

## Pantheon Report

Generated at 2019-01-22 05:22:52 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

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

### System info:

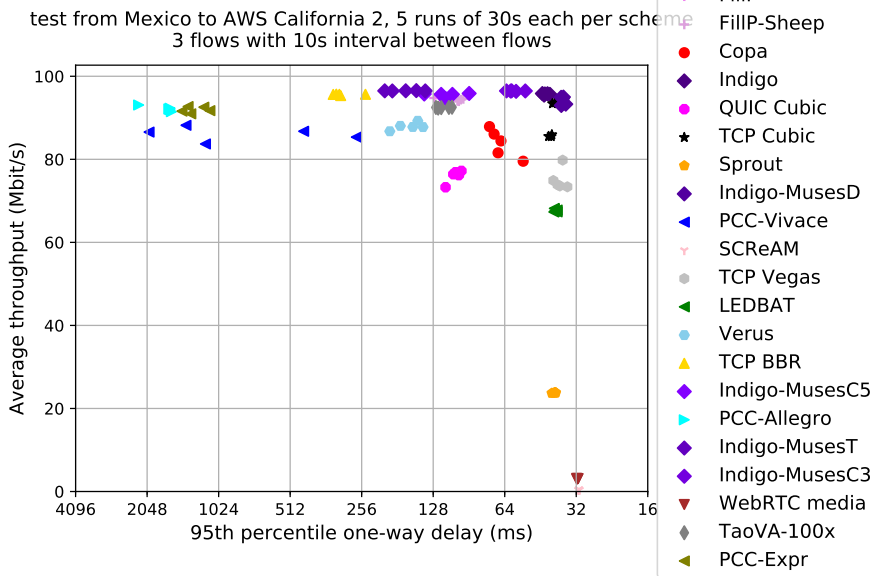
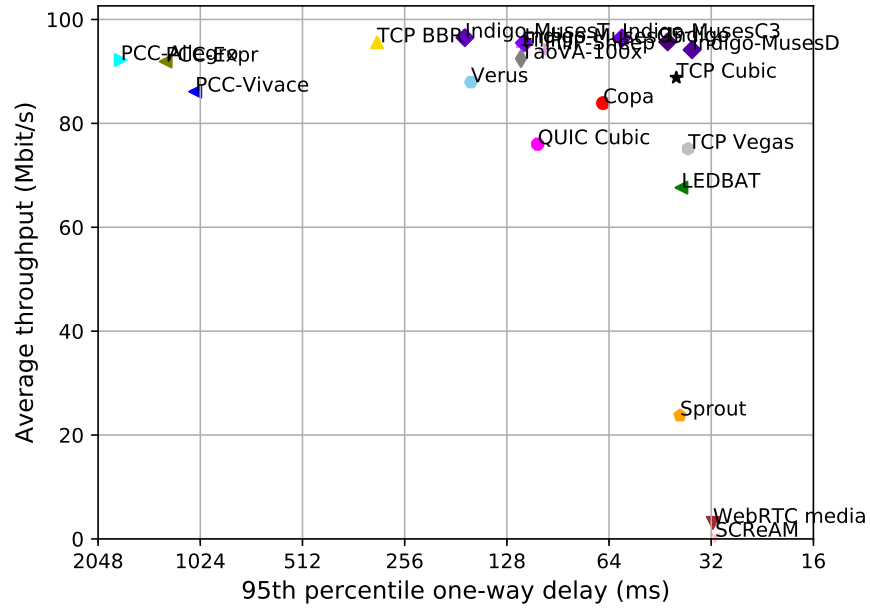
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 89d24e57783e7fbfec537a619071de937b639e38
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 1ddcff131048c6962f123bcd22b4d166a422adde
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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

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



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	57.09	40.54	34.83	173.86	295.71	528.92	1.85	2.52	4.23
Copa	5	49.52	38.39	26.63	92.84	44.87	50.11	0.12	0.29	0.87
TCP Cubic	5	53.24	38.81	29.37	42.04	39.83	45.39	0.17	0.35	0.67
FillP	5	56.43	40.04	35.34	93.81	134.89	93.45	0.35	3.83	1.73
FillP-Sheep	5	56.50	41.00	31.60	90.06	112.71	144.59	0.20	0.60	1.38
Indigo	5	59.88	36.47	35.39	43.33	44.17	40.41	0.18	0.34	0.71
Indigo-MusesC3	5	60.52	40.82	31.84	54.47	62.55	75.09	0.21	0.49	1.05
Indigo-MusesC5	5	57.34	45.36	29.01	103.73	98.75	126.45	1.36	1.79	5.03
Indigo-MusesD	5	45.88	50.02	53.08	36.12	37.57	36.86	0.06	0.10	1.05
Indigo-MusesT	5	60.27	42.02	30.11	137.22	167.96	264.64	1.81	4.70	7.15
LEDBAT	5	40.80	30.82	19.09	39.20	39.43	39.58	0.16	0.39	1.08
PCC-Allegro	5	58.58	36.42	28.67	1778.98	1731.43	123.19	17.12	14.81	0.90
PCC-Expr	5	57.57	39.17	25.23	1027.37	946.37	162.25	30.44	10.96	1.95
QUIC Cubic	5	41.05	39.16	27.09	97.47	109.81	139.53	0.20	0.43	1.07
SCReAM	5	0.21	0.21	0.22	31.17	31.12	31.24	0.16	0.40	0.71
Sprout	5	11.98	11.94	11.72	39.19	39.80	40.11	0.15	0.42	0.73
TaoVA-100x	5	55.48	38.49	34.27	106.75	126.10	145.08	0.37	1.09	2.29
TCP Vegas	5	41.56	33.90	33.18	42.23	35.52	36.66	0.21	0.28	0.66
Verus	5	54.23	36.05	29.36	141.21	147.33	245.65	0.32	0.69	2.39
PCC-Vivace	5	53.02	38.04	23.75	1227.27	393.99	65.58	3.48	2.99	1.15
WebRTC media	5	1.75	0.98	0.38	31.67	31.58	31.63	0.10	0.27	0.88

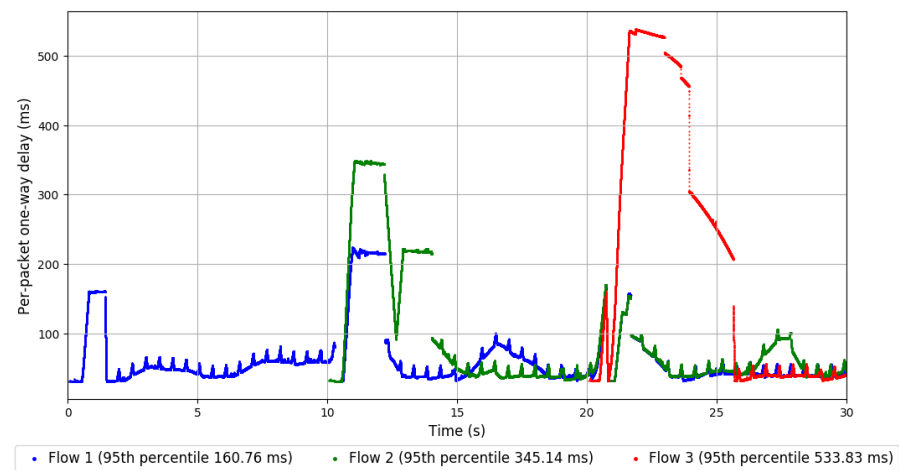
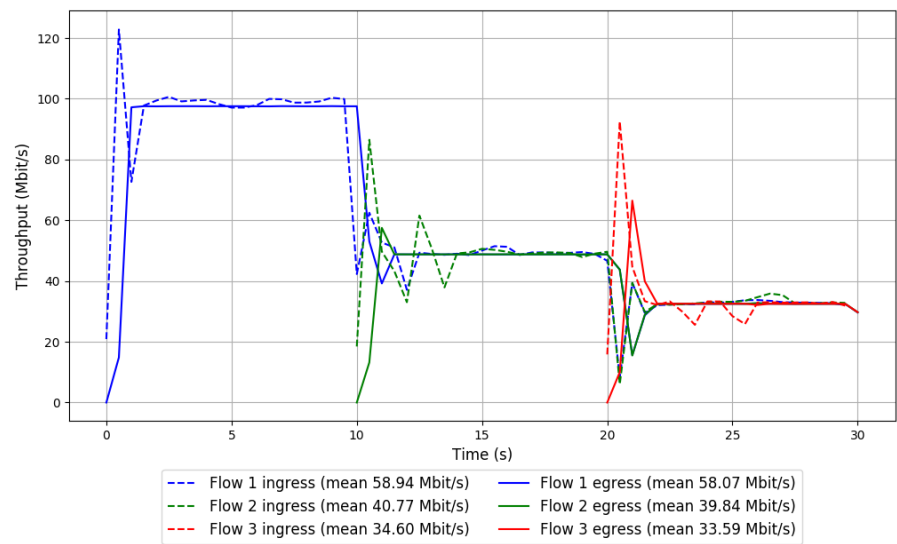


Run 1: Statistics of TCP BBR

Start at: 2019-01-22 02:56:45  
End at: 2019-01-22 02:57:15  
Local clock offset: -3.4 ms  
Remote clock offset: -4.647 ms

# Below is generated by plot.py at 2019-01-22 05:09:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.70 Mbit/s  
95th percentile per-packet one-way delay: 327.348 ms  
Loss rate: 2.17%  
-- Flow 1:  
Average throughput: 58.07 Mbit/s  
95th percentile per-packet one-way delay: 160.759 ms  
Loss rate: 1.69%  
-- Flow 2:  
Average throughput: 39.84 Mbit/s  
95th percentile per-packet one-way delay: 345.138 ms  
Loss rate: 2.61%  
-- Flow 3:  
Average throughput: 33.59 Mbit/s  
95th percentile per-packet one-way delay: 533.826 ms  
Loss rate: 3.55%

Run 1: Report of TCP BBR — Data Link

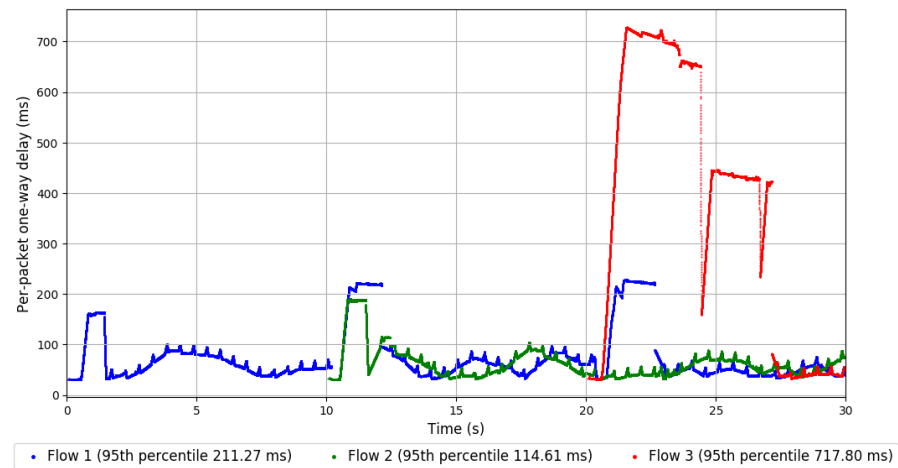
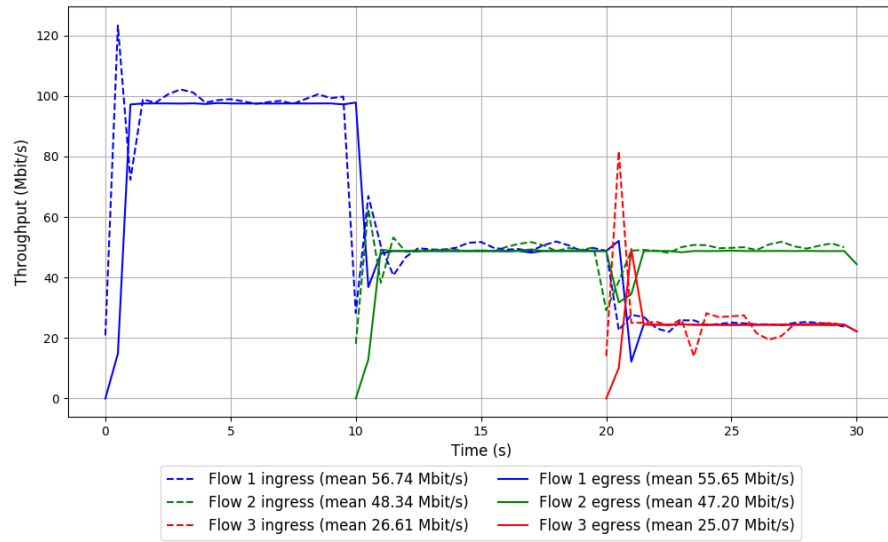


Run 2: Statistics of TCP BBR

Start at: 2019-01-22 03:28:25  
End at: 2019-01-22 03:28:55  
Local clock offset: -0.534 ms  
Remote clock offset: -1.622 ms

# Below is generated by plot.py at 2019-01-22 05:09:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.35 Mbit/s  
95th percentile per-packet one-way delay: 313.894 ms  
Loss rate: 2.70%  
-- Flow 1:  
Average throughput: 55.65 Mbit/s  
95th percentile per-packet one-way delay: 211.269 ms  
Loss rate: 2.12%  
-- Flow 2:  
Average throughput: 47.20 Mbit/s  
95th percentile per-packet one-way delay: 114.609 ms  
Loss rate: 2.69%  
-- Flow 3:  
Average throughput: 25.07 Mbit/s  
95th percentile per-packet one-way delay: 717.798 ms  
Loss rate: 6.39%

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

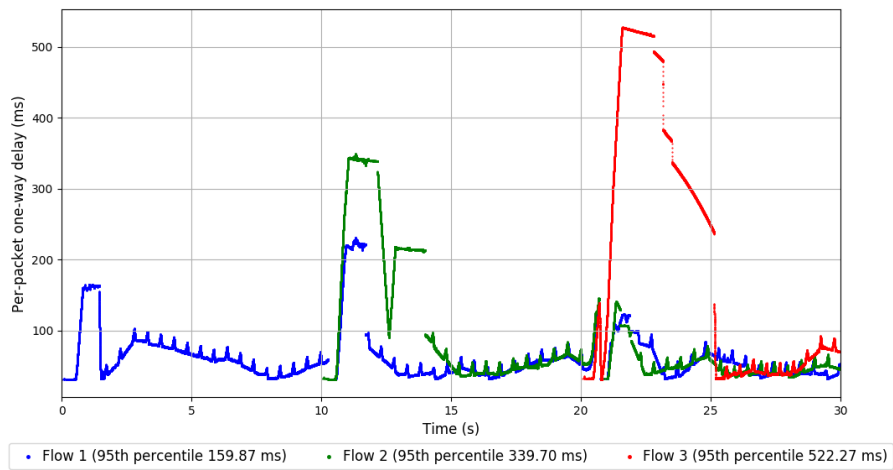
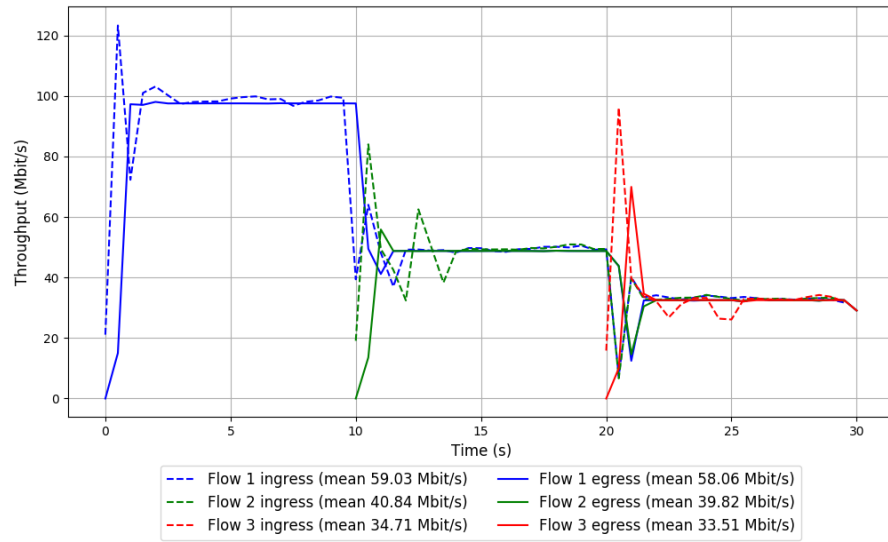


Run 3: Statistics of TCP BBR

Start at: 2019-01-22 04:03:27  
End at: 2019-01-22 04:03:57  
Local clock offset: 0.316 ms  
Remote clock offset: -0.258 ms

# Below is generated by plot.py at 2019-01-22 05:09:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.65 Mbit/s  
95th percentile per-packet one-way delay: 317.801 ms  
Loss rate: 2.39%  
-- Flow 1:  
Average throughput: 58.06 Mbit/s  
95th percentile per-packet one-way delay: 159.873 ms  
Loss rate: 1.86%  
-- Flow 2:  
Average throughput: 39.82 Mbit/s  
95th percentile per-packet one-way delay: 339.696 ms  
Loss rate: 2.83%  
-- Flow 3:  
Average throughput: 33.51 Mbit/s  
95th percentile per-packet one-way delay: 522.271 ms  
Loss rate: 4.09%

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



Run 4: Statistics of TCP BBR

Start at: 2019-01-22 04:34:17

End at: 2019-01-22 04:34:47

Local clock offset: 0.181 ms

Remote clock offset: 0.538 ms

# Below is generated by plot.py at 2019-01-22 05:09:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.66 Mbit/s

95th percentile per-packet one-way delay: 246.802 ms

Loss rate: 2.17%

-- Flow 1:

Average throughput: 55.64 Mbit/s

95th percentile per-packet one-way delay: 176.205 ms

Loss rate: 1.93%

-- Flow 2:

Average throughput: 36.04 Mbit/s

95th percentile per-packet one-way delay: 342.816 ms

Loss rate: 2.14%

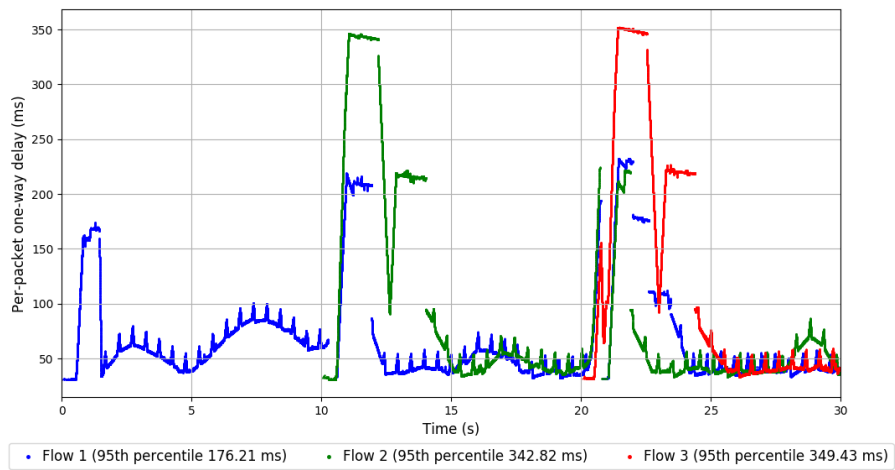
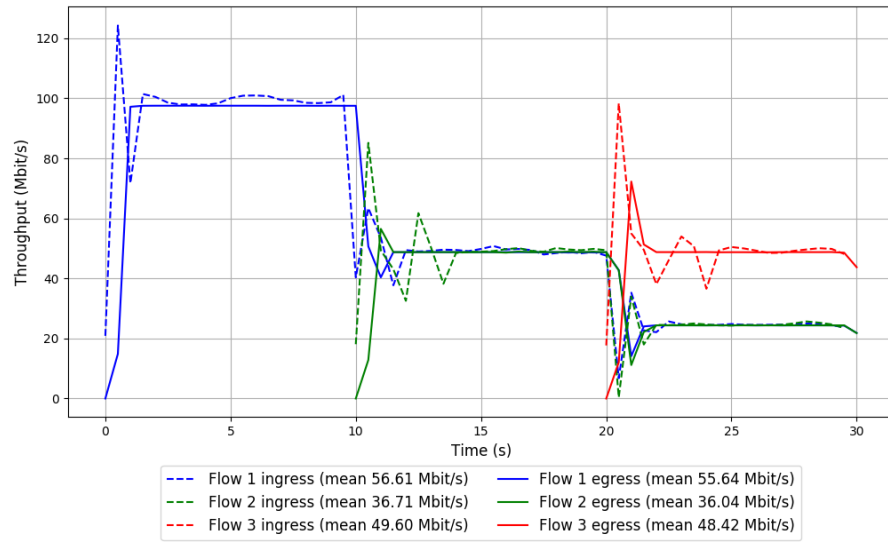
-- Flow 3:

Average throughput: 48.42 Mbit/s

95th percentile per-packet one-way delay: 349.429 ms

Loss rate: 3.00%

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





Run 5: Statistics of TCP BBR

Start at: 2019-01-22 05:04:19

End at: 2019-01-22 05:04:49

Local clock offset: 0.189 ms

Remote clock offset: 0.548 ms

# Below is generated by plot.py at 2019-01-22 05:09:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.63 Mbit/s

95th percentile per-packet one-way delay: 337.251 ms

Loss rate: 2.12%

-- Flow 1:

Average throughput: 58.04 Mbit/s

95th percentile per-packet one-way delay: 161.202 ms

Loss rate: 1.63%

-- Flow 2:

Average throughput: 39.79 Mbit/s

95th percentile per-packet one-way delay: 336.288 ms

Loss rate: 2.35%

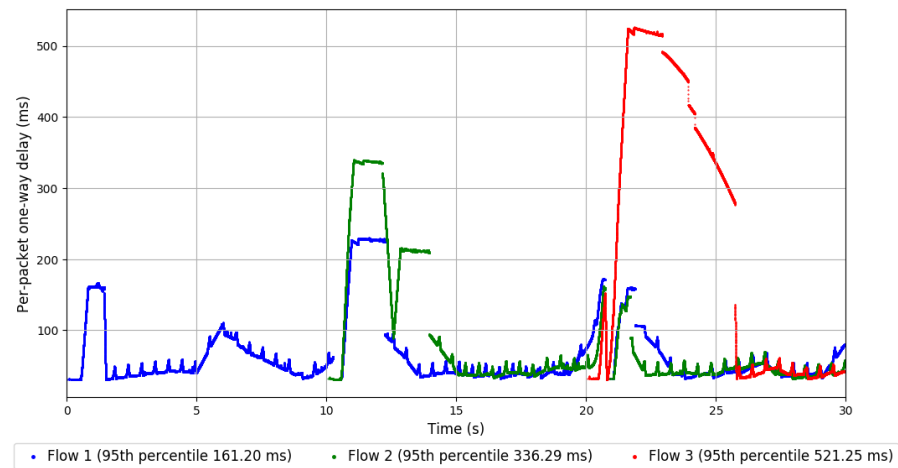
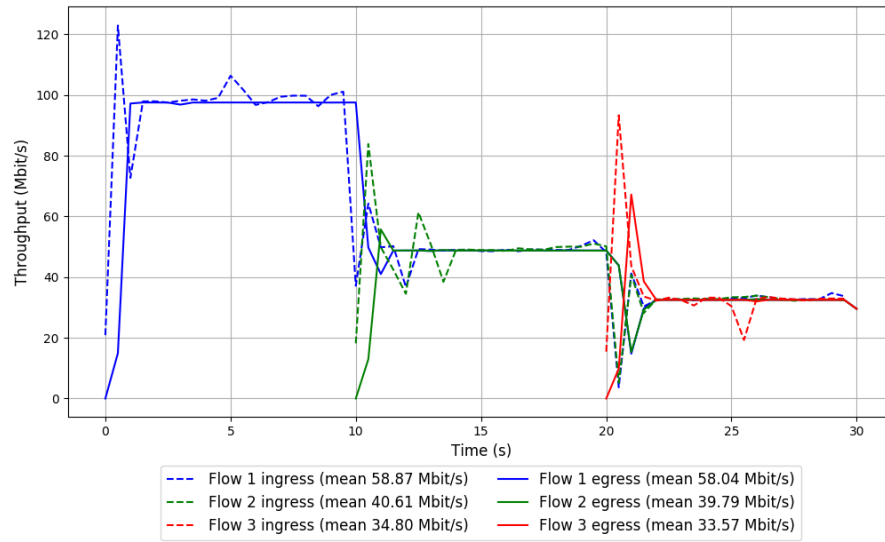
-- Flow 3:

Average throughput: 33.57 Mbit/s

95th percentile per-packet one-way delay: 521.253 ms

Loss rate: 4.14%

# Run 5: Report of TCP BBR — Data Link

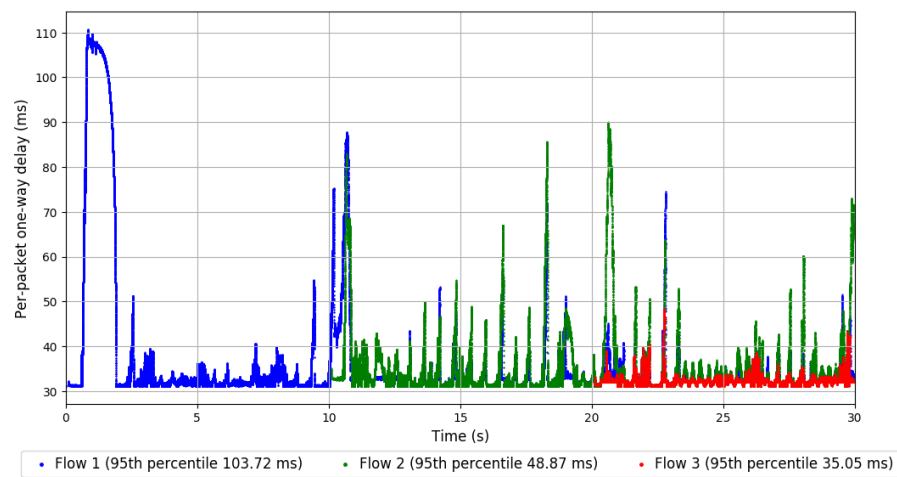
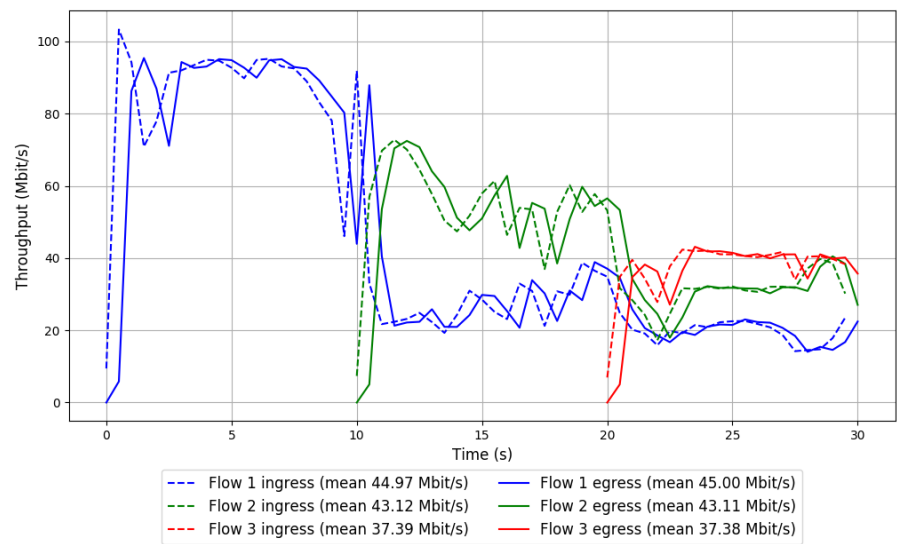


Run 1: Statistics of Copa

Start at: 2019-01-22 02:40:19  
End at: 2019-01-22 02:40:49  
Local clock offset: -3.828 ms  
Remote clock offset: -5.792 ms

# Below is generated by plot.py at 2019-01-22 05:10:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.08 Mbit/s  
95th percentile per-packet one-way delay: 70.937 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 45.00 Mbit/s  
95th percentile per-packet one-way delay: 103.723 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 43.11 Mbit/s  
95th percentile per-packet one-way delay: 48.874 ms  
Loss rate: 0.34%  
-- Flow 3:  
Average throughput: 37.38 Mbit/s  
95th percentile per-packet one-way delay: 35.052 ms  
Loss rate: 0.68%

Run 1: Report of Copa — Data Link

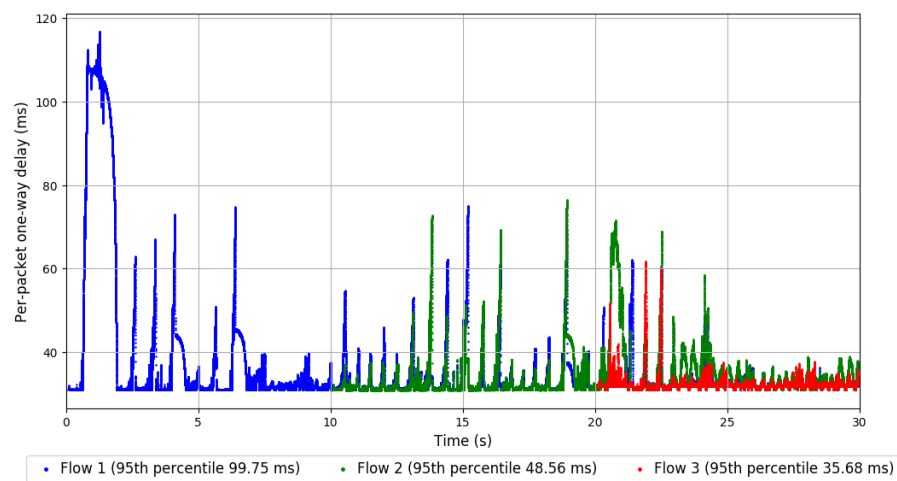
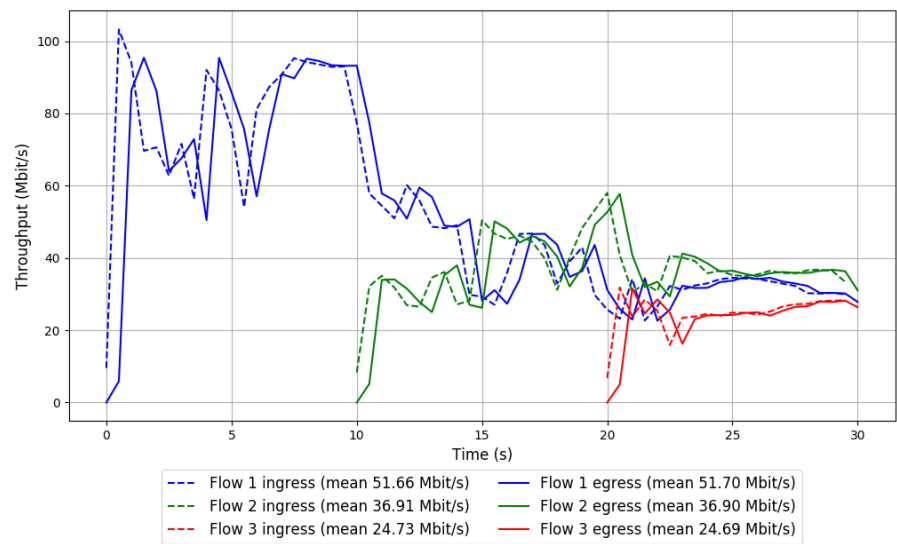


Run 2: Statistics of Copa

Start at: 2019-01-22 03:11:27  
End at: 2019-01-22 03:11:57  
Local clock offset: -3.402 ms  
Remote clock offset: -2.632 ms

# Below is generated by plot.py at 2019-01-22 05:10:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 84.43 Mbit/s  
95th percentile per-packet one-way delay: 66.381 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 51.70 Mbit/s  
95th percentile per-packet one-way delay: 99.753 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 36.90 Mbit/s  
95th percentile per-packet one-way delay: 48.562 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 24.69 Mbit/s  
95th percentile per-packet one-way delay: 35.681 ms  
Loss rate: 0.77%

Run 2: Report of Copa — Data Link

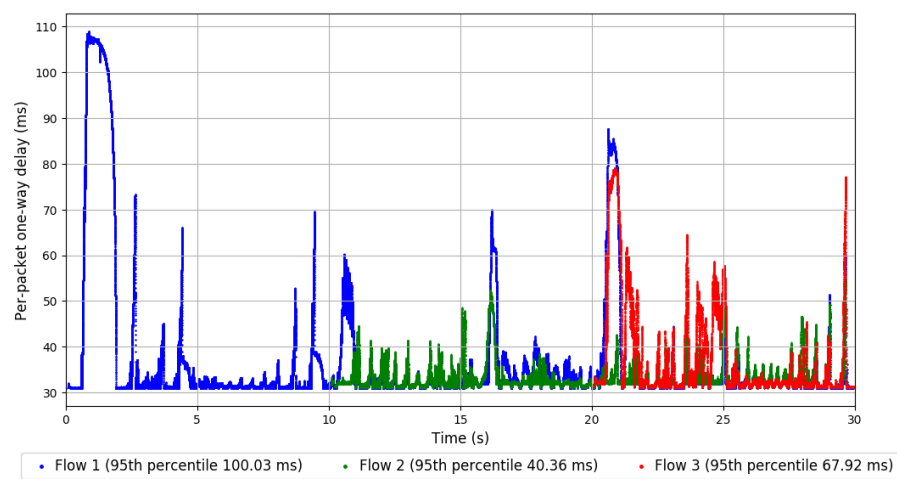
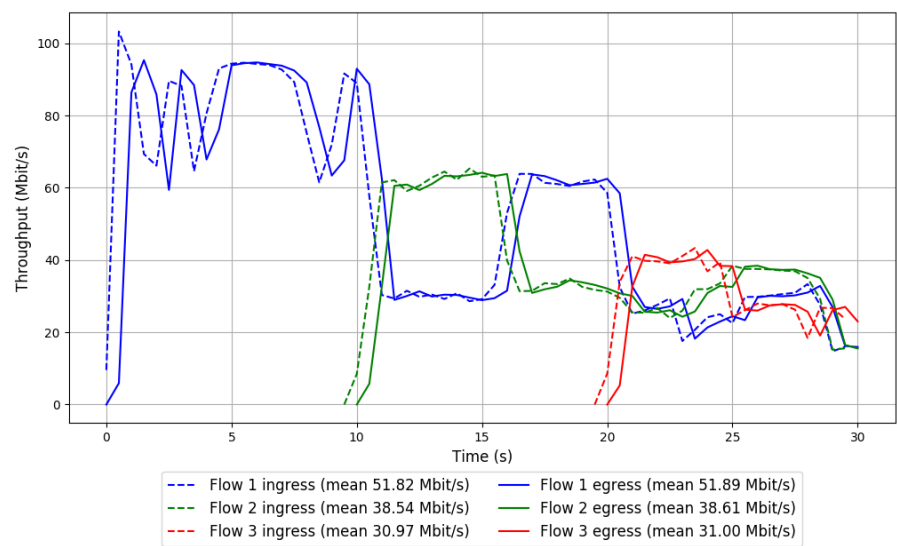


Run 3: Statistics of Copa

Start at: 2019-01-22 03:47:21  
End at: 2019-01-22 03:47:51  
Local clock offset: 0.572 ms  
Remote clock offset: -0.807 ms

# Below is generated by plot.py at 2019-01-22 05:10:38  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.88 Mbit/s  
95th percentile per-packet one-way delay: 74.179 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 51.89 Mbit/s  
95th percentile per-packet one-way delay: 100.030 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 38.61 Mbit/s  
95th percentile per-packet one-way delay: 40.356 ms  
Loss rate: 0.12%  
-- Flow 3:  
Average throughput: 31.00 Mbit/s  
95th percentile per-packet one-way delay: 67.920 ms  
Loss rate: 0.54%

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2019-01-22 04:18:47

End at: 2019-01-22 04:19:17

Local clock offset: 0.334 ms

Remote clock offset: 0.35 ms

# Below is generated by plot.py at 2019-01-22 05:11:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 81.56 Mbit/s

95th percentile per-packet one-way delay: 68.272 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 48.71 Mbit/s

95th percentile per-packet one-way delay: 99.987 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 39.47 Mbit/s

95th percentile per-packet one-way delay: 44.944 ms

Loss rate: 0.16%

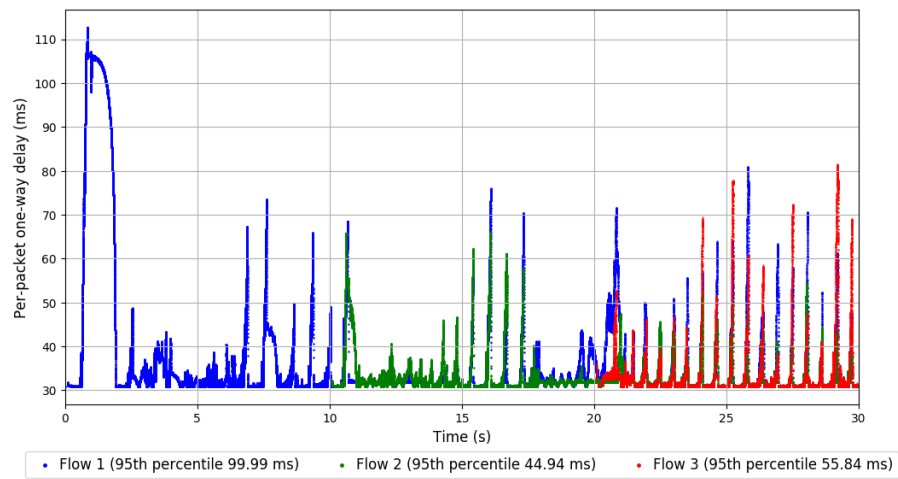
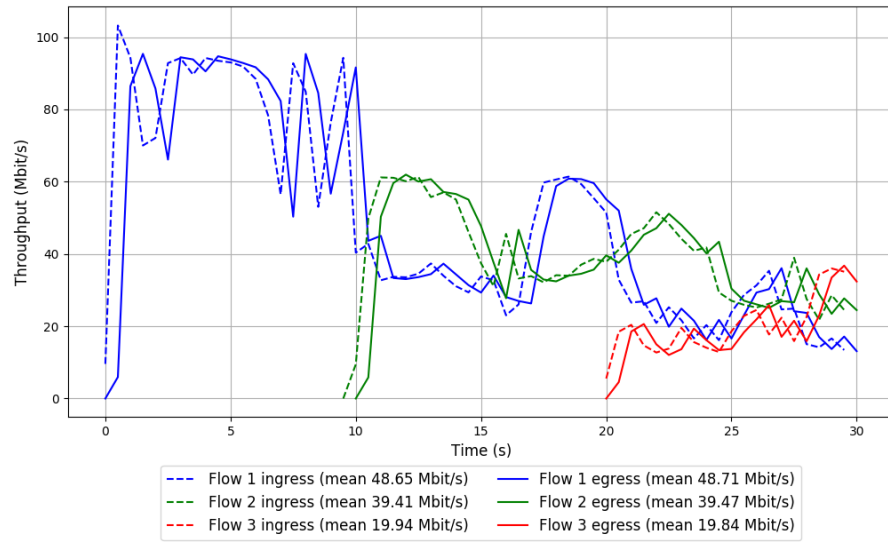
-- Flow 3:

Average throughput: 19.84 Mbit/s

95th percentile per-packet one-way delay: 55.837 ms

Loss rate: 1.16%

# Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-01-22 04:48:52

End at: 2019-01-22 04:49:22

Local clock offset: 0.229 ms

Remote clock offset: 0.511 ms

# Below is generated by plot.py at 2019-01-22 05:11:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 79.54 Mbit/s

95th percentile per-packet one-way delay: 53.526 ms

Loss rate: 0.33%

-- Flow 1:

Average throughput: 50.30 Mbit/s

95th percentile per-packet one-way delay: 60.703 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 33.86 Mbit/s

95th percentile per-packet one-way delay: 41.611 ms

Loss rate: 0.48%

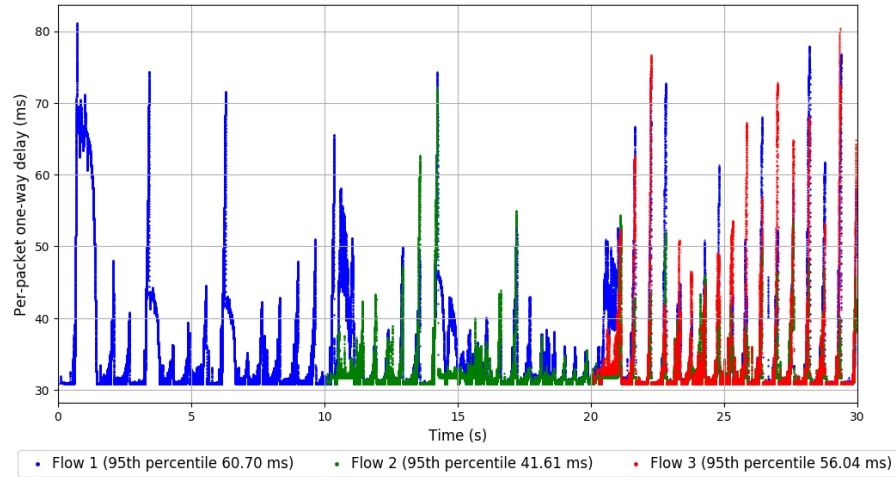
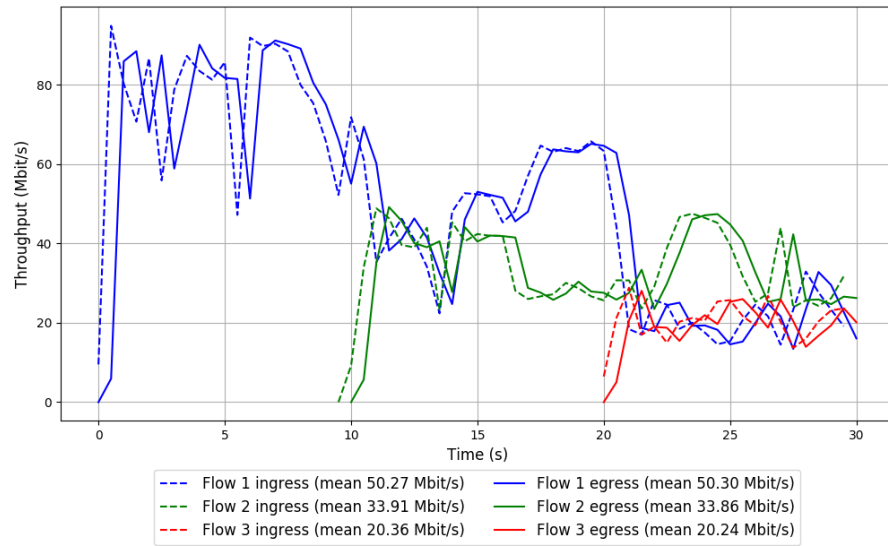
-- Flow 3:

Average throughput: 20.24 Mbit/s

95th percentile per-packet one-way delay: 56.036 ms

Loss rate: 1.19%

## Run 5: Report of Copa — Data Link

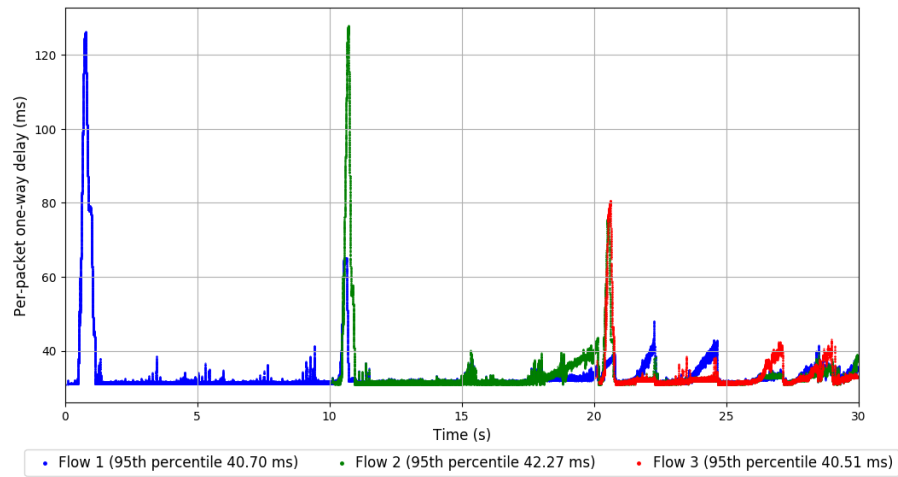
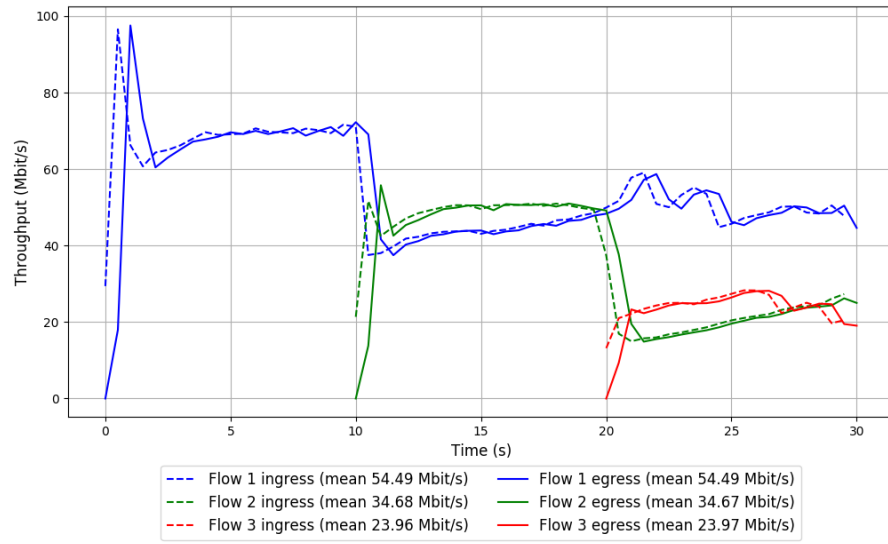


Run 1: Statistics of TCP Cubic

Start at: 2019-01-22 02:38:46  
End at: 2019-01-22 02:39:16  
Local clock offset: -3.703 ms  
Remote clock offset: -5.617 ms

# Below is generated by plot.py at 2019-01-22 05:11:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.49 Mbit/s  
95th percentile per-packet one-way delay: 40.771 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 54.49 Mbit/s  
95th percentile per-packet one-way delay: 40.703 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 34.67 Mbit/s  
95th percentile per-packet one-way delay: 42.266 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 23.97 Mbit/s  
95th percentile per-packet one-way delay: 40.512 ms  
Loss rate: 0.61%

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

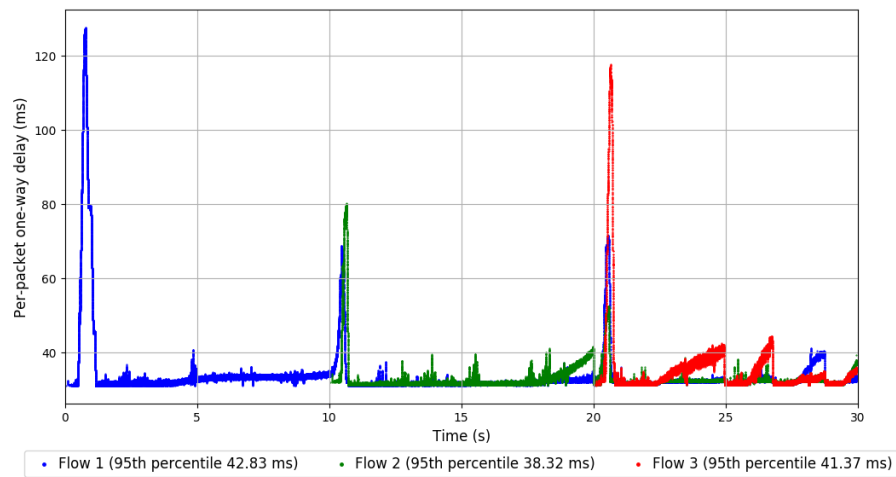
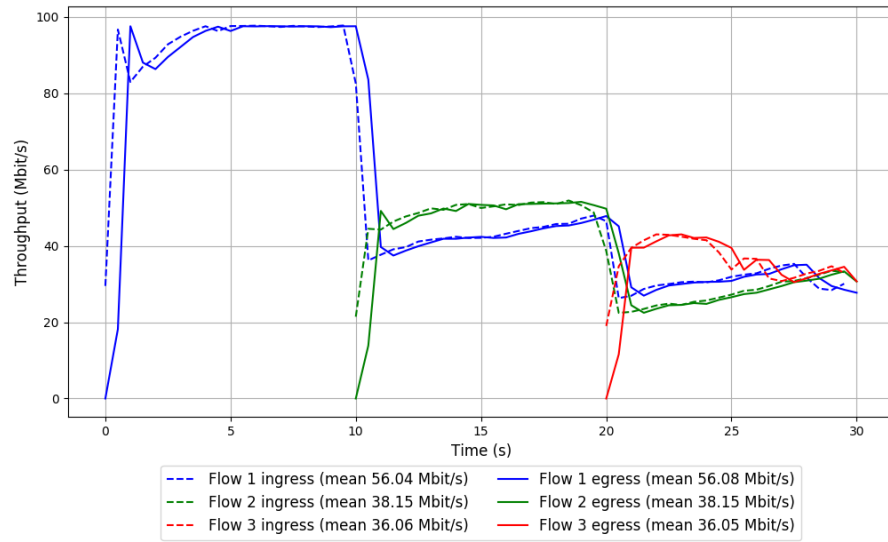


Run 2: Statistics of TCP Cubic

Start at: 2019-01-22 03:10:06  
End at: 2019-01-22 03:10:36  
Local clock offset: -3.38 ms  
Remote clock offset: -3.021 ms

# Below is generated by plot.py at 2019-01-22 05:11:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.41 Mbit/s  
95th percentile per-packet one-way delay: 40.286 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 56.08 Mbit/s  
95th percentile per-packet one-way delay: 42.830 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 38.15 Mbit/s  
95th percentile per-packet one-way delay: 38.323 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 36.05 Mbit/s  
95th percentile per-packet one-way delay: 41.368 ms  
Loss rate: 0.64%

