one-way delay: 107.298 ms  
Loss rate: 0.34%  
-- Flow 2:  
Average throughput: 40.96 Mbit/s  
95th percentile per-packet one-way delay: 129.864 ms  
Loss rate: 0.49%  
-- Flow 3:  
Average throughput: 31.42 Mbit/s  
95th percentile per-packet one-way delay: 96.677 ms  
Loss rate: 1.05%

Run 3: Report of FillP-Sheep — Data Link

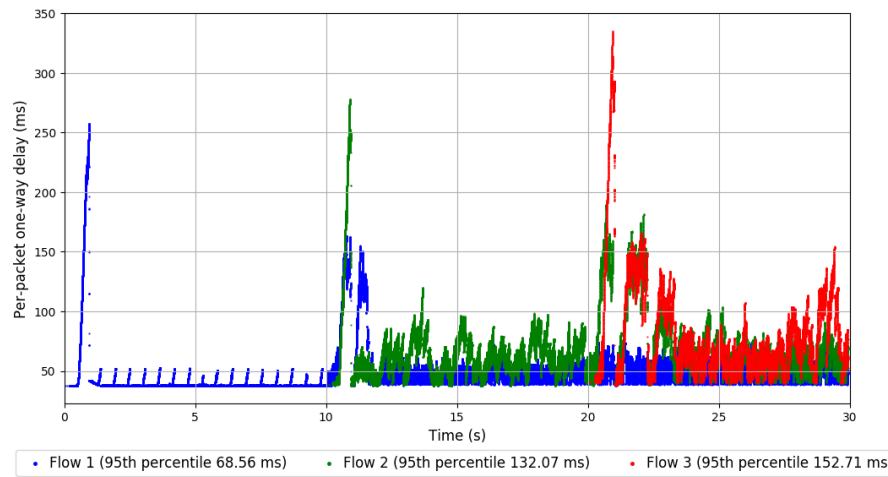
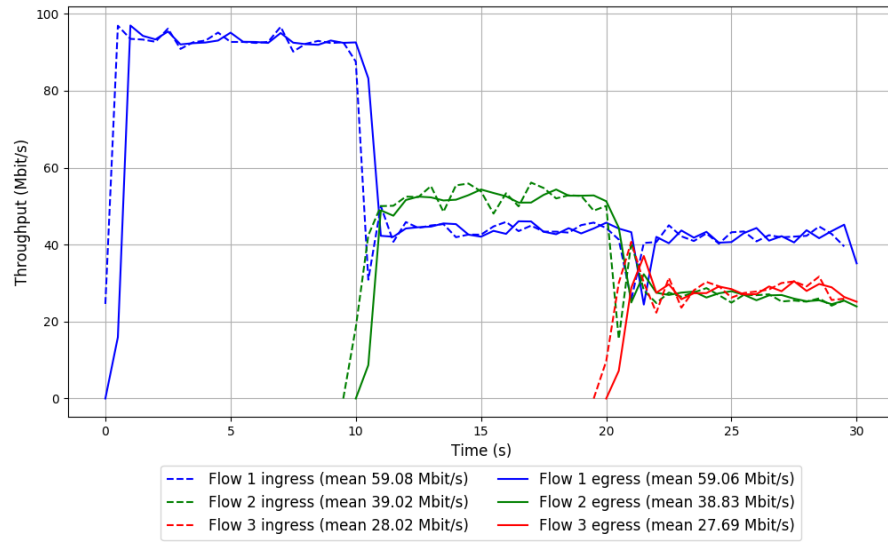


Run 4: Statistics of FillP-Sheep

Start at: 2019-02-05 19:51:17  
End at: 2019-02-05 19:51:47  
Local clock offset: 0.04 ms  
Remote clock offset: -4.239 ms

# Below is generated by plot.py at 2019-02-05 20:28:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.08 Mbit/s  
95th percentile per-packet one-way delay: 118.511 ms  
Loss rate: 0.52%  
-- Flow 1:  
Average throughput: 59.06 Mbit/s  
95th percentile per-packet one-way delay: 68.565 ms  
Loss rate: 0.25%  
-- Flow 2:  
Average throughput: 38.83 Mbit/s  
95th percentile per-packet one-way delay: 132.072 ms  
Loss rate: 0.69%  
-- Flow 3:  
Average throughput: 27.69 Mbit/s  
95th percentile per-packet one-way delay: 152.706 ms  
Loss rate: 1.80%

#### Run 4: Report of FillP-Sheep — Data Link

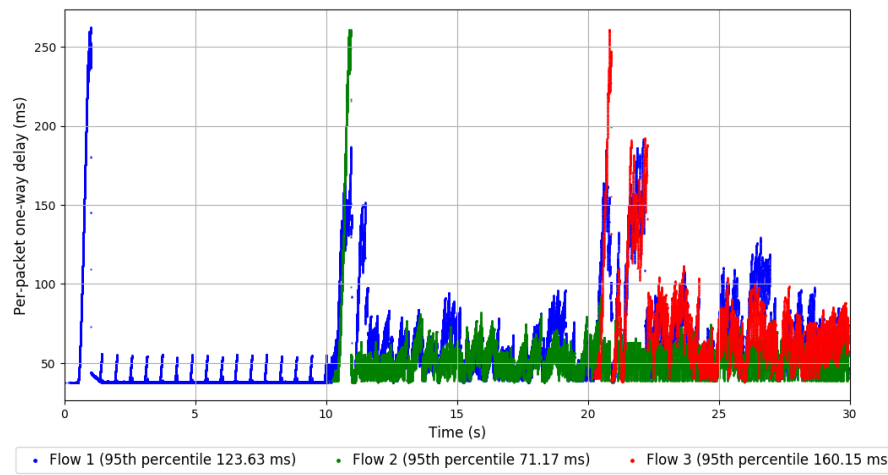
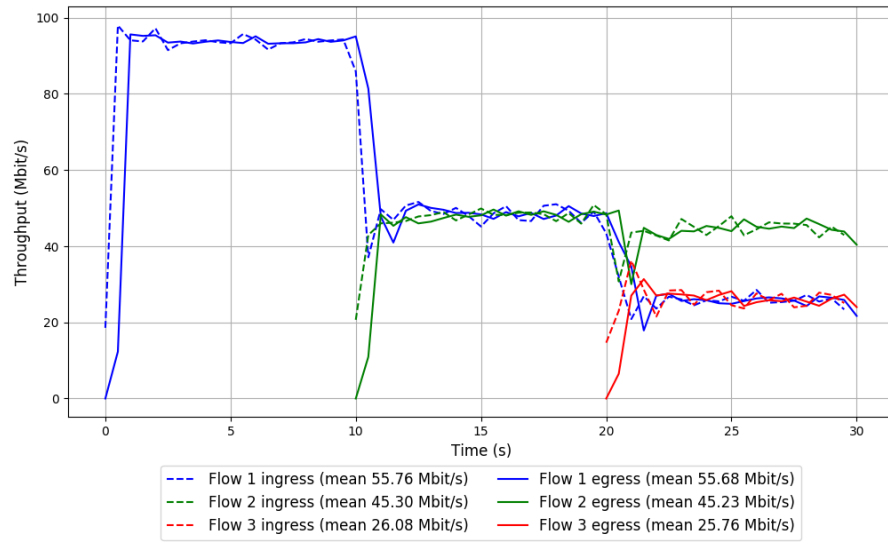


Run 5: Statistics of FillP-Sheep

Start at: 2019-02-05 20:17:16  
End at: 2019-02-05 20:17:46  
Local clock offset: 0.14 ms  
Remote clock offset: -3.847 ms

# Below is generated by plot.py at 2019-02-05 20:28:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.30 Mbit/s  
95th percentile per-packet one-way delay: 113.443 ms  
Loss rate: 0.51%  
-- Flow 1:  
Average throughput: 55.68 Mbit/s  
95th percentile per-packet one-way delay: 123.630 ms  
Loss rate: 0.36%  
-- Flow 2:  
Average throughput: 45.23 Mbit/s  
95th percentile per-packet one-way delay: 71.168 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 25.76 Mbit/s  
95th percentile per-packet one-way delay: 160.146 ms  
Loss rate: 1.81%

## Run 5: Report of FillP-Sheep — Data Link

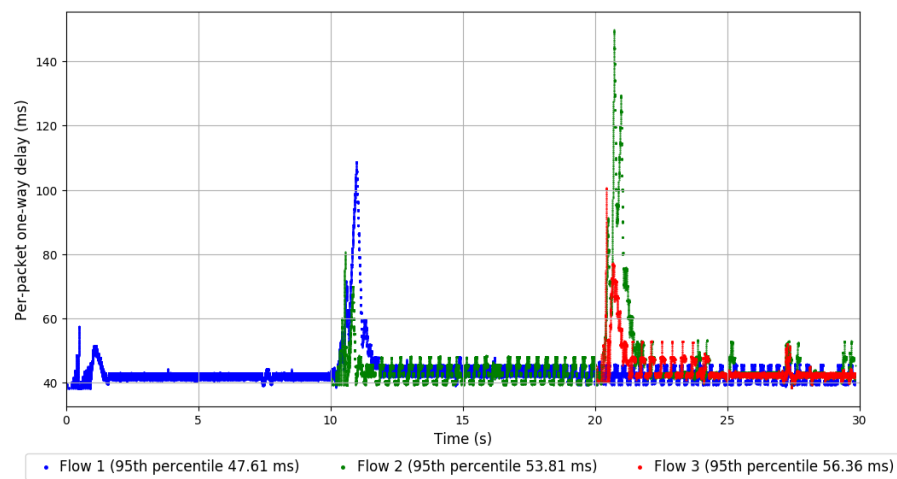
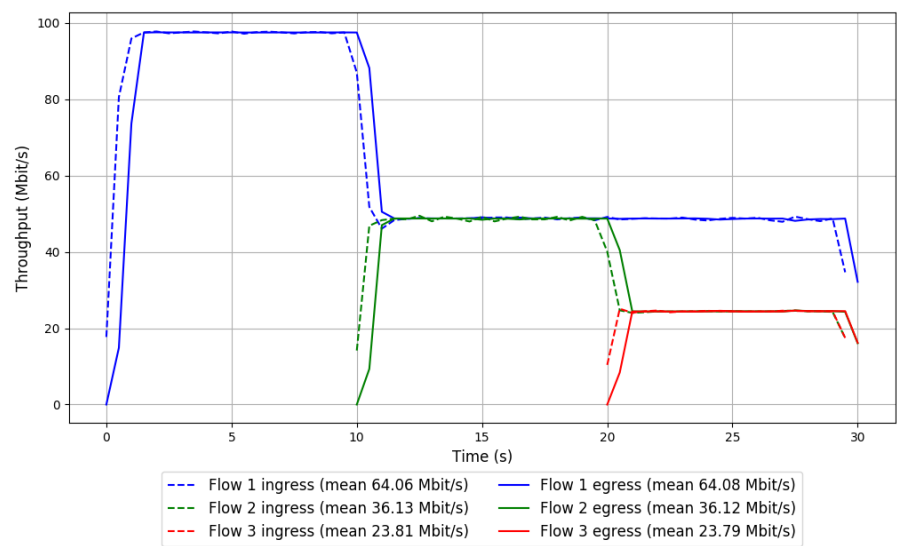


Run 1: Statistics of Indigo

Start at: 2019-02-05 18:22:04  
End at: 2019-02-05 18:22:34  
Local clock offset: 1.578 ms  
Remote clock offset: -8.554 ms

# Below is generated by plot.py at 2019-02-05 20:28:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.85 Mbit/s  
95th percentile per-packet one-way delay: 49.436 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 64.08 Mbit/s  
95th percentile per-packet one-way delay: 47.614 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 36.12 Mbit/s  
95th percentile per-packet one-way delay: 53.815 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 23.79 Mbit/s  
95th percentile per-packet one-way delay: 56.359 ms  
Loss rate: 0.81%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-02-05 18:47:58

End at: 2019-02-05 18:48:28

Local clock offset: -0.659 ms

Remote clock offset: -7.48 ms

# Below is generated by plot.py at 2019-02-05 20:28:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.90 Mbit/s

95th percentile per-packet one-way delay: 50.539 ms

Loss rate: 0.27%

-- Flow 1:

Average throughput: 58.97 Mbit/s

95th percentile per-packet one-way delay: 51.004 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 40.05 Mbit/s

95th percentile per-packet one-way delay: 50.633 ms

Loss rate: 0.31%

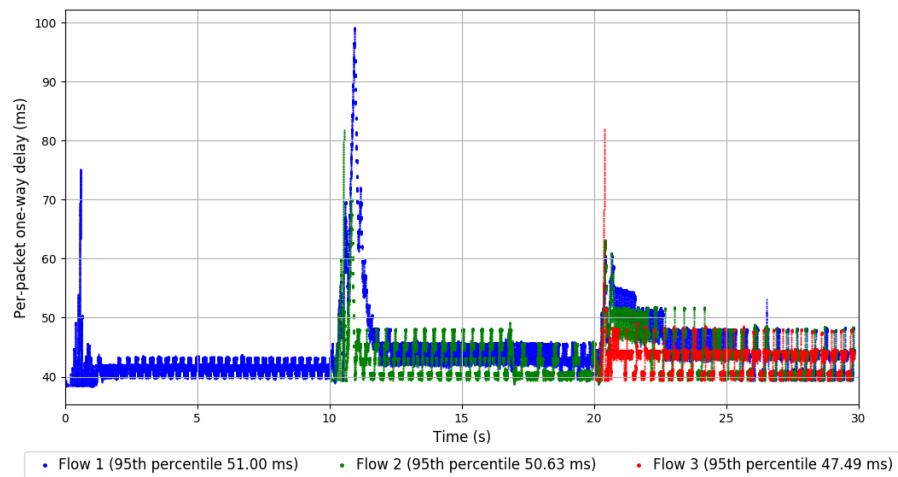
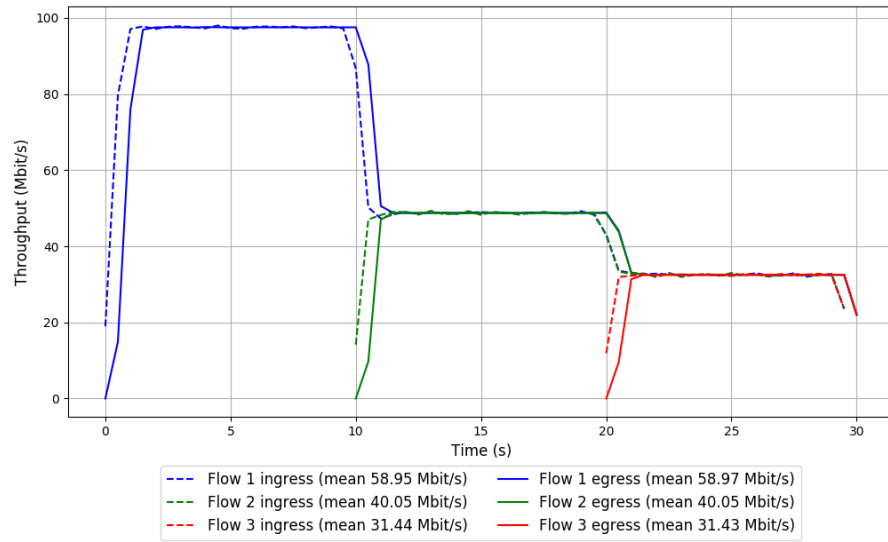
-- Flow 3:

Average throughput: 31.43 Mbit/s

95th percentile per-packet one-way delay: 47.491 ms

Loss rate: 0.69%

## Run 2: Report of Indigo — Data Link

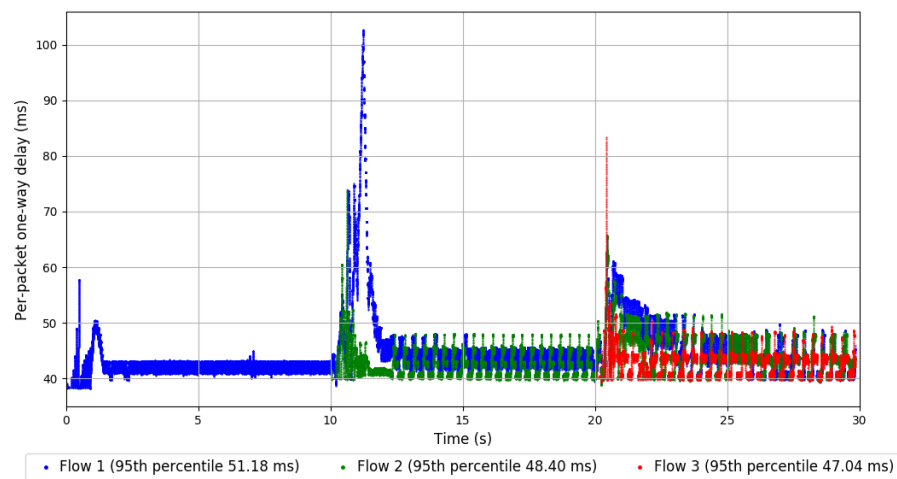
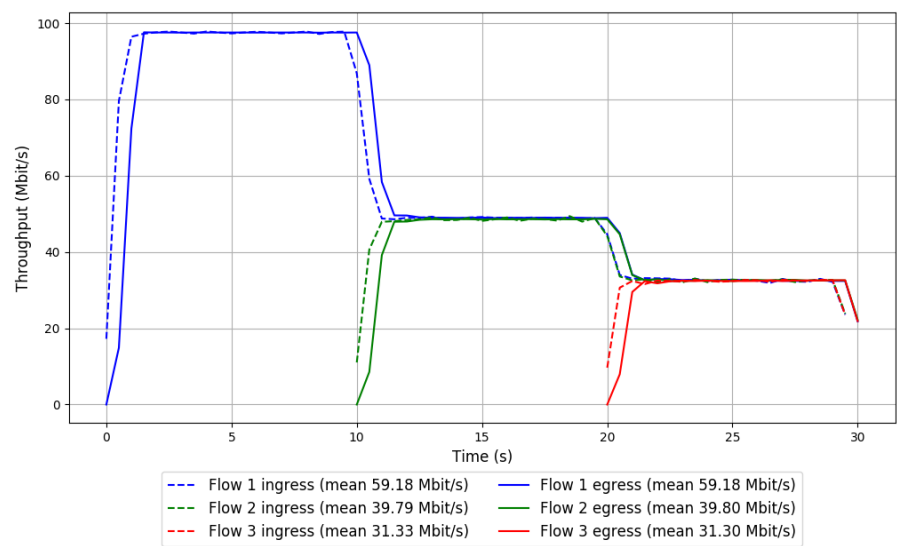


Run 3: Statistics of Indigo

Start at: 2019-02-05 19:13:38  
End at: 2019-02-05 19:14:08  
Local clock offset: -0.448 ms  
Remote clock offset: -5.835 ms

# Below is generated by plot.py at 2019-02-05 20:29:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.84 Mbit/s  
95th percentile per-packet one-way delay: 50.175 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 59.18 Mbit/s  
95th percentile per-packet one-way delay: 51.179 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 39.80 Mbit/s  
95th percentile per-packet one-way delay: 48.396 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 31.30 Mbit/s  
95th percentile per-packet one-way delay: 47.038 ms  
Loss rate: 0.74%

Run 3: Report of Indigo — Data Link

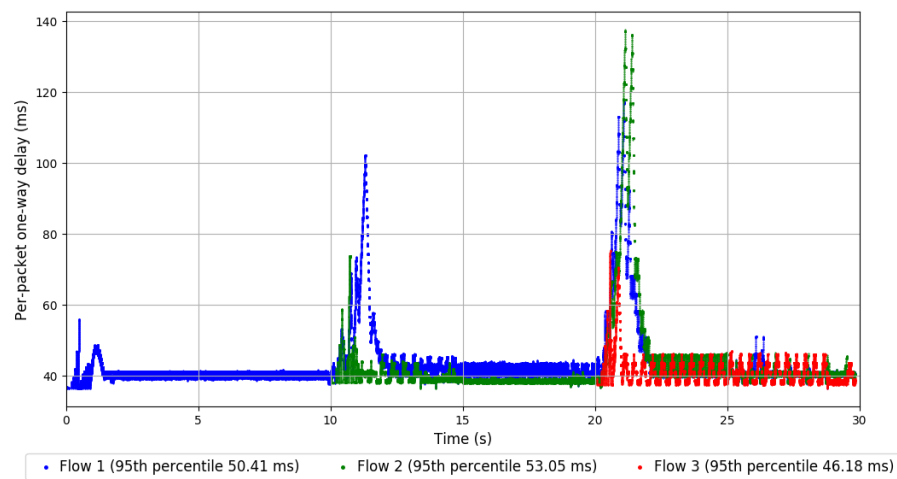
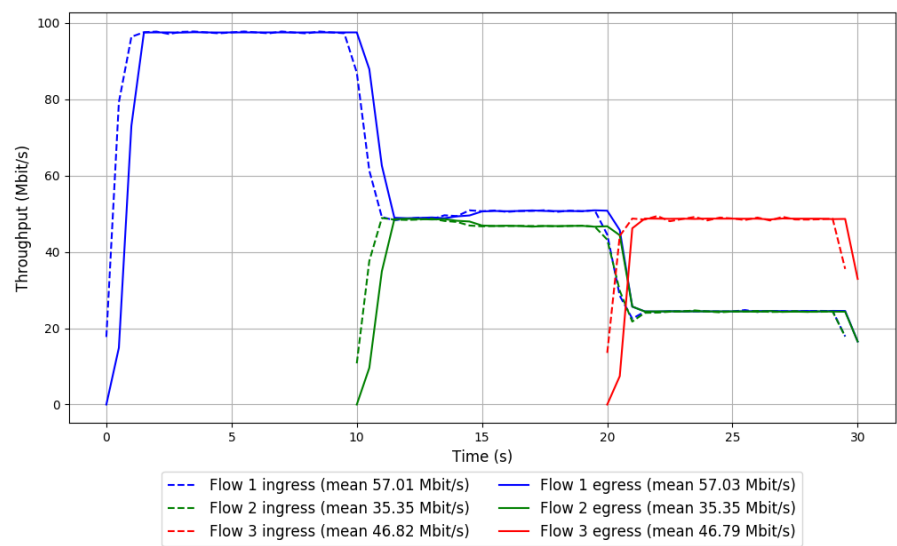


Run 4: Statistics of Indigo

Start at: 2019-02-05 19:39:50  
End at: 2019-02-05 19:40:20  
Local clock offset: -0.111 ms  
Remote clock offset: -3.229 ms

# Below is generated by plot.py at 2019-02-05 20:29:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.85 Mbit/s  
95th percentile per-packet one-way delay: 49.753 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 57.03 Mbit/s  
95th percentile per-packet one-way delay: 50.415 ms  
Loss rate: 0.17%  
-- Flow 2:  
Average throughput: 35.35 Mbit/s  
95th percentile per-packet one-way delay: 53.055 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 46.79 Mbit/s  
95th percentile per-packet one-way delay: 46.181 ms  
Loss rate: 0.71%

Run 4: Report of Indigo — Data Link

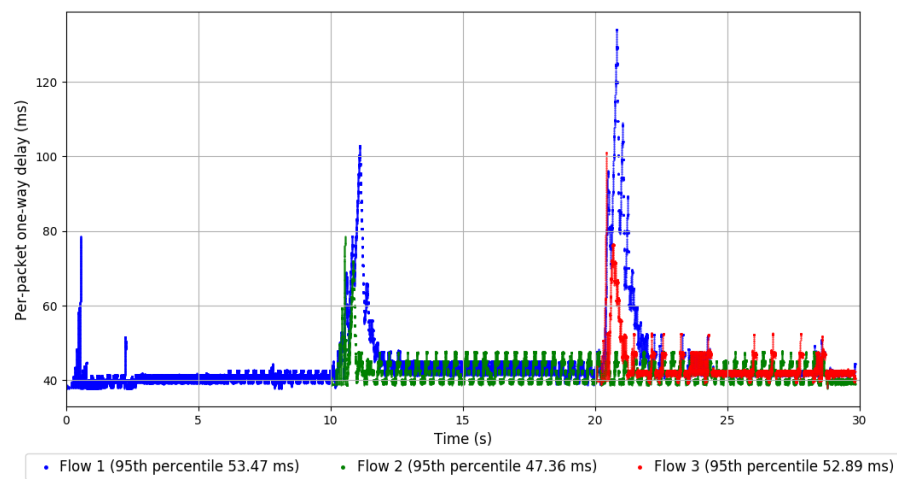
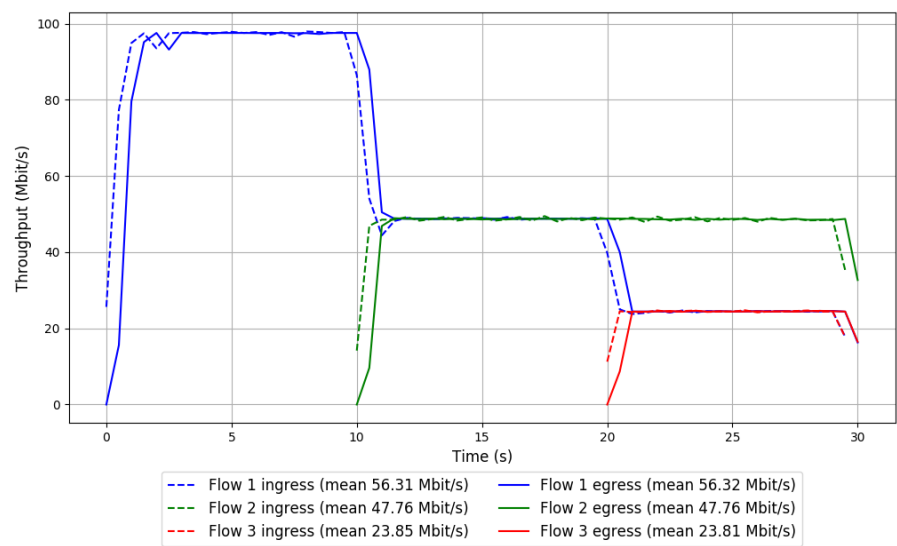


Run 5: Statistics of Indigo

Start at: 2019-02-05 20:06:09  
End at: 2019-02-05 20:06:39  
Local clock offset: 0.168 ms  
Remote clock offset: -3.937 ms

```
# Below is generated by plot.py at 2019-02-05 20:29:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 49.265 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 56.32 Mbit/s
95th percentile per-packet one-way delay: 53.470 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 47.76 Mbit/s
95th percentile per-packet one-way delay: 47.358 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 23.81 Mbit/s
95th percentile per-packet one-way delay: 52.887 ms
Loss rate: 0.81%
```

Run 5: Report of Indigo — Data Link

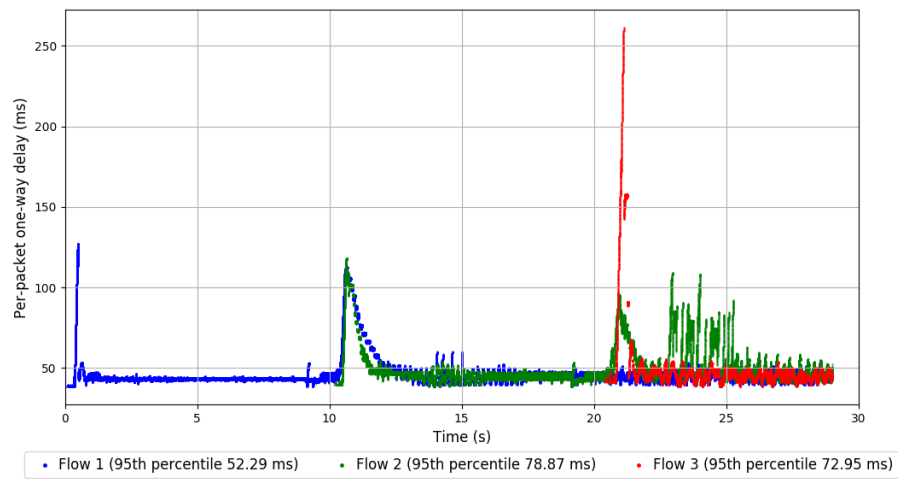
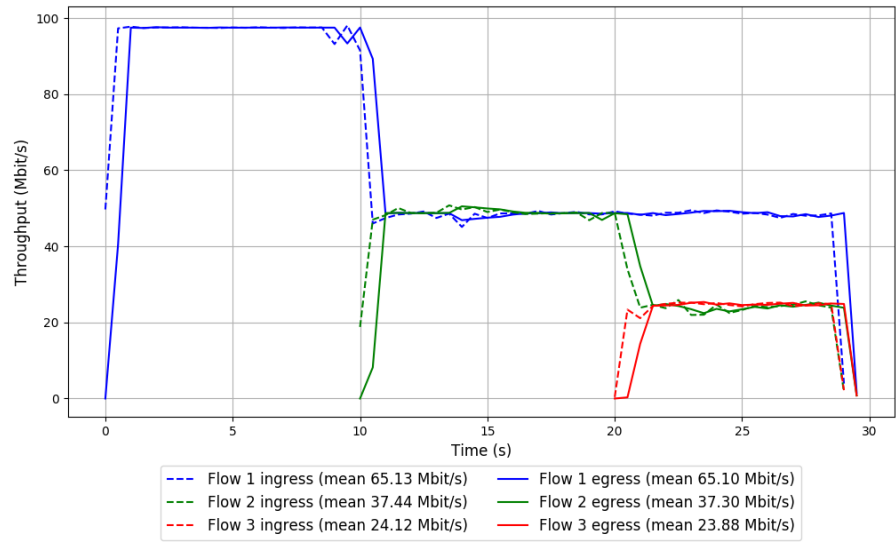


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-05 18:27:05  
End at: 2019-02-05 18:27:35  
Local clock offset: 0.653 ms  
Remote clock offset: -8.322 ms

# Below is generated by plot.py at 2019-02-05 20:29:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.46 Mbit/s  
95th percentile per-packet one-way delay: 65.948 ms  
Loss rate: 0.48%  
-- Flow 1:  
Average throughput: 65.10 Mbit/s  
95th percentile per-packet one-way delay: 52.289 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 37.30 Mbit/s  
95th percentile per-packet one-way delay: 78.873 ms  
Loss rate: 0.70%  
-- Flow 3:  
Average throughput: 23.88 Mbit/s  
95th percentile per-packet one-way delay: 72.948 ms  
Loss rate: 1.75%

# Run 1: Report of Indigo-MusesC3 — Data Link

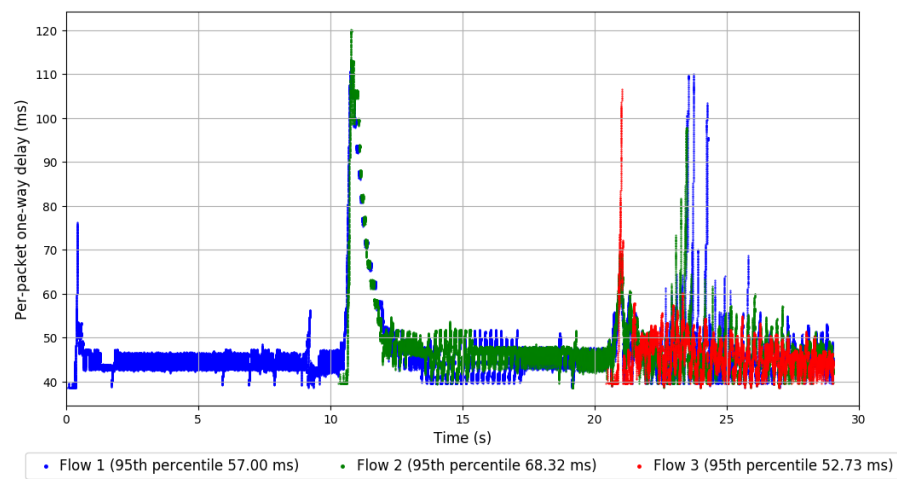
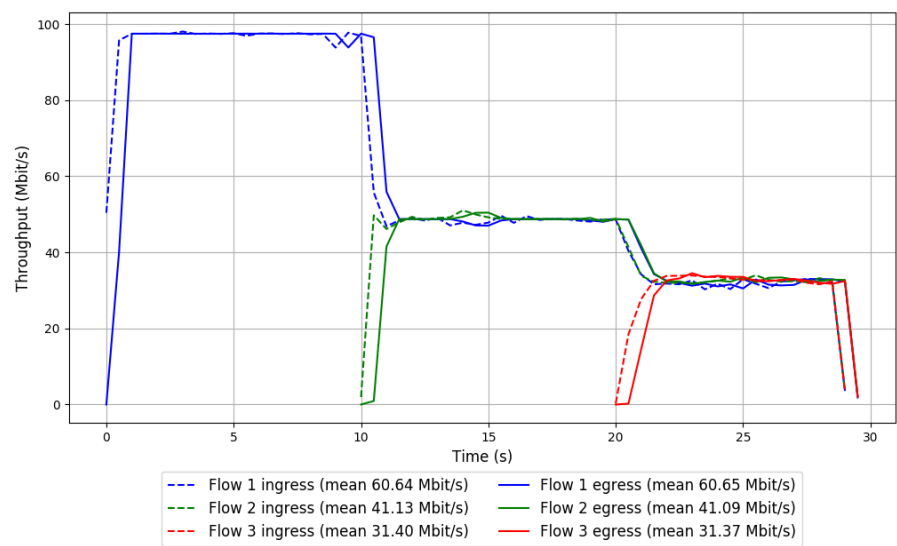


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-05 18:52:51  
End at: 2019-02-05 18:53:21  
Local clock offset: -0.424 ms  
Remote clock offset: -7.378 ms

# Below is generated by plot.py at 2019-02-05 20:29:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.51 Mbit/s  
95th percentile per-packet one-way delay: 59.083 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 60.65 Mbit/s  
95th percentile per-packet one-way delay: 57.004 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 41.09 Mbit/s  
95th percentile per-packet one-way delay: 68.320 ms  
Loss rate: 0.44%  
-- Flow 3:  
Average throughput: 31.37 Mbit/s  
95th percentile per-packet one-way delay: 52.725 ms  
Loss rate: 0.84%

Run 2: Report of Indigo-MusesC3 — Data Link

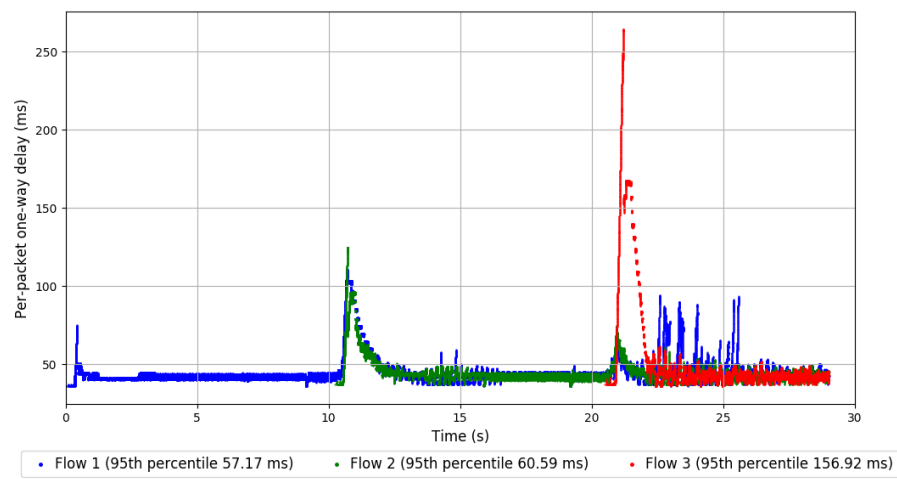
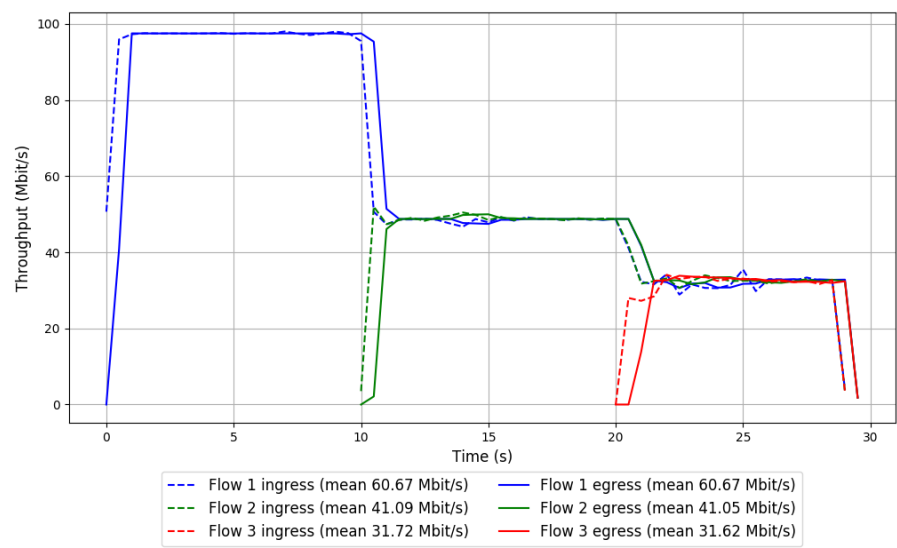


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-05 19:18:30  
End at: 2019-02-05 19:19:00  
Local clock offset: -0.354 ms  
Remote clock offset: -3.616 ms

# Below is generated by plot.py at 2019-02-05 20:29:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.58 Mbit/s  
95th percentile per-packet one-way delay: 62.369 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 60.67 Mbit/s  
95th percentile per-packet one-way delay: 57.173 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 41.05 Mbit/s  
95th percentile per-packet one-way delay: 60.593 ms  
Loss rate: 0.43%  
-- Flow 3:  
Average throughput: 31.62 Mbit/s  
95th percentile per-packet one-way delay: 156.917 ms  
Loss rate: 1.06%

