

## Pantheon Report

Generated at 2019-02-05 09:34:13 (UTC).

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

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 `gps.ntp.br` and have been applied to correct the timestamps in logs.

### System info:

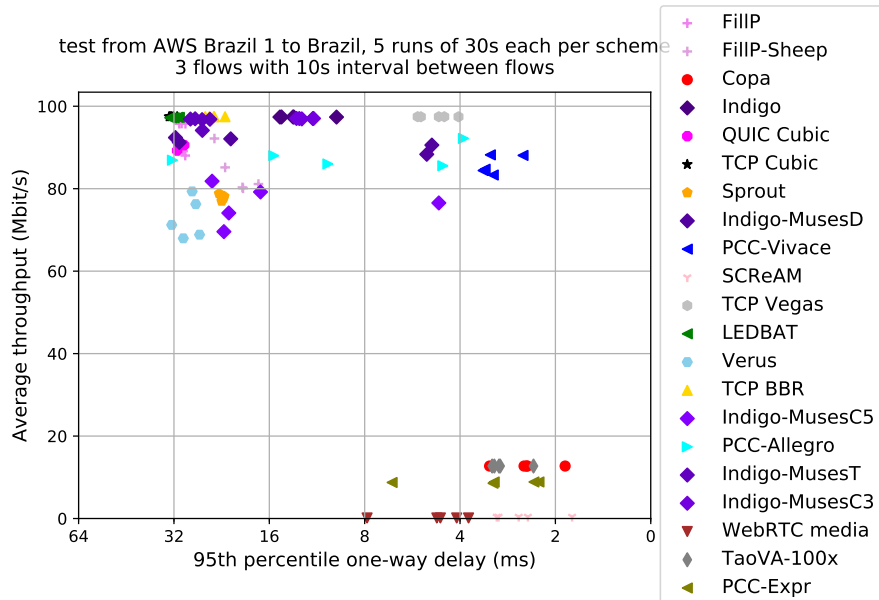
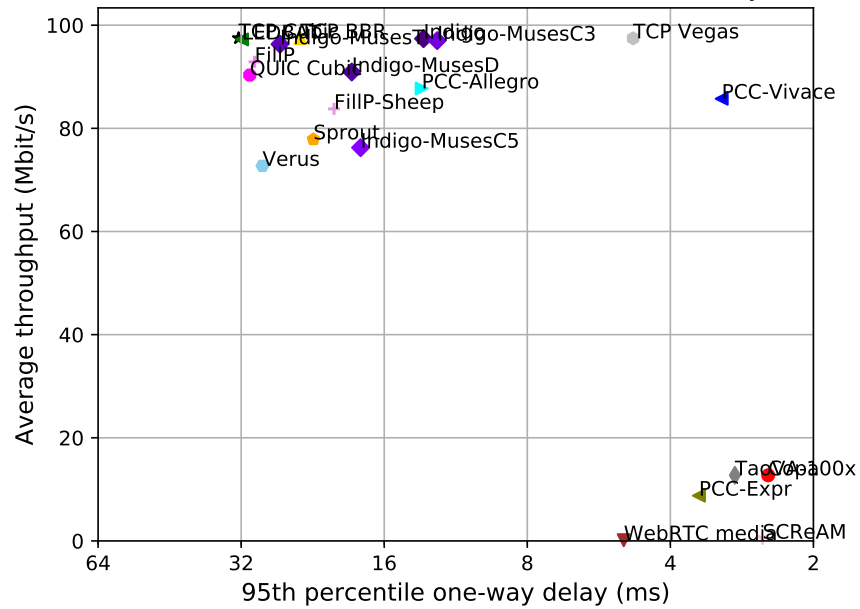
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
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 AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme  
3 flows with 10s interval between flows (mean of all runs by scheme)



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	66.06	25.07	44.18	23.78	21.81	27.89	0.03	0.03	0.24
Copa	5	10.52	2.64	1.79	2.50	1.92	2.43	66.98	79.13	85.44
TCP Cubic	5	62.20	37.86	30.33	32.02	32.44	32.82	0.04	0.10	0.03
FillP	5	43.43	52.23	44.36	27.45	29.87	30.09	9.44	16.88	38.45
FillP-Sheep	5	45.61	36.02	42.84	15.91	21.21	23.34	0.87	1.01	3.23
Indigo	5	46.80	41.97	69.77	11.09	13.00	13.45	0.00	0.00	0.00
Indigo-MusesC3	5	53.81	50.93	33.19	11.43	13.40	7.50	0.00	0.00	0.00
Indigo-MusesC5	5	44.28	33.80	32.80	16.43	18.26	18.98	0.00	0.00	0.00
Indigo-MusesD	5	52.34	40.03	41.47	17.50	18.75	20.00	0.41	0.84	0.82
Indigo-MusesT	5	60.94	41.10	28.43	24.35	27.08	29.72	0.17	0.25	0.57
LEDBAT	5	63.77	36.49	27.66	31.79	31.66	31.69	0.03	0.08	0.14
PCC-Allegro	5	66.45	24.47	15.19	9.99	15.74	17.03	0.02	0.12	0.11
PCC-Expr	5	0.59	10.24	5.95	1.39	3.49	2.82	85.71	31.87	27.93
QUIC Cubic	5	56.87	36.13	28.70	30.65	30.27	31.02	0.16	0.19	0.25
SCReAM	5	0.22	0.22	0.22	2.27	1.69	1.69	0.00	0.00	0.00
Sprout	5	41.23	40.20	29.92	21.44	21.63	25.21	0.00	0.00	0.00
TaoVA-100x	5	7.99	6.59	3.88	2.36	3.07	2.53	84.56	87.50	84.02
TCP Vegas	5	51.16	42.10	54.86	5.13	4.19	4.67	0.00	0.00	0.00
Verus	5	40.53	36.49	23.87	26.47	27.86	31.75	5.64	6.61	15.68
PCC-Vivace	5	52.46	36.35	27.58	2.42	3.67	4.71	0.00	0.00	0.00
WebRTC media	5	0.05	0.05	0.05	5.43	4.13	4.16	0.01	0.01	0.00



Run 1: Statistics of TCP BBR

Start at: 2019-02-05 07:26:08

End at: 2019-02-05 07:26:38

Local clock offset: -3.827 ms

Remote clock offset: 0.039 ms

# Below is generated by plot.py at 2019-02-05 09:23:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 25.490 ms

Loss rate: 0.08%

-- Flow 1:

Average throughput: 73.67 Mbit/s

95th percentile per-packet one-way delay: 25.464 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 17.41 Mbit/s

95th percentile per-packet one-way delay: 24.372 ms

Loss rate: 0.01%

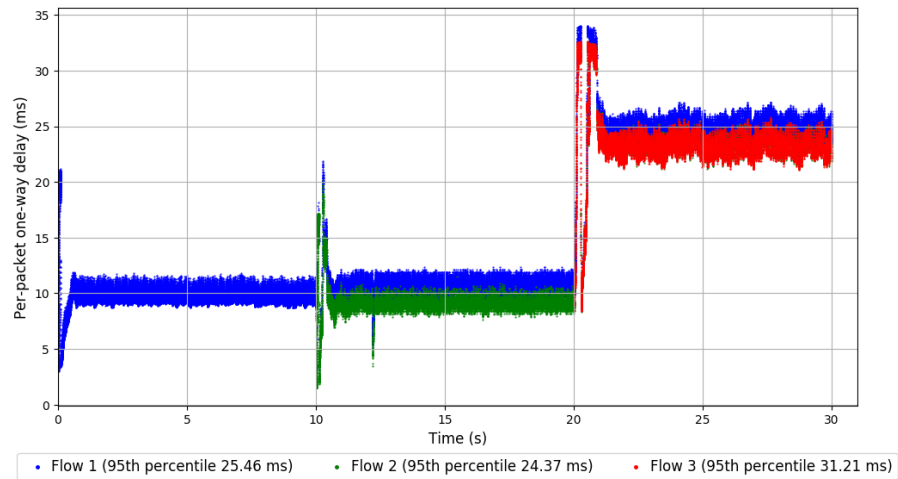
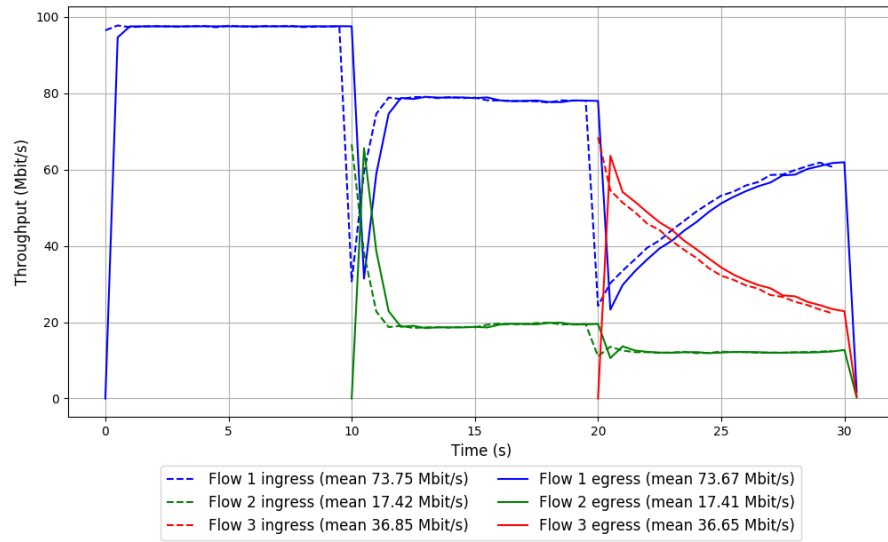
-- Flow 3:

Average throughput: 36.65 Mbit/s

95th percentile per-packet one-way delay: 31.211 ms

Loss rate: 0.38%

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

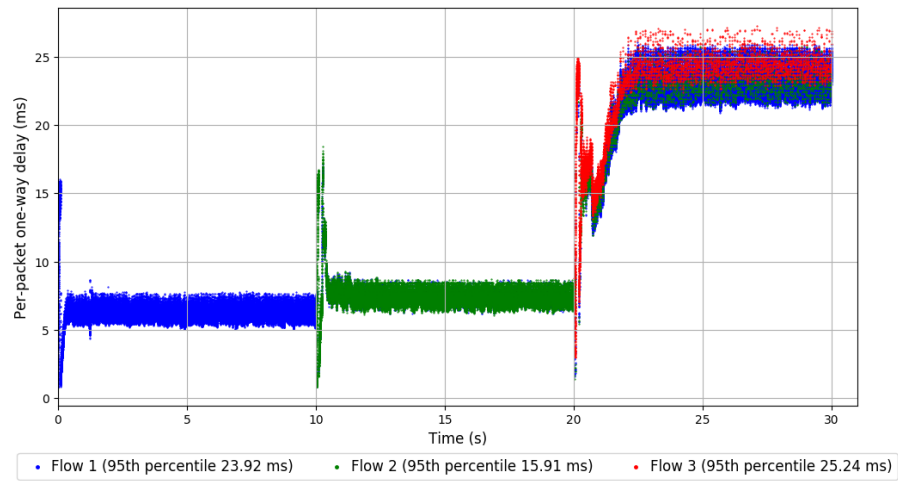
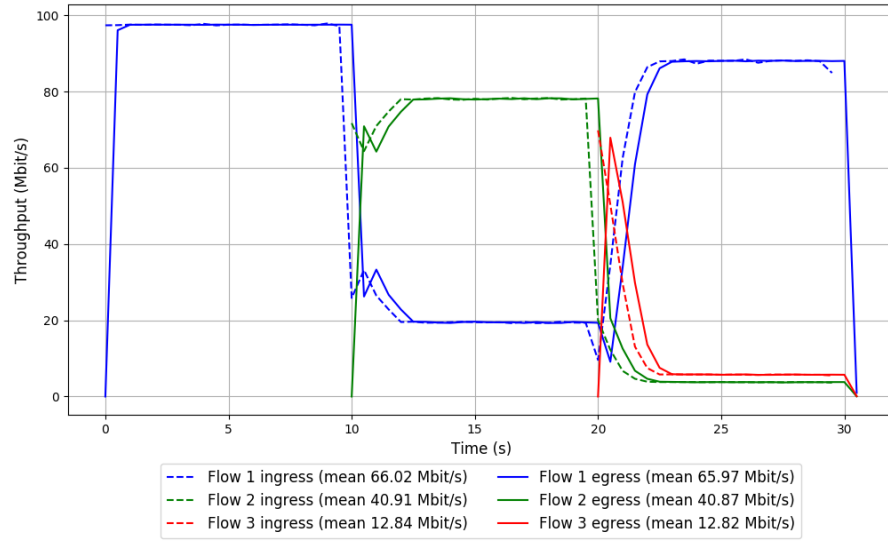


Run 2: Statistics of TCP BBR

Start at: 2019-02-05 07:50:04  
End at: 2019-02-05 07:50:34  
Local clock offset: -3.497 ms  
Remote clock offset: -0.012 ms

# Below is generated by plot.py at 2019-02-05 09:23:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.48 Mbit/s  
95th percentile per-packet one-way delay: 23.871 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 65.97 Mbit/s  
95th percentile per-packet one-way delay: 23.920 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 40.87 Mbit/s  
95th percentile per-packet one-way delay: 15.913 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 12.82 Mbit/s  
95th percentile per-packet one-way delay: 25.240 ms  
Loss rate: 0.00%

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



Run 3: Statistics of TCP BBR

Start at: 2019-02-05 08:13:59

End at: 2019-02-05 08:14:29

Local clock offset: -3.879 ms

Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-02-05 09:23:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 22.068 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 60.85 Mbit/s

95th percentile per-packet one-way delay: 21.619 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 29.78 Mbit/s

95th percentile per-packet one-way delay: 22.028 ms

Loss rate: 0.00%

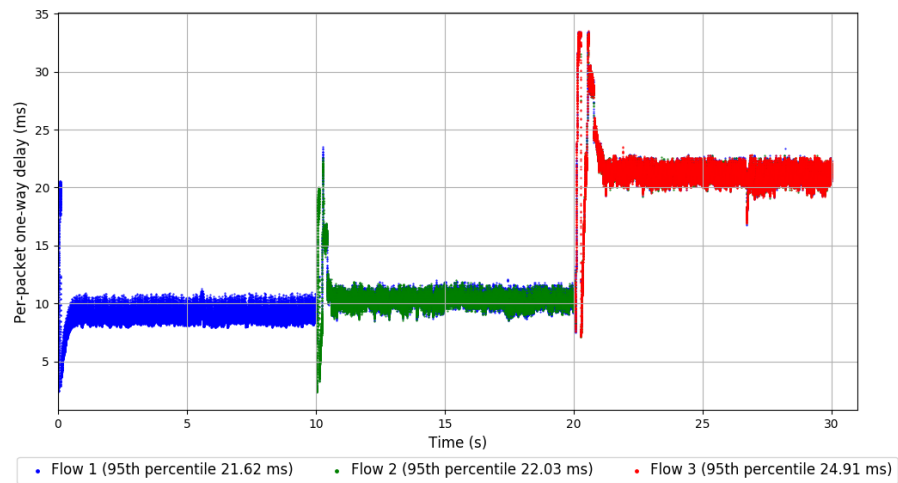
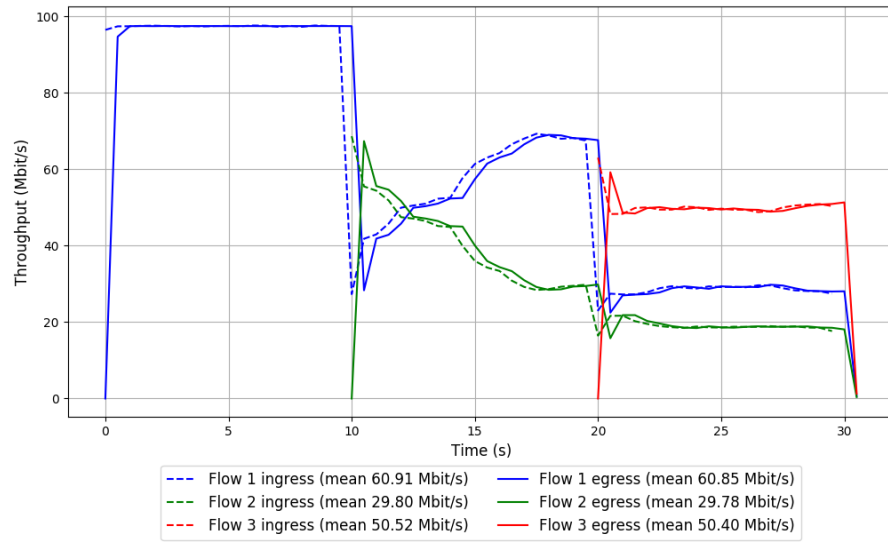
-- Flow 3:

Average throughput: 50.40 Mbit/s

95th percentile per-packet one-way delay: 24.908 ms

Loss rate: 0.12%

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



Run 4: Statistics of TCP BBR

Start at: 2019-02-05 08:37:54

End at: 2019-02-05 08:38:24

Local clock offset: -5.948 ms

Remote clock offset: 0.14 ms

# Below is generated by plot.py at 2019-02-05 09:23:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 24.727 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 64.78 Mbit/s

95th percentile per-packet one-way delay: 24.696 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 18.21 Mbit/s

95th percentile per-packet one-way delay: 24.021 ms

Loss rate: 0.06%

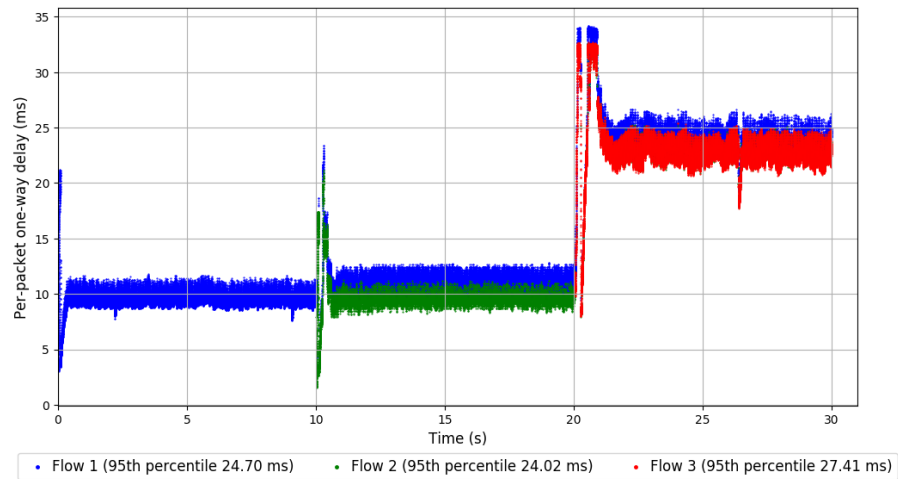
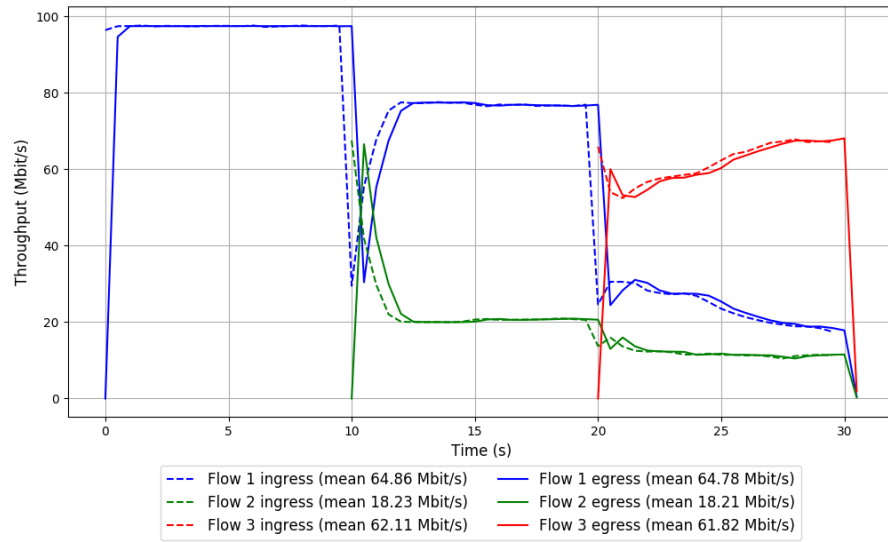
-- Flow 3:

Average throughput: 61.82 Mbit/s

95th percentile per-packet one-way delay: 27.406 ms

Loss rate: 0.33%

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





Run 5: Statistics of TCP BBR

Start at: 2019-02-05 09:01:50

End at: 2019-02-05 09:02:20

Local clock offset: -6.601 ms

Remote clock offset: 0.564 ms

# Below is generated by plot.py at 2019-02-05 09:23:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 23.941 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 65.04 Mbit/s

95th percentile per-packet one-way delay: 23.199 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 19.10 Mbit/s

95th percentile per-packet one-way delay: 22.724 ms

Loss rate: 0.09%

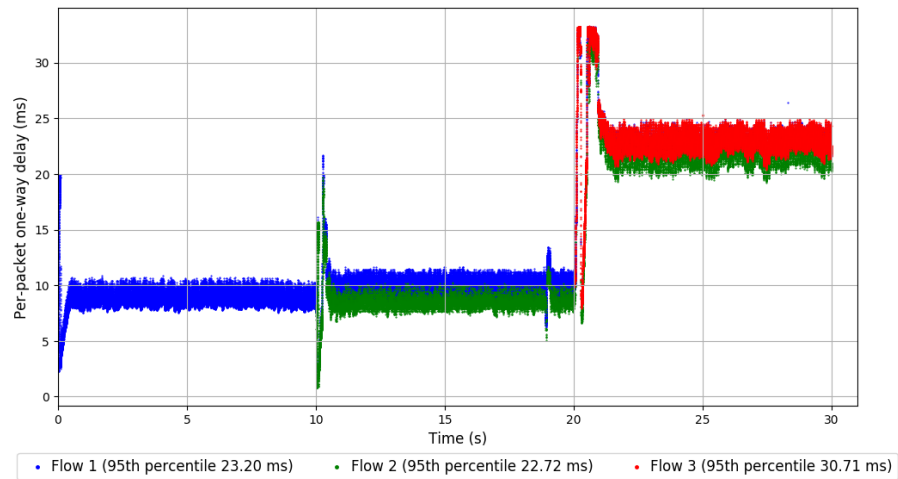
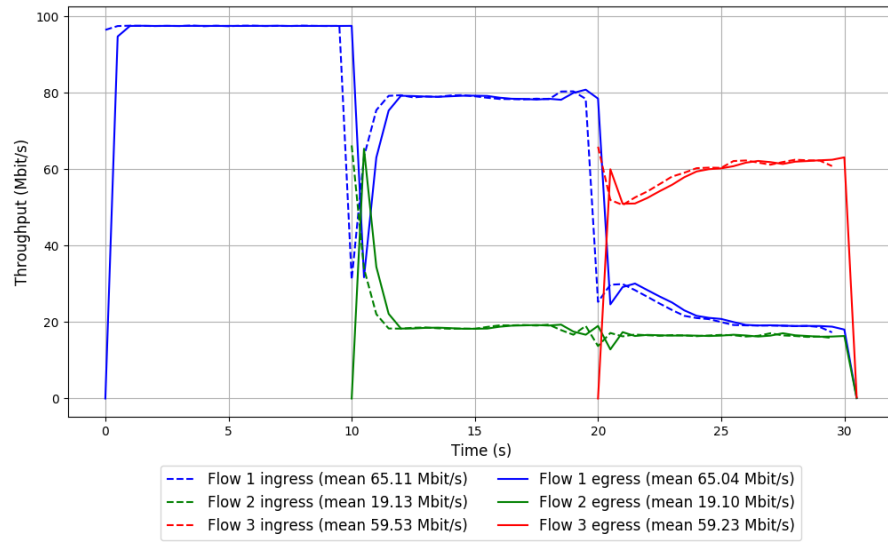
-- Flow 3:

Average throughput: 59.23 Mbit/s

95th percentile per-packet one-way delay: 30.709 ms

Loss rate: 0.36%

## Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-02-05 07:38:43

End at: 2019-02-05 07:39:13

Local clock offset: -4.126 ms

Remote clock offset: 0.017 ms

# Below is generated by plot.py at 2019-02-05 09:23:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 1.796 ms

Loss rate: 69.20%

-- Flow 1:

Average throughput: 11.86 Mbit/s

95th percentile per-packet one-way delay: 1.794 ms

Loss rate: 68.27%

-- Flow 2:

Average throughput: 1.41 Mbit/s

95th percentile per-packet one-way delay: 1.810 ms

Loss rate: 77.97%

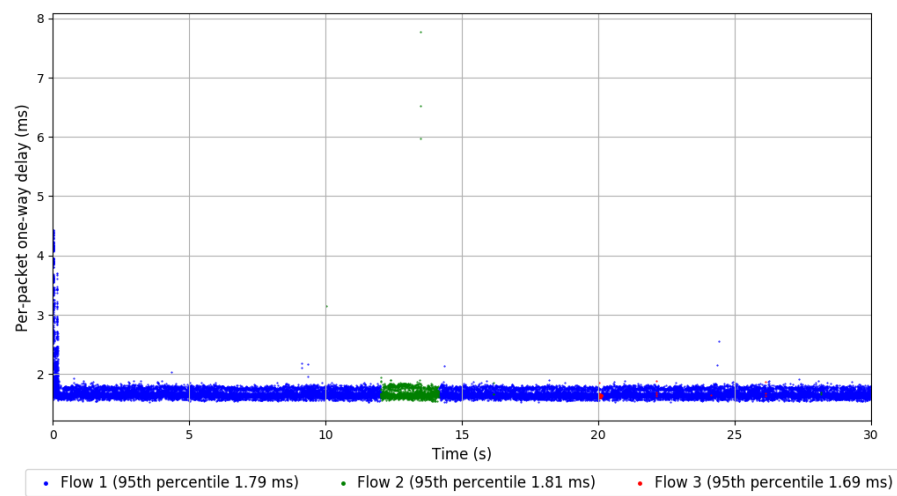
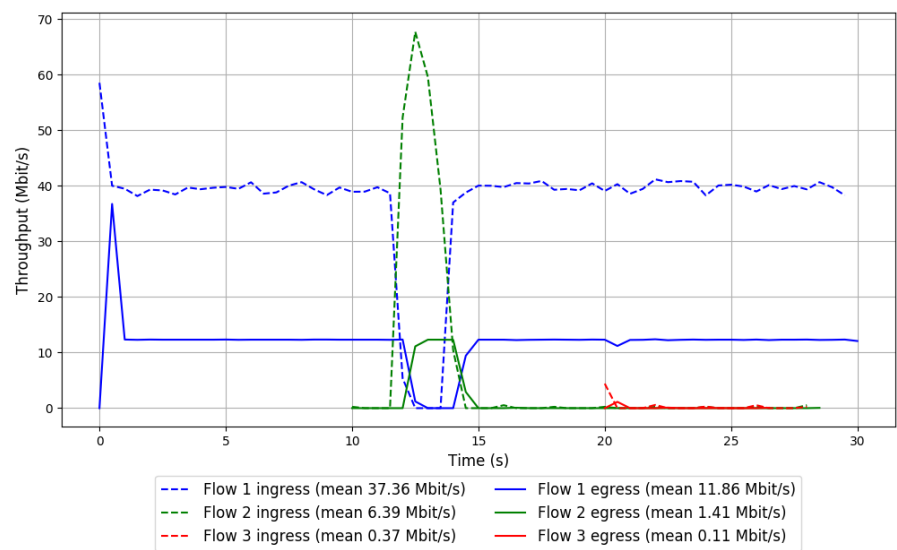
-- Flow 3:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 1.685 ms

Loss rate: 78.06%

Run 1: Report of Copa — Data Link

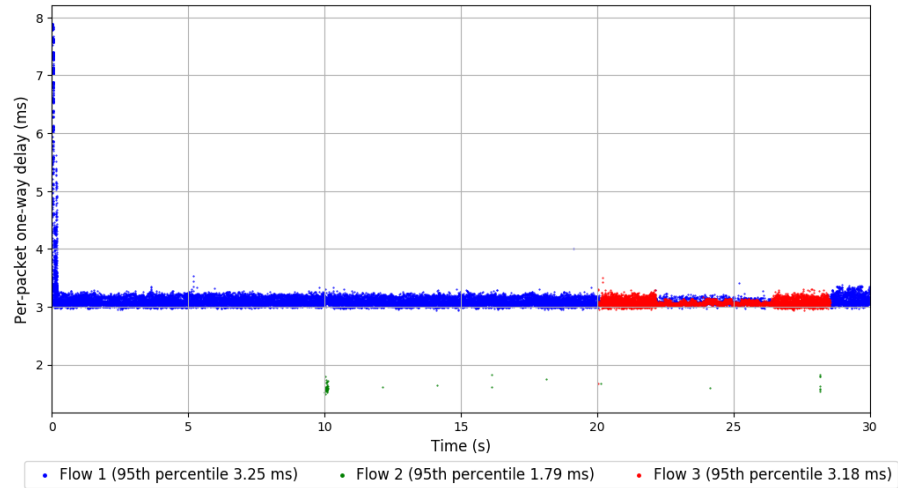
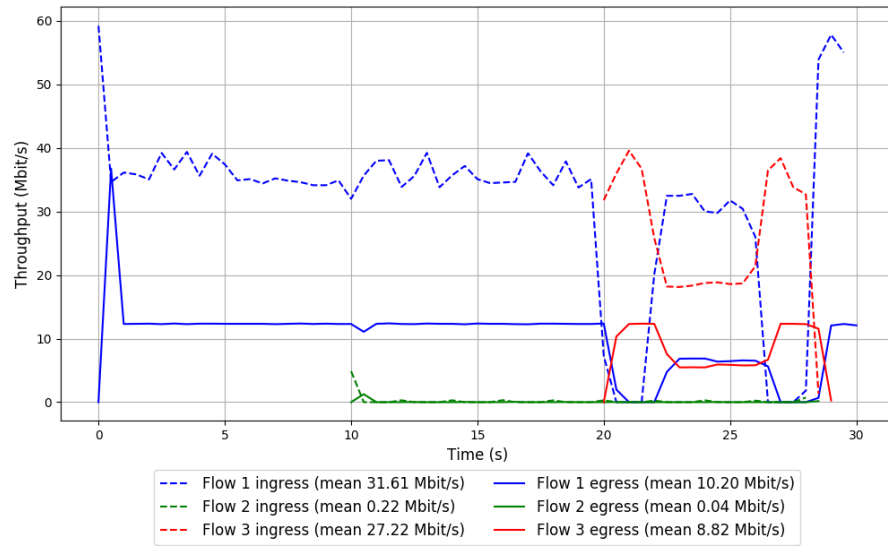


Run 2: Statistics of Copa

Start at: 2019-02-05 08:02:38  
End at: 2019-02-05 08:03:08  
Local clock offset: -4.381 ms  
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2019-02-05 09:23:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.73 Mbit/s  
95th percentile per-packet one-way delay: 3.227 ms  
Loss rate: 67.75%  
-- Flow 1:  
Average throughput: 10.20 Mbit/s  
95th percentile per-packet one-way delay: 3.246 ms  
Loss rate: 67.73%  
-- Flow 2:  
Average throughput: 0.04 Mbit/s  
95th percentile per-packet one-way delay: 1.795 ms  
Loss rate: 79.67%  
-- Flow 3:  
Average throughput: 8.82 Mbit/s  
95th percentile per-packet one-way delay: 3.180 ms  
Loss rate: 67.63%

## Run 2: Report of Copa — Data Link

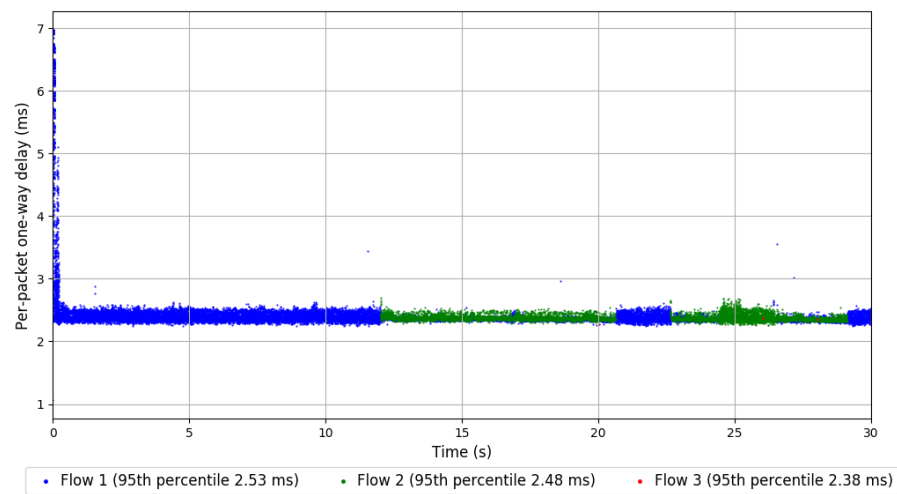
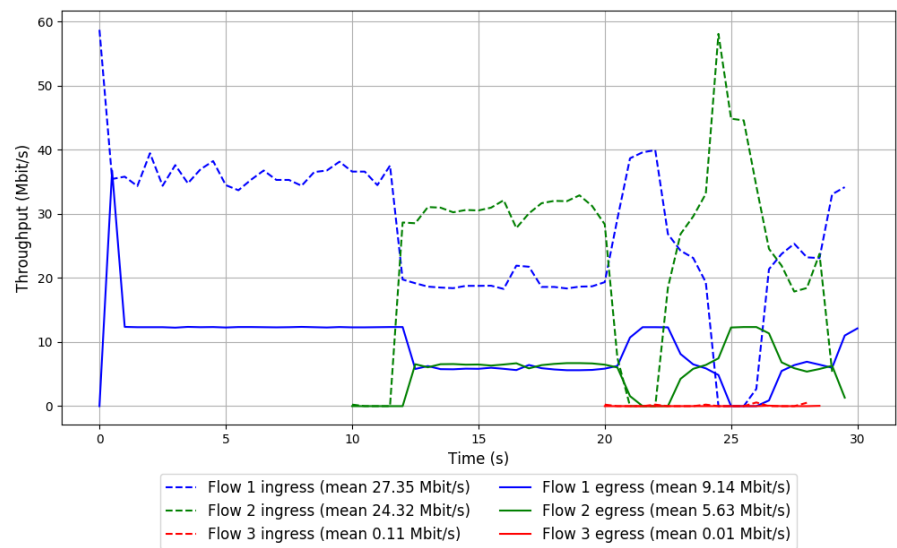


Run 3: Statistics of Copa

Start at: 2019-02-05 08:26:34  
End at: 2019-02-05 08:27:04  
Local clock offset: -4.754 ms  
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2019-02-05 09:23:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.73 Mbit/s  
95th percentile per-packet one-way delay: 2.512 ms  
Loss rate: 70.31%  
-- Flow 1:  
Average throughput: 9.14 Mbit/s  
95th percentile per-packet one-way delay: 2.528 ms  
Loss rate: 66.57%  
-- Flow 2:  
Average throughput: 5.63 Mbit/s  
95th percentile per-packet one-way delay: 2.478 ms  
Loss rate: 76.85%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 2.378 ms  
Loss rate: 93.32%

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2019-02-05 08:50:28

End at: 2019-02-05 08:50:58

Local clock offset: -5.934 ms

Remote clock offset: 0.395 ms

# Below is generated by plot.py at 2019-02-05 09:23:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.464 ms

Loss rate: 64.52%

-- Flow 1:

Average throughput: 12.72 Mbit/s

95th percentile per-packet one-way delay: 2.464 ms

Loss rate: 64.46%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1.135 ms

Loss rate: 88.99%

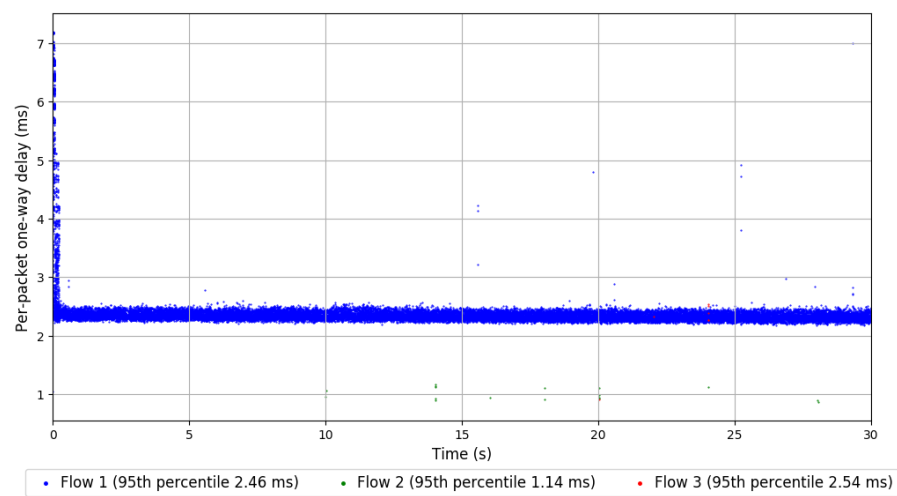
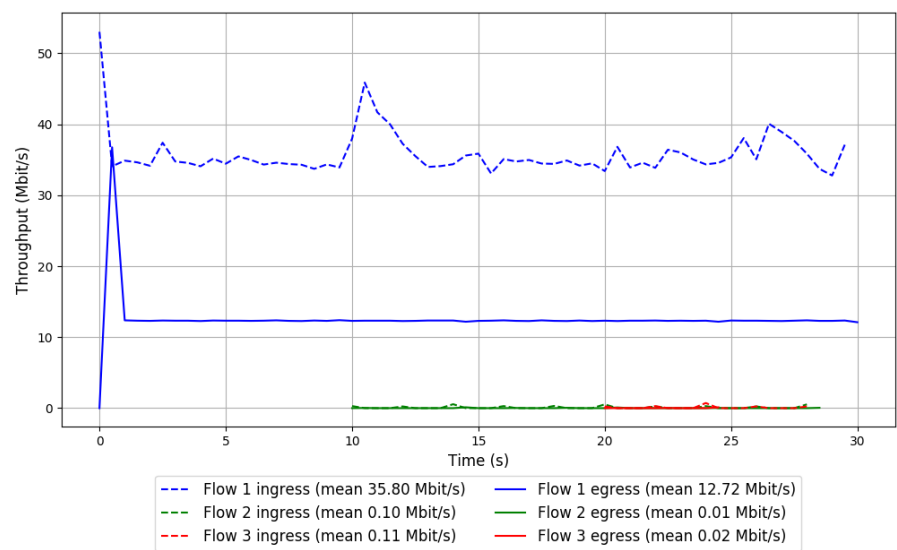
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 2.542 ms

Loss rate: 91.56%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-02-05 09:14:25

End at: 2019-02-05 09:14:55

Local clock offset: -7.146 ms

Remote clock offset: 0.8 ms

# Below is generated by plot.py at 2019-02-05 09:23:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.453 ms

Loss rate: 69.38%

-- Flow 1:

Average throughput: 8.67 Mbit/s

95th percentile per-packet one-way delay: 2.488 ms

Loss rate: 67.86%

-- Flow 2:

Average throughput: 6.09 Mbit/s

95th percentile per-packet one-way delay: 2.390 ms

Loss rate: 72.15%

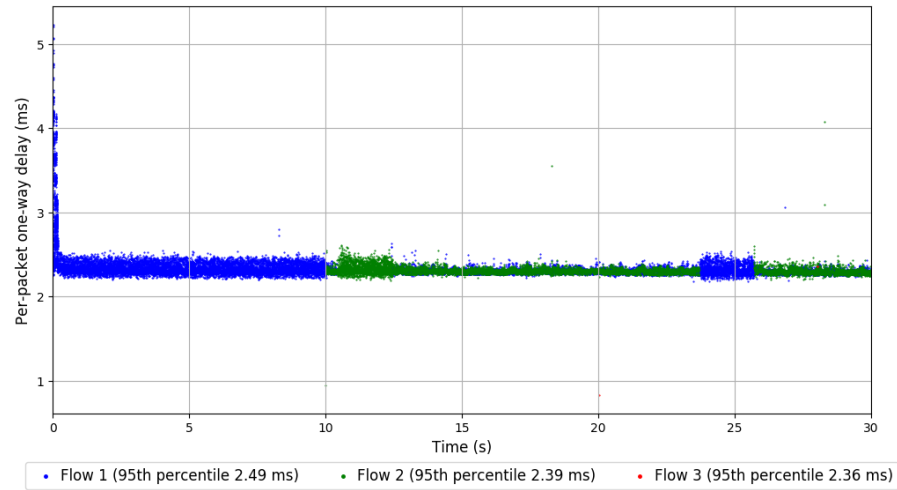
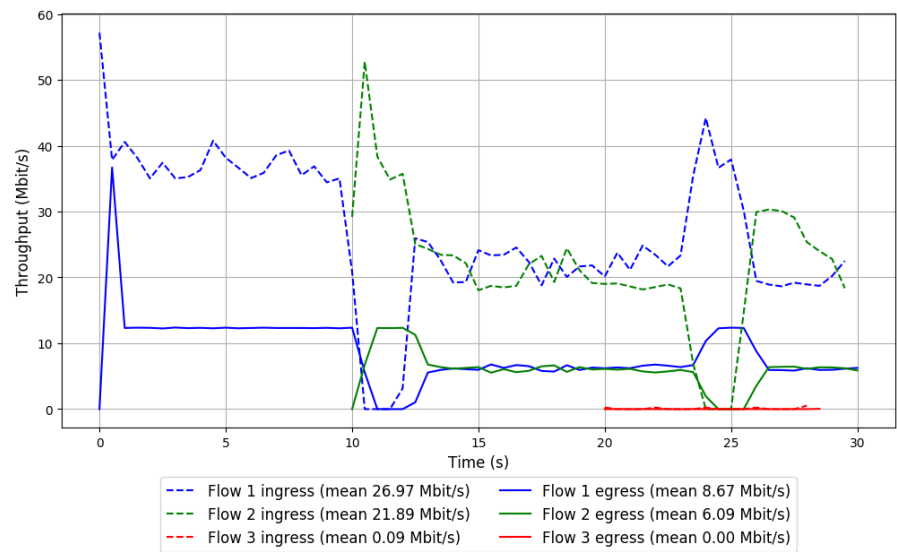
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2.364 ms

Loss rate: 96.64%

Run 5: Report of Copa — Data Link

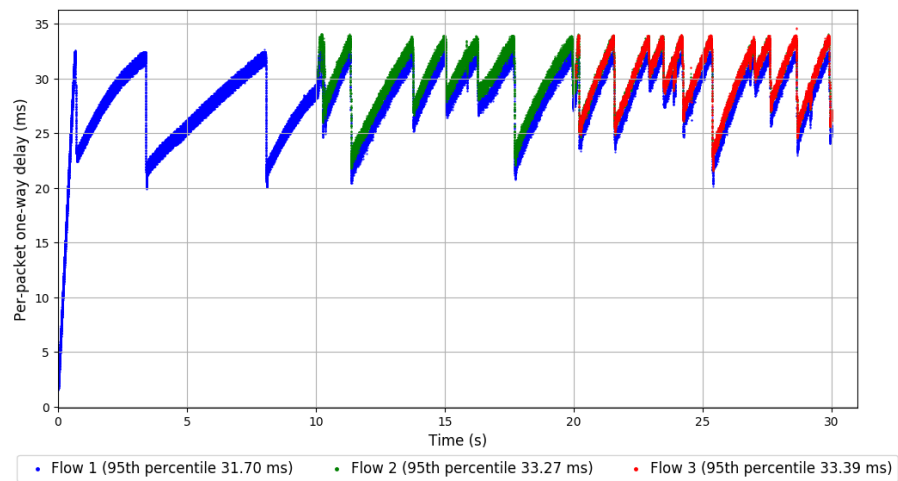
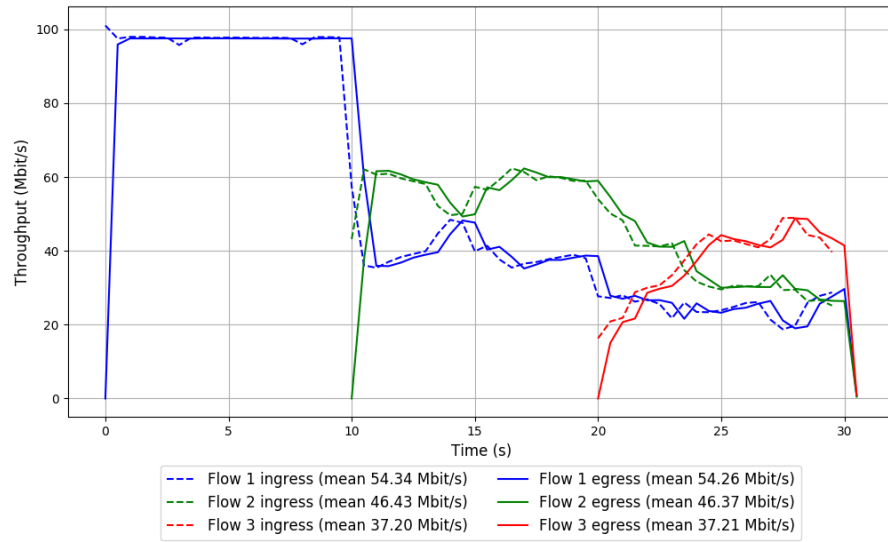


Run 1: Statistics of TCP Cubic

Start at: 2019-02-05 07:39:49  
End at: 2019-02-05 07:40:19  
Local clock offset: -4.084 ms  
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2019-02-05 09:23:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.49 Mbit/s  
95th percentile per-packet one-way delay: 32.908 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 54.26 Mbit/s  
95th percentile per-packet one-way delay: 31.704 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 46.37 Mbit/s  
95th percentile per-packet one-way delay: 33.265 ms  
Loss rate: 0.16%  
-- Flow 3:  
Average throughput: 37.21 Mbit/s  
95th percentile per-packet one-way delay: 33.394 ms  
Loss rate: 0.03%

# Run 1: Report of TCP Cubic — Data Link

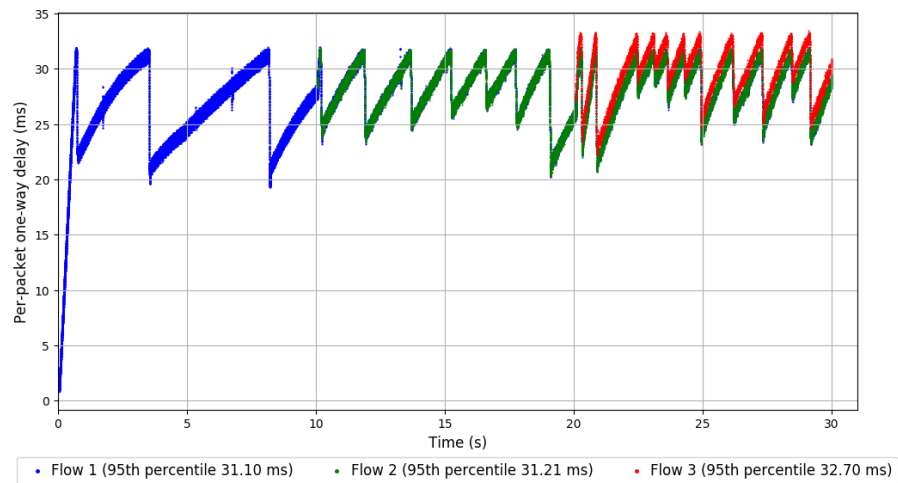
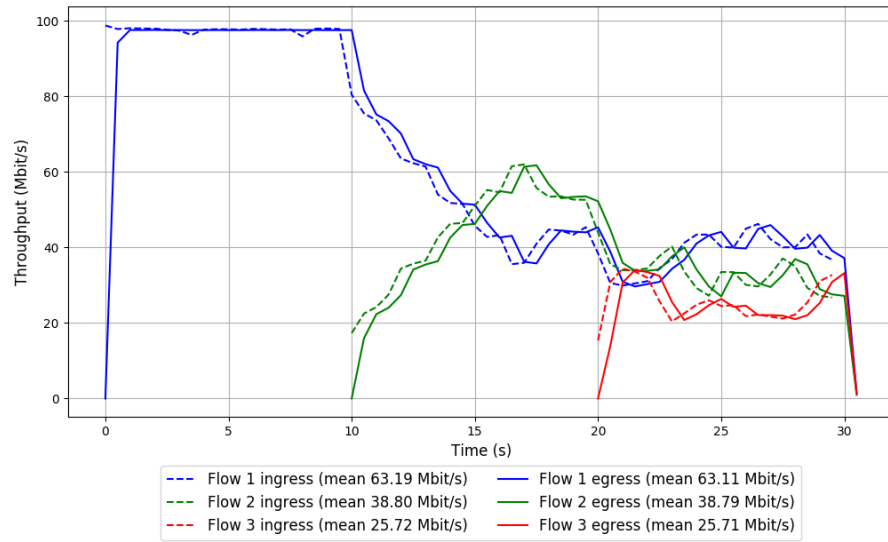