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



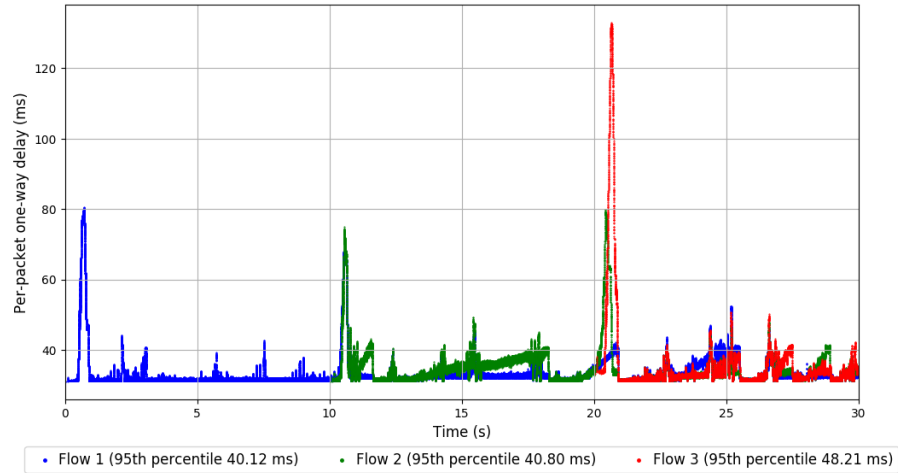
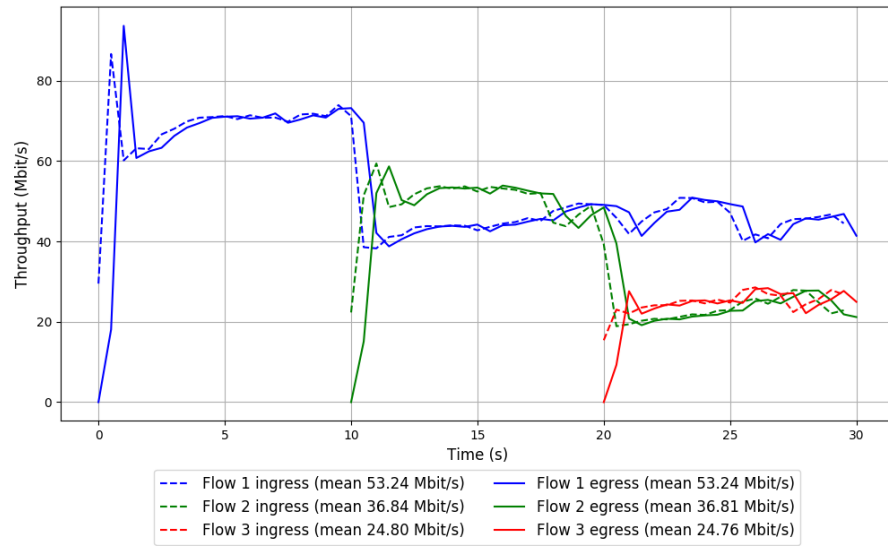


Run 3: Statistics of TCP Cubic

Start at: 2019-01-22 03:45:41  
End at: 2019-01-22 03:46:11  
Local clock offset: 0.657 ms  
Remote clock offset: -1.024 ms

# Below is generated by plot.py at 2019-01-22 05:11:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.94 Mbit/s  
95th percentile per-packet one-way delay: 40.527 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 53.24 Mbit/s  
95th percentile per-packet one-way delay: 40.116 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 36.81 Mbit/s  
95th percentile per-packet one-way delay: 40.803 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 24.76 Mbit/s  
95th percentile per-packet one-way delay: 48.211 ms  
Loss rate: 0.81%

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



Run 4: Statistics of TCP Cubic

Start at: 2019-01-22 04:17:16

End at: 2019-01-22 04:17:46

Local clock offset: 0.38 ms

Remote clock offset: 0.116 ms

# Below is generated by plot.py at 2019-01-22 05:11:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.52 Mbit/s

95th percentile per-packet one-way delay: 41.838 ms

Loss rate: 0.26%

-- Flow 1:

Average throughput: 45.97 Mbit/s

95th percentile per-packet one-way delay: 48.586 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 46.43 Mbit/s

95th percentile per-packet one-way delay: 38.679 ms

Loss rate: 0.33%

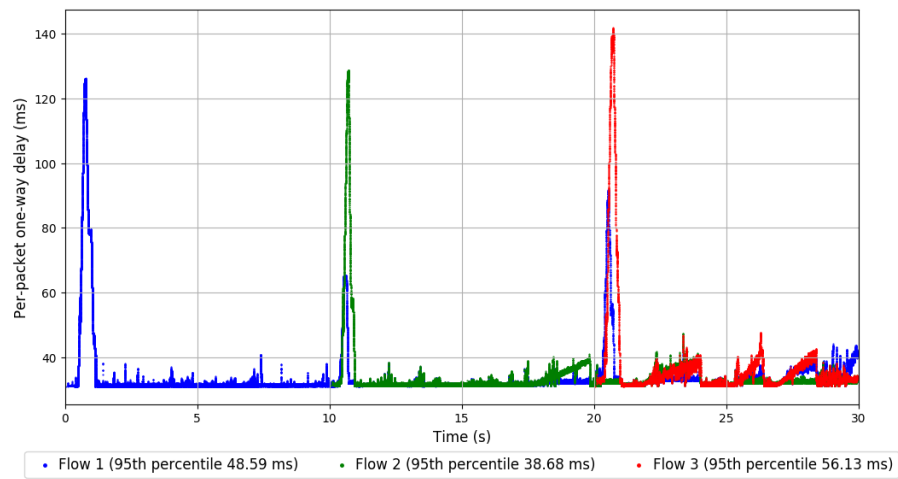
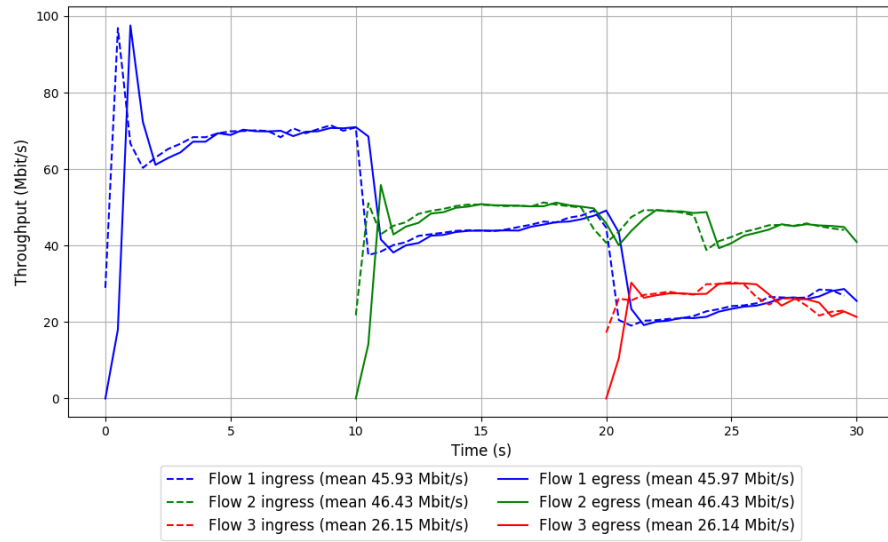
-- Flow 3:

Average throughput: 26.14 Mbit/s

95th percentile per-packet one-way delay: 56.130 ms

Loss rate: 0.66%

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



Run 5: Statistics of TCP Cubic

Start at: 2019-01-22 04:47:22

End at: 2019-01-22 04:47:52

Local clock offset: 0.252 ms

Remote clock offset: 0.501 ms

# Below is generated by plot.py at 2019-01-22 05:11:38

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.62 Mbit/s

95th percentile per-packet one-way delay: 39.347 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 56.44 Mbit/s

95th percentile per-packet one-way delay: 37.956 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 38.00 Mbit/s

95th percentile per-packet one-way delay: 39.082 ms

Loss rate: 0.34%

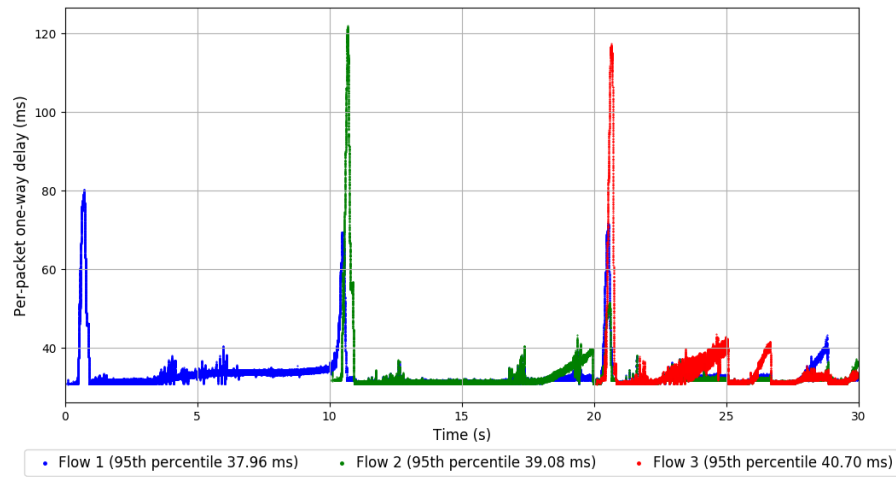
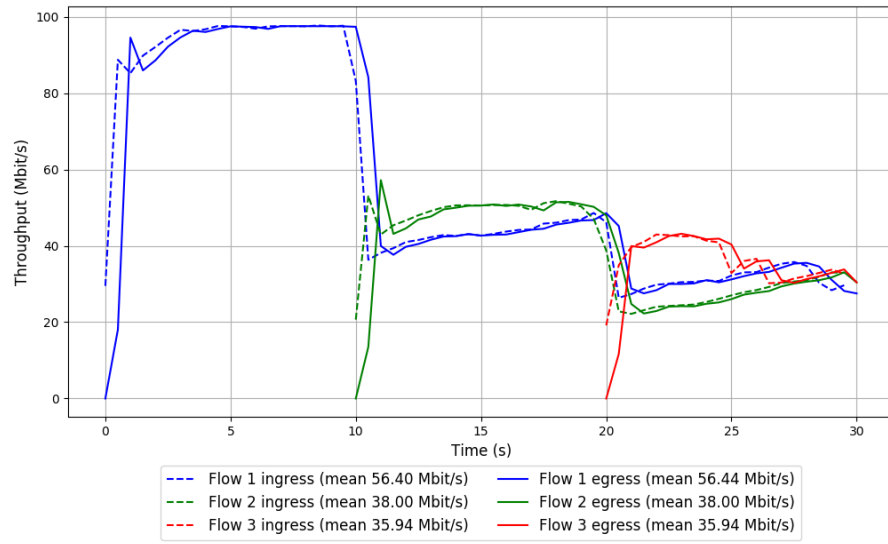
-- Flow 3:

Average throughput: 35.94 Mbit/s

95th percentile per-packet one-way delay: 40.704 ms

Loss rate: 0.63%

# Run 5: Report of TCP Cubic — Data Link

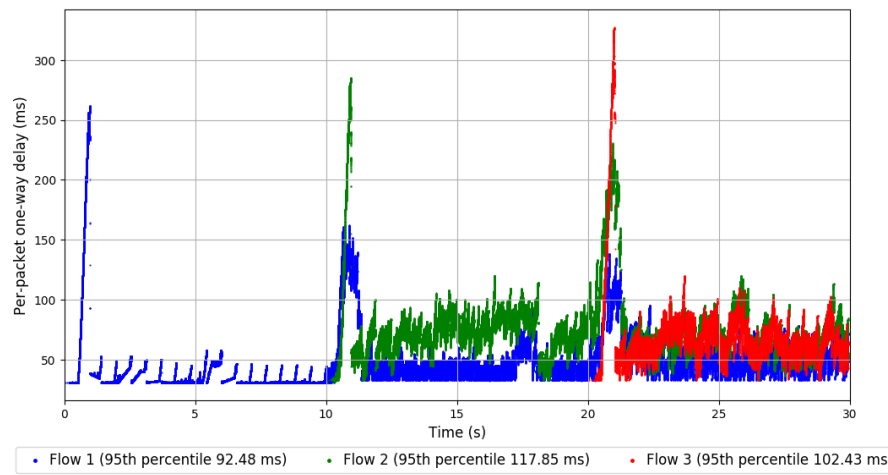
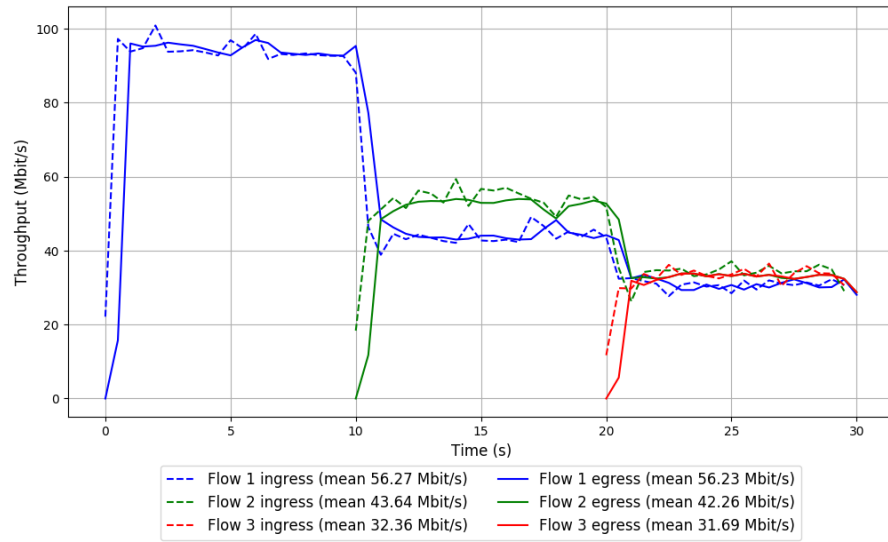


Run 1: Statistics of FillP

Start at: 2019-01-22 02:30:09  
End at: 2019-01-22 02:30:39  
Local clock offset: -3.03 ms  
Remote clock offset: -5.677 ms

# Below is generated by plot.py at 2019-01-22 05:11:59  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.83 Mbit/s  
95th percentile per-packet one-way delay: 104.245 ms  
Loss rate: 1.49%  
-- Flow 1:  
Average throughput: 56.23 Mbit/s  
95th percentile per-packet one-way delay: 92.479 ms  
Loss rate: 0.28%  
-- Flow 2:  
Average throughput: 42.26 Mbit/s  
95th percentile per-packet one-way delay: 117.854 ms  
Loss rate: 3.43%  
-- Flow 3:  
Average throughput: 31.69 Mbit/s  
95th percentile per-packet one-way delay: 102.428 ms  
Loss rate: 2.64%

## Run 1: Report of FillP — Data Link



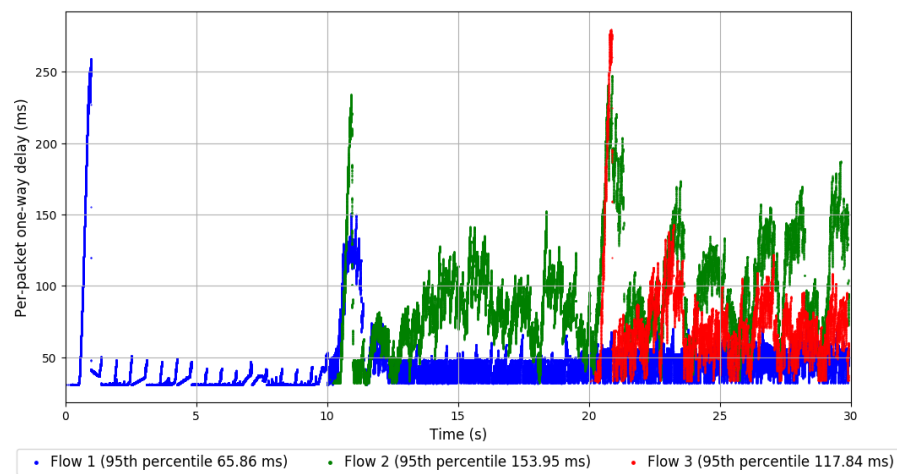
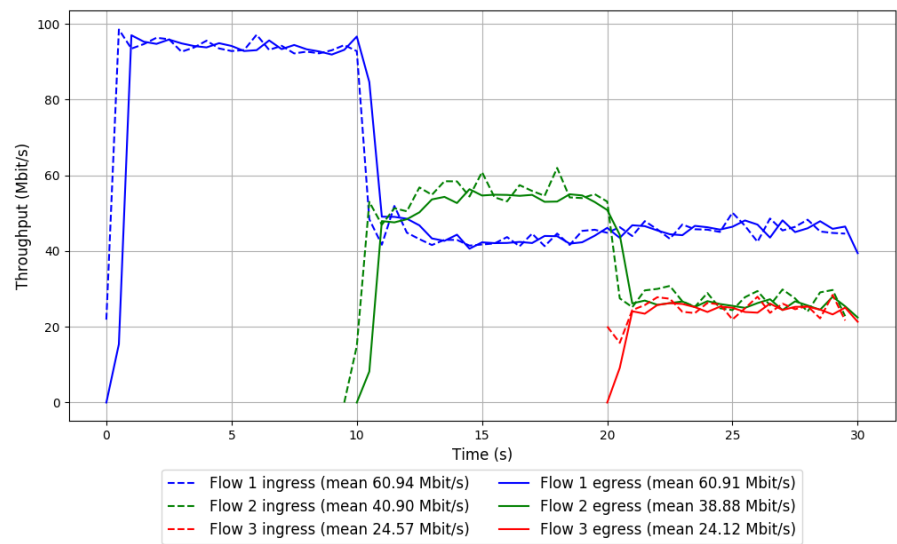


Run 2: Statistics of FillP

Start at: 2019-01-22 03:01:07  
End at: 2019-01-22 03:01:37  
Local clock offset: -3.358 ms  
Remote clock offset: -3.877 ms

# Below is generated by plot.py at 2019-01-22 05:12:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.77 Mbit/s  
95th percentile per-packet one-way delay: 126.906 ms  
Loss rate: 1.83%  
-- Flow 1:  
Average throughput: 60.91 Mbit/s  
95th percentile per-packet one-way delay: 65.863 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 38.88 Mbit/s  
95th percentile per-packet one-way delay: 153.954 ms  
Loss rate: 5.22%  
-- Flow 3:  
Average throughput: 24.12 Mbit/s  
95th percentile per-packet one-way delay: 117.838 ms  
Loss rate: 2.21%

Run 2: Report of FillP — Data Link

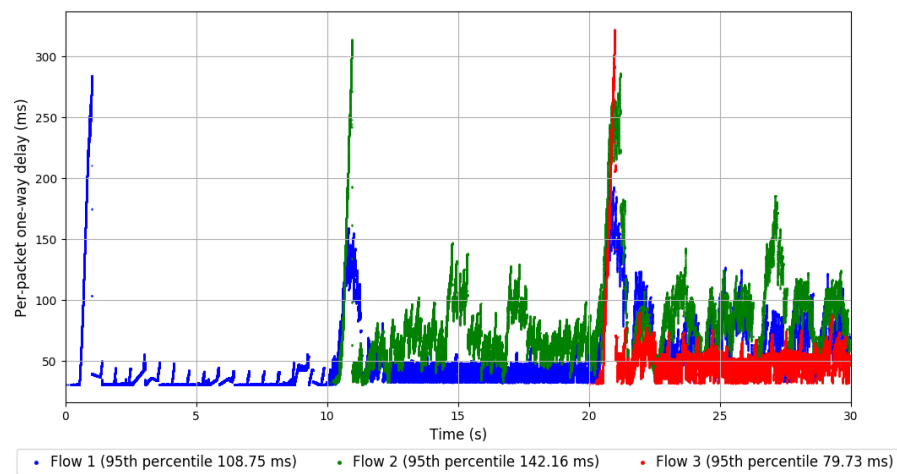
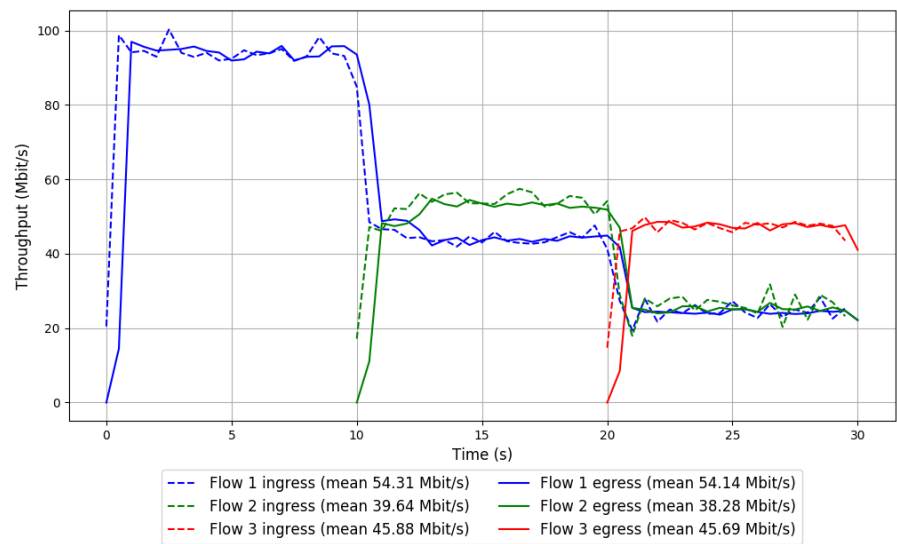


Run 3: Statistics of FillP

Start at: 2019-01-22 03:34:24  
End at: 2019-01-22 03:34:54  
Local clock offset: 0.016 ms  
Remote clock offset: -1.354 ms

# Below is generated by plot.py at 2019-01-22 05:12:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.74 Mbit/s  
95th percentile per-packet one-way delay: 119.806 ms  
Loss rate: 1.46%  
-- Flow 1:  
Average throughput: 54.14 Mbit/s  
95th percentile per-packet one-way delay: 108.745 ms  
Loss rate: 0.47%  
-- Flow 2:  
Average throughput: 38.28 Mbit/s  
95th percentile per-packet one-way delay: 142.162 ms  
Loss rate: 3.74%  
-- Flow 3:  
Average throughput: 45.69 Mbit/s  
95th percentile per-packet one-way delay: 79.732 ms  
Loss rate: 1.02%

Run 3: Report of FillP — Data Link

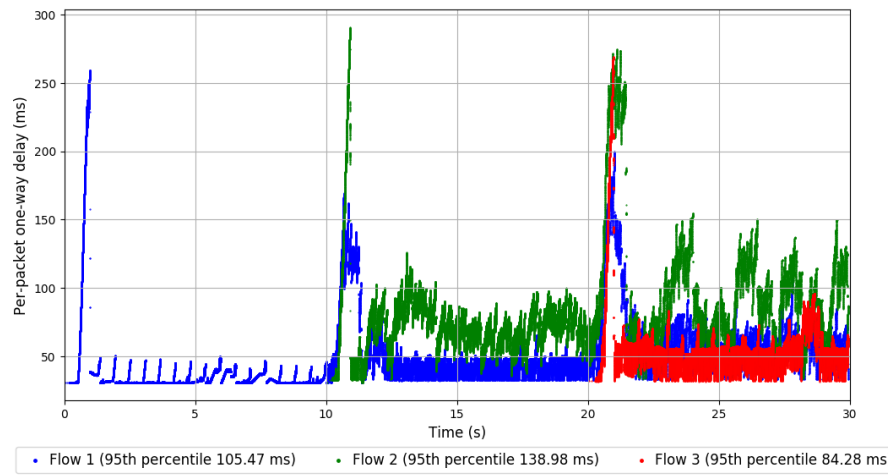
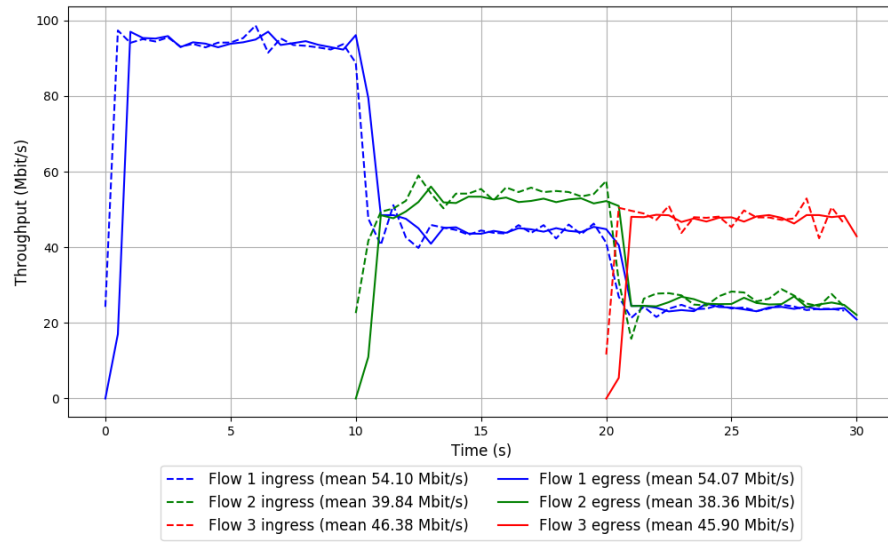


Run 4: Statistics of FillP

Start at: 2019-01-22 04:08:02  
End at: 2019-01-22 04:08:32  
Local clock offset: 0.345 ms  
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2019-01-22 05:12:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.79 Mbit/s  
95th percentile per-packet one-way delay: 119.599 ms  
Loss rate: 1.49%  
-- Flow 1:  
Average throughput: 54.07 Mbit/s  
95th percentile per-packet one-way delay: 105.468 ms  
Loss rate: 0.25%  
-- Flow 2:  
Average throughput: 38.36 Mbit/s  
95th percentile per-packet one-way delay: 138.976 ms  
Loss rate: 3.95%  
-- Flow 3:  
Average throughput: 45.90 Mbit/s  
95th percentile per-packet one-way delay: 84.284 ms  
Loss rate: 1.64%

# Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-22 04:38:42

End at: 2019-01-22 04:39:12

Local clock offset: 0.199 ms

Remote clock offset: 0.558 ms

# Below is generated by plot.py at 2019-01-22 05:12:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.73 Mbit/s

95th percentile per-packet one-way delay: 107.538 ms

Loss rate: 1.25%

-- Flow 1:

Average throughput: 56.80 Mbit/s

95th percentile per-packet one-way delay: 96.498 ms

Loss rate: 0.47%

-- Flow 2:

Average throughput: 42.42 Mbit/s

95th percentile per-packet one-way delay: 121.504 ms

Loss rate: 2.81%

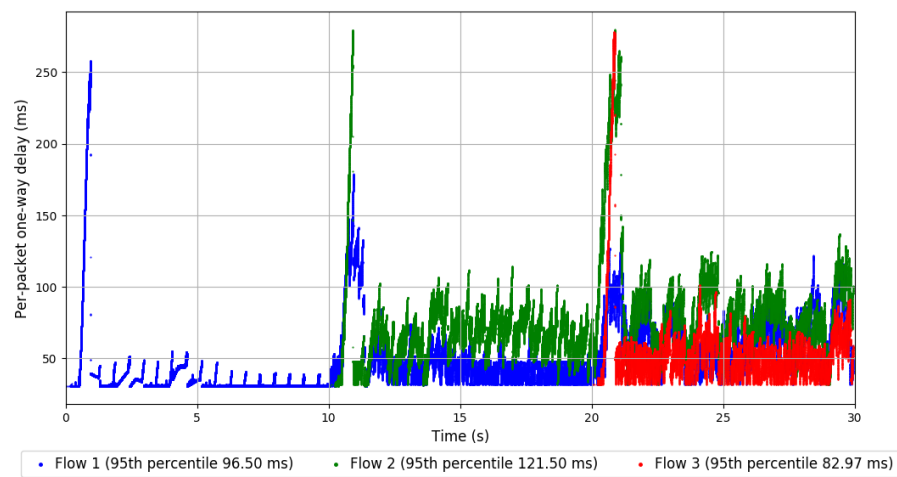
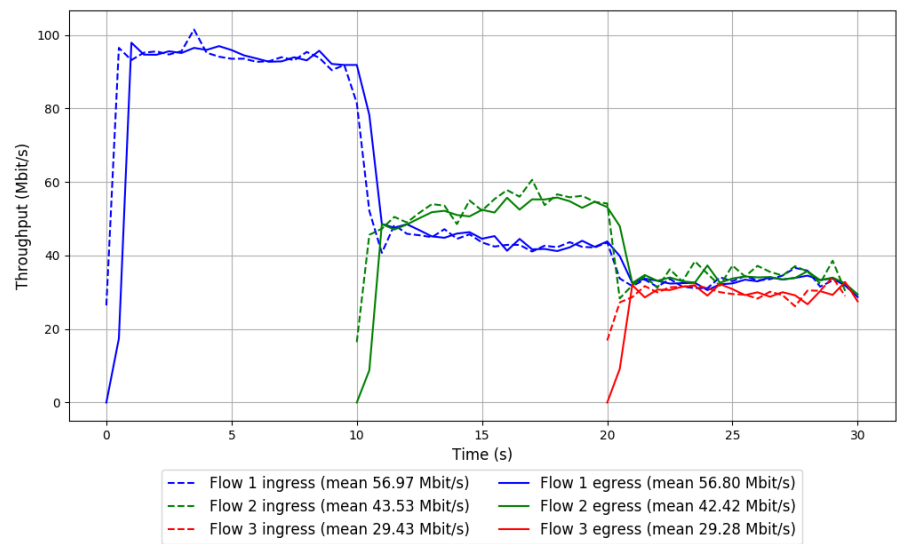
-- Flow 3:

Average throughput: 29.28 Mbit/s

95th percentile per-packet one-way delay: 82.974 ms

Loss rate: 1.15%

Run 5: Report of FillP — Data Link



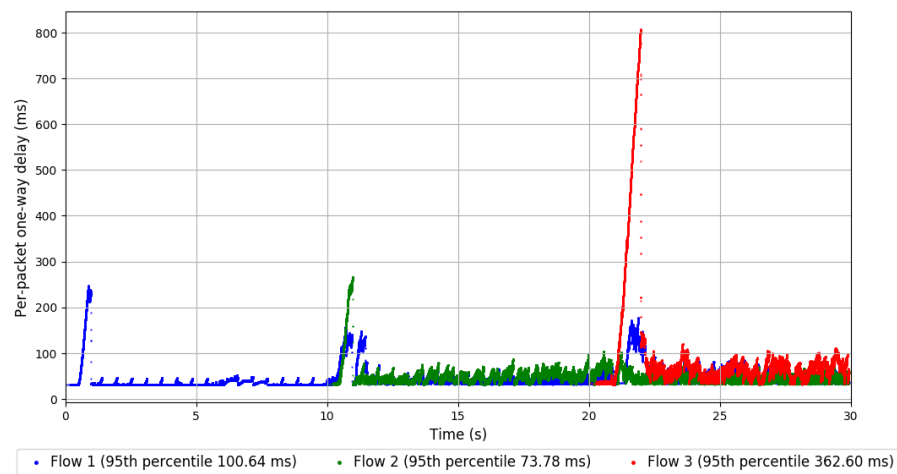
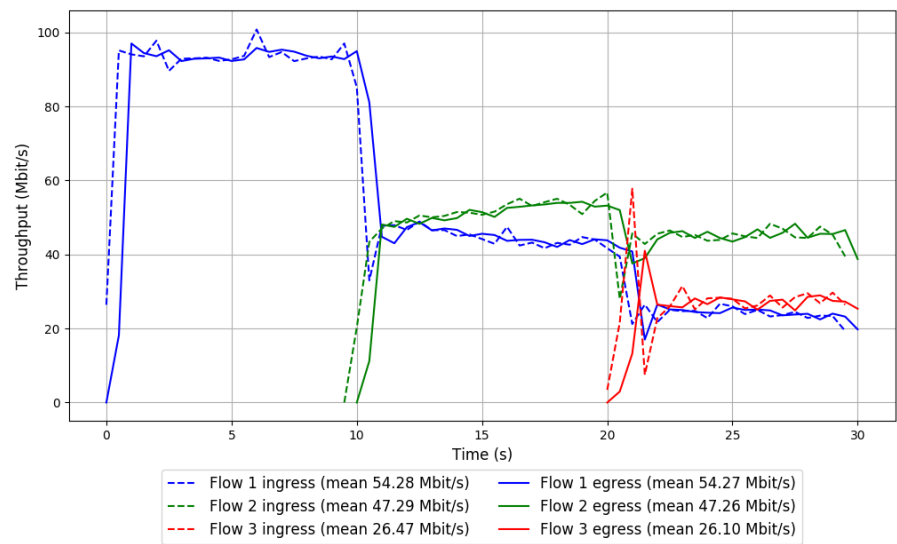


Run 1: Statistics of FillP-Sheep

Start at: 2019-01-22 02:46:36  
End at: 2019-01-22 02:47:06  
Local clock offset: -4.005 ms  
Remote clock offset: -5.321 ms

# Below is generated by plot.py at 2019-01-22 05:12:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.37 Mbit/s  
95th percentile per-packet one-way delay: 97.930 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 54.27 Mbit/s  
95th percentile per-packet one-way delay: 100.639 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 47.26 Mbit/s  
95th percentile per-packet one-way delay: 73.781 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 26.10 Mbit/s  
95th percentile per-packet one-way delay: 362.596 ms  
Loss rate: 2.07%

Run 1: Report of FillP-Sheep — Data Link

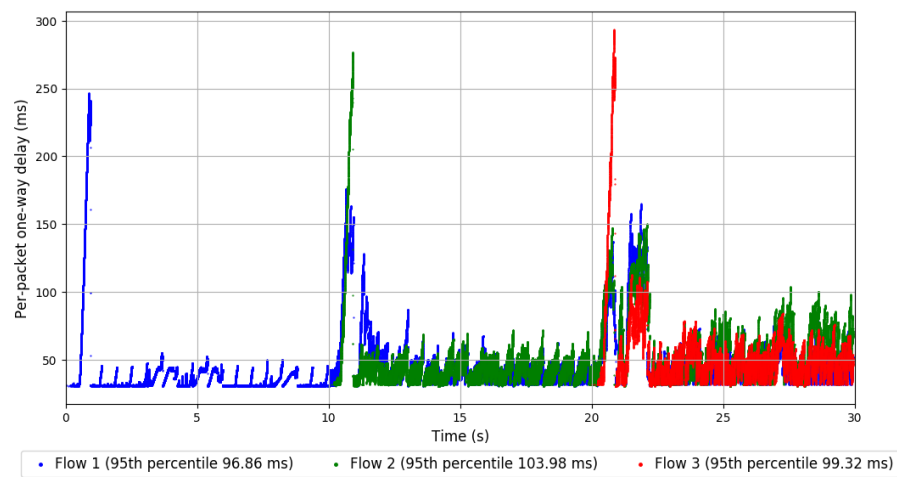
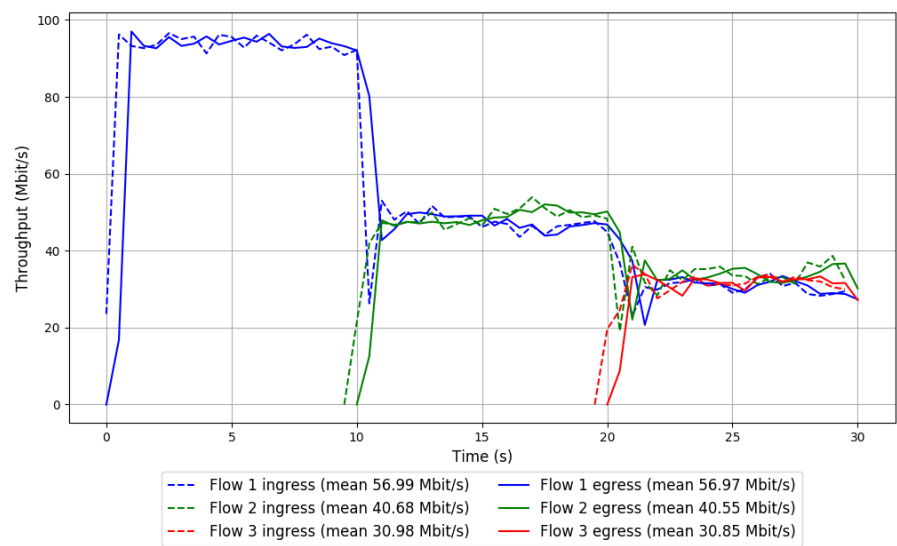


Run 2: Statistics of FillP-Sheep

Start at: 2019-01-22 03:17:53  
End at: 2019-01-22 03:18:23  
Local clock offset: -2.72 ms  
Remote clock offset: -2.207 ms

# Below is generated by plot.py at 2019-01-22 05:12:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.19 Mbit/s  
95th percentile per-packet one-way delay: 100.505 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 56.97 Mbit/s  
95th percentile per-packet one-way delay: 96.861 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 40.55 Mbit/s  
95th percentile per-packet one-way delay: 103.980 ms  
Loss rate: 0.61%  
-- Flow 3:  
Average throughput: 30.85 Mbit/s  
95th percentile per-packet one-way delay: 99.321 ms  
Loss rate: 1.05%

Run 2: Report of FillP-Sheep — Data Link

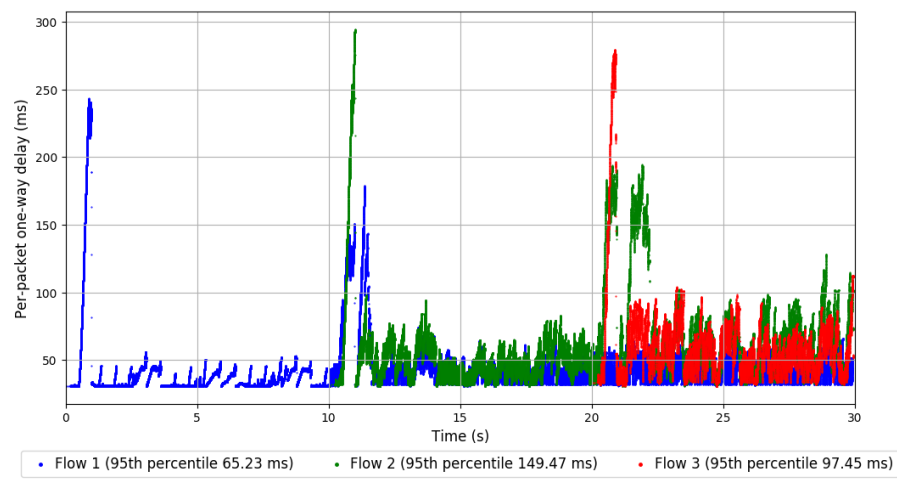
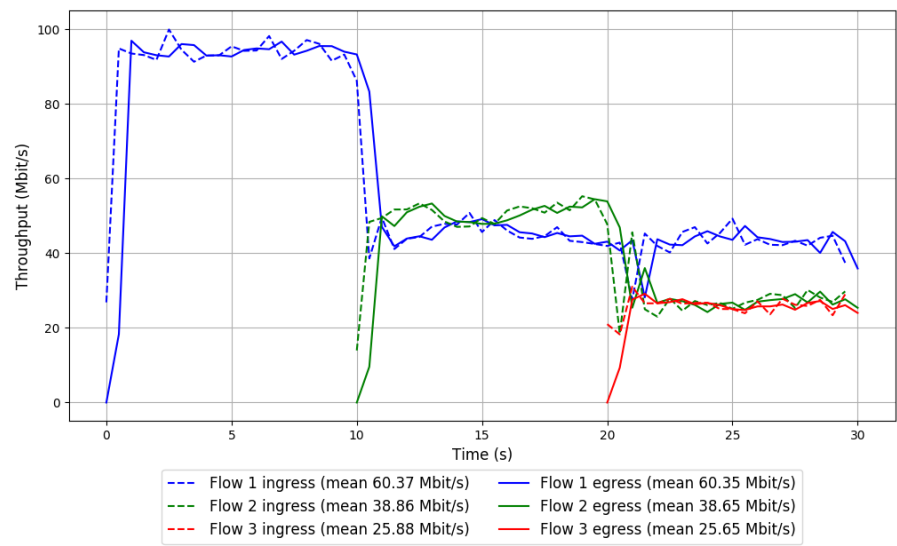


Run 3: Statistics of FillP-Sheep

Start at: 2019-01-22 03:53:55  
End at: 2019-01-22 03:54:25  
Local clock offset: 0.329 ms  
Remote clock offset: -0.555 ms

# Below is generated by plot.py at 2019-01-22 05:12:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.55 Mbit/s  
95th percentile per-packet one-way delay: 95.584 ms  
Loss rate: 0.51%  
-- Flow 1:  
Average throughput: 60.35 Mbit/s  
95th percentile per-packet one-way delay: 65.232 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 38.65 Mbit/s  
95th percentile per-packet one-way delay: 149.470 ms  
Loss rate: 0.84%  
-- Flow 3:  
Average throughput: 25.65 Mbit/s  
95th percentile per-packet one-way delay: 97.449 ms  
Loss rate: 1.53%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-01-22 04:24:46

End at: 2019-01-22 04:25:16

Local clock offset: 0.191 ms

Remote clock offset: 0.4 ms

# Below is generated by plot.py at 2019-01-22 05:13:19

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.09 Mbit/s

95th percentile per-packet one-way delay: 101.207 ms

Loss rate: 0.47%

-- Flow 1:

Average throughput: 54.42 Mbit/s

95th percentile per-packet one-way delay: 87.106 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 38.25 Mbit/s

95th percentile per-packet one-way delay: 136.417 ms

Loss rate: 0.73%

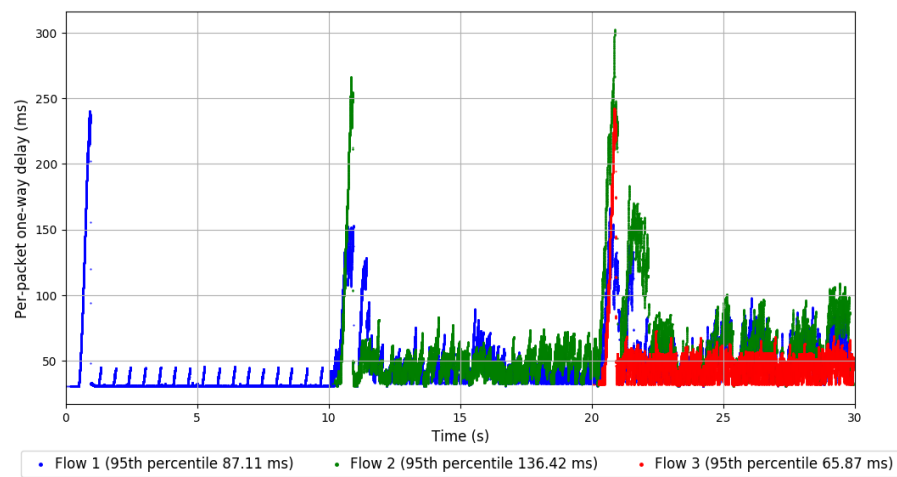
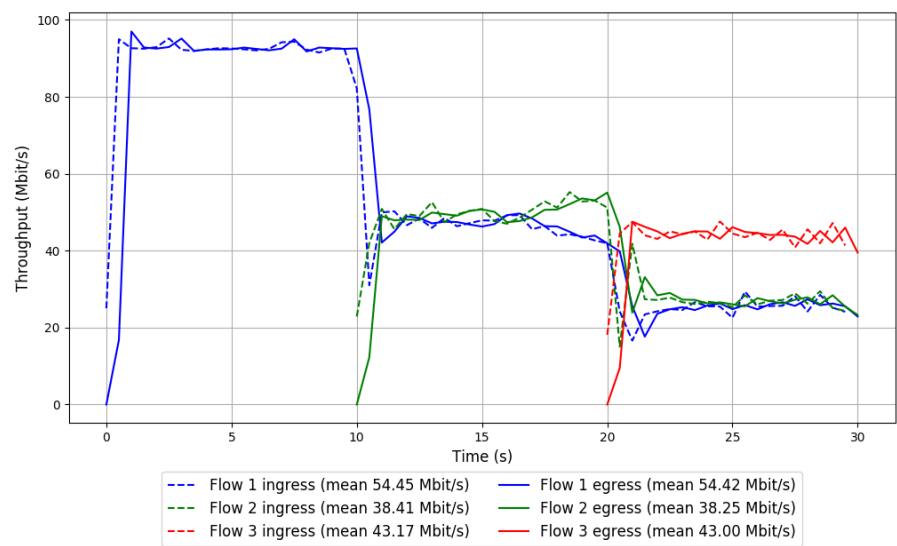
-- Flow 3:

Average throughput: 43.00 Mbit/s

95th percentile per-packet one-way delay: 65.872 ms

Loss rate: 1.01%

Run 4: Report of FillP-Sheep — Data Link





Run 5: Statistics of FillP-Sheep

Start at: 2019-01-22 04:54:30

End at: 2019-01-22 04:55:00

Local clock offset: 0.2 ms

Remote clock offset: 0.556 ms

# Below is generated by plot.py at 2019-01-22 05:13:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.99 Mbit/s

95th percentile per-packet one-way delay: 99.836 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 56.47 Mbit/s

95th percentile per-packet one-way delay: 100.471 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 40.27 Mbit/s

95th percentile per-packet one-way delay: 99.881 ms

Loss rate: 0.47%

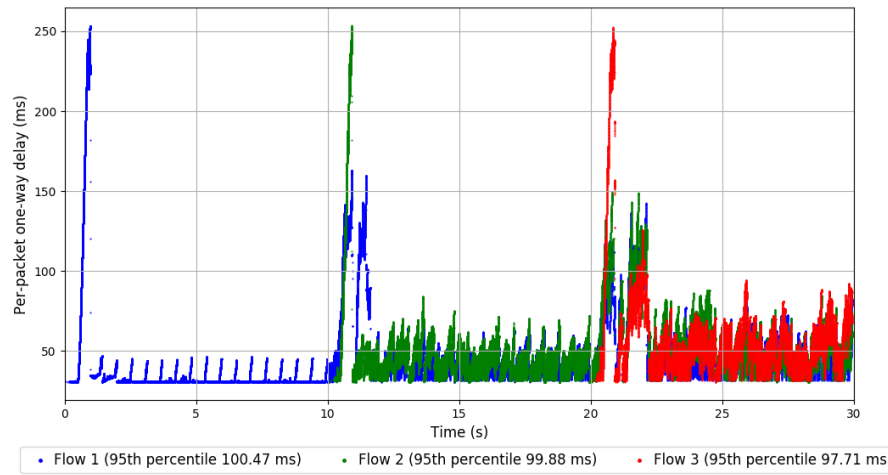
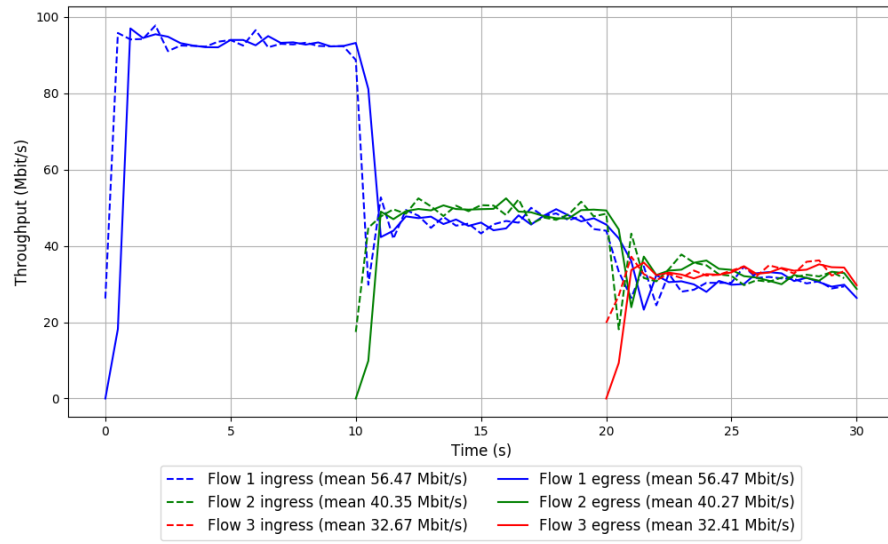
-- Flow 3:

Average throughput: 32.41 Mbit/s

95th percentile per-packet one-way delay: 97.709 ms

Loss rate: 1.26%

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

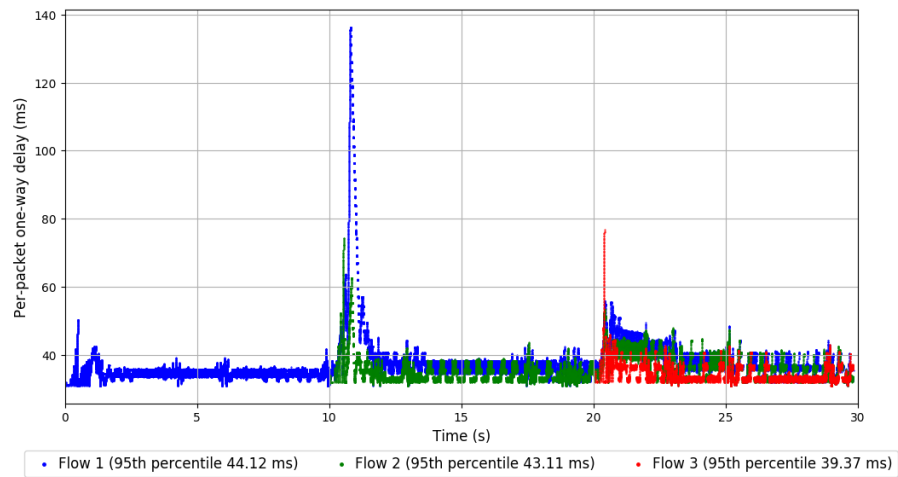
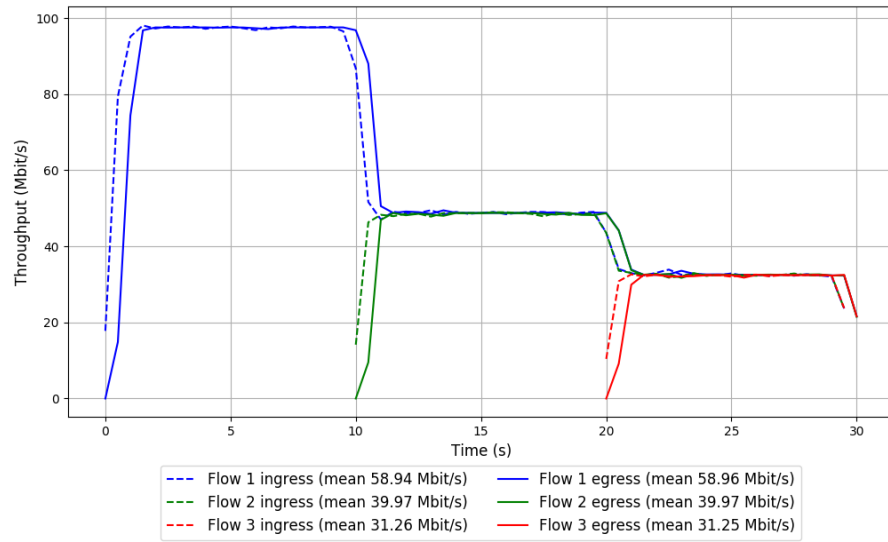


Run 1: Statistics of Indigo

Start at: 2019-01-22 02:43:31  
End at: 2019-01-22 02:44:01  
Local clock offset: -3.975 ms  
Remote clock offset: -5.579 ms

# Below is generated by plot.py at 2019-01-22 05:13:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.74 Mbit/s  
95th percentile per-packet one-way delay: 43.342 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 58.96 Mbit/s  
95th percentile per-packet one-way delay: 44.116 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 39.97 Mbit/s  
95th percentile per-packet one-way delay: 43.107 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 31.25 Mbit/s  
95th percentile per-packet one-way delay: 39.367 ms  
Loss rate: 0.70%