Run 3: Report of Indigo-MusesC3 — Data Link

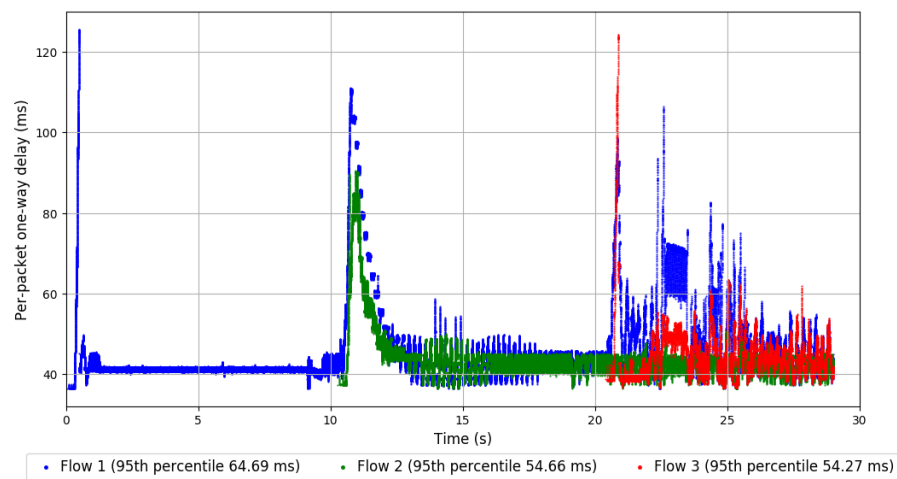
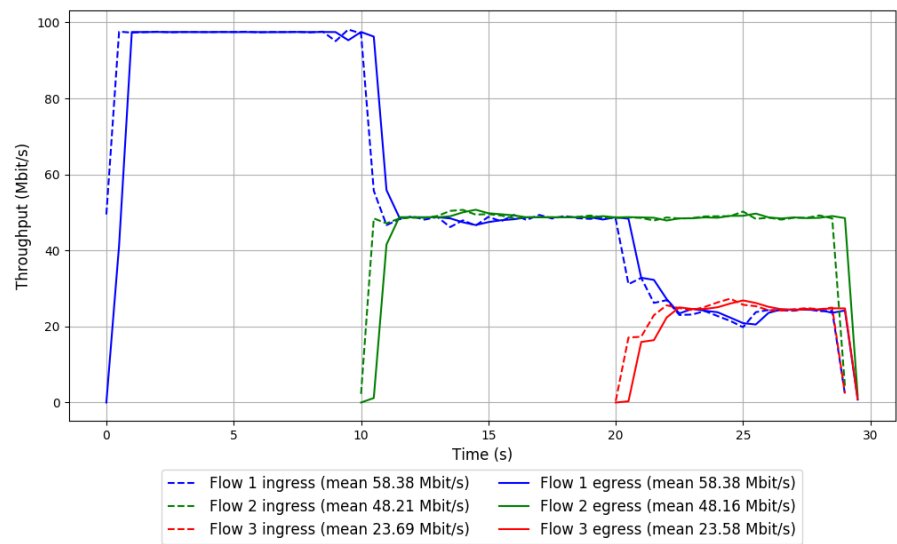


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-05 19:44:52  
End at: 2019-02-05 19:45:22  
Local clock offset: -0.177 ms  
Remote clock offset: -3.123 ms

# Below is generated by plot.py at 2019-02-05 20:29:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.54 Mbit/s  
95th percentile per-packet one-way delay: 60.197 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 58.38 Mbit/s  
95th percentile per-packet one-way delay: 64.690 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 48.16 Mbit/s  
95th percentile per-packet one-way delay: 54.656 ms  
Loss rate: 0.45%  
-- Flow 3:  
Average throughput: 23.58 Mbit/s  
95th percentile per-packet one-way delay: 54.274 ms  
Loss rate: 1.24%

Run 4: Report of Indigo-MusesC3 — Data Link

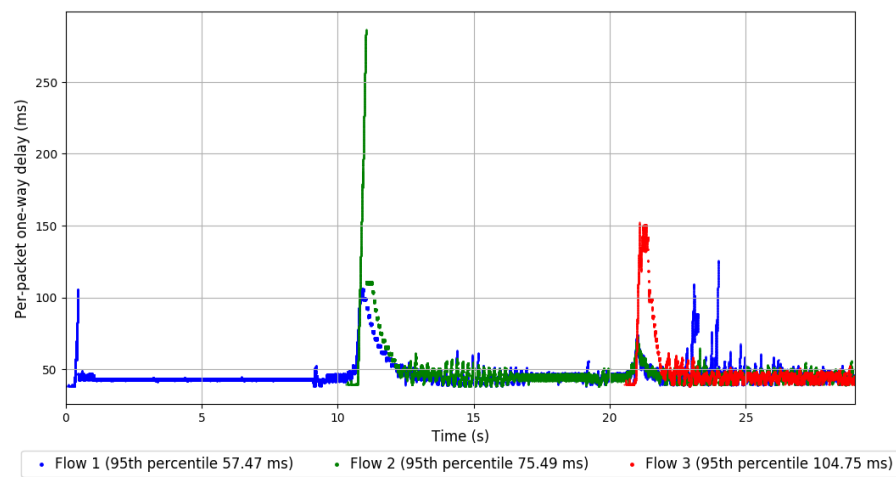
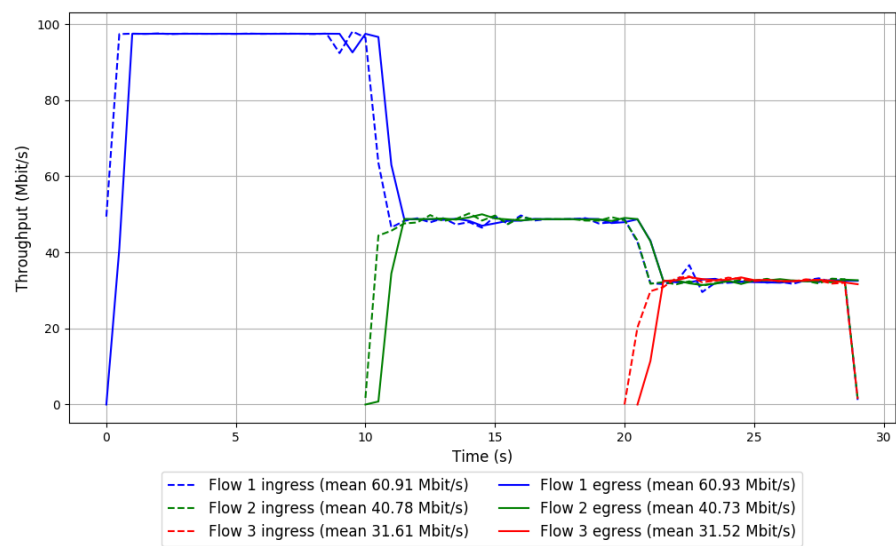


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-05 20:11:01  
End at: 2019-02-05 20:11:31  
Local clock offset: 0.165 ms  
Remote clock offset: -4.306 ms

# Below is generated by plot.py at 2019-02-05 20:29:48  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.44 Mbit/s  
95th percentile per-packet one-way delay: 65.479 ms  
Loss rate: 0.34%  
-- Flow 1:  
Average throughput: 60.93 Mbit/s  
95th percentile per-packet one-way delay: 57.473 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 40.73 Mbit/s  
95th percentile per-packet one-way delay: 75.488 ms  
Loss rate: 0.45%  
-- Flow 3:  
Average throughput: 31.52 Mbit/s  
95th percentile per-packet one-way delay: 104.755 ms  
Loss rate: 1.06%

Run 5: Report of Indigo-MusesC3 — Data Link

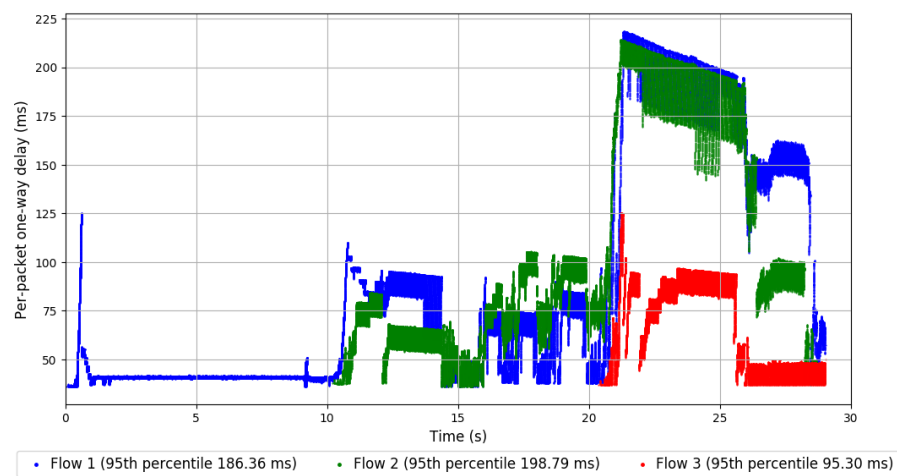
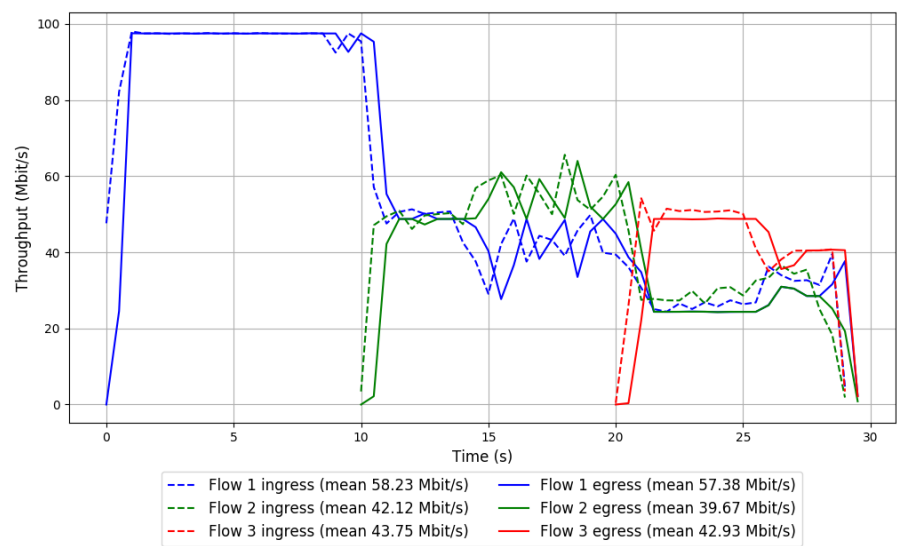


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-05 18:14:46  
End at: 2019-02-05 18:15:16  
Local clock offset: 3.473 ms  
Remote clock offset: -6.818 ms

# Below is generated by plot.py at 2019-02-05 20:30:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.93 Mbit/s  
95th percentile per-packet one-way delay: 188.878 ms  
Loss rate: 3.02%  
-- Flow 1:  
Average throughput: 57.38 Mbit/s  
95th percentile per-packet one-way delay: 186.364 ms  
Loss rate: 1.67%  
-- Flow 2:  
Average throughput: 39.67 Mbit/s  
95th percentile per-packet one-way delay: 198.793 ms  
Loss rate: 6.17%  
-- Flow 3:  
Average throughput: 42.93 Mbit/s  
95th percentile per-packet one-way delay: 95.301 ms  
Loss rate: 2.45%

Run 1: Report of Indigo-MusesC5 — Data Link

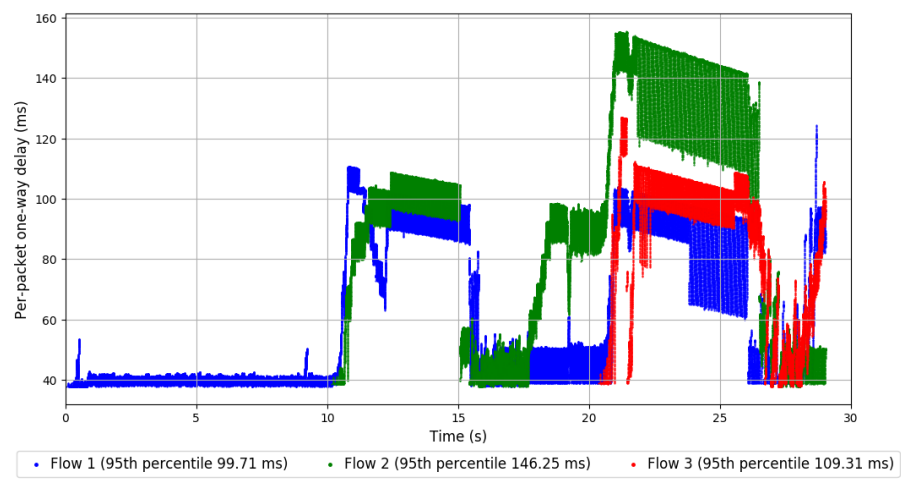
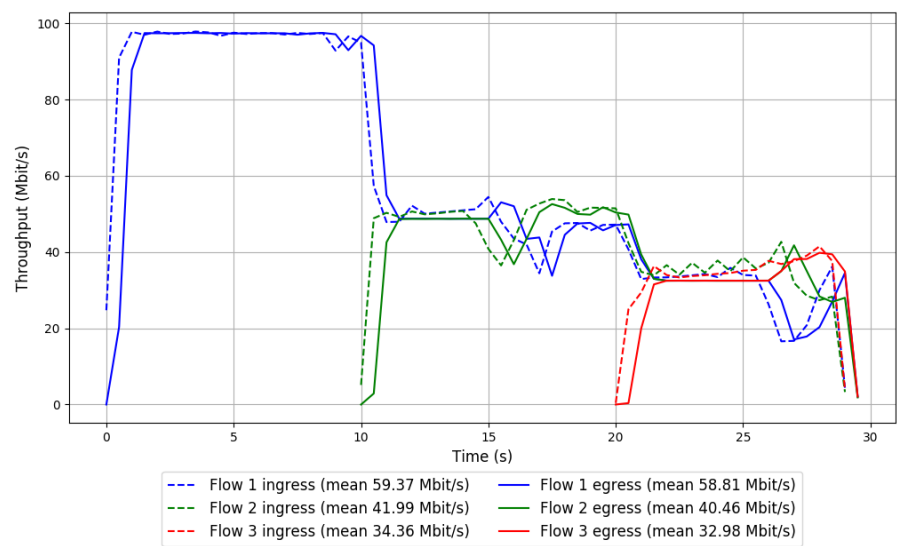


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-05 18:40:38  
End at: 2019-02-05 18:41:08  
Local clock offset: -0.558 ms  
Remote clock offset: -7.283 ms

# Below is generated by plot.py at 2019-02-05 20:30:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.00 Mbit/s  
95th percentile per-packet one-way delay: 125.983 ms  
Loss rate: 2.31%  
-- Flow 1:  
Average throughput: 58.81 Mbit/s  
95th percentile per-packet one-way delay: 99.706 ms  
Loss rate: 1.14%  
-- Flow 2:  
Average throughput: 40.46 Mbit/s  
95th percentile per-packet one-way delay: 146.245 ms  
Loss rate: 3.97%  
-- Flow 3:  
Average throughput: 32.98 Mbit/s  
95th percentile per-packet one-way delay: 109.307 ms  
Loss rate: 4.63%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-05 19:06:20

End at: 2019-02-05 19:06:50

Local clock offset: -0.351 ms

Remote clock offset: -6.15 ms

# Below is generated by plot.py at 2019-02-05 20:30:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.58 Mbit/s

95th percentile per-packet one-way delay: 130.190 ms

Loss rate: 2.82%

-- Flow 1:

Average throughput: 61.29 Mbit/s

95th percentile per-packet one-way delay: 91.426 ms

Loss rate: 1.12%

-- Flow 2:

Average throughput: 41.16 Mbit/s

95th percentile per-packet one-way delay: 154.566 ms

Loss rate: 5.23%

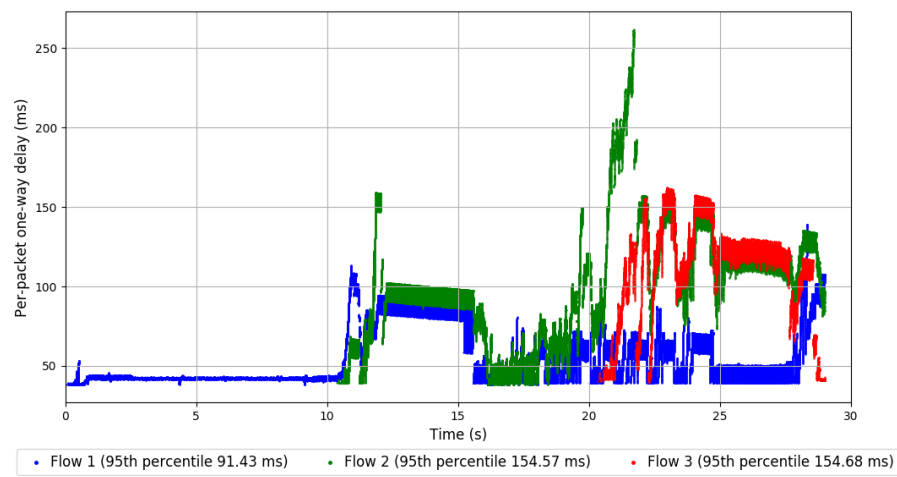
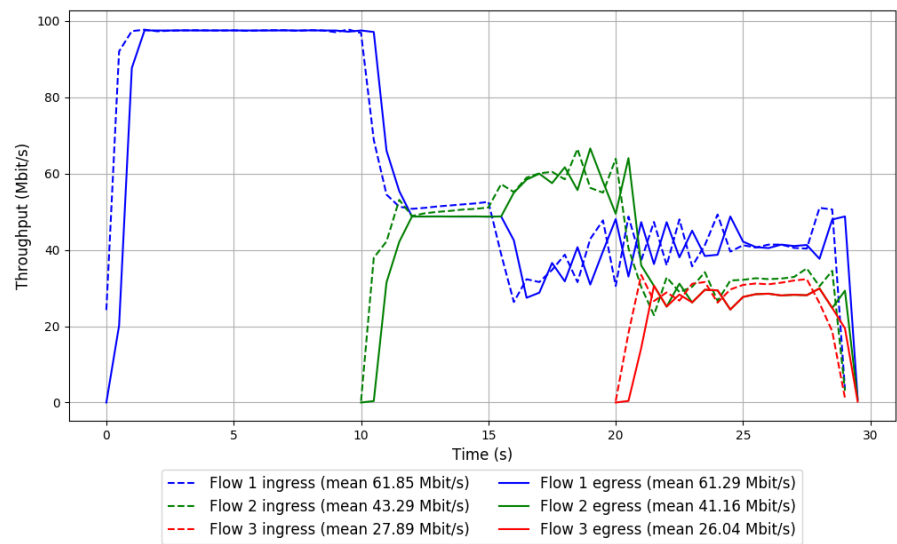
-- Flow 3:

Average throughput: 26.04 Mbit/s

95th percentile per-packet one-way delay: 154.679 ms

Loss rate: 7.33%

Run 3: Report of Indigo-MusesC5 — Data Link

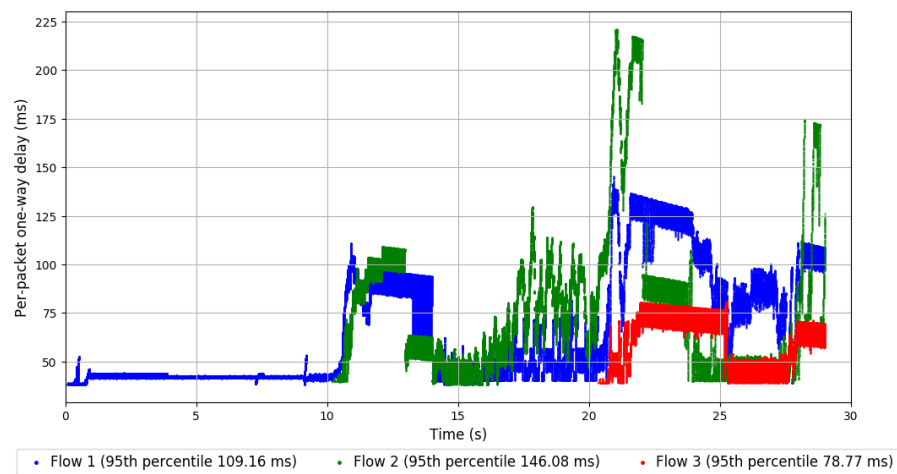
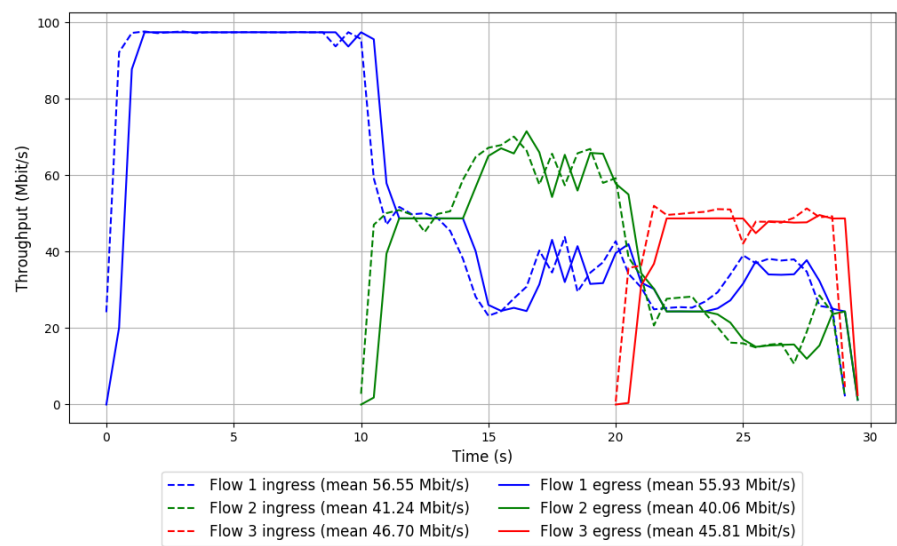


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-05 19:32:27  
End at: 2019-02-05 19:32:57  
Local clock offset: -0.095 ms  
Remote clock offset: -5.183 ms

# Below is generated by plot.py at 2019-02-05 20:30:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.67 Mbit/s  
95th percentile per-packet one-way delay: 109.094 ms  
Loss rate: 1.96%  
-- Flow 1:  
Average throughput: 55.93 Mbit/s  
95th percentile per-packet one-way delay: 109.158 ms  
Loss rate: 1.29%  
-- Flow 2:  
Average throughput: 40.06 Mbit/s  
95th percentile per-packet one-way delay: 146.083 ms  
Loss rate: 3.05%  
-- Flow 3:  
Average throughput: 45.81 Mbit/s  
95th percentile per-packet one-way delay: 78.771 ms  
Loss rate: 2.56%

Run 4: Report of Indigo-MusesC5 — Data Link

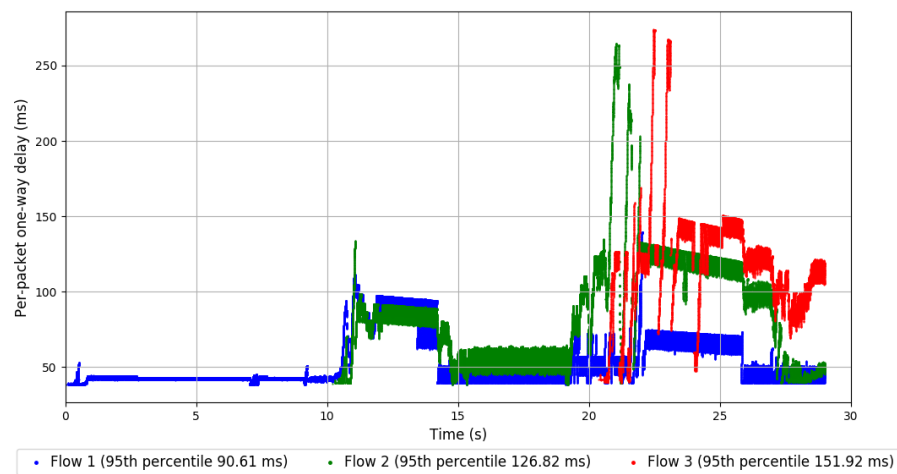
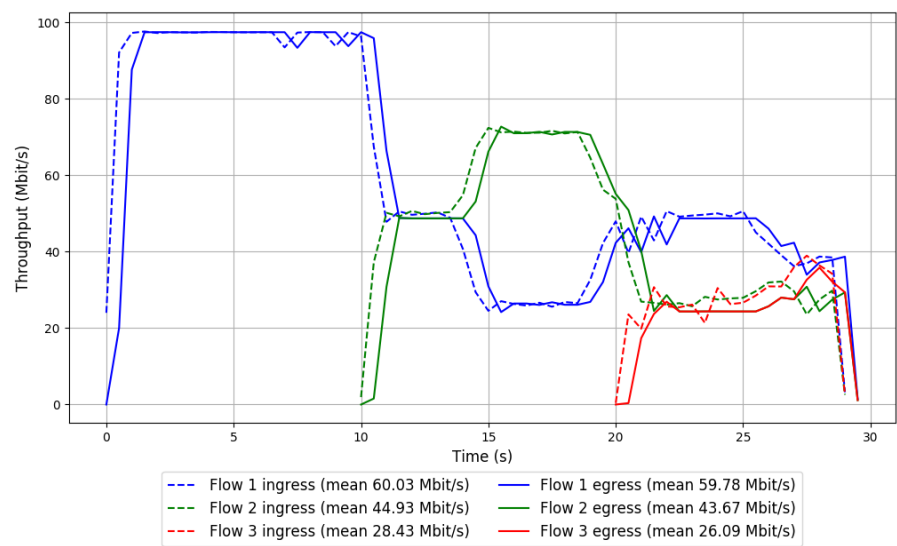


Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-05 19:58:47  
End at: 2019-02-05 19:59:17  
Local clock offset: 0.153 ms  
Remote clock offset: -4.592 ms

# Below is generated by plot.py at 2019-02-05 20:30:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.89 Mbit/s  
95th percentile per-packet one-way delay: 124.914 ms  
Loss rate: 2.09%  
-- Flow 1:  
Average throughput: 59.78 Mbit/s  
95th percentile per-packet one-way delay: 90.609 ms  
Loss rate: 0.62%  
-- Flow 2:  
Average throughput: 43.67 Mbit/s  
95th percentile per-packet one-way delay: 126.823 ms  
Loss rate: 3.14%  
-- Flow 3:  
Average throughput: 26.09 Mbit/s  
95th percentile per-packet one-way delay: 151.922 ms  
Loss rate: 8.85%

Run 5: Report of Indigo-MusesC5 — Data Link

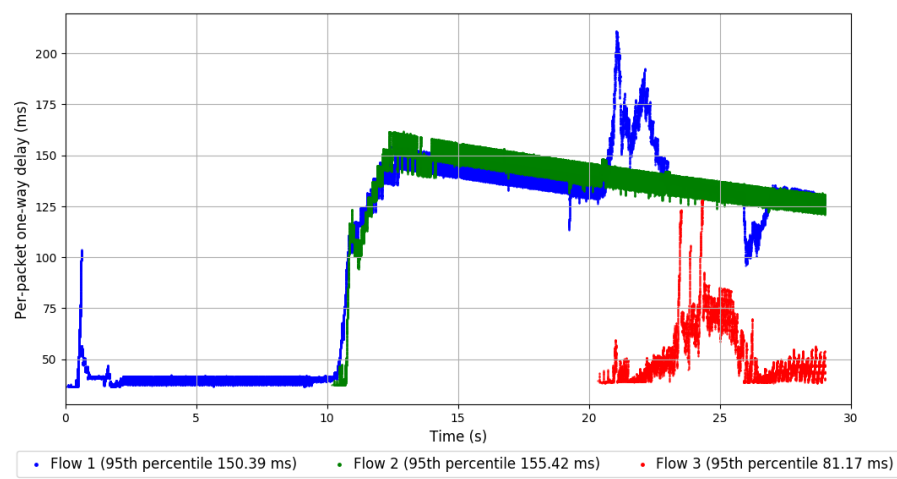
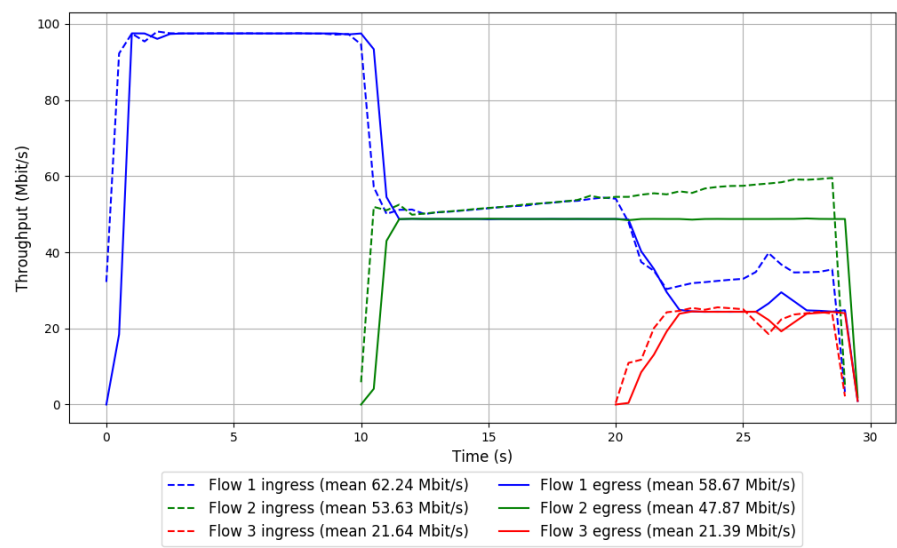


Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-05 18:25:47  
End at: 2019-02-05 18:26:17  
Local clock offset: 0.819 ms  
Remote clock offset: -6.726 ms

# Below is generated by plot.py at 2019-02-05 20:30:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.19 Mbit/s  
95th percentile per-packet one-way delay: 153.056 ms  
Loss rate: 7.39%  
-- Flow 1:  
Average throughput: 58.67 Mbit/s  
95th percentile per-packet one-way delay: 150.386 ms  
Loss rate: 5.93%  
-- Flow 2:  
Average throughput: 47.87 Mbit/s  
95th percentile per-packet one-way delay: 155.418 ms  
Loss rate: 11.02%  
-- Flow 3:  
Average throughput: 21.39 Mbit/s  
95th percentile per-packet one-way delay: 81.170 ms  
Loss rate: 1.90%

Run 1: Report of Indigo-MusesD — Data Link

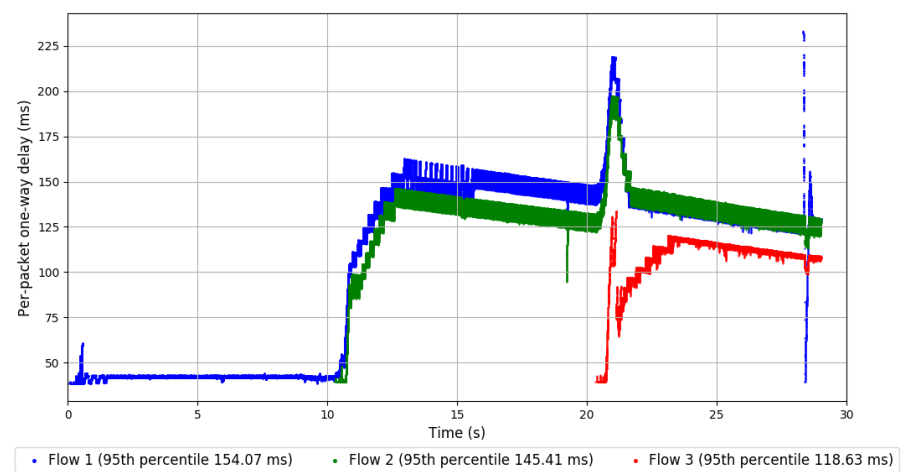
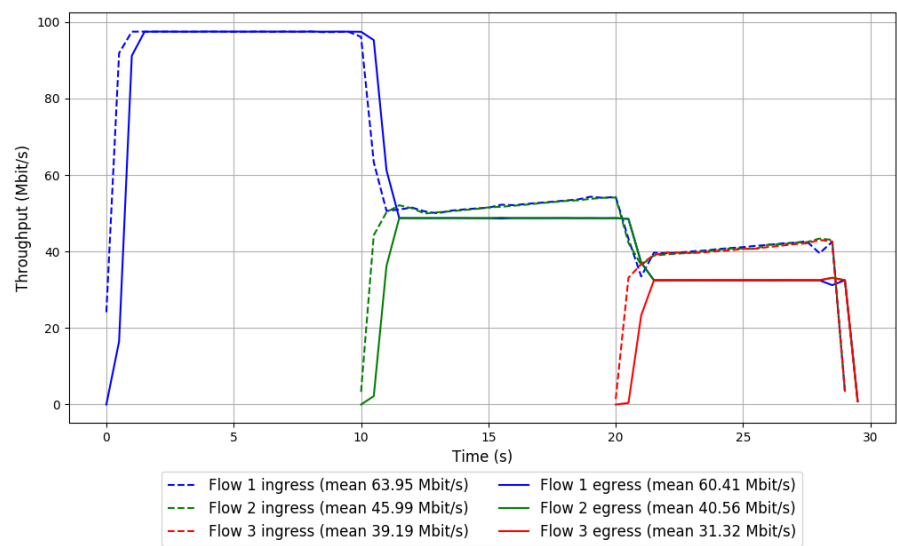


Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-05 18:51:37  
End at: 2019-02-05 18:52:07  
Local clock offset: -0.452 ms  
Remote clock offset: -7.404 ms

# Below is generated by plot.py at 2019-02-05 20:30:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.08 Mbit/s  
95th percentile per-packet one-way delay: 152.900 ms  
Loss rate: 9.21%  
-- Flow 1:  
Average throughput: 60.41 Mbit/s  
95th percentile per-packet one-way delay: 154.070 ms  
Loss rate: 5.75%  
-- Flow 2:  
Average throughput: 40.56 Mbit/s  
95th percentile per-packet one-way delay: 145.414 ms  
Loss rate: 12.11%  
-- Flow 3:  
Average throughput: 31.32 Mbit/s  
95th percentile per-packet one-way delay: 118.634 ms  
Loss rate: 20.65%

Run 2: Report of Indigo-MusesD — Data Link

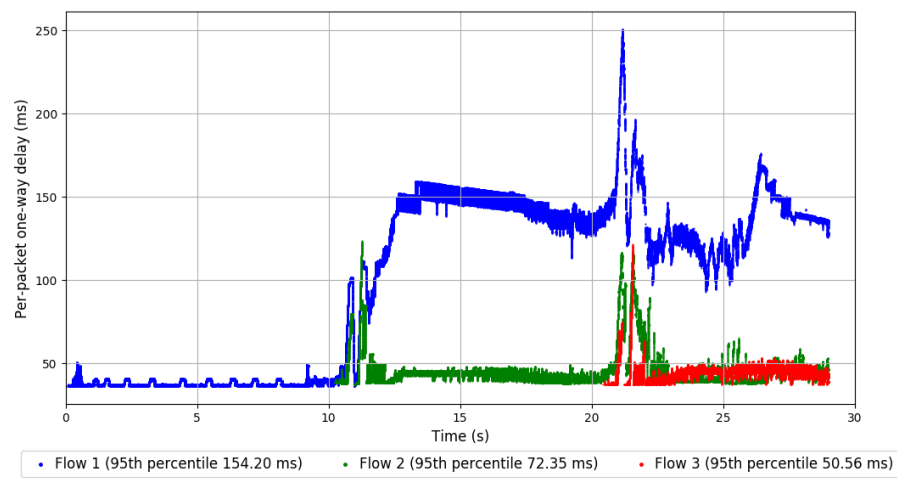
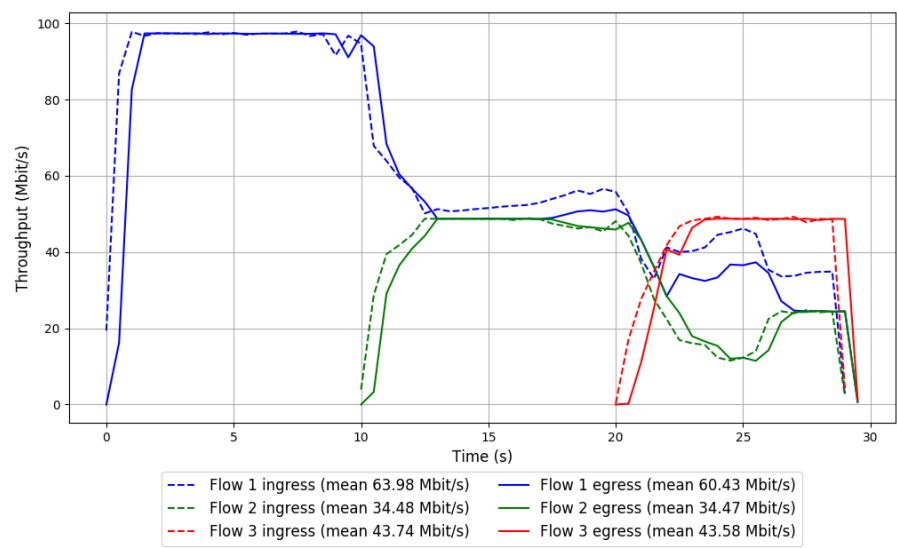


Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-05 19:17:17  
End at: 2019-02-05 19:17:47  
Local clock offset: -0.417 ms  
Remote clock offset: -3.703 ms

# Below is generated by plot.py at 2019-02-05 20:30:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.72 Mbit/s  
95th percentile per-packet one-way delay: 151.550 ms  
Loss rate: 3.93%  
-- Flow 1:  
Average throughput: 60.43 Mbit/s  
95th percentile per-packet one-way delay: 154.201 ms  
Loss rate: 5.74%  
-- Flow 2:  
Average throughput: 34.47 Mbit/s  
95th percentile per-packet one-way delay: 72.354 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 43.58 Mbit/s  
95th percentile per-packet one-way delay: 50.563 ms  
Loss rate: 1.11%