Run 2: Statistics of TCP Cubic

Start at: 2019-02-05 08:03:44  
End at: 2019-02-05 08:04:14  
Local clock offset: -3.729 ms  
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2019-02-05 09:24:00  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.47 Mbit/s  
95th percentile per-packet one-way delay: 31.270 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 63.11 Mbit/s  
95th percentile per-packet one-way delay: 31.096 ms  
Loss rate: 0.03%  
-- Flow 2:  
Average throughput: 38.79 Mbit/s  
95th percentile per-packet one-way delay: 31.212 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 25.71 Mbit/s  
95th percentile per-packet one-way delay: 32.701 ms  
Loss rate: 0.03%

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





Run 3: Statistics of TCP Cubic

Start at: 2019-02-05 08:27:40

End at: 2019-02-05 08:28:10

Local clock offset: -5.499 ms

Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-02-05 09:24:02

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 33.149 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 64.76 Mbit/s

95th percentile per-packet one-way delay: 33.183 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 35.14 Mbit/s

95th percentile per-packet one-way delay: 31.899 ms

Loss rate: 0.04%

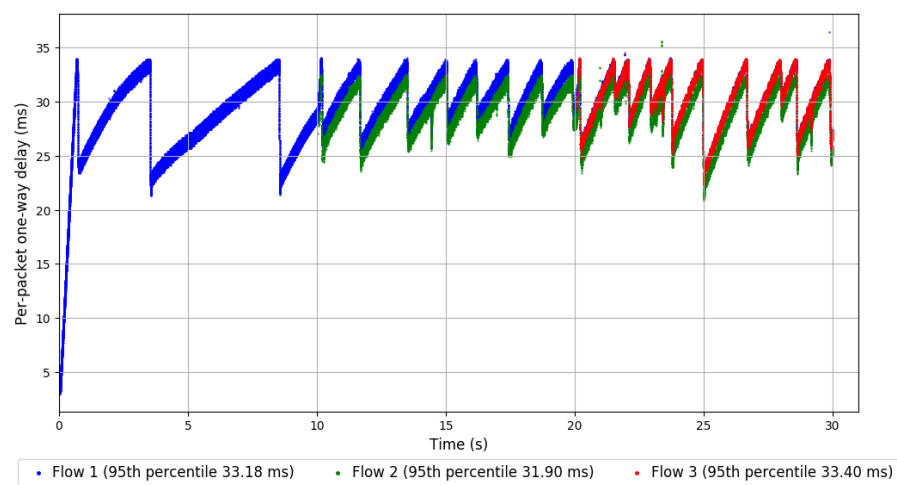
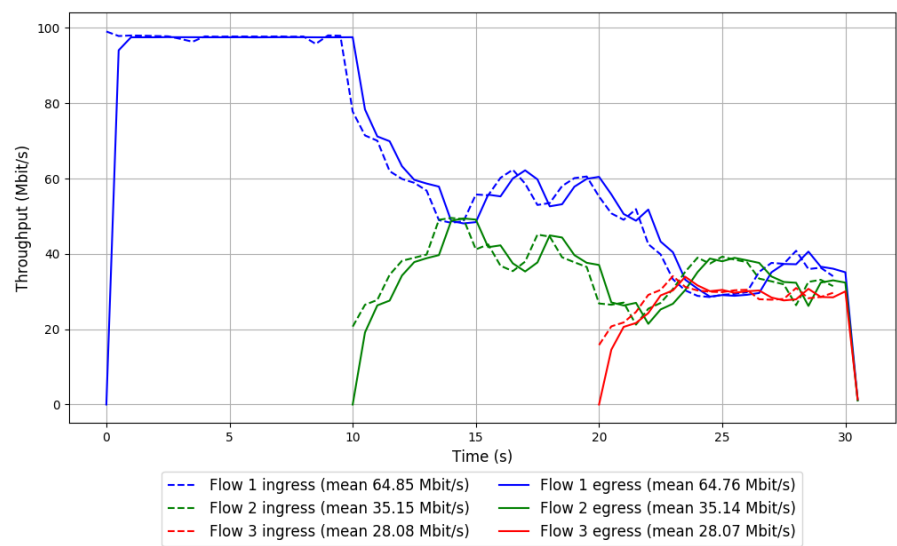
-- Flow 3:

Average throughput: 28.07 Mbit/s

95th percentile per-packet one-way delay: 33.399 ms

Loss rate: 0.03%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-02-05 08:51:35

End at: 2019-02-05 08:52:05

Local clock offset: -6.719 ms

Remote clock offset: 0.436 ms

# Below is generated by plot.py at 2019-02-05 09:24:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 32.137 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 68.67 Mbit/s

95th percentile per-packet one-way delay: 31.674 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 26.93 Mbit/s

95th percentile per-packet one-way delay: 33.165 ms

Loss rate: 0.23%

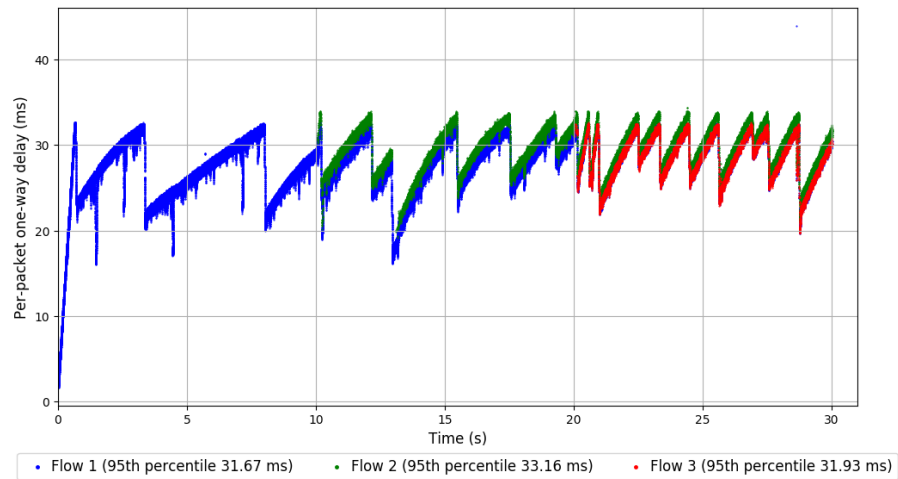
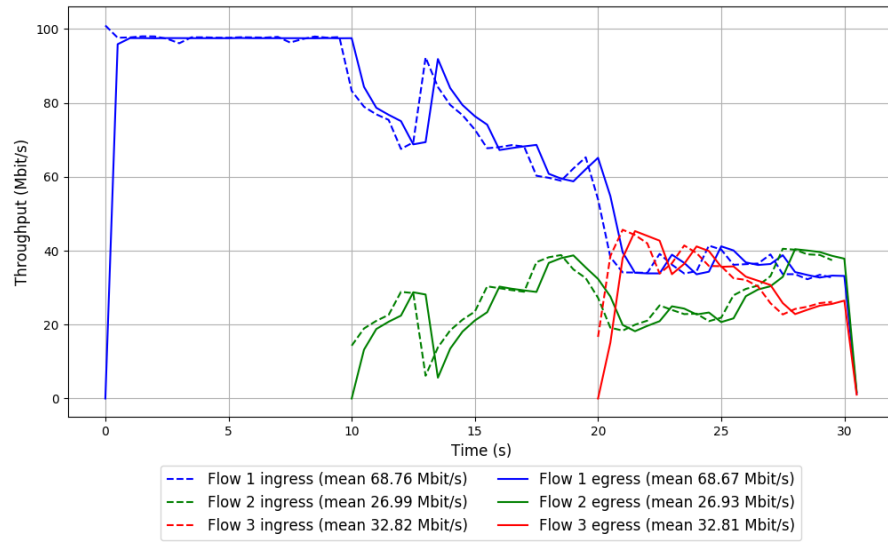
-- Flow 3:

Average throughput: 32.81 Mbit/s

95th percentile per-packet one-way delay: 31.927 ms

Loss rate: 0.05%

# Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-02-05 09:15:32

End at: 2019-02-05 09:16:02

Local clock offset: -7.137 ms

Remote clock offset: 0.813 ms

# Below is generated by plot.py at 2019-02-05 09:24:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 32.567 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 60.20 Mbit/s

95th percentile per-packet one-way delay: 32.453 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 42.08 Mbit/s

95th percentile per-packet one-way delay: 32.659 ms

Loss rate: 0.02%

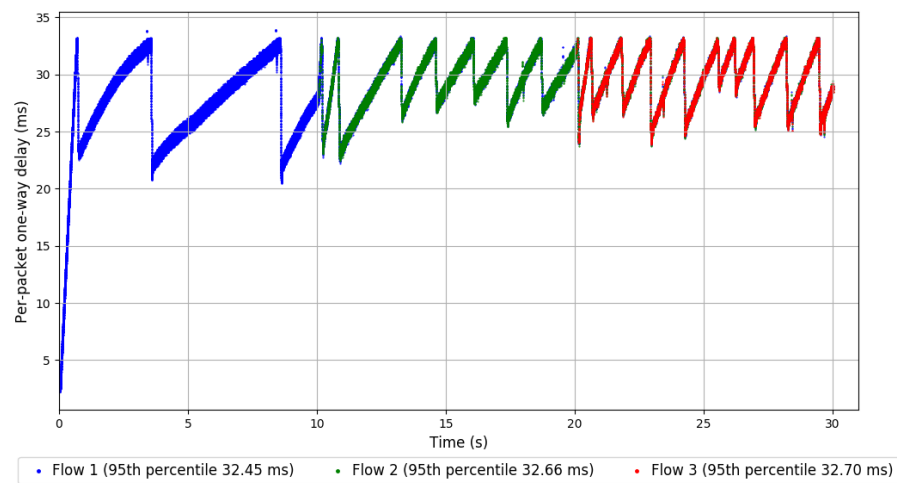
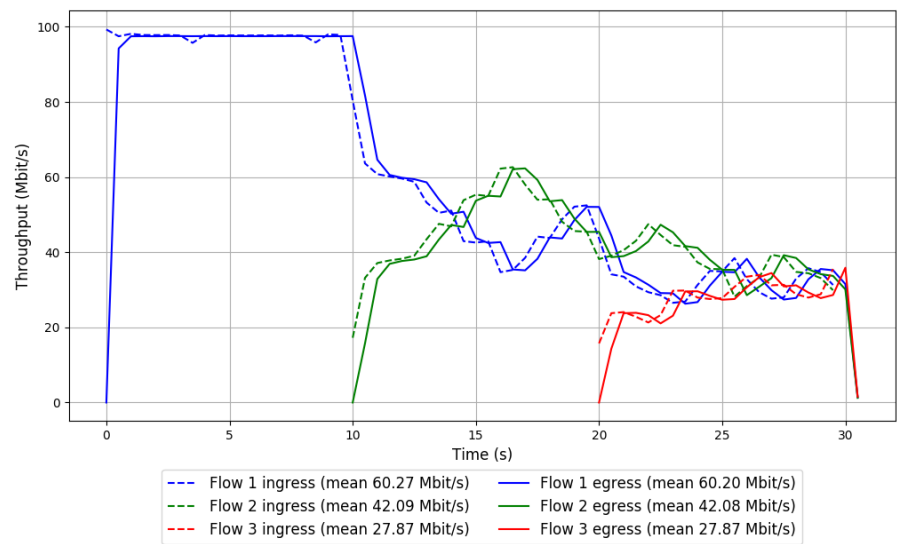
-- Flow 3:

Average throughput: 27.87 Mbit/s

95th percentile per-packet one-way delay: 32.702 ms

Loss rate: 0.03%

Run 5: Report of TCP Cubic — Data Link

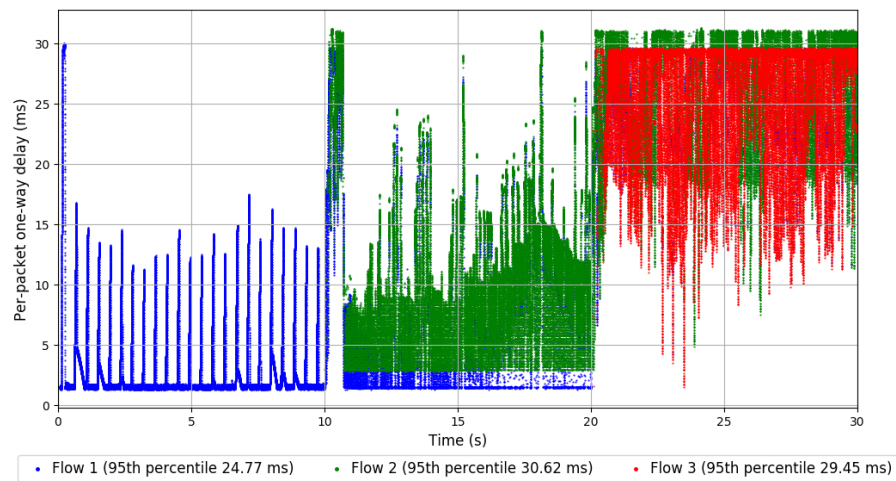
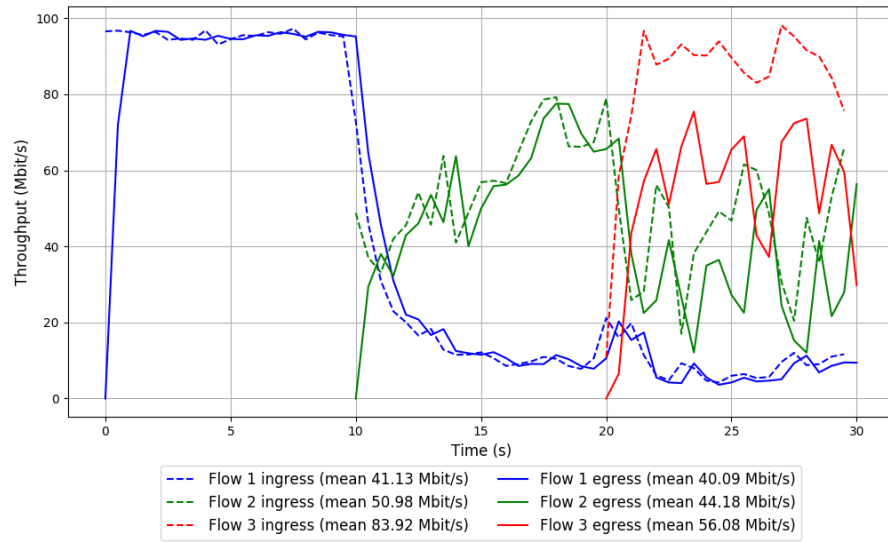


Run 1: Statistics of FillP

Start at: 2019-02-05 07:44:22  
End at: 2019-02-05 07:44:52  
Local clock offset: -4.216 ms  
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2019-02-05 09:24:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.04 Mbit/s  
95th percentile per-packet one-way delay: 29.478 ms  
Loss rate: 14.29%  
-- Flow 1:  
Average throughput: 40.09 Mbit/s  
95th percentile per-packet one-way delay: 24.770 ms  
Loss rate: 2.46%  
-- Flow 2:  
Average throughput: 44.18 Mbit/s  
95th percentile per-packet one-way delay: 30.623 ms  
Loss rate: 13.22%  
-- Flow 3:  
Average throughput: 56.08 Mbit/s  
95th percentile per-packet one-way delay: 29.453 ms  
Loss rate: 33.14%

# Run 1: Report of FillP — Data Link



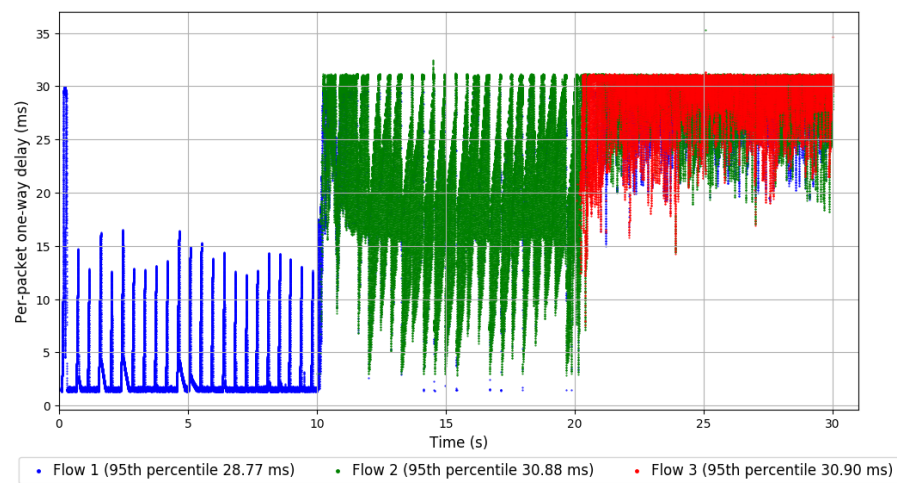
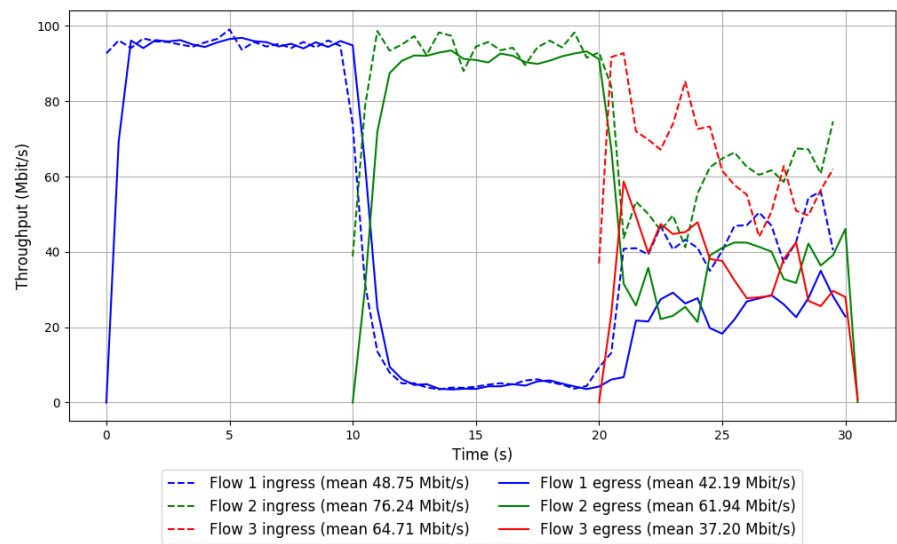


Run 2: Statistics of FillP

Start at: 2019-02-05 08:08:17  
End at: 2019-02-05 08:08:47  
Local clock offset: -4.462 ms  
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2019-02-05 09:24:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.75 Mbit/s  
95th percentile per-packet one-way delay: 30.779 ms  
Loss rate: 20.74%  
-- Flow 1:  
Average throughput: 42.19 Mbit/s  
95th percentile per-packet one-way delay: 28.772 ms  
Loss rate: 13.37%  
-- Flow 2:  
Average throughput: 61.94 Mbit/s  
95th percentile per-packet one-way delay: 30.884 ms  
Loss rate: 18.65%  
-- Flow 3:  
Average throughput: 37.20 Mbit/s  
95th percentile per-packet one-way delay: 30.902 ms  
Loss rate: 42.43%

Run 2: Report of FillP — Data Link

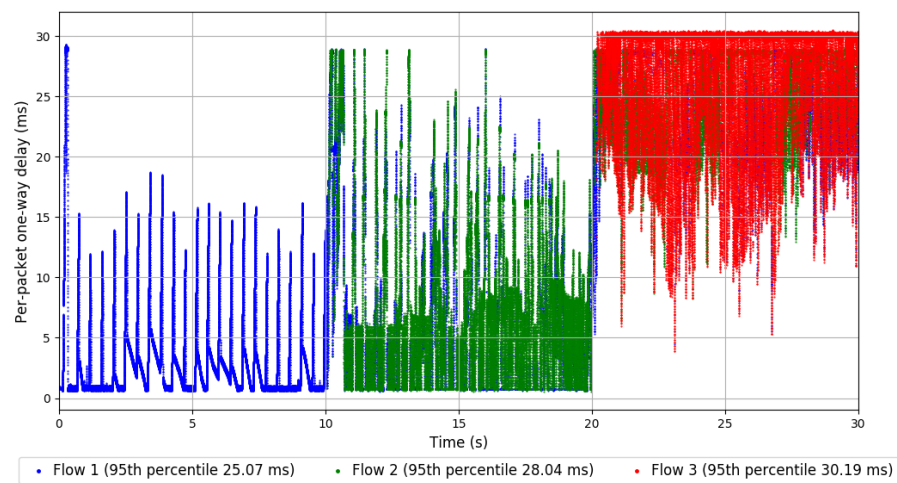
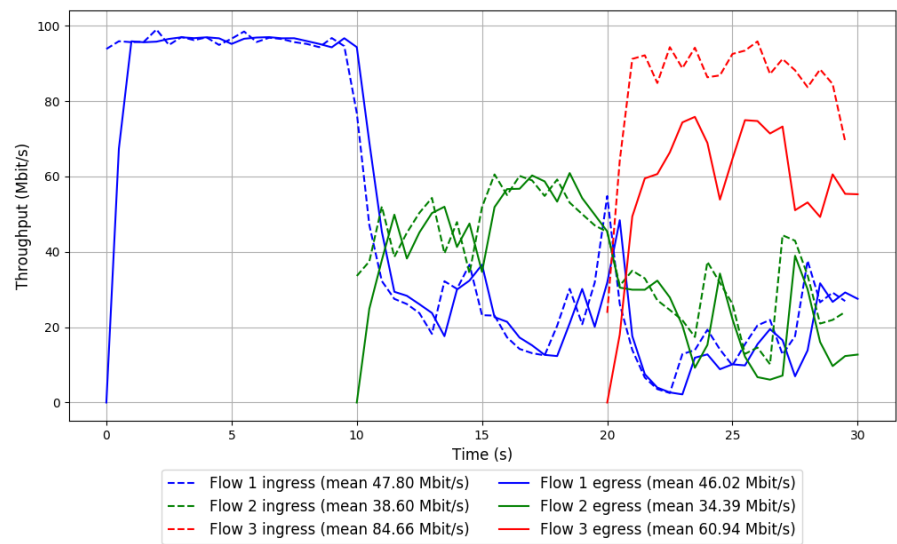


Run 3: Statistics of FillP

Start at: 2019-02-05 08:32:13  
End at: 2019-02-05 08:32:43  
Local clock offset: -5.013 ms  
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2019-02-05 09:24:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 89.11 Mbit/s  
95th percentile per-packet one-way delay: 29.954 ms  
Loss rate: 12.18%  
-- Flow 1:  
Average throughput: 46.02 Mbit/s  
95th percentile per-packet one-way delay: 25.069 ms  
Loss rate: 3.63%  
-- Flow 2:  
Average throughput: 34.39 Mbit/s  
95th percentile per-packet one-way delay: 28.040 ms  
Loss rate: 10.82%  
-- Flow 3:  
Average throughput: 60.94 Mbit/s  
95th percentile per-packet one-way delay: 30.192 ms  
Loss rate: 27.98%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-02-05 08:56:08

End at: 2019-02-05 08:56:38

Local clock offset: -7.074 ms

Remote clock offset: 0.464 ms

# Below is generated by plot.py at 2019-02-05 09:25:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.76 Mbit/s

95th percentile per-packet one-way delay: 29.436 ms

Loss rate: 21.92%

-- Flow 1:

Average throughput: 44.71 Mbit/s

95th percentile per-packet one-way delay: 29.040 ms

Loss rate: 15.17%

-- Flow 2:

Average throughput: 61.42 Mbit/s

95th percentile per-packet one-way delay: 29.488 ms

Loss rate: 21.19%

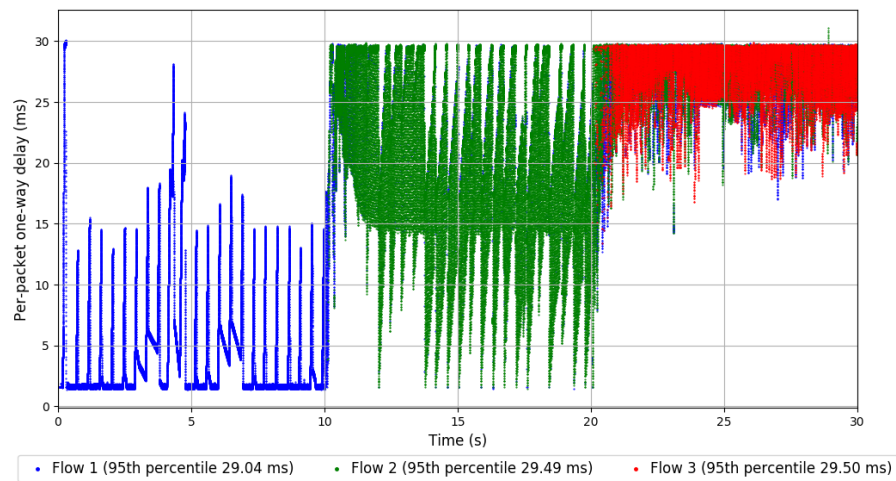
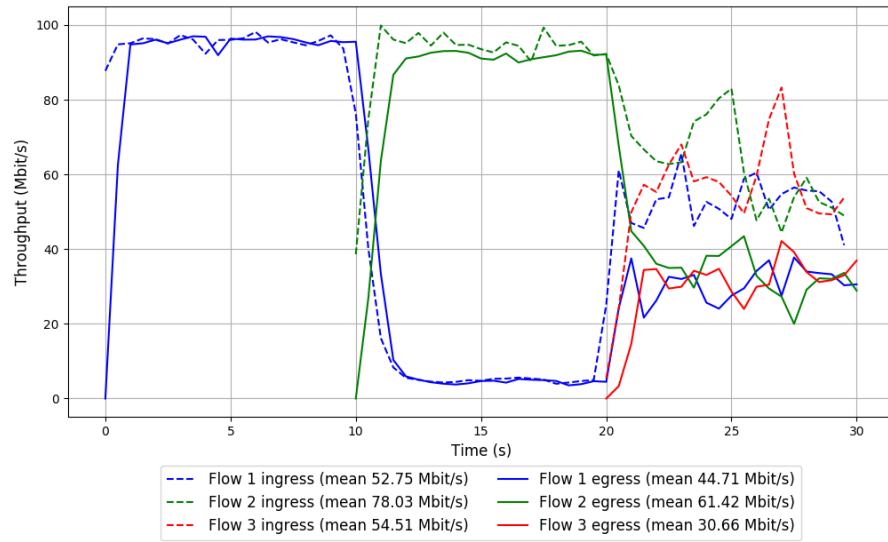
-- Flow 3:

Average throughput: 30.66 Mbit/s

95th percentile per-packet one-way delay: 29.500 ms

Loss rate: 43.73%

# Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-02-05 09:20:04

End at: 2019-02-05 09:20:34

Local clock offset: -6.685 ms

Remote clock offset: 0.868 ms

# Below is generated by plot.py at 2019-02-05 09:25:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.81 Mbit/s

95th percentile per-packet one-way delay: 30.259 ms

Loss rate: 21.68%

-- Flow 1:

Average throughput: 44.14 Mbit/s

95th percentile per-packet one-way delay: 29.614 ms

Loss rate: 12.55%

-- Flow 2:

Average throughput: 59.21 Mbit/s

95th percentile per-packet one-way delay: 30.312 ms

Loss rate: 20.52%

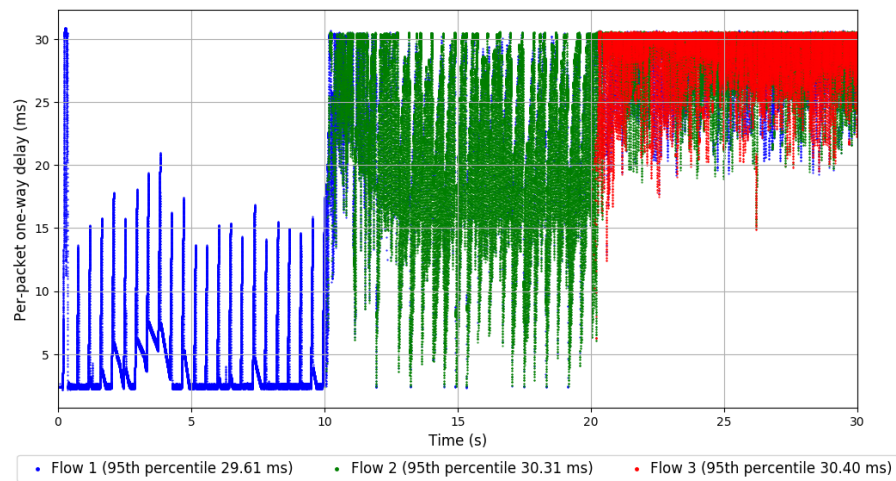
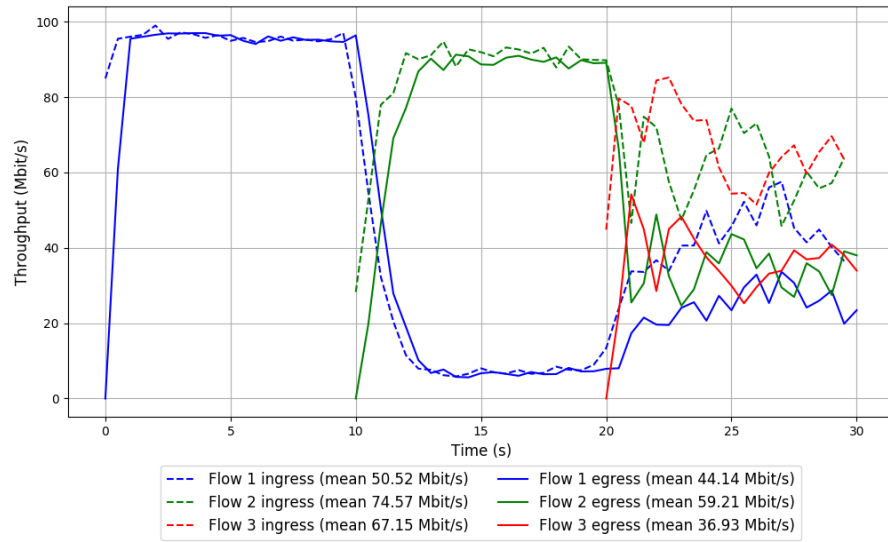
-- Flow 3:

Average throughput: 36.93 Mbit/s

95th percentile per-packet one-way delay: 30.400 ms

Loss rate: 44.95%

# Run 5: Report of FillP — Data Link





Run 1: Statistics of FillP-Sheep

Start at: 2019-02-05 07:33:02

End at: 2019-02-05 07:33:32

Local clock offset: -3.931 ms

Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2019-02-05 09:25:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.17 Mbit/s

95th percentile per-packet one-way delay: 23.844 ms

Loss rate: 1.07%

-- Flow 1:

Average throughput: 53.93 Mbit/s

95th percentile per-packet one-way delay: 21.993 ms

Loss rate: 0.75%

-- Flow 2:

Average throughput: 40.63 Mbit/s

95th percentile per-packet one-way delay: 25.114 ms

Loss rate: 0.74%

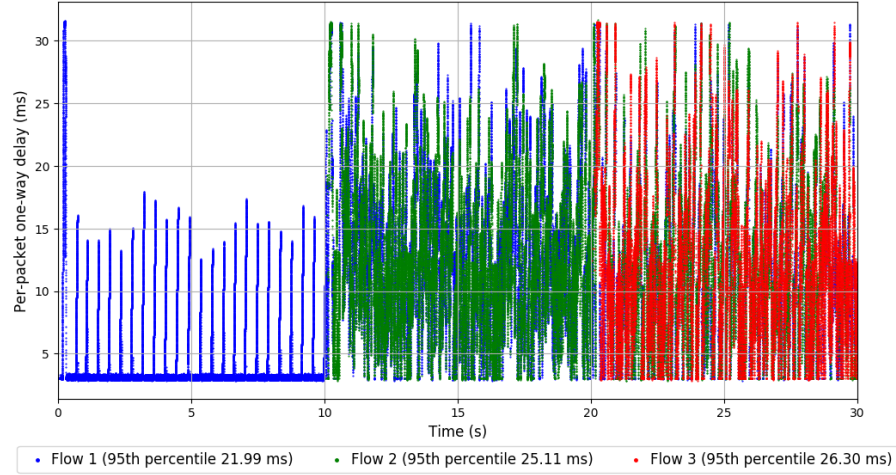
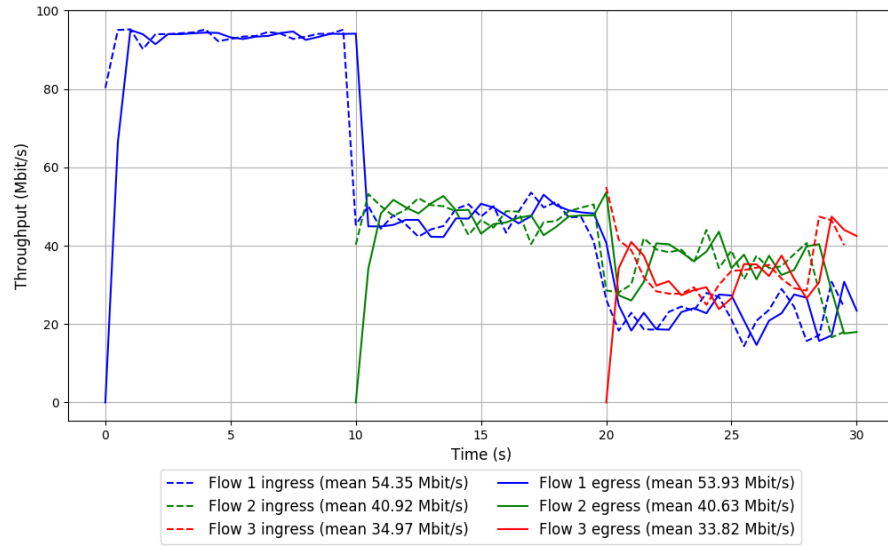
-- Flow 3:

Average throughput: 33.82 Mbit/s

95th percentile per-packet one-way delay: 26.296 ms

Loss rate: 3.35%

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

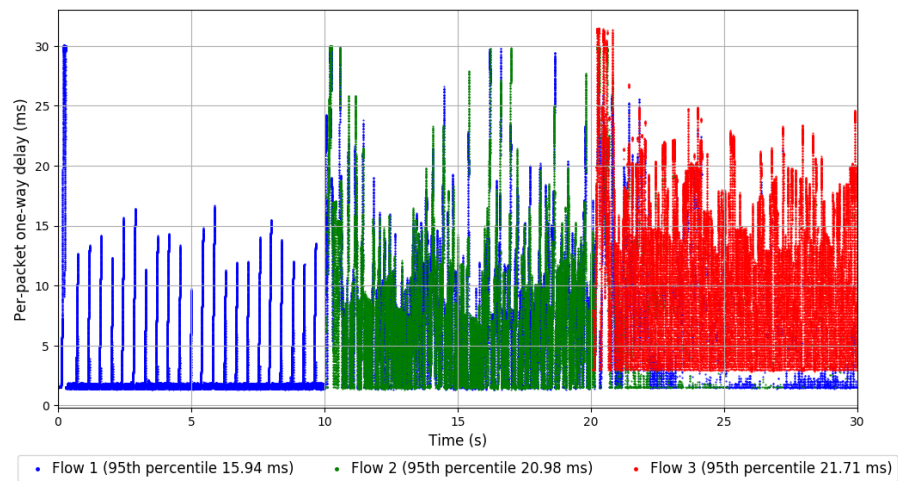
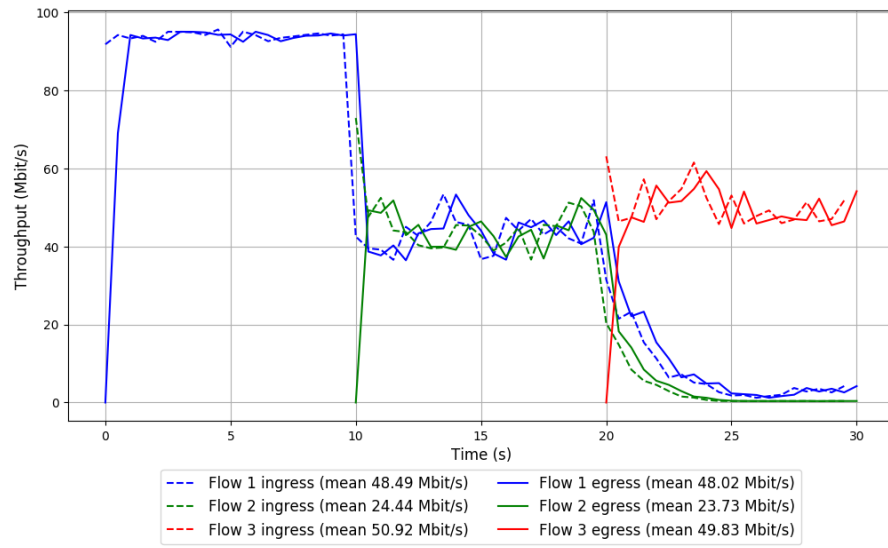


Run 2: Statistics of FillP-Sheep

Start at: 2019-02-05 07:56:57  
End at: 2019-02-05 07:57:28  
Local clock offset: -4.311 ms  
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2019-02-05 09:25:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 80.32 Mbit/s  
95th percentile per-packet one-way delay: 19.450 ms  
Loss rate: 1.56%  
-- Flow 1:  
Average throughput: 48.02 Mbit/s  
95th percentile per-packet one-way delay: 15.939 ms  
Loss rate: 0.97%  
-- Flow 2:  
Average throughput: 23.73 Mbit/s  
95th percentile per-packet one-way delay: 20.984 ms  
Loss rate: 2.82%  
-- Flow 3:  
Average throughput: 49.83 Mbit/s  
95th percentile per-packet one-way delay: 21.709 ms  
Loss rate: 2.03%

## Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-02-05 08:20:53

End at: 2019-02-05 08:21:23

Local clock offset: -4.411 ms

Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2019-02-05 09:25:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 80.10 Mbit/s

95th percentile per-packet one-way delay: 19.370 ms

Loss rate: 1.22%

-- Flow 1:

Average throughput: 44.54 Mbit/s

95th percentile per-packet one-way delay: 14.072 ms

Loss rate: 0.98%

-- Flow 2:

Average throughput: 26.38 Mbit/s

95th percentile per-packet one-way delay: 20.203 ms

Loss rate: 0.83%

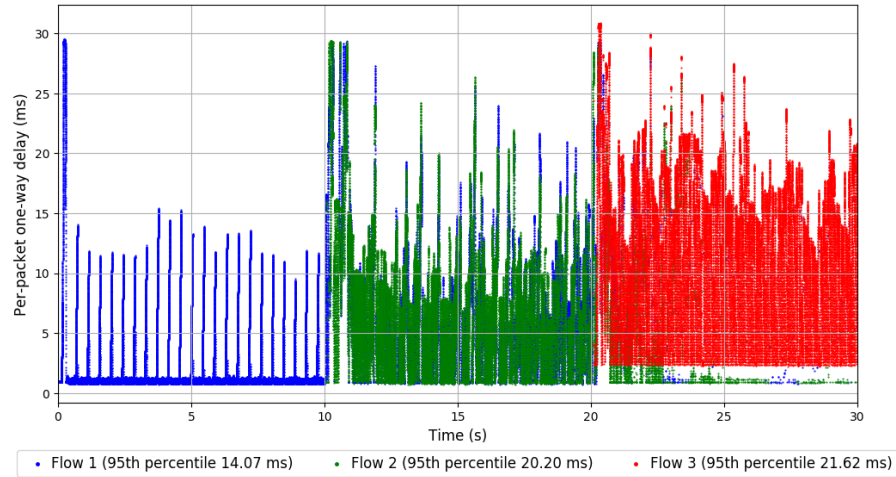
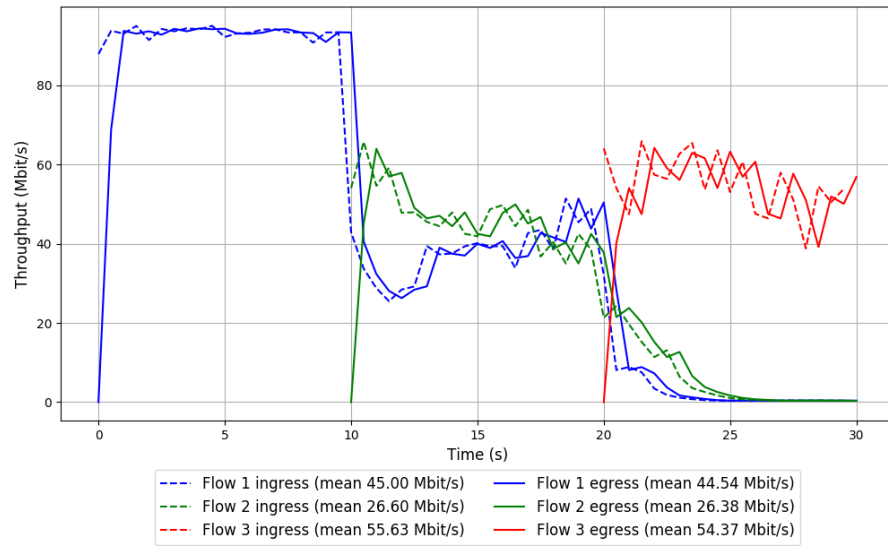
-- Flow 3:

Average throughput: 54.37 Mbit/s

95th percentile per-packet one-way delay: 21.623 ms

Loss rate: 2.16%

### Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-02-05 08:44:48

End at: 2019-02-05 08:45:18

Local clock offset: -6.171 ms

Remote clock offset: 0.235 ms

# Below is generated by plot.py at 2019-02-05 09:26:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.16 Mbit/s

95th percentile per-packet one-way delay: 22.060 ms

Loss rate: 0.81%

-- Flow 1:

Average throughput: 41.06 Mbit/s

95th percentile per-packet one-way delay: 14.187 ms

Loss rate: 0.81%

-- Flow 2:

Average throughput: 37.68 Mbit/s

95th percentile per-packet one-way delay: 21.217 ms

Loss rate: 0.17%

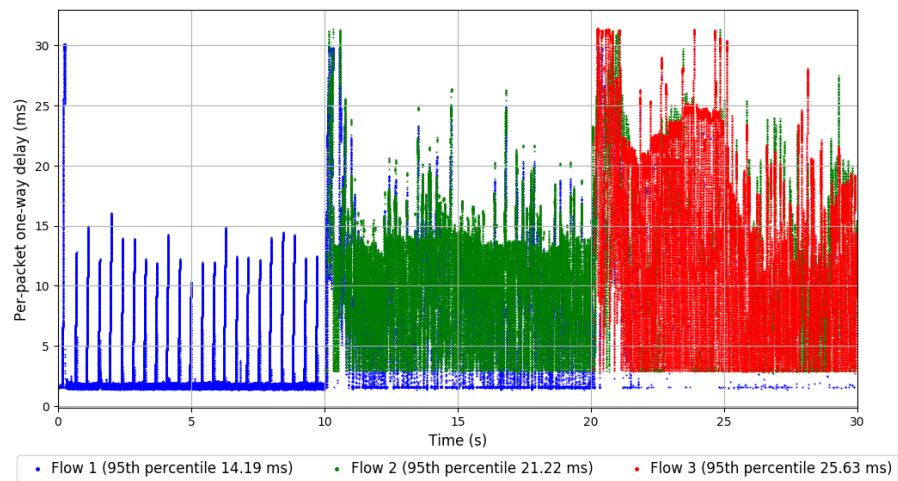
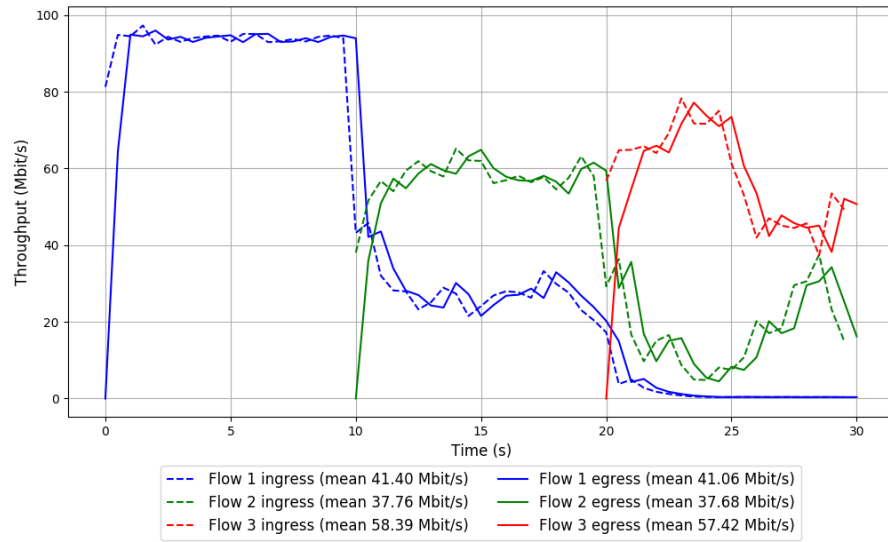
-- Flow 3:

Average throughput: 57.42 Mbit/s

95th percentile per-packet one-way delay: 25.627 ms

Loss rate: 1.66%

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





Run 5: Statistics of FillP-Sheep

Start at: 2019-02-05 09:08:44

End at: 2019-02-05 09:09:14

Local clock offset: -6.889 ms

Remote clock offset: 0.679 ms

# Below is generated by plot.py at 2019-02-05 09:26:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 81.13 Mbit/s

95th percentile per-packet one-way delay: 17.315 ms

Loss rate: 1.17%

-- Flow 1:

Average throughput: 40.51 Mbit/s

95th percentile per-packet one-way delay: 13.334 ms

Loss rate: 0.82%

-- Flow 2:

Average throughput: 51.66 Mbit/s

95th percentile per-packet one-way delay: 18.553 ms

Loss rate: 0.48%

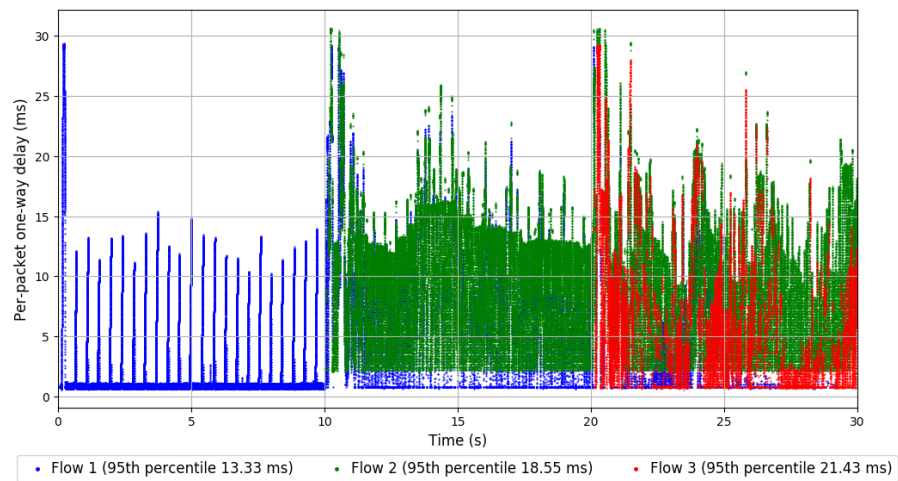
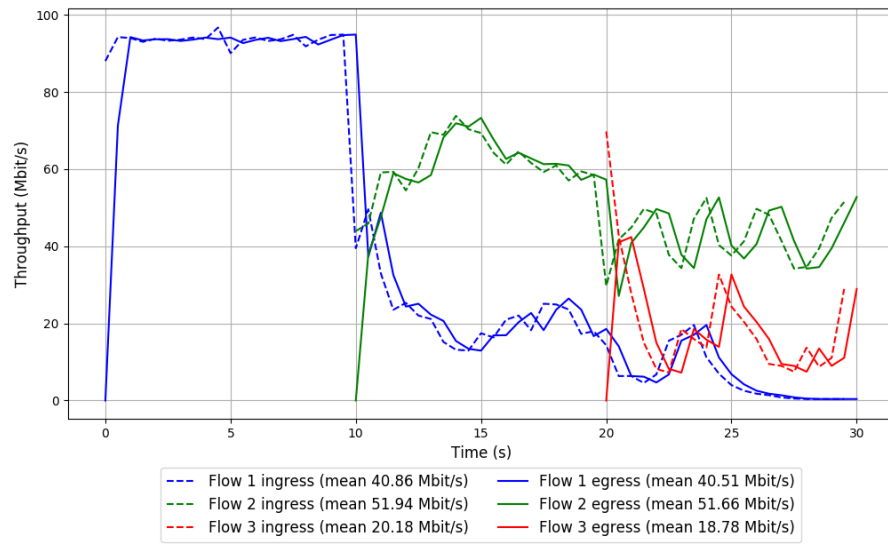
-- Flow 3:

Average throughput: 18.78 Mbit/s

95th percentile per-packet one-way delay: 21.433 ms

Loss rate: 6.95%

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

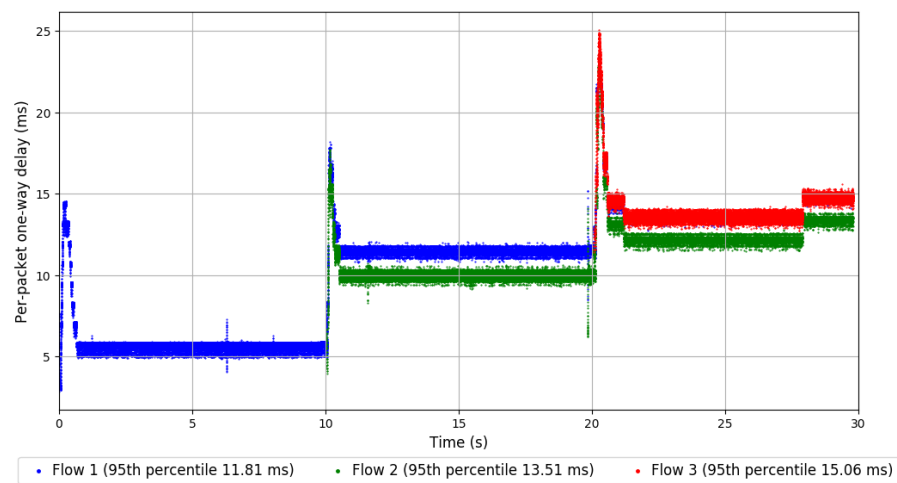
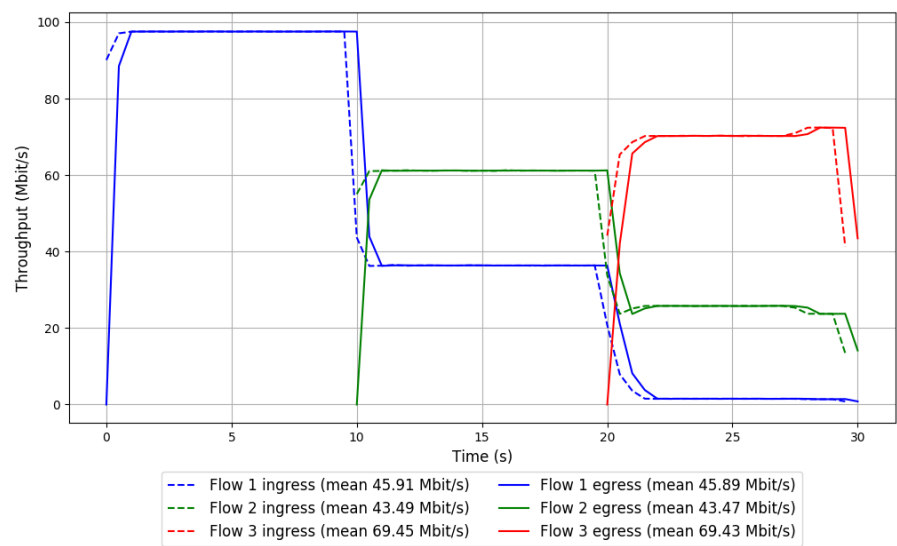


```
Run 1: Statistics of Indigo

Start at: 2019-02-05 07:34:11
End at: 2019-02-05 07:34:41
Local clock offset: -3.954 ms
Remote clock offset: 0.055 ms

# Below is generated by plot.py at 2019-02-05 09:26:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 14.815 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.89 Mbit/s
95th percentile per-packet one-way delay: 11.808 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.47 Mbit/s
95th percentile per-packet one-way delay: 13.510 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 69.43 Mbit/s
95th percentile per-packet one-way delay: 15.063 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

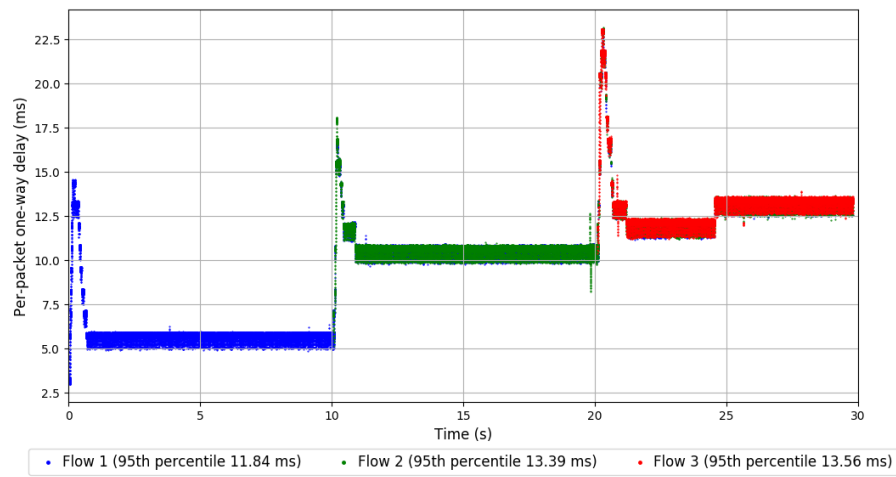
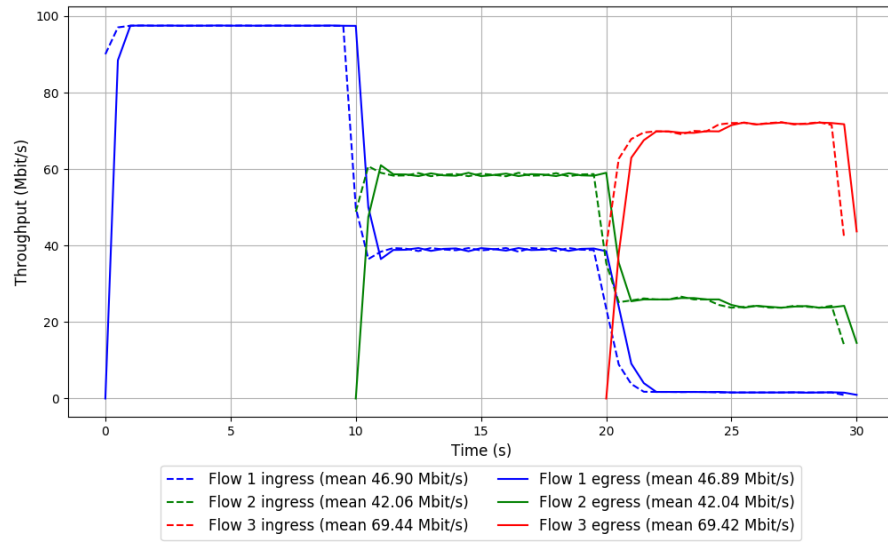


Run 2: Statistics of Indigo

Start at: 2019-02-05 07:58:05  
End at: 2019-02-05 07:58:35  
Local clock offset: -4.399 ms  
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2019-02-05 09:26:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.38 Mbit/s  
95th percentile per-packet one-way delay: 13.389 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 46.89 Mbit/s  
95th percentile per-packet one-way delay: 11.838 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 42.04 Mbit/s  
95th percentile per-packet one-way delay: 13.388 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 69.42 Mbit/s  
95th percentile per-packet one-way delay: 13.565 ms  
Loss rate: 0.00%

## Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-02-05 08:22:01

End at: 2019-02-05 08:22:31

Local clock offset: -5.147 ms

Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-02-05 09:26:28

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.40 Mbit/s

95th percentile per-packet one-way delay: 13.466 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.71 Mbit/s

95th percentile per-packet one-way delay: 11.757 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 44.08 Mbit/s

95th percentile per-packet one-way delay: 13.506 ms

Loss rate: 0.00%

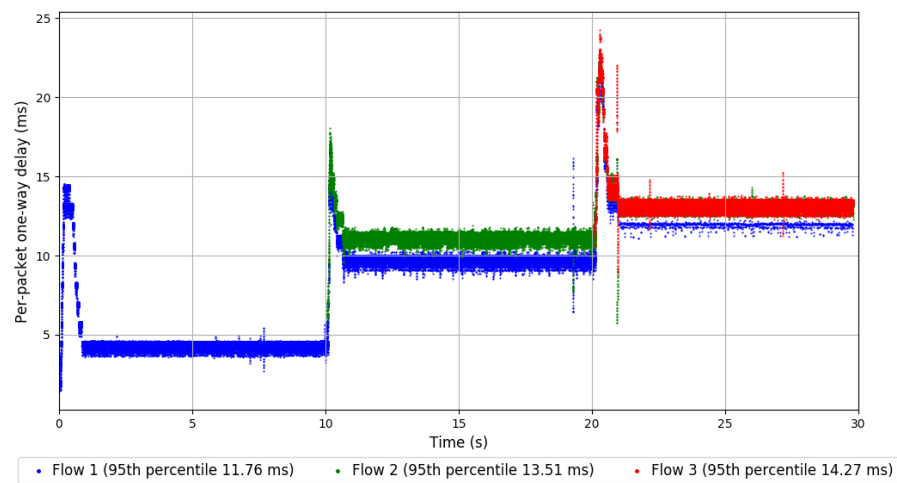
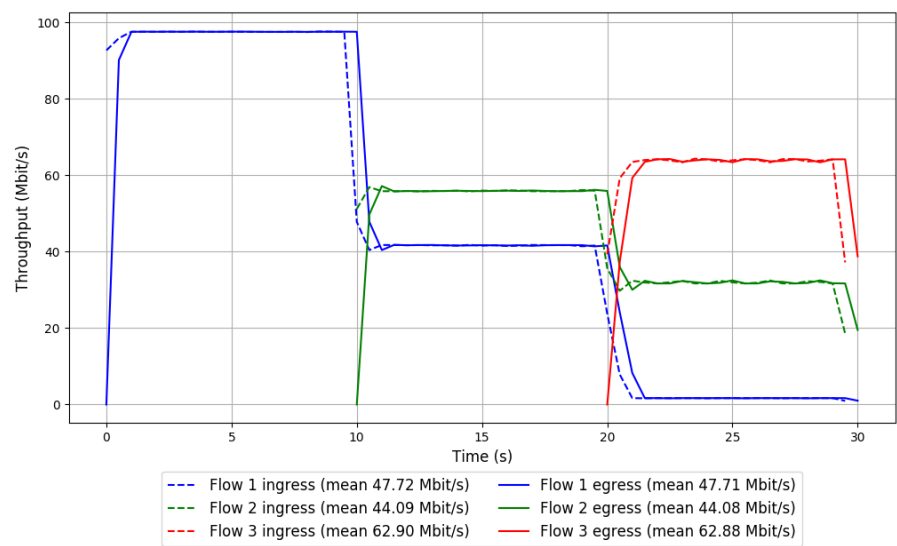
-- Flow 3:

Average throughput: 62.88 Mbit/s

95th percentile per-packet one-way delay: 14.269 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2019-02-05 08:45:56

End at: 2019-02-05 08:46:26

Local clock offset: -6.221 ms

Remote clock offset: 0.326 ms

# Below is generated by plot.py at 2019-02-05 09:26:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.40 Mbit/s

95th percentile per-packet one-way delay: 14.644 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.51 Mbit/s

95th percentile per-packet one-way delay: 11.132 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 42.97 Mbit/s

95th percentile per-packet one-way delay: 14.651 ms

Loss rate: 0.00%

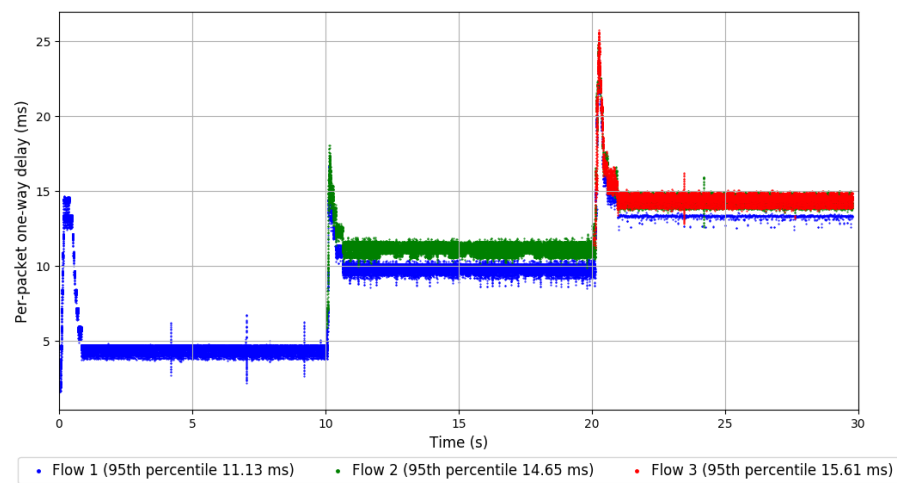
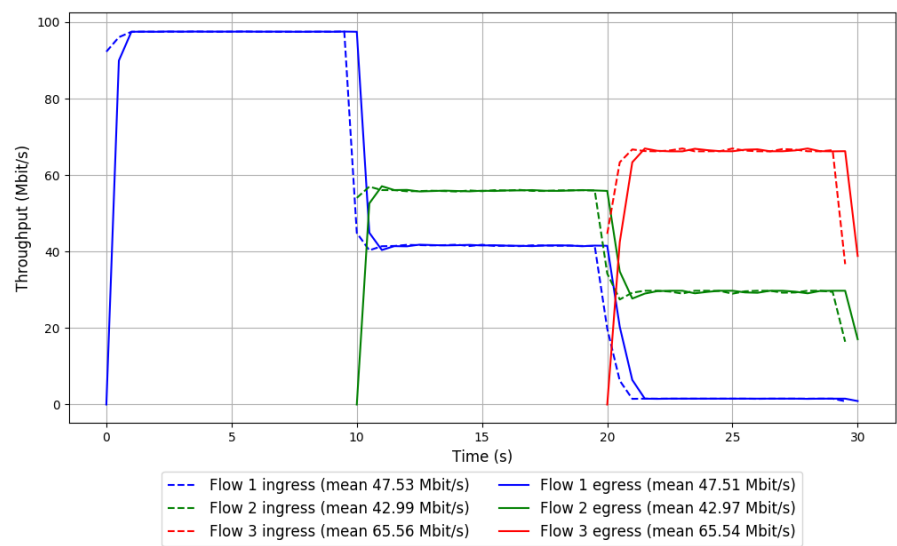
-- Flow 3:

Average throughput: 65.54 Mbit/s

95th percentile per-packet one-way delay: 15.614 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-02-05 09:09:52

End at: 2019-02-05 09:10:22

Local clock offset: -6.999 ms

Remote clock offset: 0.689 ms

# Below is generated by plot.py at 2019-02-05 09:26:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 9.817 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.02 Mbit/s

95th percentile per-packet one-way delay: 8.909 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 37.27 Mbit/s

95th percentile per-packet one-way delay: 9.951 ms

Loss rate: 0.00%

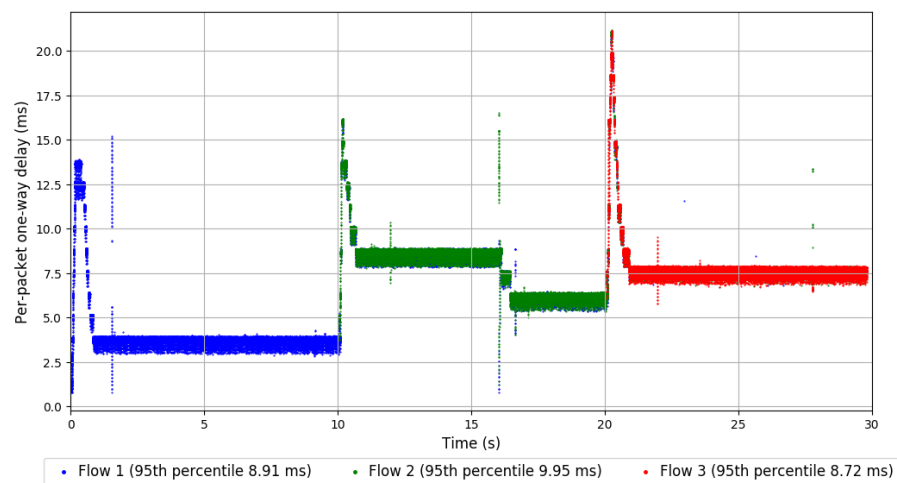
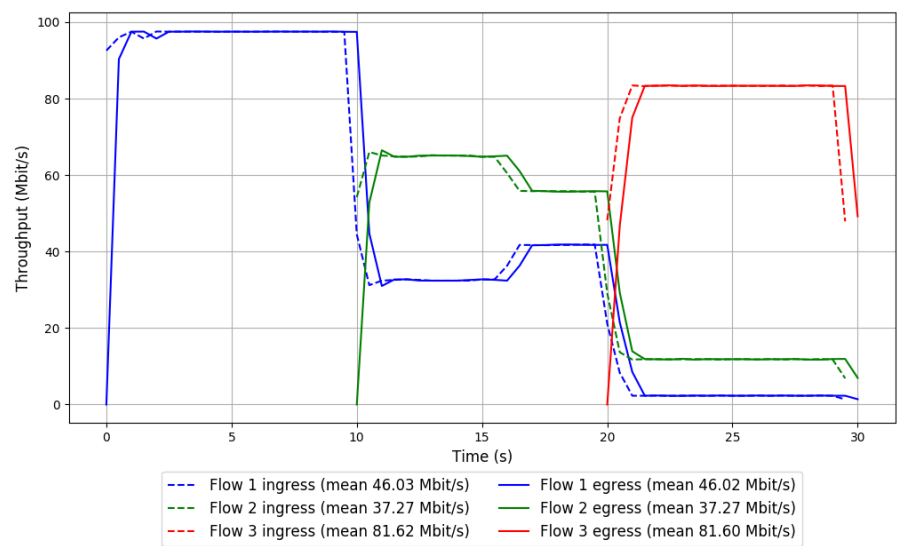
-- Flow 3:

Average throughput: 81.60 Mbit/s

95th percentile per-packet one-way delay: 8.716 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-05 07:24:59

End at: 2019-02-05 07:25:29

Local clock offset: -3.038 ms

Remote clock offset: 0.14 ms

# Below is generated by plot.py at 2019-02-05 09:26:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.04 Mbit/s

95th percentile per-packet one-way delay: 11.606 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.21 Mbit/s

95th percentile per-packet one-way delay: 10.865 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 52.65 Mbit/s

95th percentile per-packet one-way delay: 12.866 ms

Loss rate: 0.00%

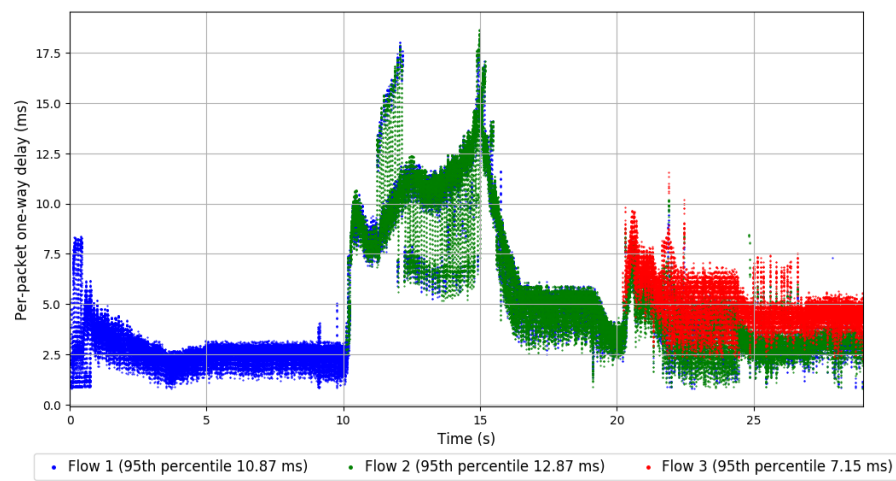
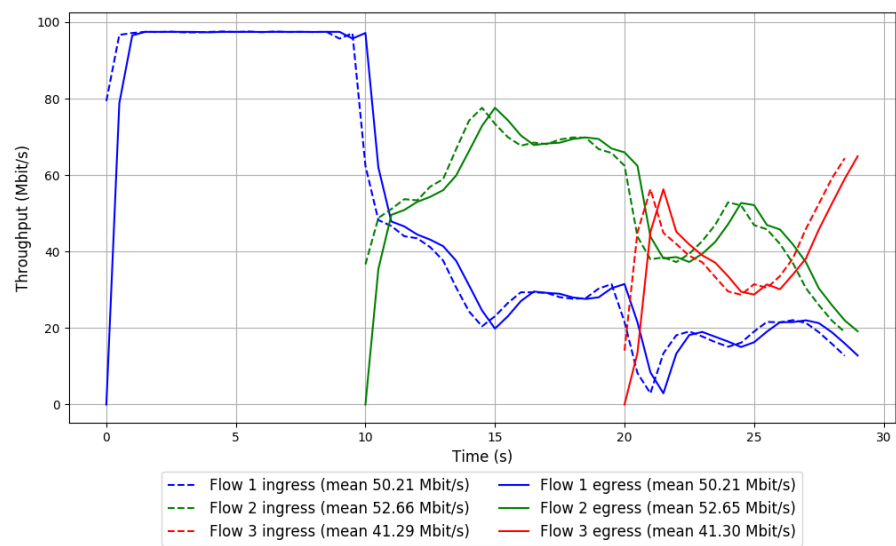
-- Flow 3:

Average throughput: 41.30 Mbit/s

95th percentile per-packet one-way delay: 7.153 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-05 07:48:54

End at: 2019-02-05 07:49:24

Local clock offset: -4.269 ms

Remote clock offset: 0.001 ms

# Below is generated by plot.py at 2019-02-05 09:27:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.04 Mbit/s

95th percentile per-packet one-way delay: 13.130 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 48.75 Mbit/s

95th percentile per-packet one-way delay: 11.624 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 58.19 Mbit/s

95th percentile per-packet one-way delay: 14.278 ms

Loss rate: 0.00%

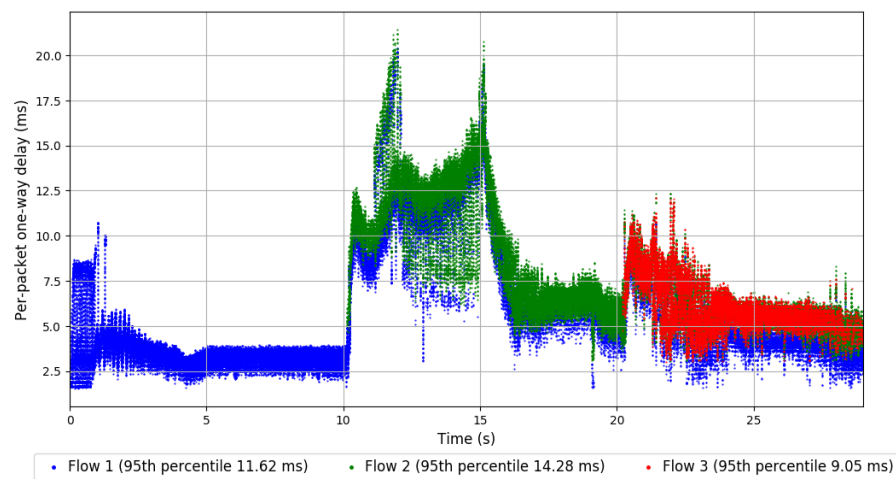
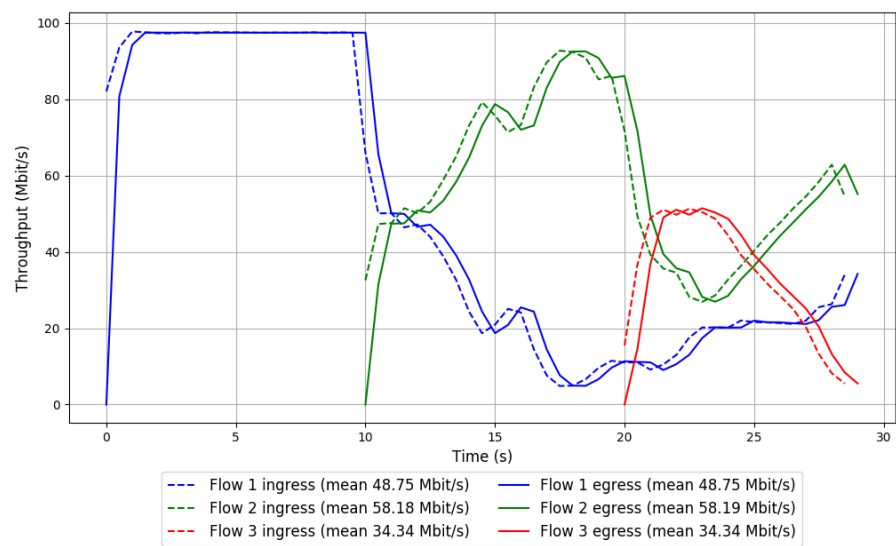
-- Flow 3:

Average throughput: 34.34 Mbit/s

95th percentile per-packet one-way delay: 9.050 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesC3 — Data Link



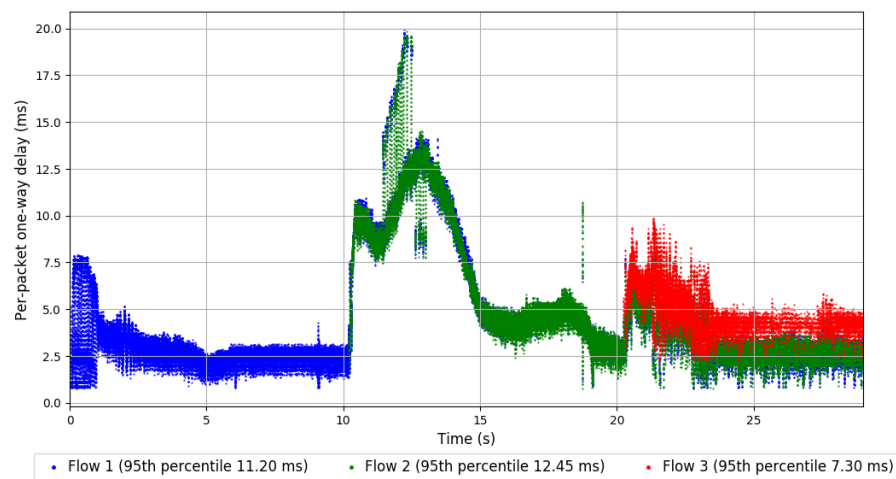
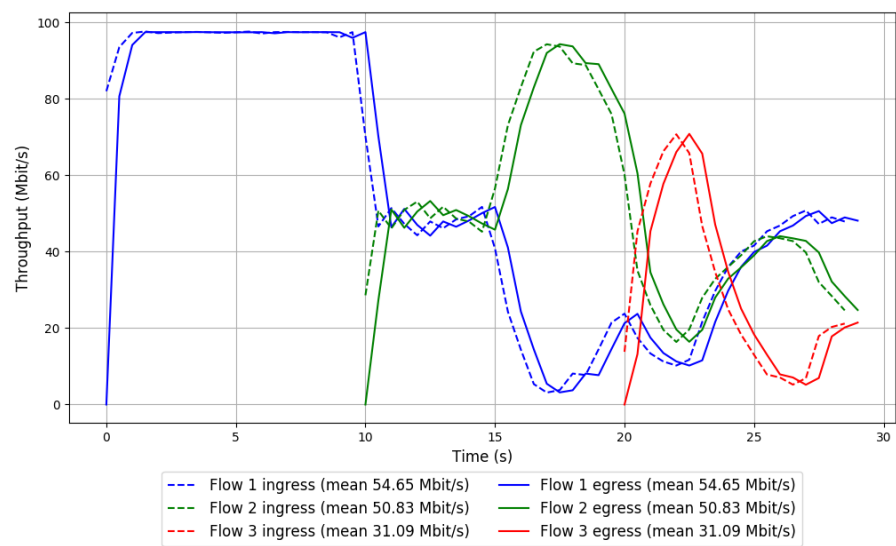


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-05 08:12:49  
End at: 2019-02-05 08:13:19  
Local clock offset: -3.86 ms  
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2019-02-05 09:27:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.01 Mbit/s  
95th percentile per-packet one-way delay: 11.661 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 54.65 Mbit/s  
95th percentile per-packet one-way delay: 11.195 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 50.83 Mbit/s  
95th percentile per-packet one-way delay: 12.447 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 31.09 Mbit/s  
95th percentile per-packet one-way delay: 7.300 ms  
Loss rate: 0.00%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-05 08:36:45

End at: 2019-02-05 08:37:15

Local clock offset: -5.984 ms

Remote clock offset: 0.038 ms

# Below is generated by plot.py at 2019-02-05 09:27:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.93 Mbit/s

95th percentile per-packet one-way delay: 12.634 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 58.42 Mbit/s

95th percentile per-packet one-way delay: 12.164 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 43.95 Mbit/s

95th percentile per-packet one-way delay: 13.421 ms

Loss rate: 0.00%

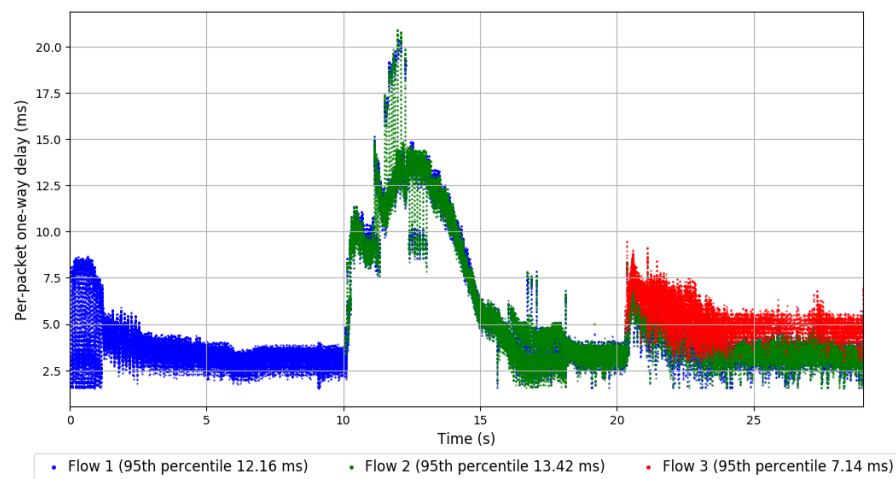
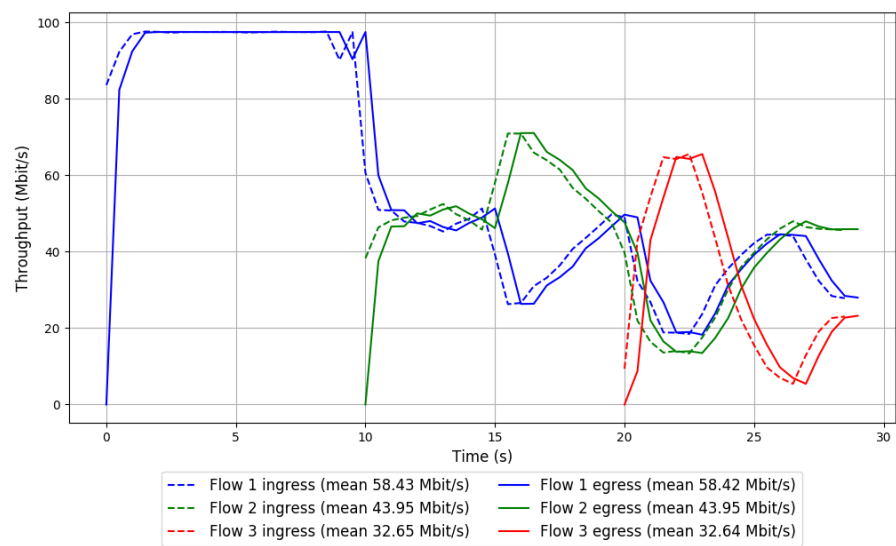
-- Flow 3:

Average throughput: 32.64 Mbit/s

95th percentile per-packet one-way delay: 7.138 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-05 09:00:41

End at: 2019-02-05 09:01:11

Local clock offset: -6.544 ms

Remote clock offset: 0.569 ms

# Below is generated by plot.py at 2019-02-05 09:27:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.02 Mbit/s

95th percentile per-packet one-way delay: 12.866 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 57.01 Mbit/s

95th percentile per-packet one-way delay: 11.302 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 49.04 Mbit/s

95th percentile per-packet one-way delay: 13.984 ms

Loss rate: 0.00%

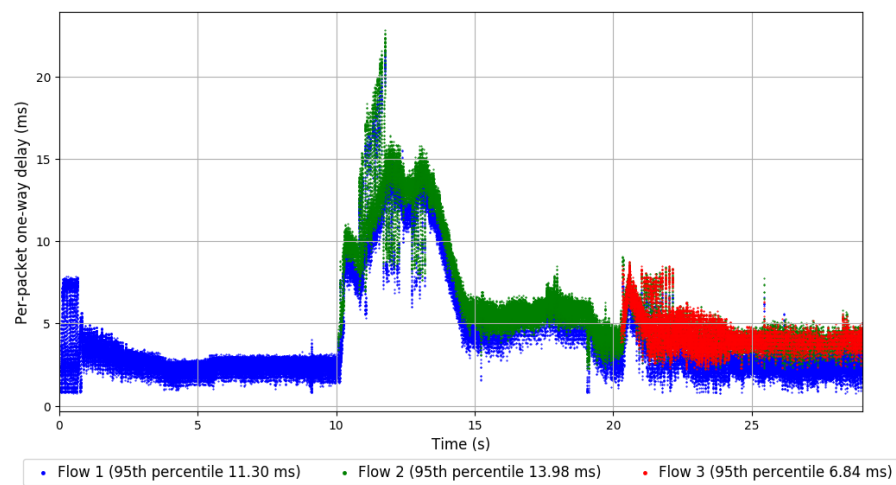
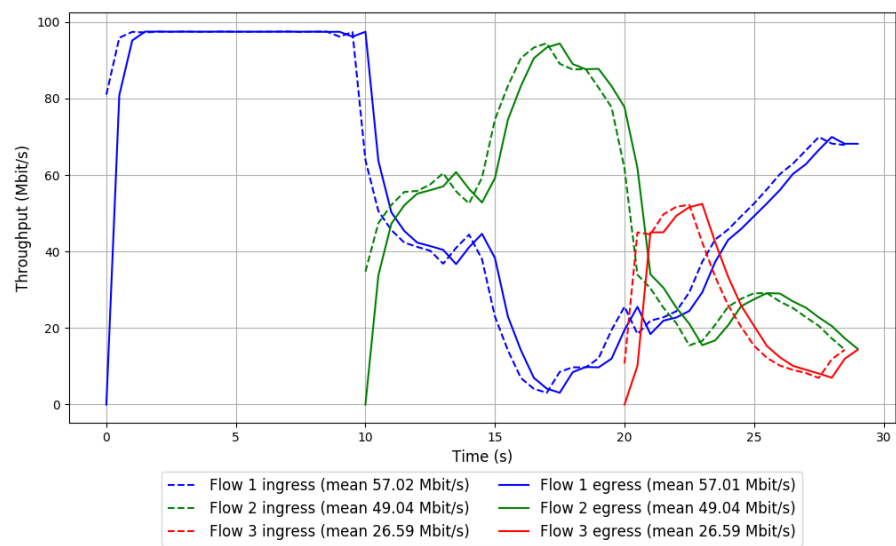
-- Flow 3:

Average throughput: 26.59 Mbit/s

95th percentile per-packet one-way delay: 6.839 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-05 07:31:54

End at: 2019-02-05 07:32:24

Local clock offset: -3.174 ms

Remote clock offset: 0.087 ms

# Below is generated by plot.py at 2019-02-05 09:27:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 69.58 Mbit/s

95th percentile per-packet one-way delay: 22.257 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 37.01 Mbit/s

95th percentile per-packet one-way delay: 21.054 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 36.38 Mbit/s

95th percentile per-packet one-way delay: 21.218 ms

Loss rate: 0.00%

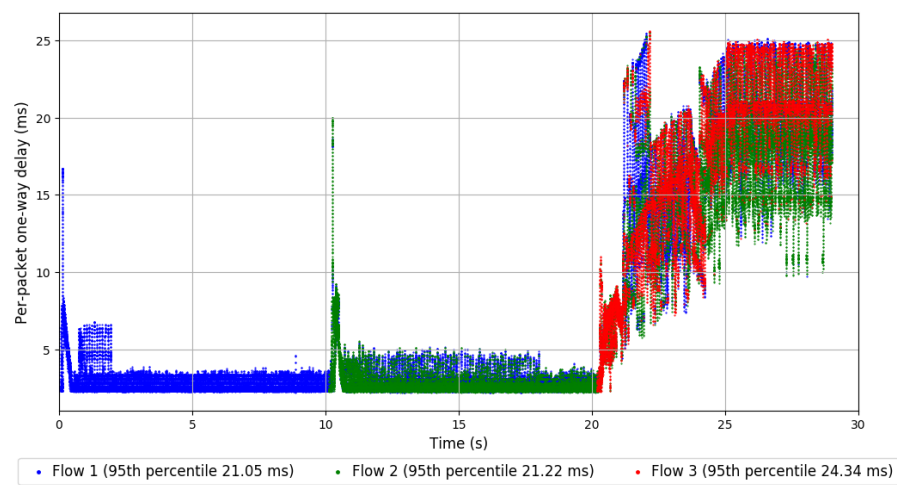
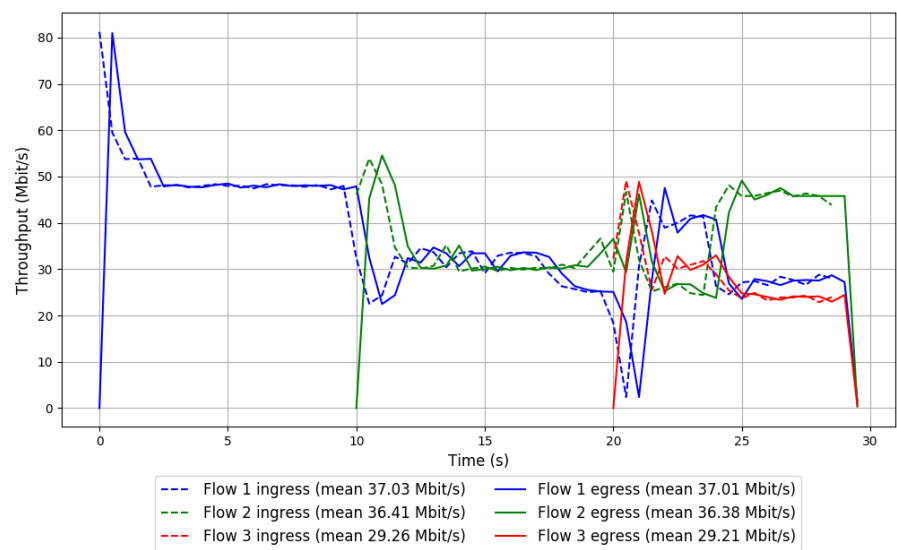
-- Flow 3:

Average throughput: 29.21 Mbit/s

95th percentile per-packet one-way delay: 24.342 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC5 — Data Link



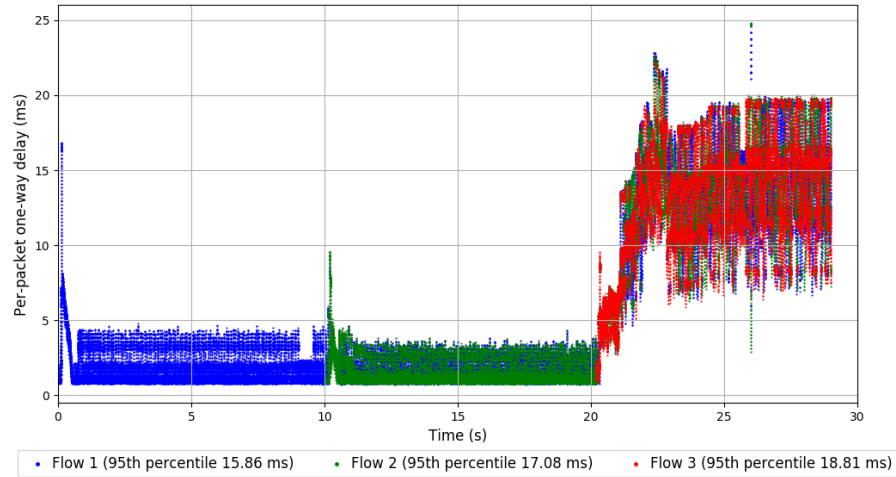
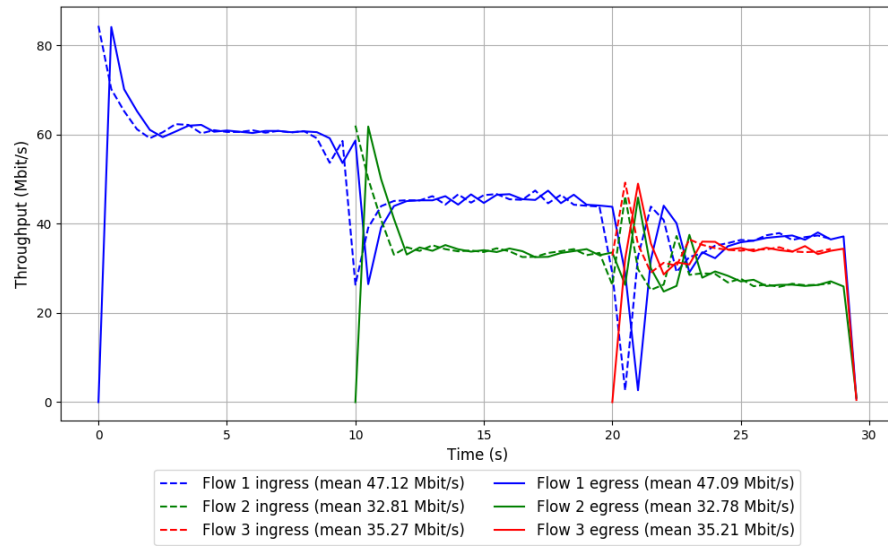


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-05 07:55:49  
End at: 2019-02-05 07:56:19  
Local clock offset: -3.557 ms  
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2019-02-05 09:27:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.20 Mbit/s  
95th percentile per-packet one-way delay: 17.058 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 47.09 Mbit/s  
95th percentile per-packet one-way delay: 15.862 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 32.78 Mbit/s  
95th percentile per-packet one-way delay: 17.081 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 35.21 Mbit/s  
95th percentile per-packet one-way delay: 18.810 ms  
Loss rate: 0.00%

## Run 2: Report of Indigo-MusesC5 — Data Link

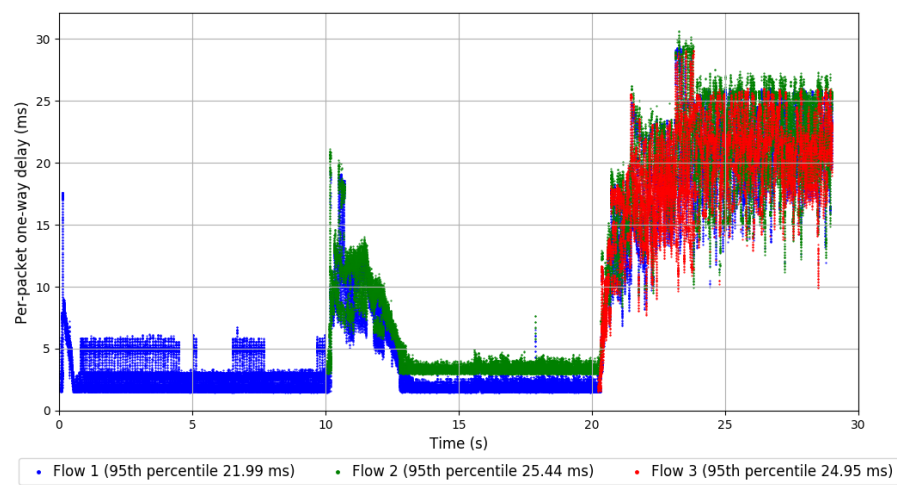
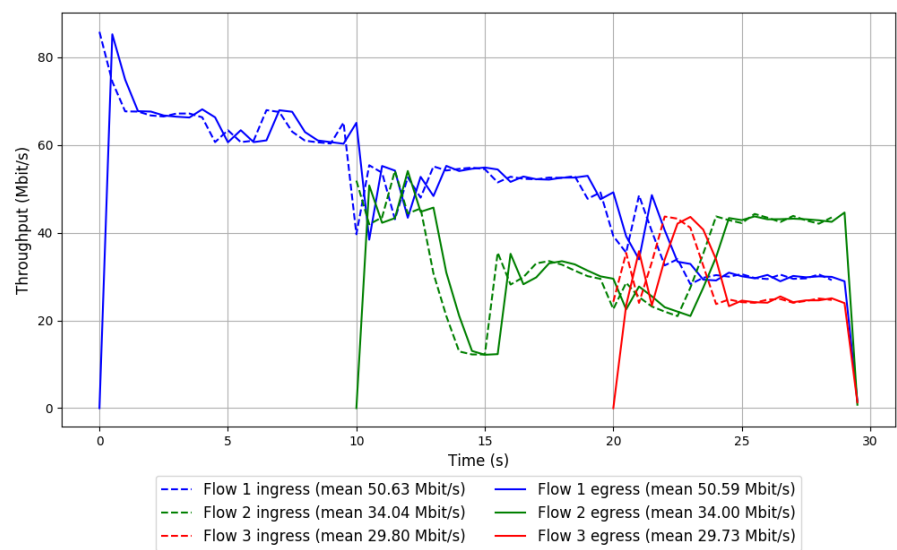


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-05 08:19:44  
End at: 2019-02-05 08:20:14  
Local clock offset: -4.965 ms  
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-02-05 09:27:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 81.82 Mbit/s  
95th percentile per-packet one-way delay: 24.256 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 50.59 Mbit/s  
95th percentile per-packet one-way delay: 21.991 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 34.00 Mbit/s  
95th percentile per-packet one-way delay: 25.436 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 29.73 Mbit/s  
95th percentile per-packet one-way delay: 24.951 ms  
Loss rate: 0.00%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-05 08:43:40

End at: 2019-02-05 08:44:10

Local clock offset: -5.459 ms

Remote clock offset: 0.27 ms

# Below is generated by plot.py at 2019-02-05 09:27:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 74.11 Mbit/s

95th percentile per-packet one-way delay: 21.480 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 40.29 Mbit/s

95th percentile per-packet one-way delay: 19.295 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.40 Mbit/s

95th percentile per-packet one-way delay: 22.433 ms

Loss rate: 0.00%

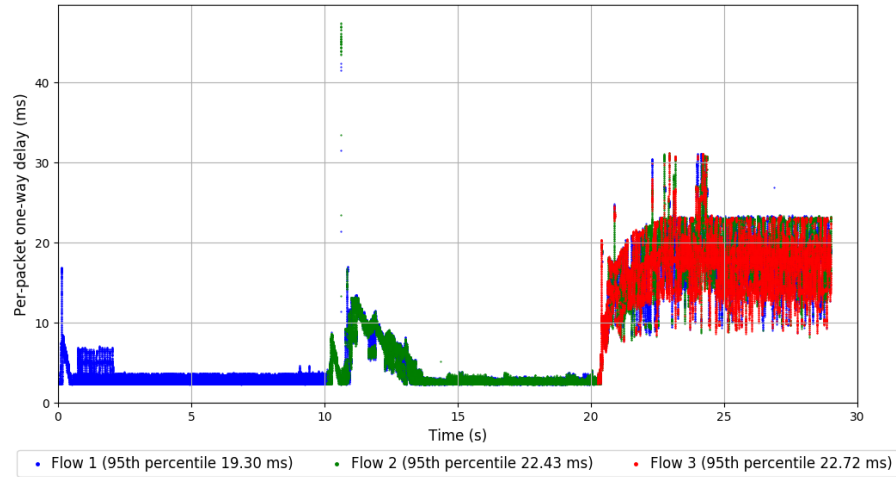
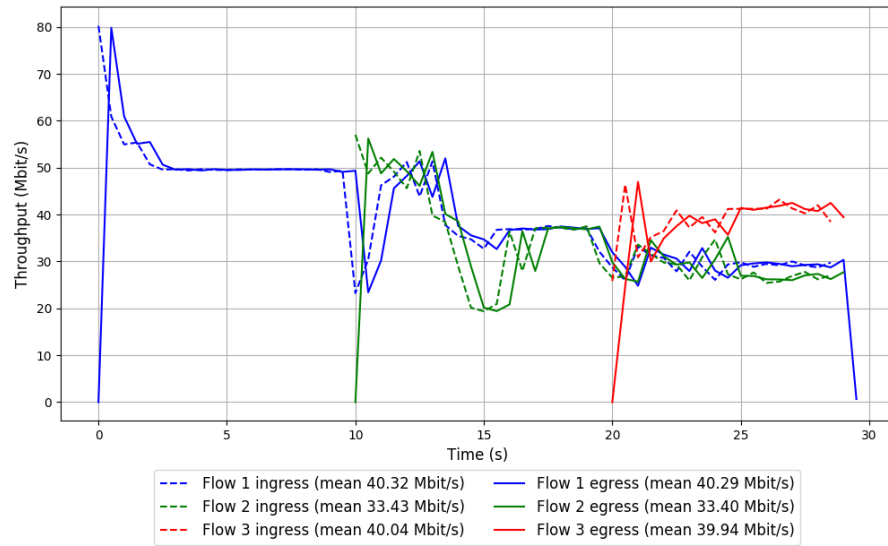
-- Flow 3:

Average throughput: 39.94 Mbit/s

95th percentile per-packet one-way delay: 22.720 ms

Loss rate: 0.00%

# Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-05 09:07:35

End at: 2019-02-05 09:08:05

Local clock offset: -6.904 ms

Remote clock offset: 0.728 ms

# Below is generated by plot.py at 2019-02-05 09:27:59

# Datalink statistics

-- Total of 3 flows:

Average throughput: 76.54 Mbit/s

95th percentile per-packet one-way delay: 4.667 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.40 Mbit/s

95th percentile per-packet one-way delay: 3.966 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 32.45 Mbit/s

95th percentile per-packet one-way delay: 5.146 ms

Loss rate: 0.00%

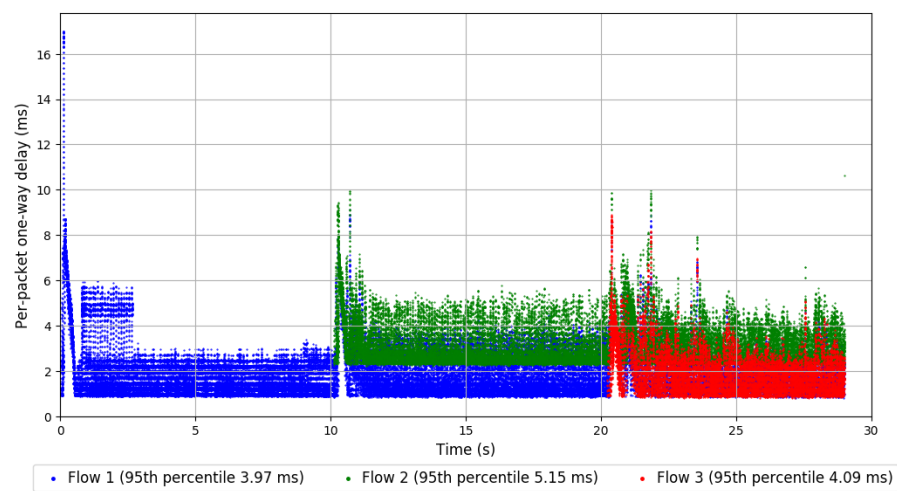
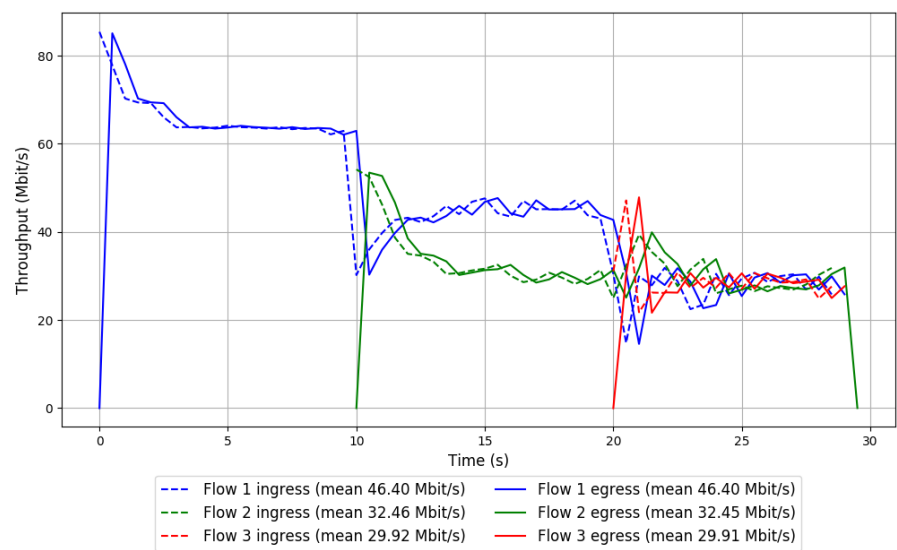
-- Flow 3:

Average throughput: 29.91 Mbit/s

95th percentile per-packet one-way delay: 4.089 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC5 — Data Link





Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-05 07:27:18

End at: 2019-02-05 07:27:48

Local clock offset: -3.053 ms

Remote clock offset: 0.099 ms

# Below is generated by plot.py at 2019-02-05 09:28:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.24 Mbit/s

95th percentile per-packet one-way delay: 30.784 ms

Loss rate: 1.11%

-- Flow 1:

Average throughput: 62.00 Mbit/s

95th percentile per-packet one-way delay: 30.188 ms

Loss rate: 0.78%

-- Flow 2:

Average throughput: 29.40 Mbit/s

95th percentile per-packet one-way delay: 30.926 ms

Loss rate: 1.85%

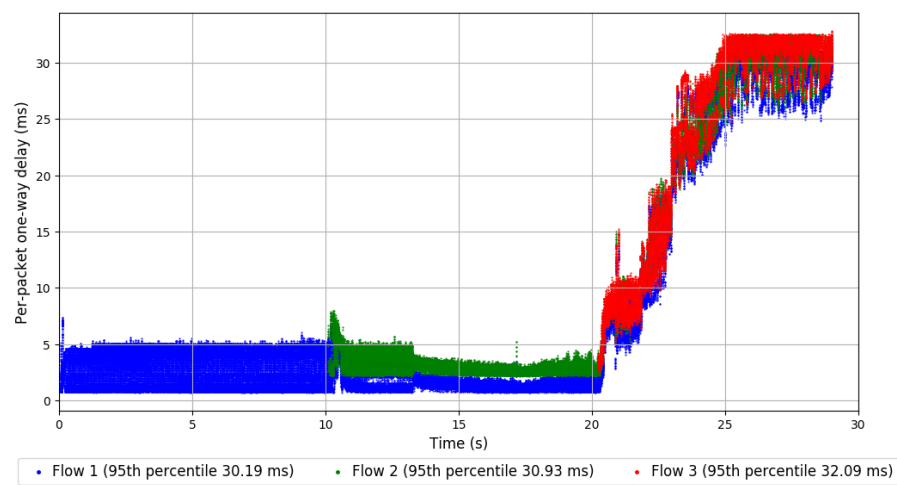
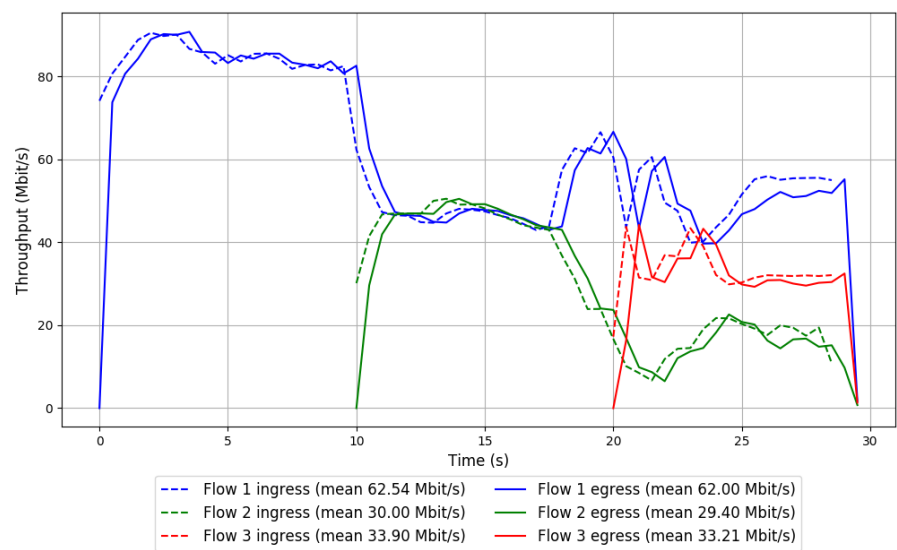
-- Flow 3:

Average throughput: 33.21 Mbit/s

95th percentile per-packet one-way delay: 32.095 ms

Loss rate: 1.76%

Run 1: Report of Indigo-MusesD — Data Link

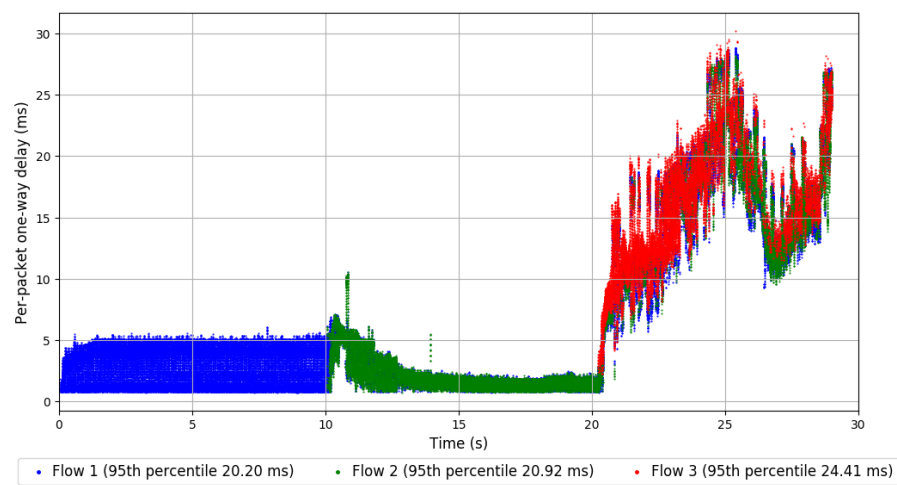
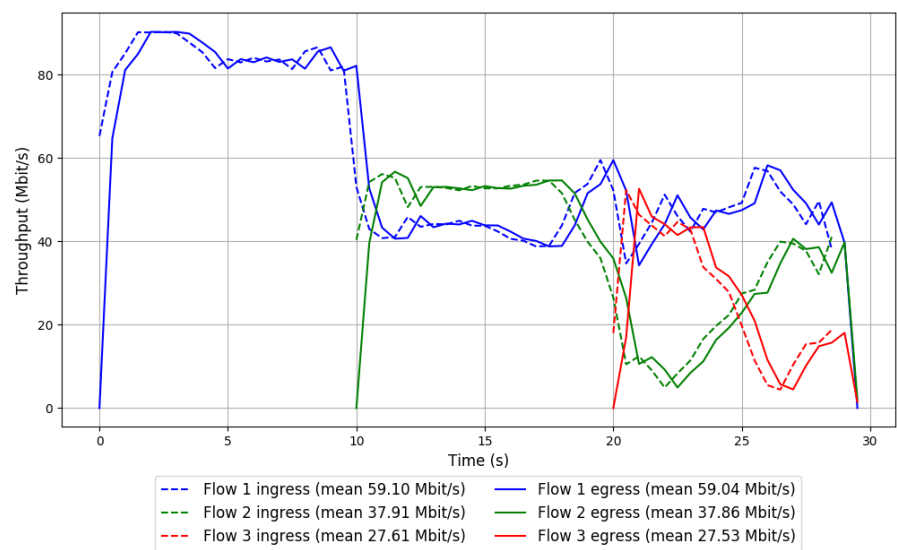


Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-05 07:51:13  
End at: 2019-02-05 07:51:43  
Local clock offset: -3.509 ms  
Remote clock offset: -0.015 ms

# Below is generated by plot.py at 2019-02-05 09:28:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.09 Mbit/s  
95th percentile per-packet one-way delay: 21.182 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 59.04 Mbit/s  
95th percentile per-packet one-way delay: 20.201 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 37.86 Mbit/s  
95th percentile per-packet one-way delay: 20.920 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 27.53 Mbit/s  
95th percentile per-packet one-way delay: 24.410 ms  
Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link

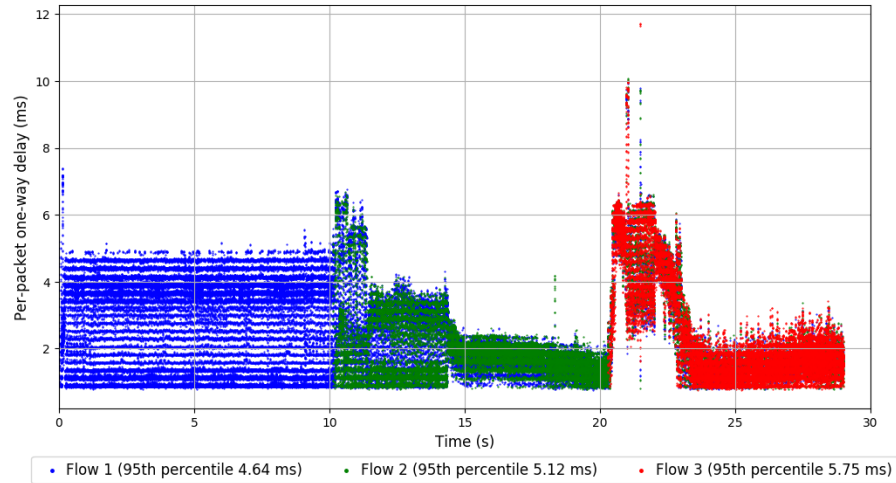
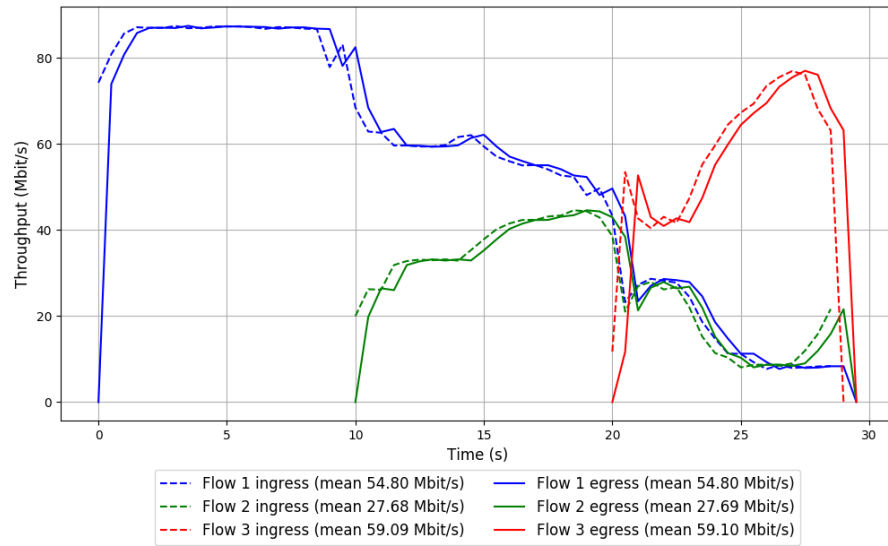


Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-05 08:15:08  
End at: 2019-02-05 08:15:38  
Local clock offset: -3.888 ms  
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-02-05 09:28:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 90.58 Mbit/s  
95th percentile per-packet one-way delay: 4.909 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 54.80 Mbit/s  
95th percentile per-packet one-way delay: 4.645 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 27.69 Mbit/s  
95th percentile per-packet one-way delay: 5.121 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 59.10 Mbit/s  
95th percentile per-packet one-way delay: 5.755 ms  
Loss rate: 0.00%

### Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-05 08:39:03

End at: 2019-02-05 08:39:33

Local clock offset: -6.058 ms

Remote clock offset: 0.177 ms

# Below is generated by plot.py at 2019-02-05 09:28:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.34 Mbit/s

95th percentile per-packet one-way delay: 5.095 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 42.43 Mbit/s

95th percentile per-packet one-way delay: 4.860 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 46.90 Mbit/s

95th percentile per-packet one-way delay: 5.311 ms

Loss rate: 0.00%

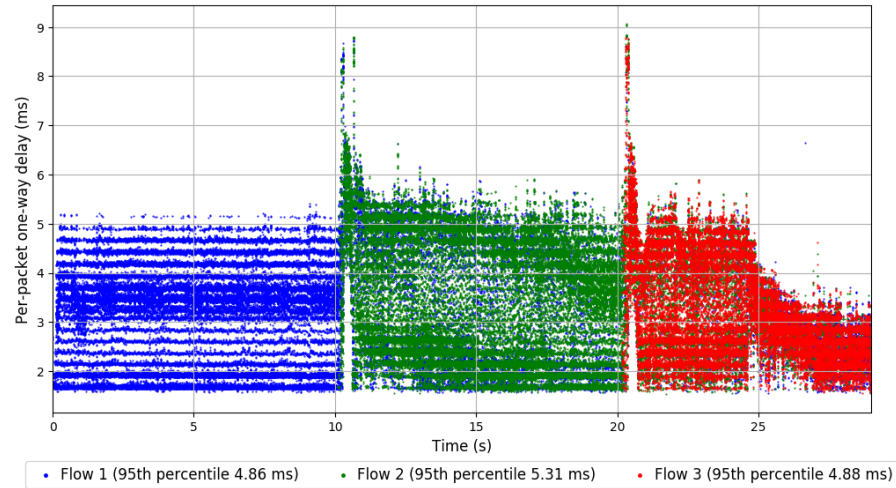
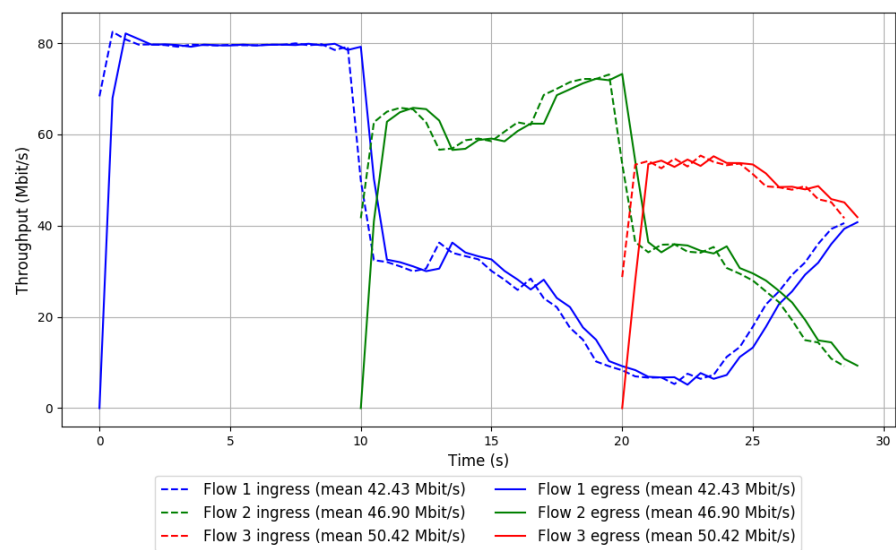
-- Flow 3:

Average throughput: 50.42 Mbit/s

95th percentile per-packet one-way delay: 4.880 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesD — Data Link





Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-05 09:02:59

End at: 2019-02-05 09:03:29

Local clock offset: -7.366 ms

Remote clock offset: 0.653 ms

# Below is generated by plot.py at 2019-02-05 09:28:41

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.39 Mbit/s

95th percentile per-packet one-way delay: 31.657 ms

Loss rate: 1.84%

-- Flow 1:

Average throughput: 43.41 Mbit/s

95th percentile per-packet one-way delay: 27.588 ms

Loss rate: 1.26%

-- Flow 2:

Average throughput: 58.31 Mbit/s

95th percentile per-packet one-way delay: 31.482 ms

Loss rate: 2.34%

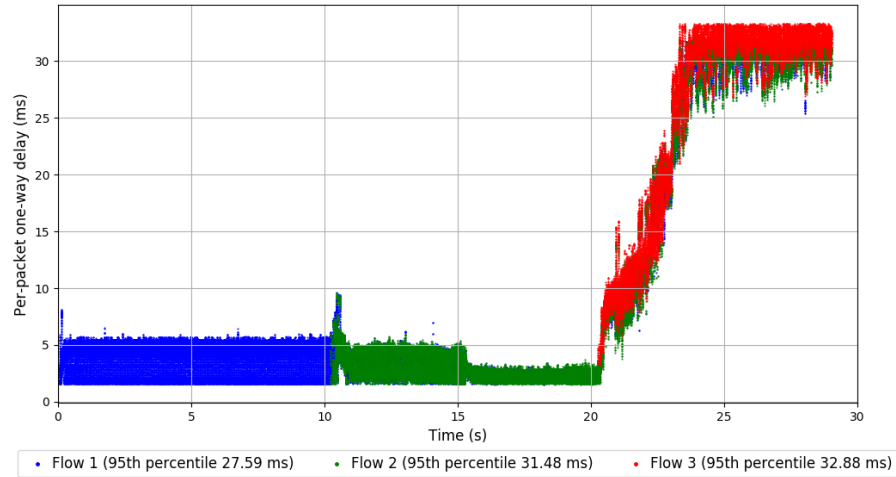
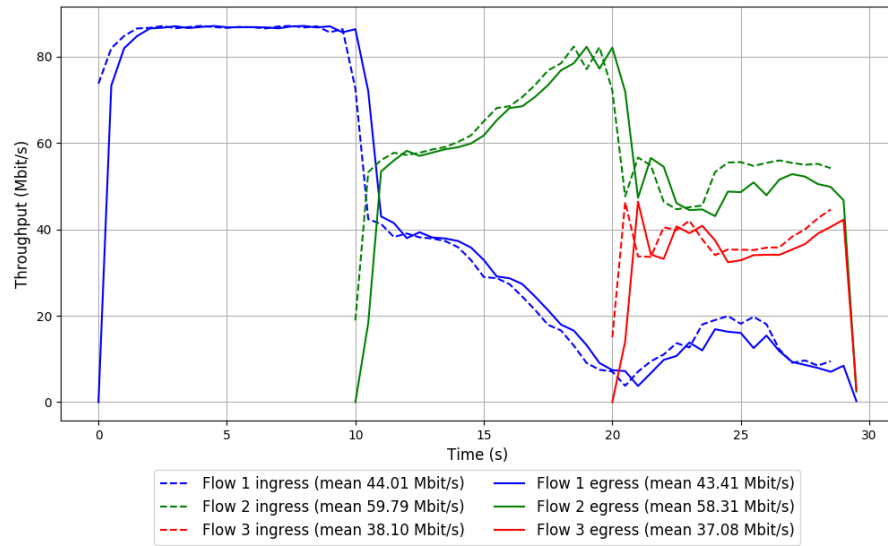
-- Flow 3:

Average throughput: 37.08 Mbit/s

95th percentile per-packet one-way delay: 32.881 ms

Loss rate: 2.36%

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



Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-05 07:40:58

End at: 2019-02-05 07:41:28

Local clock offset: -3.36 ms

Remote clock offset: 0.045 ms

# Below is generated by plot.py at 2019-02-05 09:28:55

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 27.430 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 64.35 Mbit/s

95th percentile per-packet one-way delay: 25.143 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 35.06 Mbit/s

95th percentile per-packet one-way delay: 26.924 ms

Loss rate: 0.29%

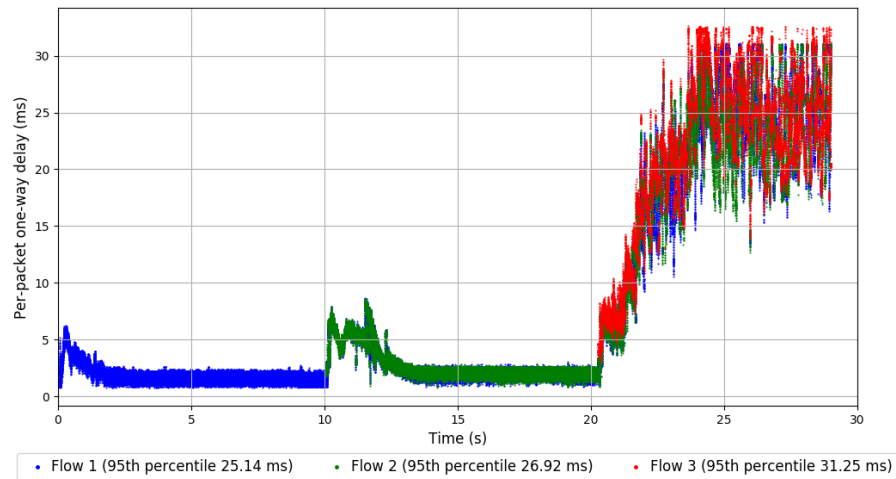
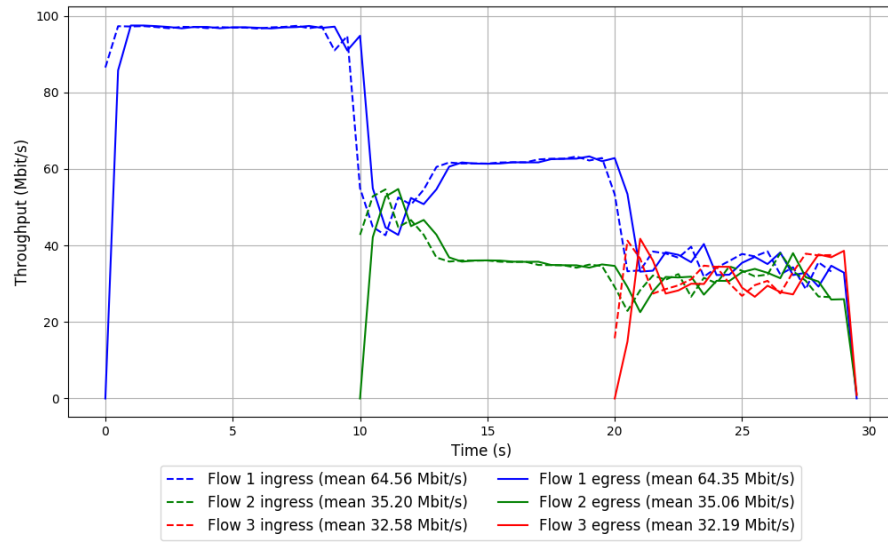
-- Flow 3:

Average throughput: 32.19 Mbit/s

95th percentile per-packet one-way delay: 31.253 ms

Loss rate: 1.02%

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

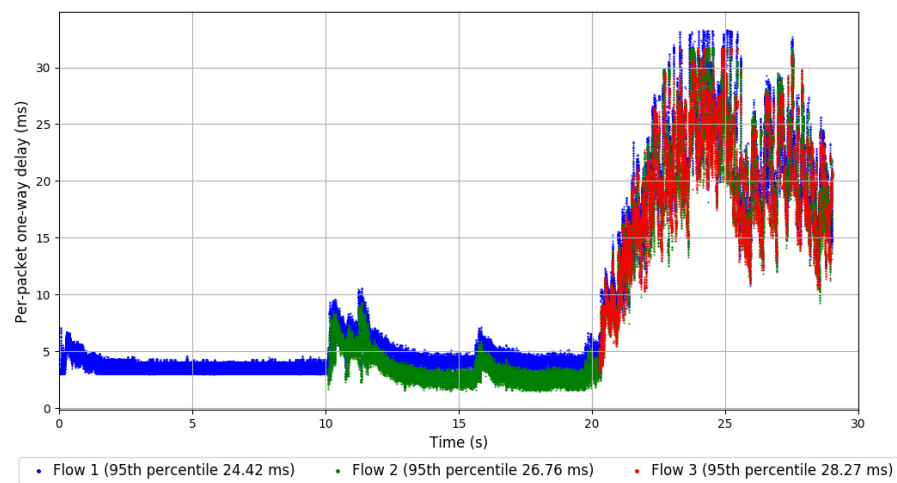
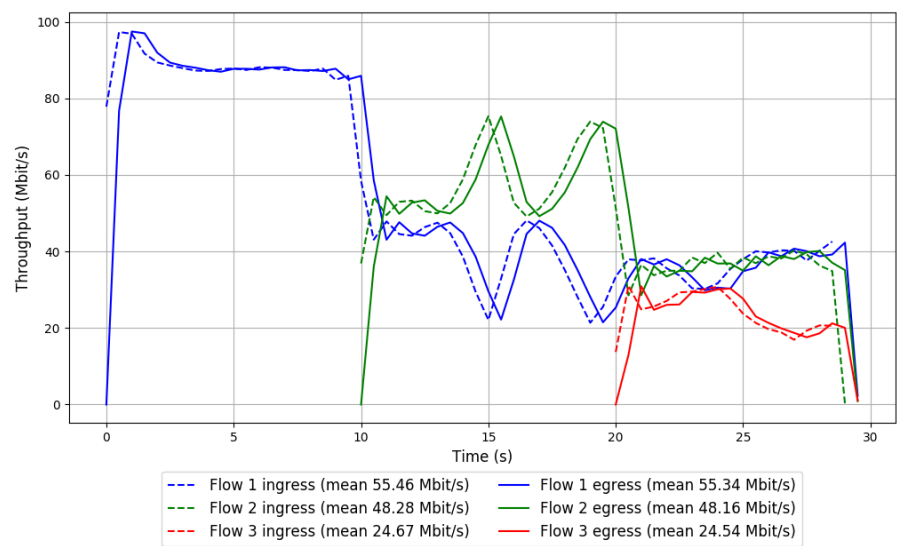


Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-05 08:04:53  
End at: 2019-02-05 08:05:23  
Local clock offset: -4.416 ms  
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2019-02-05 09:28:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.14 Mbit/s  
95th percentile per-packet one-way delay: 26.034 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 55.34 Mbit/s  
95th percentile per-packet one-way delay: 24.418 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 48.16 Mbit/s  
95th percentile per-packet one-way delay: 26.757 ms  
Loss rate: 0.16%  
-- Flow 3:  
Average throughput: 24.54 Mbit/s  
95th percentile per-packet one-way delay: 28.268 ms  
Loss rate: 0.42%

Run 2: Report of Indigo-MusesT — Data Link

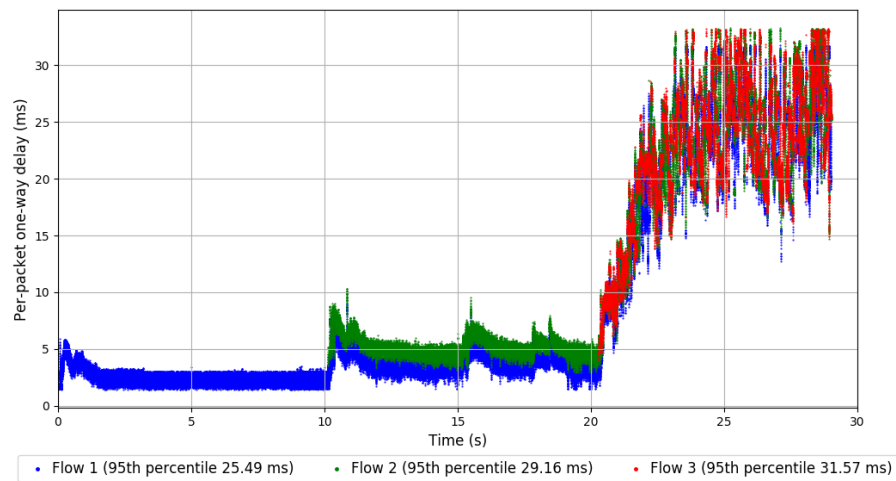
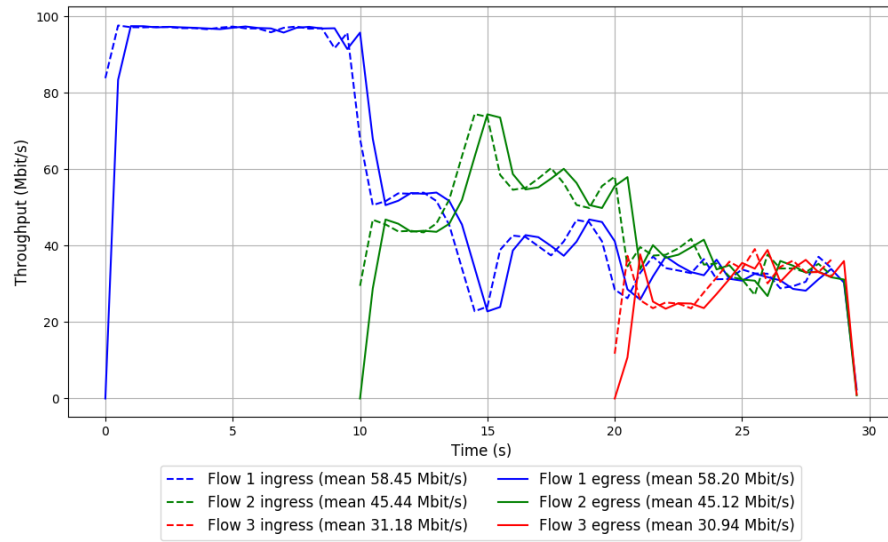


Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-05 08:28:49  
End at: 2019-02-05 08:29:19  
Local clock offset: -5.557 ms  
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2019-02-05 09:29:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.89 Mbit/s  
95th percentile per-packet one-way delay: 28.389 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 58.20 Mbit/s  
95th percentile per-packet one-way delay: 25.494 ms  
Loss rate: 0.34%  
-- Flow 2:  
Average throughput: 45.12 Mbit/s  
95th percentile per-packet one-way delay: 29.158 ms  
Loss rate: 0.60%  
-- Flow 3:  
Average throughput: 30.94 Mbit/s  
95th percentile per-packet one-way delay: 31.570 ms  
Loss rate: 0.52%

### Run 3: Report of Indigo-MusesT — Data Link





Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-05 08:52:44

End at: 2019-02-05 08:53:14

Local clock offset: -6.069 ms

Remote clock offset: 0.464 ms

# Below is generated by plot.py at 2019-02-05 09:29:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.75 Mbit/s

95th percentile per-packet one-way delay: 26.079 ms

Loss rate: 0.13%

-- Flow 1:

Average throughput: 60.60 Mbit/s

95th percentile per-packet one-way delay: 23.825 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 42.75 Mbit/s

95th percentile per-packet one-way delay: 26.905 ms

Loss rate: 0.13%

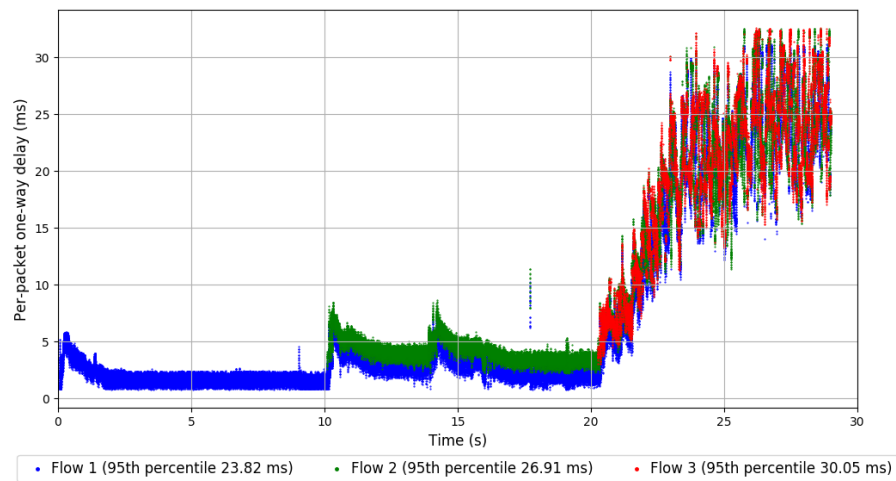
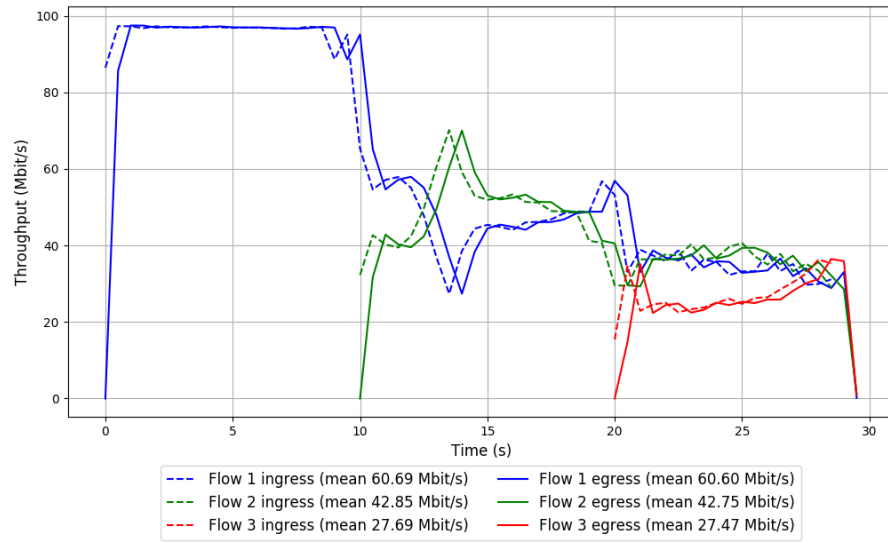
-- Flow 3:

Average throughput: 27.47 Mbit/s

95th percentile per-packet one-way delay: 30.049 ms

Loss rate: 0.52%

# Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-05 09:16:41

End at: 2019-02-05 09:17:11

Local clock offset: -7.067 ms

Remote clock offset: 0.823 ms

# Below is generated by plot.py at 2019-02-05 09:29:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 24.641 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 66.23 Mbit/s

95th percentile per-packet one-way delay: 22.847 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 34.39 Mbit/s

95th percentile per-packet one-way delay: 25.676 ms

Loss rate: 0.08%

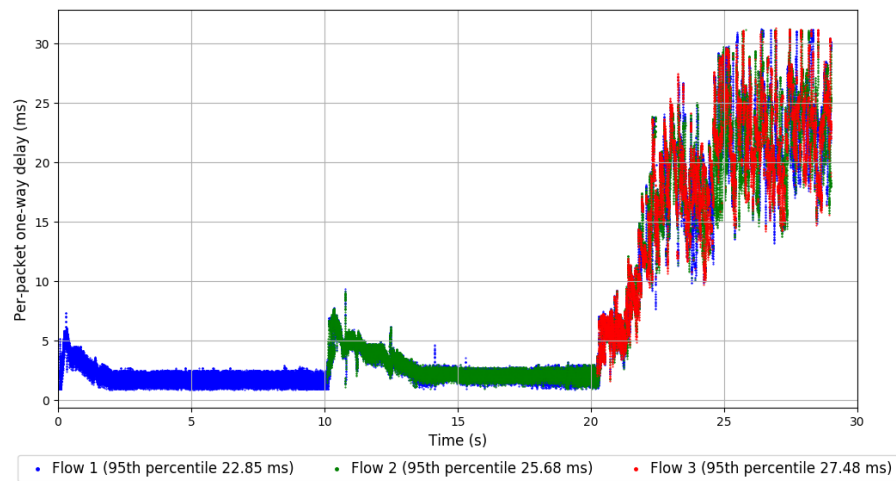
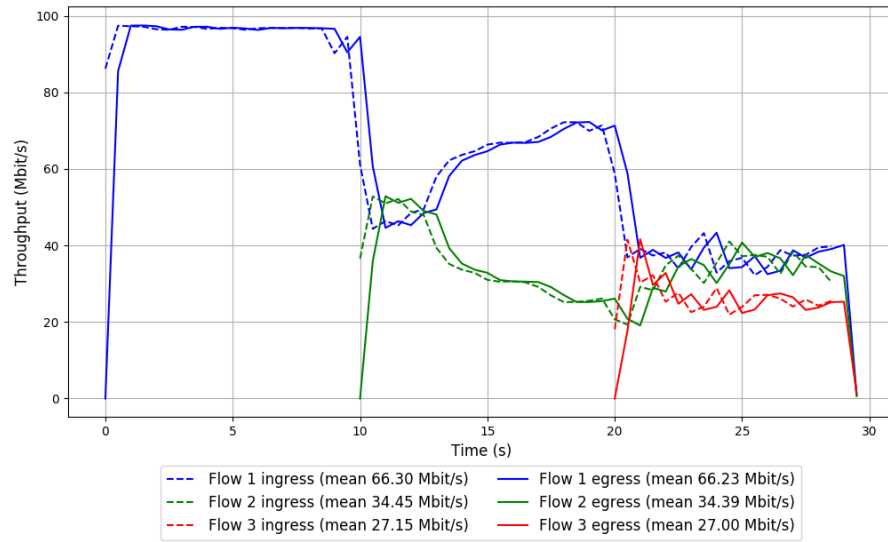
-- Flow 3:

Average throughput: 27.00 Mbit/s

95th percentile per-packet one-way delay: 27.484 ms

Loss rate: 0.36%

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

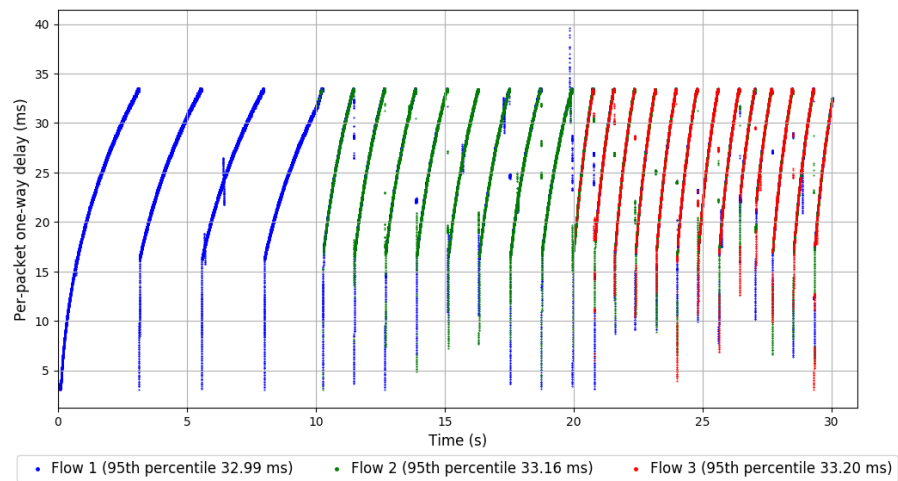
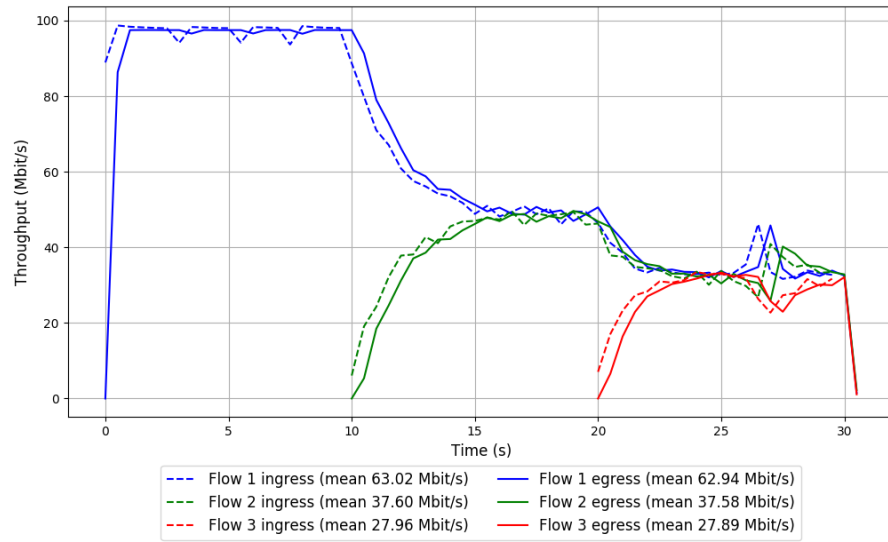


```
Run 1: Statistics of LEDBAT

Start at: 2019-02-05 07:30:44
End at: 2019-02-05 07:31:14
Local clock offset: -3.942 ms
Remote clock offset: 0.112 ms