## Run 1: Report of Indigo — Data Link

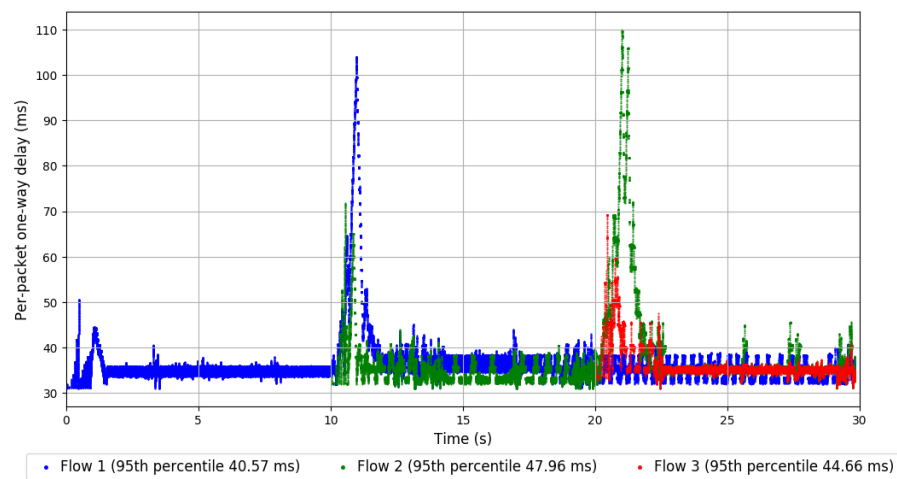
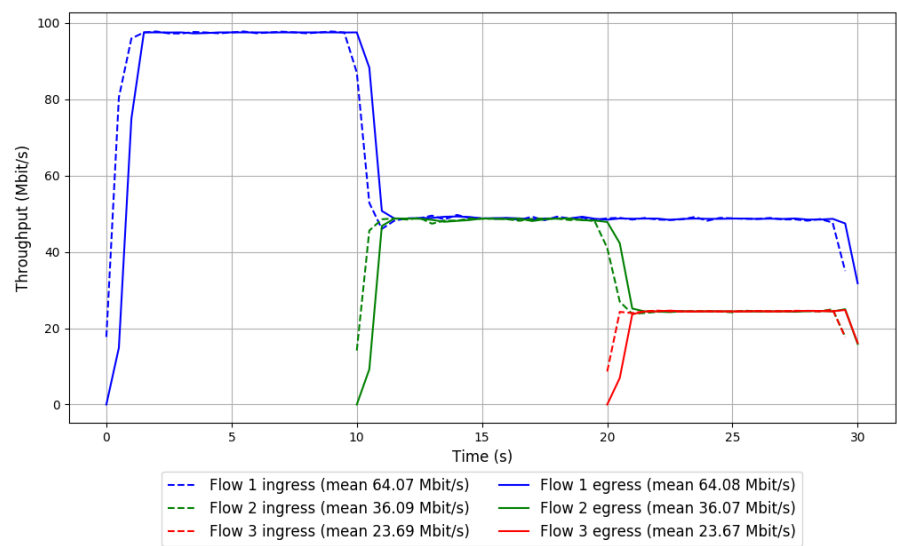


Run 2: Statistics of Indigo

Start at: 2019-01-22 03:14:52  
End at: 2019-01-22 03:15:22  
Local clock offset: -3.437 ms  
Remote clock offset: -2.452 ms

# Below is generated by plot.py at 2019-01-22 05:13:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.79 Mbit/s  
95th percentile per-packet one-way delay: 42.267 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 64.08 Mbit/s  
95th percentile per-packet one-way delay: 40.573 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 36.07 Mbit/s  
95th percentile per-packet one-way delay: 47.958 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 23.67 Mbit/s  
95th percentile per-packet one-way delay: 44.658 ms  
Loss rate: 0.76%

Run 2: Report of Indigo — Data Link

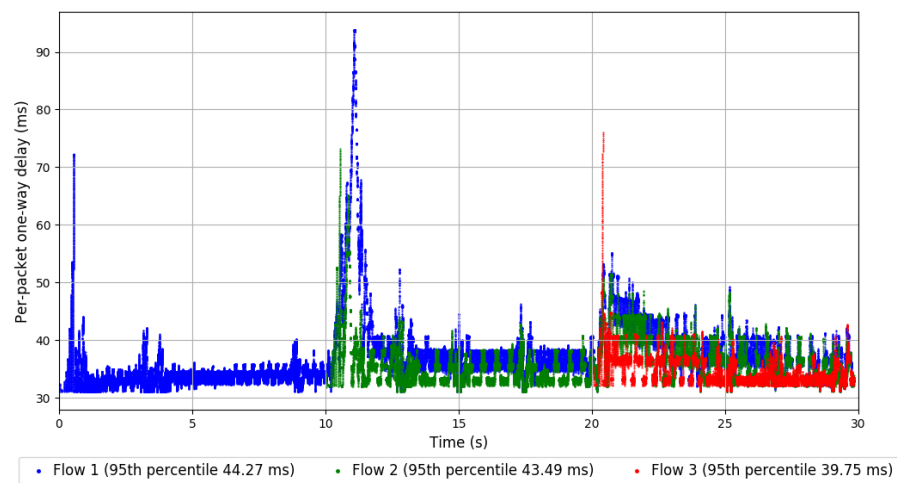
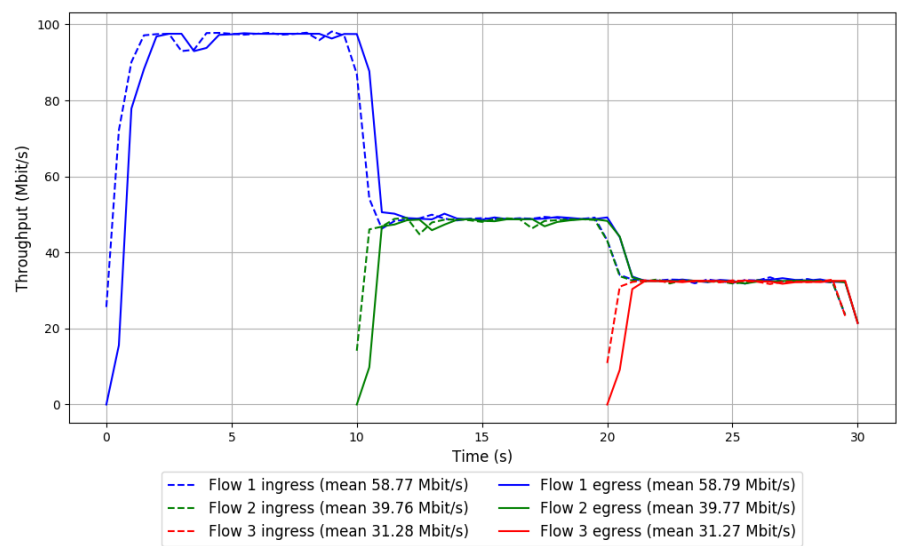


Run 3: Statistics of Indigo

Start at: 2019-01-22 03:50:57  
End at: 2019-01-22 03:51:27  
Local clock offset: 0.398 ms  
Remote clock offset: -0.635 ms

# Below is generated by plot.py at 2019-01-22 05:13:54  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.45 Mbit/s  
95th percentile per-packet one-way delay: 43.700 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 58.79 Mbit/s  
95th percentile per-packet one-way delay: 44.275 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 39.77 Mbit/s  
95th percentile per-packet one-way delay: 43.488 ms  
Loss rate: 0.29%  
-- Flow 3:  
Average throughput: 31.27 Mbit/s  
95th percentile per-packet one-way delay: 39.753 ms  
Loss rate: 0.69%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2019-01-22 04:21:53

End at: 2019-01-22 04:22:23

Local clock offset: 0.259 ms

Remote clock offset: 0.427 ms

# Below is generated by plot.py at 2019-01-22 05:13:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.84 Mbit/s

95th percentile per-packet one-way delay: 44.435 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 56.91 Mbit/s

95th percentile per-packet one-way delay: 44.851 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 35.55 Mbit/s

95th percentile per-packet one-way delay: 46.144 ms

Loss rate: 0.37%

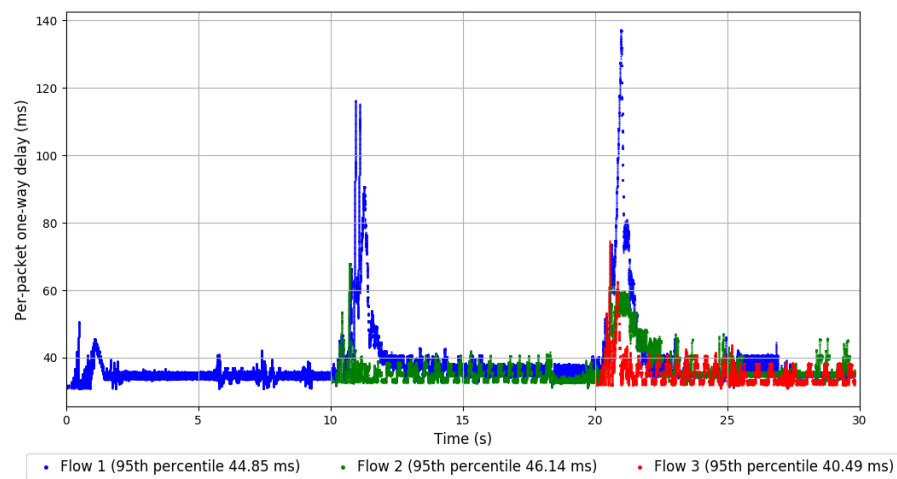
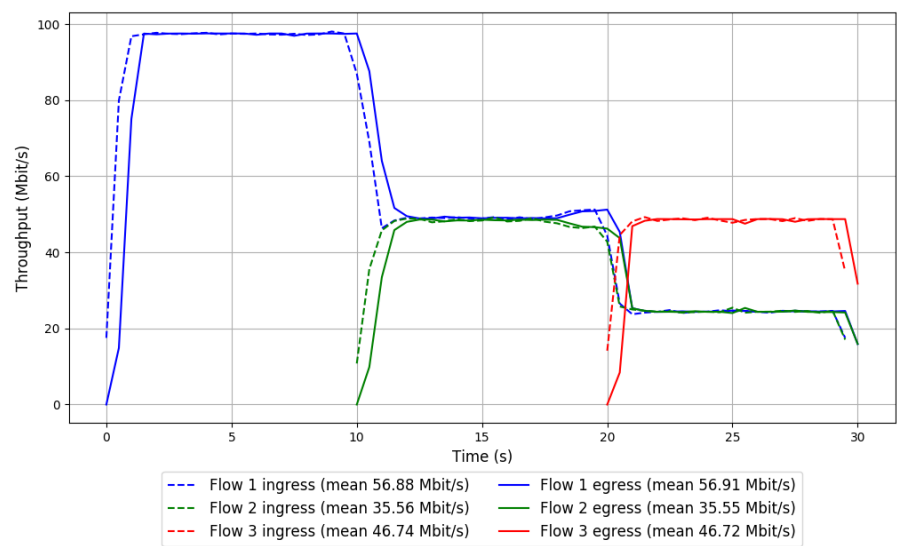
-- Flow 3:

Average throughput: 46.72 Mbit/s

95th percentile per-packet one-way delay: 40.488 ms

Loss rate: 0.71%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-01-22 04:51:48

End at: 2019-01-22 04:52:18

Local clock offset: 0.21 ms

Remote clock offset: 0.569 ms

# Below is generated by plot.py at 2019-01-22 05:13:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.64 Mbit/s

95th percentile per-packet one-way delay: 41.299 ms

Loss rate: 0.28%

-- Flow 1:

Average throughput: 60.64 Mbit/s

95th percentile per-packet one-way delay: 42.841 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 31.00 Mbit/s

95th percentile per-packet one-way delay: 40.168 ms

Loss rate: 0.32%

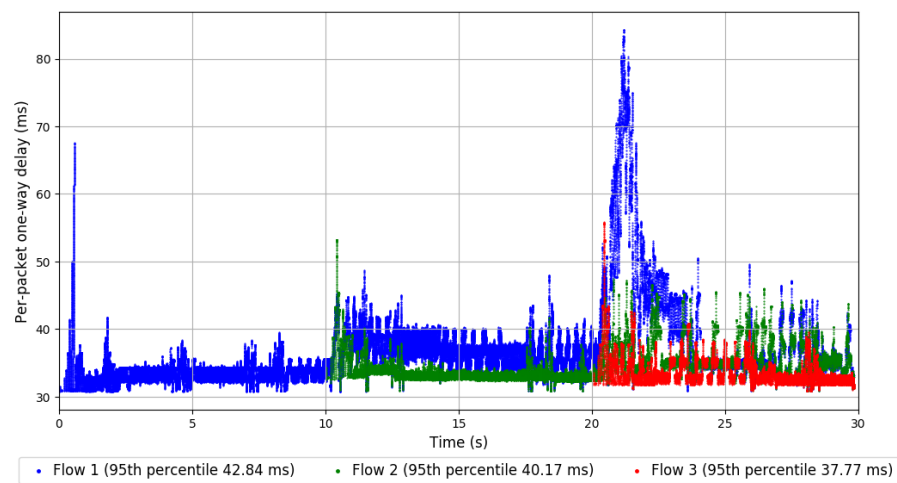
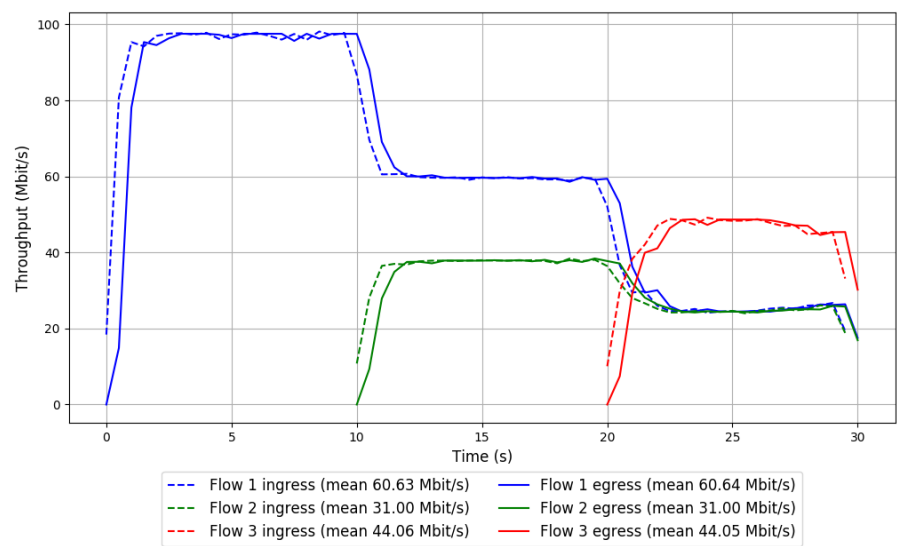
-- Flow 3:

Average throughput: 44.05 Mbit/s

95th percentile per-packet one-way delay: 37.770 ms

Loss rate: 0.69%

Run 5: Report of Indigo — Data Link

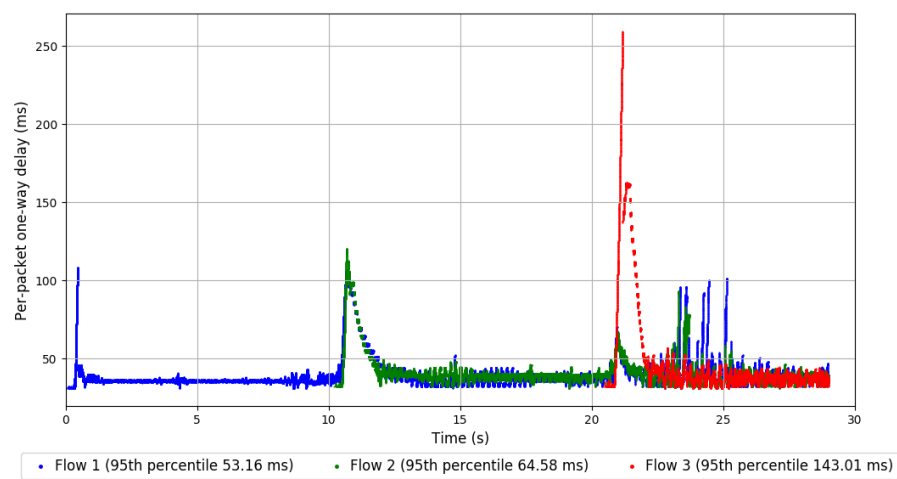
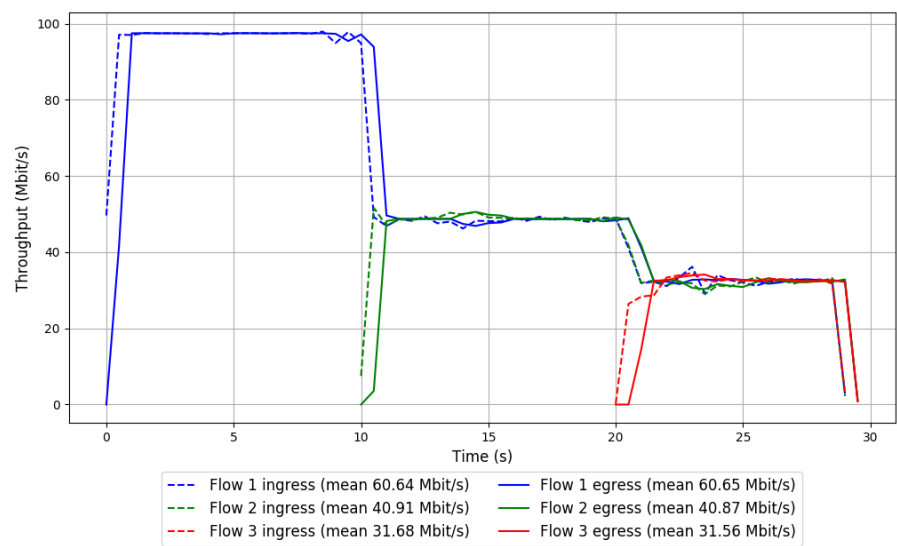


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-22 02:55:16  
End at: 2019-01-22 02:55:46  
Local clock offset: -3.437 ms  
Remote clock offset: -4.758 ms

# Below is generated by plot.py at 2019-01-22 05:14:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.49 Mbit/s  
95th percentile per-packet one-way delay: 59.861 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 60.65 Mbit/s  
95th percentile per-packet one-way delay: 53.162 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 40.87 Mbit/s  
95th percentile per-packet one-way delay: 64.581 ms  
Loss rate: 0.44%  
-- Flow 3:  
Average throughput: 31.56 Mbit/s  
95th percentile per-packet one-way delay: 143.008 ms  
Loss rate: 1.12%

Run 1: Report of Indigo-MusesC3 — Data Link

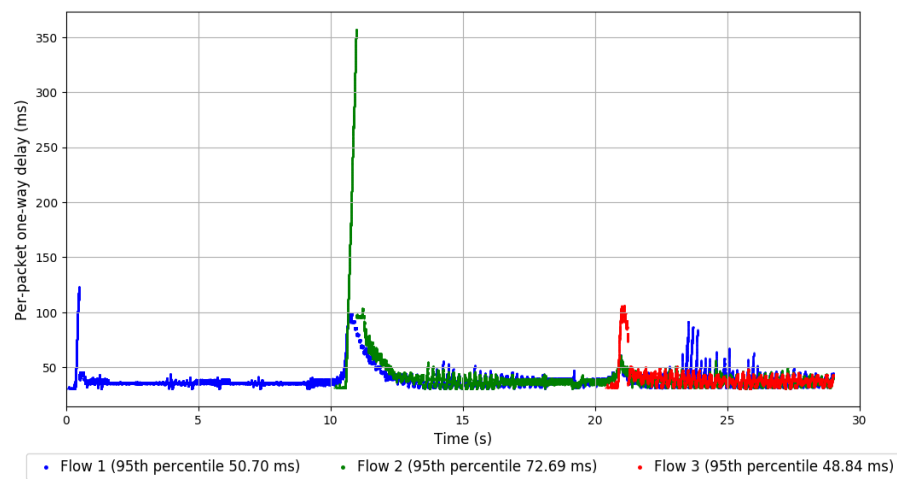
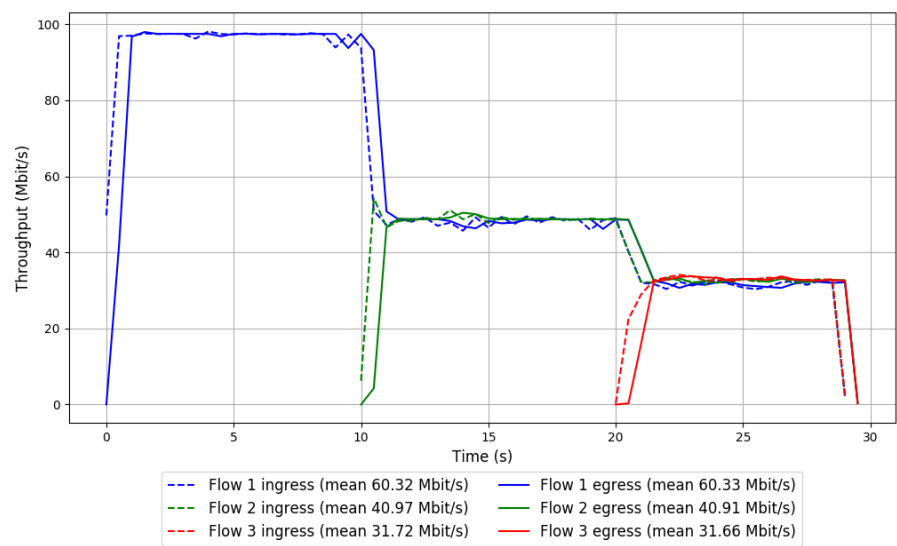


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-22 03:26:43  
End at: 2019-01-22 03:27:13  
Local clock offset: -0.74 ms  
Remote clock offset: -1.725 ms

# Below is generated by plot.py at 2019-01-22 05:14:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.37 Mbit/s  
95th percentile per-packet one-way delay: 57.334 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 60.33 Mbit/s  
95th percentile per-packet one-way delay: 50.697 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 40.91 Mbit/s  
95th percentile per-packet one-way delay: 72.688 ms  
Loss rate: 0.48%  
-- Flow 3:  
Average throughput: 31.66 Mbit/s  
95th percentile per-packet one-way delay: 48.835 ms  
Loss rate: 0.94%

Run 2: Report of Indigo-MusesC3 — Data Link



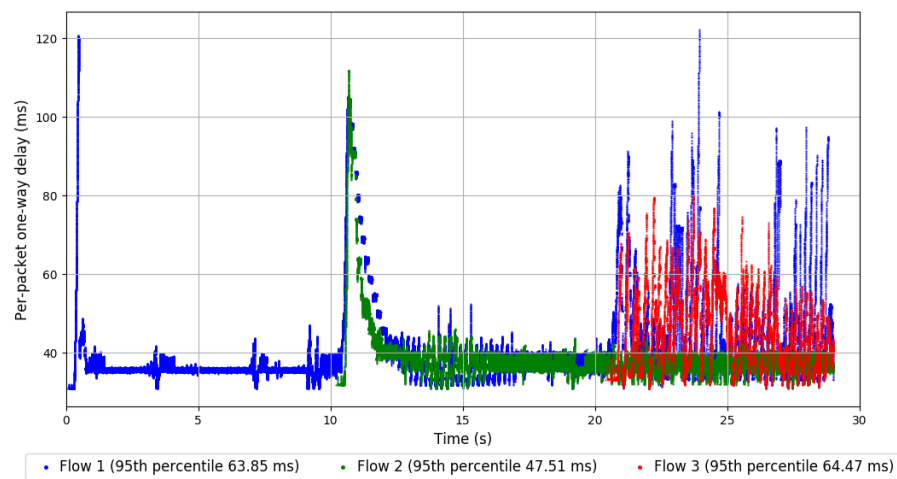
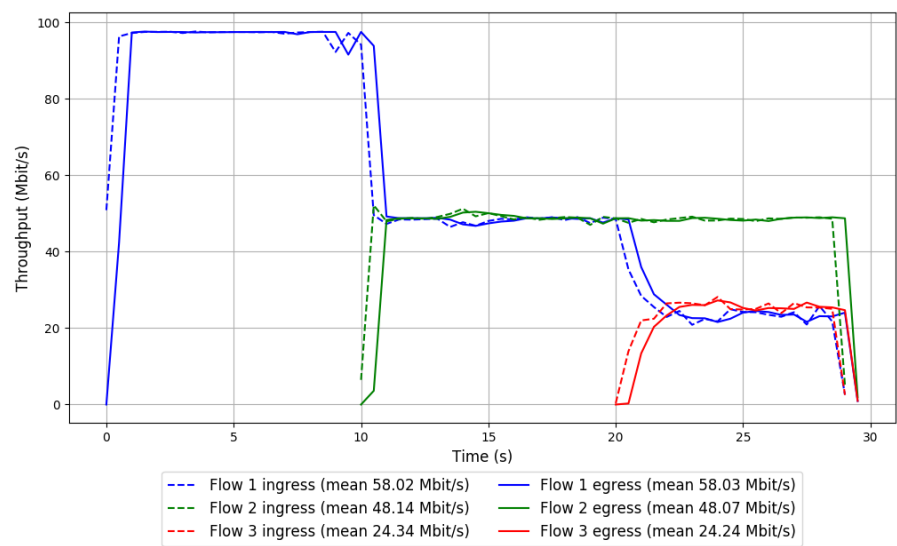


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-22 04:02:04  
End at: 2019-01-22 04:02:34  
Local clock offset: 0.291 ms  
Remote clock offset: -0.327 ms

# Below is generated by plot.py at 2019-01-22 05:14:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.44 Mbit/s  
95th percentile per-packet one-way delay: 60.433 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 58.03 Mbit/s  
95th percentile per-packet one-way delay: 63.853 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 48.07 Mbit/s  
95th percentile per-packet one-way delay: 47.505 ms  
Loss rate: 0.48%  
-- Flow 3:  
Average throughput: 24.24 Mbit/s  
95th percentile per-packet one-way delay: 64.469 ms  
Loss rate: 1.19%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-22 04:32:52

End at: 2019-01-22 04:33:22

Local clock offset: 0.174 ms

Remote clock offset: 0.542 ms

# Below is generated by plot.py at 2019-01-22 05:14:27

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.46 Mbit/s

95th percentile per-packet one-way delay: 52.419 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 65.15 Mbit/s

95th percentile per-packet one-way delay: 45.073 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 36.71 Mbit/s