Run 3: Report of Indigo-MusesD — Data Link

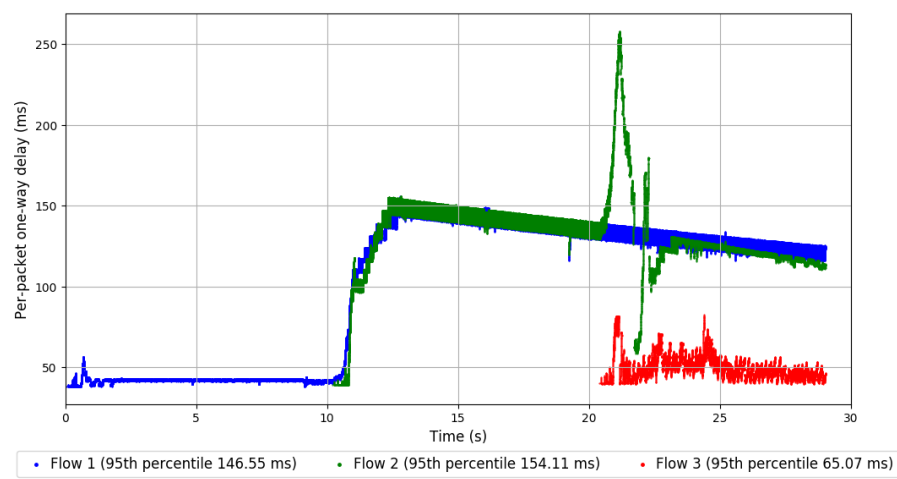
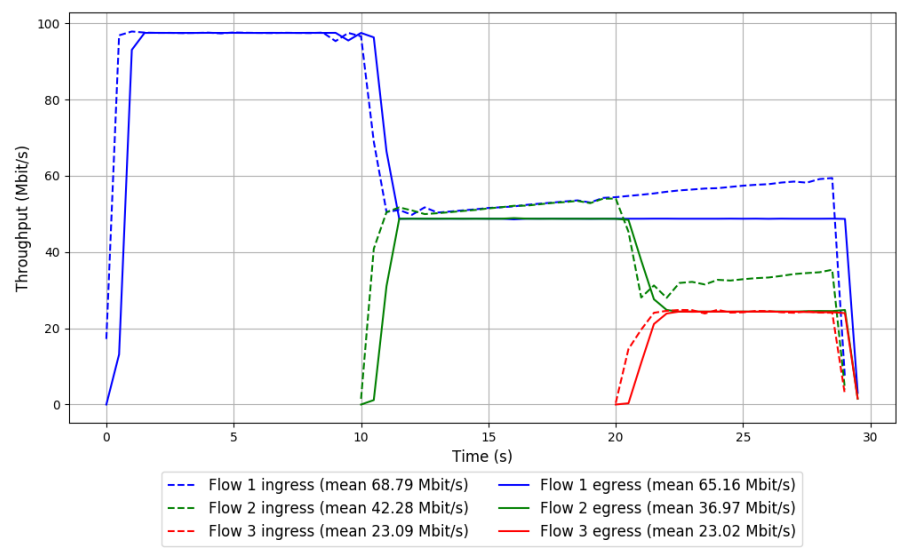


Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-05 19:43:32  
End at: 2019-02-05 19:44:02  
Local clock offset: -0.147 ms  
Remote clock offset: -4.814 ms

# Below is generated by plot.py at 2019-02-05 20:31:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.02 Mbit/s  
95th percentile per-packet one-way delay: 149.387 ms  
Loss rate: 7.14%  
-- Flow 1:  
Average throughput: 65.16 Mbit/s  
95th percentile per-packet one-way delay: 146.550 ms  
Loss rate: 5.47%  
-- Flow 2:  
Average throughput: 36.97 Mbit/s  
95th percentile per-packet one-way delay: 154.106 ms  
Loss rate: 12.86%  
-- Flow 3:  
Average throughput: 23.02 Mbit/s  
95th percentile per-packet one-way delay: 65.074 ms  
Loss rate: 1.06%

Run 4: Report of Indigo-MusesD — Data Link

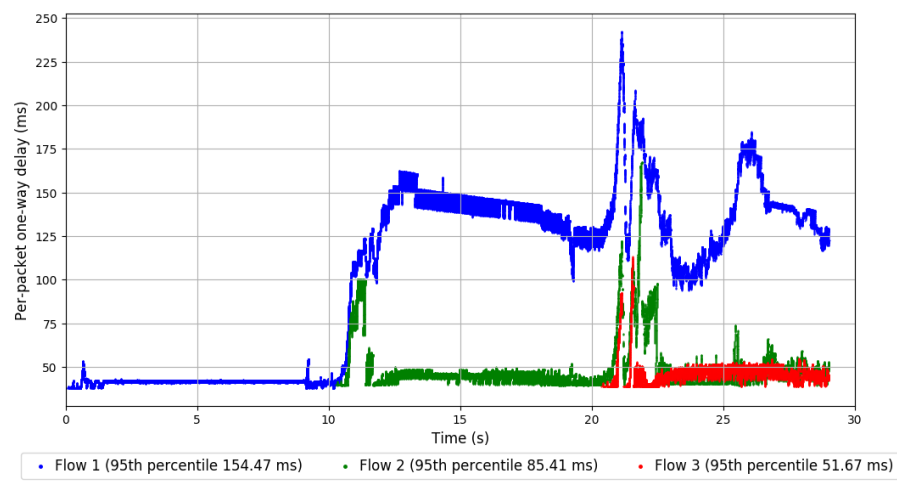
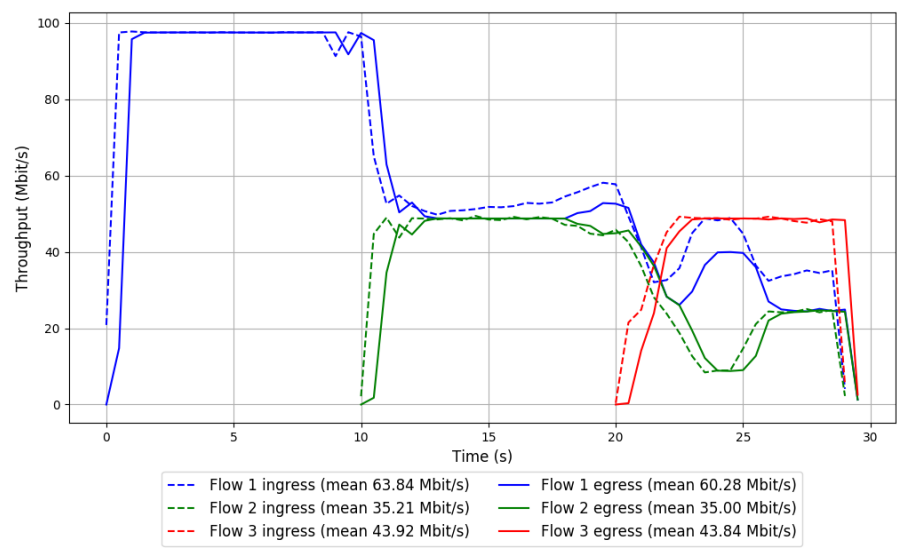


Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-05 20:09:48  
End at: 2019-02-05 20:10:18  
Local clock offset: 0.189 ms  
Remote clock offset: -3.803 ms

# Below is generated by plot.py at 2019-02-05 20:31:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.02 Mbit/s  
95th percentile per-packet one-way delay: 149.054 ms  
Loss rate: 4.02%  
-- Flow 1:  
Average throughput: 60.28 Mbit/s  
95th percentile per-packet one-way delay: 154.475 ms  
Loss rate: 5.77%  
-- Flow 2:  
Average throughput: 35.00 Mbit/s  
95th percentile per-packet one-way delay: 85.405 ms  
Loss rate: 0.95%  
-- Flow 3:  
Average throughput: 43.84 Mbit/s  
95th percentile per-packet one-way delay: 51.672 ms  
Loss rate: 0.92%

Run 5: Report of Indigo-MusesD — Data Link

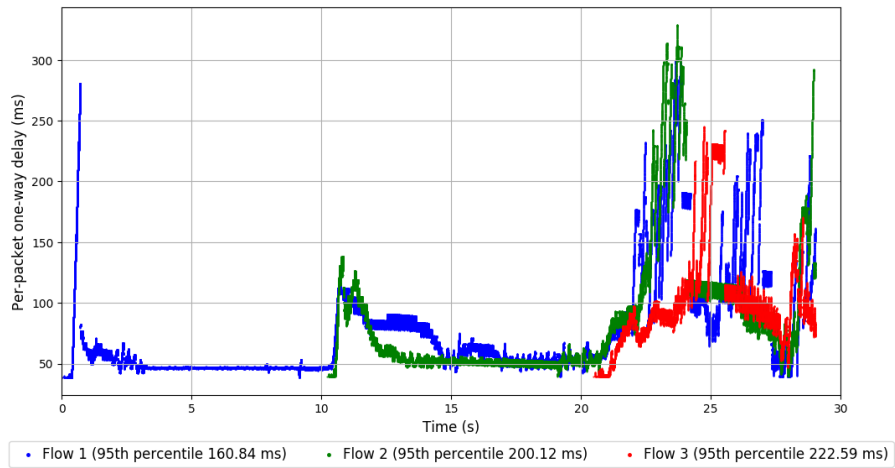
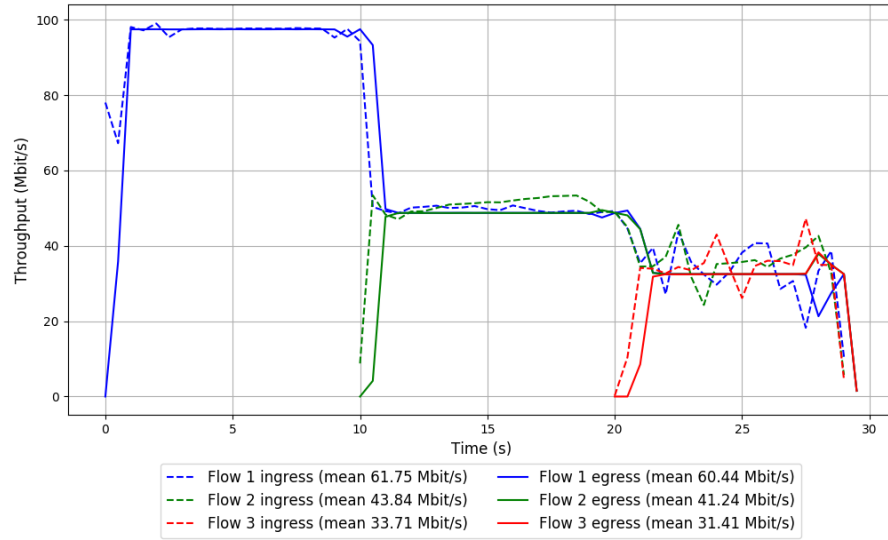


Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-05 18:35:48  
End at: 2019-02-05 18:36:18  
Local clock offset: -0.222 ms  
Remote clock offset: -8.229 ms

# Below is generated by plot.py at 2019-02-05 20:31:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.48 Mbit/s  
95th percentile per-packet one-way delay: 177.618 ms  
Loss rate: 3.93%  
-- Flow 1:  
Average throughput: 60.44 Mbit/s  
95th percentile per-packet one-way delay: 160.840 ms  
Loss rate: 2.33%  
-- Flow 2:  
Average throughput: 41.24 Mbit/s  
95th percentile per-packet one-way delay: 200.124 ms  
Loss rate: 6.14%  
-- Flow 3:  
Average throughput: 31.41 Mbit/s  
95th percentile per-packet one-way delay: 222.589 ms  
Loss rate: 7.54%

# Run 1: Report of Indigo-MusesT — Data Link

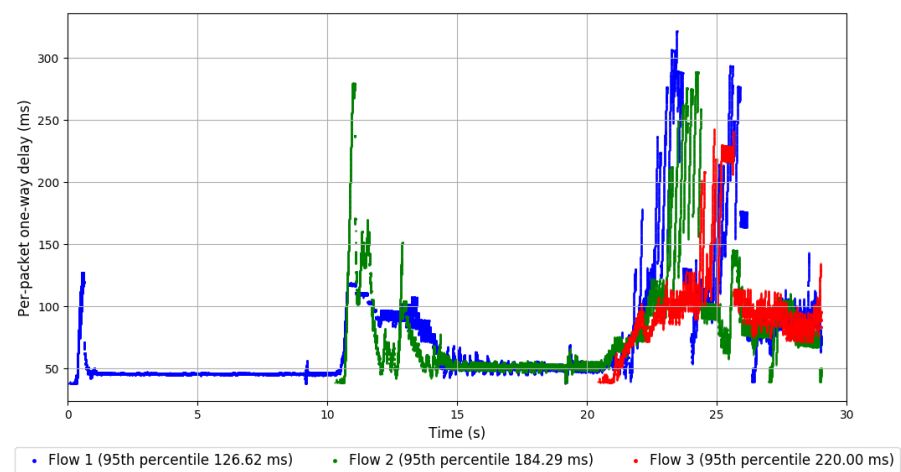
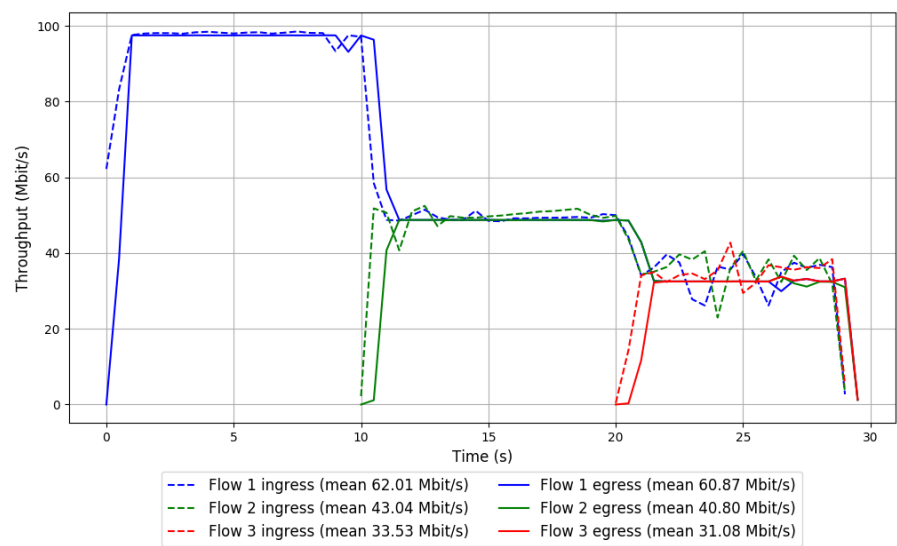


Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-05 19:01:32  
End at: 2019-02-05 19:02:02  
Local clock offset: -0.317 ms  
Remote clock offset: -6.362 ms

# Below is generated by plot.py at 2019-02-05 20:31:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.49 Mbit/s  
95th percentile per-packet one-way delay: 159.849 ms  
Loss rate: 3.61%  
-- Flow 1:  
Average throughput: 60.87 Mbit/s  
95th percentile per-packet one-way delay: 126.623 ms  
Loss rate: 2.05%  
-- Flow 2:  
Average throughput: 40.80 Mbit/s  
95th percentile per-packet one-way delay: 184.290 ms  
Loss rate: 5.51%  
-- Flow 3:  
Average throughput: 31.08 Mbit/s  
95th percentile per-packet one-way delay: 220.002 ms  
Loss rate: 7.99%

Run 2: Report of Indigo-MusesT — Data Link

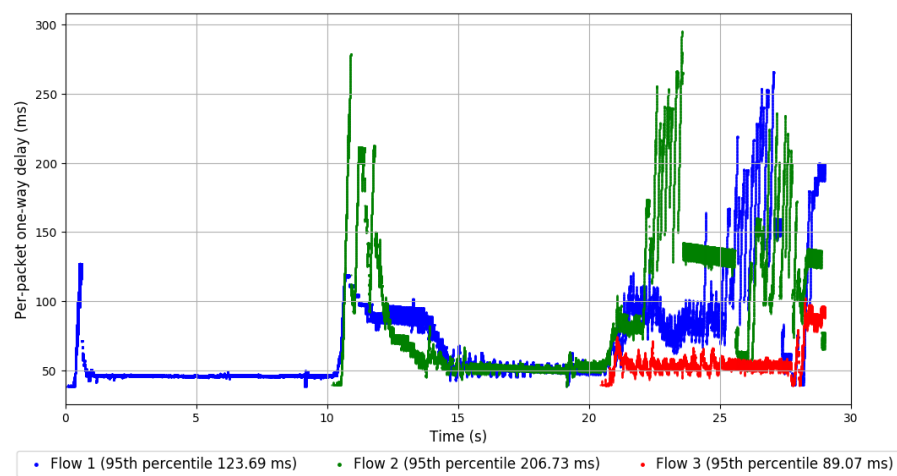
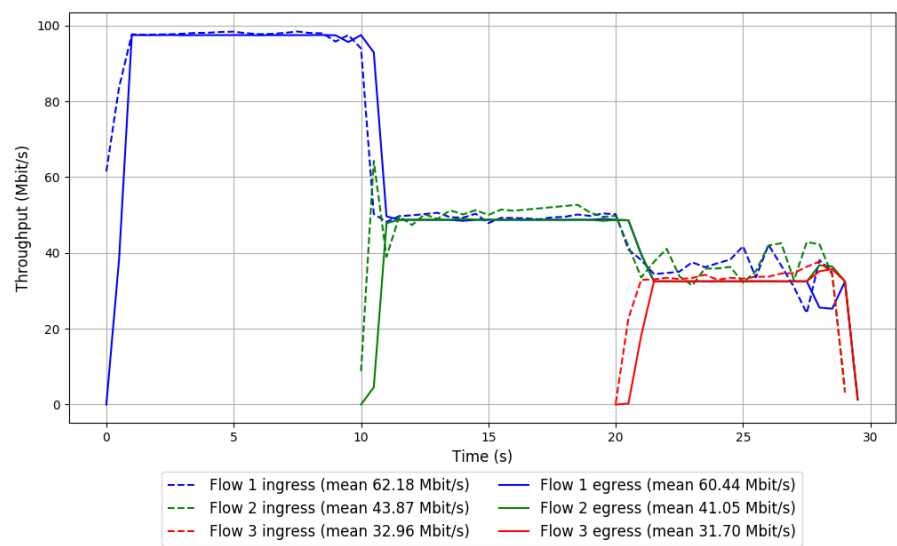


Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-05 19:27:37  
End at: 2019-02-05 19:28:07  
Local clock offset: -0.116 ms  
Remote clock offset: -5.466 ms

# Below is generated by plot.py at 2019-02-05 20:31:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.54 Mbit/s  
95th percentile per-packet one-way delay: 160.389 ms  
Loss rate: 4.12%  
-- Flow 1:  
Average throughput: 60.44 Mbit/s  
95th percentile per-packet one-way delay: 123.692 ms  
Loss rate: 2.85%  
-- Flow 2:  
Average throughput: 41.05 Mbit/s  
95th percentile per-packet one-way delay: 206.729 ms  
Loss rate: 6.74%  
-- Flow 3:  
Average throughput: 31.70 Mbit/s  
95th percentile per-packet one-way delay: 89.073 ms  
Loss rate: 4.53%

Run 3: Report of Indigo-MusesT — Data Link

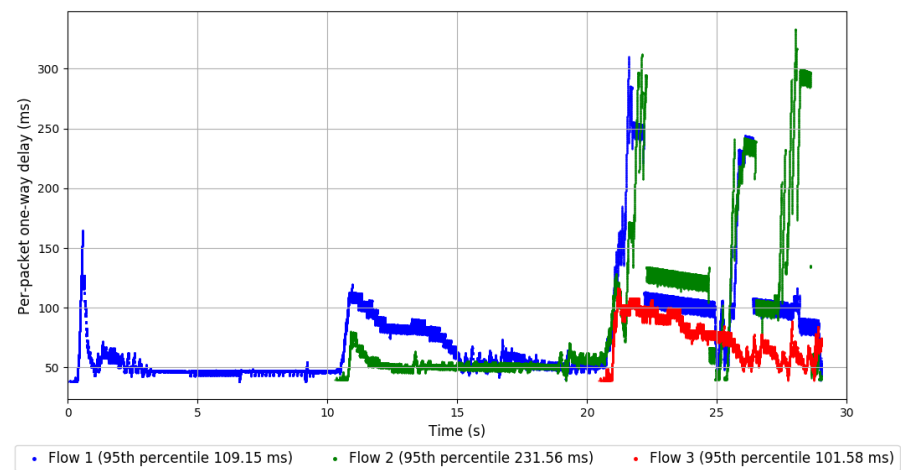
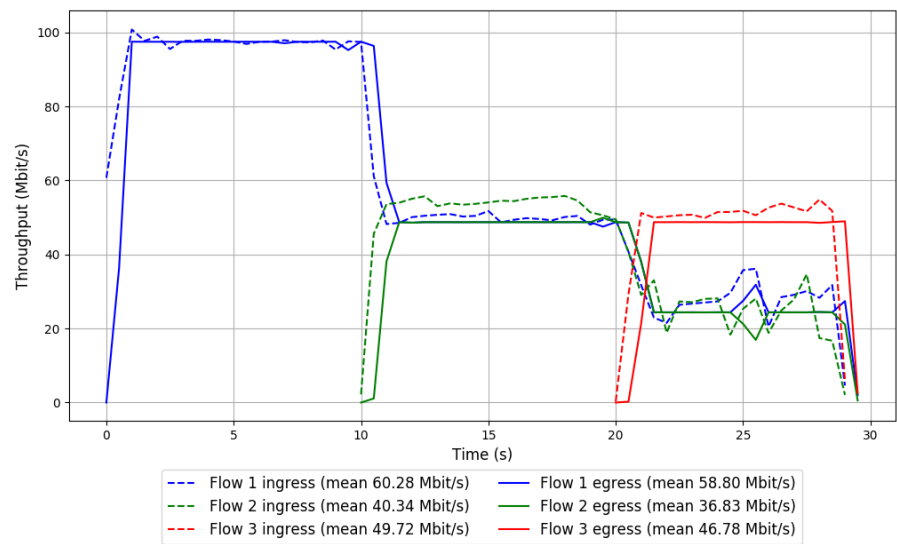


Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-05 19:53:56  
End at: 2019-02-05 19:54:26  
Local clock offset: 0.106 ms  
Remote clock offset: -4.236 ms

# Below is generated by plot.py at 2019-02-05 20:31:48  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.48 Mbit/s  
95th percentile per-packet one-way delay: 127.833 ms  
Loss rate: 4.87%  
-- Flow 1:  
Average throughput: 58.80 Mbit/s  
95th percentile per-packet one-way delay: 109.152 ms  
Loss rate: 2.66%  
-- Flow 2:  
Average throughput: 36.83 Mbit/s  
95th percentile per-packet one-way delay: 231.556 ms  
Loss rate: 9.00%  
-- Flow 3:  
Average throughput: 46.78 Mbit/s  
95th percentile per-packet one-way delay: 101.581 ms  
Loss rate: 6.62%

Run 4: Report of Indigo-MusesT — Data Link

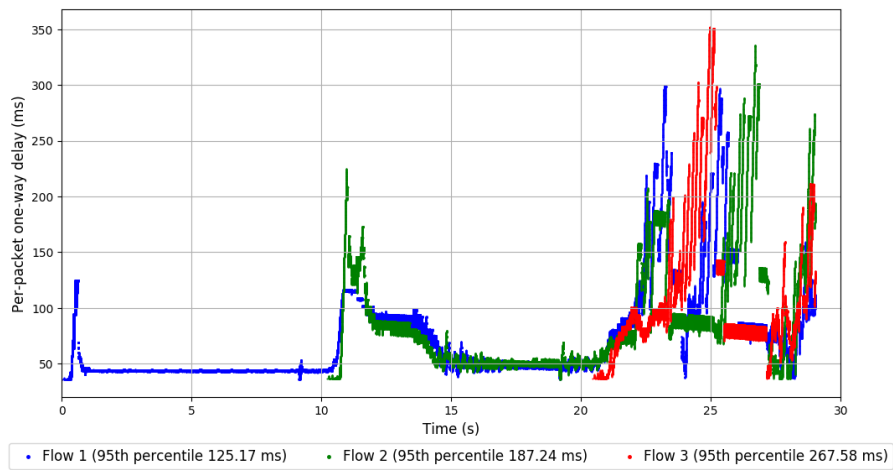
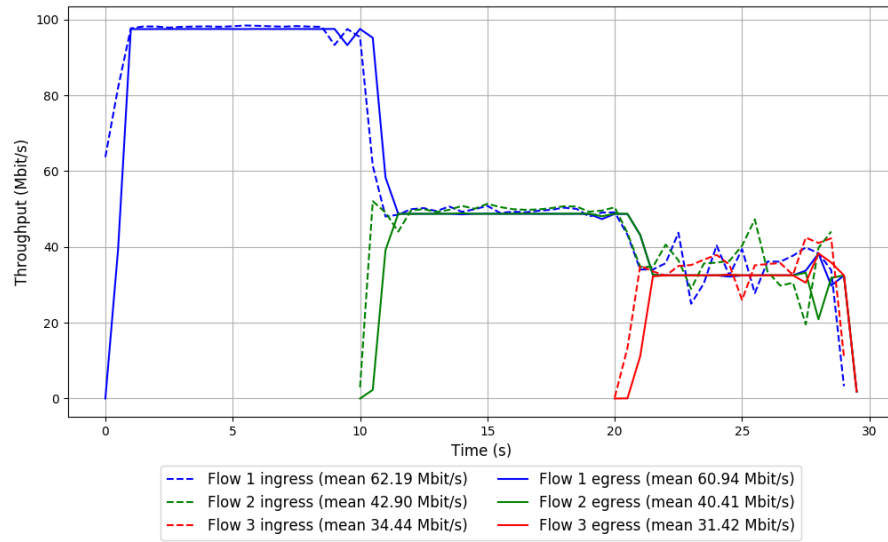


Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-05 20:19:53  
End at: 2019-02-05 20:20:23  
Local clock offset: 0.161 ms  
Remote clock offset: -1.702 ms

# Below is generated by plot.py at 2019-02-05 20:31:54  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.47 Mbit/s  
95th percentile per-packet one-way delay: 174.351 ms  
Loss rate: 3.92%  
-- Flow 1:  
Average throughput: 60.94 Mbit/s  
95th percentile per-packet one-way delay: 125.173 ms  
Loss rate: 2.23%  
-- Flow 2:  
Average throughput: 40.41 Mbit/s  
95th percentile per-packet one-way delay: 187.240 ms  
Loss rate: 5.65%  
-- Flow 3:  
Average throughput: 31.42 Mbit/s  
95th percentile per-packet one-way delay: 267.577 ms  
Loss rate: 9.44%

# Run 5: Report of Indigo-MusesT — Data Link

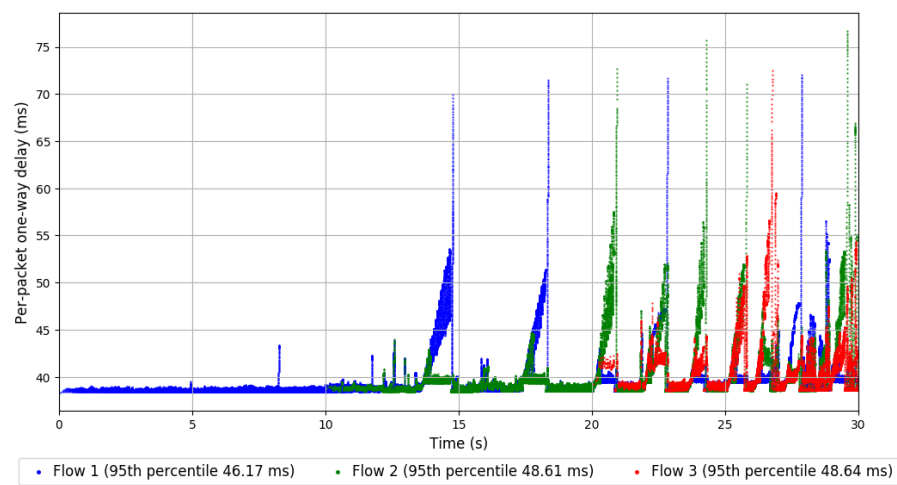
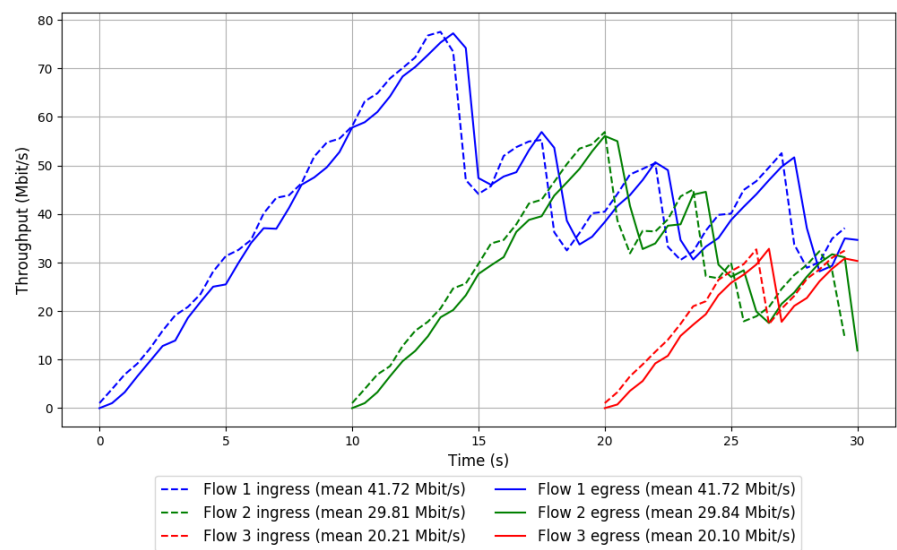


```
Run 1: Statistics of LEDBAT

Start at: 2019-02-05 18:16:00
End at: 2019-02-05 18:16:30
Local clock offset: 3.469 ms
Remote clock offset: -8.859 ms

# Below is generated by plot.py at 2019-02-05 20:31:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.21 Mbit/s
95th percentile per-packet one-way delay: 46.940 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 41.72 Mbit/s
95th percentile per-packet one-way delay: 46.168 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 29.84 Mbit/s
95th percentile per-packet one-way delay: 48.612 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 20.10 Mbit/s
95th percentile per-packet one-way delay: 48.636 ms
Loss rate: 1.16%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-02-05 18:41:54

End at: 2019-02-05 18:42:24

Local clock offset: -0.613 ms

Remote clock offset: -7.61 ms

# Below is generated by plot.py at 2019-02-05 20:32:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 67.05 Mbit/s

95th percentile per-packet one-way delay: 45.890 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 41.56 Mbit/s

95th percentile per-packet one-way delay: 45.972 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 27.84 Mbit/s

95th percentile per-packet one-way delay: 45.718 ms

Loss rate: 0.45%

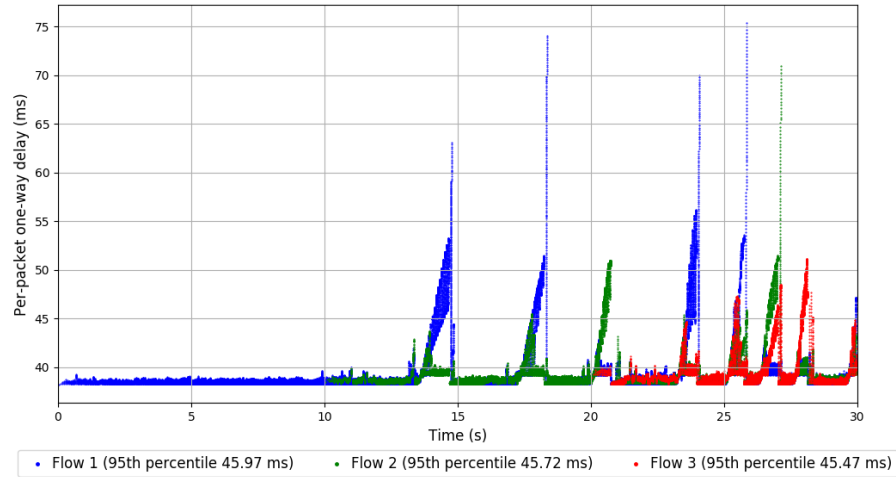
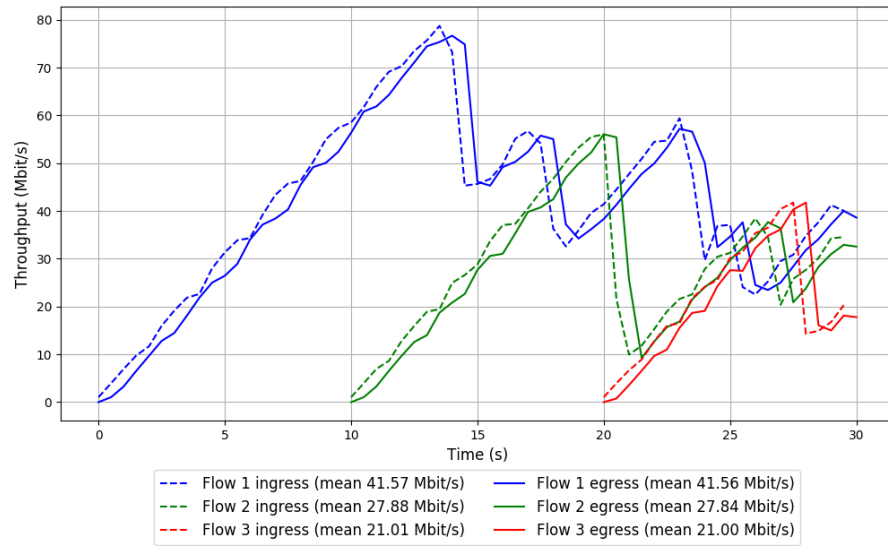
-- Flow 3:

Average throughput: 21.00 Mbit/s

95th percentile per-packet one-way delay: 45.465 ms

Loss rate: 0.68%

## Run 2: Report of LEDBAT — Data Link

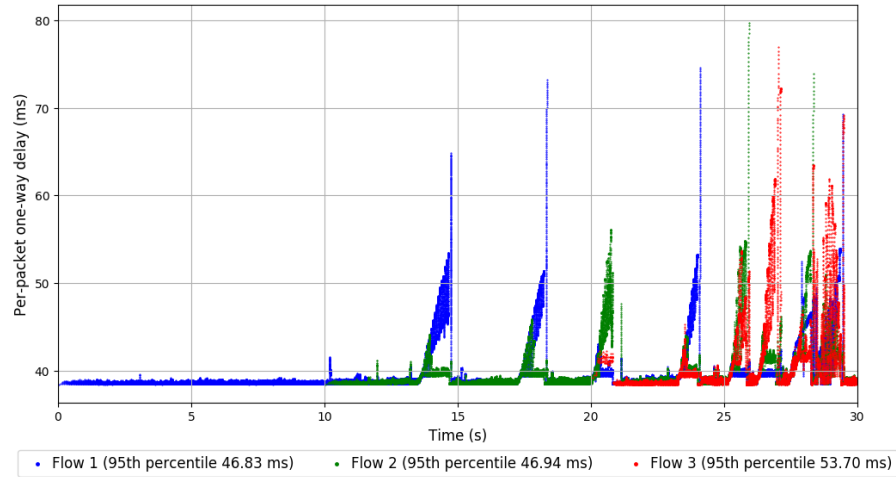
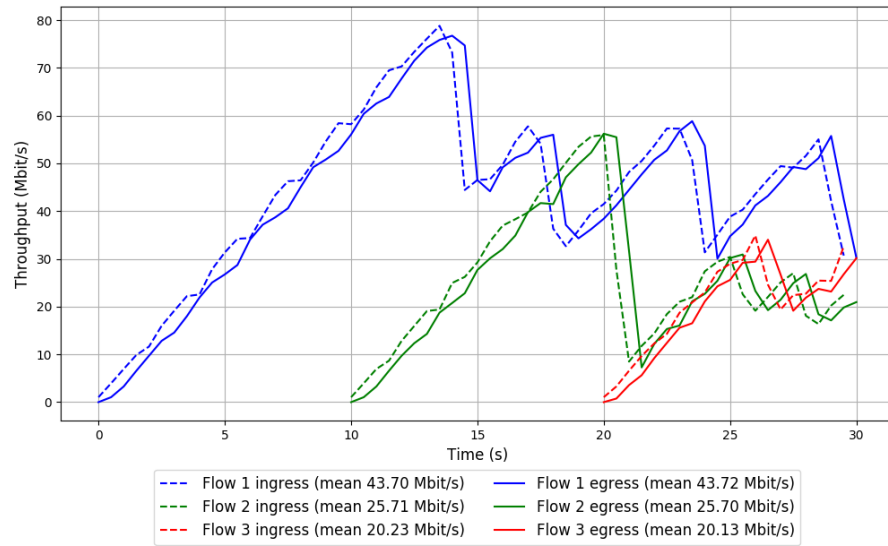


Run 3: Statistics of LEDBAT

Start at: 2019-02-05 19:07:34  
End at: 2019-02-05 19:08:04  
Local clock offset: -0.345 ms  
Remote clock offset: -6.444 ms

# Below is generated by plot.py at 2019-02-05 20:32:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 67.48 Mbit/s  
95th percentile per-packet one-way delay: 47.666 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 43.72 Mbit/s  
95th percentile per-packet one-way delay: 46.832 ms  
Loss rate: 0.17%  
-- Flow 2:  
Average throughput: 25.70 Mbit/s  
95th percentile per-packet one-way delay: 46.936 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 20.13 Mbit/s  
95th percentile per-packet one-way delay: 53.702 ms  
Loss rate: 1.11%

### Run 3: Report of LEDBAT — Data Link

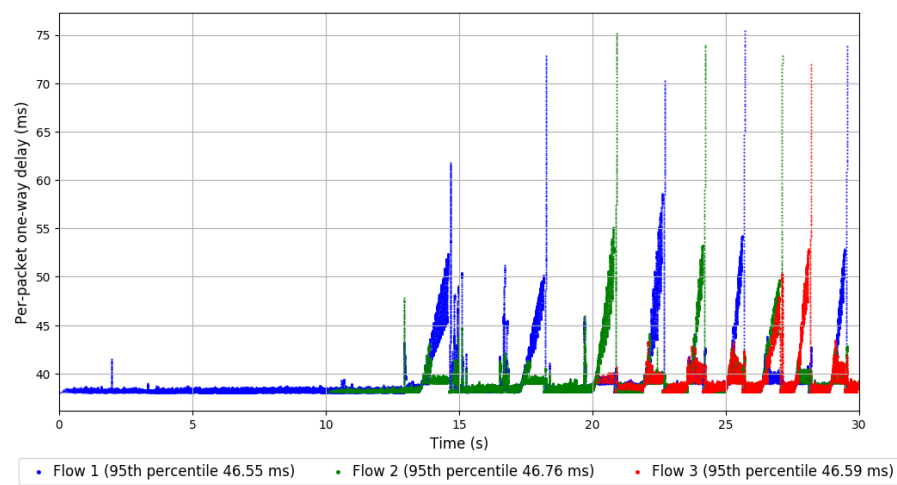
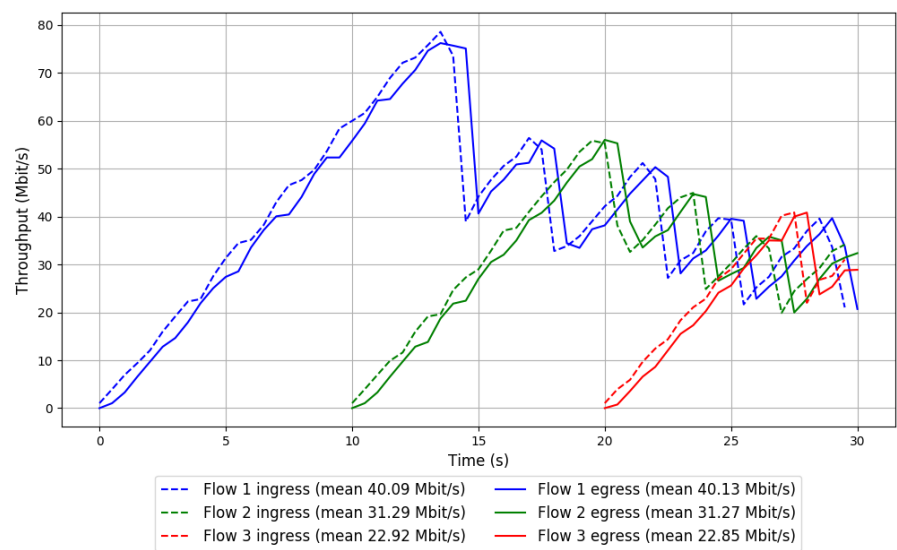


Run 4: Statistics of LEDBAT

Start at: 2019-02-05 19:33:42  
End at: 2019-02-05 19:34:12  
Local clock offset: -0.094 ms  
Remote clock offset: -5.006 ms

# Below is generated by plot.py at 2019-02-05 20:32:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 68.49 Mbit/s  
95th percentile per-packet one-way delay: 46.617 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 40.13 Mbit/s  
95th percentile per-packet one-way delay: 46.551 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 31.27 Mbit/s  
95th percentile per-packet one-way delay: 46.758 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 22.85 Mbit/s  
95th percentile per-packet one-way delay: 46.595 ms  
Loss rate: 0.93%

Run 4: Report of LEDBAT — Data Link

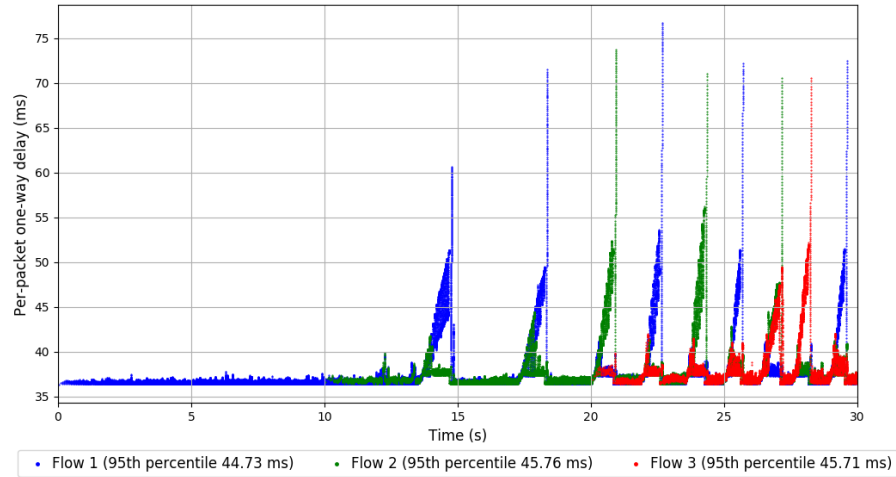
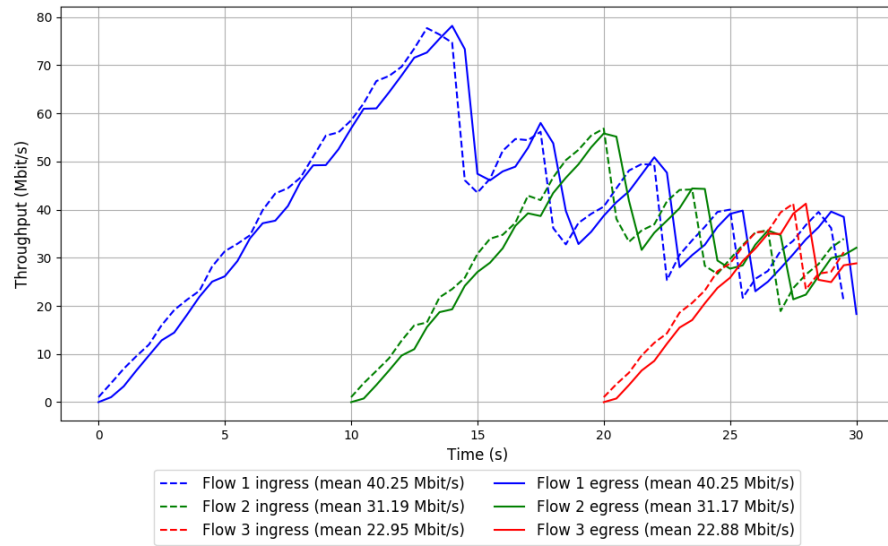


Run 5: Statistics of LEDBAT

Start at: 2019-02-05 20:00:02  
End at: 2019-02-05 20:00:32  
Local clock offset: 0.156 ms  
Remote clock offset: -2.633 ms

# Below is generated by plot.py at 2019-02-05 20:32:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 68.57 Mbit/s  
95th percentile per-packet one-way delay: 45.113 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 40.25 Mbit/s  
95th percentile per-packet one-way delay: 44.732 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 31.17 Mbit/s  
95th percentile per-packet one-way delay: 45.759 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 22.88 Mbit/s  
95th percentile per-packet one-way delay: 45.706 ms  
Loss rate: 0.93%

## Run 5: Report of LEDBAT — Data Link

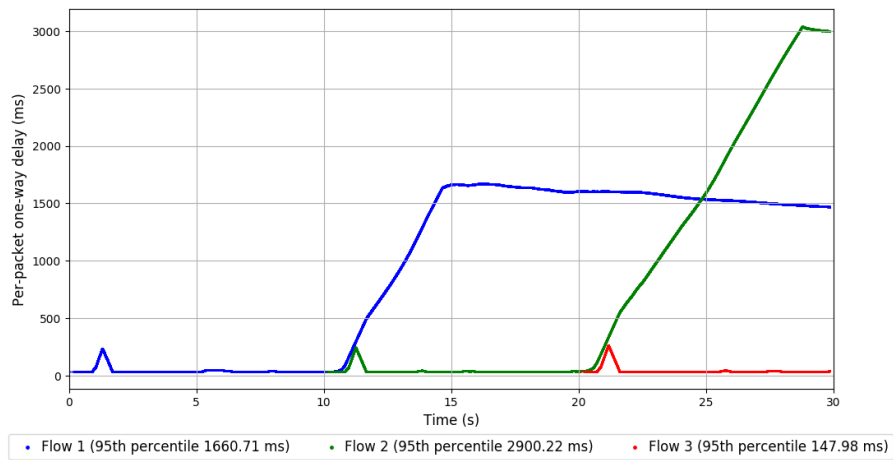
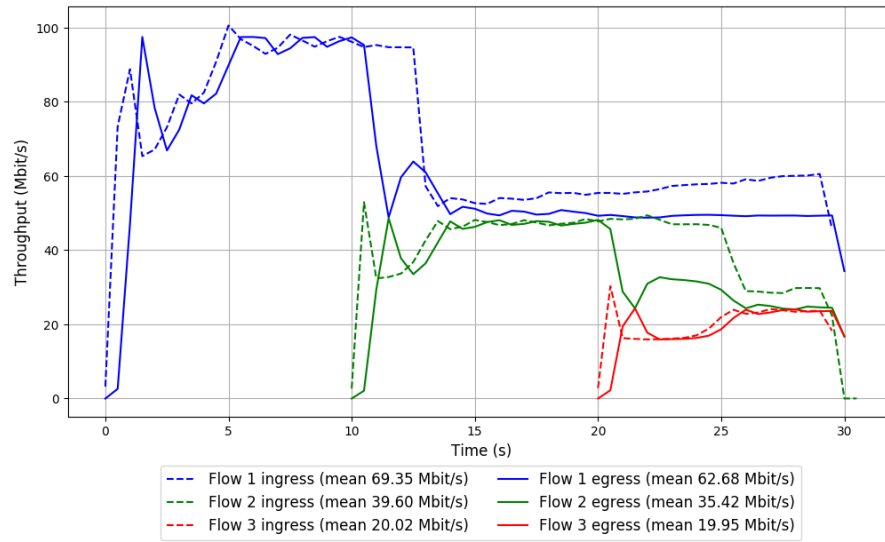


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-05 18:12:23
End at: 2019-02-05 18:12:53
Local clock offset: 3.437 ms
Remote clock offset: -6.748 ms

# Below is generated by plot.py at 2019-02-05 20:32:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.76 Mbit/s
95th percentile per-packet one-way delay: 1669.016 ms
Loss rate: 10.43%
-- Flow 1:
Average throughput: 62.68 Mbit/s
95th percentile per-packet one-way delay: 1660.711 ms
Loss rate: 9.81%
-- Flow 2:
Average throughput: 35.42 Mbit/s
95th percentile per-packet one-way delay: 2900.225 ms
Loss rate: 14.26%
-- Flow 3:
Average throughput: 19.95 Mbit/s
95th percentile per-packet one-way delay: 147.976 ms
Loss rate: 0.99%
```

# Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-02-05 18:38:15

End at: 2019-02-05 18:38:45

Local clock offset: -0.388 ms

Remote clock offset: -5.67 ms

# Below is generated by plot.py at 2019-02-05 20:32:55

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.58 Mbit/s

95th percentile per-packet one-way delay: 1661.987 ms

Loss rate: 23.76%

-- Flow 1:

Average throughput: 54.92 Mbit/s

95th percentile per-packet one-way delay: 1671.377 ms

Loss rate: 28.65%

-- Flow 2:

Average throughput: 34.91 Mbit/s

95th percentile per-packet one-way delay: 1340.701 ms

Loss rate: 21.49%

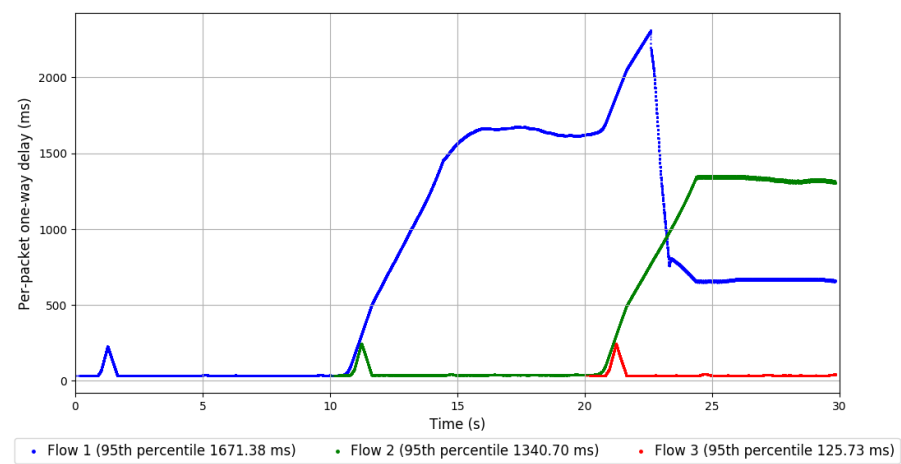
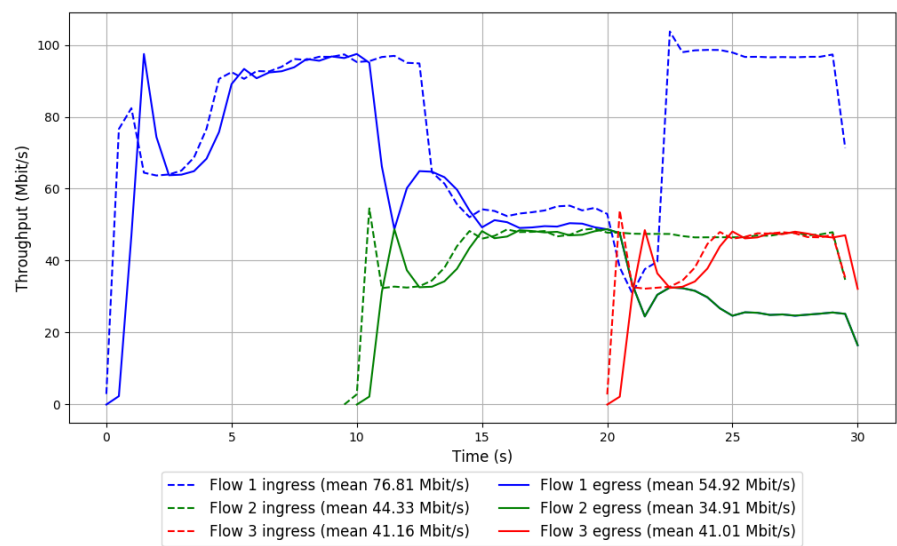
-- Flow 3:

Average throughput: 41.01 Mbit/s

95th percentile per-packet one-way delay: 125.735 ms

Loss rate: 1.01%

Run 2: Report of PCC-Allegro — Data Link

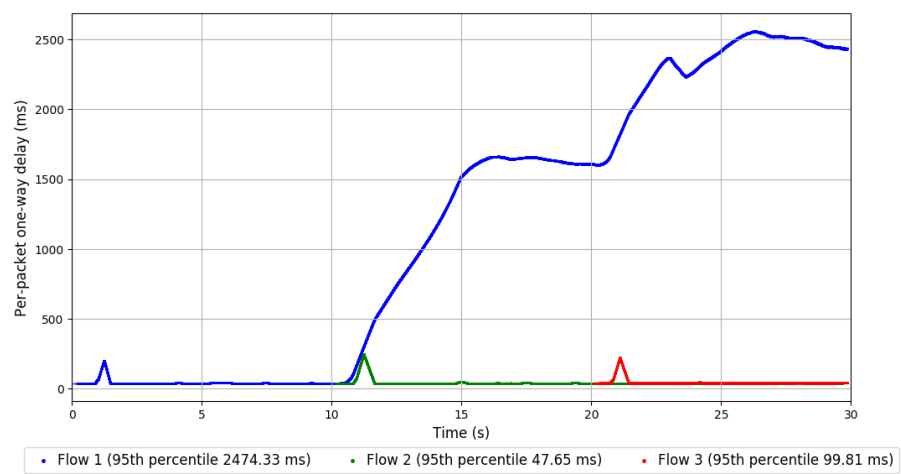
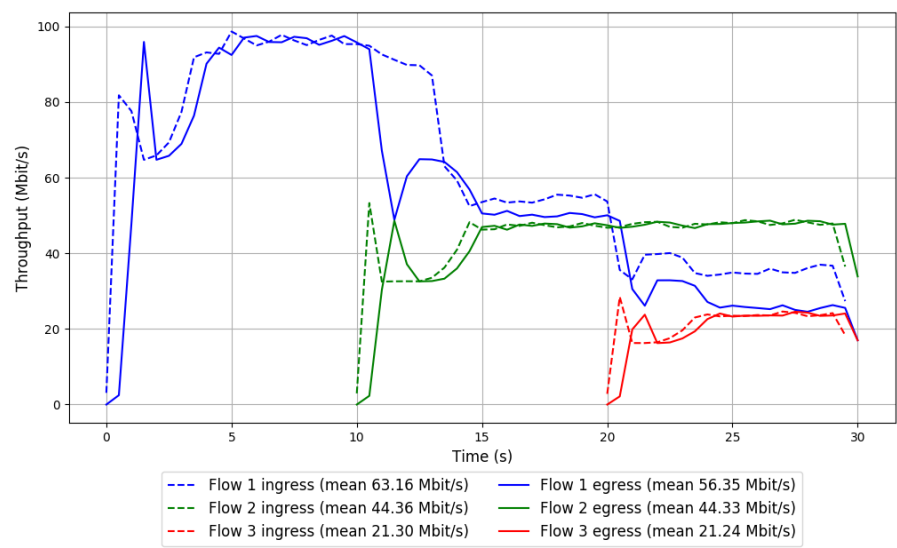


Run 3: Statistics of PCC-Allegro

Start at: 2019-02-05 19:03:59  
End at: 2019-02-05 19:04:29  
Local clock offset: -0.325 ms  
Remote clock offset: -6.745 ms

# Below is generated by plot.py at 2019-02-05 20:32:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.78 Mbit/s  
95th percentile per-packet one-way delay: 2360.492 ms  
Loss rate: 7.13%  
-- Flow 1:  
Average throughput: 56.35 Mbit/s  
95th percentile per-packet one-way delay: 2474.333 ms  
Loss rate: 10.96%  
-- Flow 2:  
Average throughput: 44.33 Mbit/s  
95th percentile per-packet one-way delay: 47.645 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 21.24 Mbit/s  
95th percentile per-packet one-way delay: 99.809 ms  
Loss rate: 0.93%

Run 3: Report of PCC-Allegro — Data Link

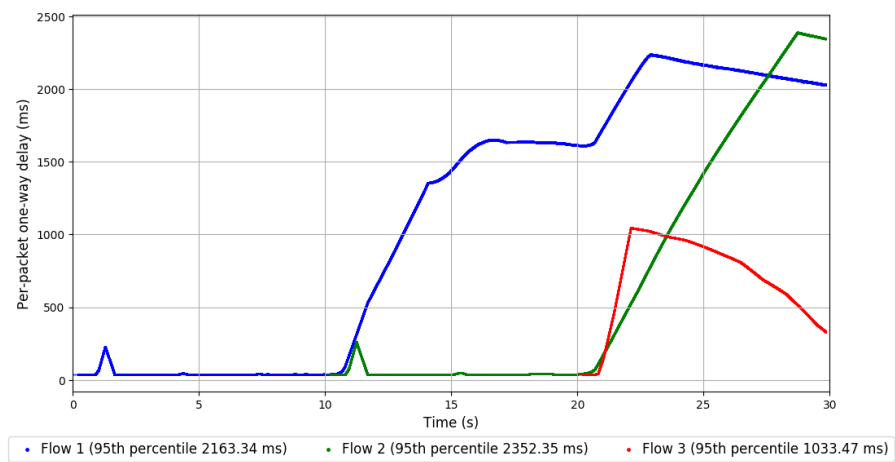
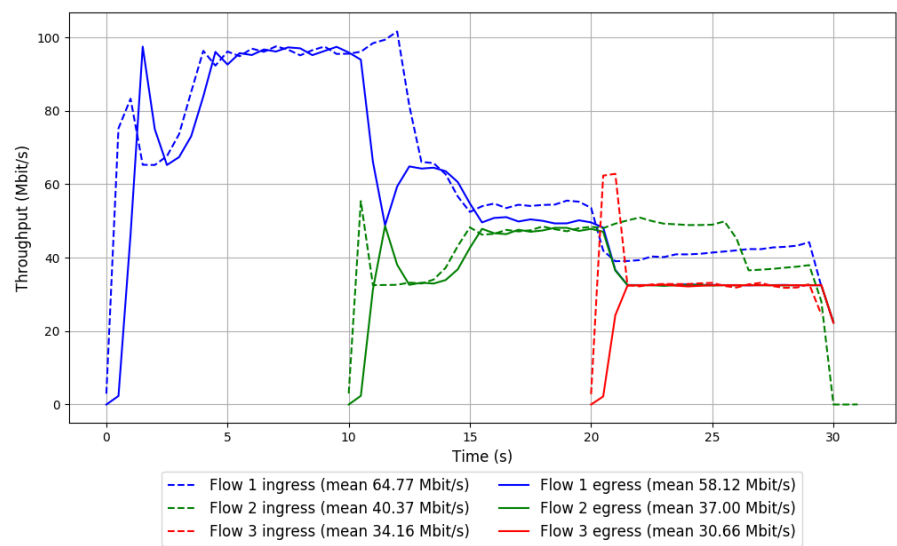


Run 4: Statistics of PCC-Allegro

Start at: 2019-02-05 19:30:04  
End at: 2019-02-05 19:30:34  
Local clock offset: -0.085 ms  
Remote clock offset: -5.187 ms

# Below is generated by plot.py at 2019-02-05 20:33:00  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.78 Mbit/s  
95th percentile per-packet one-way delay: 2173.511 ms  
Loss rate: 11.40%  
-- Flow 1:  
Average throughput: 58.12 Mbit/s  
95th percentile per-packet one-way delay: 2163.337 ms  
Loss rate: 10.45%  
-- Flow 2:  
Average throughput: 37.00 Mbit/s  
95th percentile per-packet one-way delay: 2352.350 ms  
Loss rate: 13.79%  
-- Flow 3:  
Average throughput: 30.66 Mbit/s  
95th percentile per-packet one-way delay: 1033.466 ms  
Loss rate: 10.82%

Run 4: Report of PCC-Allegro — Data Link

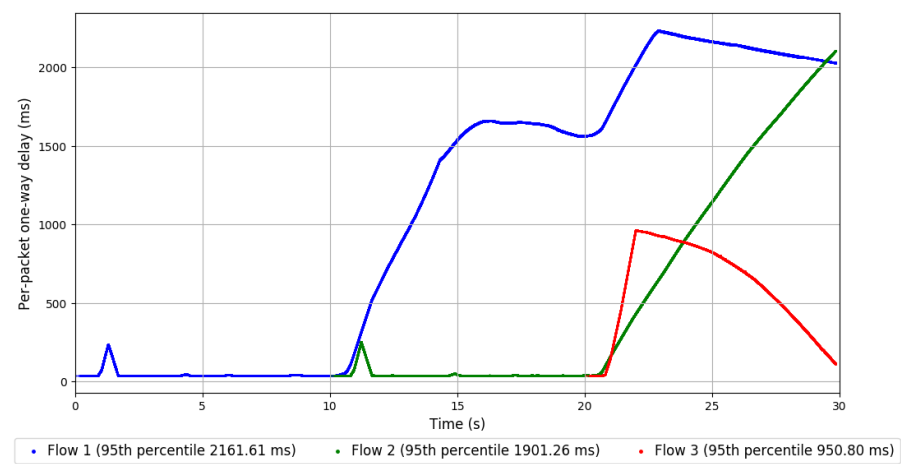
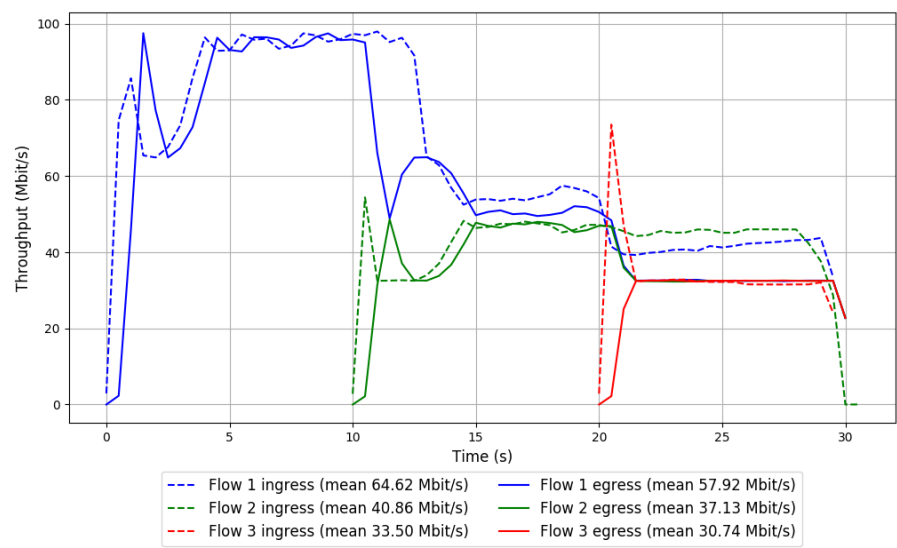


Run 5: Statistics of PCC-Allegro

Start at: 2019-02-05 19:56:25  
End at: 2019-02-05 19:56:55  
Local clock offset: 0.133 ms  
Remote clock offset: -4.782 ms

# Below is generated by plot.py at 2019-02-05 20:33:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.70 Mbit/s  
95th percentile per-packet one-way delay: 2119.744 ms  
Loss rate: 11.21%  
-- Flow 1:  
Average throughput: 57.92 Mbit/s  
95th percentile per-packet one-way delay: 2161.615 ms  
Loss rate: 10.55%  
-- Flow 2:  
Average throughput: 37.13 Mbit/s  
95th percentile per-packet one-way delay: 1901.259 ms  
Loss rate: 13.61%  
-- Flow 3:  
Average throughput: 30.74 Mbit/s  
95th percentile per-packet one-way delay: 950.798 ms  
Loss rate: 8.83%

Run 5: Report of PCC-Allegro — Data Link

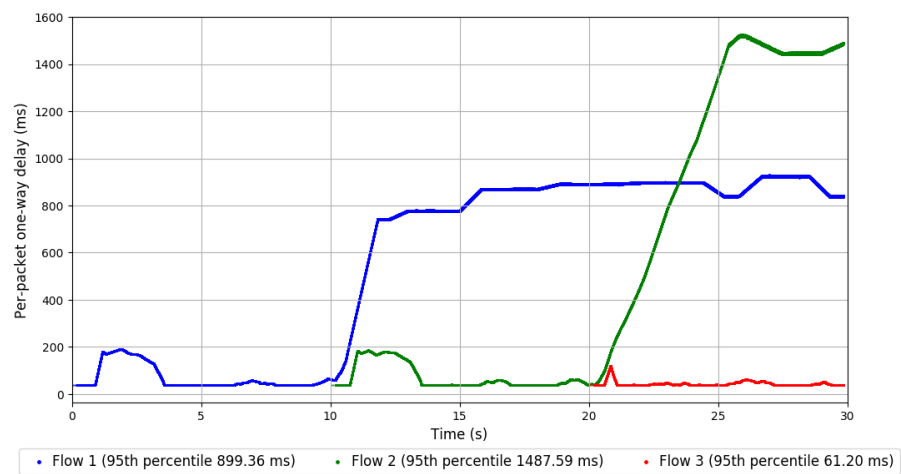
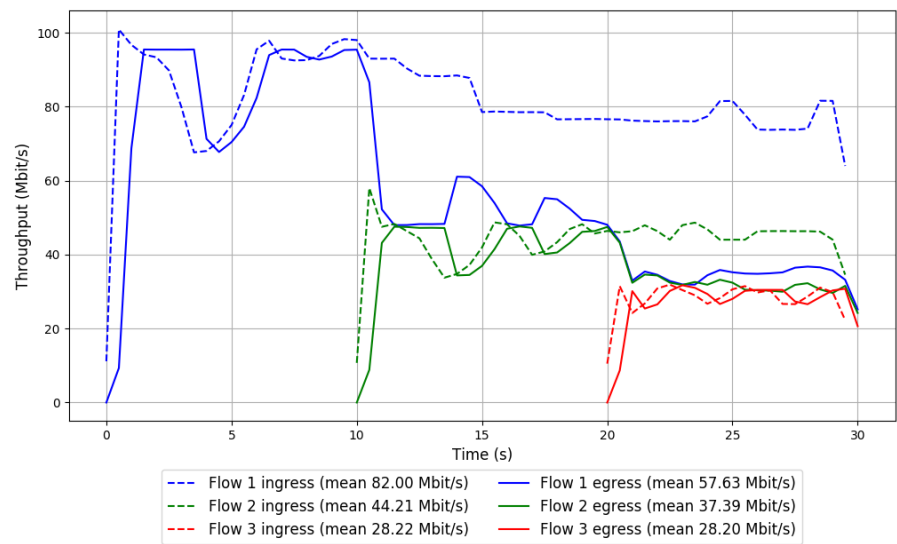


Run 1: Statistics of PCC-Expr

Start at: 2019-02-05 18:30:46  
End at: 2019-02-05 18:31:16  
Local clock offset: 0.222 ms  
Remote clock offset: -8.305 ms

# Below is generated by plot.py at 2019-02-05 20:34:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.75 Mbit/s  
95th percentile per-packet one-way delay: 1442.982 ms  
Loss rate: 24.17%  
-- Flow 1:  
Average throughput: 57.63 Mbit/s  
95th percentile per-packet one-way delay: 899.355 ms  
Loss rate: 29.87%  
-- Flow 2:  
Average throughput: 37.39 Mbit/s  
95th percentile per-packet one-way delay: 1487.592 ms  
Loss rate: 15.70%  
-- Flow 3:  
Average throughput: 28.20 Mbit/s  
95th percentile per-packet one-way delay: 61.203 ms  
Loss rate: 0.72%

Run 1: Report of PCC-Expr — Data Link

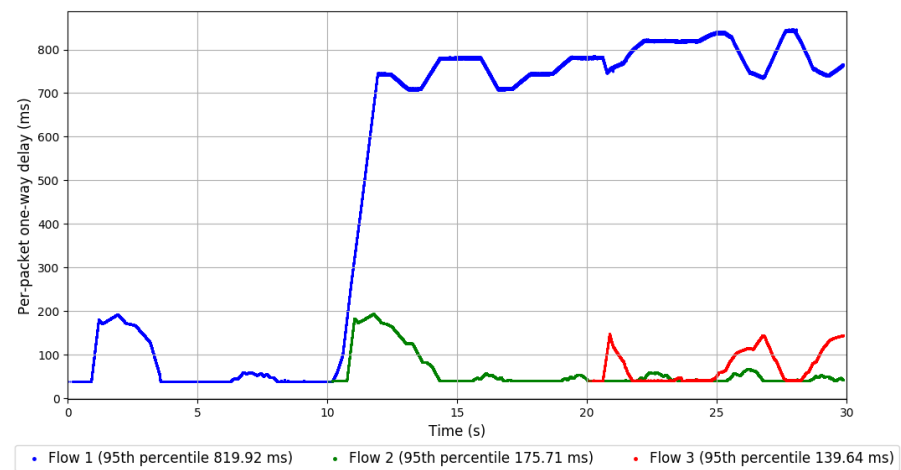
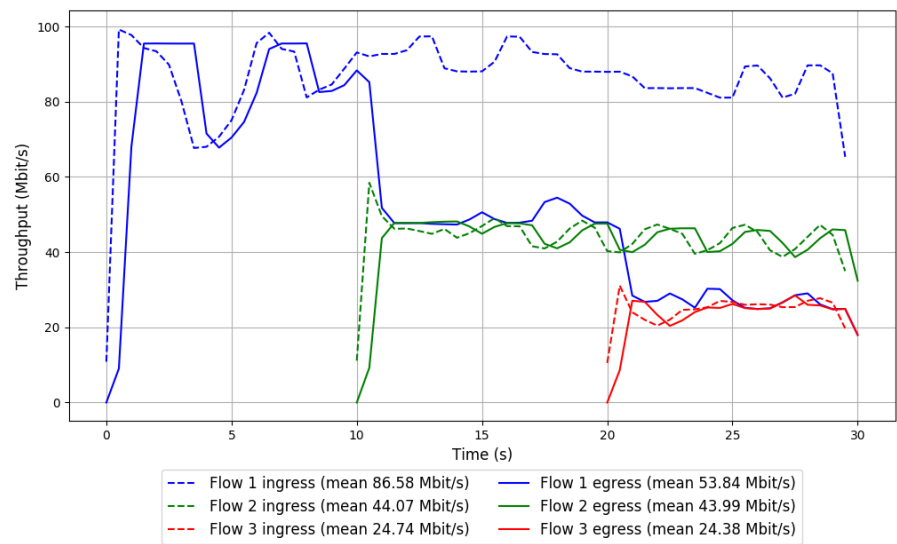


Run 2: Statistics of PCC-Expr

Start at: 2019-02-05 18:56:31  
End at: 2019-02-05 18:57:01  
Local clock offset: -0.335 ms  
Remote clock offset: -7.204 ms

# Below is generated by plot.py at 2019-02-05 20:34:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.09 Mbit/s  
95th percentile per-packet one-way delay: 790.124 ms  
Loss rate: 26.74%  
-- Flow 1:  
Average throughput: 53.84 Mbit/s  
95th percentile per-packet one-way delay: 819.917 ms  
Loss rate: 37.95%  
-- Flow 2:  
Average throughput: 43.99 Mbit/s  
95th percentile per-packet one-way delay: 175.705 ms  
Loss rate: 0.49%  
-- Flow 3:  
Average throughput: 24.38 Mbit/s  
95th percentile per-packet one-way delay: 139.642 ms  
Loss rate: 2.14%

Run 2: Report of PCC-Expr — Data Link

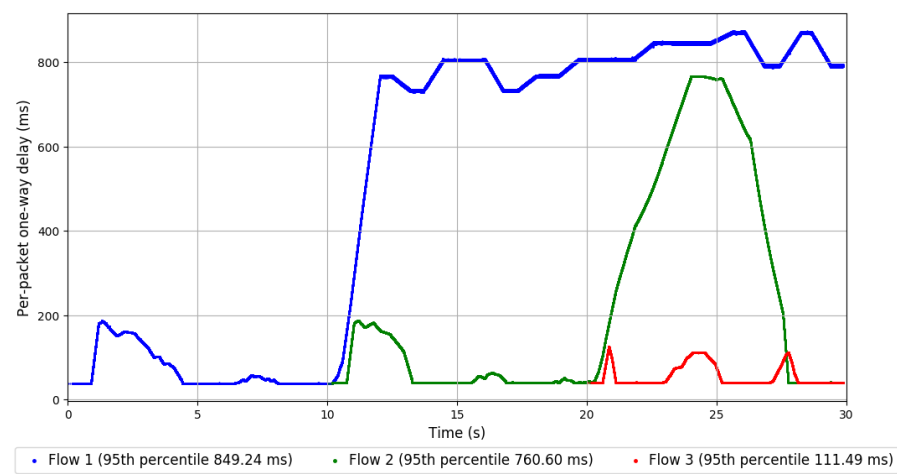
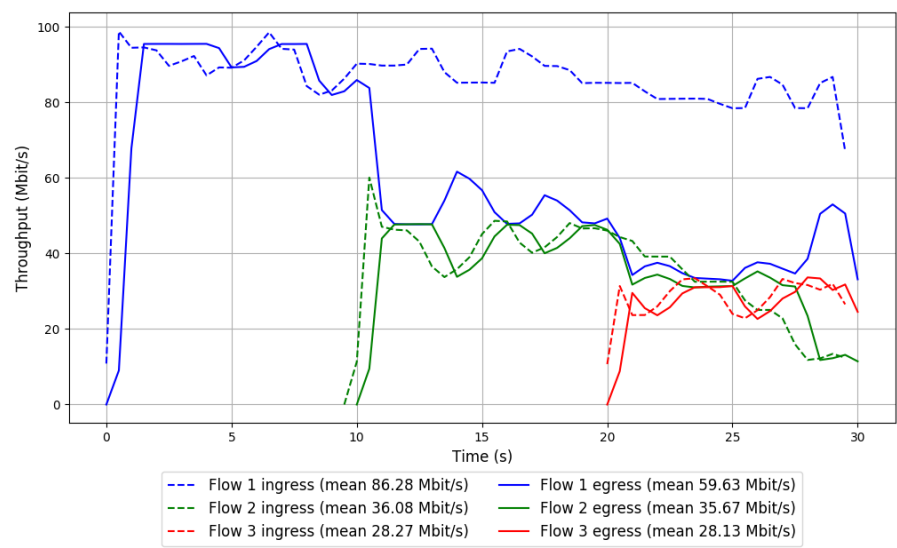


Run 3: Statistics of PCC-Expr

Start at: 2019-02-05 19:22:13  
End at: 2019-02-05 19:22:43  
Local clock offset: -0.214 ms  
Remote clock offset: -5.951 ms

# Below is generated by plot.py at 2019-02-05 20:34:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.60 Mbit/s  
95th percentile per-packet one-way delay: 845.311 ms  
Loss rate: 22.76%  
-- Flow 1:  
Average throughput: 59.63 Mbit/s  
95th percentile per-packet one-way delay: 849.235 ms  
Loss rate: 31.04%  
-- Flow 2:  
Average throughput: 35.67 Mbit/s  
95th percentile per-packet one-way delay: 760.598 ms  
Loss rate: 1.45%  
-- Flow 3:  
Average throughput: 28.13 Mbit/s  
95th percentile per-packet one-way delay: 111.493 ms  
Loss rate: 1.15%