# Below is generated by plot.py at 2019-02-05 09:29:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.20 Mbit/s
95th percentile per-packet one-way delay: 33.014 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.94 Mbit/s
95th percentile per-packet one-way delay: 32.993 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.58 Mbit/s
95th percentile per-packet one-way delay: 33.160 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 27.89 Mbit/s
95th percentile per-packet one-way delay: 33.200 ms
Loss rate: 0.10%
```

# Run 1: Report of LEDBAT — Data Link

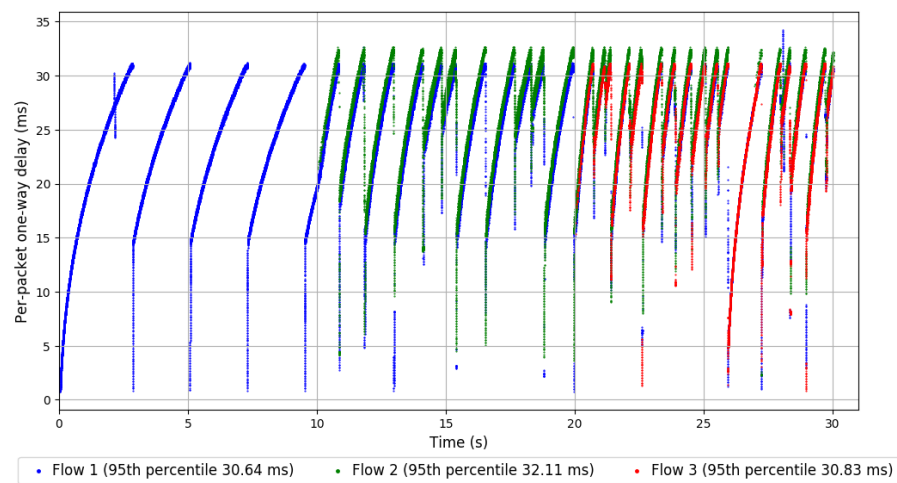
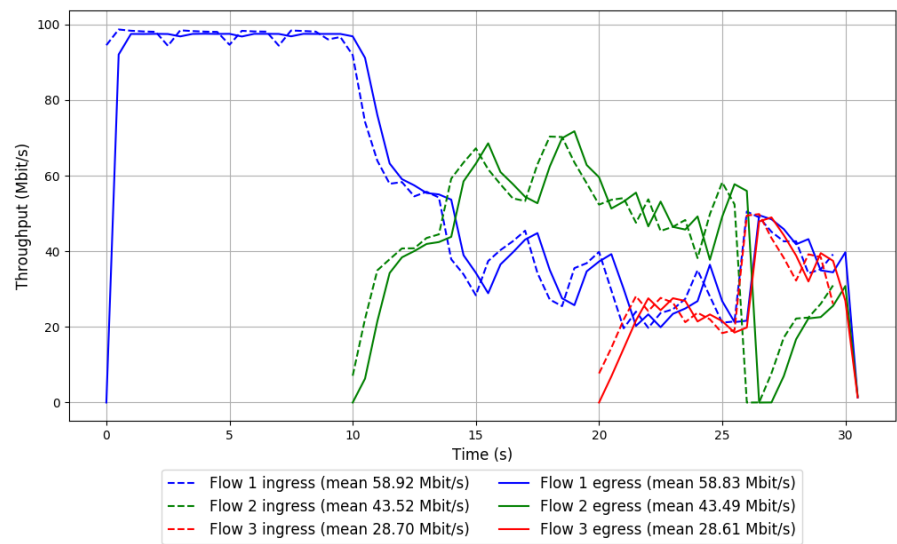


Run 2: Statistics of LEDBAT

Start at: 2019-02-05 07:54:38  
End at: 2019-02-05 07:55:08  
Local clock offset: -3.566 ms  
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2019-02-05 09:29:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.31 Mbit/s  
95th percentile per-packet one-way delay: 31.121 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 58.83 Mbit/s  
95th percentile per-packet one-way delay: 30.640 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 43.49 Mbit/s  
95th percentile per-packet one-way delay: 32.110 ms  
Loss rate: 0.02%  
-- Flow 3:  
Average throughput: 28.61 Mbit/s  
95th percentile per-packet one-way delay: 30.829 ms  
Loss rate: 0.14%

Run 2: Report of LEDBAT — Data Link





Run 3: Statistics of LEDBAT

Start at: 2019-02-05 08:18:34

End at: 2019-02-05 08:19:04

Local clock offset: -4.847 ms

Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2019-02-05 09:29:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.18 Mbit/s

95th percentile per-packet one-way delay: 32.475 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 63.63 Mbit/s

95th percentile per-packet one-way delay: 32.565 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 31.56 Mbit/s

95th percentile per-packet one-way delay: 31.285 ms

Loss rate: 0.11%

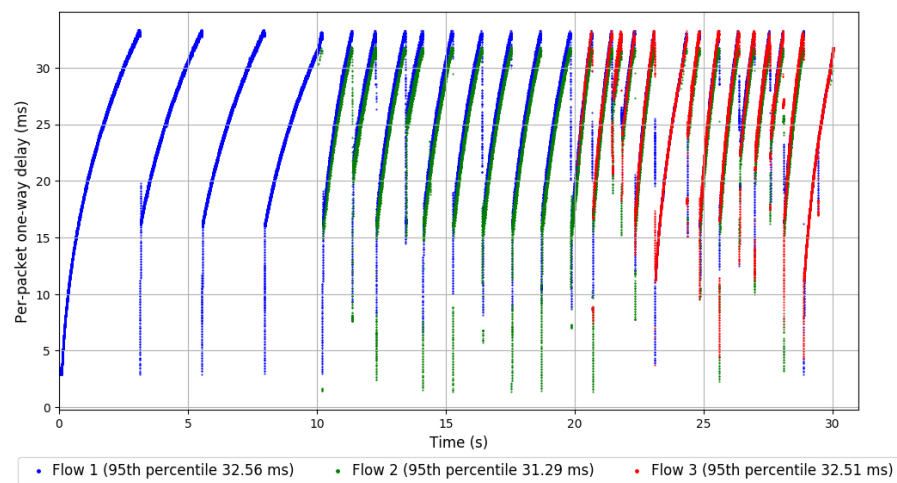
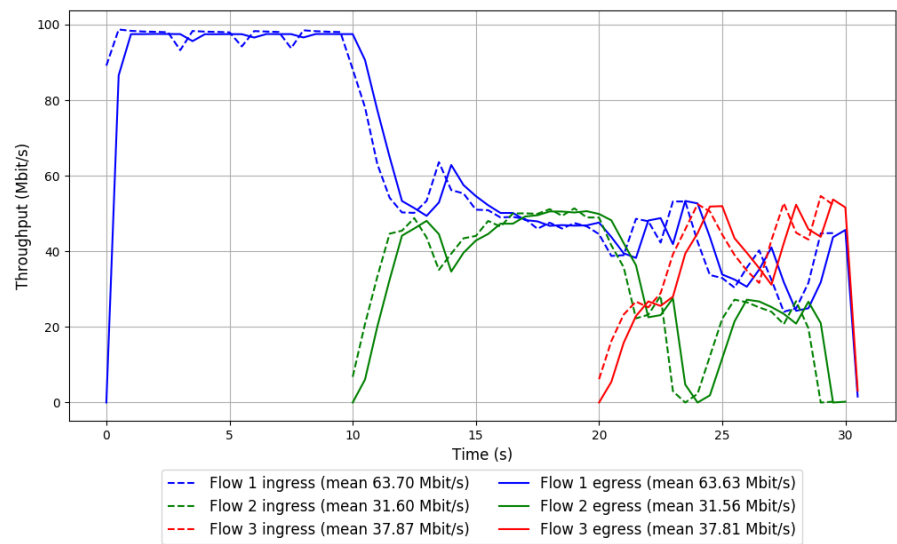
-- Flow 3:

Average throughput: 37.81 Mbit/s

95th percentile per-packet one-way delay: 32.506 ms

Loss rate: 0.05%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-02-05 08:42:29

End at: 2019-02-05 08:42:59

Local clock offset: -5.415 ms

Remote clock offset: 0.252 ms

# Below is generated by plot.py at 2019-02-05 09:30:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.21 Mbit/s

95th percentile per-packet one-way delay: 31.952 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 73.03 Mbit/s

95th percentile per-packet one-way delay: 32.028 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 29.79 Mbit/s

95th percentile per-packet one-way delay: 30.806 ms

Loss rate: 0.13%

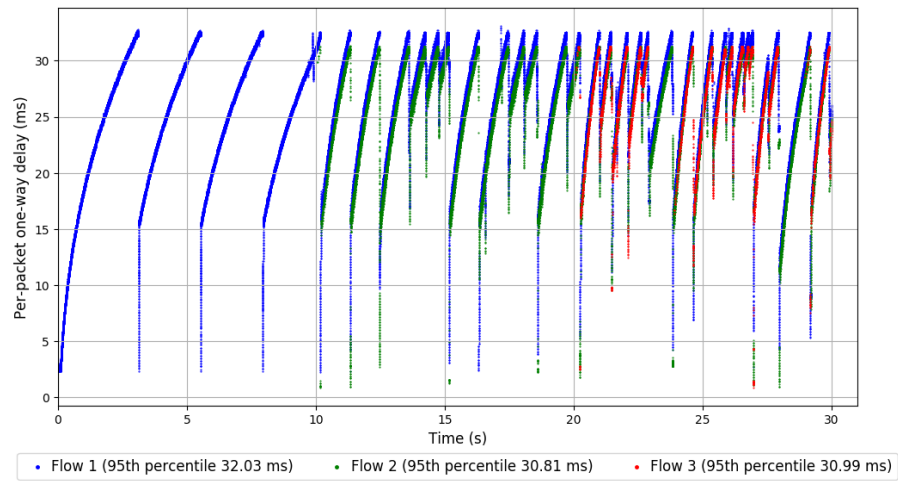
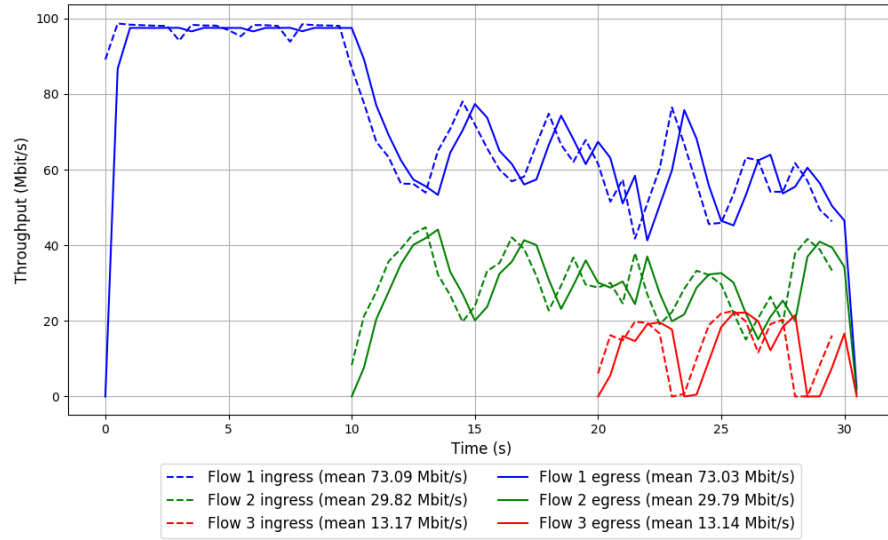
-- Flow 3:

Average throughput: 13.14 Mbit/s

95th percentile per-packet one-way delay: 30.989 ms

Loss rate: 0.33%

# Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-02-05 09:06:25

End at: 2019-02-05 09:06:55

Local clock offset: -6.87 ms

Remote clock offset: 0.651 ms

# Below is generated by plot.py at 2019-02-05 09:30:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.30 Mbit/s

95th percentile per-packet one-way delay: 30.781 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 60.43 Mbit/s

95th percentile per-packet one-way delay: 30.735 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 40.01 Mbit/s

95th percentile per-packet one-way delay: 30.936 ms

Loss rate: 0.06%

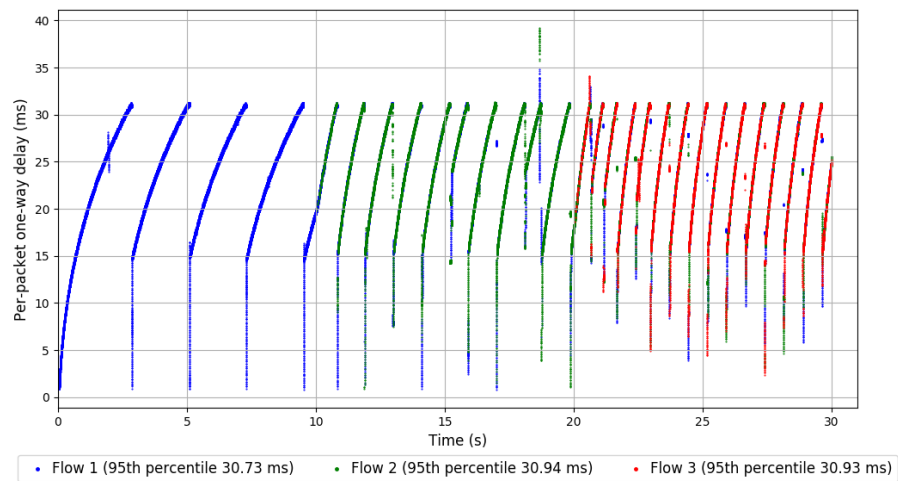
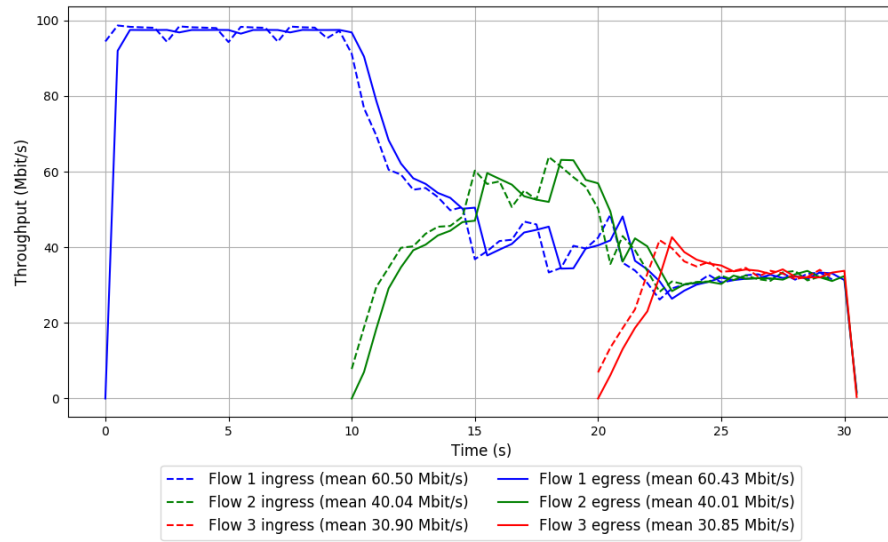
-- Flow 3:

Average throughput: 30.85 Mbit/s

95th percentile per-packet one-way delay: 30.934 ms

Loss rate: 0.09%

## Run 5: Report of LEDBAT — Data Link

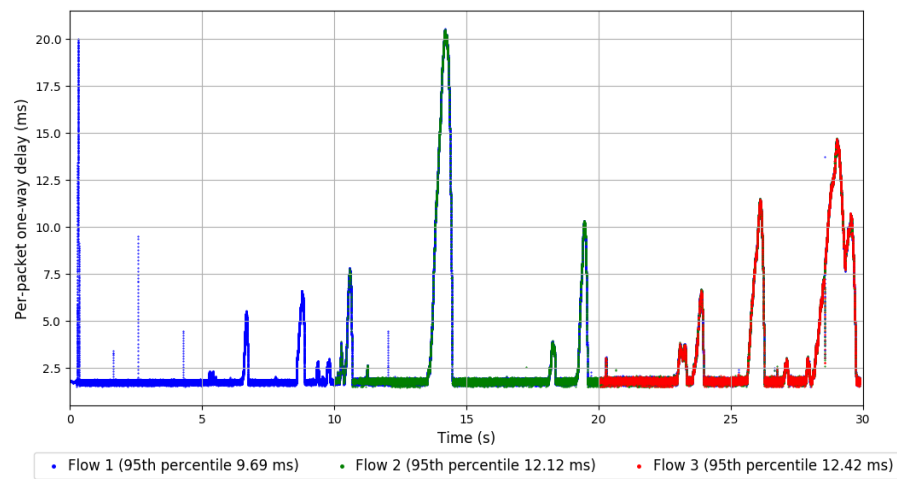
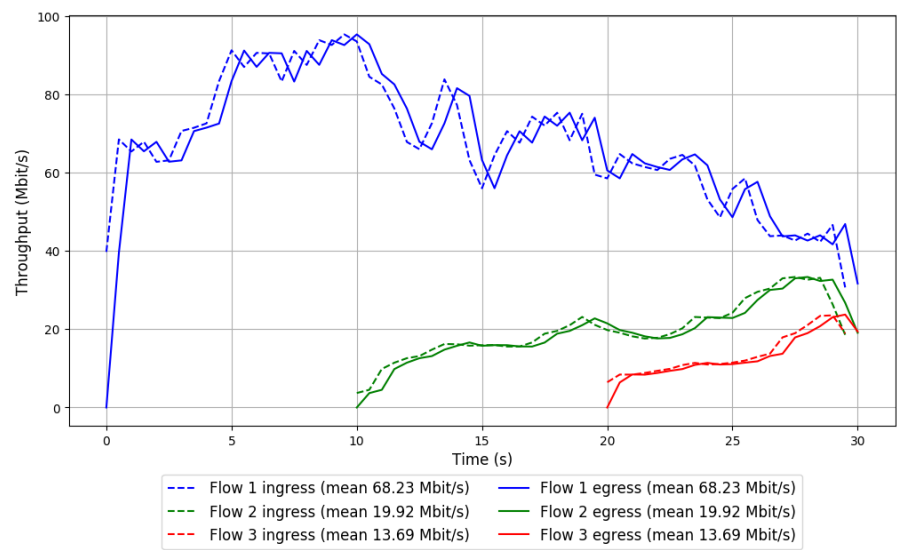


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-05 07:22:41
End at: 2019-02-05 07:23:11
Local clock offset: -3.725 ms
Remote clock offset: 0.216 ms

# Below is generated by plot.py at 2019-02-05 09:30:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.00 Mbit/s
95th percentile per-packet one-way delay: 10.452 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 68.23 Mbit/s
95th percentile per-packet one-way delay: 9.686 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.92 Mbit/s
95th percentile per-packet one-way delay: 12.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.69 Mbit/s
95th percentile per-packet one-way delay: 12.418 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link





Run 2: Statistics of PCC-Allegro

Start at: 2019-02-05 07:46:36

End at: 2019-02-05 07:47:06

Local clock offset: -4.192 ms

Remote clock offset: 0.0 ms

# Below is generated by plot.py at 2019-02-05 09:30:28

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.91 Mbit/s

95th percentile per-packet one-way delay: 32.358 ms

Loss rate: 0.27%

-- Flow 1:

Average throughput: 56.39 Mbit/s

95th percentile per-packet one-way delay: 19.898 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 28.83 Mbit/s

95th percentile per-packet one-way delay: 32.399 ms

Loss rate: 0.60%

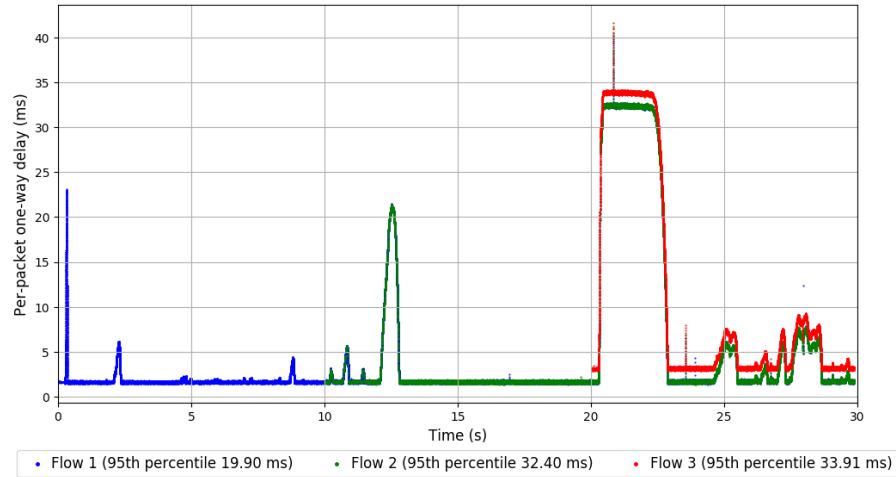
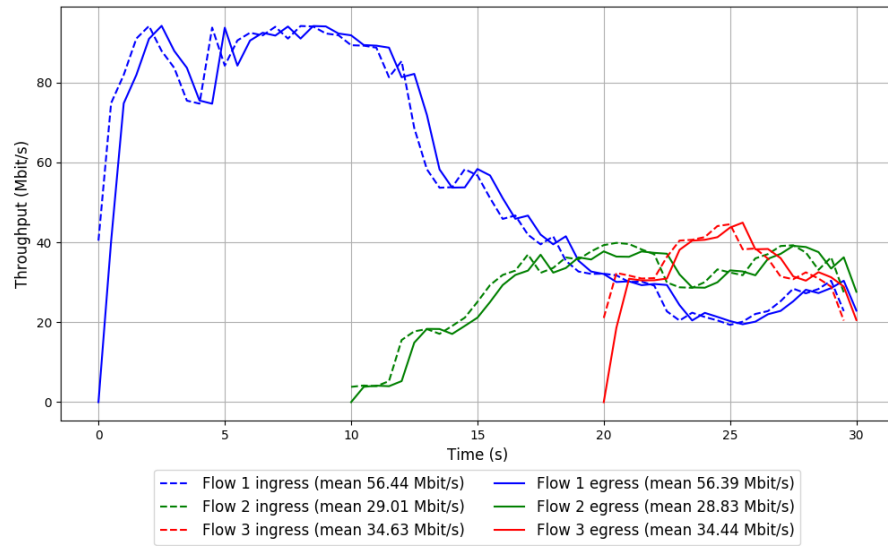
-- Flow 3:

Average throughput: 34.44 Mbit/s

95th percentile per-packet one-way delay: 33.906 ms

Loss rate: 0.54%

## Run 2: Report of PCC-Allegro — Data Link

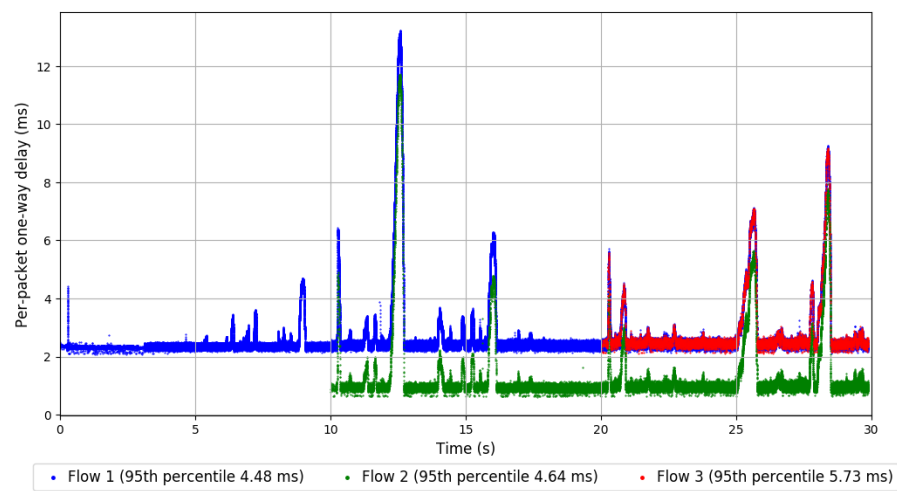
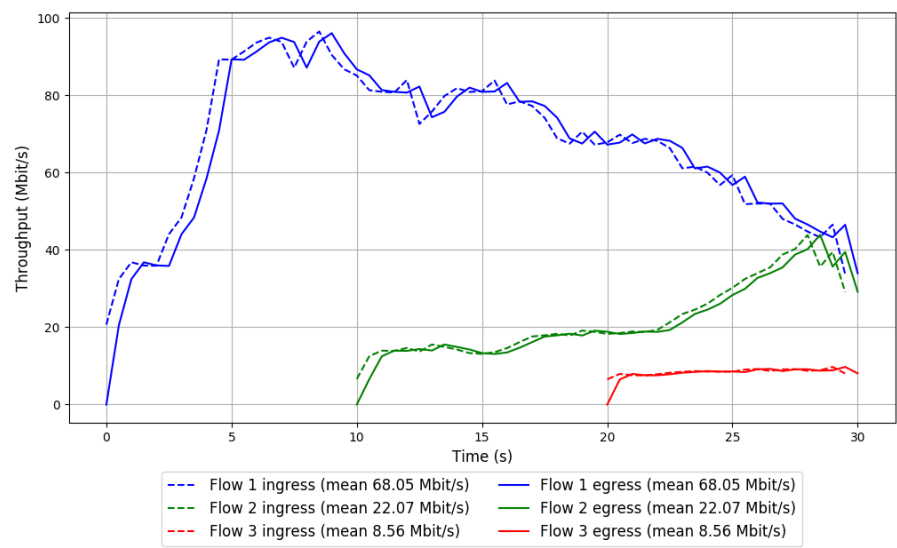


Run 3: Statistics of PCC-Allegro

Start at: 2019-02-05 08:10:31  
End at: 2019-02-05 08:11:01  
Local clock offset: -3.76 ms  
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2019-02-05 09:30:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.55 Mbit/s  
95th percentile per-packet one-way delay: 4.533 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 68.05 Mbit/s  
95th percentile per-packet one-way delay: 4.477 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 22.07 Mbit/s  
95th percentile per-packet one-way delay: 4.636 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 8.56 Mbit/s  
95th percentile per-packet one-way delay: 5.728 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-02-05 08:34:27

End at: 2019-02-05 08:34:57

Local clock offset: -5.829 ms

Remote clock offset: 0.043 ms

# Below is generated by plot.py at 2019-02-05 09:30:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.01 Mbit/s

95th percentile per-packet one-way delay: 15.486 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 64.34 Mbit/s

95th percentile per-packet one-way delay: 12.137 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 31.36 Mbit/s

95th percentile per-packet one-way delay: 24.771 ms

Loss rate: 0.01%

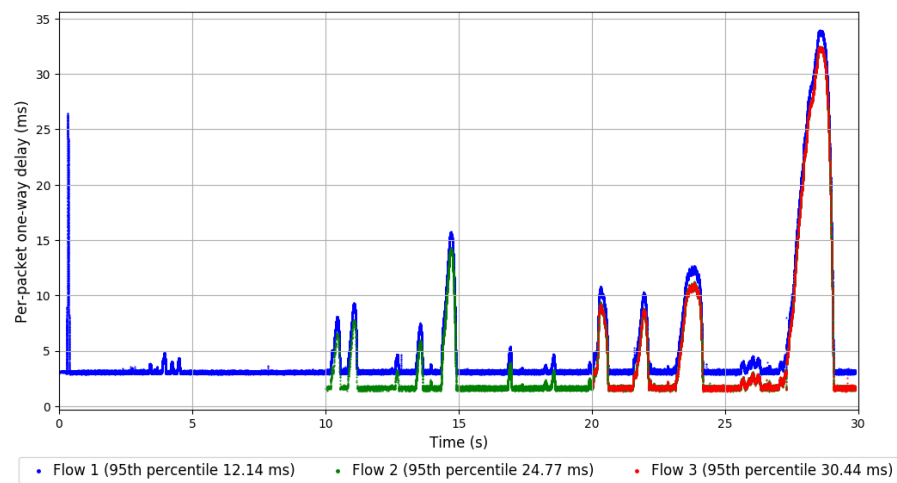
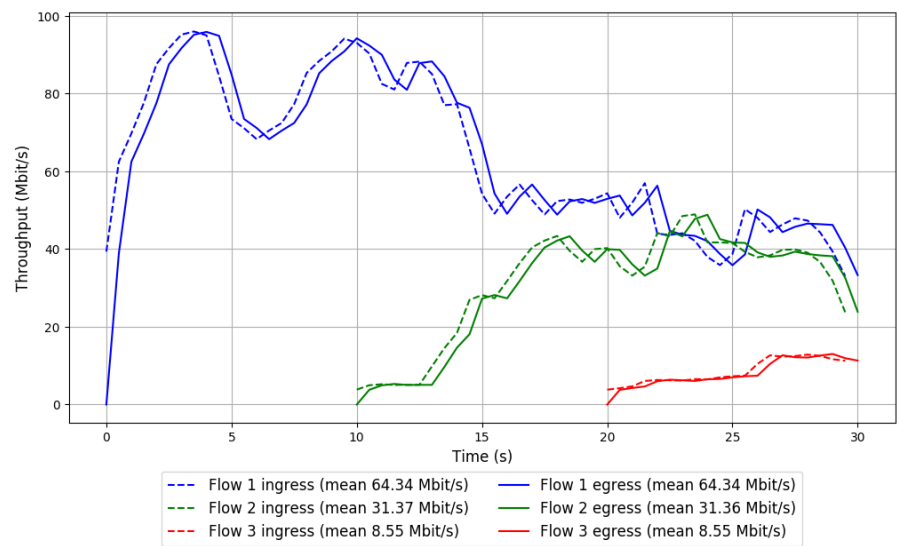
-- Flow 3:

Average throughput: 8.55 Mbit/s

95th percentile per-packet one-way delay: 30.444 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-02-05 08:58:22

End at: 2019-02-05 08:58:52

Local clock offset: -6.492 ms

Remote clock offset: 0.47 ms

# Below is generated by plot.py at 2019-02-05 09:30:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.19 Mbit/s

95th percentile per-packet one-way delay: 3.902 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 75.25 Mbit/s

95th percentile per-packet one-way delay: 3.749 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 20.16 Mbit/s

95th percentile per-packet one-way delay: 4.795 ms

Loss rate: 0.00%

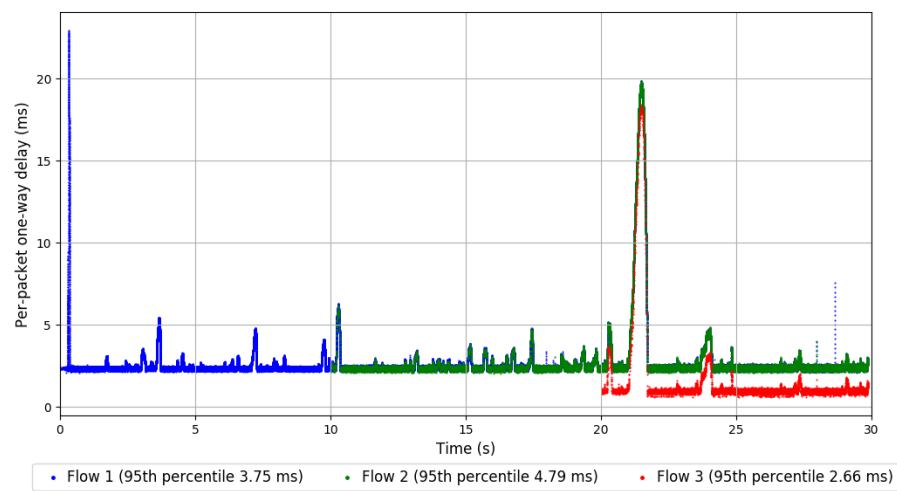
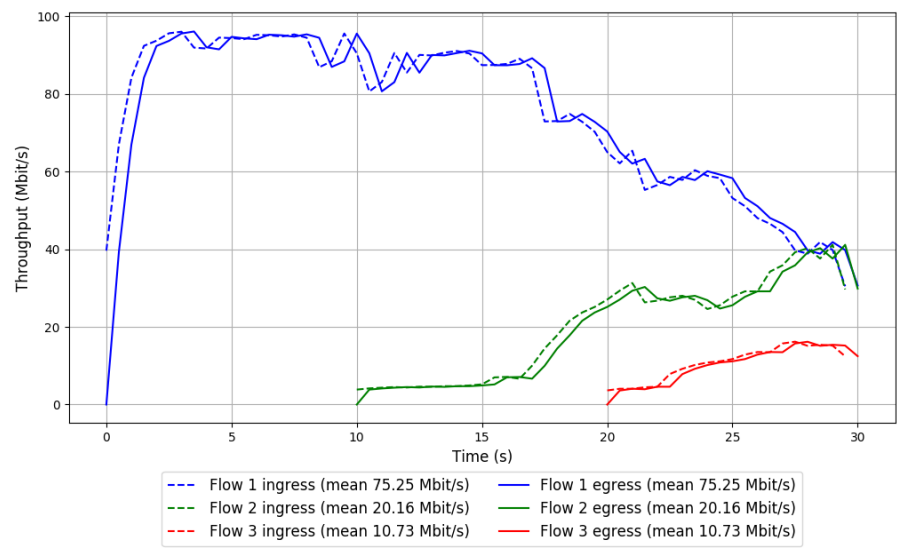
-- Flow 3:

Average throughput: 10.73 Mbit/s

95th percentile per-packet one-way delay: 2.663 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link



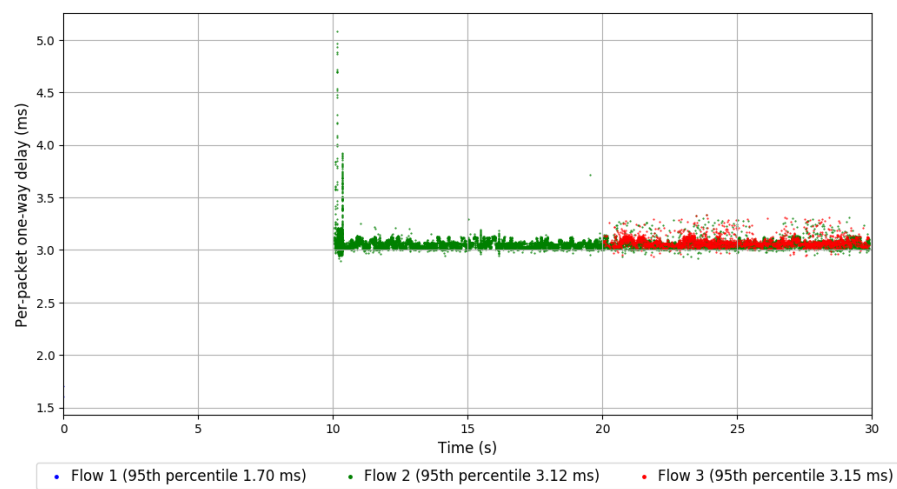
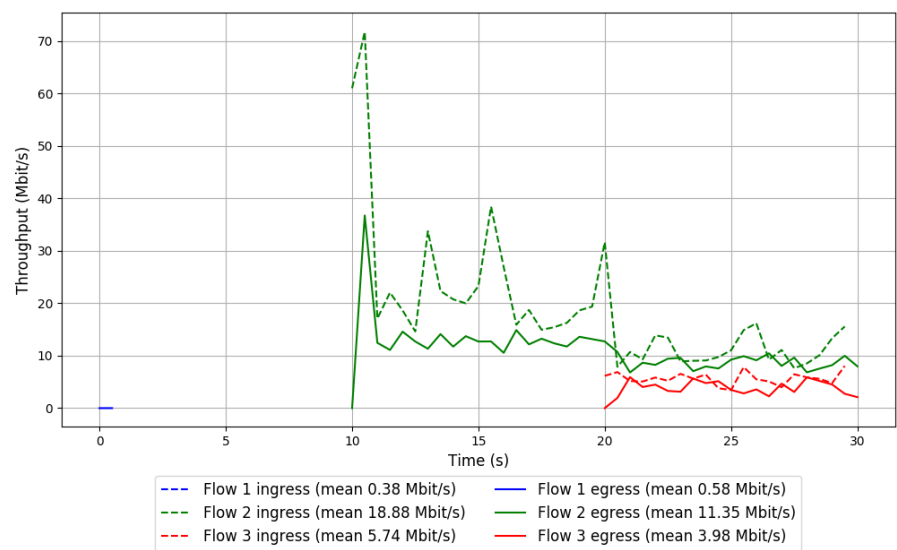


```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-05 07:35:21
End at: 2019-02-05 07:35:51
Local clock offset: -3.994 ms
Remote clock offset: 0.049 ms

# Below is generated by plot.py at 2019-02-05 09:30:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 3.121 ms
Loss rate: 38.69%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1.700 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 11.35 Mbit/s
95th percentile per-packet one-way delay: 3.117 ms
Loss rate: 39.91%
-- Flow 3:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 3.149 ms
Loss rate: 30.59%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-02-05 07:59:16

End at: 2019-02-05 07:59:46

Local clock offset: -4.353 ms

Remote clock offset: 0.022 ms

# Below is generated by plot.py at 2019-02-05 09:30:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.55 Mbit/s

95th percentile per-packet one-way delay: 3.148 ms

Loss rate: 25.08%

-- Flow 1:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 1.725 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 8.79 Mbit/s

95th percentile per-packet one-way delay: 1.739 ms

Loss rate: 23.00%

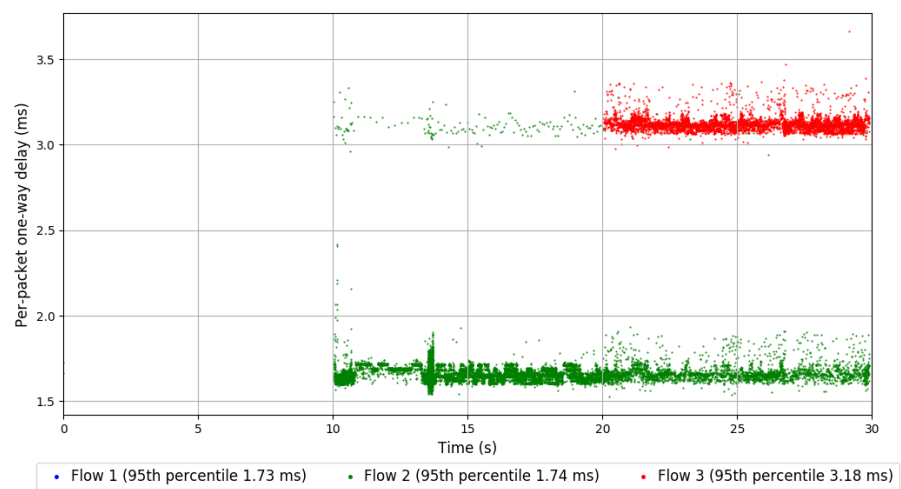
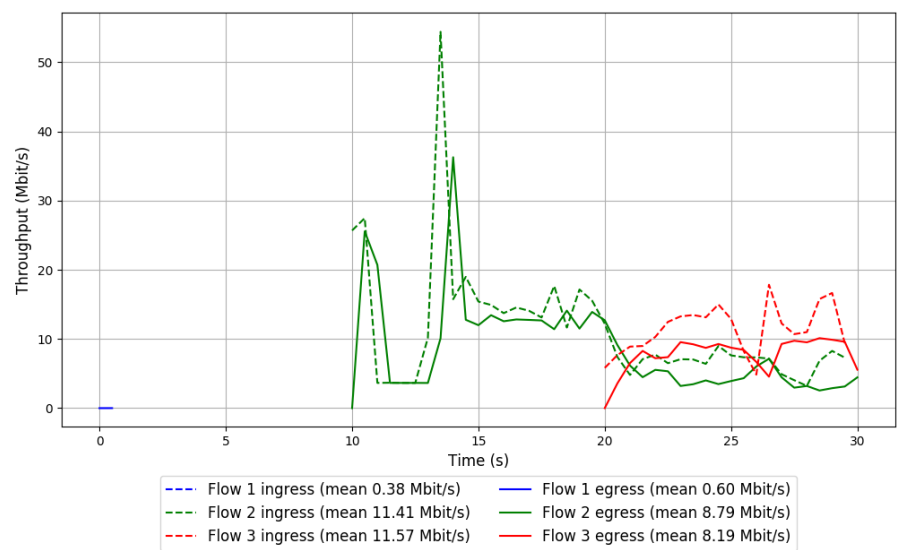
-- Flow 3:

Average throughput: 8.19 Mbit/s

95th percentile per-packet one-way delay: 3.178 ms

Loss rate: 29.20%

Run 2: Report of PCC-Expr — Data Link

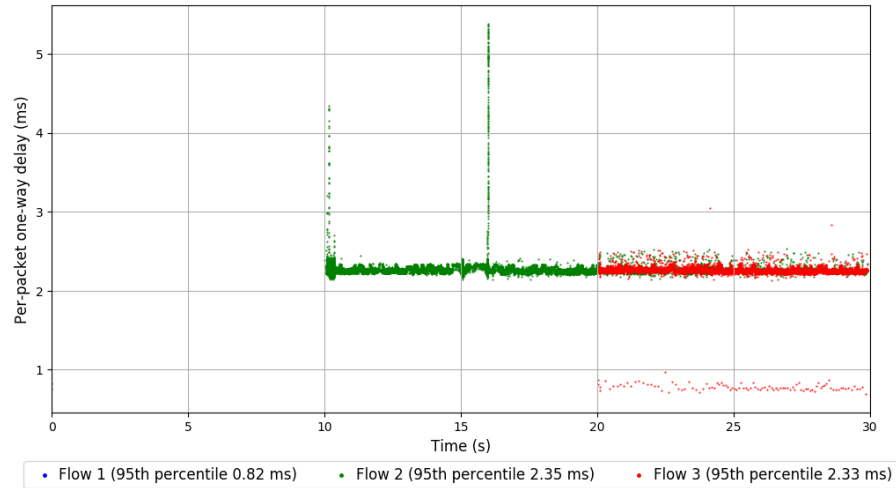
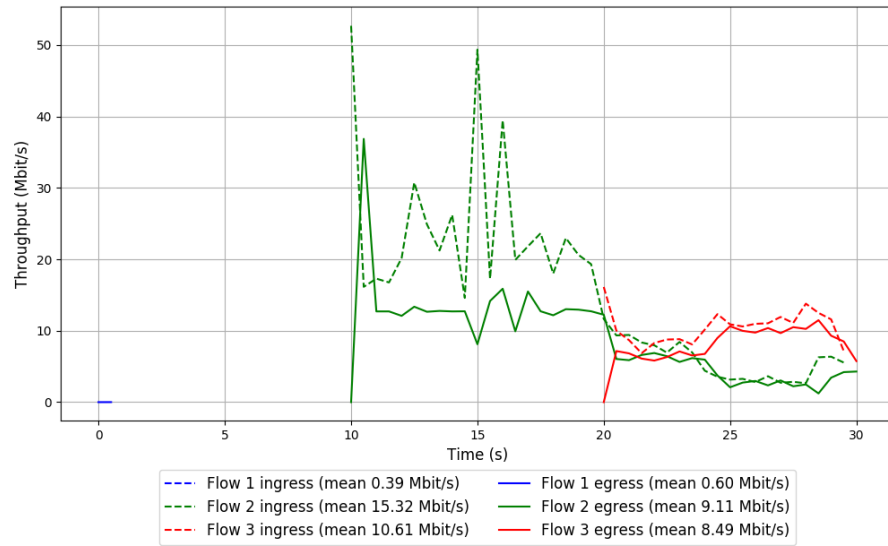


Run 3: Statistics of PCC-Expr

Start at: 2019-02-05 08:23:11  
End at: 2019-02-05 08:23:41  
Local clock offset: -4.486 ms  
Remote clock offset: -0.071 ms

# Below is generated by plot.py at 2019-02-05 09:30:54  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 8.86 Mbit/s  
95th percentile per-packet one-way delay: 2.338 ms  
Loss rate: 35.29%  
-- Flow 1:  
Average throughput: 0.60 Mbit/s  
95th percentile per-packet one-way delay: 0.824 ms  
Loss rate: 85.71%  
-- Flow 2:  
Average throughput: 9.11 Mbit/s  
95th percentile per-packet one-way delay: 2.348 ms  
Loss rate: 40.55%  
-- Flow 3:  
Average throughput: 8.49 Mbit/s  
95th percentile per-packet one-way delay: 2.326 ms  
Loss rate: 19.98%

### Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-02-05 08:47:06

End at: 2019-02-05 08:47:36

Local clock offset: -5.576 ms

Remote clock offset: 0.265 ms

# Below is generated by plot.py at 2019-02-05 09:30:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.87 Mbit/s

95th percentile per-packet one-way delay: 2.254 ms

Loss rate: 21.53%

-- Flow 1:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 0.946 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 10.75 Mbit/s

95th percentile per-packet one-way delay: 2.252 ms

Loss rate: 20.69%

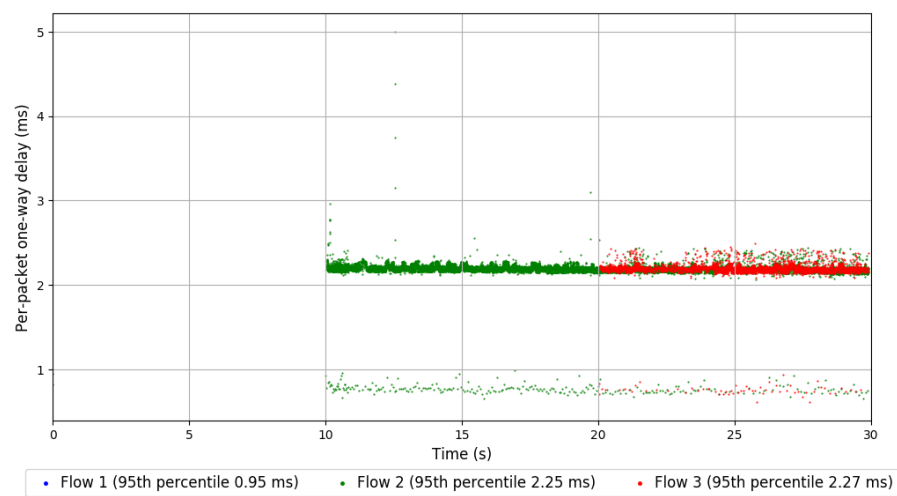
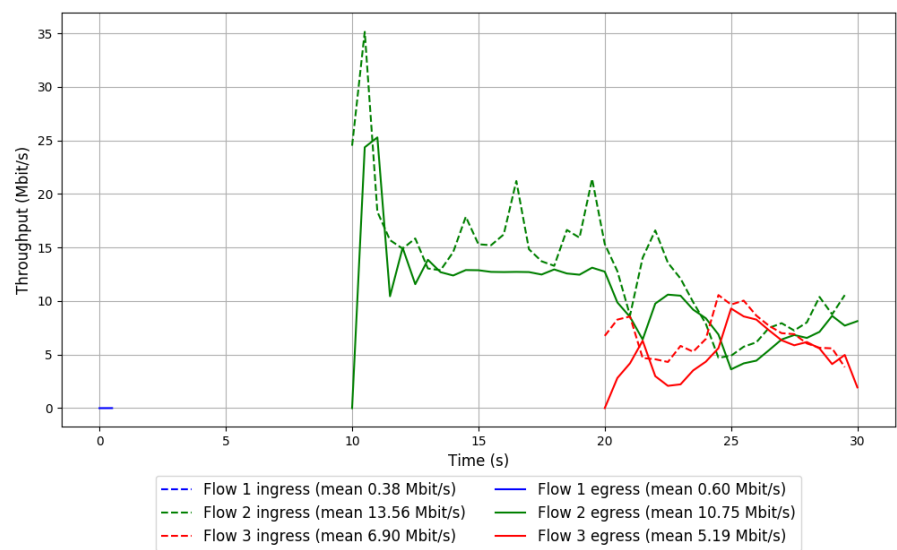
-- Flow 3:

Average throughput: 5.19 Mbit/s

95th percentile per-packet one-way delay: 2.269 ms

Loss rate: 24.84%

Run 4: Report of PCC-Expr — Data Link





Run 5: Statistics of PCC-Expr

Start at: 2019-02-05 09:11:02

End at: 2019-02-05 09:11:32

Local clock offset: -7.709 ms

Remote clock offset: 0.795 ms

# Below is generated by plot.py at 2019-02-05 09:30:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.75 Mbit/s

95th percentile per-packet one-way delay: 6.555 ms

Loss rate: 35.20%

-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 1.758 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 11.21 Mbit/s