95th percentile per-packet one-way delay: 62.339 ms

Loss rate: 0.63%

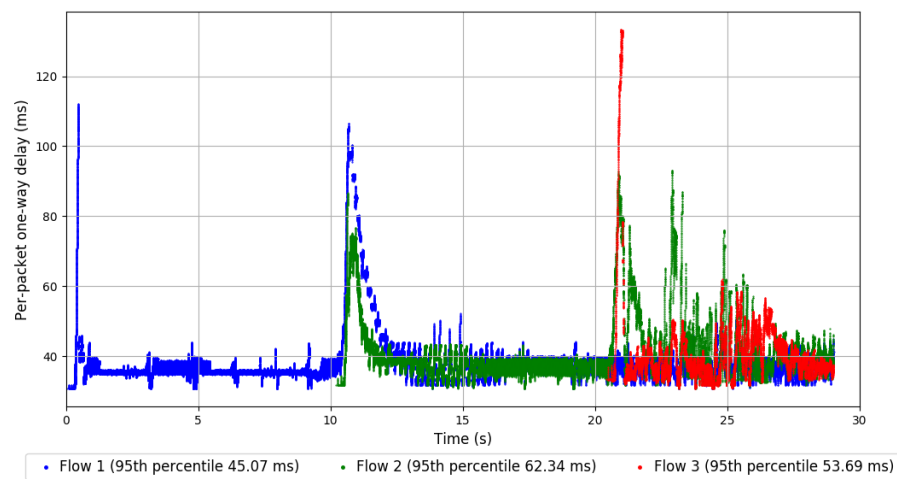
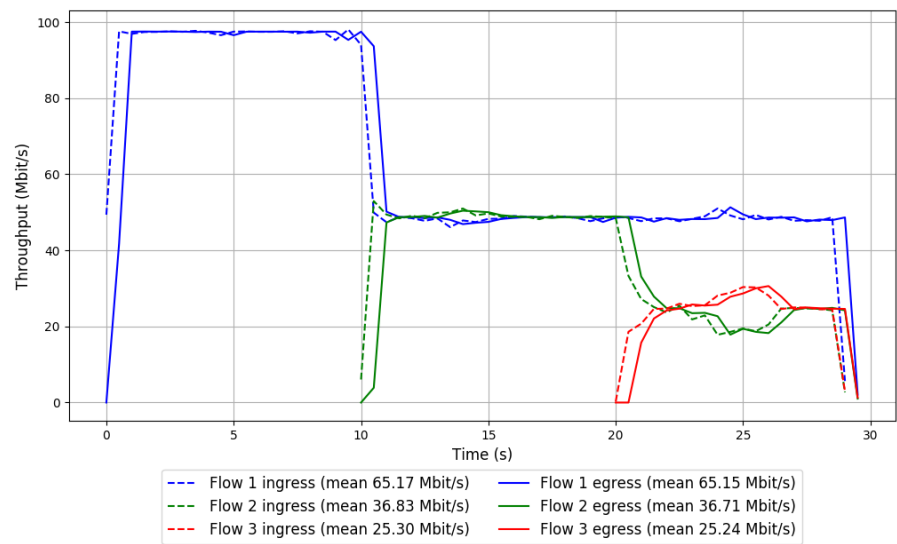
-- Flow 3:

Average throughput: 25.24 Mbit/s

95th percentile per-packet one-way delay: 53.690 ms

Loss rate: 1.02%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-22 05:02:49

End at: 2019-01-22 05:03:19

Local clock offset: 0.189 ms

Remote clock offset: 0.508 ms

# Below is generated by plot.py at 2019-01-22 05:14:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.48 Mbit/s

95th percentile per-packet one-way delay: 62.921 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 58.44 Mbit/s

95th percentile per-packet one-way delay: 59.581 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 37.52 Mbit/s

95th percentile per-packet one-way delay: 65.656 ms

Loss rate: 0.40%

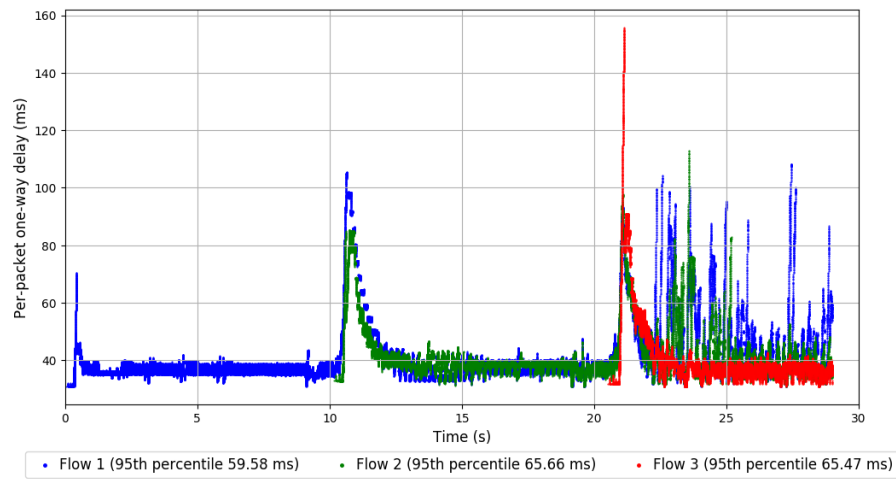
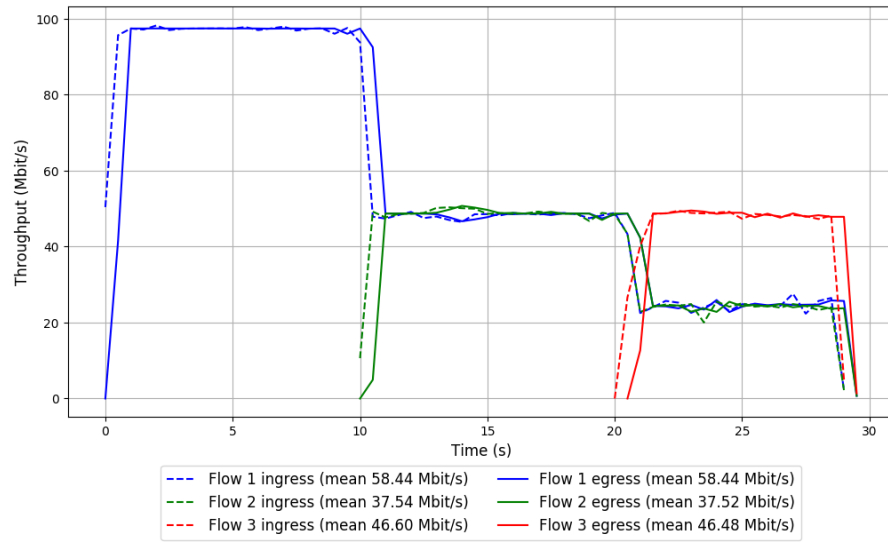
-- Flow 3:

Average throughput: 46.48 Mbit/s

95th percentile per-packet one-way delay: 65.467 ms

Loss rate: 0.99%

# Run 5: Report of Indigo-MusesC3 — Data Link

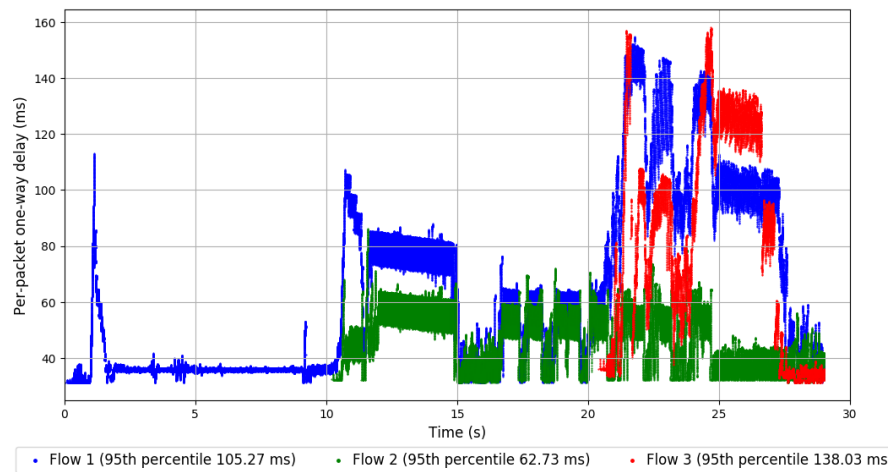
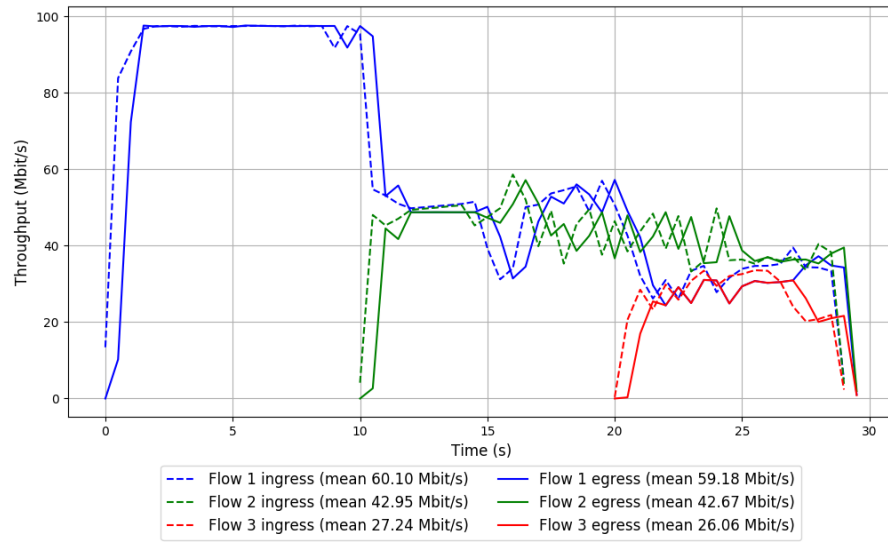


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-22 02:42:08  
End at: 2019-01-22 02:42:38  
Local clock offset: -3.921 ms  
Remote clock offset: -5.797 ms

# Below is generated by plot.py at 2019-01-22 05:14:59  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.64 Mbit/s  
95th percentile per-packet one-way delay: 113.730 ms  
Loss rate: 1.80%  
-- Flow 1:  
Average throughput: 59.18 Mbit/s  
95th percentile per-packet one-way delay: 105.268 ms  
Loss rate: 1.75%  
-- Flow 2:  
Average throughput: 42.67 Mbit/s  
95th percentile per-packet one-way delay: 62.725 ms  
Loss rate: 0.95%  
-- Flow 3:  
Average throughput: 26.06 Mbit/s  
95th percentile per-packet one-way delay: 138.029 ms  
Loss rate: 5.08%

# Run 1: Report of Indigo-MusesC5 — Data Link



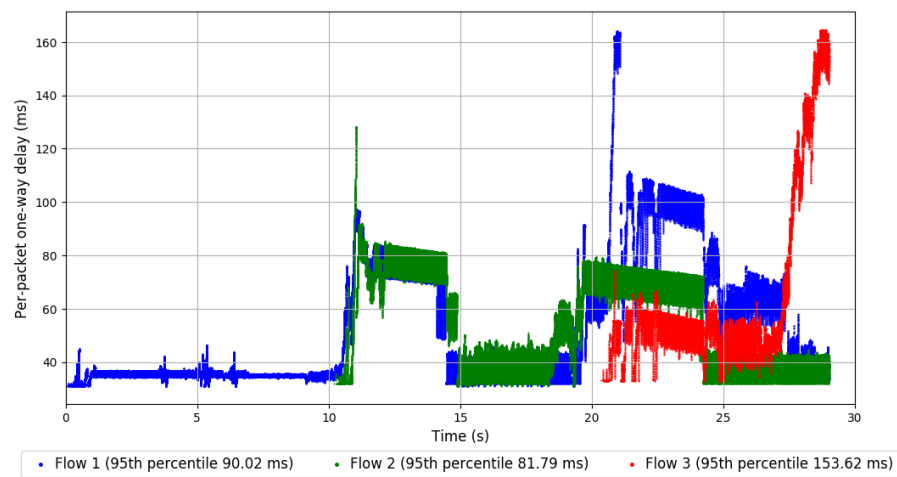
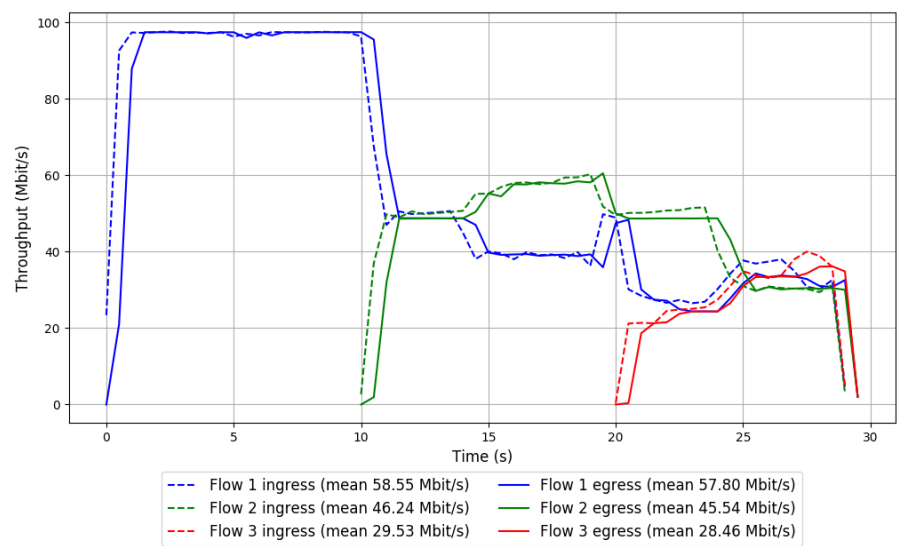


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-22 03:13:10  
End at: 2019-01-22 03:13:40  
Local clock offset: -3.414 ms  
Remote clock offset: -2.528 ms

# Below is generated by plot.py at 2019-01-22 05:15:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.87 Mbit/s  
95th percentile per-packet one-way delay: 90.321 ms  
Loss rate: 1.83%  
-- Flow 1:  
Average throughput: 57.80 Mbit/s  
95th percentile per-packet one-way delay: 90.022 ms  
Loss rate: 1.49%  
-- Flow 2:  
Average throughput: 45.54 Mbit/s  
95th percentile per-packet one-way delay: 81.789 ms  
Loss rate: 1.76%  
-- Flow 3:  
Average throughput: 28.46 Mbit/s  
95th percentile per-packet one-way delay: 153.616 ms  
Loss rate: 4.31%

Run 2: Report of Indigo-MusesC5 — Data Link

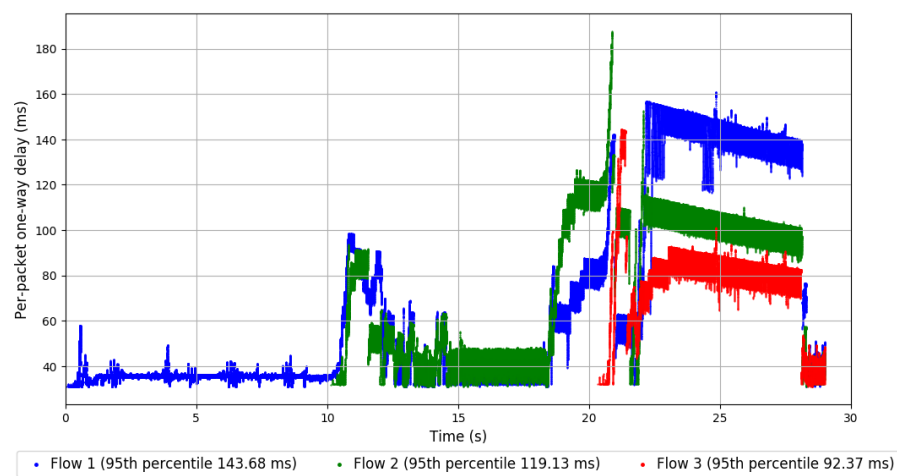
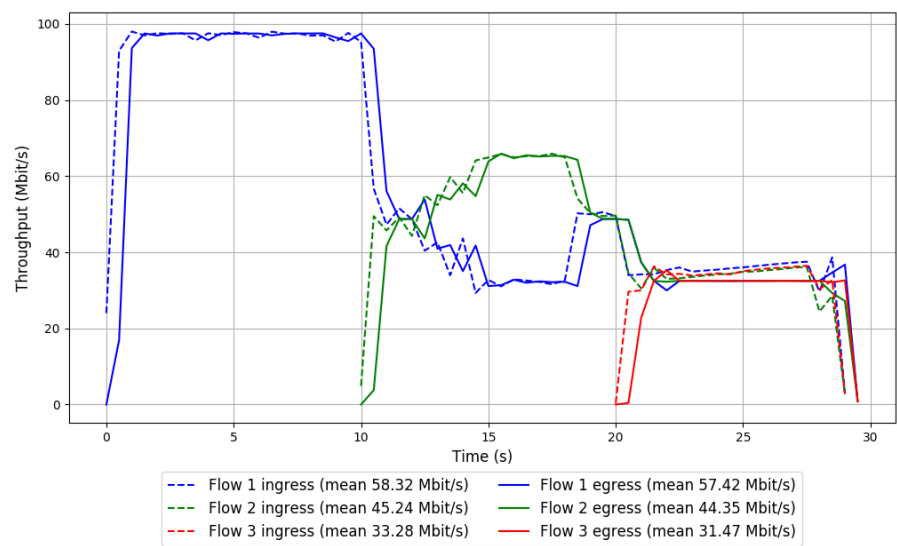


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-22 03:49:19  
End at: 2019-01-22 03:49:49  
Local clock offset: 0.47 ms  
Remote clock offset: -0.697 ms

# Below is generated by plot.py at 2019-01-22 05:15:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.72 Mbit/s  
95th percentile per-packet one-way delay: 139.573 ms  
Loss rate: 2.34%  
-- Flow 1:  
Average throughput: 57.42 Mbit/s  
95th percentile per-packet one-way delay: 143.683 ms  
Loss rate: 1.73%  
-- Flow 2:  
Average throughput: 44.35 Mbit/s  
95th percentile per-packet one-way delay: 119.126 ms  
Loss rate: 2.24%  
-- Flow 3:  
Average throughput: 31.47 Mbit/s  
95th percentile per-packet one-way delay: 92.366 ms  
Loss rate: 6.13%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-22 04:20:19

End at: 2019-01-22 04:20:49

Local clock offset: 0.282 ms

Remote clock offset: 0.208 ms

# Below is generated by plot.py at 2019-01-22 05:15:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.64 Mbit/s

95th percentile per-packet one-way delay: 118.475 ms

Loss rate: 1.66%

-- Flow 1:

Average throughput: 55.73 Mbit/s

95th percentile per-packet one-way delay: 86.031 ms

Loss rate: 0.51%

-- Flow 2:

Average throughput: 45.77 Mbit/s

95th percentile per-packet one-way delay: 154.081 ms

Loss rate: 2.88%

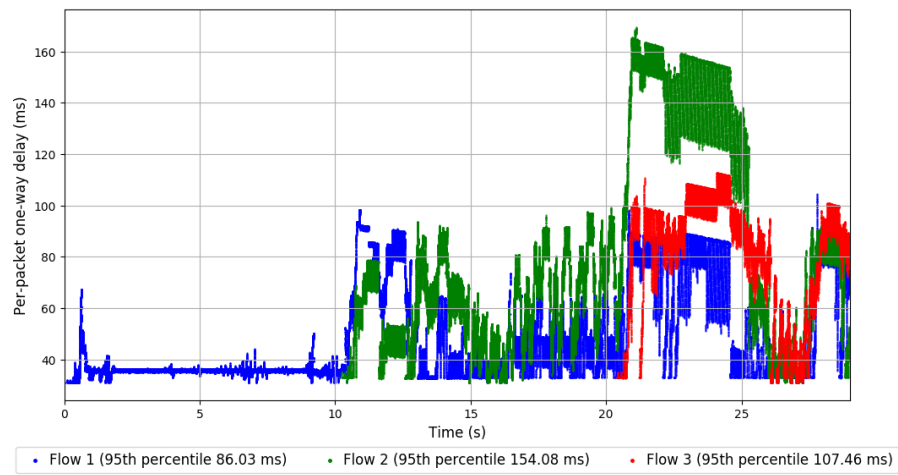
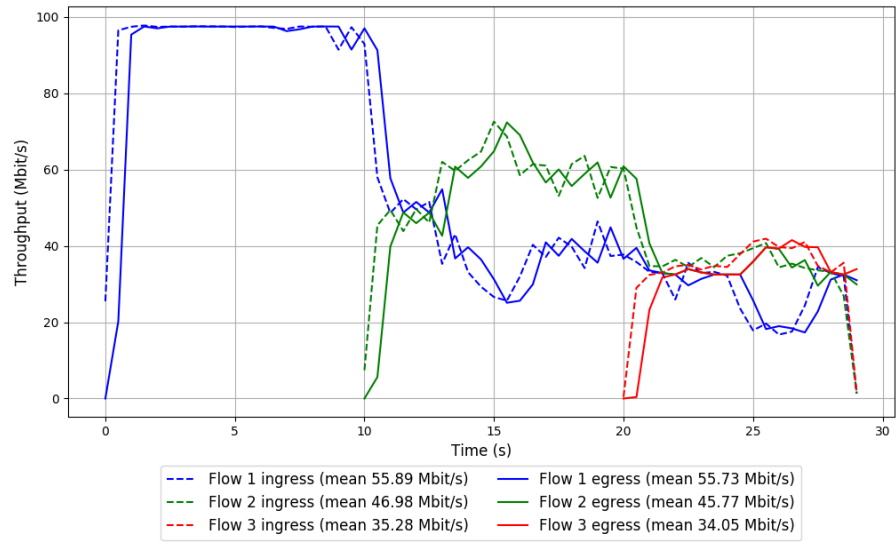
-- Flow 3:

Average throughput: 34.05 Mbit/s

95th percentile per-packet one-way delay: 107.462 ms

Loss rate: 4.18%

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



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-22 04:50:29

End at: 2019-01-22 04:50:59

Local clock offset: 0.218 ms

Remote clock offset: 0.45 ms

# Below is generated by plot.py at 2019-01-22 05:15:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.64 Mbit/s

95th percentile per-packet one-way delay: 106.272 ms

Loss rate: 1.59%

-- Flow 1:

Average throughput: 56.58 Mbit/s

95th percentile per-packet one-way delay: 93.660 ms

Loss rate: 1.31%

-- Flow 2:

Average throughput: 48.49 Mbit/s

95th percentile per-packet one-way delay: 76.021 ms

Loss rate: 1.13%

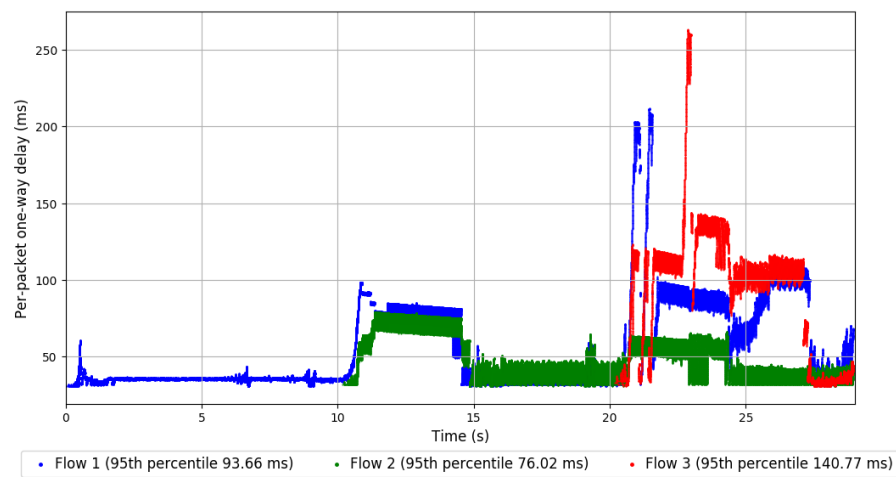
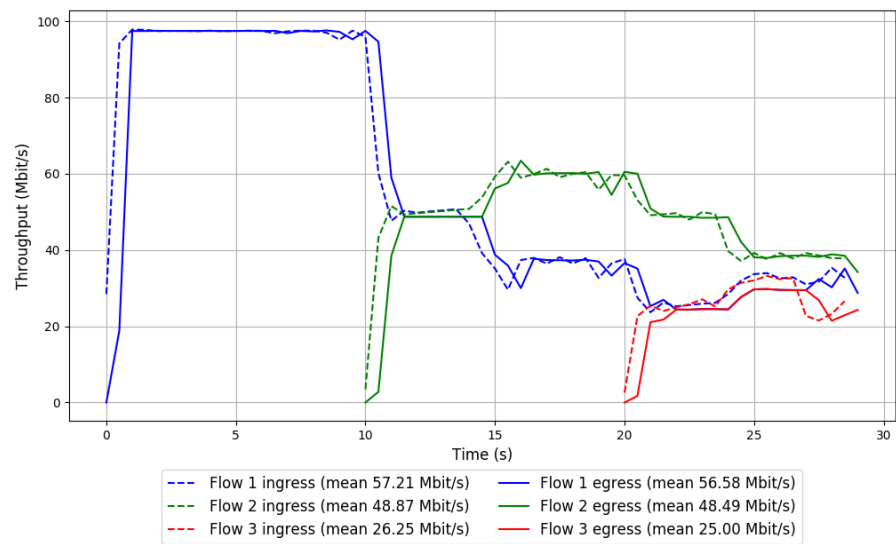
-- Flow 3:

Average throughput: 25.00 Mbit/s

95th percentile per-packet one-way delay: 140.768 ms

Loss rate: 5.45%

Run 5: Report of Indigo-MusesC5 — Data Link



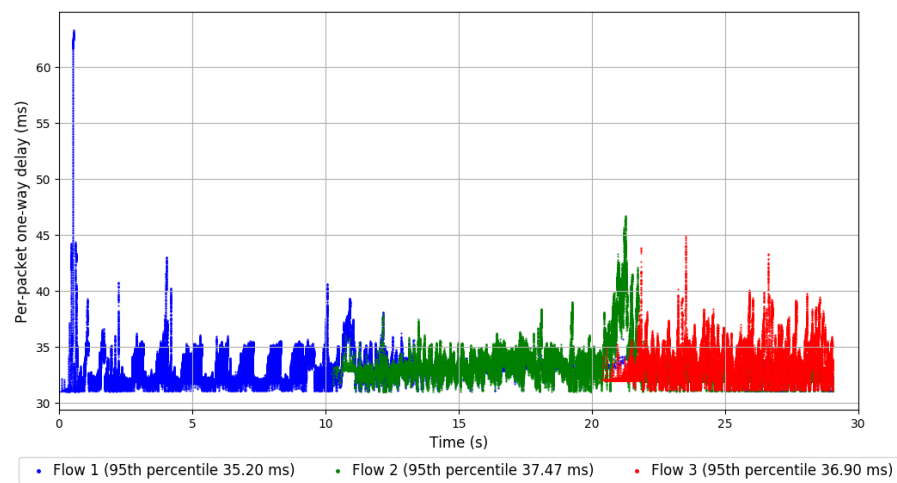
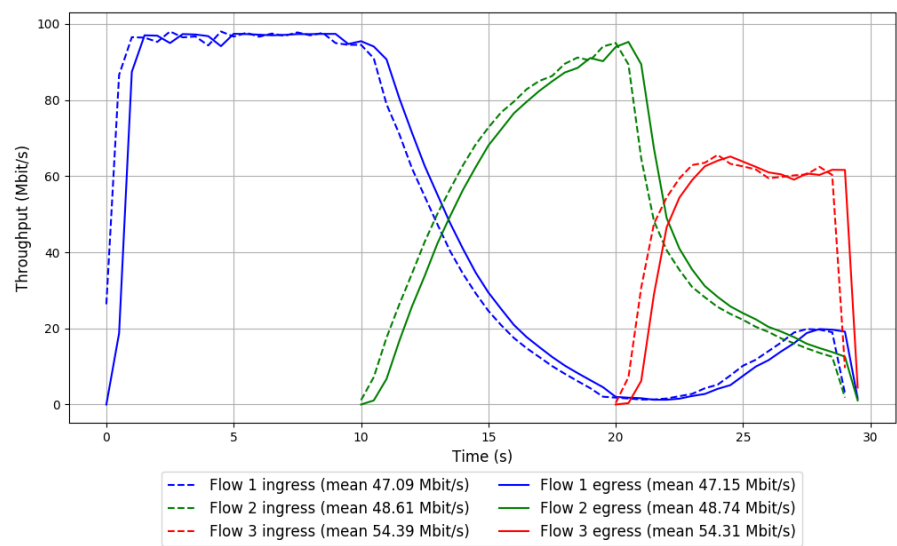


Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-22 02:34:25  
End at: 2019-01-22 02:34:55  
Local clock offset: -3.401 ms  
Remote clock offset: -5.649 ms

# Below is generated by plot.py at 2019-01-22 05:15:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.99 Mbit/s  
95th percentile per-packet one-way delay: 36.234 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 47.15 Mbit/s  
95th percentile per-packet one-way delay: 35.202 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 48.74 Mbit/s  
95th percentile per-packet one-way delay: 37.466 ms  
Loss rate: 0.09%  
-- Flow 3:  
Average throughput: 54.31 Mbit/s  
95th percentile per-packet one-way delay: 36.896 ms  
Loss rate: 0.91%

Run 1: Report of Indigo-MusesD — Data Link

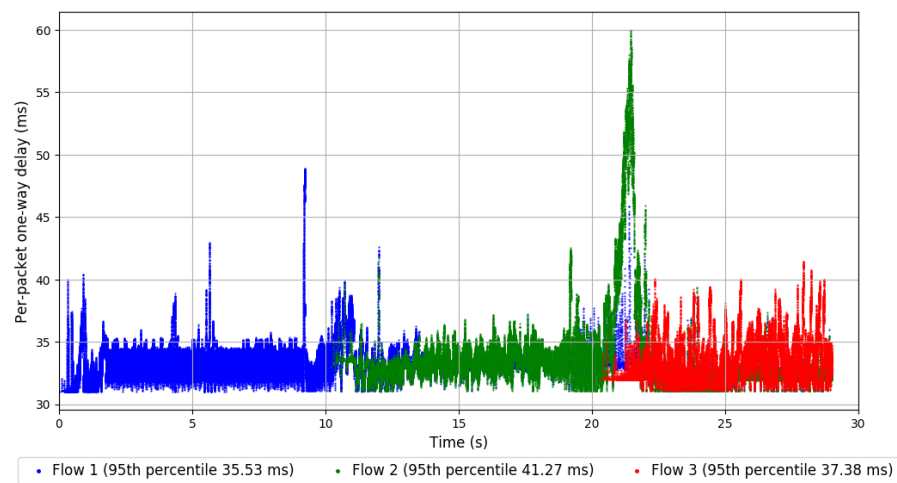
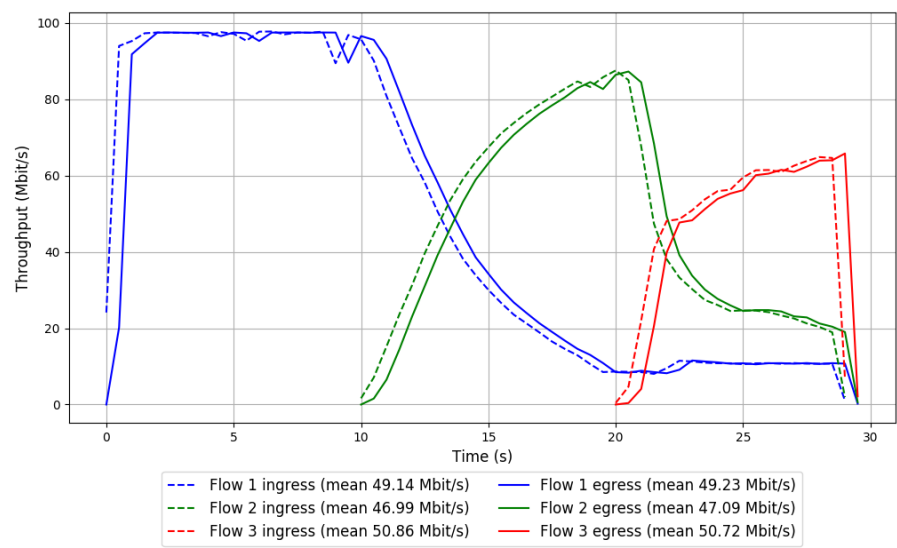


Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-22 03:05:24  
End at: 2019-01-22 03:05:54  
Local clock offset: -3.337 ms  
Remote clock offset: -3.394 ms

# Below is generated by plot.py at 2019-01-22 05:15:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.93 Mbit/s  
95th percentile per-packet one-way delay: 37.026 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 49.23 Mbit/s  
95th percentile per-packet one-way delay: 35.530 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 47.09 Mbit/s  
95th percentile per-packet one-way delay: 41.272 ms  
Loss rate: 0.16%  
-- Flow 3:  
Average throughput: 50.72 Mbit/s  
95th percentile per-packet one-way delay: 37.377 ms  
Loss rate: 0.99%

Run 2: Report of Indigo-MusesD — Data Link

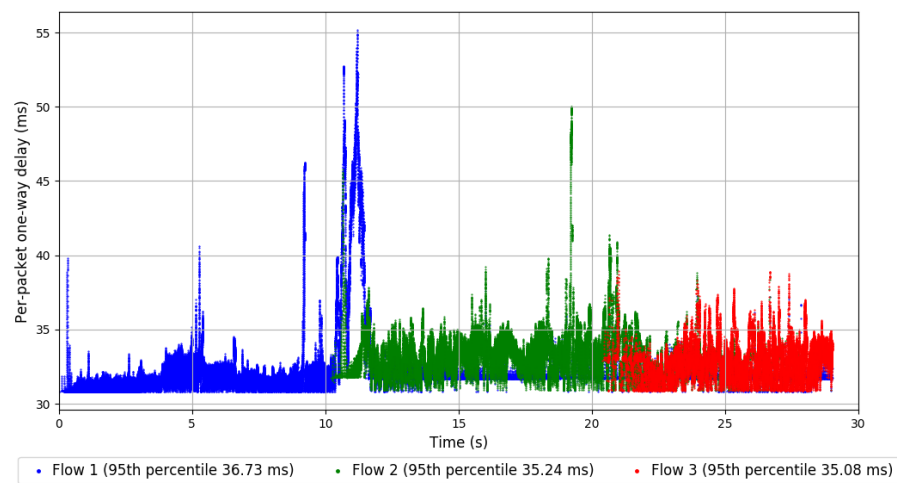
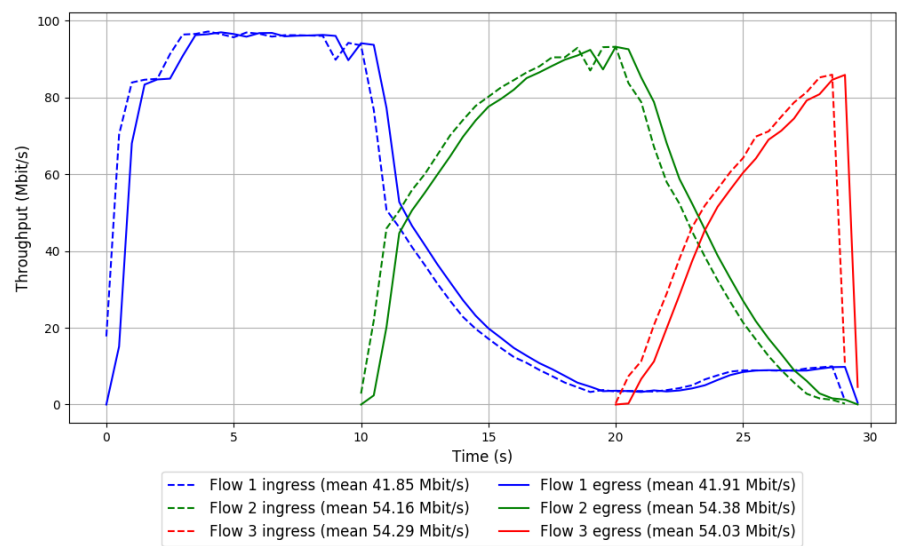


Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-22 03:39:52  
End at: 2019-01-22 03:40:22  
Local clock offset: 0.365 ms  
Remote clock offset: -0.968 ms

# Below is generated by plot.py at 2019-01-22 05:15:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.28 Mbit/s  
95th percentile per-packet one-way delay: 35.420 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 41.91 Mbit/s  
95th percentile per-packet one-way delay: 36.731 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 54.38 Mbit/s  
95th percentile per-packet one-way delay: 35.241 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 54.03 Mbit/s  
95th percentile per-packet one-way delay: 35.084 ms  
Loss rate: 1.23%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-22 04:12:24

End at: 2019-01-22 04:12:54

Local clock offset: 0.425 ms

Remote clock offset: 0.09 ms

# Below is generated by plot.py at 2019-01-22 05:16:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.66 Mbit/s

95th percentile per-packet one-way delay: 36.566 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 49.77 Mbit/s

95th percentile per-packet one-way delay: 35.168 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 44.77 Mbit/s

95th percentile per-packet one-way delay: 37.206 ms

Loss rate: 0.10%

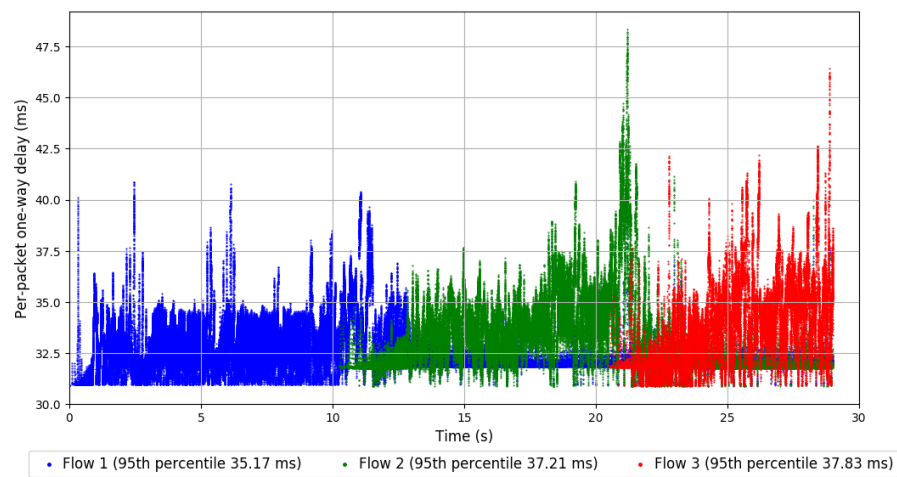
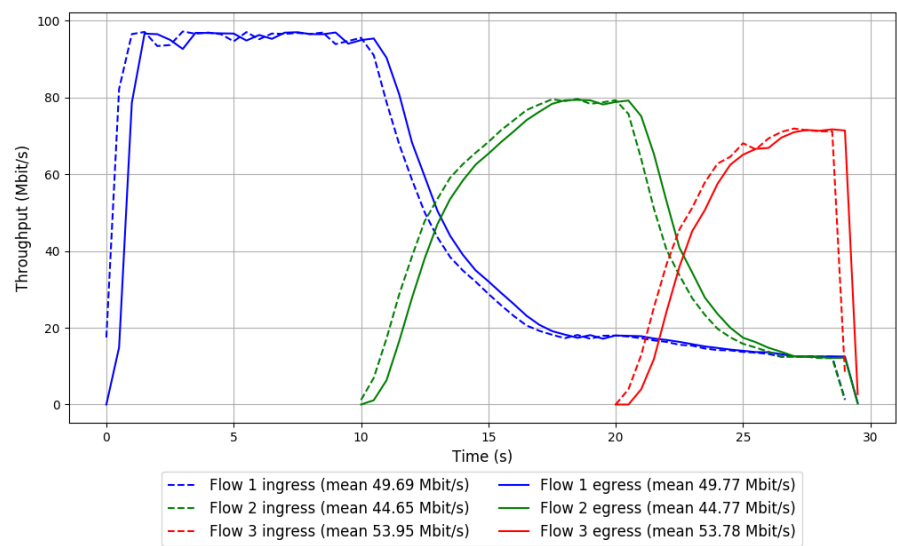
-- Flow 3:

Average throughput: 53.78 Mbit/s

95th percentile per-packet one-way delay: 37.825 ms

Loss rate: 1.06%

Run 4: Report of Indigo-MusesD — Data Link





Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-22 04:42:50

End at: 2019-01-22 04:43:20

Local clock offset: 0.241 ms

Remote clock offset: 0.369 ms

# Below is generated by plot.py at 2019-01-22 05:16:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.97 Mbit/s

95th percentile per-packet one-way delay: 36.985 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 41.33 Mbit/s

95th percentile per-packet one-way delay: 37.989 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 55.13 Mbit/s

95th percentile per-packet one-way delay: 36.656 ms

Loss rate: 0.12%

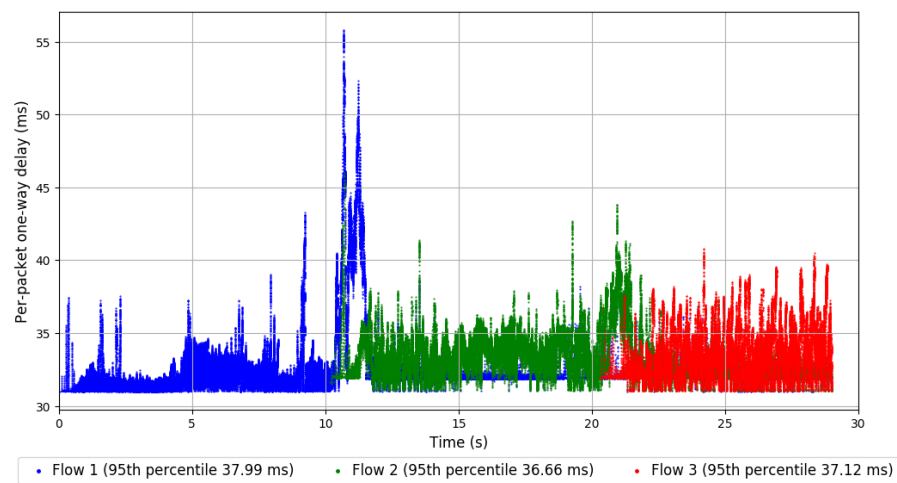
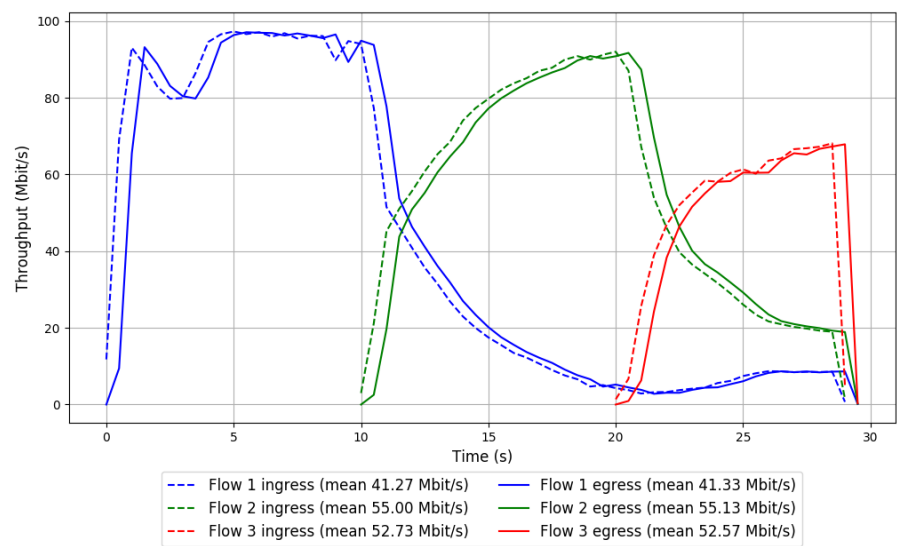
-- Flow 3:

Average throughput: 52.57 Mbit/s

95th percentile per-packet one-way delay: 37.124 ms

Loss rate: 1.04%

Run 5: Report of Indigo-MusesD — Data Link

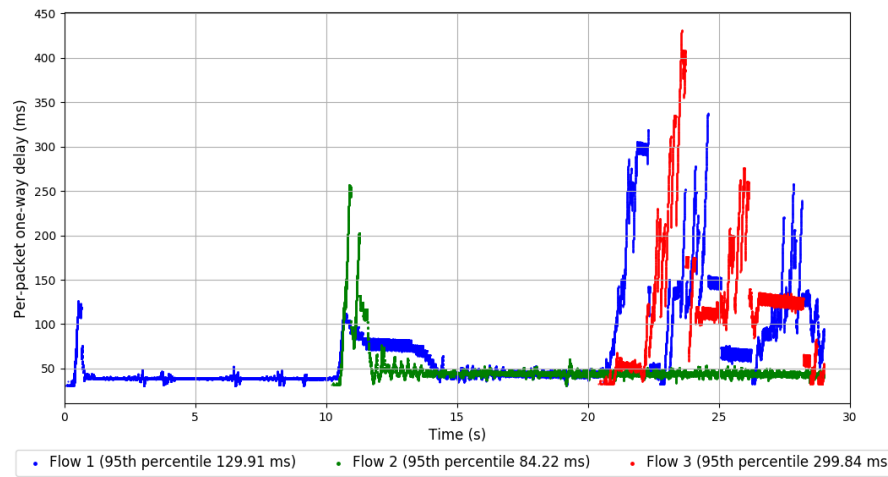
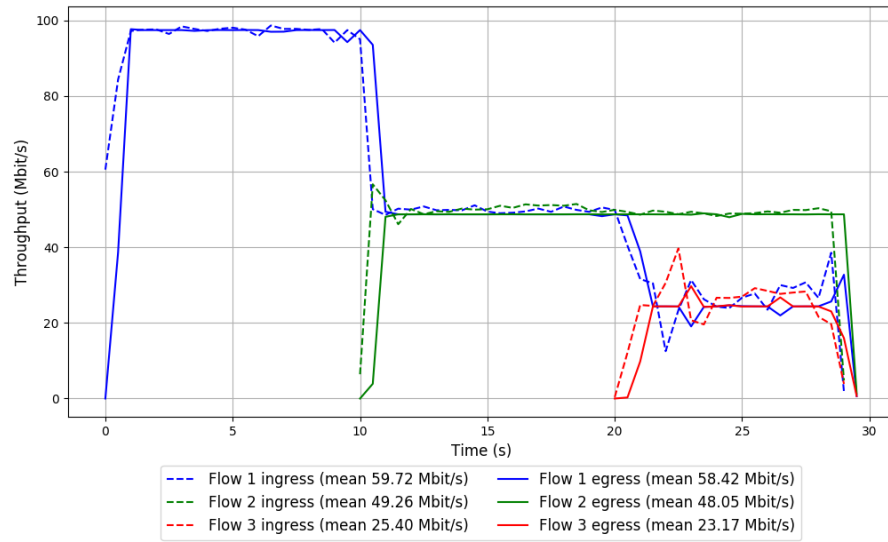


Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-22 02:58:06  
End at: 2019-01-22 02:58:36  
Local clock offset: -3.377 ms  
Remote clock offset: -4.229 ms

# Below is generated by plot.py at 2019-01-22 05:16:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.47 Mbit/s  
95th percentile per-packet one-way delay: 138.178 ms  
Loss rate: 3.04%  
-- Flow 1:  
Average throughput: 58.42 Mbit/s  
95th percentile per-packet one-way delay: 129.915 ms  
Loss rate: 2.40%  
-- Flow 2:  
Average throughput: 48.05 Mbit/s  
95th percentile per-packet one-way delay: 84.220 ms  
Loss rate: 2.78%  
-- Flow 3:  
Average throughput: 23.17 Mbit/s  
95th percentile per-packet one-way delay: 299.841 ms  
Loss rate: 9.24%

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



Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-22 03:30:13

End at: 2019-01-22 03:30:43

Local clock offset: -0.342 ms

Remote clock offset: -1.55 ms

# Below is generated by plot.py at 2019-01-22 05:16:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.51 Mbit/s

95th percentile per-packet one-way delay: 167.059 ms

Loss rate: 2.88%

-- Flow 1:

Average throughput: 65.48 Mbit/s

95th percentile per-packet one-way delay: 85.810 ms

Loss rate: 1.12%

-- Flow 2:

Average throughput: 37.07 Mbit/s

95th percentile per-packet one-way delay: 231.087 ms

Loss rate: 6.54%

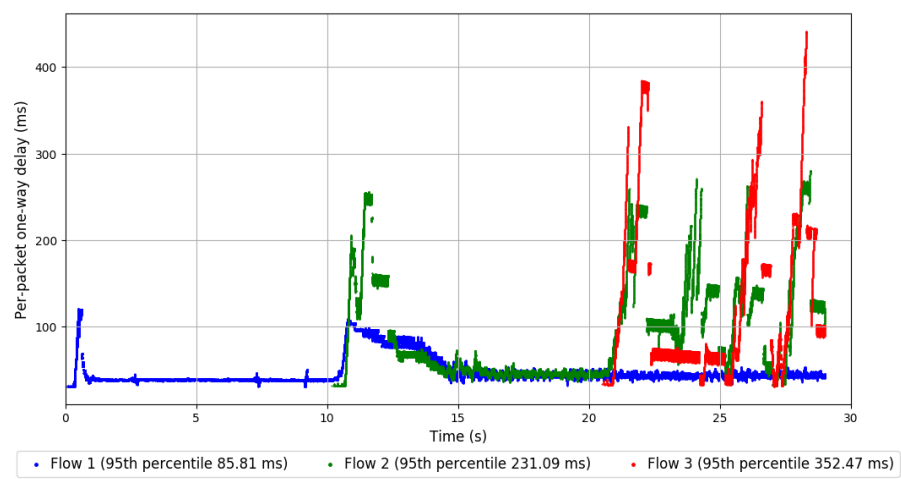
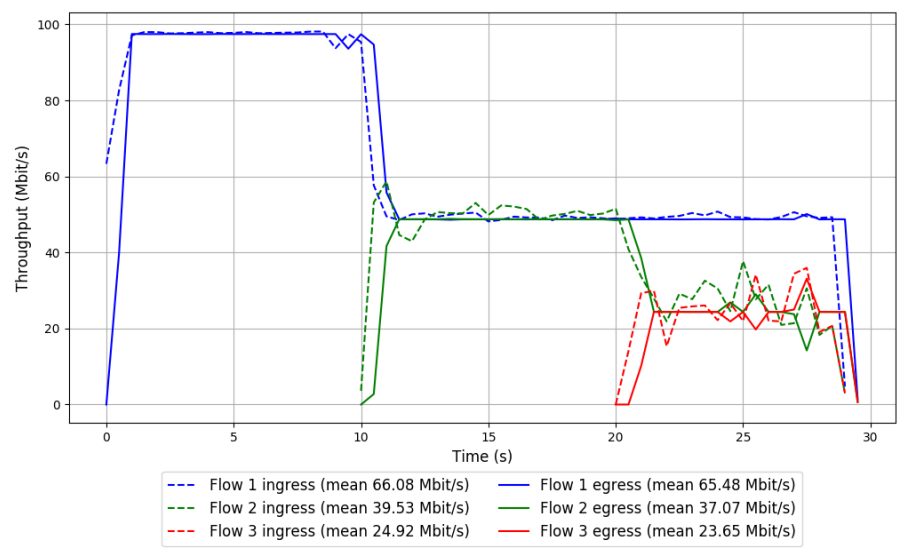
-- Flow 3:

Average throughput: 23.65 Mbit/s

95th percentile per-packet one-way delay: 352.471 ms

Loss rate: 5.85%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-22 04:04:58

End at: 2019-01-22 04:05:28

Local clock offset: 0.32 ms

Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2019-01-22 05:16:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 150.767 ms