Run 3: Report of PCC-Expr — Data Link

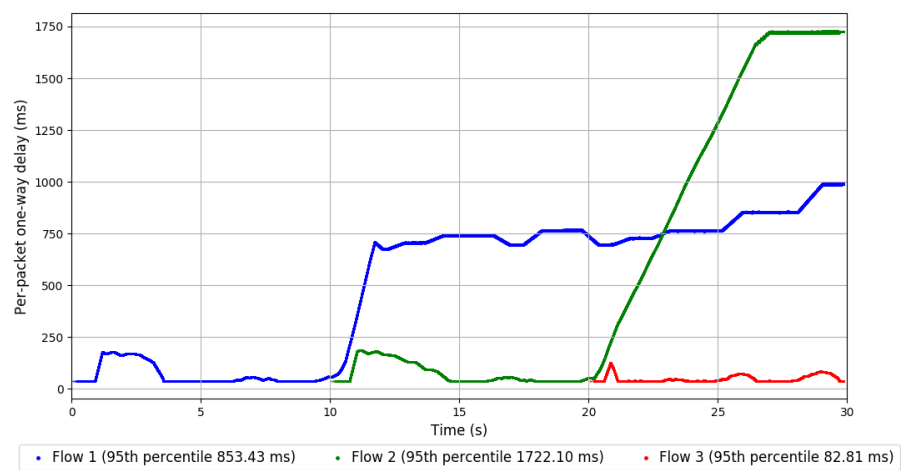
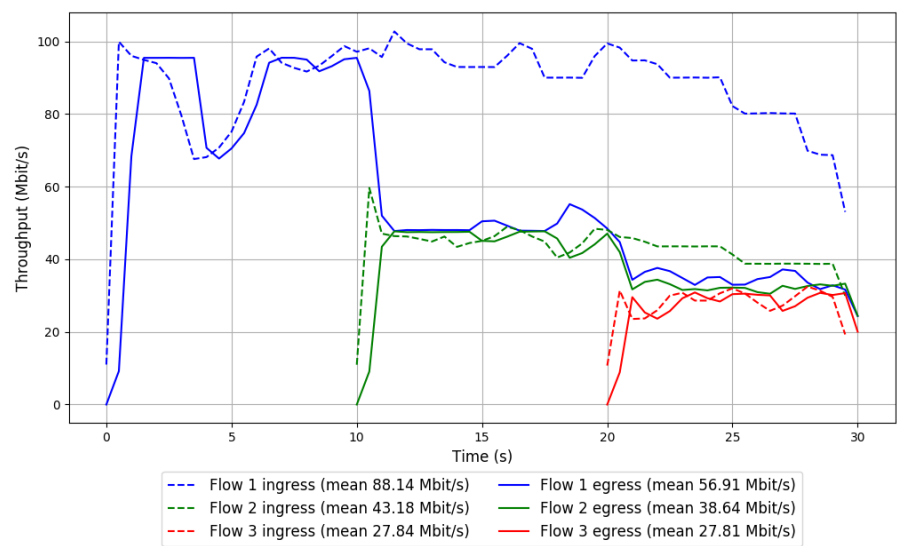


Run 4: Statistics of PCC-Expr

Start at: 2019-02-05 19:48:39  
End at: 2019-02-05 19:49:09  
Local clock offset: -0.065 ms  
Remote clock offset: -4.609 ms

# Below is generated by plot.py at 2019-02-05 20:35:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.75 Mbit/s  
95th percentile per-packet one-way delay: 1432.508 ms  
Loss rate: 27.38%  
-- Flow 1:  
Average throughput: 56.91 Mbit/s  
95th percentile per-packet one-way delay: 853.426 ms  
Loss rate: 35.56%  
-- Flow 2:  
Average throughput: 38.64 Mbit/s  
95th percentile per-packet one-way delay: 1722.103 ms  
Loss rate: 10.80%  
-- Flow 3:  
Average throughput: 27.81 Mbit/s  
95th percentile per-packet one-way delay: 82.815 ms  
Loss rate: 0.76%

Run 4: Report of PCC-Expr — Data Link

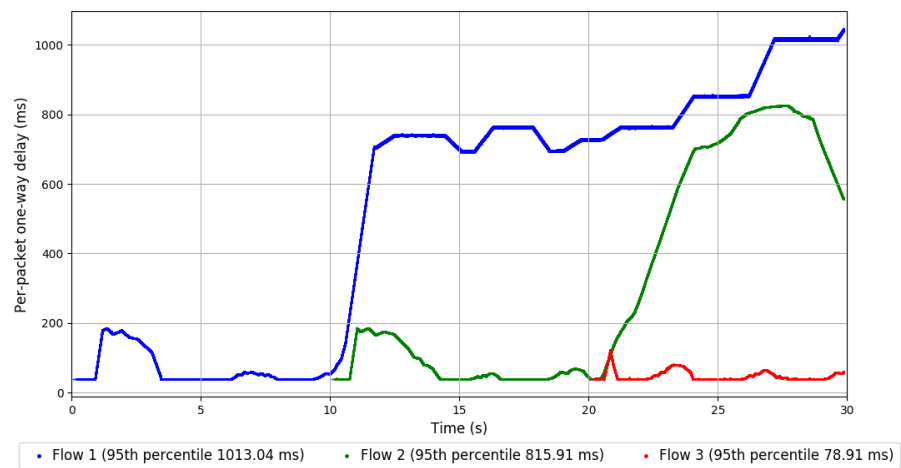
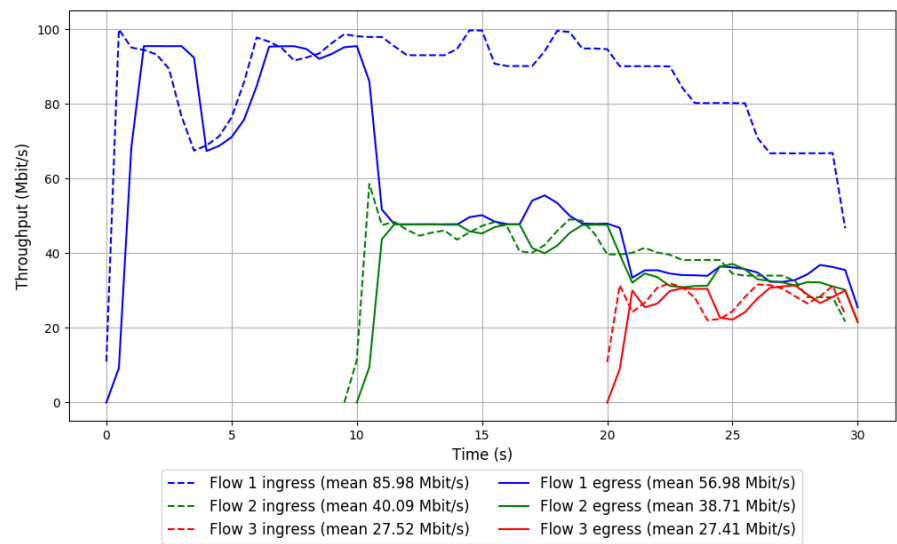


Run 5: Statistics of PCC-Expr

Start at: 2019-02-05 20:14:43  
End at: 2019-02-05 20:15:13  
Local clock offset: 0.128 ms  
Remote clock offset: -3.874 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.73 Mbit/s  
95th percentile per-packet one-way delay: 853.502 ms  
Loss rate: 24.82%  
-- Flow 1:  
Average throughput: 56.98 Mbit/s  
95th percentile per-packet one-way delay: 1013.044 ms  
Loss rate: 33.87%  
-- Flow 2:  
Average throughput: 38.71 Mbit/s  
95th percentile per-packet one-way delay: 815.907 ms  
Loss rate: 3.76%  
-- Flow 3:  
Average throughput: 27.41 Mbit/s  
95th percentile per-packet one-way delay: 78.905 ms  
Loss rate: 1.05%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-02-05 18:19:38

End at: 2019-02-05 18:20:08

Local clock offset: 2.153 ms

Remote clock offset: -8.91 ms

# Below is generated by plot.py at 2019-02-05 20:35:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 76.77 Mbit/s

95th percentile per-packet one-way delay: 114.182 ms

Loss rate: 0.37%

-- Flow 1:

Average throughput: 40.99 Mbit/s

95th percentile per-packet one-way delay: 106.233 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 42.27 Mbit/s

95th percentile per-packet one-way delay: 123.985 ms

Loss rate: 0.45%

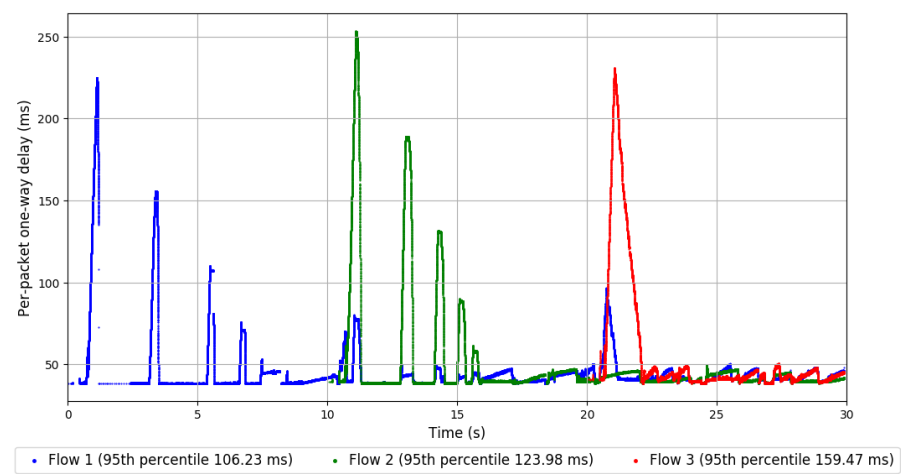
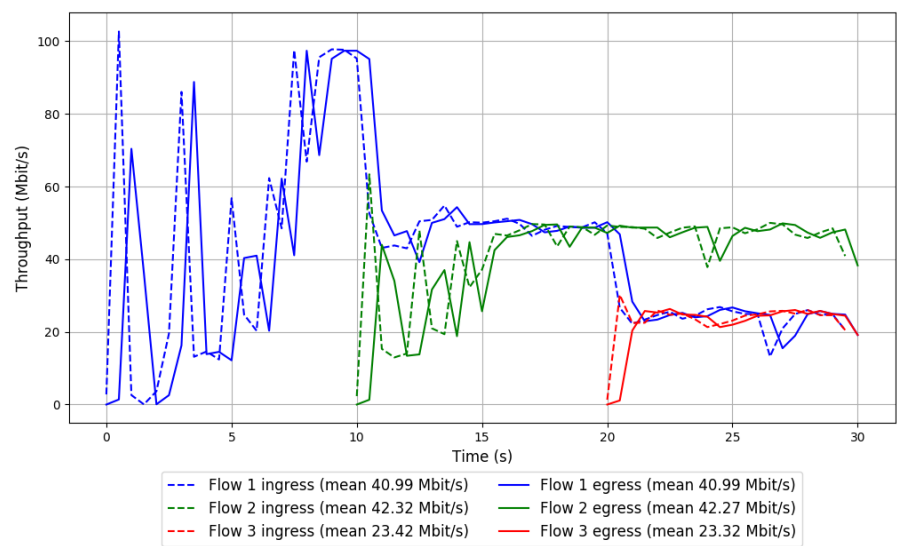
-- Flow 3:

Average throughput: 23.32 Mbit/s

95th percentile per-packet one-way delay: 159.466 ms

Loss rate: 1.06%

Run 1: Report of QUIC Cubic — Data Link

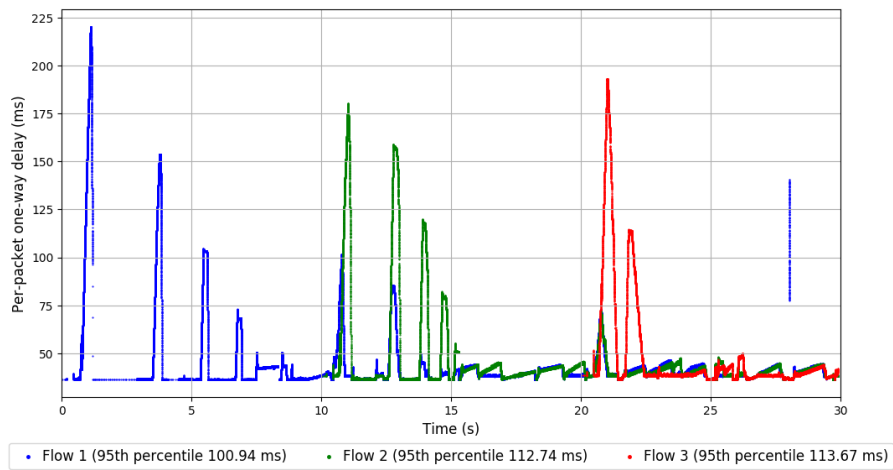
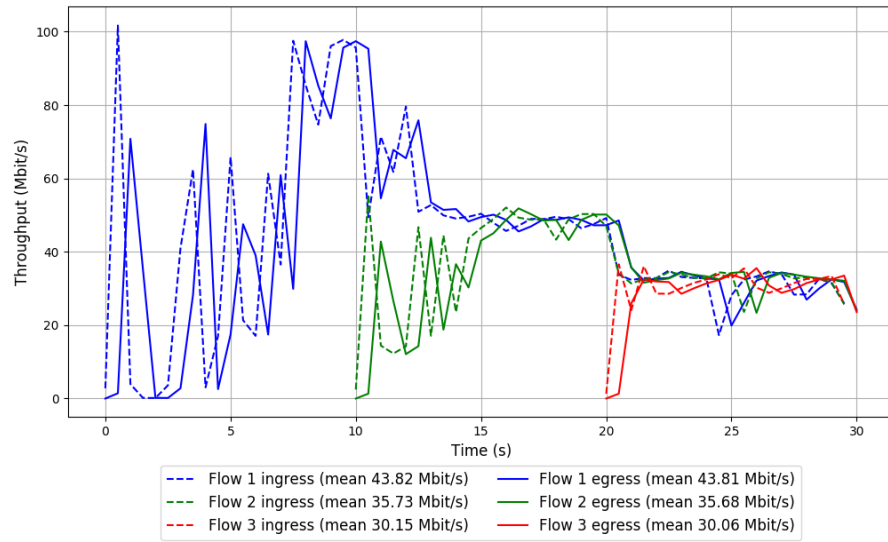


Run 2: Statistics of QUIC Cubic

Start at: 2019-02-05 18:45:33  
End at: 2019-02-05 18:46:03  
Local clock offset: -0.797 ms  
Remote clock offset: -5.678 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.41 Mbit/s  
95th percentile per-packet one-way delay: 103.307 ms  
Loss rate: 0.39%  
-- Flow 1:  
Average throughput: 43.81 Mbit/s  
95th percentile per-packet one-way delay: 100.944 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 35.68 Mbit/s  
95th percentile per-packet one-way delay: 112.743 ms  
Loss rate: 0.46%  
-- Flow 3:  
Average throughput: 30.06 Mbit/s  
95th percentile per-packet one-way delay: 113.666 ms  
Loss rate: 0.98%

## Run 2: Report of QUIC Cubic — Data Link

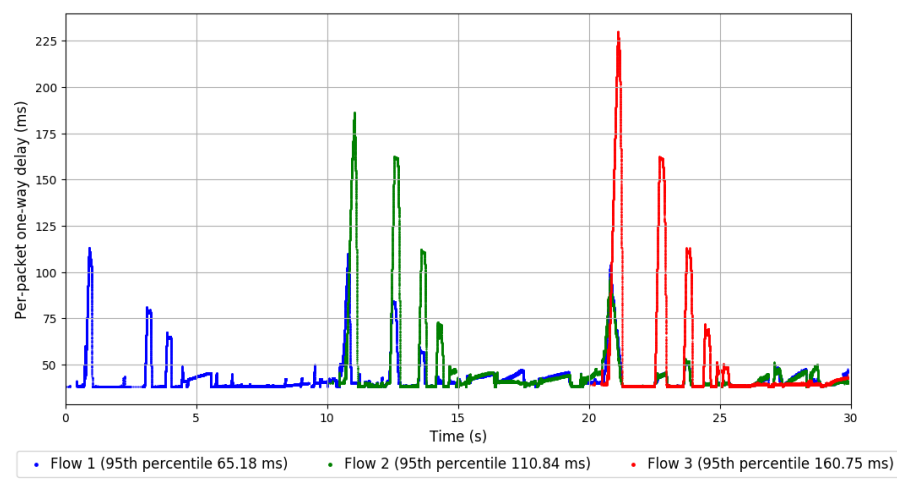
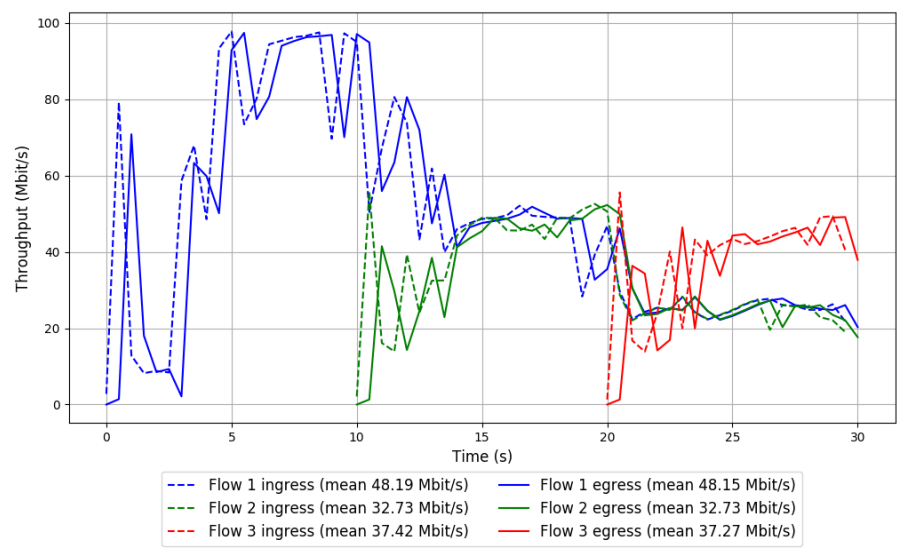


Run 3: Statistics of QUIC Cubic

Start at: 2019-02-05 19:11:12  
End at: 2019-02-05 19:11:42  
Local clock offset: -0.392 ms  
Remote clock offset: -5.975 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 82.17 Mbit/s  
95th percentile per-packet one-way delay: 87.553 ms  
Loss rate: 0.41%  
-- Flow 1:  
Average throughput: 48.15 Mbit/s  
95th percentile per-packet one-way delay: 65.183 ms  
Loss rate: 0.29%  
-- Flow 2:  
Average throughput: 32.73 Mbit/s  
95th percentile per-packet one-way delay: 110.839 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 37.27 Mbit/s  
95th percentile per-packet one-way delay: 160.751 ms  
Loss rate: 1.03%

Run 3: Report of QUIC Cubic — Data Link

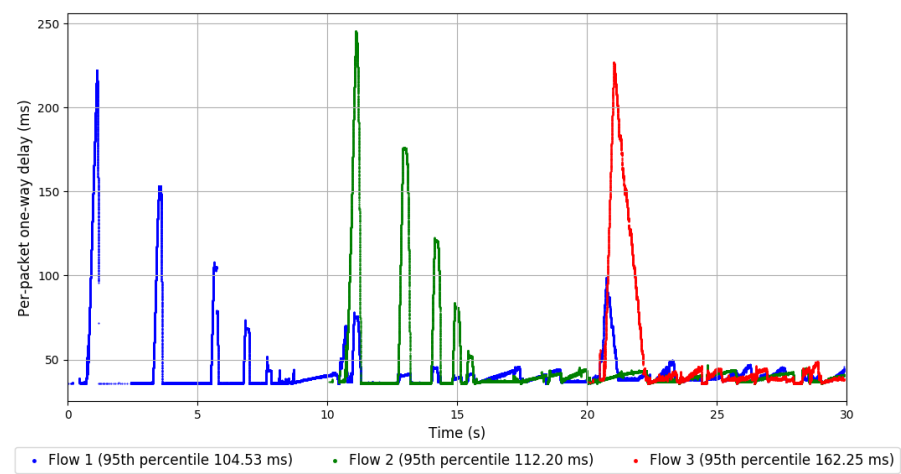
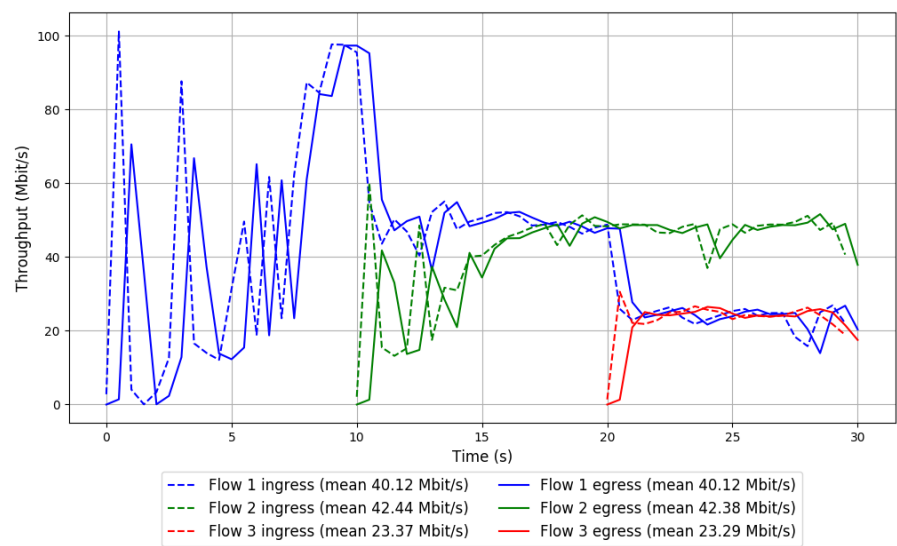


Run 4: Statistics of QUIC Cubic

Start at: 2019-02-05 19:37:24  
End at: 2019-02-05 19:37:54  
Local clock offset: -0.089 ms  
Remote clock offset: -2.747 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 75.95 Mbit/s  
95th percentile per-packet one-way delay: 110.163 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 40.12 Mbit/s  
95th percentile per-packet one-way delay: 104.534 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 42.38 Mbit/s  
95th percentile per-packet one-way delay: 112.205 ms  
Loss rate: 0.46%  
-- Flow 3:  
Average throughput: 23.29 Mbit/s  
95th percentile per-packet one-way delay: 162.253 ms  
Loss rate: 0.98%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-02-05 20:03:43

End at: 2019-02-05 20:04:13

Local clock offset: 0.162 ms

Remote clock offset: -4.22 ms

# Below is generated by plot.py at 2019-02-05 20:35:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 73.90 Mbit/s

95th percentile per-packet one-way delay: 124.801 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 40.58 Mbit/s

95th percentile per-packet one-way delay: 106.293 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 31.15 Mbit/s

95th percentile per-packet one-way delay: 131.798 ms

Loss rate: 0.45%

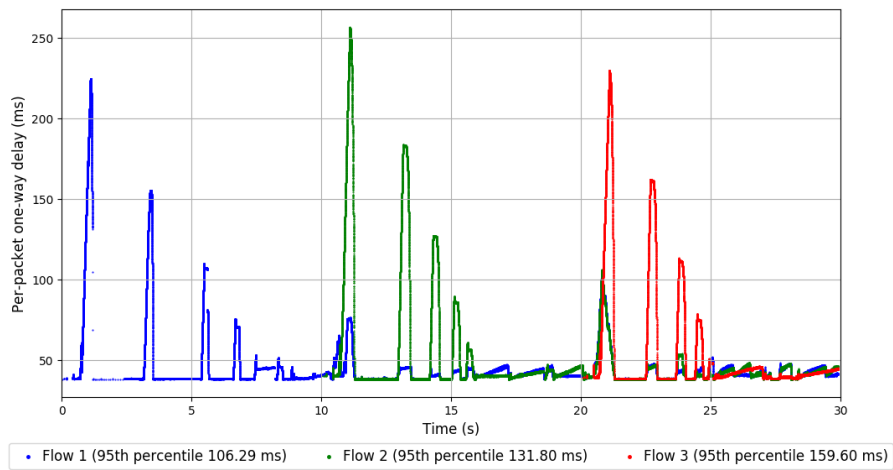
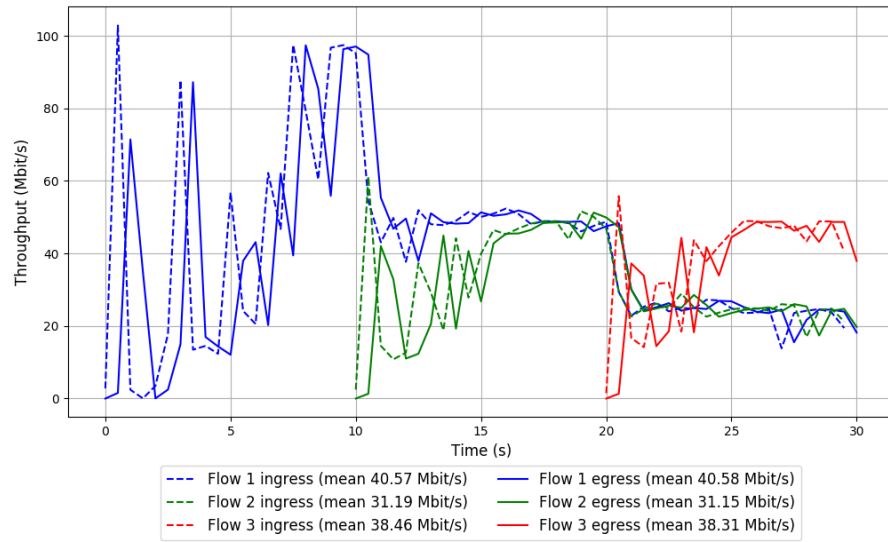
-- Flow 3:

Average throughput: 38.31 Mbit/s

95th percentile per-packet one-way delay: 159.596 ms

Loss rate: 1.03%

## Run 5: Report of QUIC Cubic — Data Link

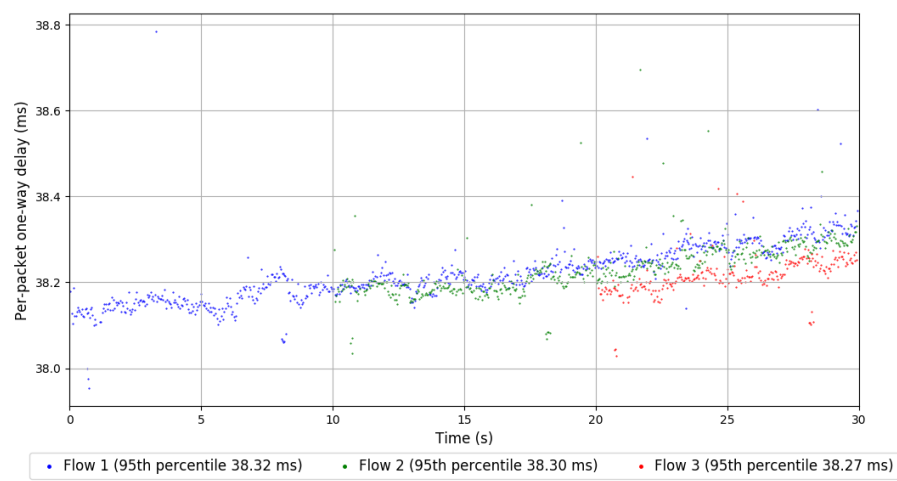
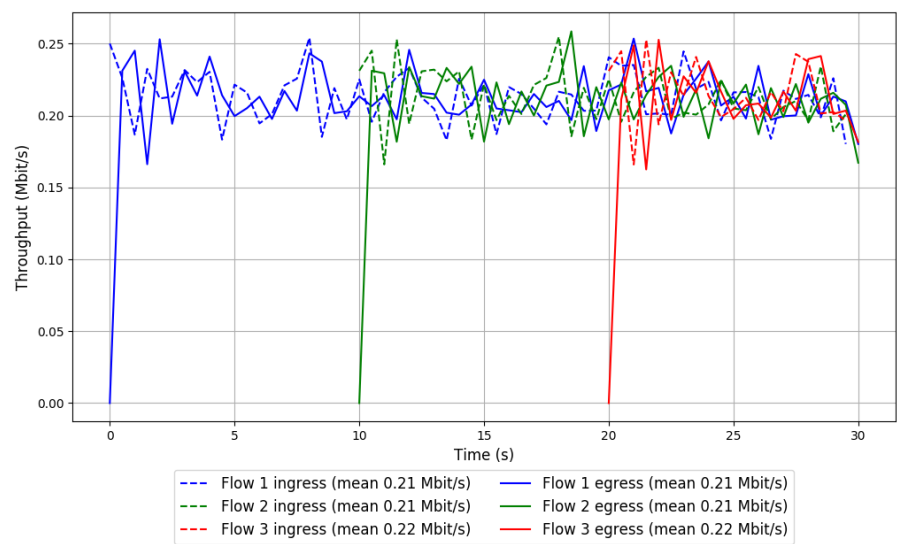


```
Run 1: Statistics of SCReAM

Start at: 2019-02-05 18:17:13
End at: 2019-02-05 18:17:43
Local clock offset: 3.034 ms
Remote clock offset: -8.477 ms

# Below is generated by plot.py at 2019-02-05 20:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 38.314 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.323 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.305 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 38.270 ms
Loss rate: 0.71%
```

Run 1: Report of SReAM — Data Link

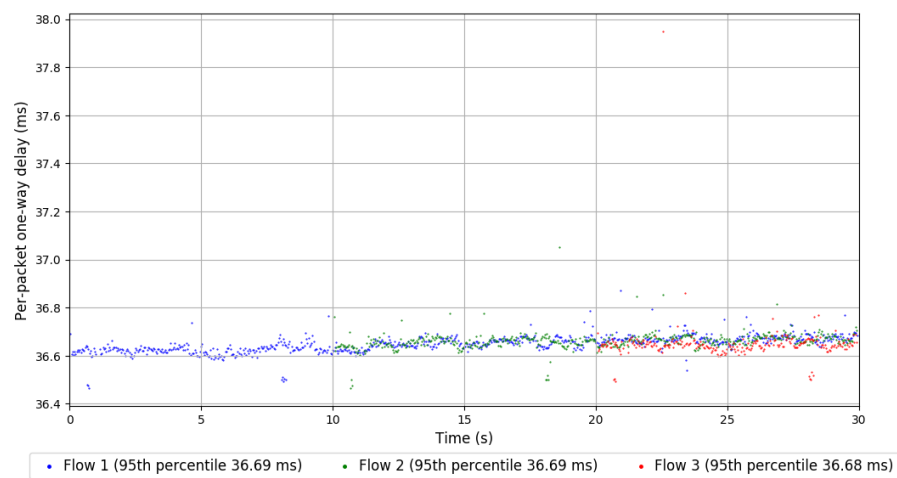
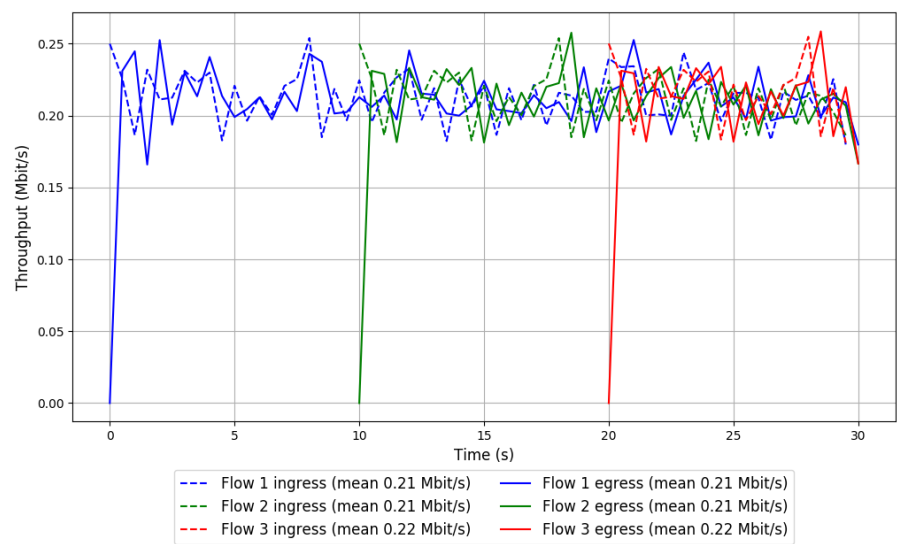


Run 2: Statistics of SReAM

Start at: 2019-02-05 18:43:08  
End at: 2019-02-05 18:43:38  
Local clock offset: -0.682 ms  
Remote clock offset: -5.821 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 36.693 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 36.693 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 36.694 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 36.684 ms  
Loss rate: 0.71%

Run 2: Report of SReAM — Data Link

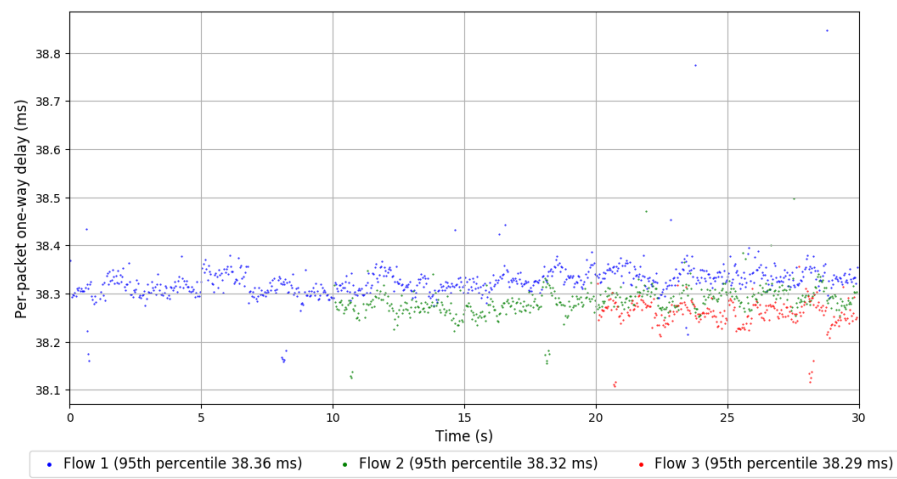
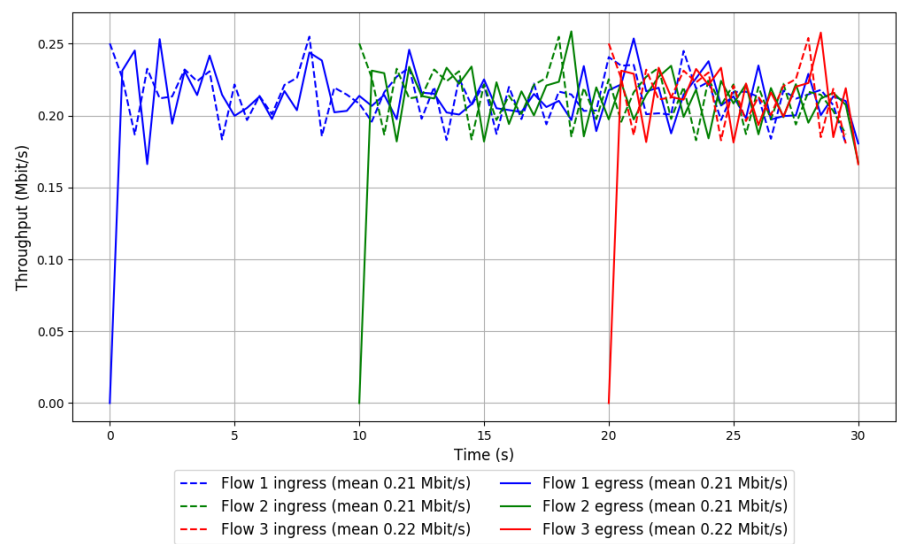


Run 3: Statistics of SReAM

Start at: 2019-02-05 19:08:47  
End at: 2019-02-05 19:09:17  
Local clock offset: -0.365 ms  
Remote clock offset: -6.12 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 38.356 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 38.363 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 38.321 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 38.294 ms  
Loss rate: 0.71%

Run 3: Report of SReAM — Data Link

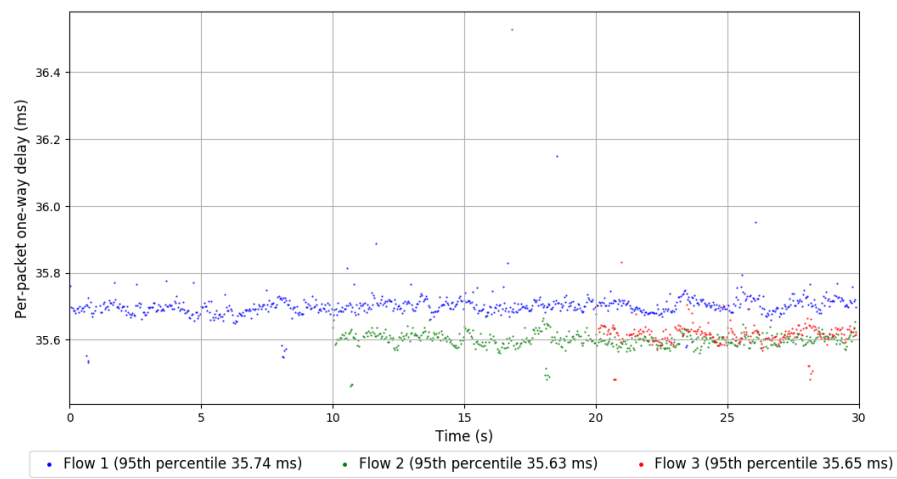
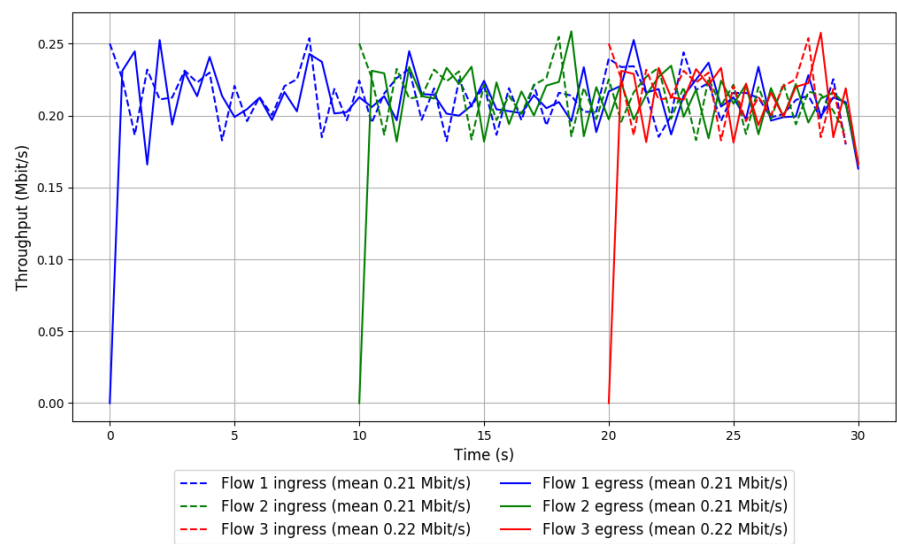