95th percentile per-packet one-way delay: 8.007 ms

Loss rate: 35.22%

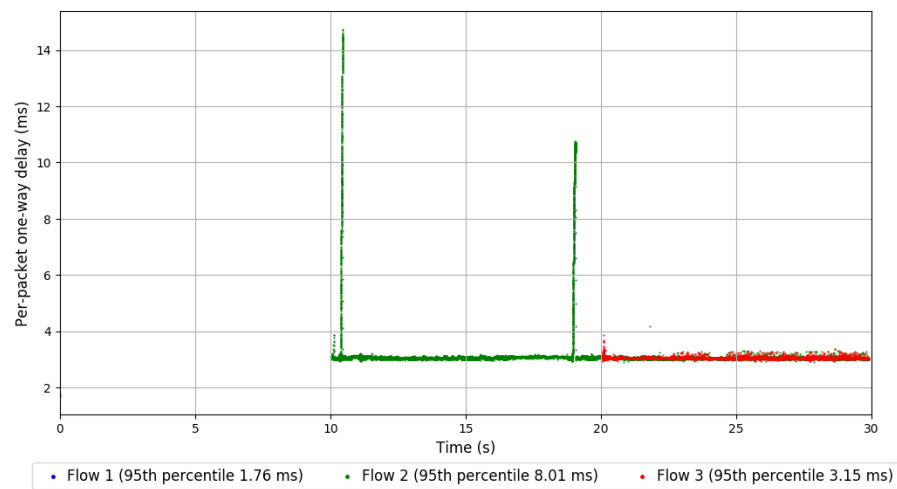
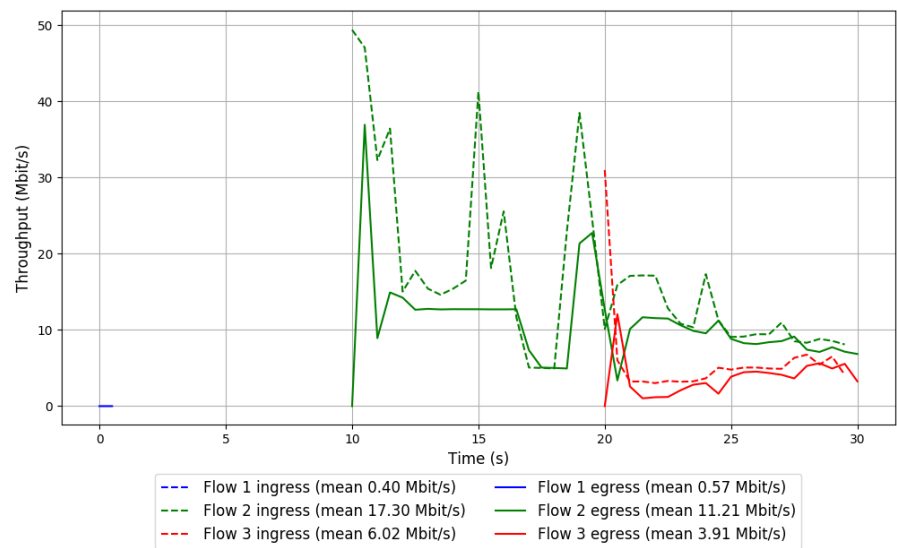
-- Flow 3:

Average throughput: 3.91 Mbit/s

95th percentile per-packet one-way delay: 3.155 ms

Loss rate: 35.05%

Run 5: Report of PCC-Expr — Data Link

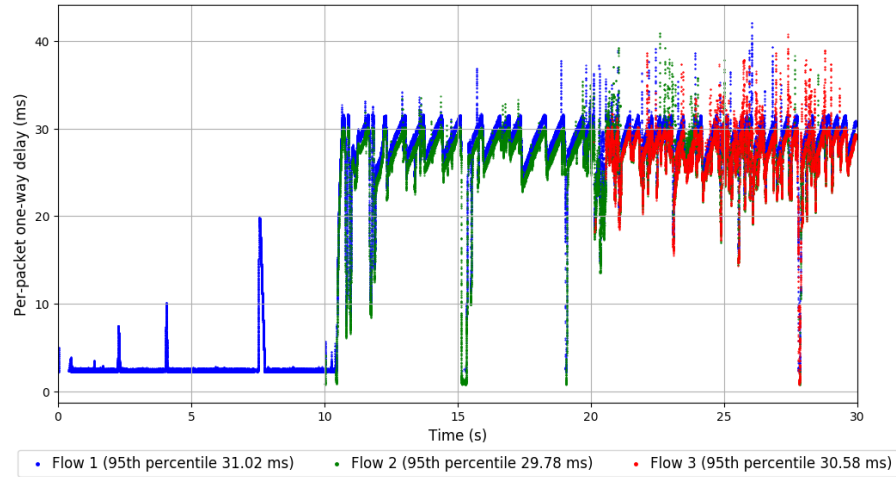
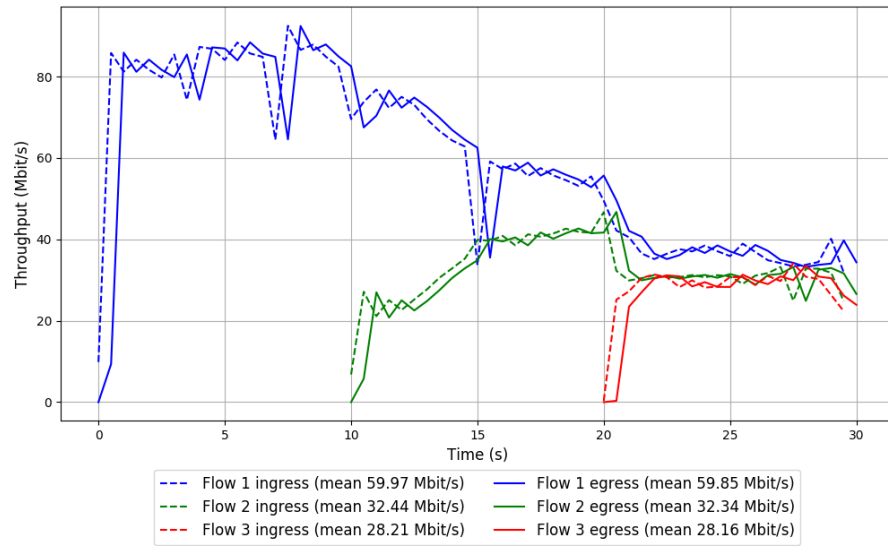


Run 1: Statistics of QUIC Cubic

Start at: 2019-02-05 07:43:13  
End at: 2019-02-05 07:43:43  
Local clock offset: -3.471 ms  
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2019-02-05 09:31:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 90.63 Mbit/s  
95th percentile per-packet one-way delay: 30.916 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 59.85 Mbit/s  
95th percentile per-packet one-way delay: 31.021 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 32.34 Mbit/s  
95th percentile per-packet one-way delay: 29.781 ms  
Loss rate: 0.17%  
-- Flow 3:  
Average throughput: 28.16 Mbit/s  
95th percentile per-packet one-way delay: 30.577 ms  
Loss rate: 0.19%

## Run 1: Report of QUIC Cubic — Data Link

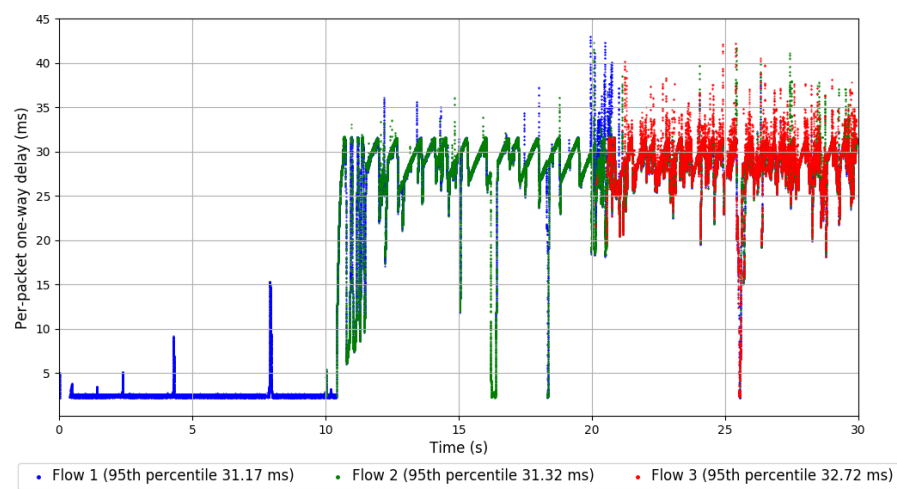
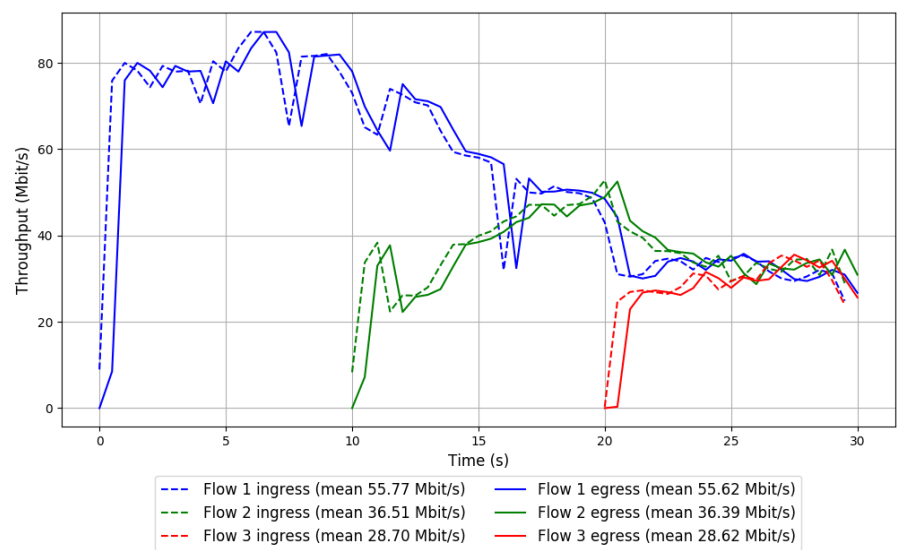


Run 2: Statistics of QUIC Cubic

Start at: 2019-02-05 08:07:08  
End at: 2019-02-05 08:07:38  
Local clock offset: -3.773 ms  
Remote clock offset: -0.049 ms

# Below is generated by plot.py at 2019-02-05 09:31:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 89.25 Mbit/s  
95th percentile per-packet one-way delay: 31.272 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 55.62 Mbit/s  
95th percentile per-packet one-way delay: 31.169 ms  
Loss rate: 0.16%  
-- Flow 2:  
Average throughput: 36.39 Mbit/s  
95th percentile per-packet one-way delay: 31.320 ms  
Loss rate: 0.20%  
-- Flow 3:  
Average throughput: 28.62 Mbit/s  
95th percentile per-packet one-way delay: 32.721 ms  
Loss rate: 0.20%

Run 2: Report of QUIC Cubic — Data Link

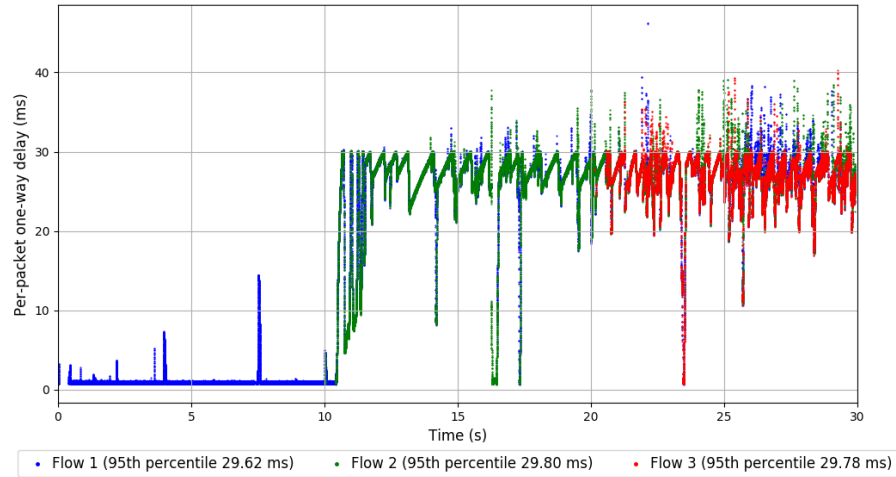
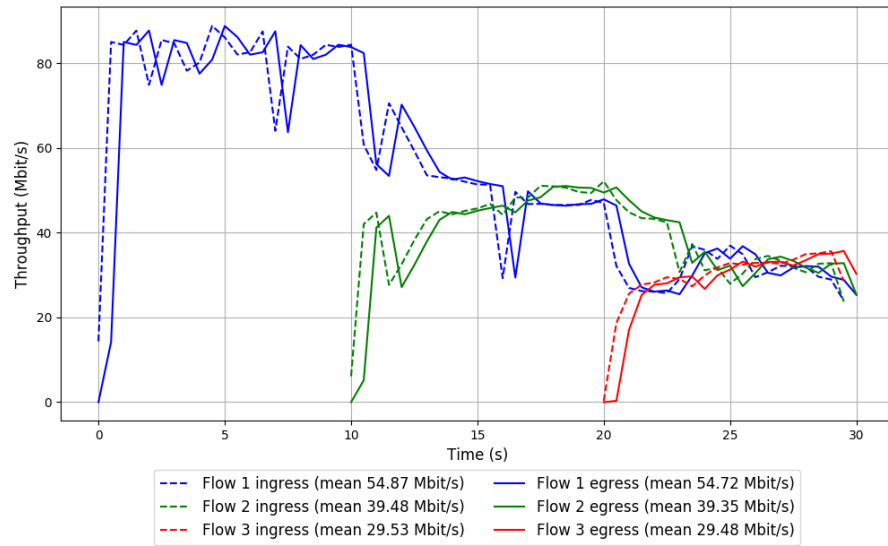


Run 3: Statistics of QUIC Cubic

Start at: 2019-02-05 08:31:04  
End at: 2019-02-05 08:31:34  
Local clock offset: -4.944 ms  
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2019-02-05 09:31:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 90.56 Mbit/s  
95th percentile per-packet one-way delay: 29.708 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 54.72 Mbit/s  
95th percentile per-packet one-way delay: 29.617 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 39.35 Mbit/s  
95th percentile per-packet one-way delay: 29.801 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 29.48 Mbit/s  
95th percentile per-packet one-way delay: 29.781 ms  
Loss rate: 0.21%

### Run 3: Report of QUIC Cubic — Data Link





Run 4: Statistics of QUIC Cubic

Start at: 2019-02-05 08:54:59

End at: 2019-02-05 08:55:29

Local clock offset: -6.965 ms

Remote clock offset: 0.487 ms

# Below is generated by plot.py at 2019-02-05 09:31:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.71 Mbit/s

95th percentile per-packet one-way delay: 30.691 ms

Loss rate: 0.21%

-- Flow 1:

Average throughput: 56.64 Mbit/s

95th percentile per-packet one-way delay: 30.418 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 35.91 Mbit/s

95th percentile per-packet one-way delay: 30.593 ms

Loss rate: 0.22%

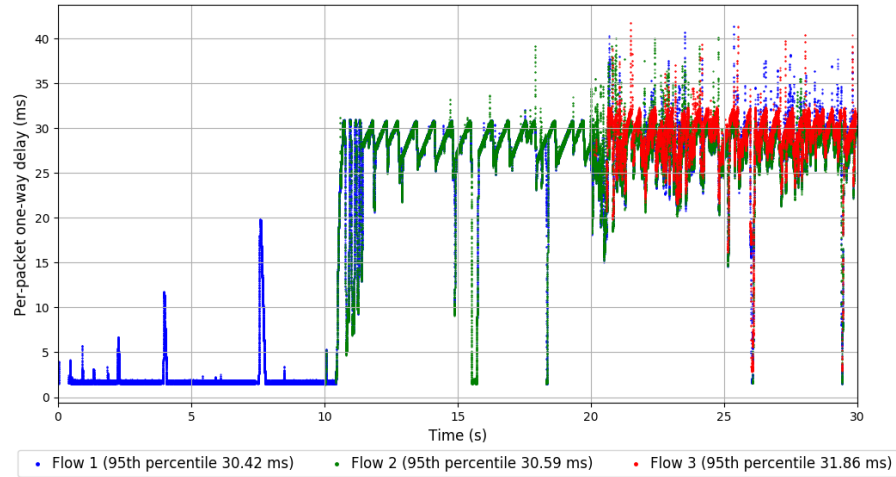
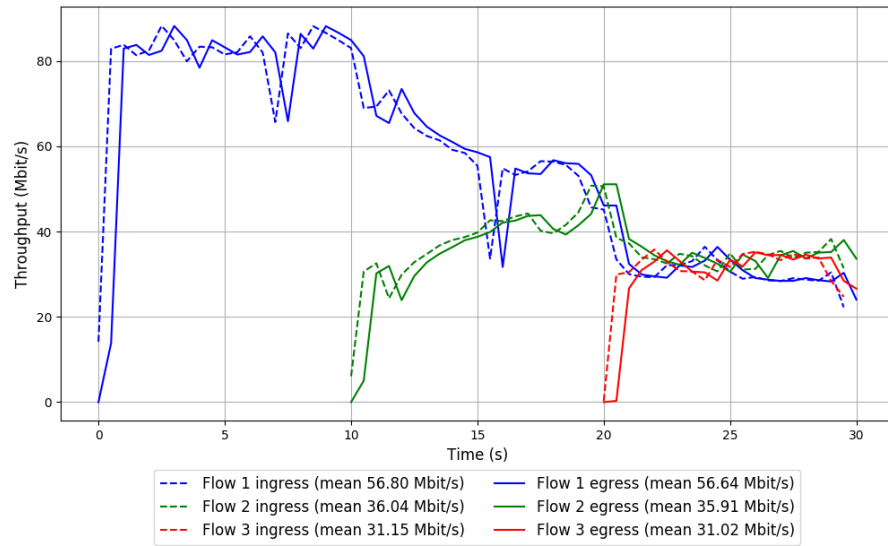
-- Flow 3:

Average throughput: 31.02 Mbit/s

95th percentile per-packet one-way delay: 31.865 ms

Loss rate: 0.36%

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



Run 5: Statistics of QUIC Cubic

Start at: 2019-02-05 09:18:55

End at: 2019-02-05 09:19:25

Local clock offset: -6.767 ms

Remote clock offset: 0.86 ms

# Below is generated by plot.py at 2019-02-05 09:31:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.53 Mbit/s

95th percentile per-packet one-way delay: 30.889 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 57.51 Mbit/s

95th percentile per-packet one-way delay: 31.049 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 36.67 Mbit/s

95th percentile per-packet one-way delay: 29.867 ms

Loss rate: 0.17%

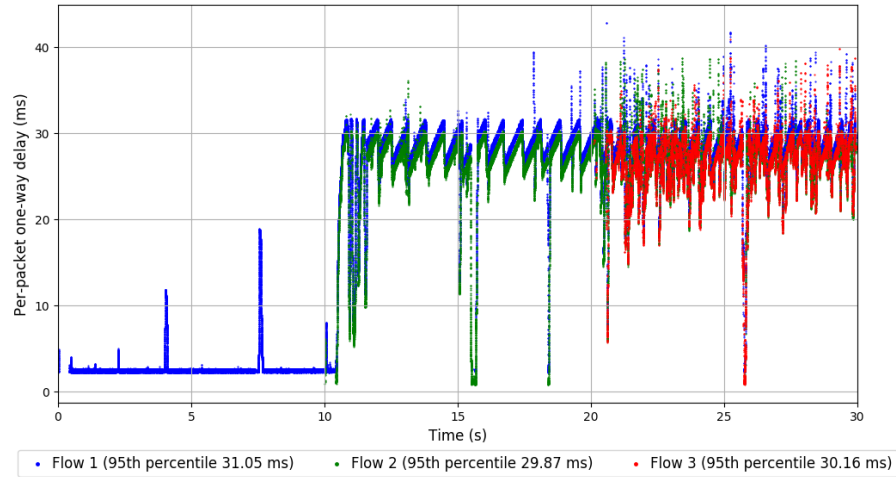
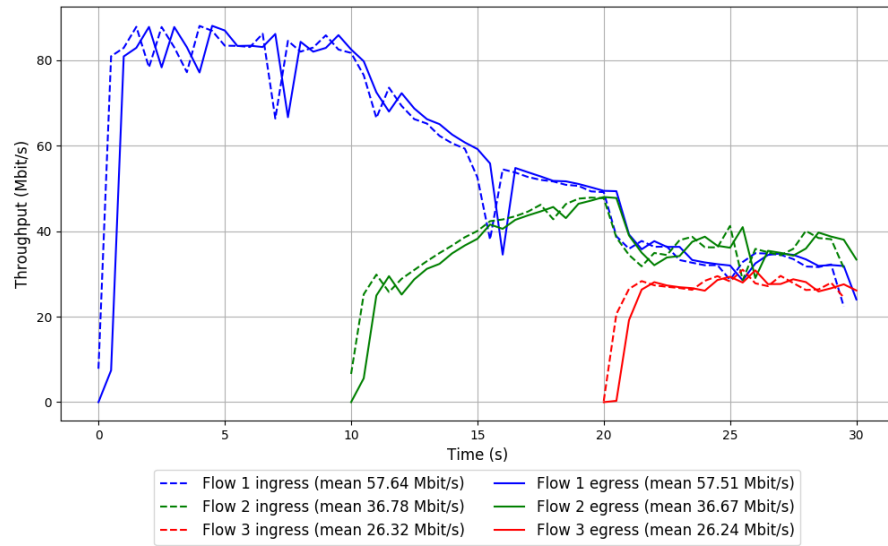
-- Flow 3:

Average throughput: 26.24 Mbit/s

95th percentile per-packet one-way delay: 30.155 ms

Loss rate: 0.31%

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

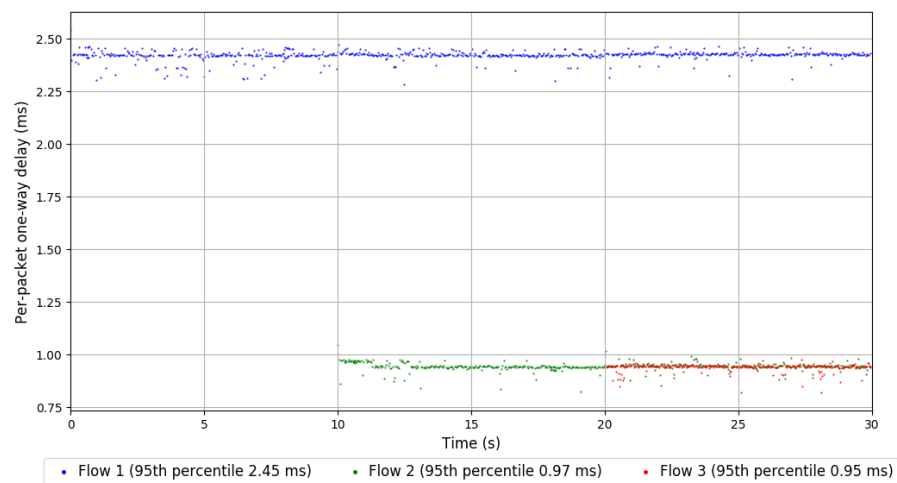
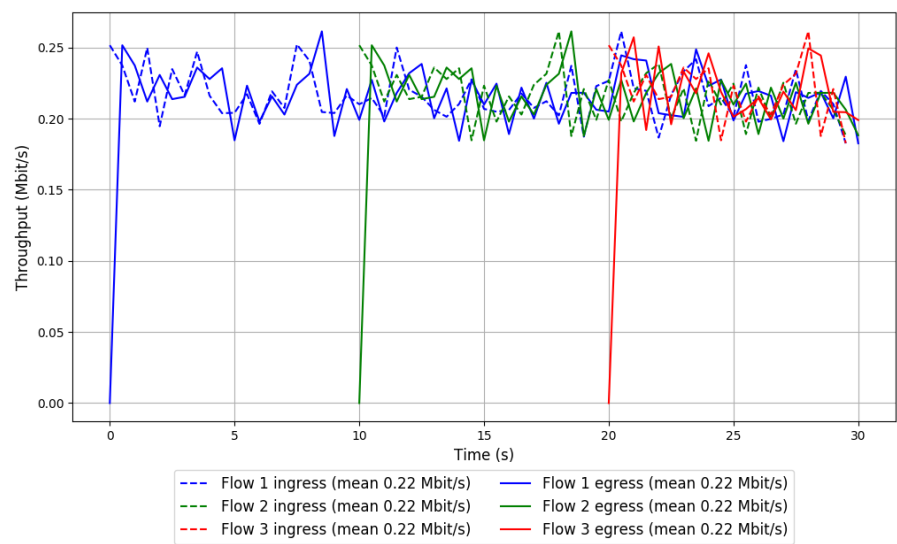


```
Run 1: Statistics of SReAM

Start at: 2019-02-05 07:42:08
End at: 2019-02-05 07:42:38
Local clock offset: -3.428 ms
Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2019-02-05 09:31:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.443 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.973 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.955 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

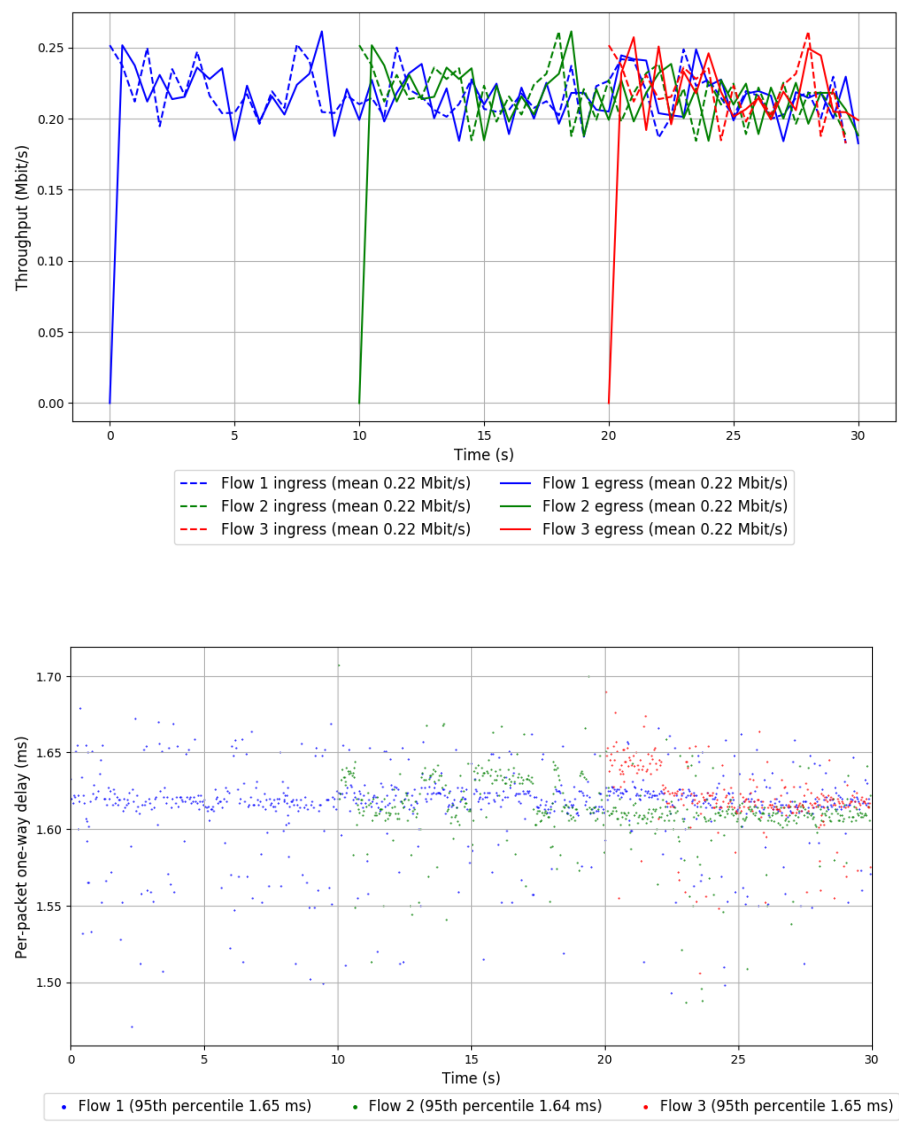


Run 2: Statistics of SReAM

Start at: 2019-02-05 08:06:02  
End at: 2019-02-05 08:06:32  
Local clock offset: -4.424 ms  
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2019-02-05 09:31:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 1.650 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.652 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.641 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.652 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



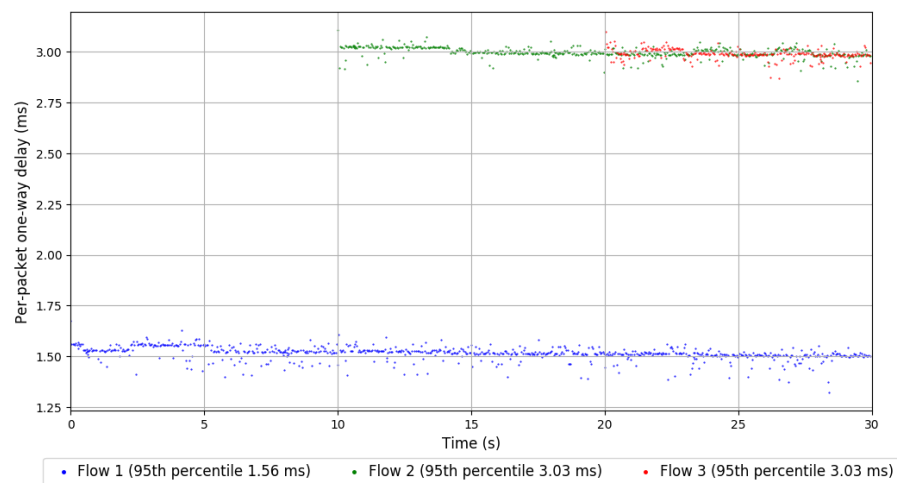
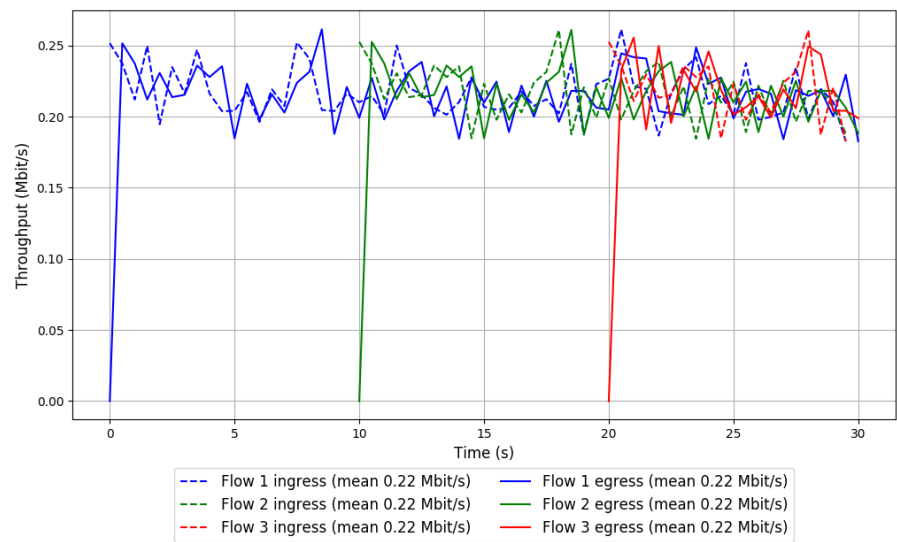


Run 3: Statistics of SReAM

Start at: 2019-02-05 08:29:58  
End at: 2019-02-05 08:30:28  
Local clock offset: -5.617 ms  
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2019-02-05 09:31:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 3.024 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.561 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 3.029 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 3.030 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

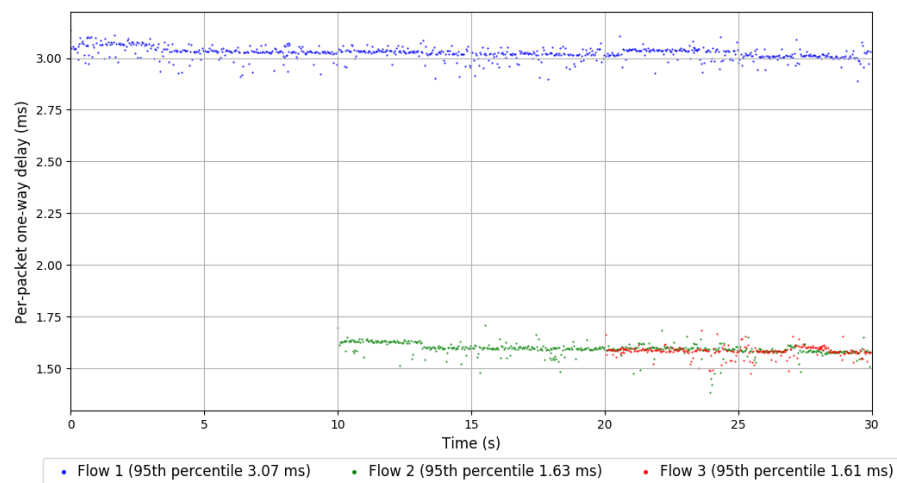
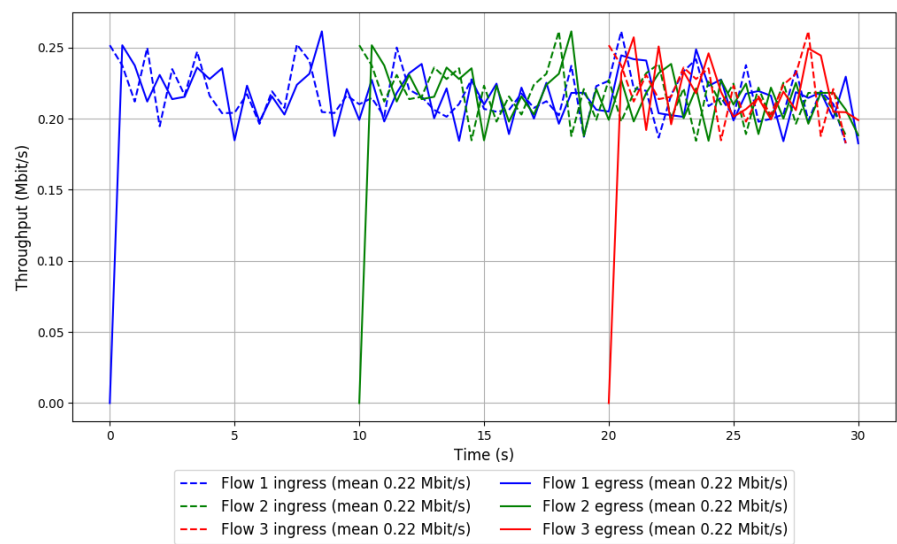


Run 4: Statistics of SReAM

Start at: 2019-02-05 08:53:53  
End at: 2019-02-05 08:54:23  
Local clock offset: -6.875 ms  
Remote clock offset: 0.443 ms

# Below is generated by plot.py at 2019-02-05 09:31:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 3.063 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 3.071 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.634 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.612 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

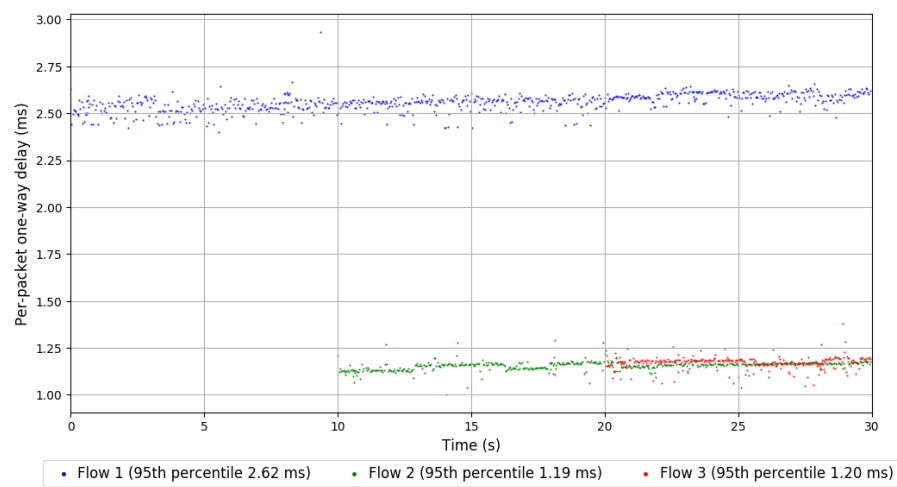
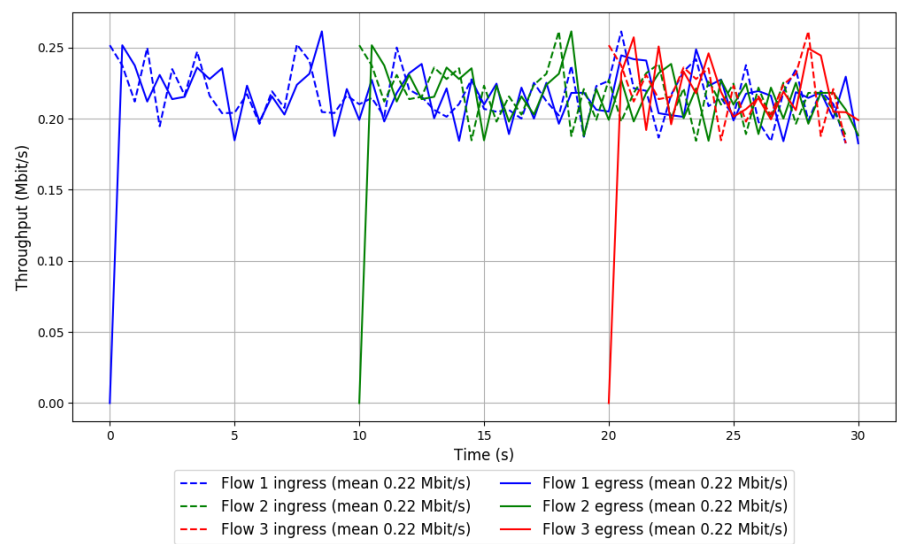


Run 5: Statistics of SReAM

Start at: 2019-02-05 09:17:50  
End at: 2019-02-05 09:18:20  
Local clock offset: -6.977 ms  
Remote clock offset: 0.91 ms

# Below is generated by plot.py at 2019-02-05 09:31:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 2.611 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.617 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.190 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.200 ms  
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-02-05 07:29:36

End at: 2019-02-05 07:30:06

Local clock offset: -3.131 ms

Remote clock offset: 0.034 ms

# Below is generated by plot.py at 2019-02-05 09:31:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.00 Mbit/s

95th percentile per-packet one-way delay: 22.612 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 41.39 Mbit/s

95th percentile per-packet one-way delay: 20.766 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 38.05 Mbit/s

95th percentile per-packet one-way delay: 22.591 ms

Loss rate: 0.00%

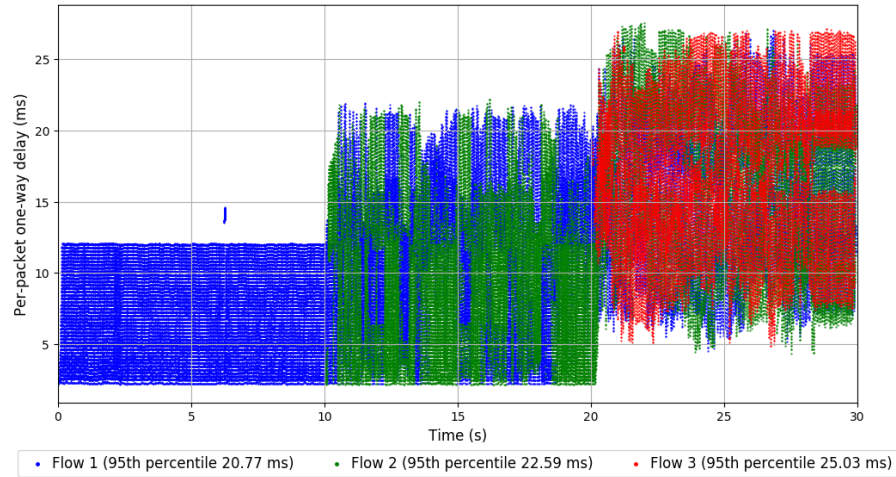
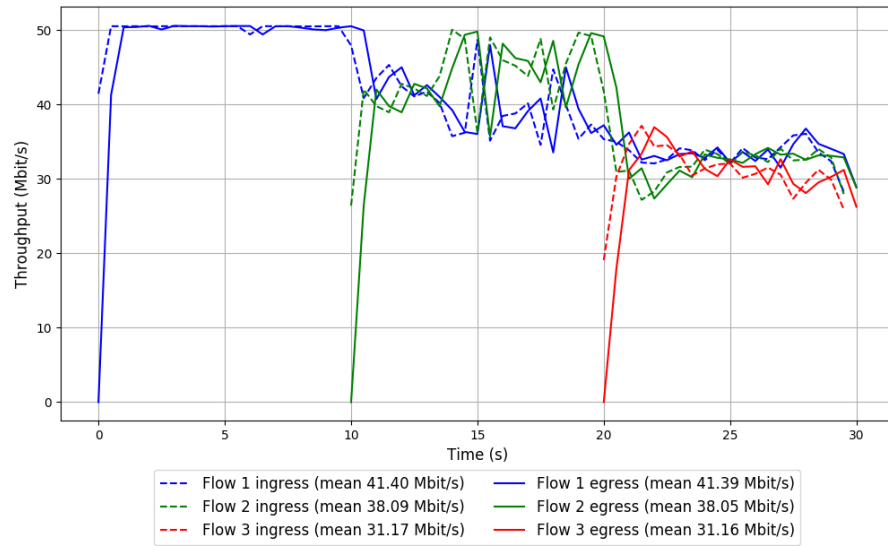
-- Flow 3:

Average throughput: 31.16 Mbit/s

95th percentile per-packet one-way delay: 25.026 ms

Loss rate: 0.00%

# Run 1: Report of Sprout — Data Link



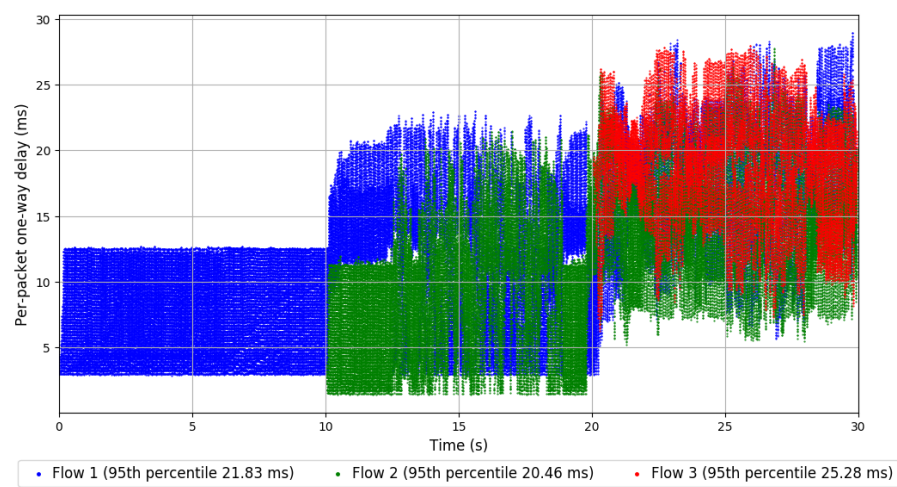
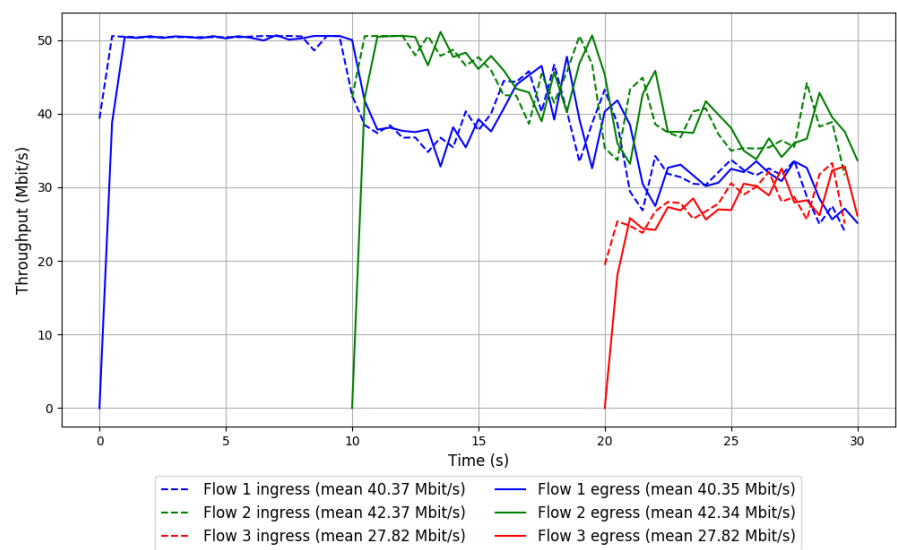


Run 2: Statistics of Sprout

Start at: 2019-02-05 07:53:31  
End at: 2019-02-05 07:54:01  
Local clock offset: -4.277 ms  
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2019-02-05 09:31:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.70 Mbit/s  
95th percentile per-packet one-way delay: 22.341 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 40.35 Mbit/s  
95th percentile per-packet one-way delay: 21.833 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 42.34 Mbit/s  
95th percentile per-packet one-way delay: 20.461 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 27.82 Mbit/s  
95th percentile per-packet one-way delay: 25.283 ms  
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

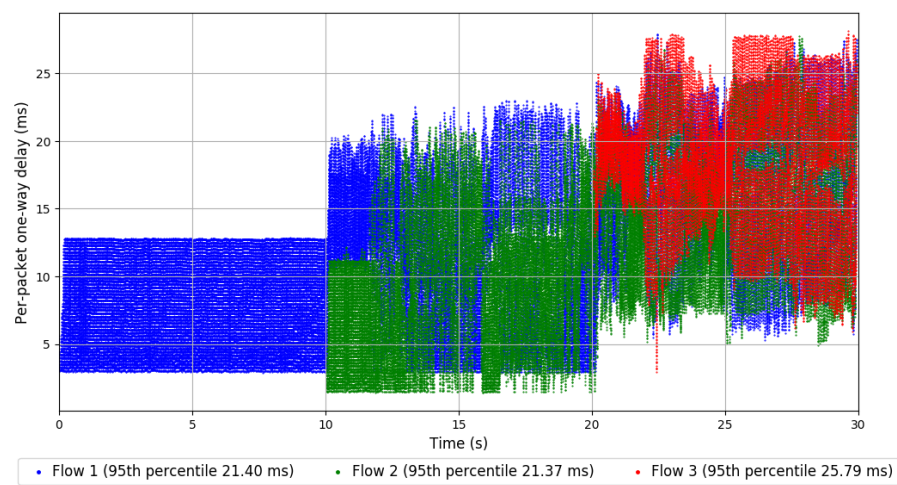
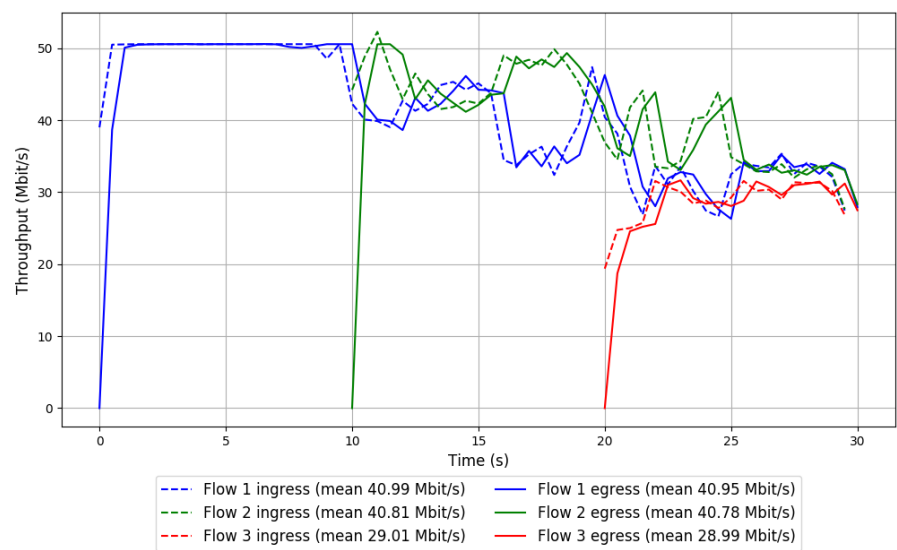


### Run 3: Statistics of Sprout

Start at: 2019-02-05 08:17:26  
End at: 2019-02-05 08:17:56  
Local clock offset: -4.731 ms  
Remote clock offset: -0.065 ms

```
# Below is generated by plot.py at 2019-02-05 09:31:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.67 Mbit/s
95th percentile per-packet one-way delay: 22.548 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.95 Mbit/s
95th percentile per-packet one-way delay: 21.401 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.78 Mbit/s
95th percentile per-packet one-way delay: 21.371 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.99 Mbit/s
95th percentile per-packet one-way delay: 25.789 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

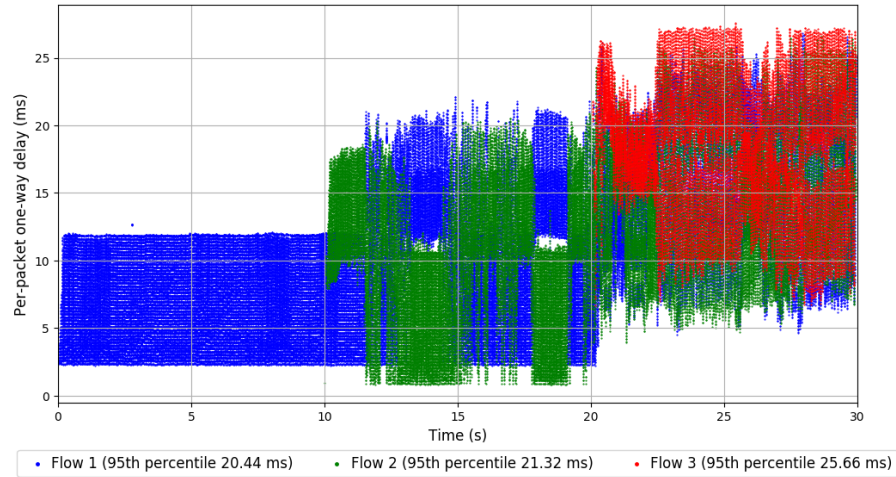
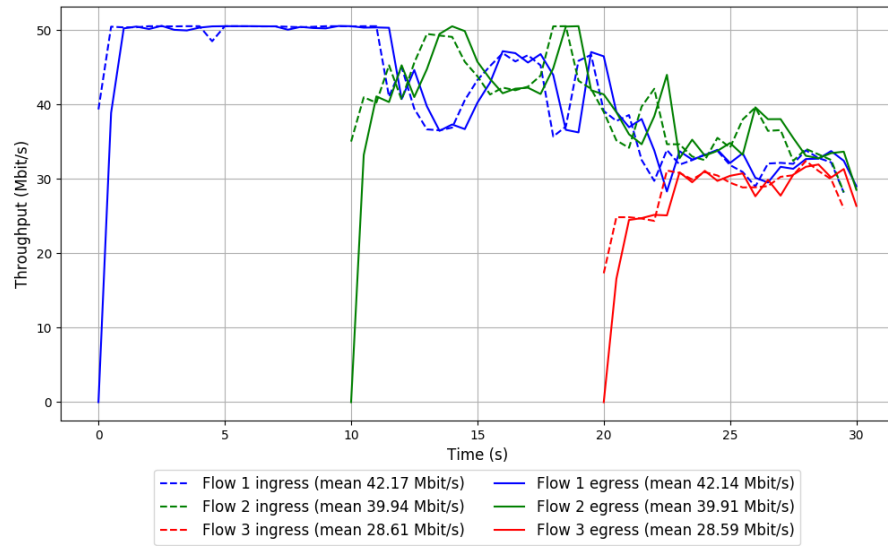


#### Run 4: Statistics of Sprout

Start at: 2019-02-05 08:41:22  
End at: 2019-02-05 08:41:52  
Local clock offset: -5.409 ms  
Remote clock offset: 0.157 ms

```
# Below is generated by plot.py at 2019-02-05 09:32:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.15 Mbit/s
95th percentile per-packet one-way delay: 22.217 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.14 Mbit/s
95th percentile per-packet one-way delay: 20.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.91 Mbit/s
95th percentile per-packet one-way delay: 21.320 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 28.59 Mbit/s
95th percentile per-packet one-way delay: 25.661 ms
Loss rate: 0.00%
```

#### Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2019-02-05 09:05:17

End at: 2019-02-05 09:05:47

Local clock offset: -7.471 ms

Remote clock offset: 0.6 ms

# Below is generated by plot.py at 2019-02-05 09:32:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 78.82 Mbit/s

95th percentile per-packet one-way delay: 23.039 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 41.32 Mbit/s

95th percentile per-packet one-way delay: 22.764 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 39.94 Mbit/s

95th percentile per-packet one-way delay: 22.404 ms

Loss rate: 0.00%

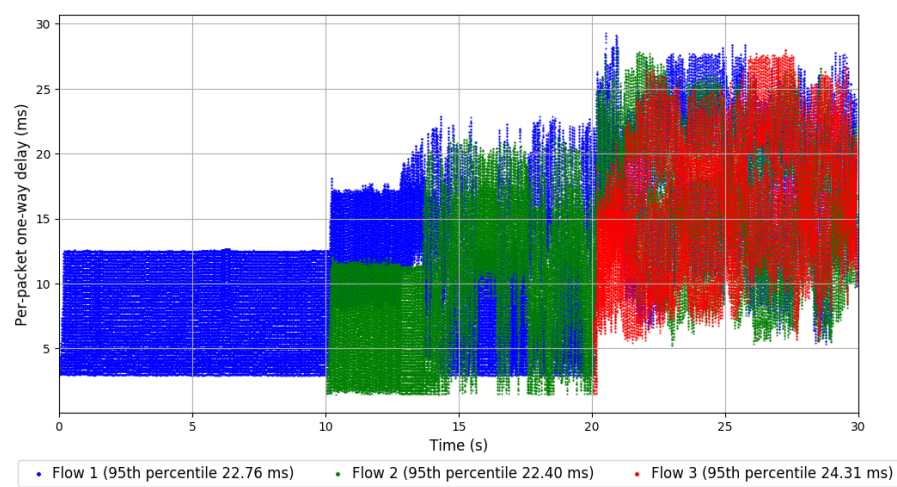
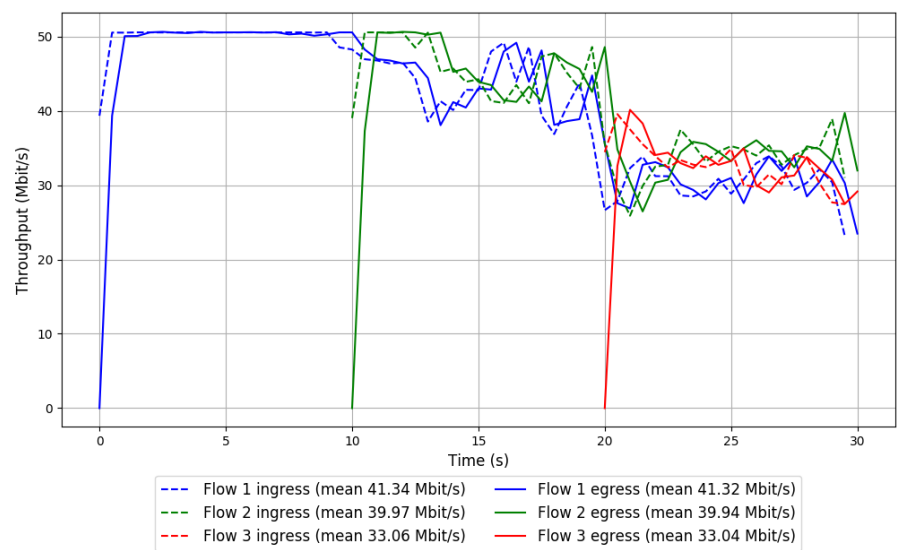
-- Flow 3:

Average throughput: 33.04 Mbit/s

95th percentile per-packet one-way delay: 24.308 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link





Run 1: Statistics of TaoVA-100x

Start at: 2019-02-05 07:36:27

End at: 2019-02-05 07:36:57

Local clock offset: -4.016 ms

Remote clock offset: 0.072 ms

# Below is generated by plot.py at 2019-02-05 09:32:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.167 ms

Loss rate: 84.49%

-- Flow 1:

Average throughput: 8.48 Mbit/s

95th percentile per-packet one-way delay: 3.165 ms

Loss rate: 84.11%

-- Flow 2:

Average throughput: 2.29 Mbit/s

95th percentile per-packet one-way delay: 5.367 ms

Loss rate: 89.39%

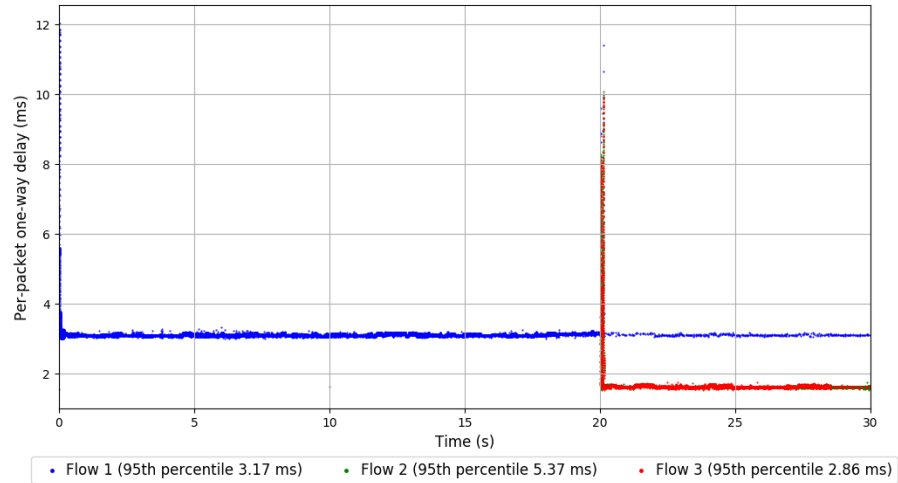
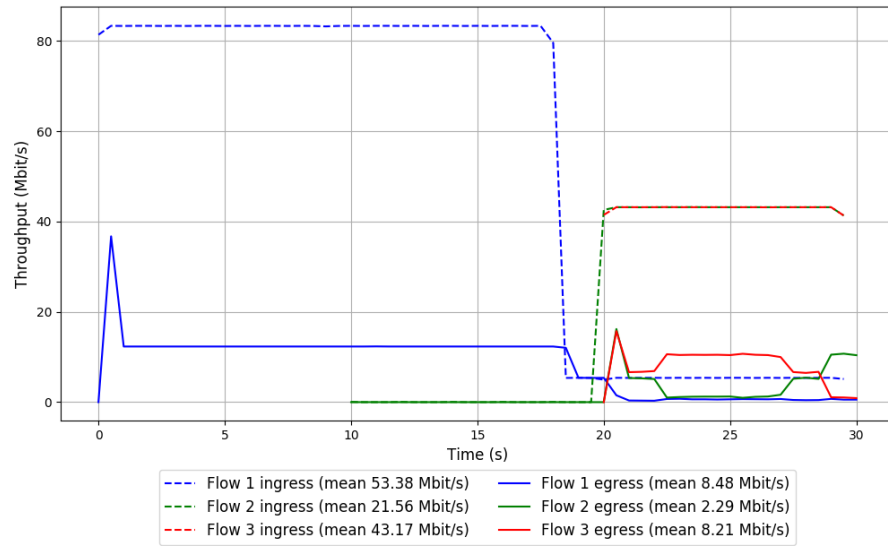
-- Flow 3:

Average throughput: 8.21 Mbit/s

95th percentile per-packet one-way delay: 2.861 ms

Loss rate: 81.00%

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

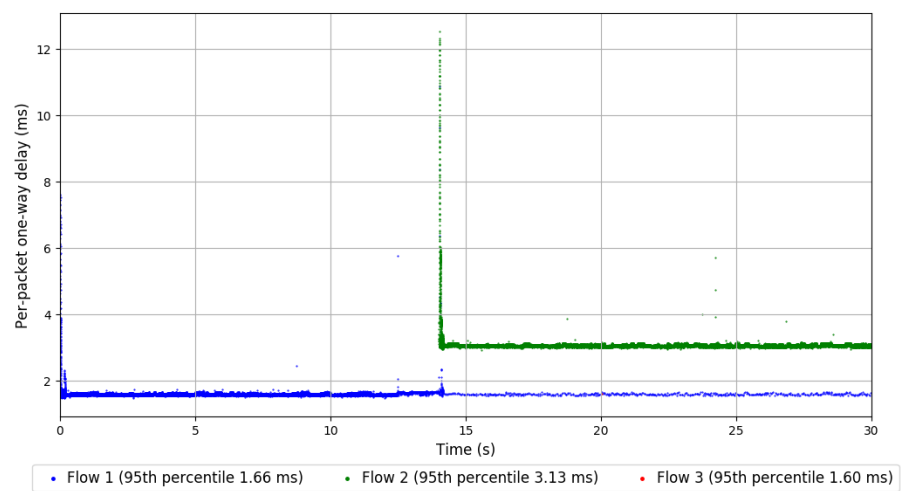
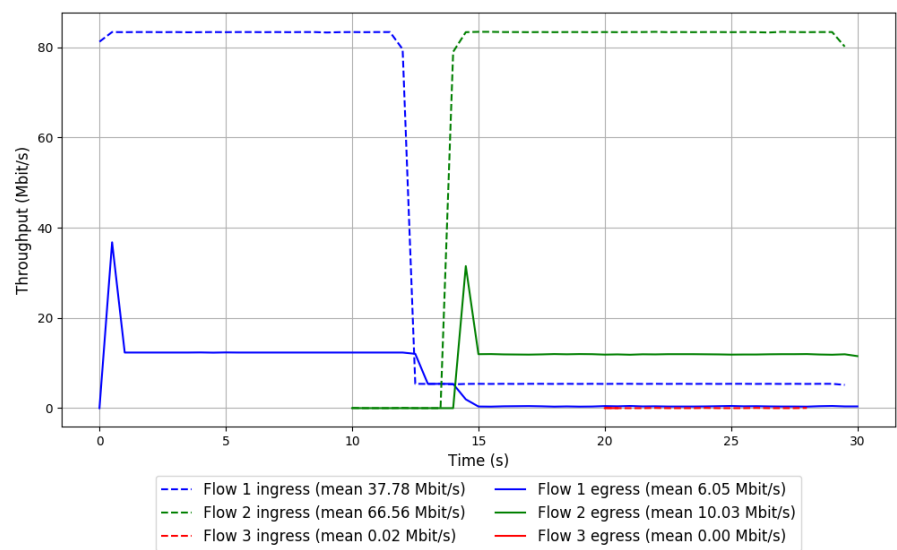


Run 2: Statistics of TaoVA-100x

Start at: 2019-02-05 08:00:22  
End at: 2019-02-05 08:00:52  
Local clock offset: -4.365 ms  
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2019-02-05 09:32:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.73 Mbit/s  
95th percentile per-packet one-way delay: 3.117 ms  
Loss rate: 84.50%  
-- Flow 1:  
Average throughput: 6.05 Mbit/s  
95th percentile per-packet one-way delay: 1.659 ms  
Loss rate: 83.99%  
-- Flow 2:  
Average throughput: 10.03 Mbit/s  
95th percentile per-packet one-way delay: 3.129 ms  
Loss rate: 84.93%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 1.603 ms  
Loss rate: 99.16%

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

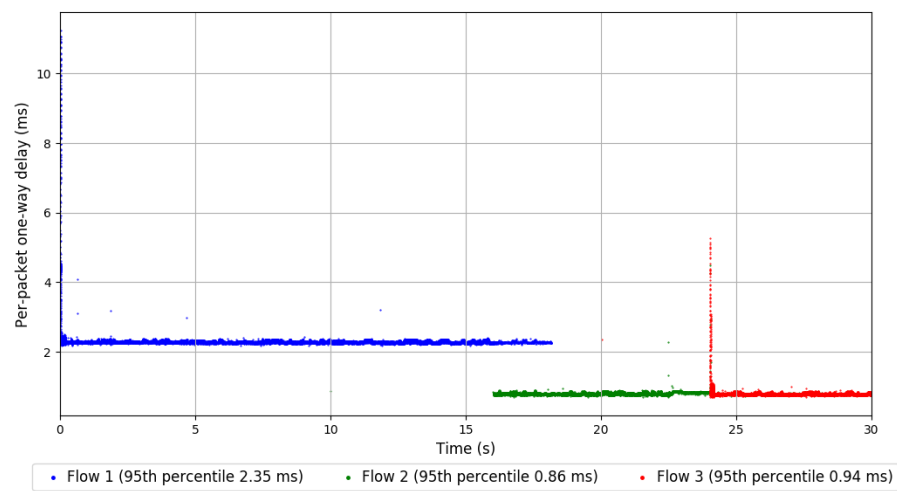
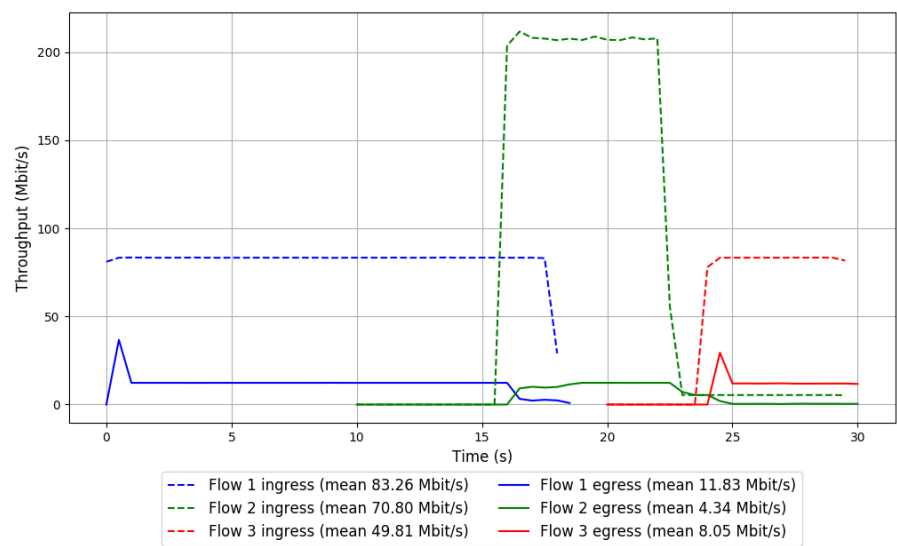


Run 3: Statistics of TaoVA-100x

Start at: 2019-02-05 08:24:17  
End at: 2019-02-05 08:24:47  
Local clock offset: -4.579 ms  
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2019-02-05 09:32:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.73 Mbit/s  
95th percentile per-packet one-way delay: 2.345 ms  
Loss rate: 88.85%  
-- Flow 1:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 2.355 ms  
Loss rate: 85.79%  
-- Flow 2:  
Average throughput: 4.34 Mbit/s  
95th percentile per-packet one-way delay: 0.865 ms  
Loss rate: 93.88%  
-- Flow 3:  
Average throughput: 8.05 Mbit/s  
95th percentile per-packet one-way delay: 0.937 ms  
Loss rate: 83.85%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-02-05 08:48:12

End at: 2019-02-05 08:48:42

Local clock offset: -6.41 ms

Remote clock offset: 0.286 ms

# Below is generated by plot.py at 2019-02-05 09:32:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.988 ms

Loss rate: 75.01%

-- Flow 1:

Average throughput: 6.68 Mbit/s

95th percentile per-packet one-way delay: 1.601 ms

Loss rate: 77.19%

-- Flow 2:

Average throughput: 7.53 Mbit/s

95th percentile per-packet one-way delay: 3.009 ms

Loss rate: 73.96%

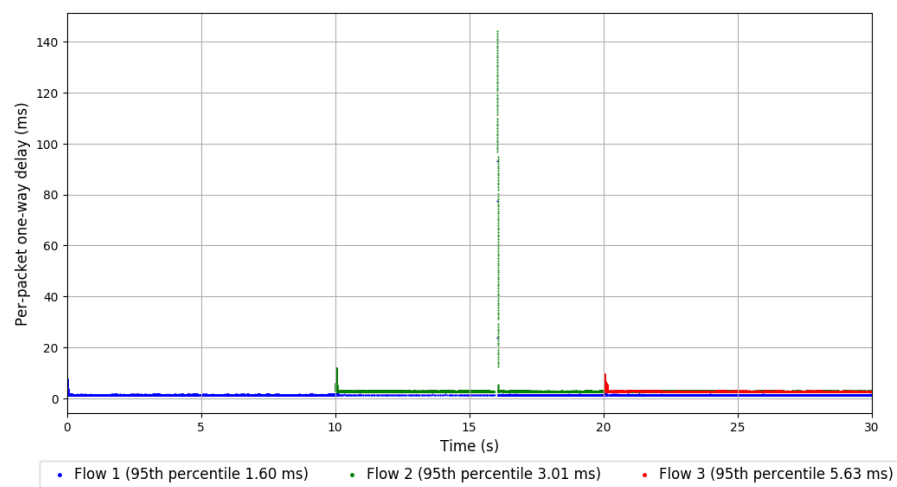
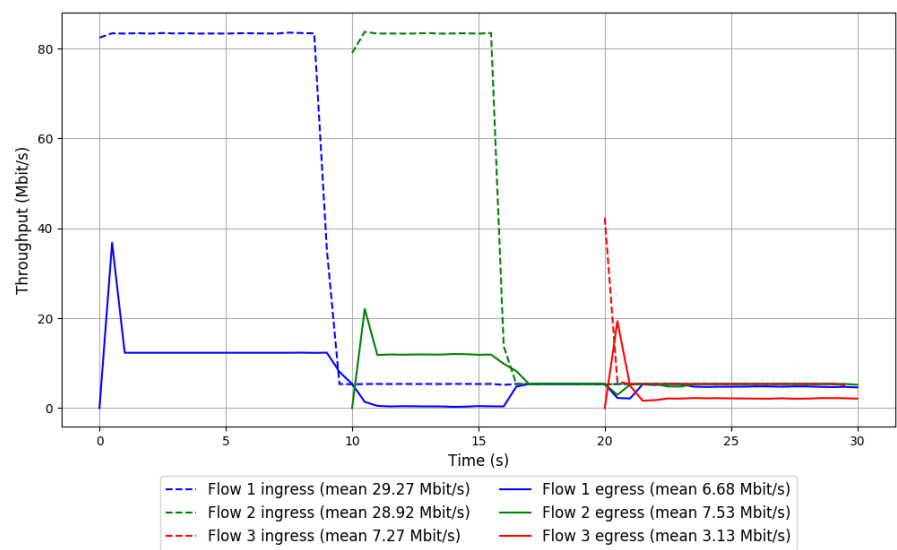
-- Flow 3:

Average throughput: 3.13 Mbit/s

95th percentile per-packet one-way delay: 5.628 ms

Loss rate: 56.94%

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





Run 5: Statistics of TaoVA-100x

Start at: 2019-02-05 09:12:08

End at: 2019-02-05 09:12:38

Local clock offset: -7.765 ms

Remote clock offset: 0.71 ms

# Below is generated by plot.py at 2019-02-05 09:32:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.014 ms

Loss rate: 93.89%

-- Flow 1:

Average throughput: 6.89 Mbit/s

95th percentile per-packet one-way delay: 3.029 ms

Loss rate: 91.72%

-- Flow 2:

Average throughput: 8.76 Mbit/s

95th percentile per-packet one-way delay: 2.996 ms

Loss rate: 95.34%

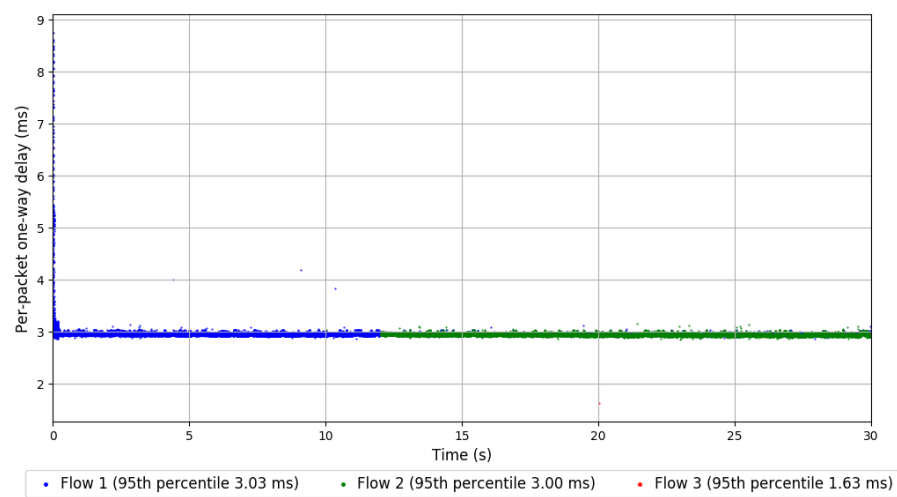
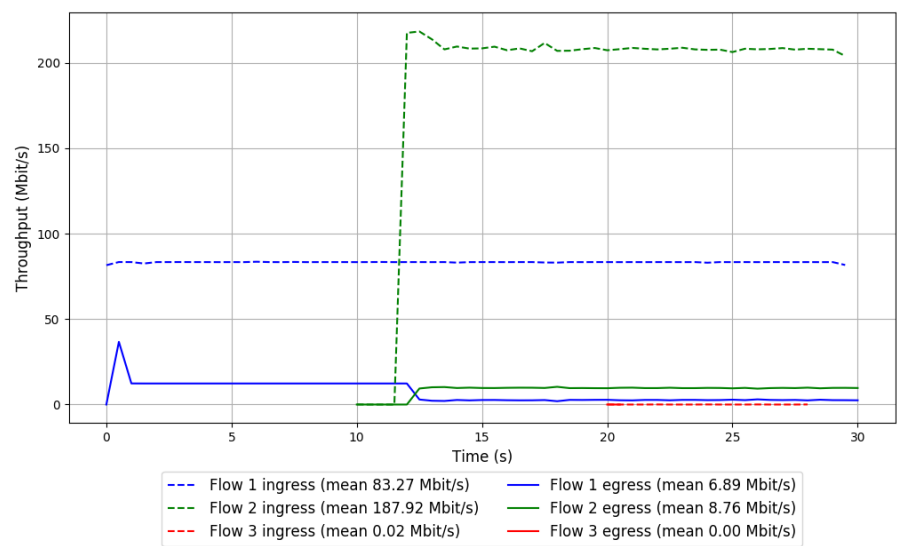
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 1.634 ms

Loss rate: 99.16%

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

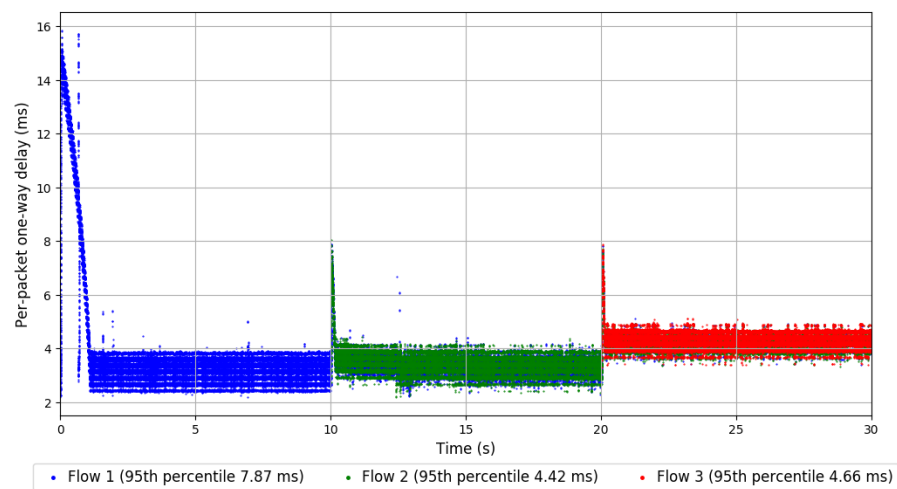
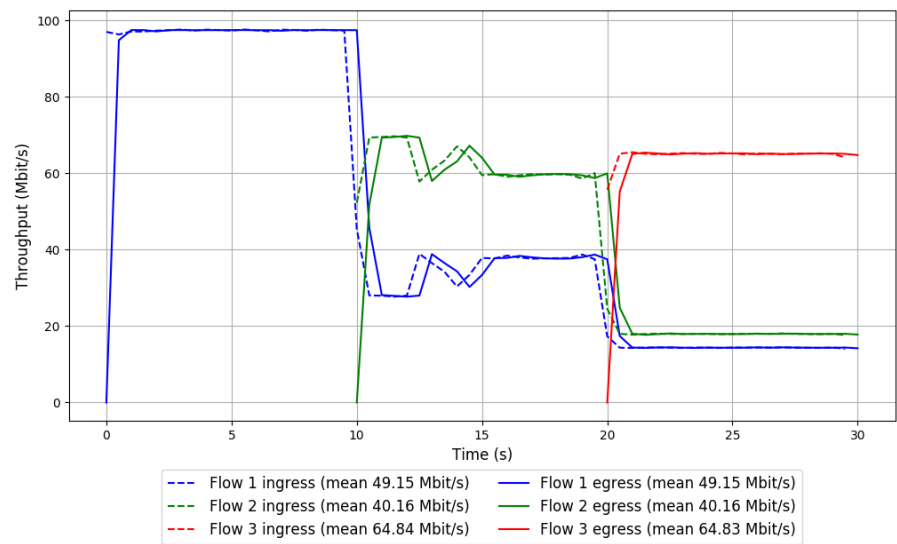


Run 1: Statistics of TCP Vegas

Start at: 2019-02-05 07:37:34  
End at: 2019-02-05 07:38:04  
Local clock offset: -3.31 ms  
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2019-02-05 09:33:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.45 Mbit/s  
95th percentile per-packet one-way delay: 4.667 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 49.15 Mbit/s  
95th percentile per-packet one-way delay: 7.869 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 40.16 Mbit/s  
95th percentile per-packet one-way delay: 4.418 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 64.83 Mbit/s  
95th percentile per-packet one-way delay: 4.664 ms  
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

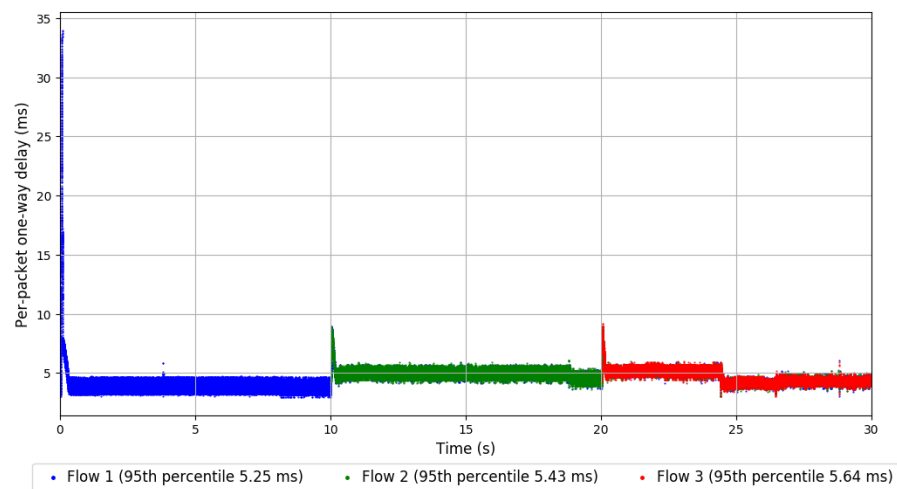
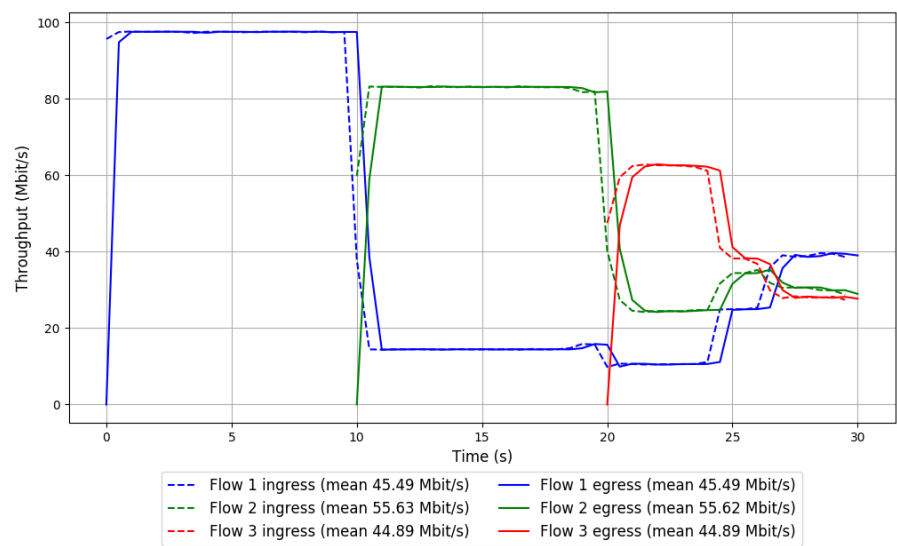


Run 2: Statistics of TCP Vegas

Start at: 2019-02-05 08:01:28  
End at: 2019-02-05 08:01:58  
Local clock offset: -4.384 ms  
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2019-02-05 09:33:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.46 Mbit/s  
95th percentile per-packet one-way delay: 5.443 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 45.49 Mbit/s  
95th percentile per-packet one-way delay: 5.250 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 55.62 Mbit/s  
95th percentile per-packet one-way delay: 5.434 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 44.89 Mbit/s  
95th percentile per-packet one-way delay: 5.639 ms  
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

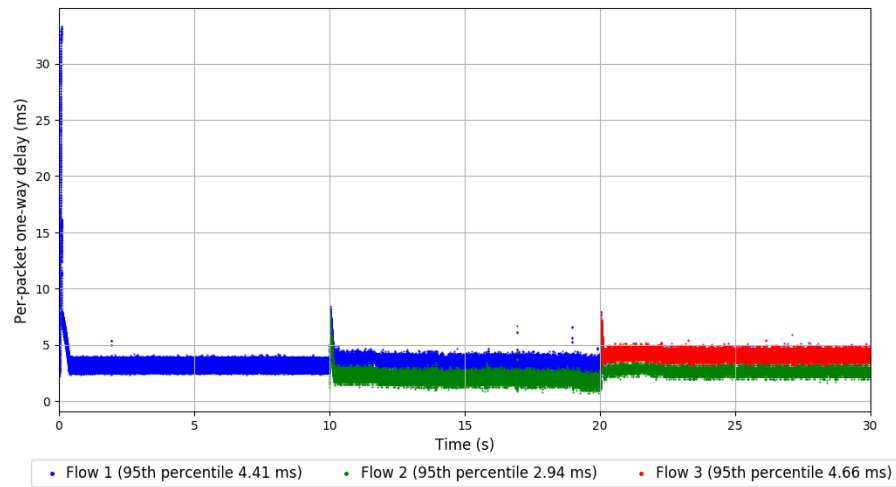
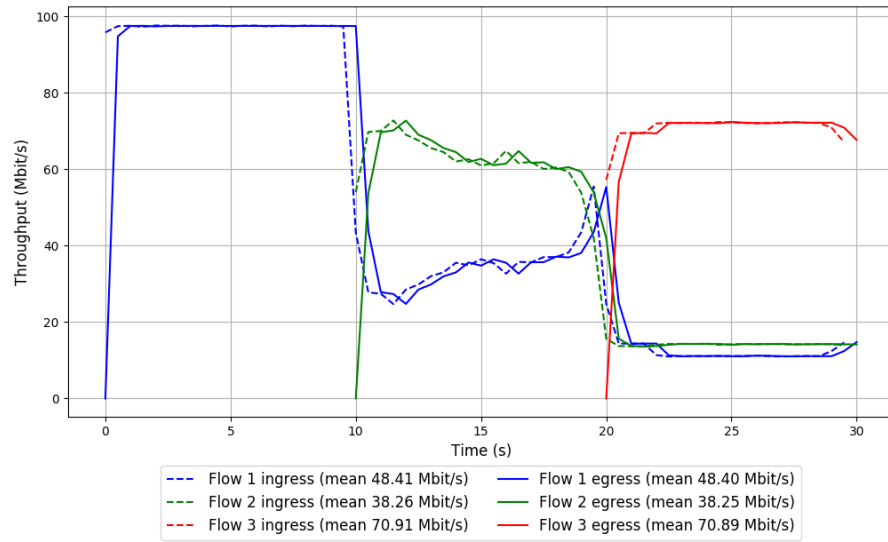


Run 3: Statistics of TCP Vegas

Start at: 2019-02-05 08:25:24  
End at: 2019-02-05 08:25:54  
Local clock offset: -4.646 ms  
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2019-02-05 09:33:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.46 Mbit/s  
95th percentile per-packet one-way delay: 4.485 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 48.40 Mbit/s  
95th percentile per-packet one-way delay: 4.408 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 38.25 Mbit/s  
95th percentile per-packet one-way delay: 2.935 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 70.89 Mbit/s  
95th percentile per-packet one-way delay: 4.655 ms  
Loss rate: 0.00%

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





Run 4: Statistics of TCP Vegas

Start at: 2019-02-05 08:49:19

End at: 2019-02-05 08:49:49

Local clock offset: -6.548 ms

Remote clock offset: 0.304 ms

# Below is generated by plot.py at 2019-02-05 09:33:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 5.318 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 48.34 Mbit/s

95th percentile per-packet one-way delay: 3.603 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 40.61 Mbit/s

95th percentile per-packet one-way delay: 5.113 ms

Loss rate: 0.00%

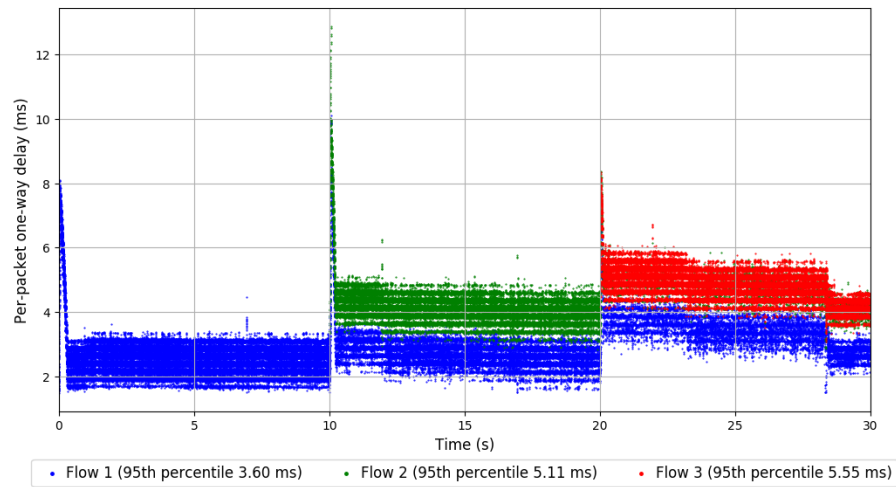
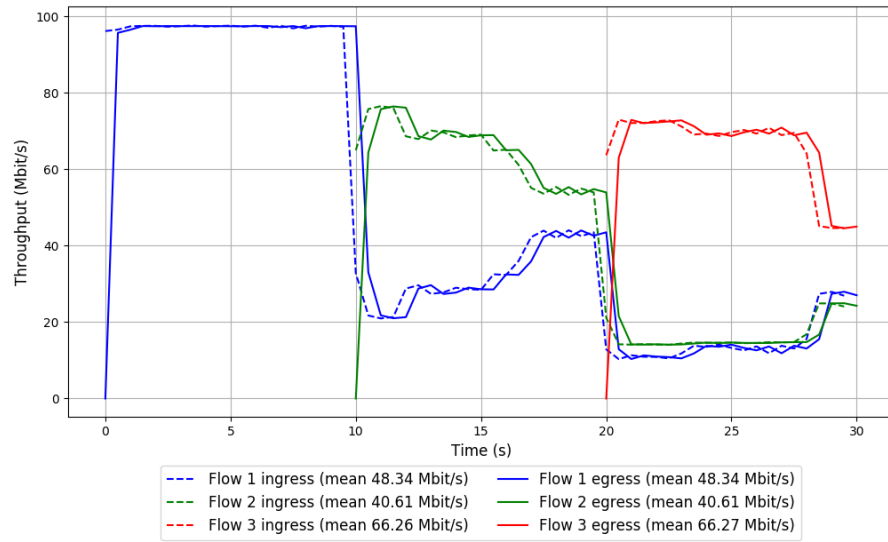
-- Flow 3:

Average throughput: 66.27 Mbit/s

95th percentile per-packet one-way delay: 5.549 ms

Loss rate: 0.00%

# Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-02-05 09:13:16

End at: 2019-02-05 09:13:46

Local clock offset: -7.082 ms

Remote clock offset: 0.828 ms

# Below is generated by plot.py at 2019-02-05 09:33:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 4.045 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 64.44 Mbit/s

95th percentile per-packet one-way delay: 4.505 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 35.84 Mbit/s

95th percentile per-packet one-way delay: 3.060 ms

Loss rate: 0.00%

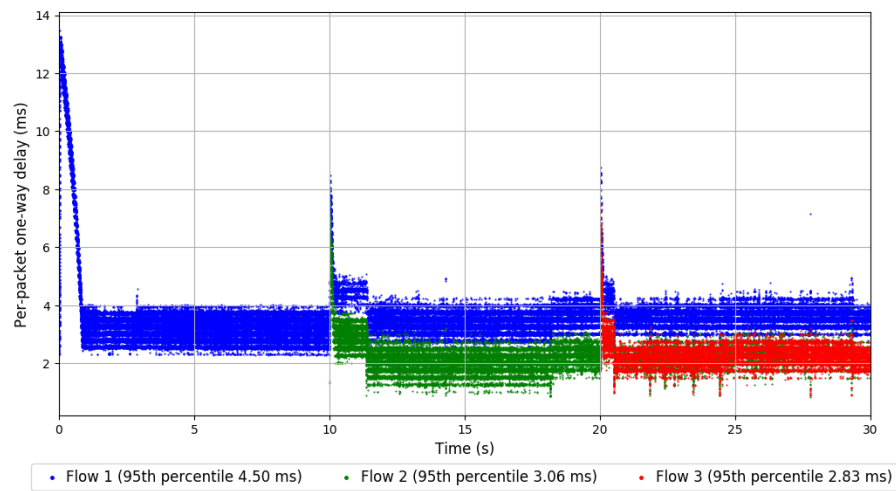
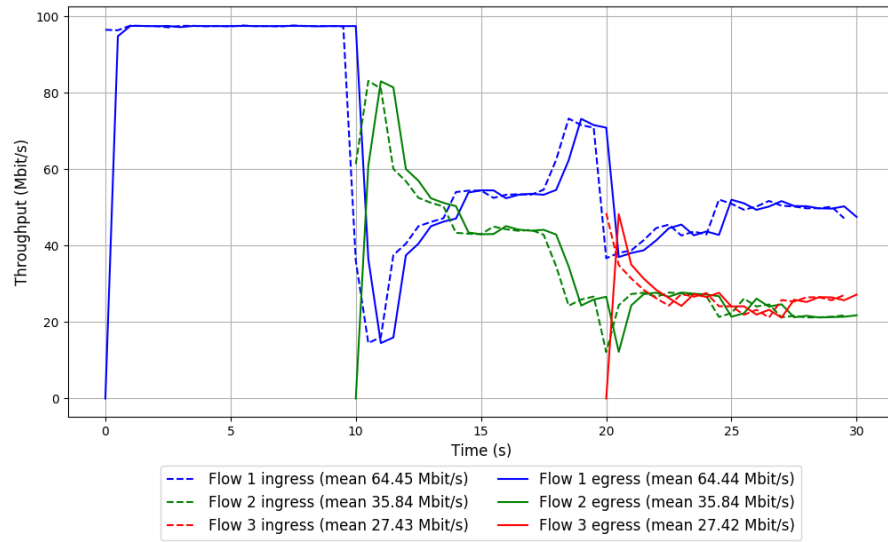
-- Flow 3:

Average throughput: 27.42 Mbit/s

95th percentile per-packet one-way delay: 2.830 ms

Loss rate: 0.02%

## Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-02-05 07:28:27

End at: 2019-02-05 07:28:57

Local clock offset: -3.096 ms

Remote clock offset: 0.152 ms

# Below is generated by plot.py at 2019-02-05 09:33:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 76.25 Mbit/s

95th percentile per-packet one-way delay: 27.303 ms

Loss rate: 4.62%

-- Flow 1:

Average throughput: 45.01 Mbit/s

95th percentile per-packet one-way delay: 22.869 ms

Loss rate: 2.93%

-- Flow 2:

Average throughput: 37.82 Mbit/s

95th percentile per-packet one-way delay: 26.336 ms

Loss rate: 3.05%

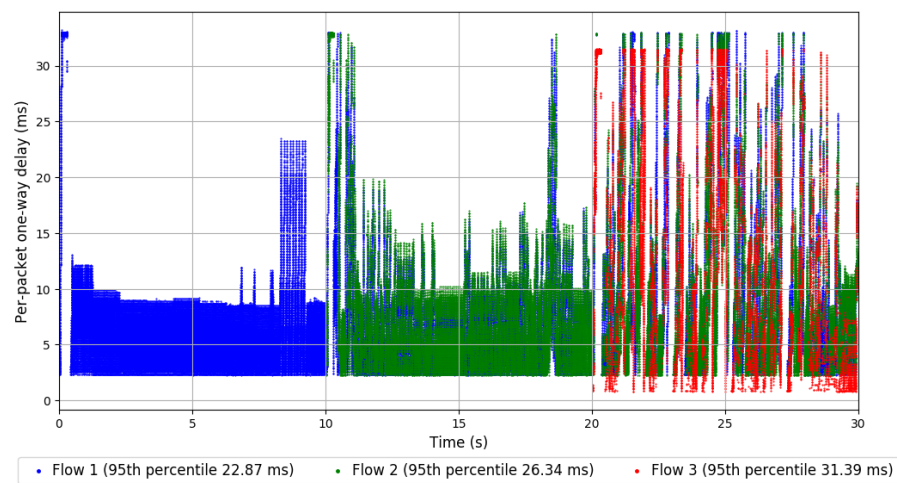
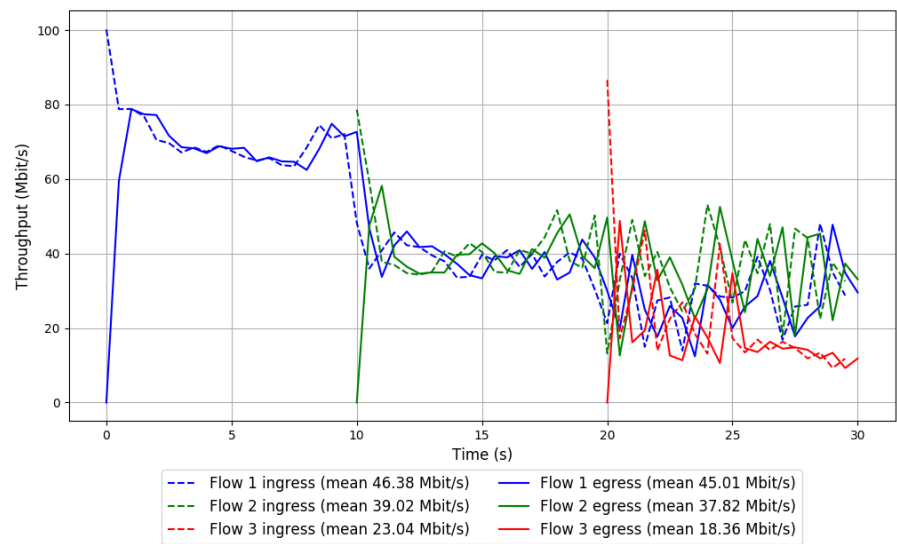
-- Flow 3:

Average throughput: 18.36 Mbit/s

95th percentile per-packet one-way delay: 31.387 ms

Loss rate: 20.30%

Run 1: Report of Verus — Data Link

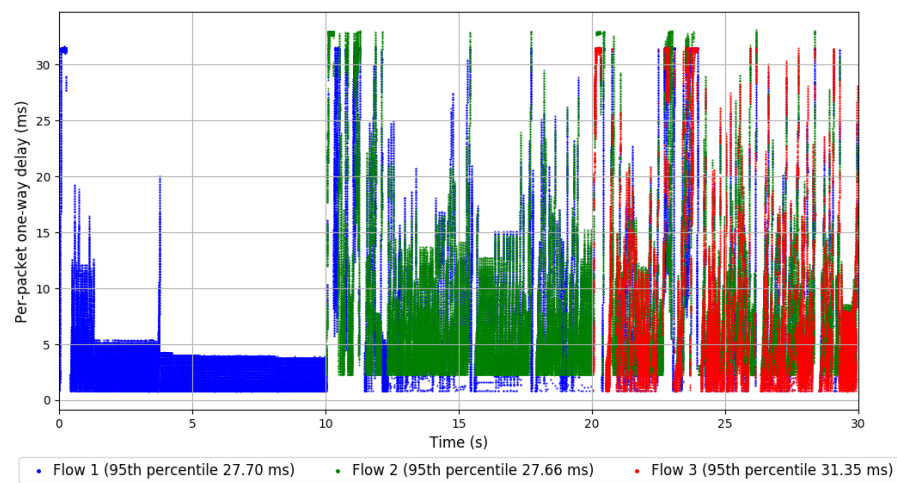
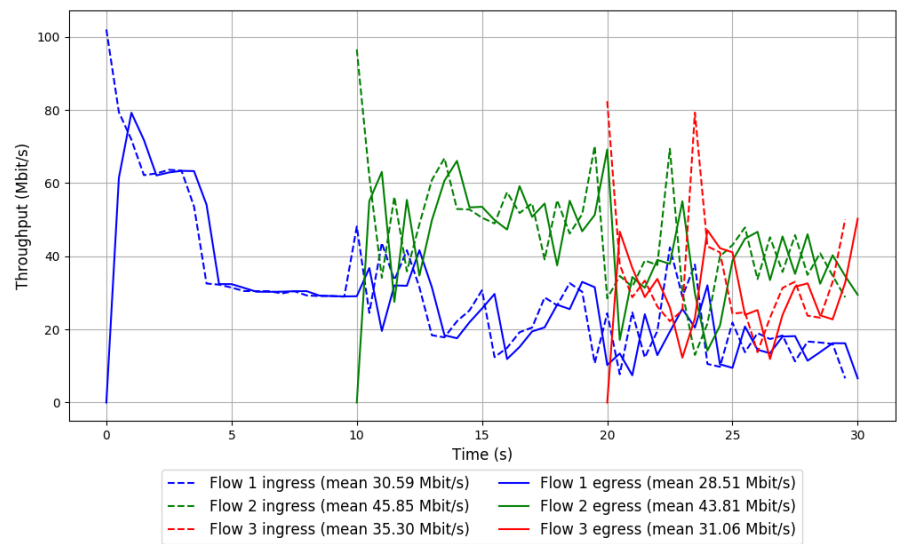


Run 2: Statistics of Verus

Start at: 2019-02-05 07:52:22  
End at: 2019-02-05 07:52:52  
Local clock offset: -3.589 ms  
Remote clock offset: -0.047 ms

# Below is generated by plot.py at 2019-02-05 09:33:16  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 67.96 Mbit/s  
95th percentile per-packet one-way delay: 29.899 ms  
Loss rate: 6.58%  
-- Flow 1:  
Average throughput: 28.51 Mbit/s  
95th percentile per-packet one-way delay: 27.701 ms  
Loss rate: 6.76%  
-- Flow 2:  
Average throughput: 43.81 Mbit/s  
95th percentile per-packet one-way delay: 27.661 ms  
Loss rate: 4.41%  
-- Flow 3:  
Average throughput: 31.06 Mbit/s  
95th percentile per-packet one-way delay: 31.351 ms  
Loss rate: 11.78%

Run 2: Report of Verus — Data Link



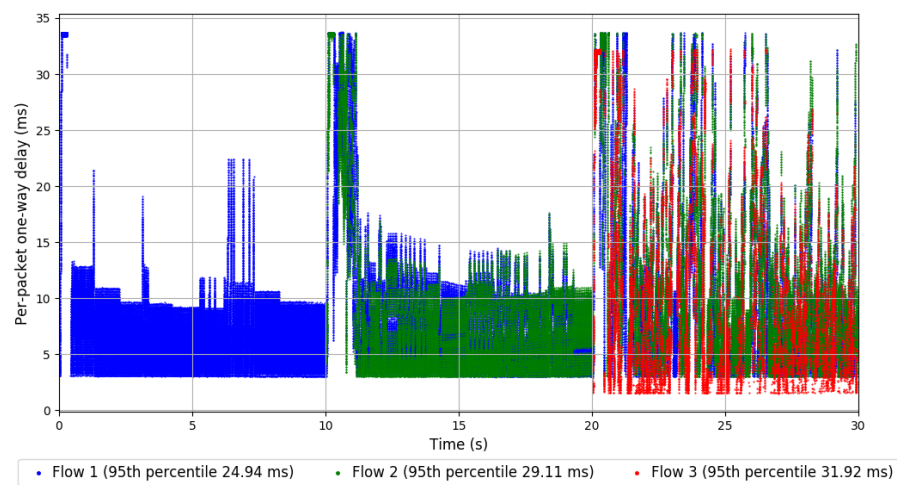
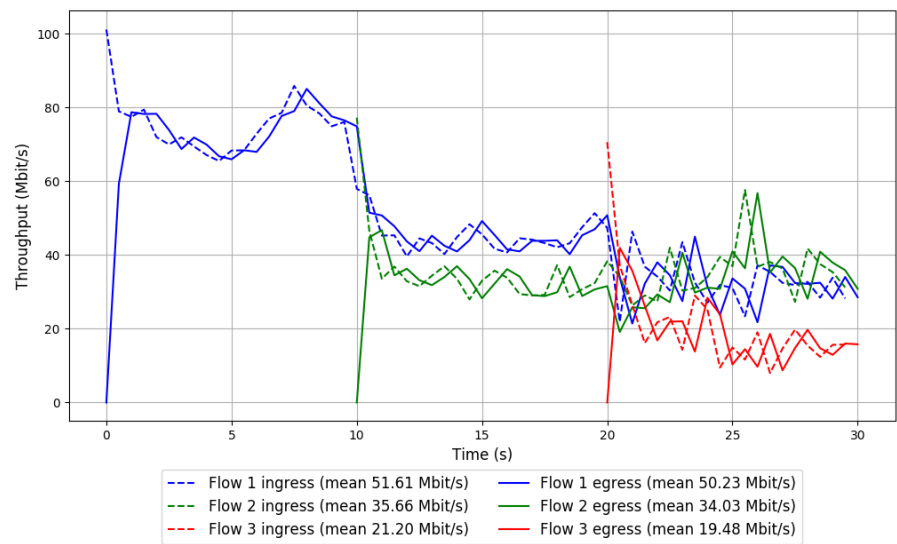


Run 3: Statistics of Verus

Start at: 2019-02-05 08:16:17  
End at: 2019-02-05 08:16:47  
Local clock offset: -4.677 ms  
Remote clock offset: -0.049 ms

# Below is generated by plot.py at 2019-02-05 09:33:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.34 Mbit/s  
95th percentile per-packet one-way delay: 28.041 ms  
Loss rate: 3.68%  
-- Flow 1:  
Average throughput: 50.23 Mbit/s  
95th percentile per-packet one-way delay: 24.938 ms  
Loss rate: 2.67%  
-- Flow 2:  
Average throughput: 34.03 Mbit/s  
95th percentile per-packet one-way delay: 29.109 ms  
Loss rate: 4.56%  
-- Flow 3:  
Average throughput: 19.48 Mbit/s  
95th percentile per-packet one-way delay: 31.922 ms  
Loss rate: 8.10%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-02-05 08:40:12

End at: 2019-02-05 08:40:42

Local clock offset: -5.295 ms

Remote clock offset: 0.086 ms

# Below is generated by plot.py at 2019-02-05 09:33:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 71.21 Mbit/s

95th percentile per-packet one-way delay: 32.526 ms

Loss rate: 15.45%

-- Flow 1:

Average throughput: 46.28 Mbit/s

95th percentile per-packet one-way delay: 32.282 ms

Loss rate: 11.45%

-- Flow 2:

Average throughput: 22.75 Mbit/s

95th percentile per-packet one-way delay: 31.211 ms

Loss rate: 17.94%

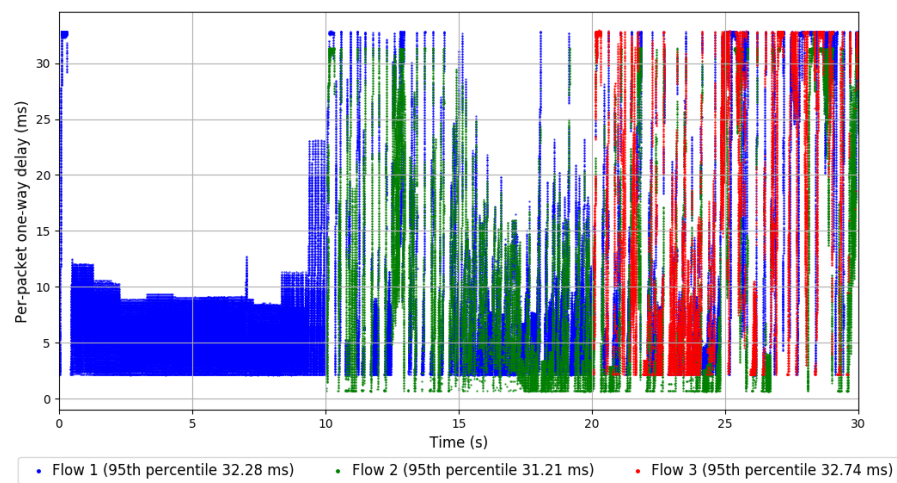
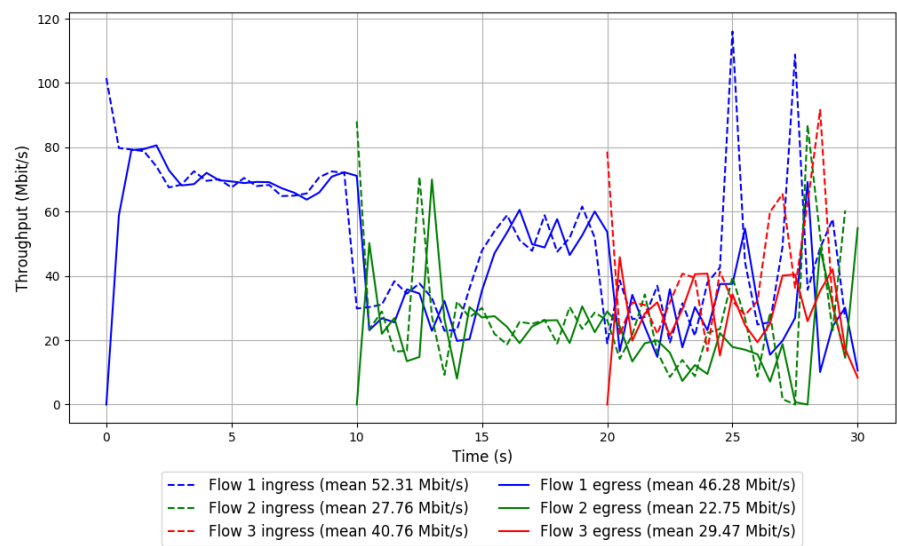
-- Flow 3:

Average throughput: 29.47 Mbit/s

95th percentile per-packet one-way delay: 32.742 ms

Loss rate: 27.52%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-02-05 09:04:08

End at: 2019-02-05 09:04:38

Local clock offset: -6.694 ms

Remote clock offset: 0.682 ms

# Below is generated by plot.py at 2019-02-05 09:33:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 68.85 Mbit/s

95th percentile per-packet one-way delay: 26.566 ms

Loss rate: 4.54%

-- Flow 1:

Average throughput: 32.60 Mbit/s

95th percentile per-packet one-way delay: 24.575 ms

Loss rate: 4.40%

-- Flow 2:

Average throughput: 44.04 Mbit/s

95th percentile per-packet one-way delay: 24.959 ms

Loss rate: 3.11%

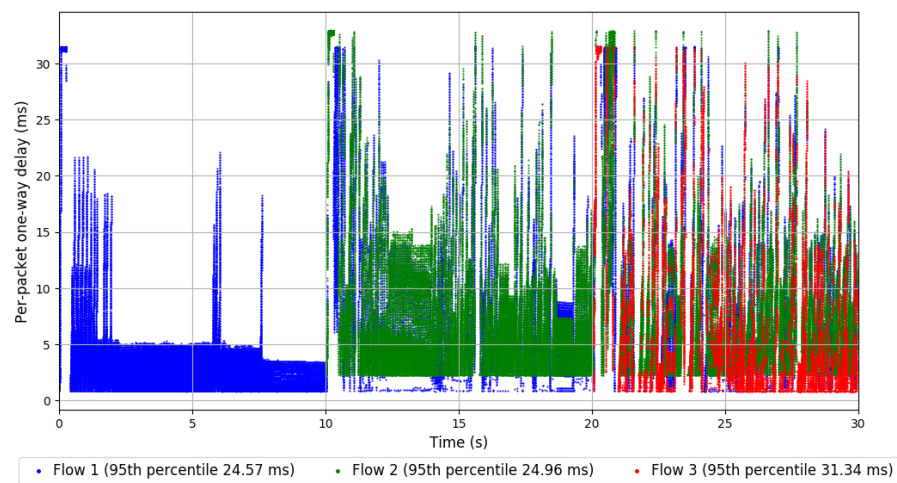
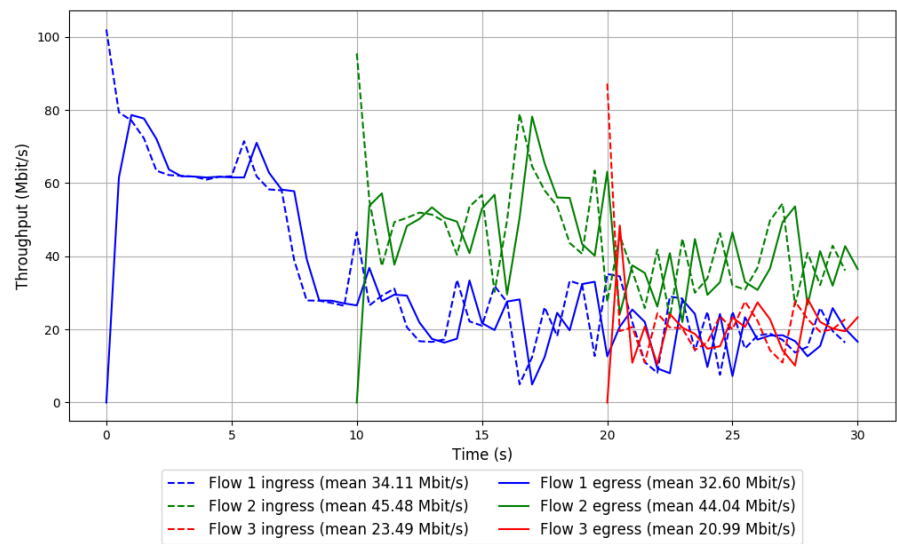
-- Flow 3:

Average throughput: 20.99 Mbit/s

95th percentile per-packet one-way delay: 31.339 ms

Loss rate: 10.70%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-02-05 07:23:49

End at: 2019-02-05 07:24:19

Local clock offset: -2.925 ms

Remote clock offset: 0.054 ms

# Below is generated by plot.py at 2019-02-05 09:34:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.07 Mbit/s

95th percentile per-packet one-way delay: 2.531 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 55.15 Mbit/s

95th percentile per-packet one-way delay: 2.481 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 35.71 Mbit/s

95th percentile per-packet one-way delay: 2.754 ms

Loss rate: 0.00%

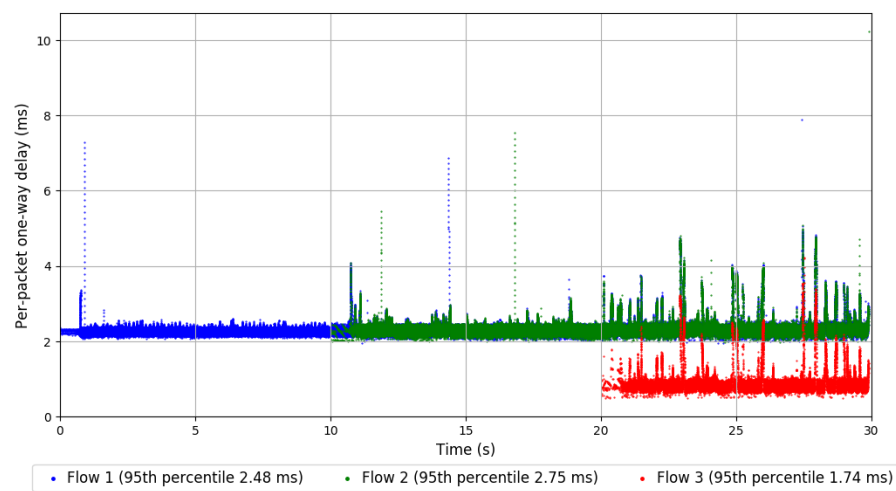
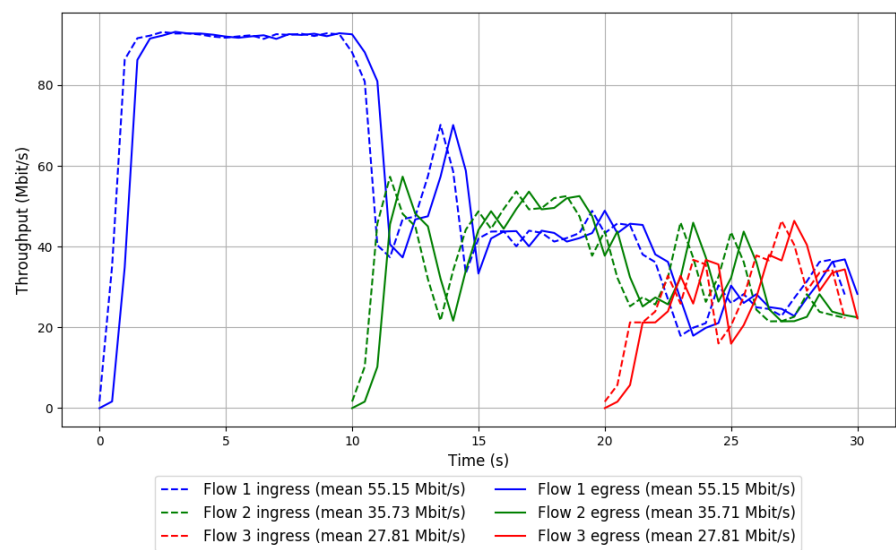
-- Flow 3:

Average throughput: 27.81 Mbit/s

95th percentile per-packet one-way delay: 1.742 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



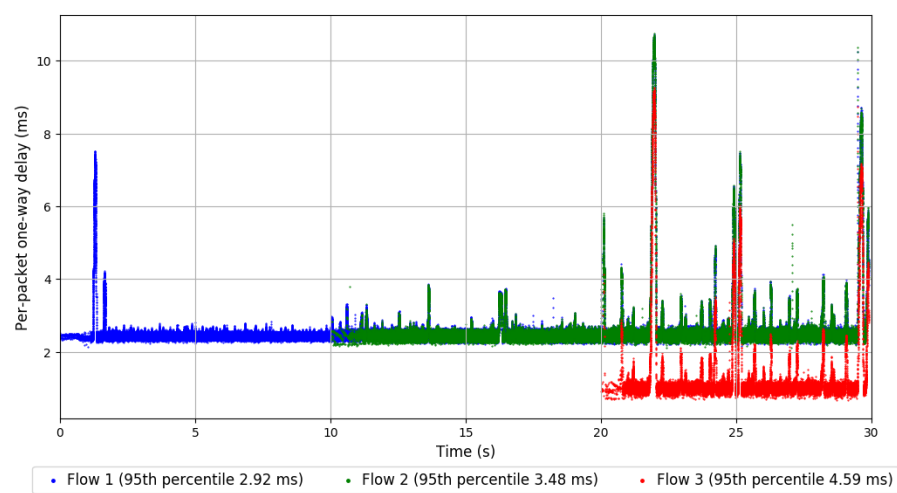
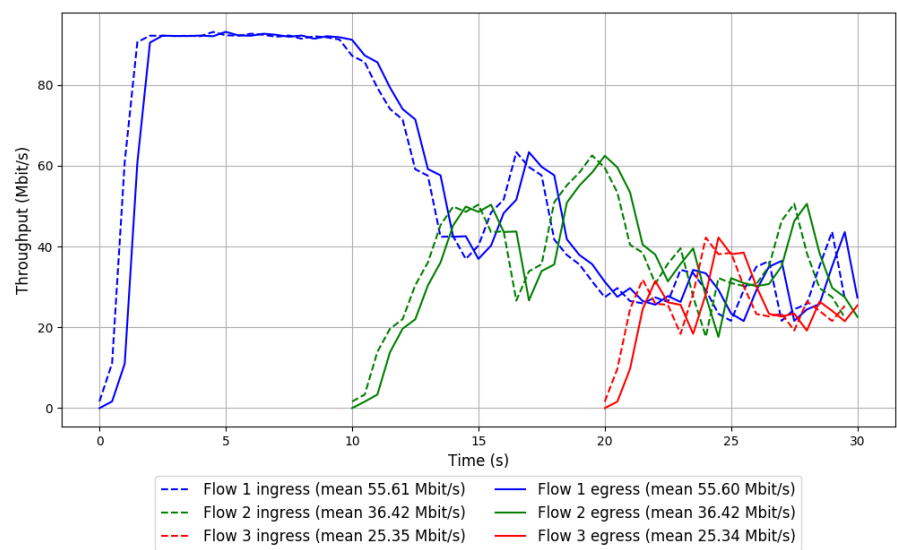


Run 2: Statistics of PCC-Vivace

Start at: 2019-02-05 07:47:44  
End at: 2019-02-05 07:48:14  
Local clock offset: -3.544 ms  
Remote clock offset: -0.015 ms

# Below is generated by plot.py at 2019-02-05 09:34:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.20 Mbit/s  
95th percentile per-packet one-way delay: 3.209 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 55.60 Mbit/s  
95th percentile per-packet one-way delay: 2.917 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 36.42 Mbit/s  
95th percentile per-packet one-way delay: 3.478 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 25.34 Mbit/s  
95th percentile per-packet one-way delay: 4.592 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

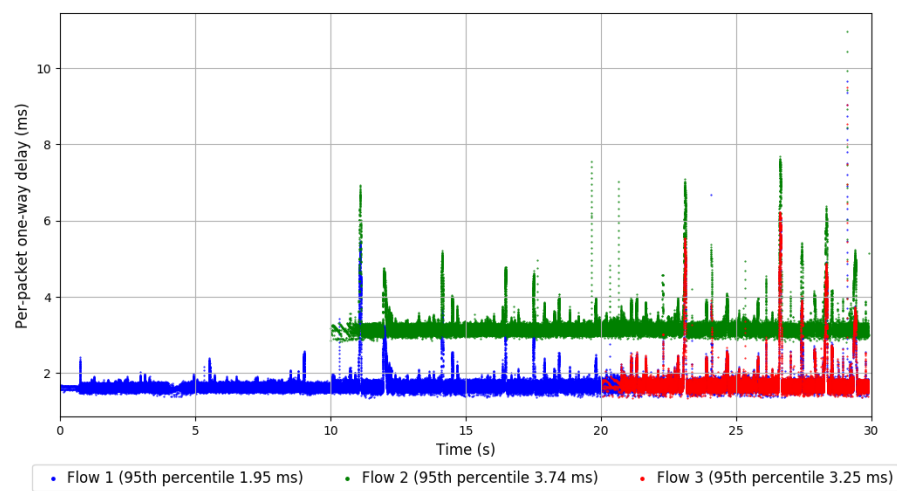
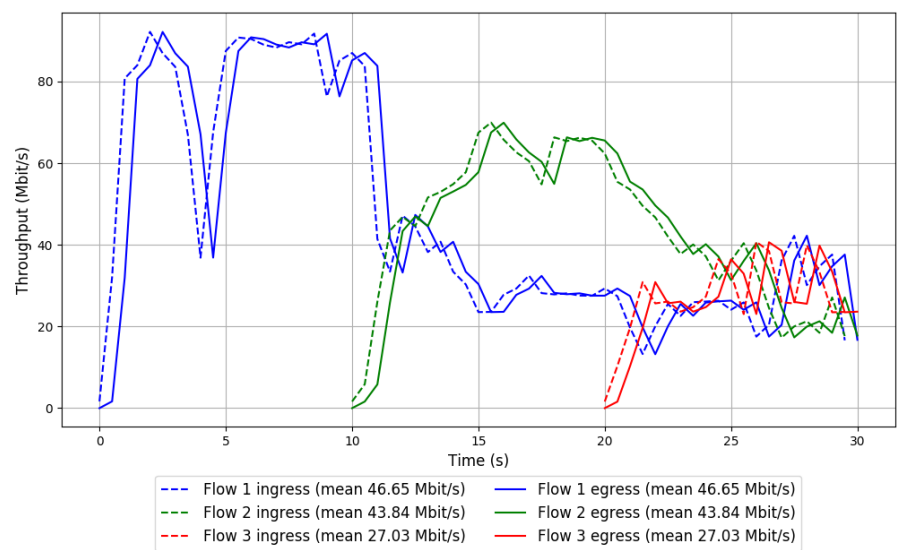


Run 3: Statistics of PCC-Vivace

Start at: 2019-02-05 08:11:39  
End at: 2019-02-05 08:12:09  
Local clock offset: -4.525 ms  
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2019-02-05 09:34:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 84.72 Mbit/s  
95th percentile per-packet one-way delay: 3.334 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 46.65 Mbit/s  
95th percentile per-packet one-way delay: 1.951 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 43.84 Mbit/s  
95th percentile per-packet one-way delay: 3.741 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 27.03 Mbit/s  
95th percentile per-packet one-way delay: 3.252 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-02-05 08:35:35

End at: 2019-02-05 08:36:05

Local clock offset: -5.859 ms

Remote clock offset: 0.055 ms

# Below is generated by plot.py at 2019-02-05 09:34:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 83.32 Mbit/s

95th percentile per-packet one-way delay: 3.142 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 52.02 Mbit/s

95th percentile per-packet one-way delay: 2.441 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.11 Mbit/s

95th percentile per-packet one-way delay: 4.605 ms

Loss rate: 0.00%

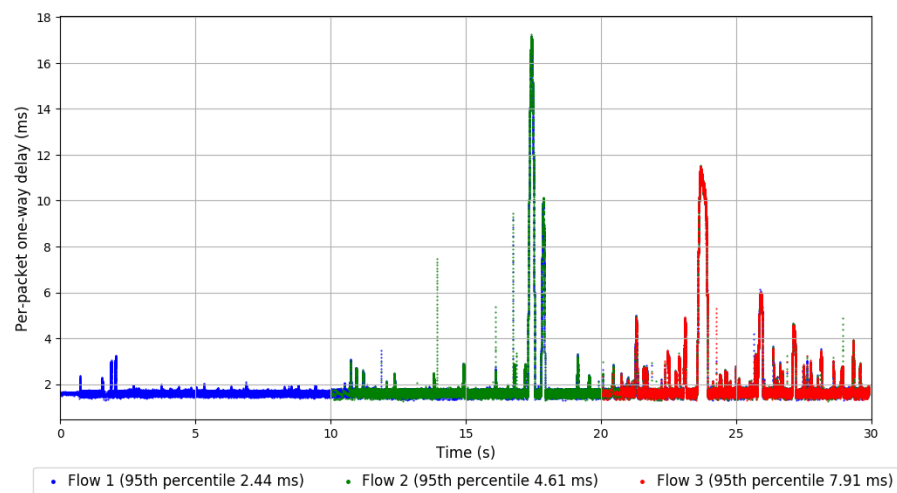
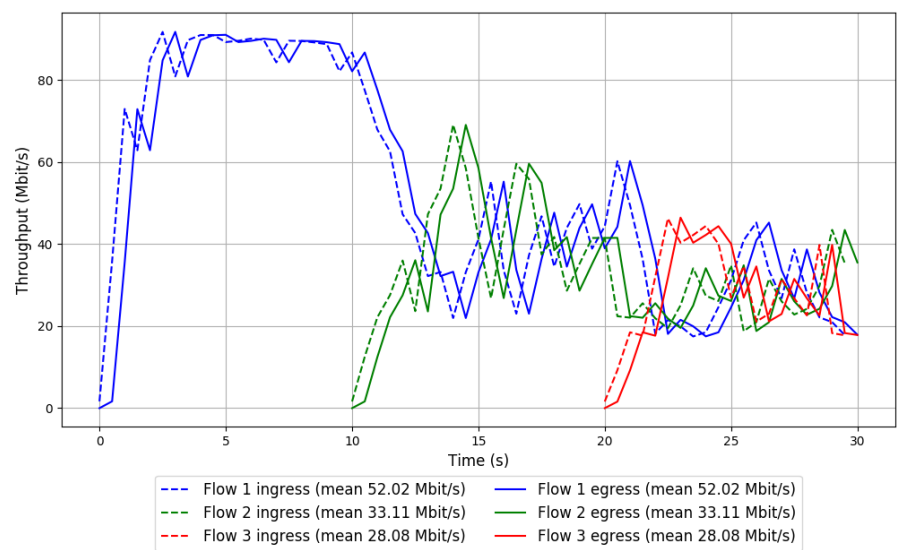
-- Flow 3:

Average throughput: 28.08 Mbit/s

95th percentile per-packet one-way delay: 7.908 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-02-05 08:59:30

End at: 2019-02-05 09:00:00

Local clock offset: -7.22 ms

Remote clock offset: 0.519 ms

# Below is generated by plot.py at 2019-02-05 09:34:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 84.41 Mbit/s

95th percentile per-packet one-way delay: 3.383 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 52.88 Mbit/s

95th percentile per-packet one-way delay: 2.315 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 32.68 Mbit/s

95th percentile per-packet one-way delay: 3.778 ms

Loss rate: 0.00%

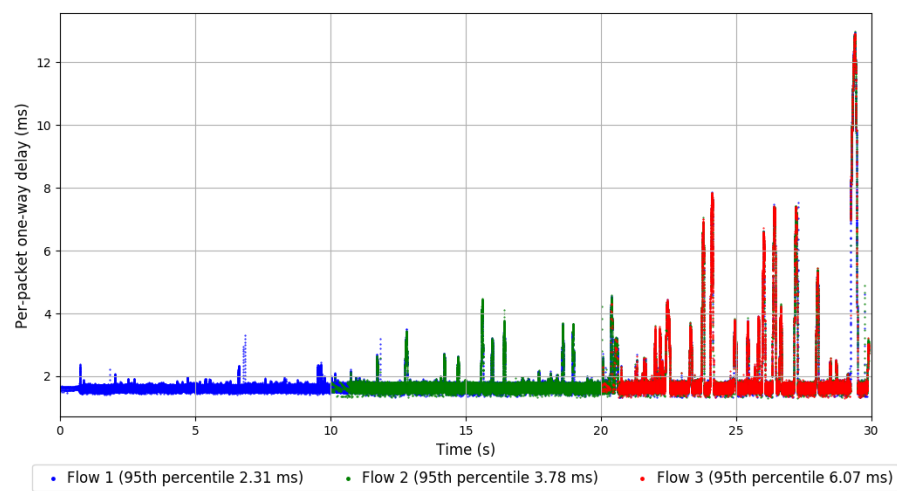
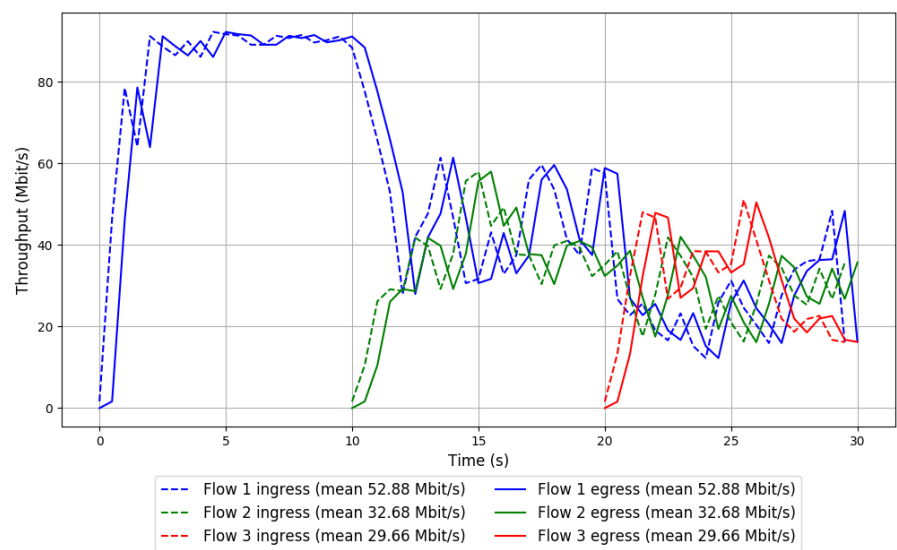
-- Flow 3:

Average throughput: 29.66 Mbit/s

95th percentile per-packet one-way delay: 6.065 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link





Run 1: Statistics of WebRTC media

Start at: 2019-02-05 07:21:36

End at: 2019-02-05 07:22:06

Local clock offset: -3.595 ms

Remote clock offset: 0.221 ms

# Below is generated by plot.py at 2019-02-05 09:34:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 7.861 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 9.028 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.477 ms

Loss rate: 0.05%

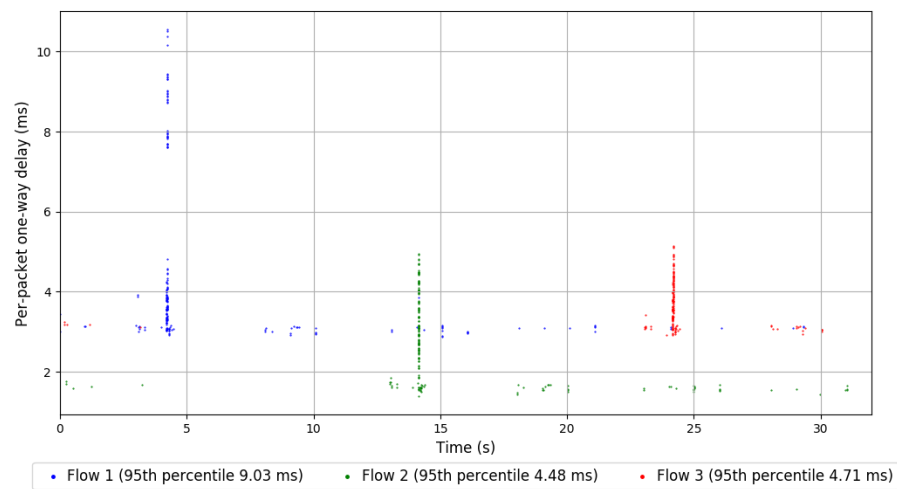
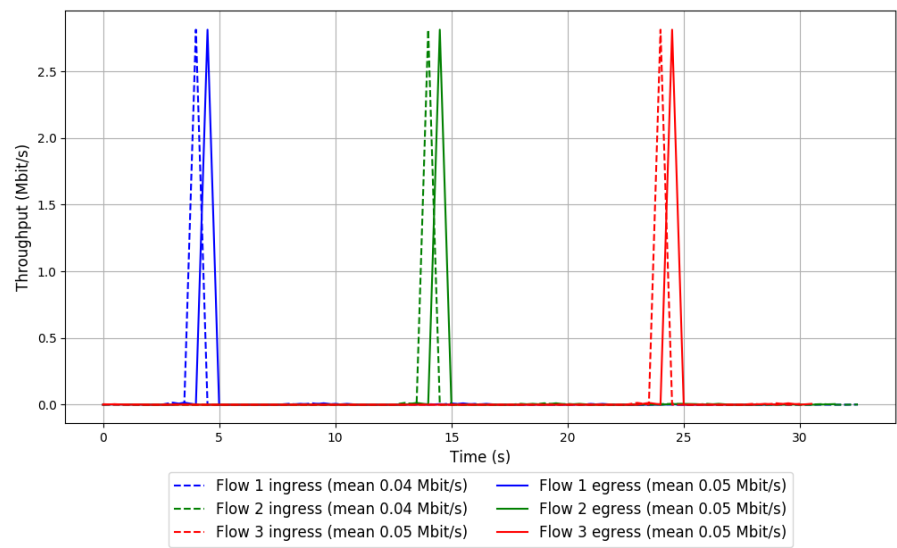
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.705 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

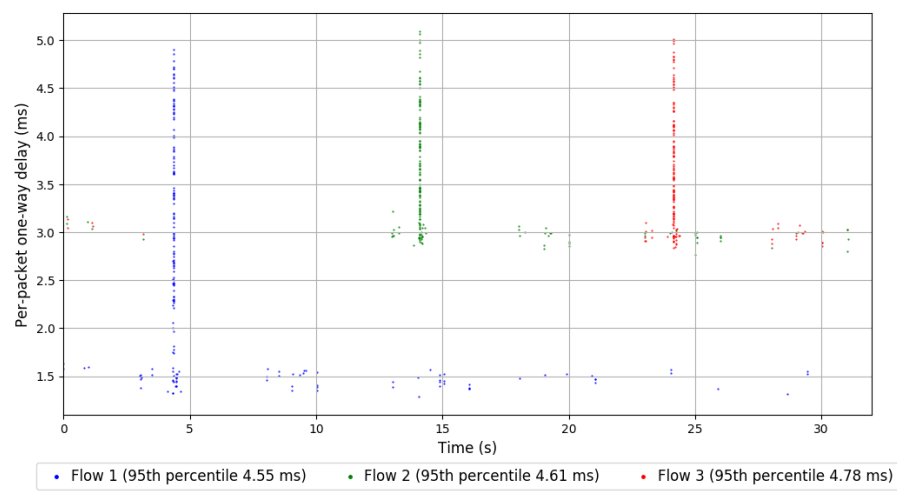
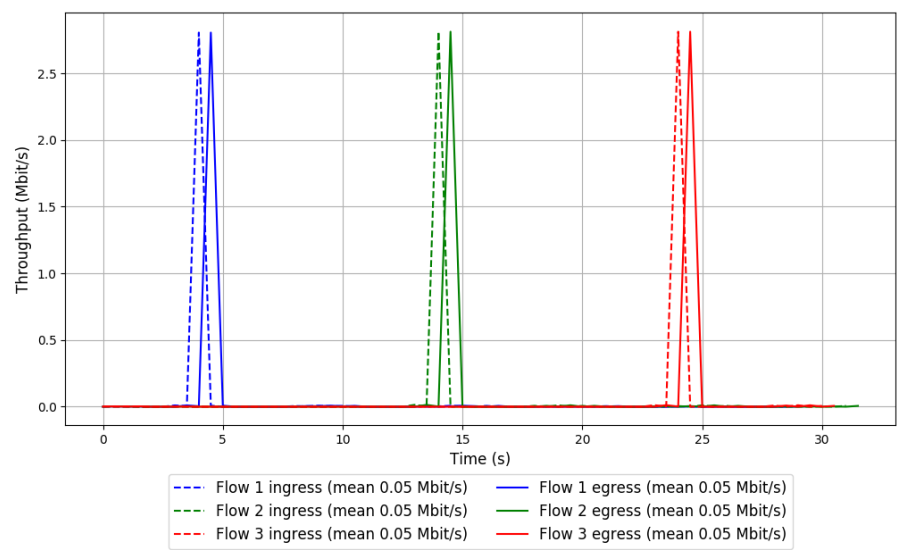


Run 2: Statistics of WebRTC media

Start at: 2019-02-05 07:45:31  
End at: 2019-02-05 07:46:01  
Local clock offset: -4.162 ms  
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2019-02-05 09:34:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 4.614 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 4.555 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 4.605 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 4.777 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

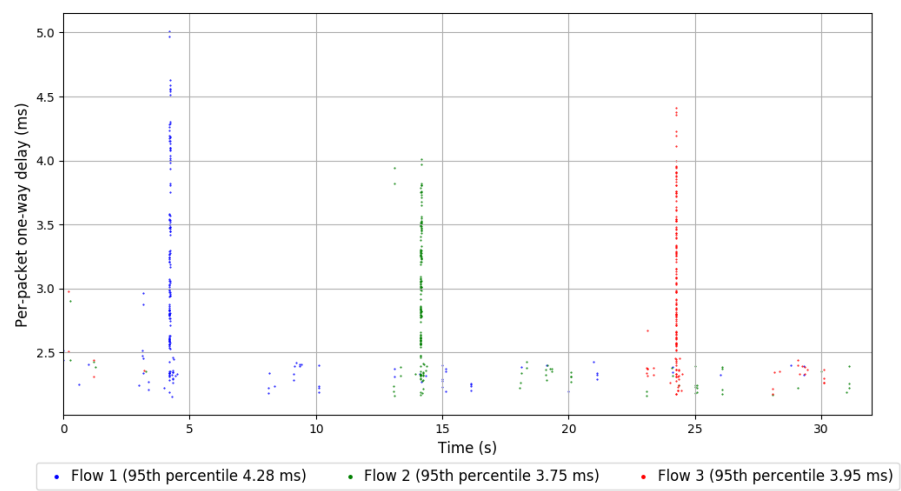
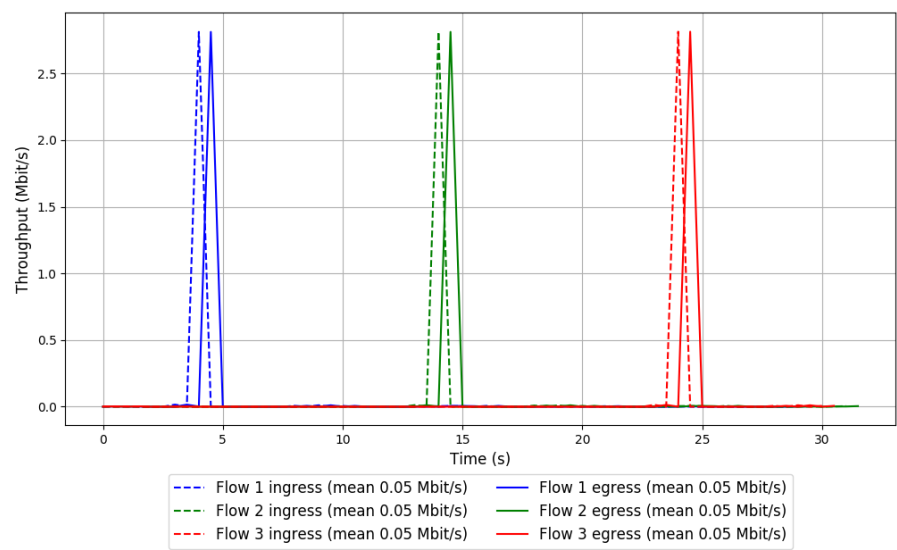


Run 3: Statistics of WebRTC media

Start at: 2019-02-05 08:09:26  
End at: 2019-02-05 08:09:56  
Local clock offset: -3.737 ms  
Remote clock offset: -0.021 ms

# Below is generated by plot.py at 2019-02-05 09:34:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 4.099 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 4.283 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 3.753 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 3.951 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

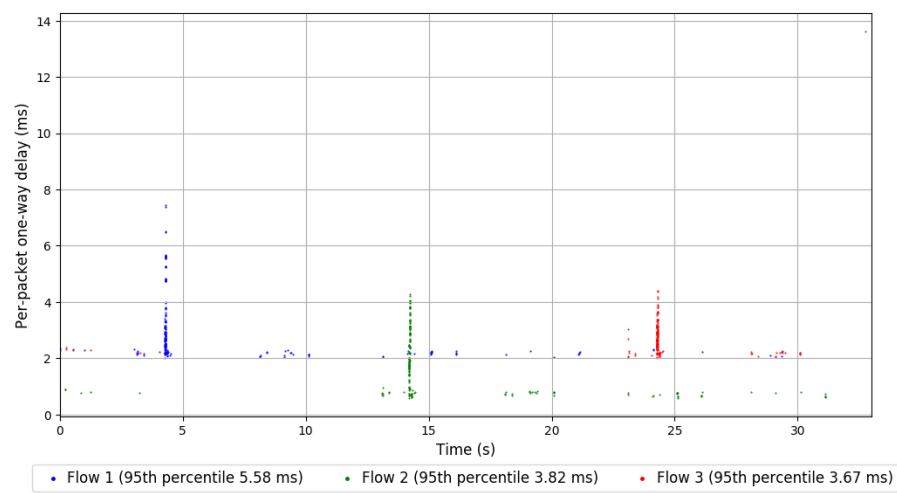
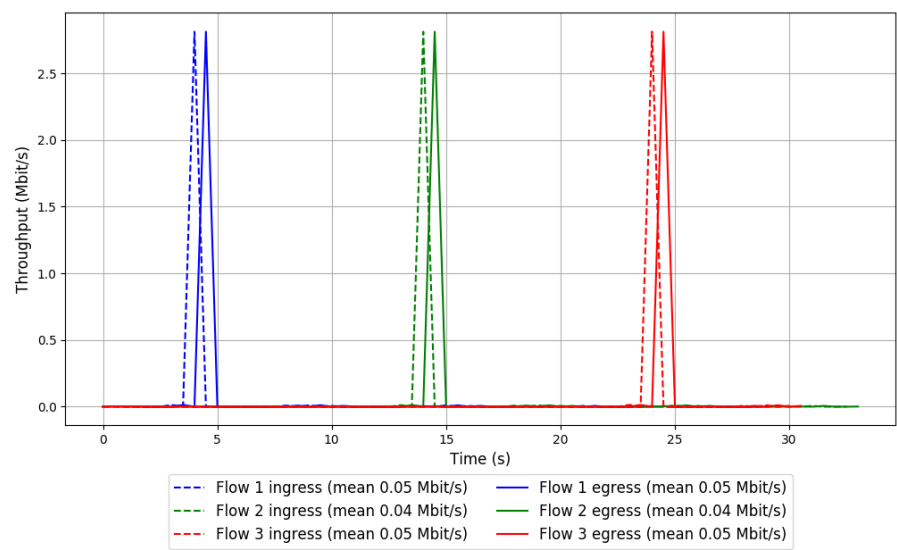


Run 4: Statistics of WebRTC media

Start at: 2019-02-05 08:33:22  
End at: 2019-02-05 08:33:52  
Local clock offset: -5.044 ms  
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2019-02-05 09:34:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.13 Mbit/s  
95th percentile per-packet one-way delay: 4.735 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 5.582 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.04 Mbit/s  
95th percentile per-packet one-way delay: 3.819 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 3.665 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-02-05 08:57:17

End at: 2019-02-05 08:57:47

Local clock offset: -6.371 ms

Remote clock offset: 0.516 ms

# Below is generated by plot.py at 2019-02-05 09:34:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 3.760 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.720 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.974 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.708 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