Run 4: Statistics of SReAM

Start at: 2019-02-05 19:34:56  
End at: 2019-02-05 19:35:26  
Local clock offset: -0.091 ms  
Remote clock offset: -2.476 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 35.727 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 35.736 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 35.635 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 35.648 ms  
Loss rate: 0.71%

Run 4: Report of SReAM — Data Link

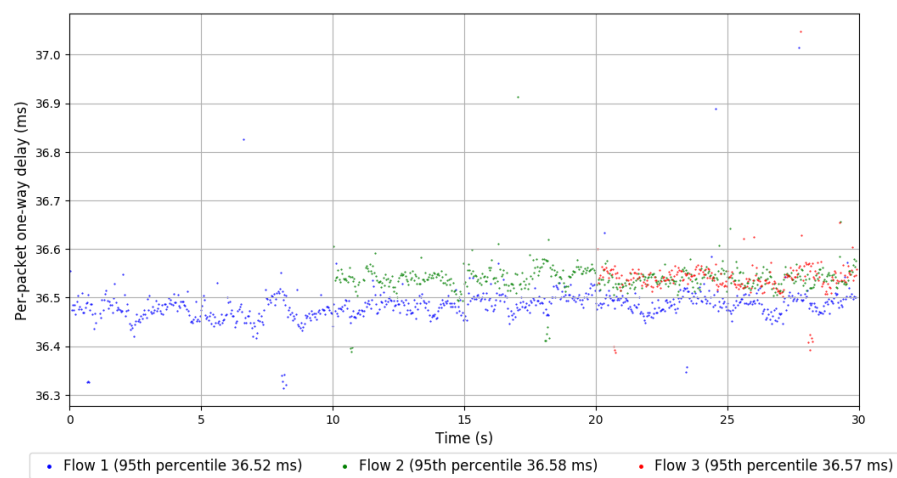
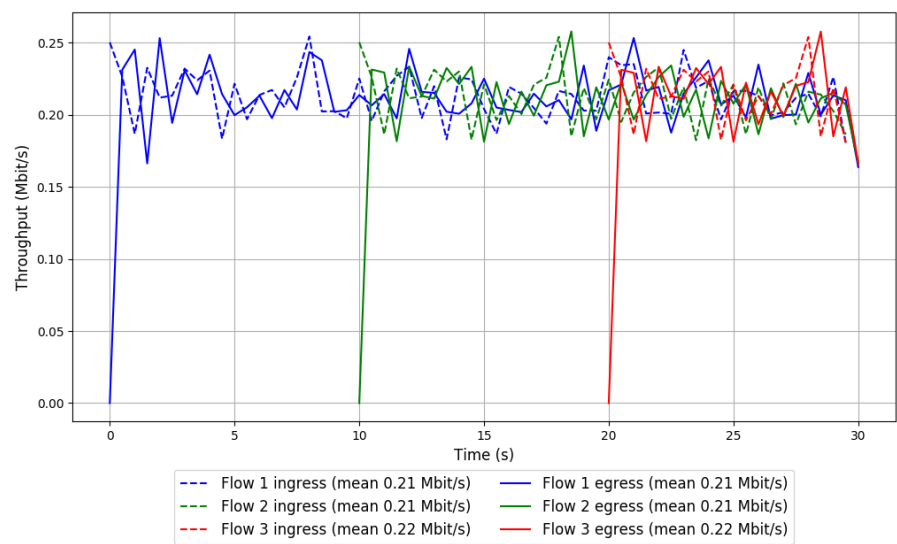


Run 5: Statistics of SReAM

Start at: 2019-02-05 20:01:16  
End at: 2019-02-05 20:01:46  
Local clock offset: 0.177 ms  
Remote clock offset: -2.651 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 36.564 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 36.519 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 36.575 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 36.569 ms  
Loss rate: 0.71%

Run 5: Report of SReAM — Data Link

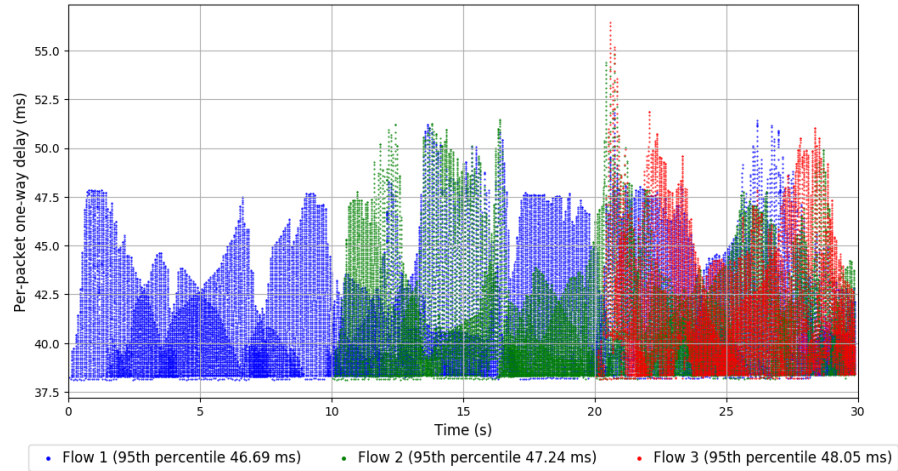
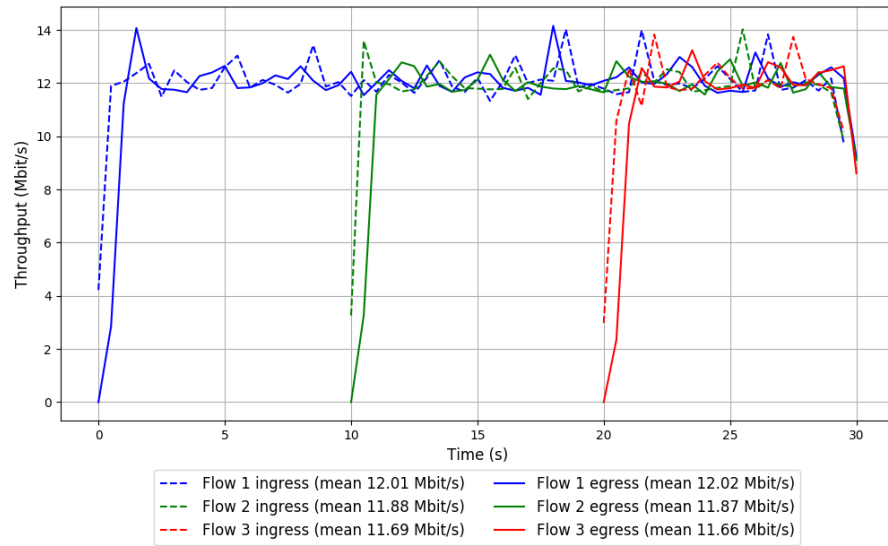


Run 1: Statistics of Sprout

Start at: 2019-02-05 18:24:34  
End at: 2019-02-05 18:25:04  
Local clock offset: 1.041 ms  
Remote clock offset: -8.447 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 23.74 Mbit/s  
95th percentile per-packet one-way delay: 47.068 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 12.02 Mbit/s  
95th percentile per-packet one-way delay: 46.686 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 11.87 Mbit/s  
95th percentile per-packet one-way delay: 47.240 ms  
Loss rate: 0.42%  
-- Flow 3:  
Average throughput: 11.66 Mbit/s  
95th percentile per-packet one-way delay: 48.046 ms  
Loss rate: 0.84%

## Run 1: Report of Sprout — Data Link

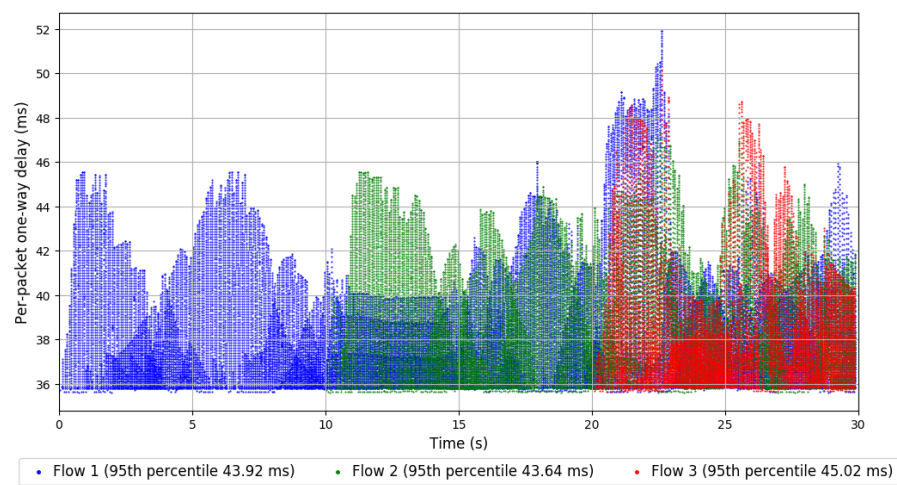
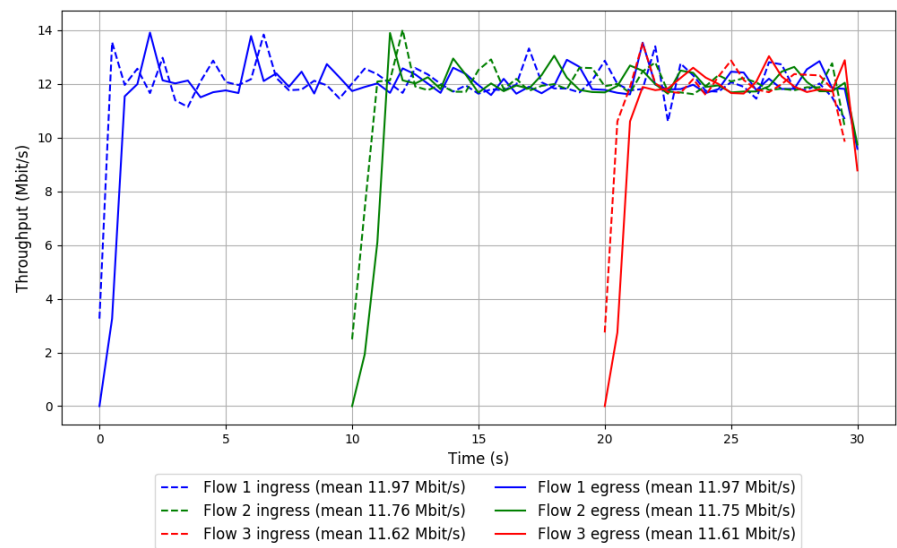


Run 2: Statistics of Sprout

Start at: 2019-02-05 18:50:27  
End at: 2019-02-05 18:50:57  
Local clock offset: -0.513 ms  
Remote clock offset: -4.659 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 23.59 Mbit/s  
95th percentile per-packet one-way delay: 43.944 ms  
Loss rate: 0.34%  
-- Flow 1:  
Average throughput: 11.97 Mbit/s  
95th percentile per-packet one-way delay: 43.921 ms  
Loss rate: 0.16%  
-- Flow 2:  
Average throughput: 11.75 Mbit/s  
95th percentile per-packet one-way delay: 43.636 ms  
Loss rate: 0.36%  
-- Flow 3:  
Average throughput: 11.61 Mbit/s  
95th percentile per-packet one-way delay: 45.019 ms  
Loss rate: 0.86%

Run 2: Report of Sprout — Data Link

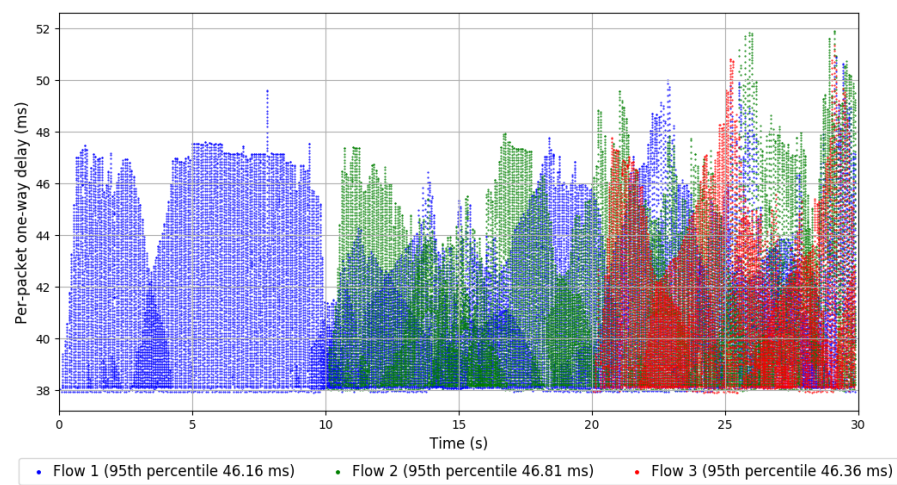
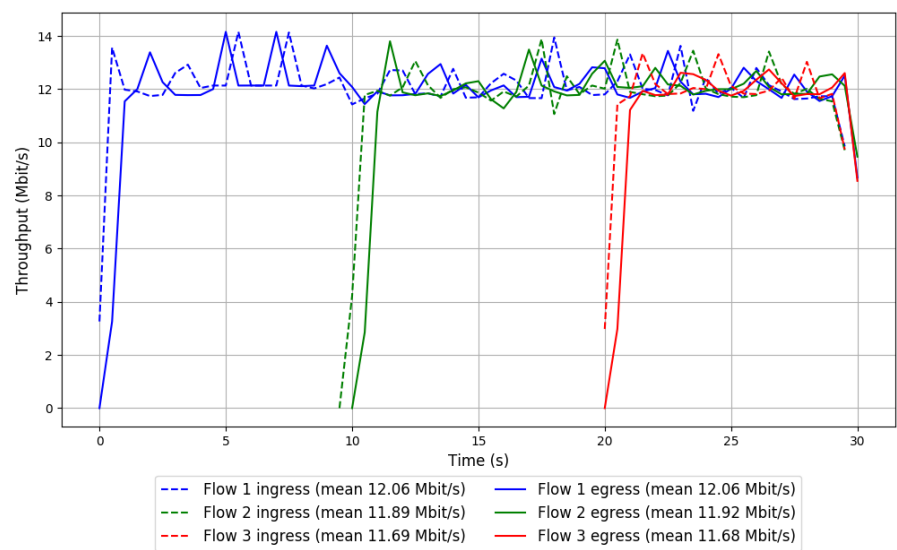


### Run 3: Statistics of Sprout

Start at: 2019-02-05 19:16:07  
End at: 2019-02-05 19:16:37  
Local clock offset: -0.468 ms  
Remote clock offset: -5.721 ms

```
# Below is generated by plot.py at 2019-02-05 20:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.82 Mbit/s
95th percentile per-packet one-way delay: 46.402 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 46.164 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 11.92 Mbit/s
95th percentile per-packet one-way delay: 46.811 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 46.359 ms
Loss rate: 0.84%
```

Run 3: Report of Sprout — Data Link

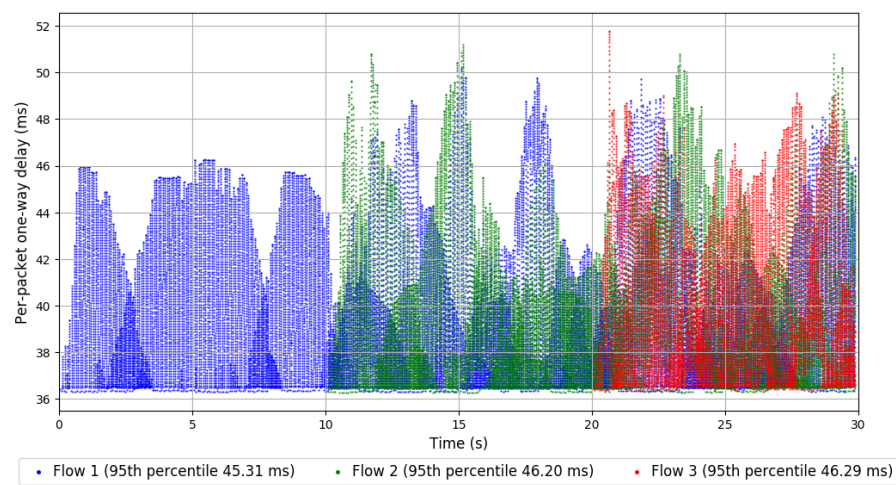
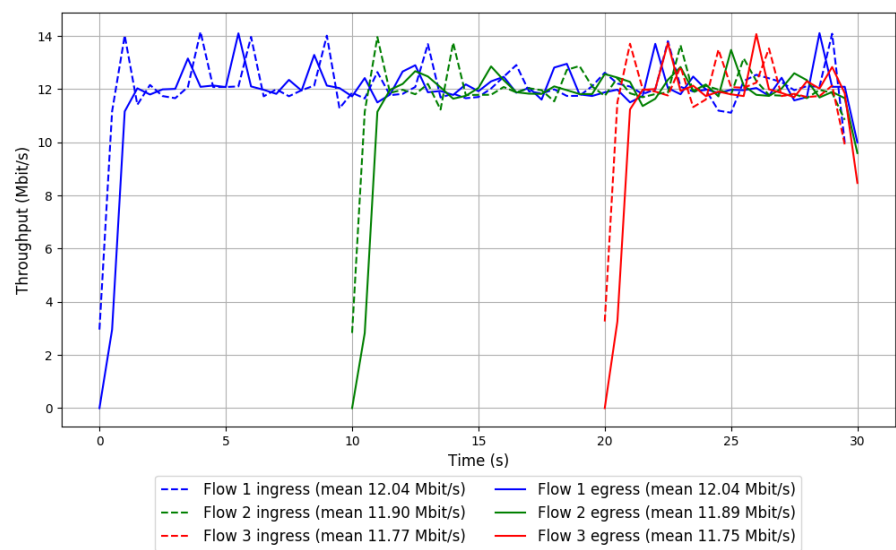


#### Run 4: Statistics of Sprout

Start at: 2019-02-05 19:42:21  
End at: 2019-02-05 19:42:51  
Local clock offset: -0.151 ms  
Remote clock offset: -3.114 ms

```
# Below is generated by plot.py at 2019-02-05 20:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.79 Mbit/s
95th percentile per-packet one-way delay: 45.769 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 45.308 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 46.202 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 46.287 ms
Loss rate: 0.78%
```

Run 4: Report of Sprout — Data Link

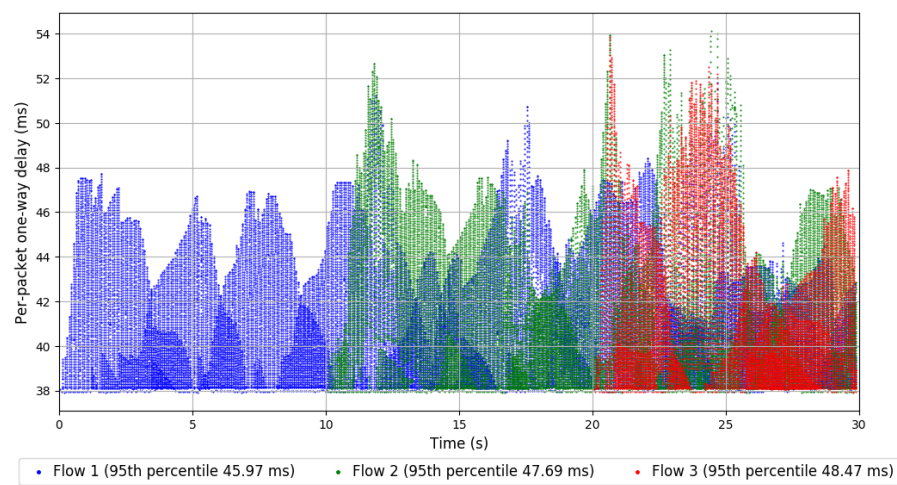
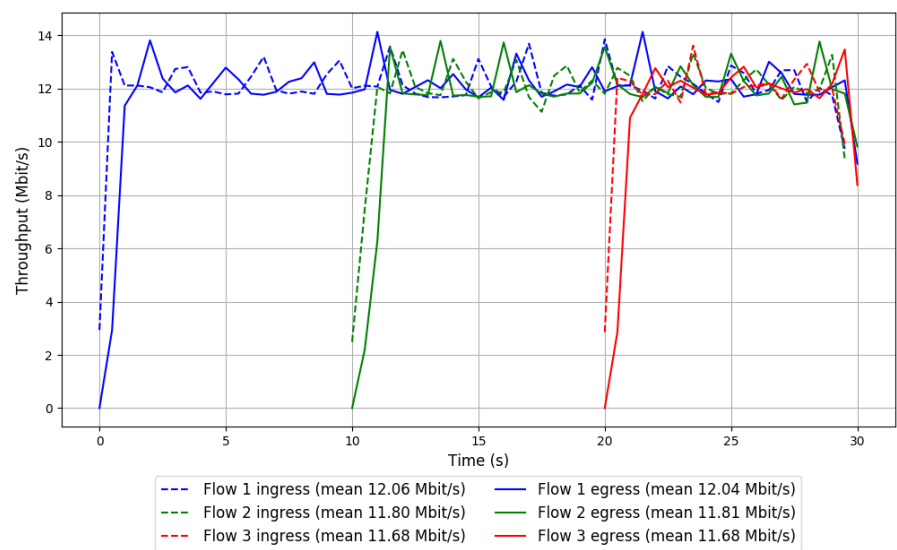


Run 5: Statistics of Sprout

Start at: 2019-02-05 20:08:38  
End at: 2019-02-05 20:09:08  
Local clock offset: 0.153 ms  
Remote clock offset: -4.056 ms

# Below is generated by plot.py at 2019-02-05 20:35:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 23.73 Mbit/s  
95th percentile per-packet one-way delay: 46.946 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 12.04 Mbit/s  
95th percentile per-packet one-way delay: 45.968 ms  
Loss rate: 0.23%  
-- Flow 2:  
Average throughput: 11.81 Mbit/s  
95th percentile per-packet one-way delay: 47.690 ms  
Loss rate: 0.21%  
-- Flow 3:  
Average throughput: 11.68 Mbit/s  
95th percentile per-packet one-way delay: 48.469 ms  
Loss rate: 0.75%

Run 5: Report of Sprout — Data Link

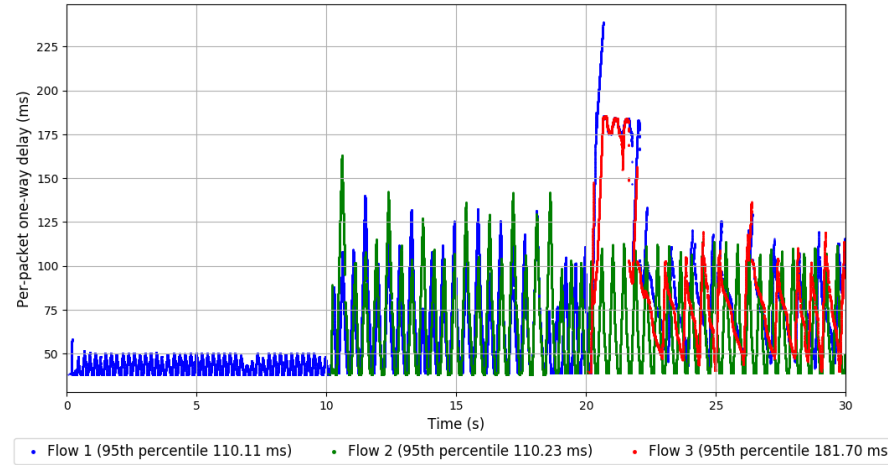
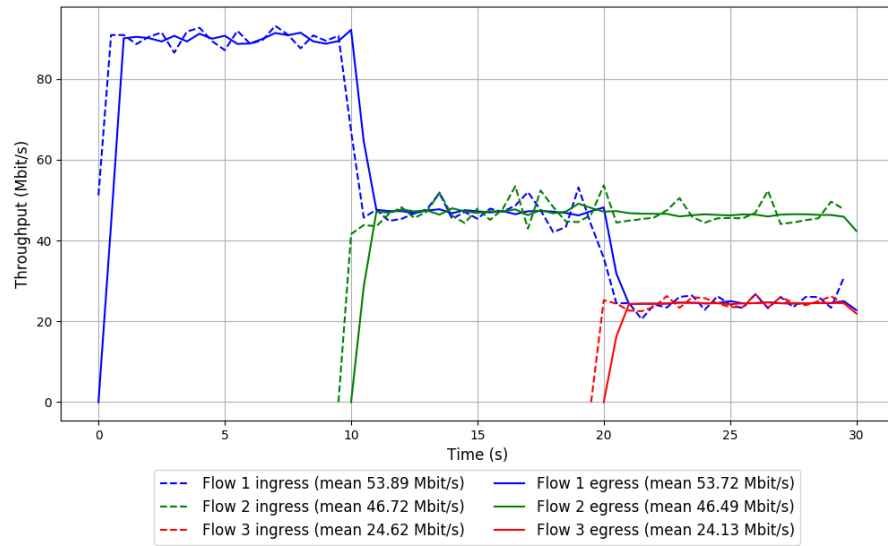


```
Run 1: Statistics of TaoVA-100x

Start at: 2019-02-05 18:34:31
End at: 2019-02-05 18:35:01
Local clock offset: -0.118 ms
Remote clock offset: -7.905 ms

# Below is generated by plot.py at 2019-02-05 20:36:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.67 Mbit/s
95th percentile per-packet one-way delay: 114.187 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 53.72 Mbit/s
95th percentile per-packet one-way delay: 110.113 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 46.49 Mbit/s
95th percentile per-packet one-way delay: 110.233 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 24.13 Mbit/s
95th percentile per-packet one-way delay: 181.698 ms
Loss rate: 2.61%
```

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

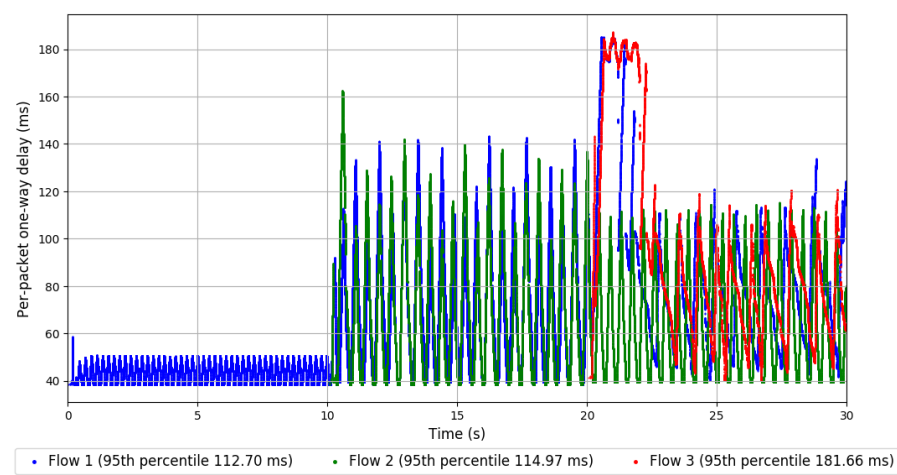
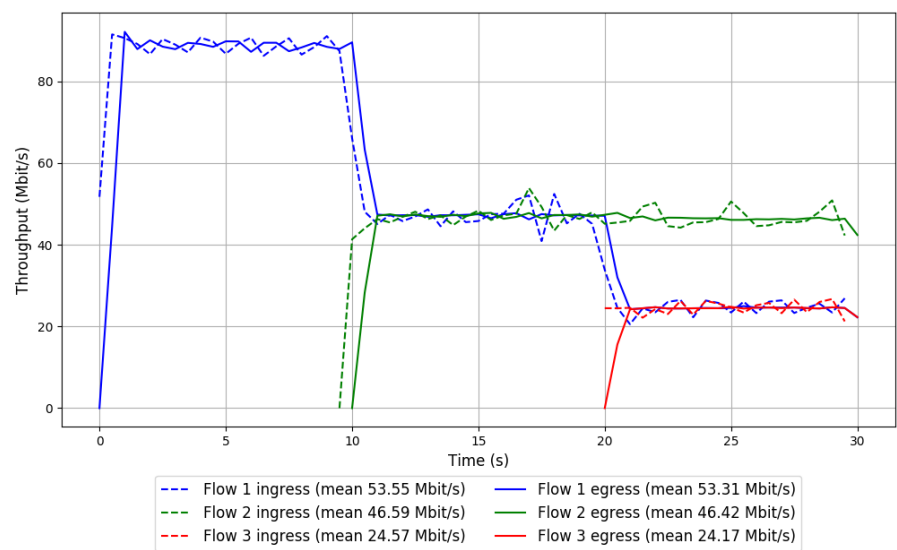


Run 2: Statistics of TaoVA-100x

Start at: 2019-02-05 19:00:16  
End at: 2019-02-05 19:00:46  
Local clock offset: -0.319 ms  
Remote clock offset: -6.928 ms

# Below is generated by plot.py at 2019-02-05 20:36:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.21 Mbit/s  
95th percentile per-packet one-way delay: 119.882 ms  
Loss rate: 0.72%  
-- Flow 1:  
Average throughput: 53.31 Mbit/s  
95th percentile per-packet one-way delay: 112.699 ms  
Loss rate: 0.49%  
-- Flow 2:  
Average throughput: 46.42 Mbit/s  
95th percentile per-packet one-way delay: 114.967 ms  
Loss rate: 0.70%  
-- Flow 3:  
Average throughput: 24.17 Mbit/s  
95th percentile per-packet one-way delay: 181.659 ms  
Loss rate: 2.28%

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

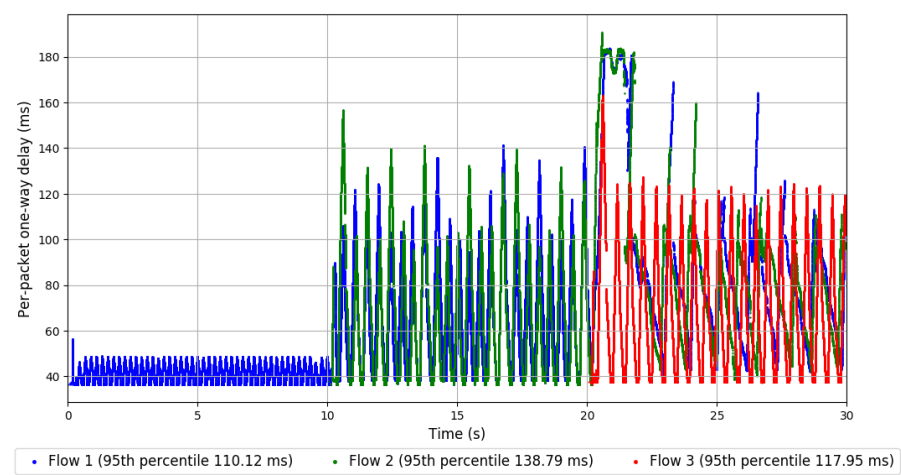
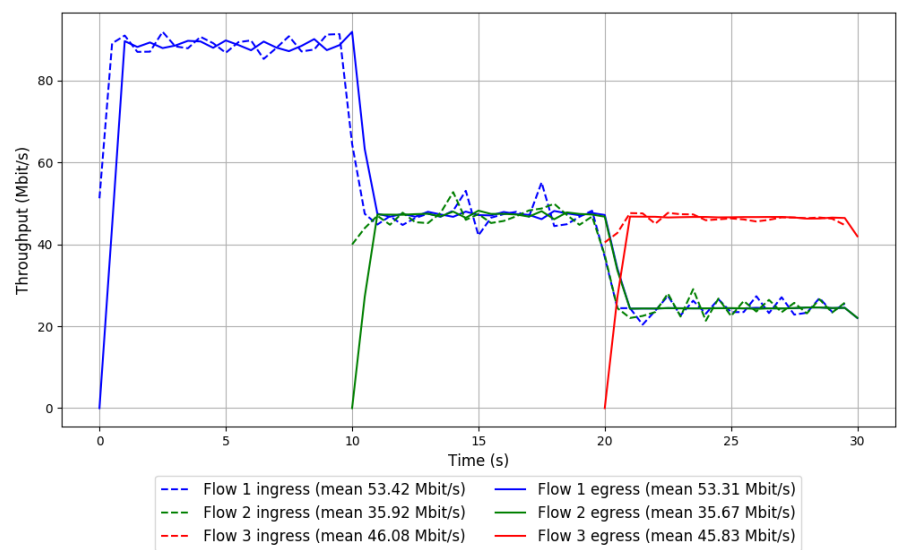


Run 3: Statistics of TaoVA-100x

Start at: 2019-02-05 19:26:18  
End at: 2019-02-05 19:26:48  
Local clock offset: -0.113 ms  
Remote clock offset: -3.737 ms

# Below is generated by plot.py at 2019-02-05 20:36:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.22 Mbit/s  
95th percentile per-packet one-way delay: 119.626 ms  
Loss rate: 0.70%  
-- Flow 1:  
Average throughput: 53.31 Mbit/s  
95th percentile per-packet one-way delay: 110.124 ms  
Loss rate: 0.42%  
-- Flow 2:  
Average throughput: 35.67 Mbit/s  
95th percentile per-packet one-way delay: 138.788 ms  
Loss rate: 1.02%  
-- Flow 3:  
Average throughput: 45.83 Mbit/s  
95th percentile per-packet one-way delay: 117.952 ms  
Loss rate: 1.19%

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

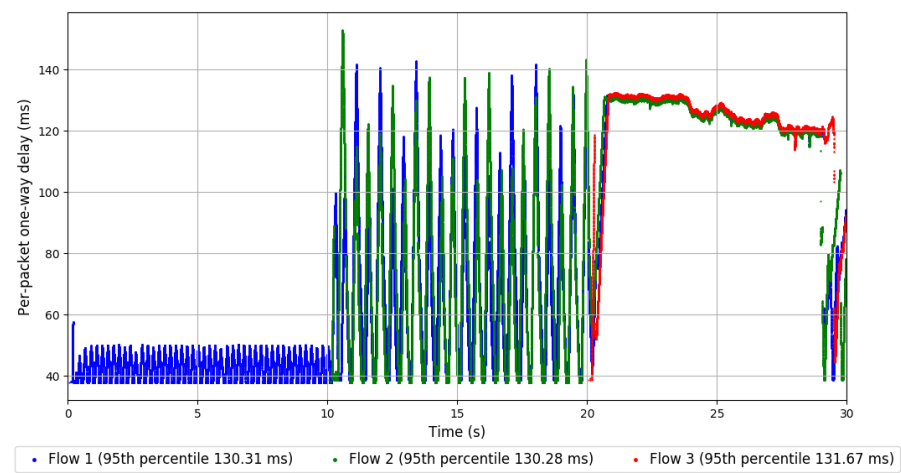
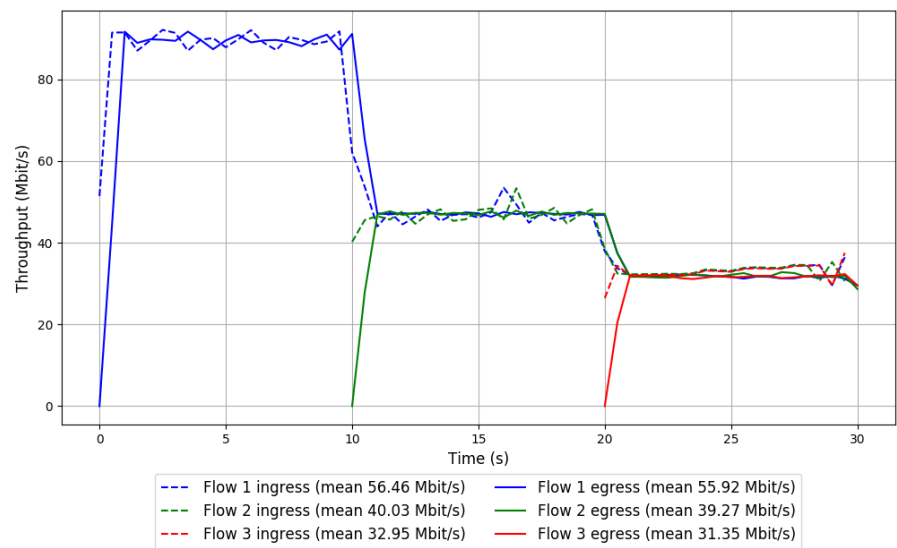


Run 4: Statistics of TaoVA-100x

Start at: 2019-02-05 19:52:32  
End at: 2019-02-05 19:53:02  
Local clock offset: 0.061 ms  
Remote clock offset: -4.294 ms

# Below is generated by plot.py at 2019-02-05 20:36:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.45 Mbit/s  
95th percentile per-packet one-way delay: 130.812 ms  
Loss rate: 1.96%  
-- Flow 1:  
Average throughput: 55.92 Mbit/s  
95th percentile per-packet one-way delay: 130.307 ms  
Loss rate: 1.17%  
-- Flow 2:  
Average throughput: 39.27 Mbit/s  
95th percentile per-packet one-way delay: 130.281 ms  
Loss rate: 2.20%  
-- Flow 3:  
Average throughput: 31.35 Mbit/s  
95th percentile per-packet one-way delay: 131.666 ms  
Loss rate: 5.47%

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

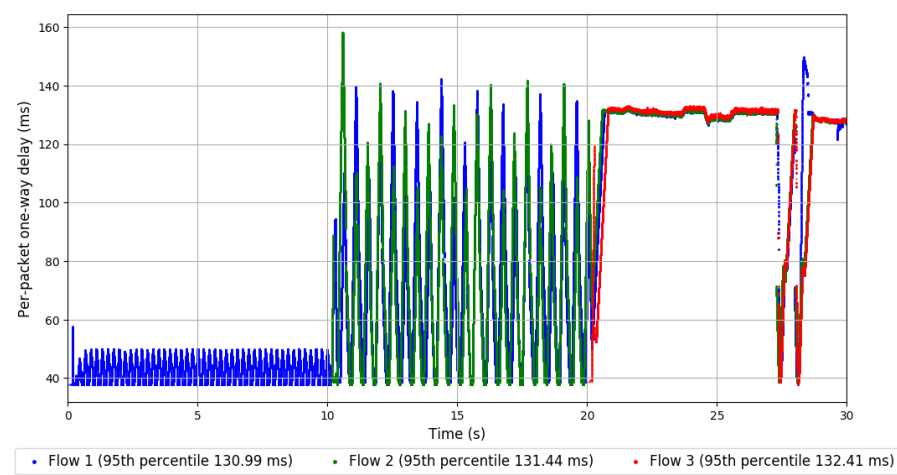
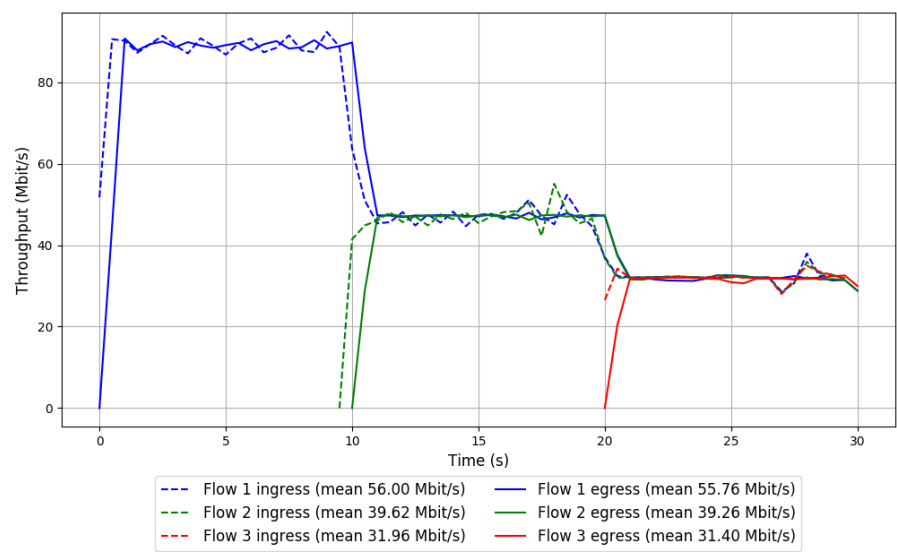


Run 5: Statistics of TaoVA-100x

Start at: 2019-02-05 20:18:36  
End at: 2019-02-05 20:19:06  
Local clock offset: 0.151 ms  
Remote clock offset: -3.771 ms

# Below is generated by plot.py at 2019-02-05 20:36:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.31 Mbit/s  
95th percentile per-packet one-way delay: 131.612 ms  
Loss rate: 1.00%  
-- Flow 1:  
Average throughput: 55.76 Mbit/s  
95th percentile per-packet one-way delay: 130.993 ms  
Loss rate: 0.63%  
-- Flow 2:  
Average throughput: 39.26 Mbit/s  
95th percentile per-packet one-way delay: 131.440 ms  
Loss rate: 1.23%  
-- Flow 3:  
Average throughput: 31.40 Mbit/s  
95th percentile per-packet one-way delay: 132.407 ms  
Loss rate: 2.38%

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

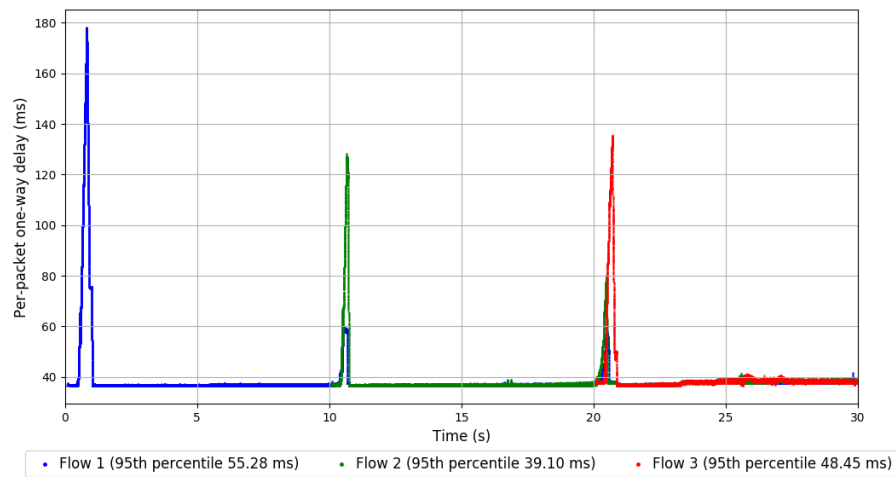
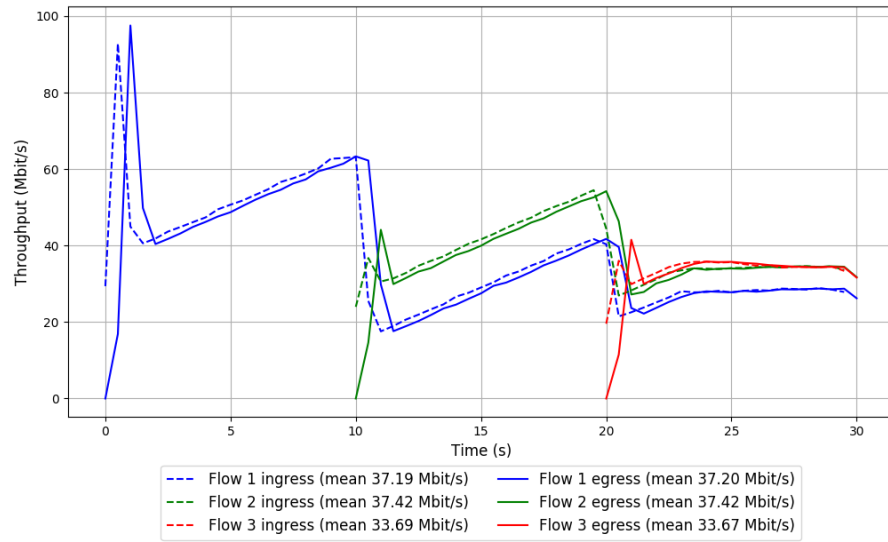


Run 1: Statistics of TCP Vegas

Start at: 2019-02-05 18:28:19  
End at: 2019-02-05 18:28:49  
Local clock offset: 0.497 ms  
Remote clock offset: -6.633 ms

# Below is generated by plot.py at 2019-02-05 20:36:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.26 Mbit/s  
95th percentile per-packet one-way delay: 44.608 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 37.20 Mbit/s  
95th percentile per-packet one-way delay: 55.283 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 37.42 Mbit/s  
95th percentile per-packet one-way delay: 39.100 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 33.67 Mbit/s  
95th percentile per-packet one-way delay: 48.447 ms  
Loss rate: 0.69%

## Run 1: Report of TCP Vegas — Data Link

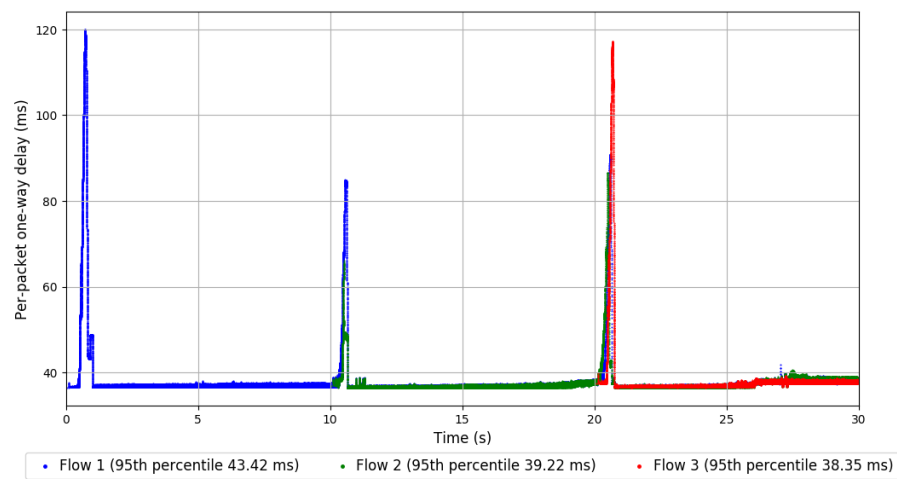
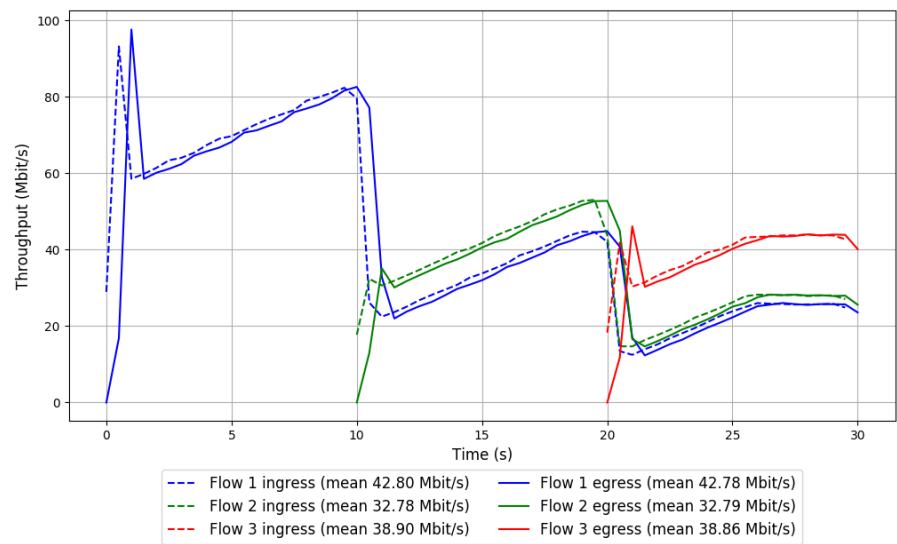


Run 2: Statistics of TCP Vegas

Start at: 2019-02-05 18:54:04  
End at: 2019-02-05 18:54:34  
Local clock offset: -0.389 ms  
Remote clock offset: -5.224 ms

# Below is generated by plot.py at 2019-02-05 20:36:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.45 Mbit/s  
95th percentile per-packet one-way delay: 39.885 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 42.78 Mbit/s  
95th percentile per-packet one-way delay: 43.418 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 32.79 Mbit/s  
95th percentile per-packet one-way delay: 39.218 ms  
Loss rate: 0.29%  
-- Flow 3:  
Average throughput: 38.86 Mbit/s  
95th percentile per-packet one-way delay: 38.354 ms  
Loss rate: 0.75%

Run 2: Report of TCP Vegas — Data Link

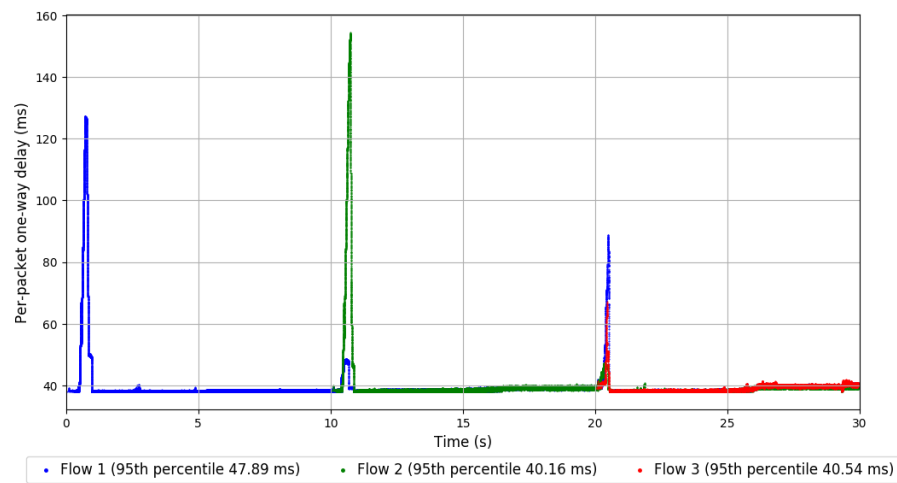
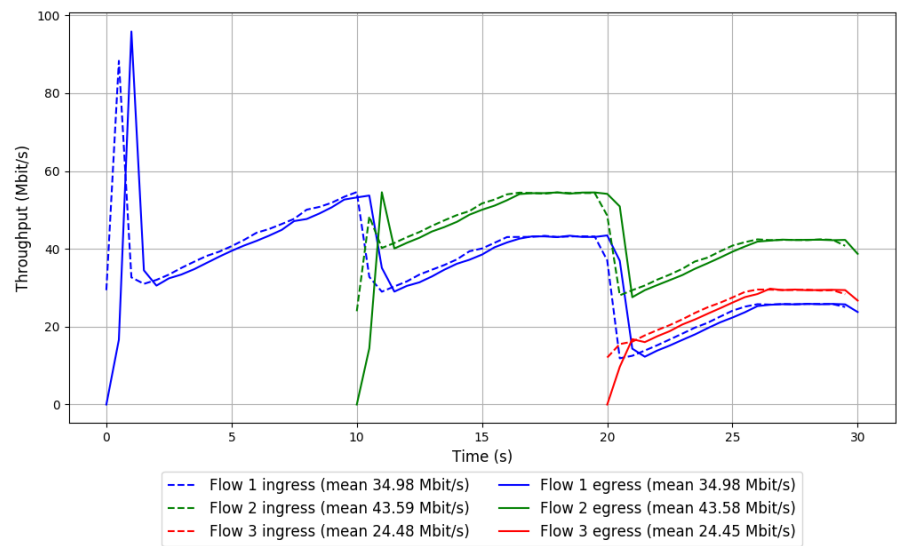


Run 3: Statistics of TCP Vegas

Start at: 2019-02-05 19:19:43  
End at: 2019-02-05 19:20:13  
Local clock offset: -0.294 ms  
Remote clock offset: -5.596 ms

# Below is generated by plot.py at 2019-02-05 20:36:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 72.09 Mbit/s  
95th percentile per-packet one-way delay: 42.066 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 34.98 Mbit/s  
95th percentile per-packet one-way delay: 47.887 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 43.58 Mbit/s  
95th percentile per-packet one-way delay: 40.161 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 24.45 Mbit/s  
95th percentile per-packet one-way delay: 40.544 ms  
Loss rate: 0.79%

Run 3: Report of TCP Vegas — Data Link

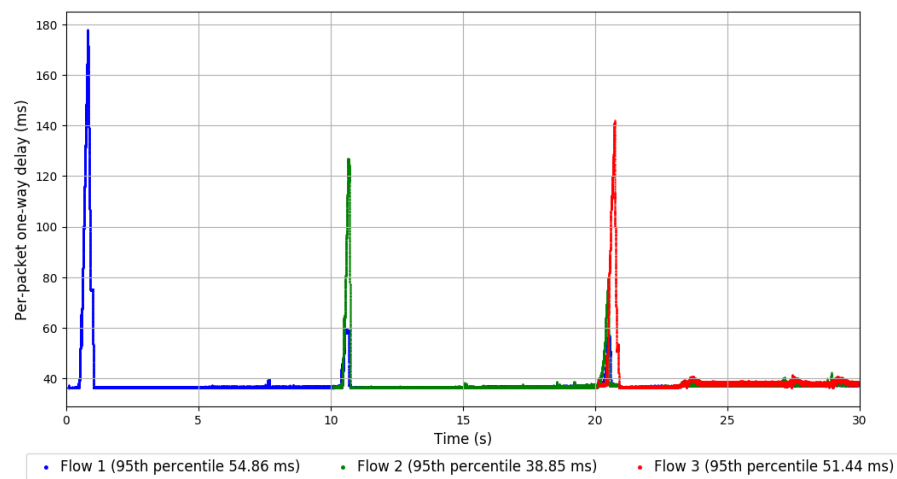
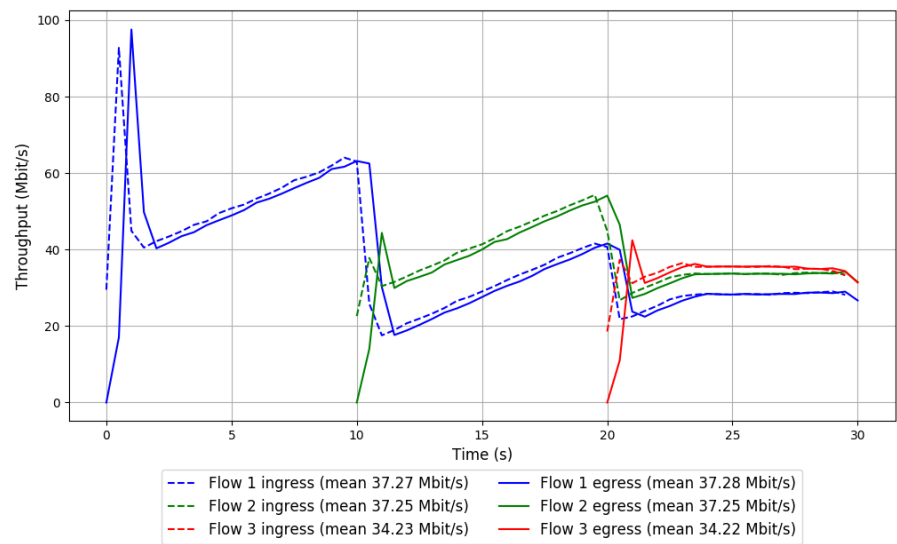


Run 4: Statistics of TCP Vegas

Start at: 2019-02-05 19:46:09  
End at: 2019-02-05 19:46:39  
Local clock offset: -0.183 ms  
Remote clock offset: -2.826 ms

# Below is generated by plot.py at 2019-02-05 20:36:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.40 Mbit/s  
95th percentile per-packet one-way delay: 44.631 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 37.28 Mbit/s  
95th percentile per-packet one-way delay: 54.861 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 37.25 Mbit/s  
95th percentile per-packet one-way delay: 38.855 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 34.22 Mbit/s  
95th percentile per-packet one-way delay: 51.441 ms  
Loss rate: 0.69%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-02-05 20:12:15

End at: 2019-02-05 20:12:45

Local clock offset: 0.142 ms

Remote clock offset: -1.77 ms

# Below is generated by plot.py at 2019-02-05 20:36:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 73.27 Mbit/s

95th percentile per-packet one-way delay: 38.599 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 37.05 Mbit/s

95th percentile per-packet one-way delay: 51.914 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 37.59 Mbit/s

95th percentile per-packet one-way delay: 38.214 ms

Loss rate: 0.31%

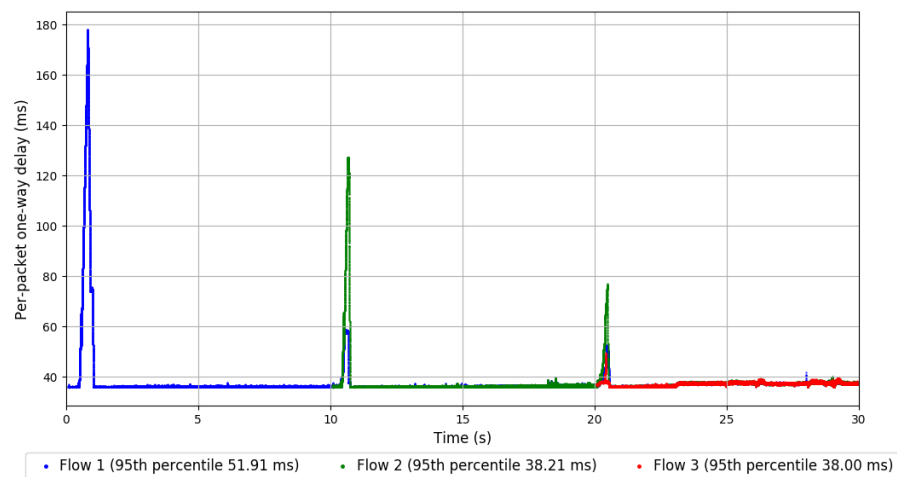
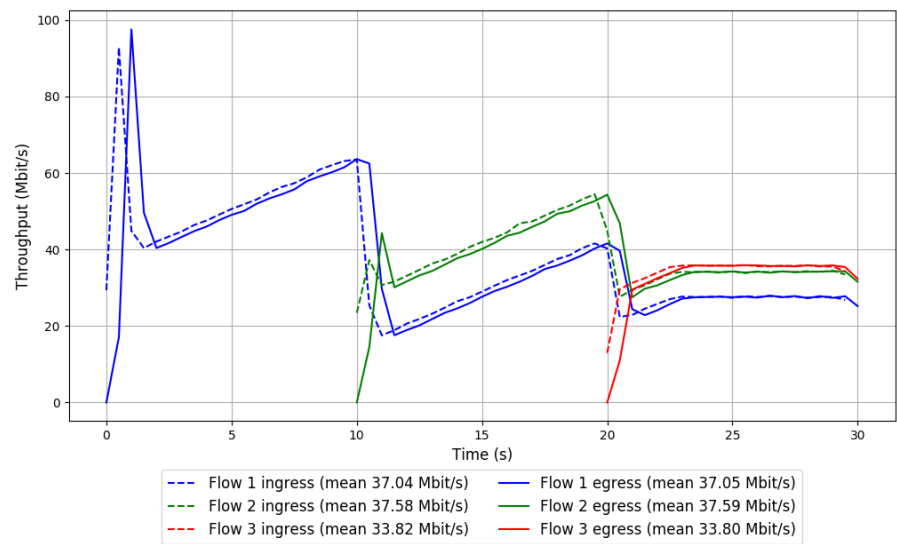
-- Flow 3:

Average throughput: 33.80 Mbit/s

95th percentile per-packet one-way delay: 37.997 ms

Loss rate: 0.69%

Run 5: Report of TCP Vegas — Data Link

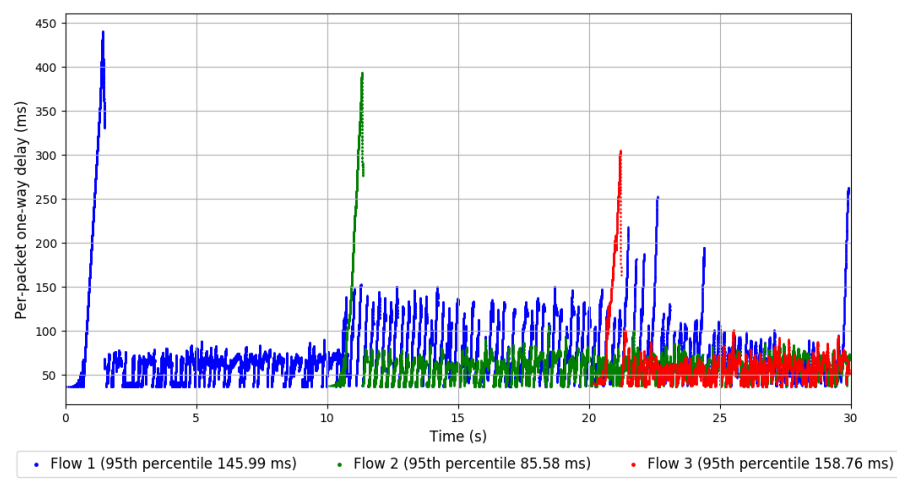
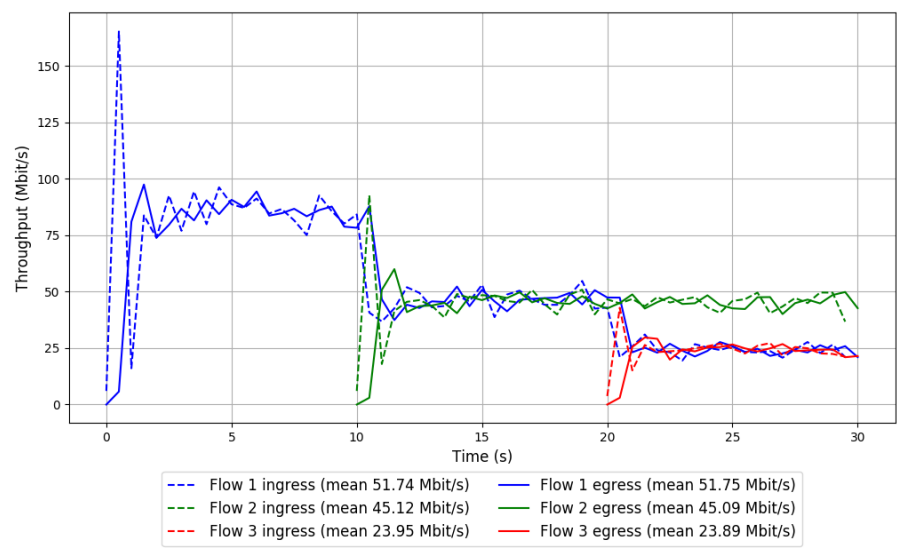


Run 1: Statistics of Verus

Start at: 2019-02-05 18:23:19  
End at: 2019-02-05 18:23:49  
Local clock offset: 1.279 ms  
Remote clock offset: -6.557 ms

# Below is generated by plot.py at 2019-02-05 20:37:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 89.60 Mbit/s  
95th percentile per-packet one-way delay: 136.377 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 51.75 Mbit/s  
95th percentile per-packet one-way delay: 145.992 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 45.09 Mbit/s  
95th percentile per-packet one-way delay: 85.576 ms  
Loss rate: 0.23%  
-- Flow 3:  
Average throughput: 23.89 Mbit/s  
95th percentile per-packet one-way delay: 158.760 ms  
Loss rate: 0.89%

Run 1: Report of Verus — Data Link

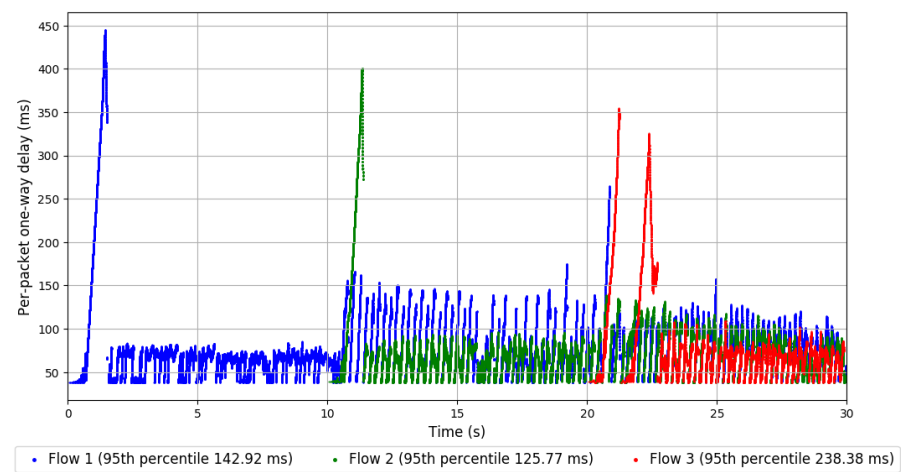
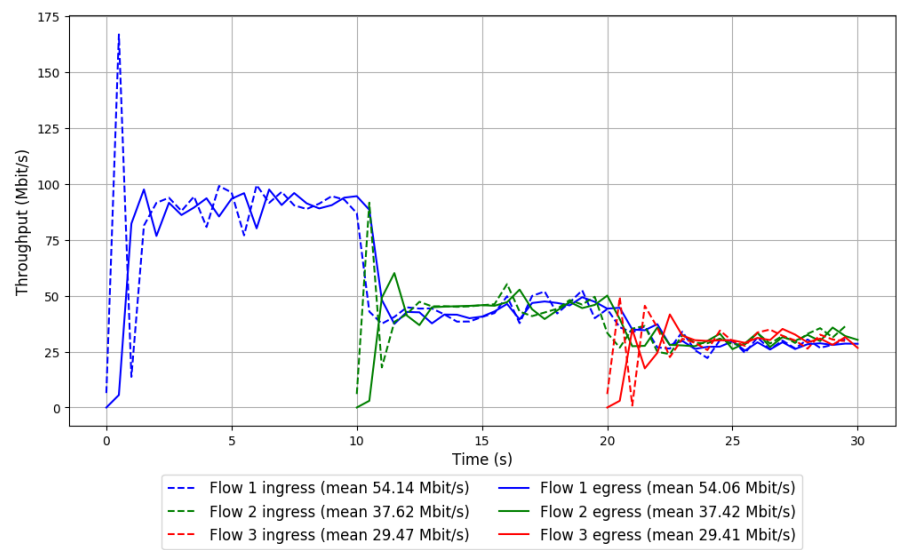


Run 2: Statistics of Verus

Start at: 2019-02-05 18:49:13  
End at: 2019-02-05 18:49:43  
Local clock offset: -0.574 ms  
Remote clock offset: -7.238 ms

# Below is generated by plot.py at 2019-02-05 20:37:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.61 Mbit/s  
95th percentile per-packet one-way delay: 156.587 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 54.06 Mbit/s  
95th percentile per-packet one-way delay: 142.919 ms  
Loss rate: 0.35%  
-- Flow 2:  
Average throughput: 37.42 Mbit/s  
95th percentile per-packet one-way delay: 125.774 ms  
Loss rate: 0.83%  
-- Flow 3:  
Average throughput: 29.41 Mbit/s  
95th percentile per-packet one-way delay: 238.382 ms  
Loss rate: 1.51%

Run 2: Report of Verus — Data Link

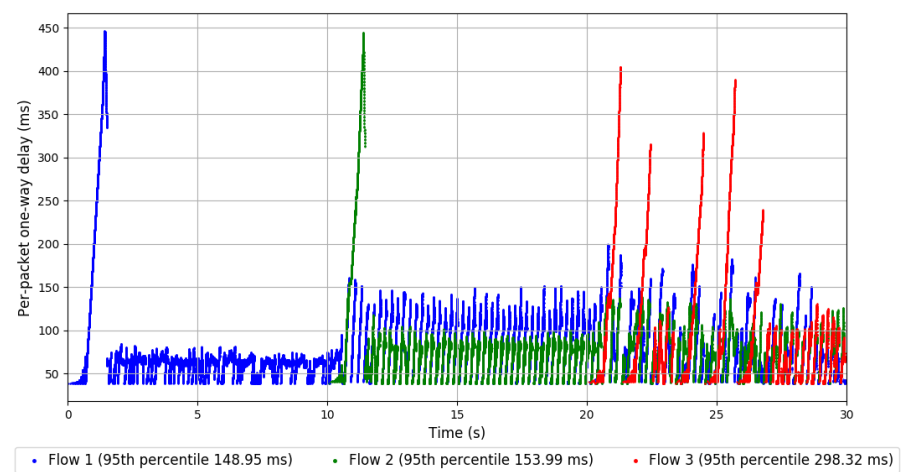
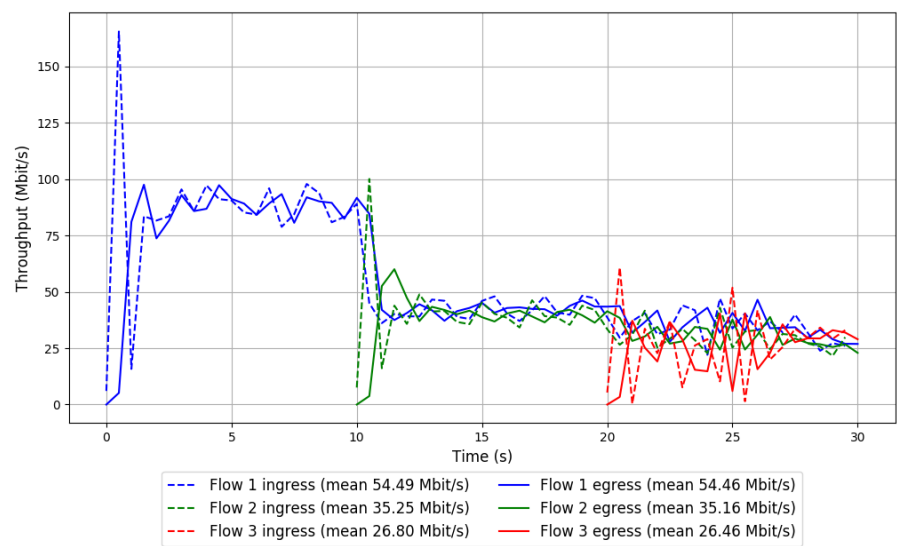


Run 3: Statistics of Verus

Start at: 2019-02-05 19:14:53  
End at: 2019-02-05 19:15:23  
Local clock offset: -0.497 ms  
Remote clock offset: -6.242 ms

# Below is generated by plot.py at 2019-02-05 20:37:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.53 Mbit/s  
95th percentile per-packet one-way delay: 189.946 ms  
Loss rate: 0.58%  
-- Flow 1:  
Average throughput: 54.46 Mbit/s  
95th percentile per-packet one-way delay: 148.953 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 35.16 Mbit/s  
95th percentile per-packet one-way delay: 153.991 ms  
Loss rate: 0.73%  
-- Flow 3:  
Average throughput: 26.46 Mbit/s  
95th percentile per-packet one-way delay: 298.316 ms  
Loss rate: 2.11%

Run 3: Report of Verus — Data Link

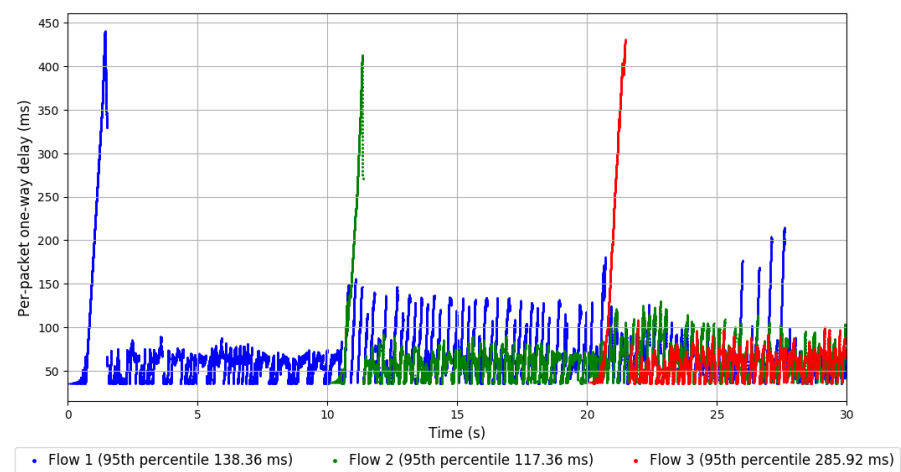
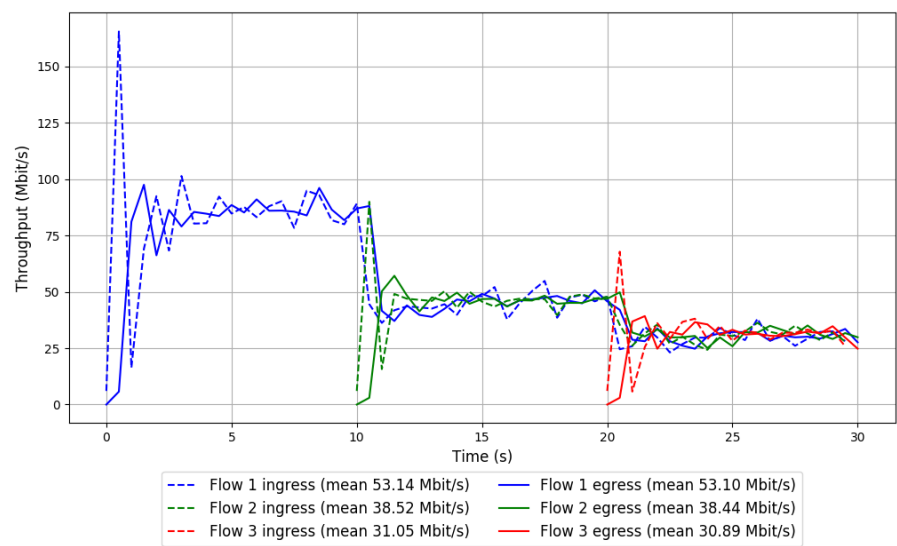


Run 4: Statistics of Verus

Start at: 2019-02-05 19:41:05  
End at: 2019-02-05 19:41:35  
Local clock offset: -0.129 ms  
Remote clock offset: -2.298 ms

# Below is generated by plot.py at 2019-02-05 20:37:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.89 Mbit/s  
95th percentile per-packet one-way delay: 138.534 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 53.10 Mbit/s  
95th percentile per-packet one-way delay: 138.362 ms  
Loss rate: 0.28%  
-- Flow 2:  
Average throughput: 38.44 Mbit/s  
95th percentile per-packet one-way delay: 117.359 ms  
Loss rate: 0.30%  
-- Flow 3:  
Average throughput: 30.89 Mbit/s  
95th percentile per-packet one-way delay: 285.915 ms  
Loss rate: 1.13%

Run 4: Report of Verus — Data Link

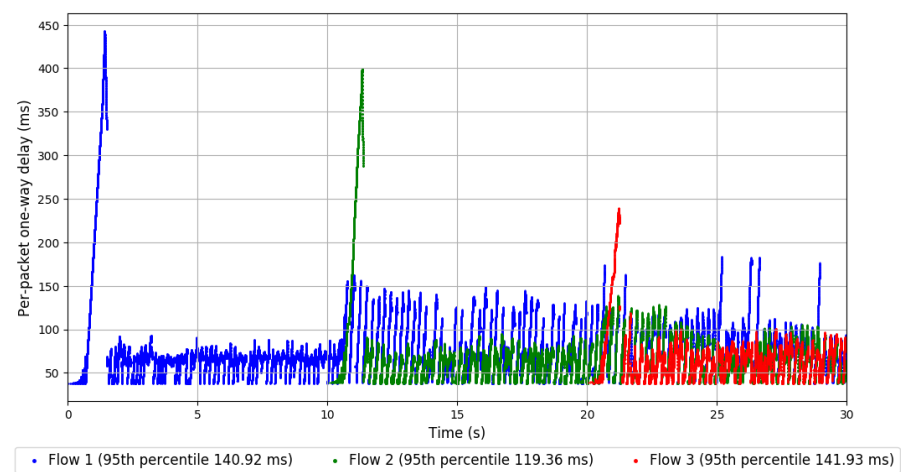
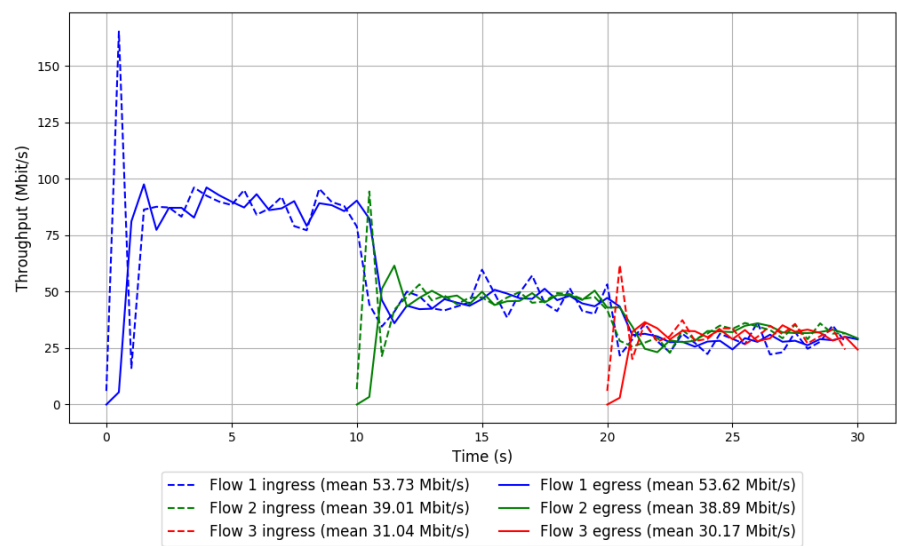


Run 5: Statistics of Verus

Start at: 2019-02-05 20:07:23  
End at: 2019-02-05 20:07:53  
Local clock offset: 0.174 ms  
Remote clock offset: -4.121 ms

# Below is generated by plot.py at 2019-02-05 20:37:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 89.47 Mbit/s  
95th percentile per-packet one-way delay: 136.648 ms  
Loss rate: 0.74%  
-- Flow 1:  
Average throughput: 53.62 Mbit/s  
95th percentile per-packet one-way delay: 140.923 ms  
Loss rate: 0.29%  
-- Flow 2:  
Average throughput: 38.89 Mbit/s  
95th percentile per-packet one-way delay: 119.356 ms  
Loss rate: 0.61%  
-- Flow 3:  
Average throughput: 30.17 Mbit/s  
95th percentile per-packet one-way delay: 141.933 ms  
Loss rate: 3.40%

Run 5: Report of Verus — Data Link

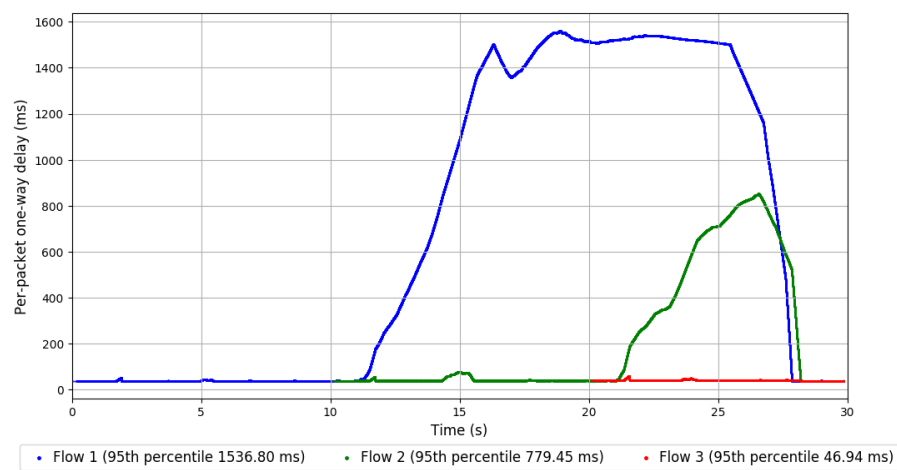
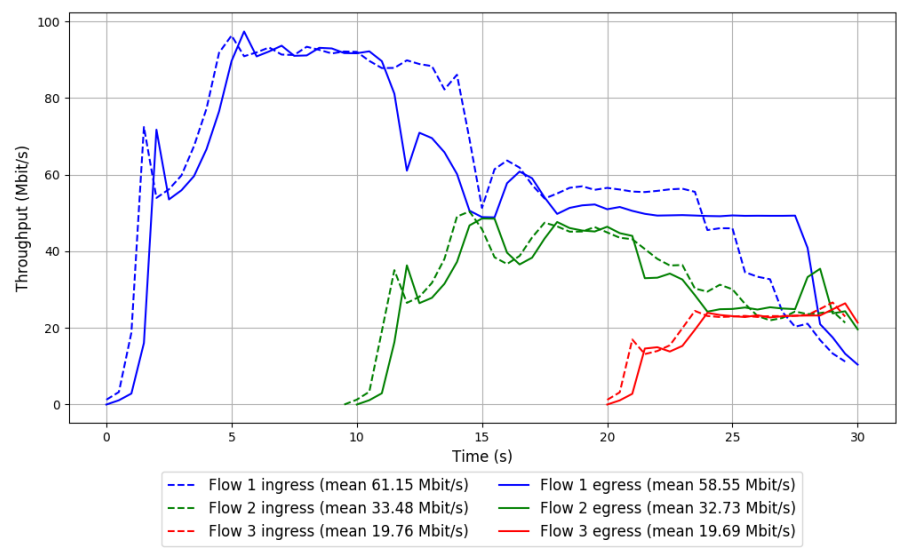


Run 1: Statistics of PCC-Vivace

Start at: 2019-02-05 18:29:32  
End at: 2019-02-05 18:30:02  
Local clock offset: 0.383 ms  
Remote clock offset: -8.693 ms

# Below is generated by plot.py at 2019-02-05 20:37:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.79 Mbit/s  
95th percentile per-packet one-way delay: 1530.053 ms  
Loss rate: 3.73%  
-- Flow 1:  
Average throughput: 58.55 Mbit/s  
95th percentile per-packet one-way delay: 1536.802 ms  
Loss rate: 4.45%  
-- Flow 2:  
Average throughput: 32.73 Mbit/s  
95th percentile per-packet one-way delay: 779.445 ms  
Loss rate: 2.53%  
-- Flow 3:  
Average throughput: 19.69 Mbit/s  
95th percentile per-packet one-way delay: 46.937 ms  
Loss rate: 0.99%

Run 1: Report of PCC-Vivace — Data Link

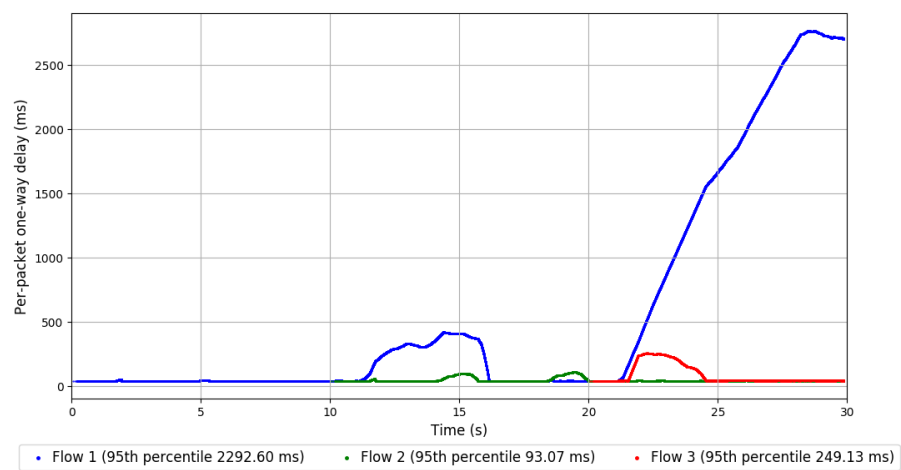
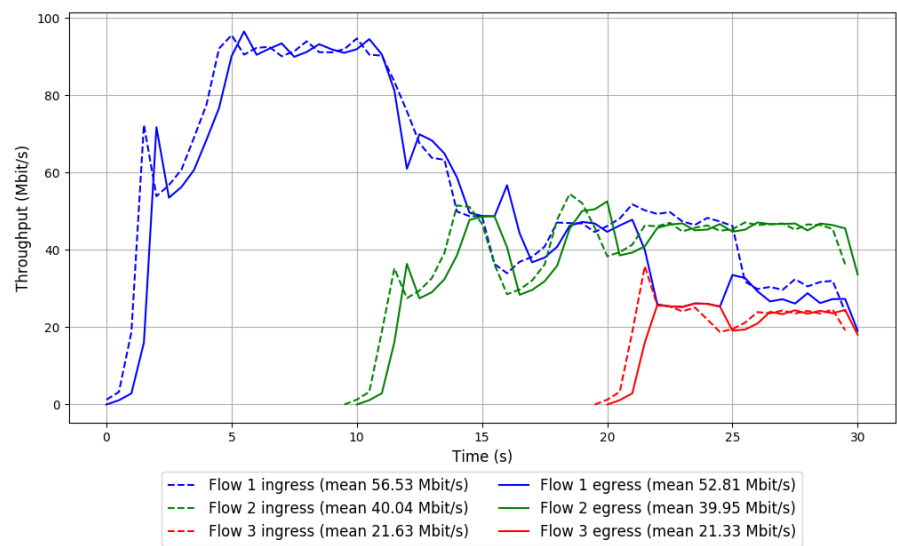


Run 2: Statistics of PCC-Vivace

Start at: 2019-02-05 18:55:17  
End at: 2019-02-05 18:55:47  
Local clock offset: -0.363 ms  
Remote clock offset: -7.039 ms

# Below is generated by plot.py at 2019-02-05 20:38:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.39 Mbit/s  
95th percentile per-packet one-way delay: 1699.890 ms  
Loss rate: 4.56%  
-- Flow 1:  
Average throughput: 52.81 Mbit/s  
95th percentile per-packet one-way delay: 2292.598 ms  
Loss rate: 6.78%  
-- Flow 2:  
Average throughput: 39.95 Mbit/s  
95th percentile per-packet one-way delay: 93.066 ms  
Loss rate: 0.55%  
-- Flow 3:  
Average throughput: 21.33 Mbit/s  
95th percentile per-packet one-way delay: 249.130 ms  
Loss rate: 1.99%

Run 2: Report of PCC-Vivace — Data Link

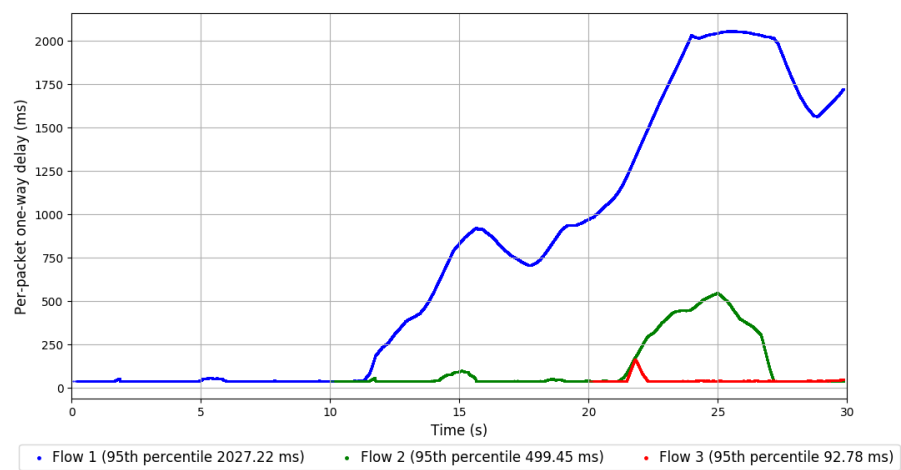
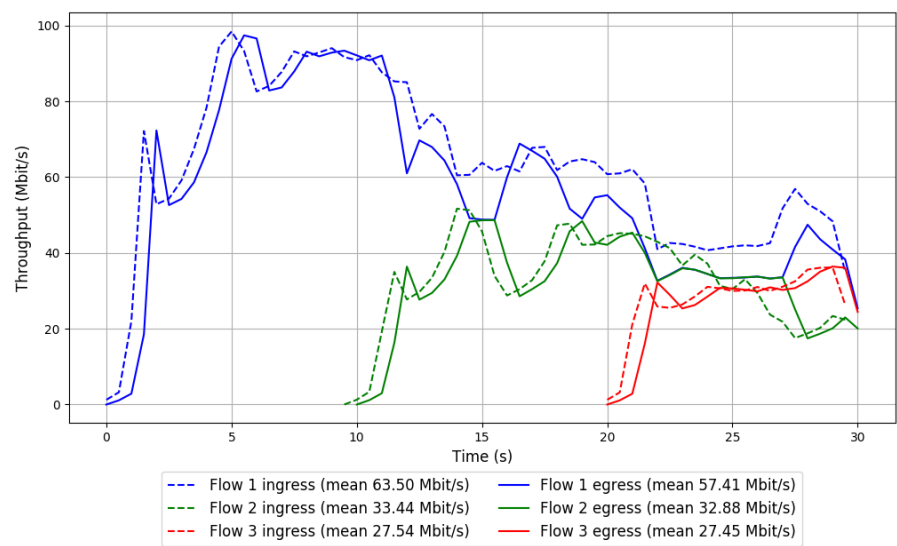


Run 3: Statistics of PCC-Vivace

Start at: 2019-02-05 19:20:56  
End at: 2019-02-05 19:21:26  
Local clock offset: -0.26 ms  
Remote clock offset: -5.619 ms

# Below is generated by plot.py at 2019-02-05 20:38:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.31 Mbit/s  
95th percentile per-packet one-way delay: 1921.972 ms  
Loss rate: 7.11%  
-- Flow 1:  
Average throughput: 57.41 Mbit/s  
95th percentile per-packet one-way delay: 2027.223 ms  
Loss rate: 9.79%  
-- Flow 2:  
Average throughput: 32.88 Mbit/s  
95th percentile per-packet one-way delay: 499.450 ms  
Loss rate: 1.97%  
-- Flow 3:  
Average throughput: 27.45 Mbit/s  
95th percentile per-packet one-way delay: 92.779 ms  
Loss rate: 0.96%

Run 3: Report of PCC-Vivace — Data Link

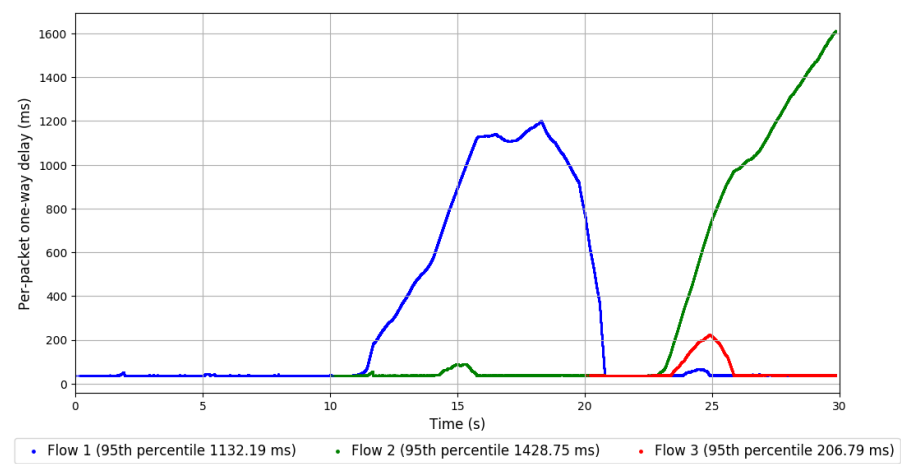
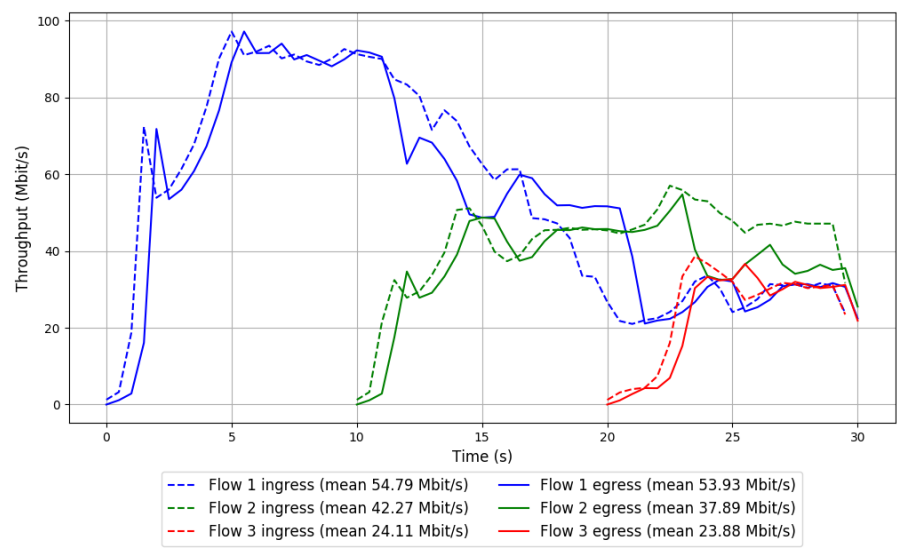


Run 4: Statistics of PCC-Vivace

Start at: 2019-02-05 19:47:23  
End at: 2019-02-05 19:47:53  
Local clock offset: -0.116 ms  
Remote clock offset: -4.304 ms

# Below is generated by plot.py at 2019-02-05 20:38:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.96 Mbit/s  
95th percentile per-packet one-way delay: 1152.426 ms  
Loss rate: 4.51%  
-- Flow 1:  
Average throughput: 53.93 Mbit/s  
95th percentile per-packet one-way delay: 1132.194 ms  
Loss rate: 1.77%  
-- Flow 2:  
Average throughput: 37.89 Mbit/s  
95th percentile per-packet one-way delay: 1428.752 ms  
Loss rate: 10.68%  
-- Flow 3:  
Average throughput: 23.88 Mbit/s  
95th percentile per-packet one-way delay: 206.786 ms  
Loss rate: 1.60%

Run 4: Report of PCC-Vivace — Data Link

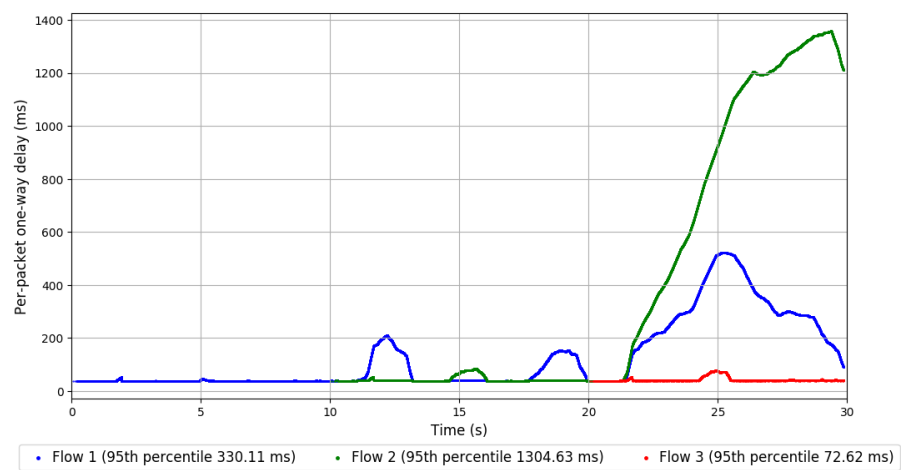
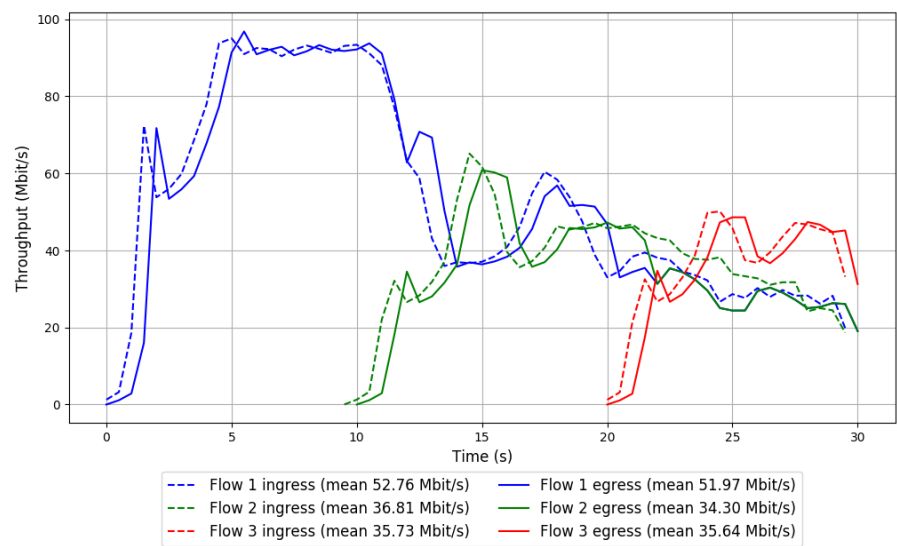


Run 5: Statistics of PCC-Vivace

Start at: 2019-02-05 20:13:27  
End at: 2019-02-05 20:13:57  
Local clock offset: 0.143 ms  
Remote clock offset: -4.096 ms

# Below is generated by plot.py at 2019-02-05 20:38:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.49 Mbit/s  
95th percentile per-packet one-way delay: 928.221 ms  
Loss rate: 3.08%  
-- Flow 1:  
Average throughput: 51.97 Mbit/s  
95th percentile per-packet one-way delay: 330.107 ms  
Loss rate: 1.69%  
-- Flow 2:  
Average throughput: 34.30 Mbit/s  
95th percentile per-packet one-way delay: 1304.629 ms  
Loss rate: 7.12%  
-- Flow 3:  
Average throughput: 35.64 Mbit/s  
95th percentile per-packet one-way delay: 72.619 ms  
Loss rate: 0.91%

Run 5: Report of PCC-Vivace — Data Link

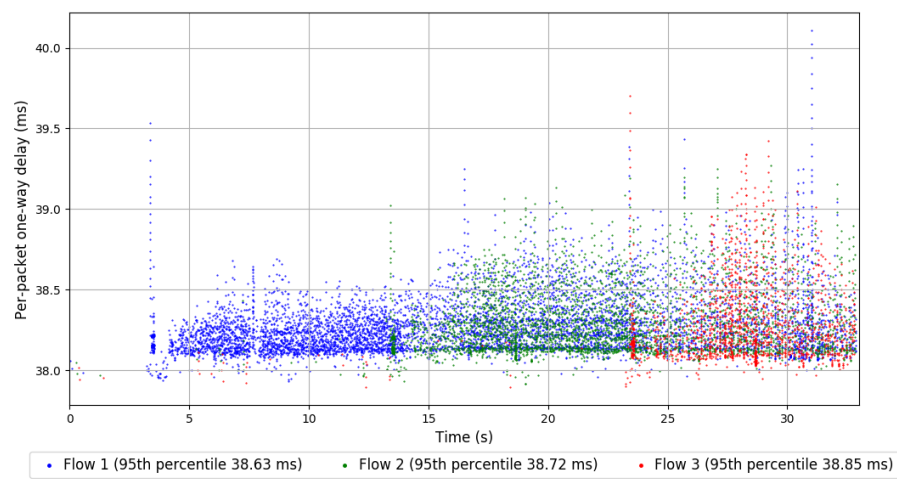
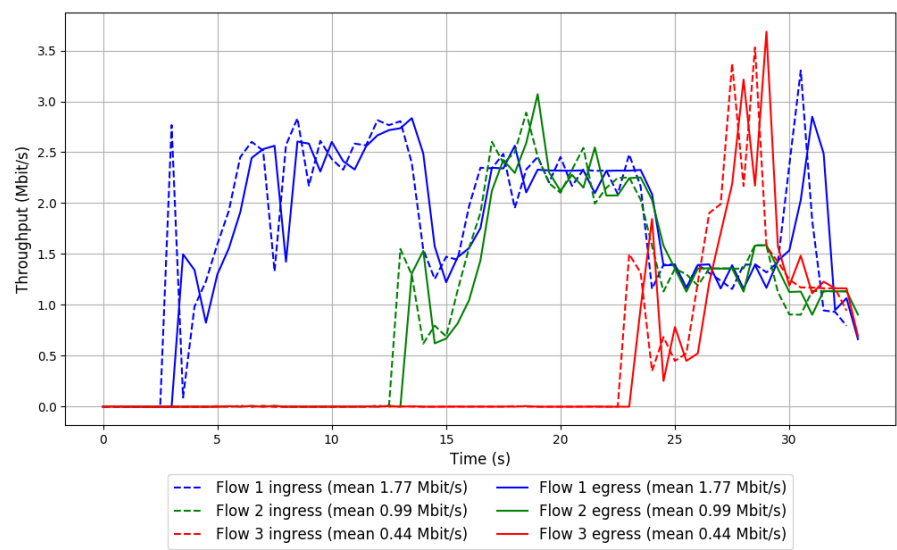


Run 1: Statistics of WebRTC media

Start at: 2019-02-05 18:13:37  
End at: 2019-02-05 18:14:07  
Local clock offset: 3.452 ms  
Remote clock offset: -8.781 ms

# Below is generated by plot.py at 2019-02-05 20:38:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.20 Mbit/s  
95th percentile per-packet one-way delay: 38.695 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 1.77 Mbit/s  
95th percentile per-packet one-way delay: 38.634 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 0.99 Mbit/s  
95th percentile per-packet one-way delay: 38.721 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 38.850 ms  
Loss rate: 0.87%

Run 1: Report of WebRTC media — Data Link

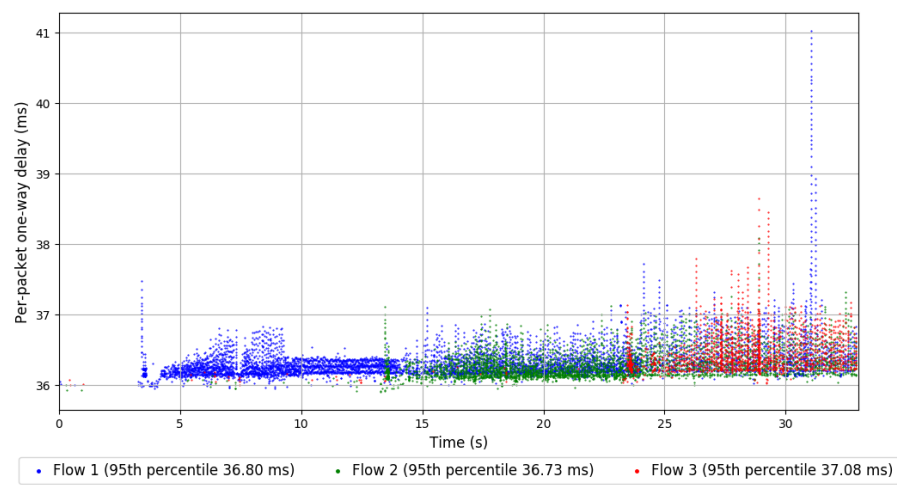
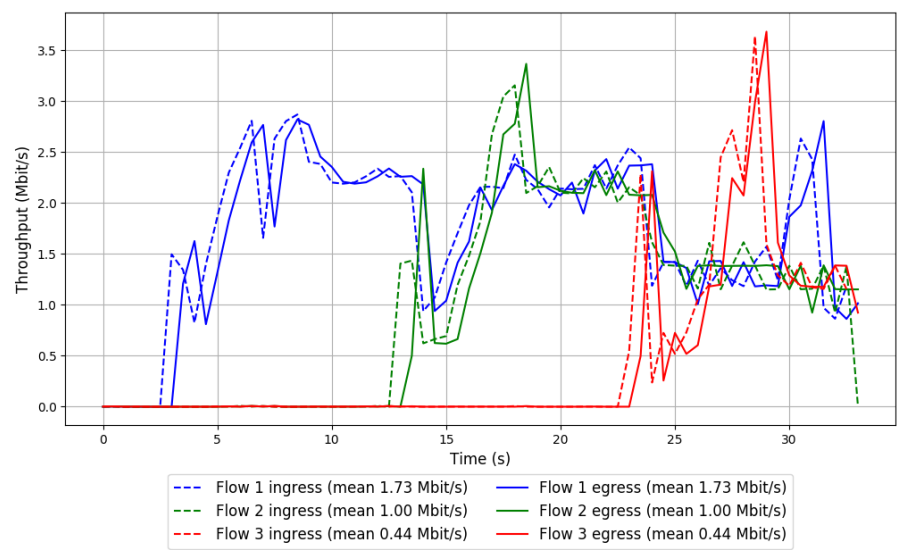


Run 2: Statistics of WebRTC media

Start at: 2019-02-05 18:39:29  
End at: 2019-02-05 18:39:59  
Local clock offset: -0.475 ms  
Remote clock offset: -5.524 ms

# Below is generated by plot.py at 2019-02-05 20:38:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.16 Mbit/s  
95th percentile per-packet one-way delay: 36.836 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 1.73 Mbit/s  
95th percentile per-packet one-way delay: 36.795 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 1.00 Mbit/s  
95th percentile per-packet one-way delay: 36.732 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 37.076 ms  
Loss rate: 0.80%

Run 2: Report of WebRTC media — Data Link

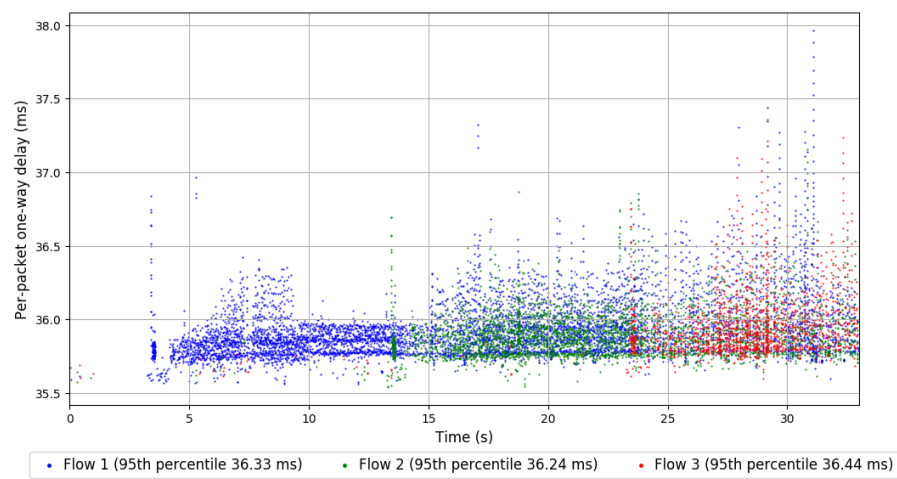
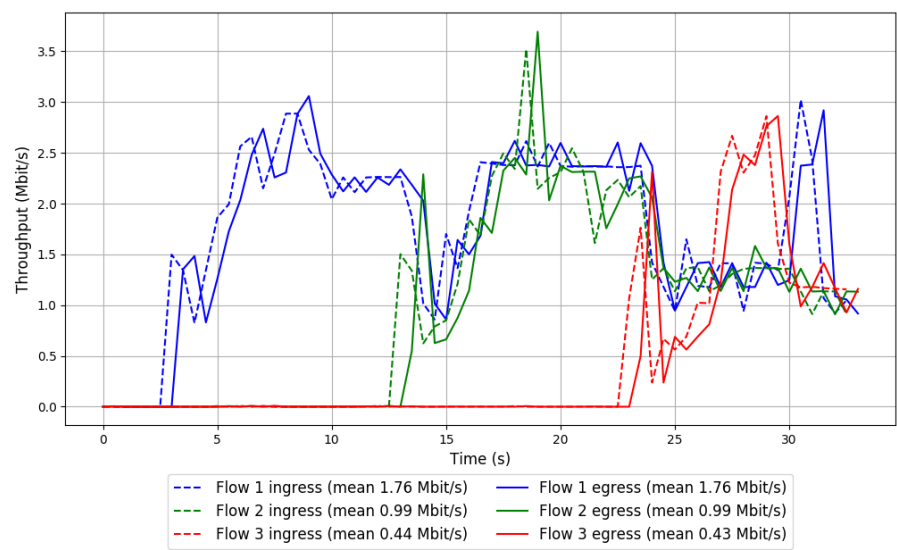


Run 3: Statistics of WebRTC media

Start at: 2019-02-05 19:05:11  
End at: 2019-02-05 19:05:41  
Local clock offset: -0.331 ms  
Remote clock offset: -3.801 ms

# Below is generated by plot.py at 2019-02-05 20:38:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.16 Mbit/s  
95th percentile per-packet one-way delay: 36.319 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 1.76 Mbit/s  
95th percentile per-packet one-way delay: 36.329 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 0.99 Mbit/s  
95th percentile per-packet one-way delay: 36.236 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 36.439 ms  
Loss rate: 0.81%

Run 3: Report of WebRTC media — Data Link

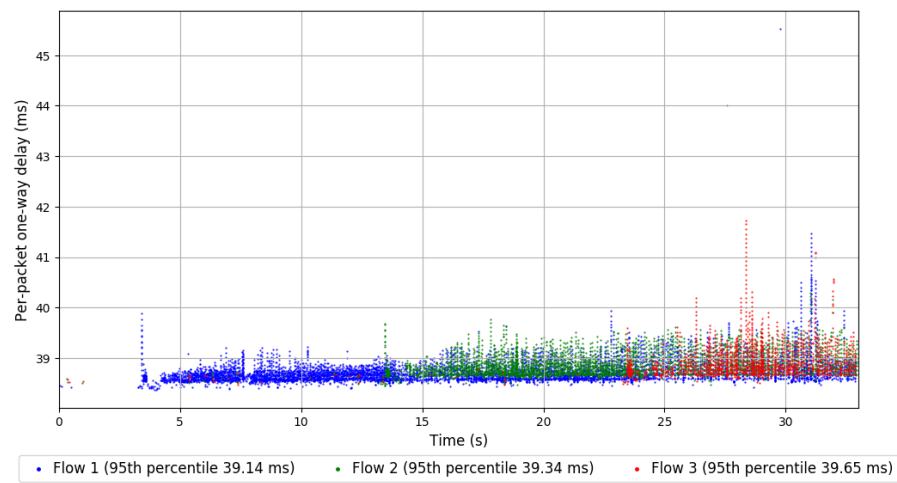
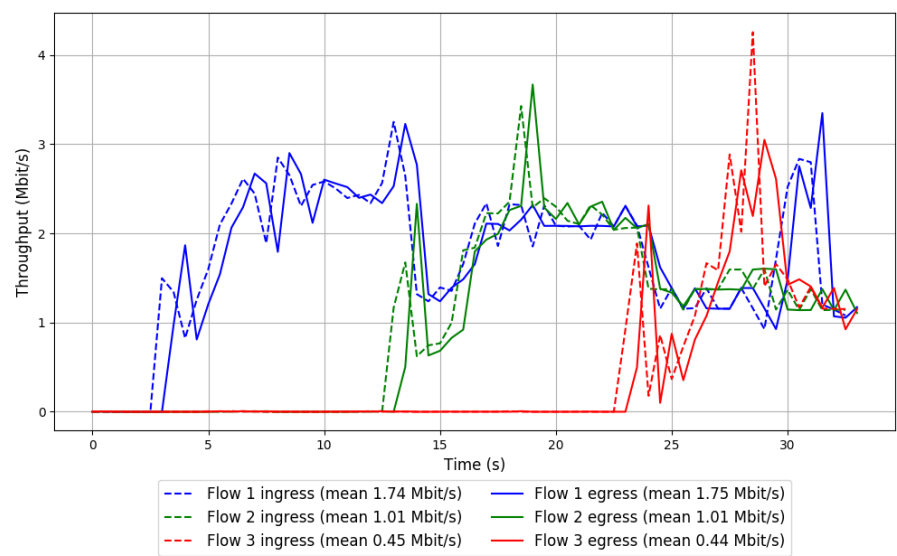


Run 4: Statistics of WebRTC media

Start at: 2019-02-05 19:31:18  
End at: 2019-02-05 19:31:48  
Local clock offset: -0.094 ms  
Remote clock offset: -5.608 ms

# Below is generated by plot.py at 2019-02-05 20:38:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.18 Mbit/s  
95th percentile per-packet one-way delay: 39.317 ms  
Loss rate: 0.19%  
-- Flow 1:  
Average throughput: 1.75 Mbit/s  
95th percentile per-packet one-way delay: 39.144 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 1.01 Mbit/s  
95th percentile per-packet one-way delay: 39.338 ms  
Loss rate: 0.06%  
-- Flow 3:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 39.645 ms  
Loss rate: 0.79%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-02-05 19:57:38

End at: 2019-02-05 19:58:08

Local clock offset: 0.162 ms

Remote clock offset: -4.83 ms

# Below is generated by plot.py at 2019-02-05 20:38:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.06 Mbit/s

95th percentile per-packet one-way delay: 39.079 ms

Loss rate: 0.18%

-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 39.009 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 39.151 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 39.114 ms

Loss rate: 0.87%

Run 5: Report of WebRTC media — Data Link