Loss rate: 3.07%

-- Flow 1:

Average throughput: 58.21 Mbit/s

95th percentile per-packet one-way delay: 139.434 ms

Loss rate: 1.33%

-- Flow 2:

Average throughput: 47.59 Mbit/s

95th percentile per-packet one-way delay: 86.275 ms

Loss rate: 4.78%

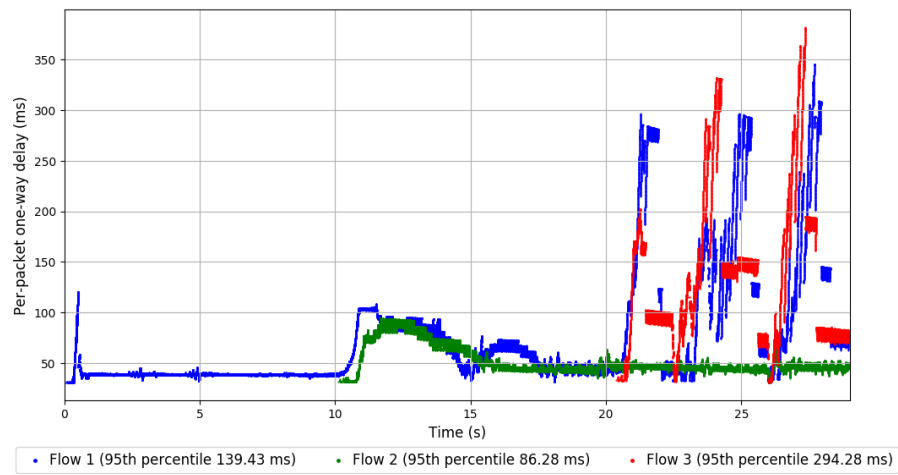
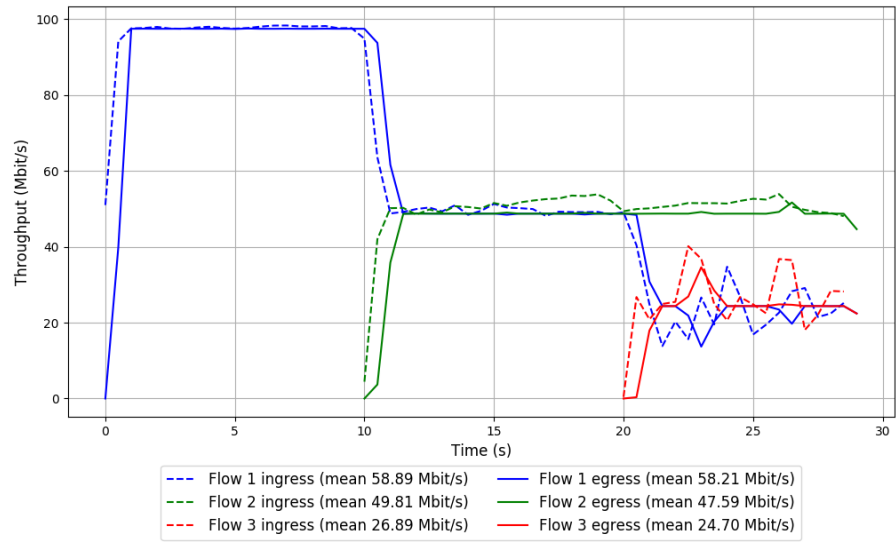
-- Flow 3:

Average throughput: 24.70 Mbit/s

95th percentile per-packet one-way delay: 294.283 ms

Loss rate: 8.85%

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





Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-22 04:35:51

End at: 2019-01-22 04:36:21

Local clock offset: 0.186 ms

Remote clock offset: 0.446 ms

# Below is generated by plot.py at 2019-01-22 05:16:38

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.46 Mbit/s

95th percentile per-packet one-way delay: 190.203 ms

Loss rate: 4.01%

-- Flow 1:

Average throughput: 60.99 Mbit/s

95th percentile per-packet one-way delay: 158.676 ms

Loss rate: 2.39%

-- Flow 2:

Average throughput: 40.18 Mbit/s

95th percentile per-packet one-way delay: 166.268 ms

Loss rate: 5.95%

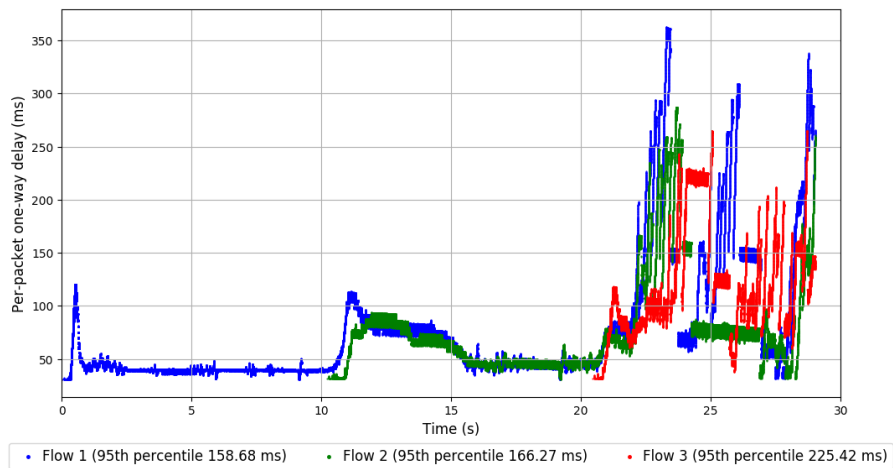
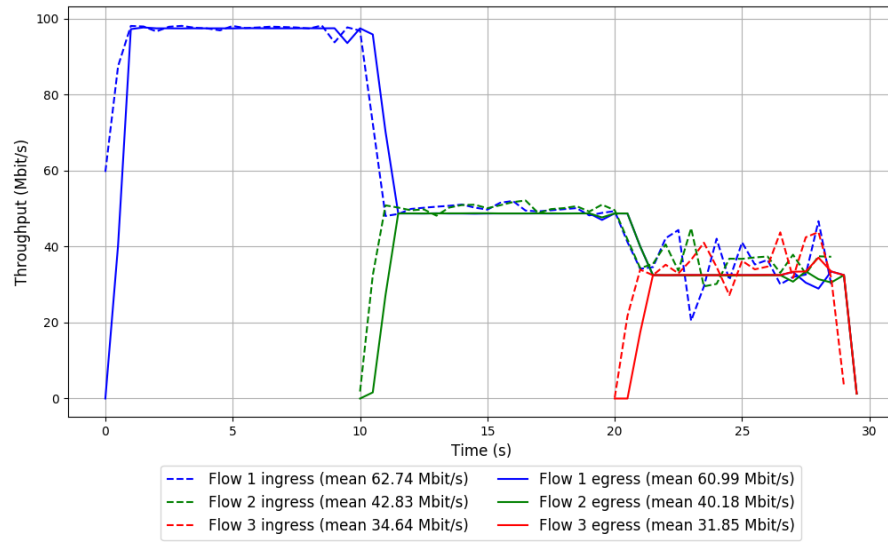
-- Flow 3:

Average throughput: 31.85 Mbit/s

95th percentile per-packet one-way delay: 225.416 ms

Loss rate: 8.65%

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



Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-22 05:05:43

End at: 2019-01-22 05:06:13

Local clock offset: 0.195 ms

Remote clock offset: 0.526 ms

# Below is generated by plot.py at 2019-01-22 05:16:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.49 Mbit/s

95th percentile per-packet one-way delay: 204.726 ms

Loss rate: 2.43%

-- Flow 1:

Average throughput: 58.24 Mbit/s

95th percentile per-packet one-way delay: 172.290 ms

Loss rate: 1.82%

-- Flow 2:

Average throughput: 37.19 Mbit/s

95th percentile per-packet one-way delay: 271.954 ms

Loss rate: 3.45%

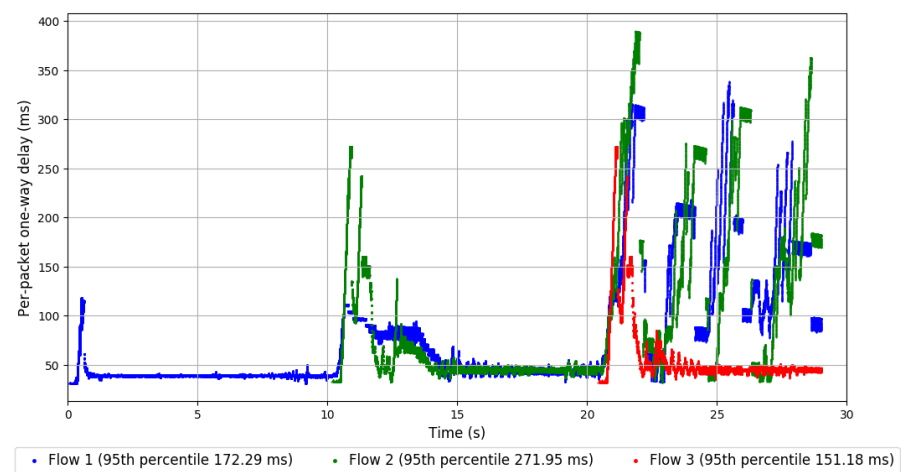
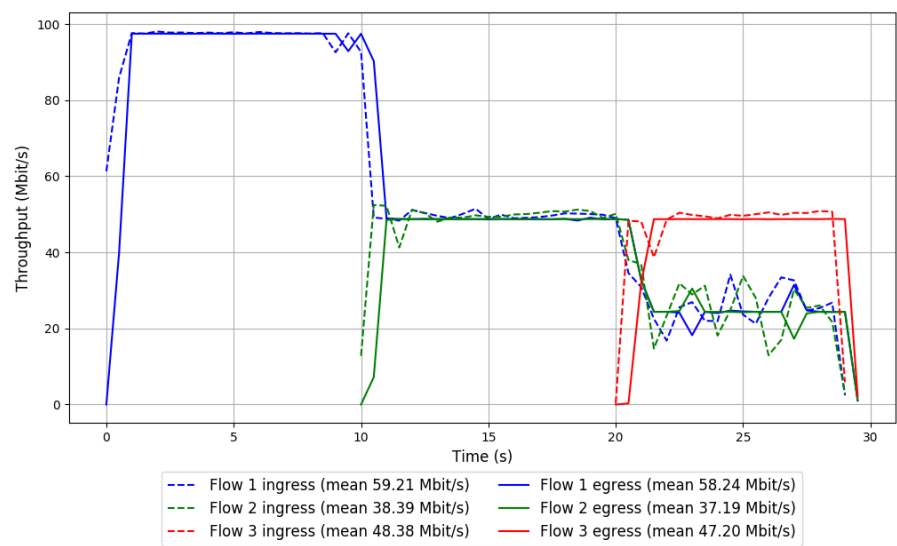
-- Flow 3:

Average throughput: 47.20 Mbit/s

95th percentile per-packet one-way delay: 151.180 ms

Loss rate: 3.16%

Run 5: Report of Indigo-MusesT — Data Link

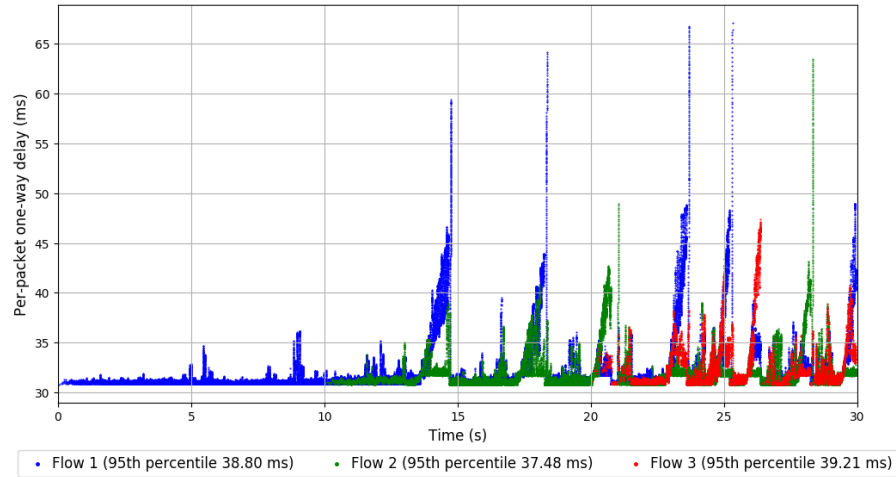
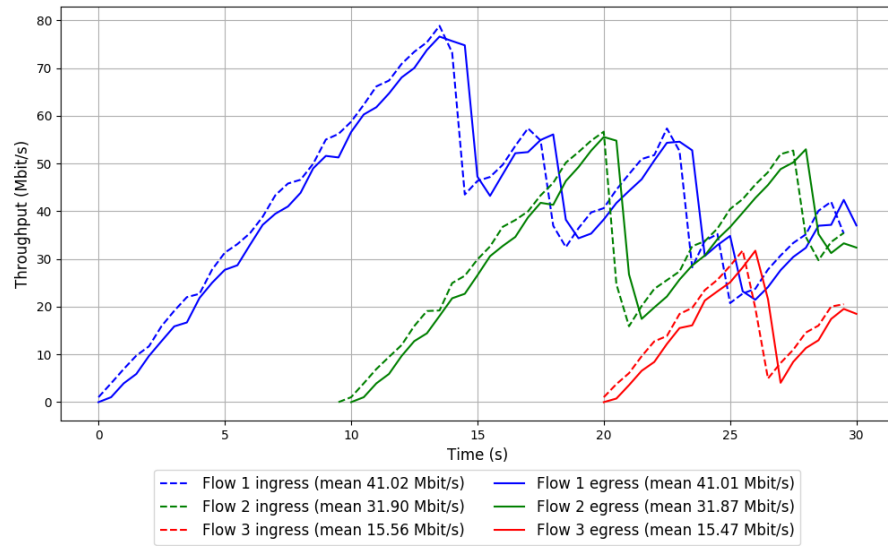


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-22 02:48:27
End at: 2019-01-22 02:48:57
Local clock offset: -3.827 ms
Remote clock offset: -5.128 ms

# Below is generated by plot.py at 2019-01-22 05:16:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.35 Mbit/s
95th percentile per-packet one-way delay: 38.523 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 41.01 Mbit/s
95th percentile per-packet one-way delay: 38.797 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 31.87 Mbit/s
95th percentile per-packet one-way delay: 37.476 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 15.47 Mbit/s
95th percentile per-packet one-way delay: 39.210 ms
Loss rate: 1.03%
```

## Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-01-22 03:19:23

End at: 2019-01-22 03:19:53

Local clock offset: -2.288 ms

Remote clock offset: -2.11 ms

# Below is generated by plot.py at 2019-01-22 05:16:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 67.32 Mbit/s

95th percentile per-packet one-way delay: 39.786 ms

Loss rate: 0.33%

-- Flow 1:

Average throughput: 42.39 Mbit/s

95th percentile per-packet one-way delay: 39.313 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 27.34 Mbit/s

95th percentile per-packet one-way delay: 41.015 ms

Loss rate: 0.35%

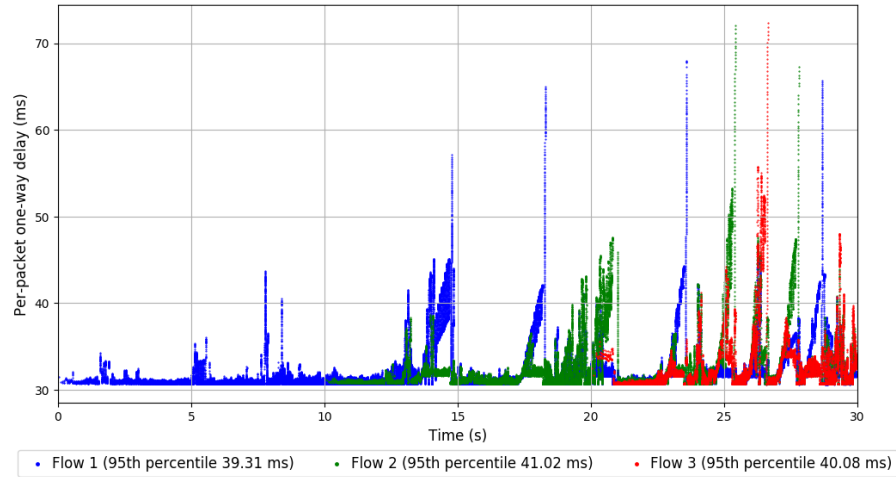
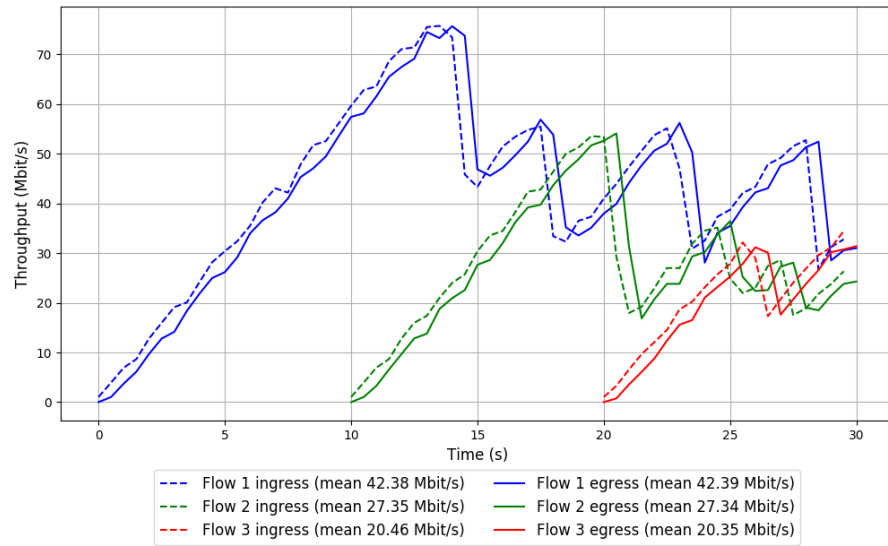
-- Flow 3:

Average throughput: 20.35 Mbit/s

95th percentile per-packet one-way delay: 40.081 ms

Loss rate: 1.17%

## Run 2: Report of LEDBAT — Data Link



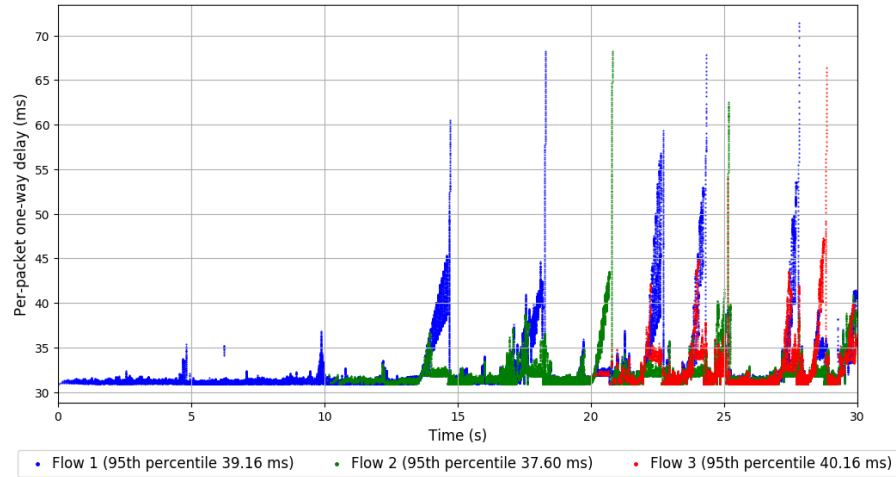
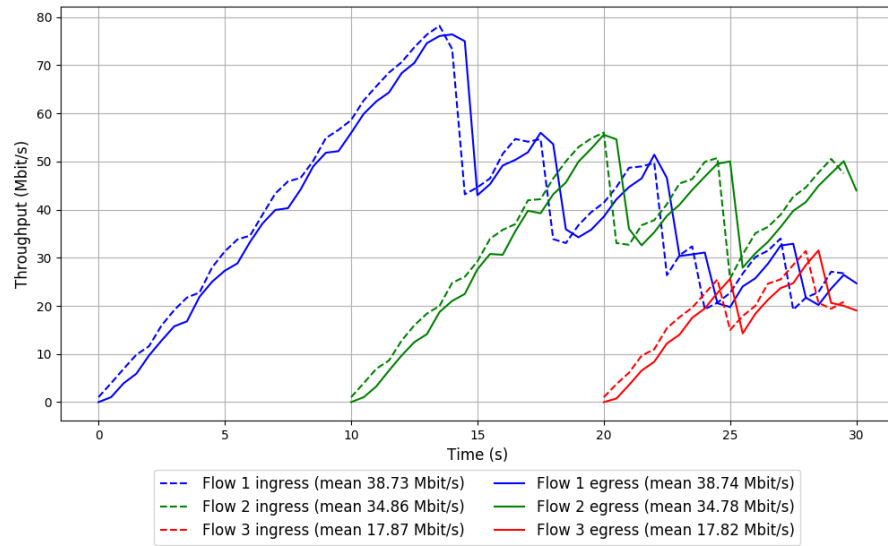


Run 3: Statistics of LEDBAT

Start at: 2019-01-22 03:55:29  
End at: 2019-01-22 03:55:59  
Local clock offset: 0.32 ms  
Remote clock offset: -0.425 ms

# Below is generated by plot.py at 2019-01-22 05:16:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 67.78 Mbit/s  
95th percentile per-packet one-way delay: 38.516 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 38.74 Mbit/s  
95th percentile per-packet one-way delay: 39.163 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 34.78 Mbit/s  
95th percentile per-packet one-way delay: 37.602 ms  
Loss rate: 0.55%  
-- Flow 3:  
Average throughput: 17.82 Mbit/s  
95th percentile per-packet one-way delay: 40.162 ms  
Loss rate: 0.94%

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



Run 4: Statistics of LEDBAT

Start at: 2019-01-22 04:26:14

End at: 2019-01-22 04:26:44

Local clock offset: 0.18 ms

Remote clock offset: 0.409 ms

# Below is generated by plot.py at 2019-01-22 05:17:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 68.17 Mbit/s

95th percentile per-packet one-way delay: 39.595 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 40.26 Mbit/s

95th percentile per-packet one-way delay: 39.965 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 31.18 Mbit/s

95th percentile per-packet one-way delay: 39.725 ms

Loss rate: 0.38%

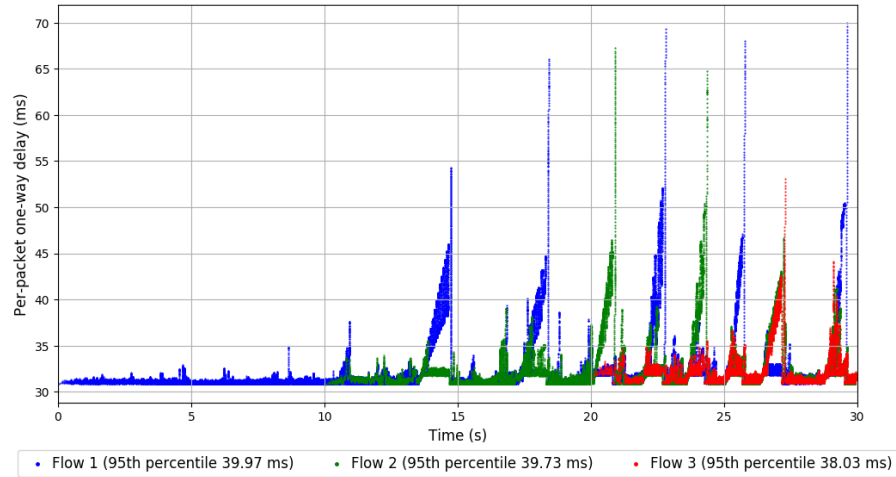
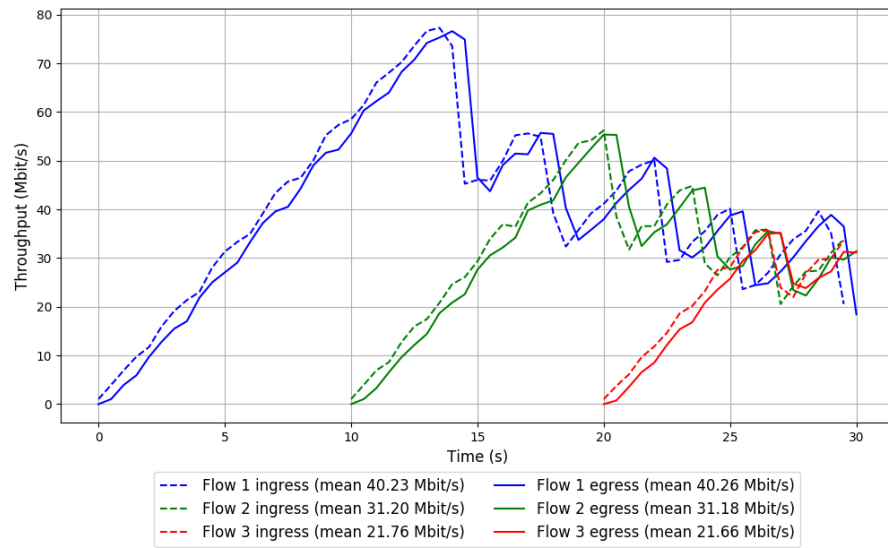
-- Flow 3:

Average throughput: 21.66 Mbit/s

95th percentile per-packet one-way delay: 38.031 ms

Loss rate: 1.07%

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



Run 5: Statistics of LEDBAT

Start at: 2019-01-22 04:55:58

End at: 2019-01-22 04:56:28

Local clock offset: 0.173 ms

Remote clock offset: 0.37 ms

# Below is generated by plot.py at 2019-01-22 05:17:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 67.52 Mbit/s

95th percentile per-packet one-way delay: 39.471 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 41.59 Mbit/s

95th percentile per-packet one-way delay: 38.749 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 28.95 Mbit/s

95th percentile per-packet one-way delay: 41.334 ms

Loss rate: 0.26%

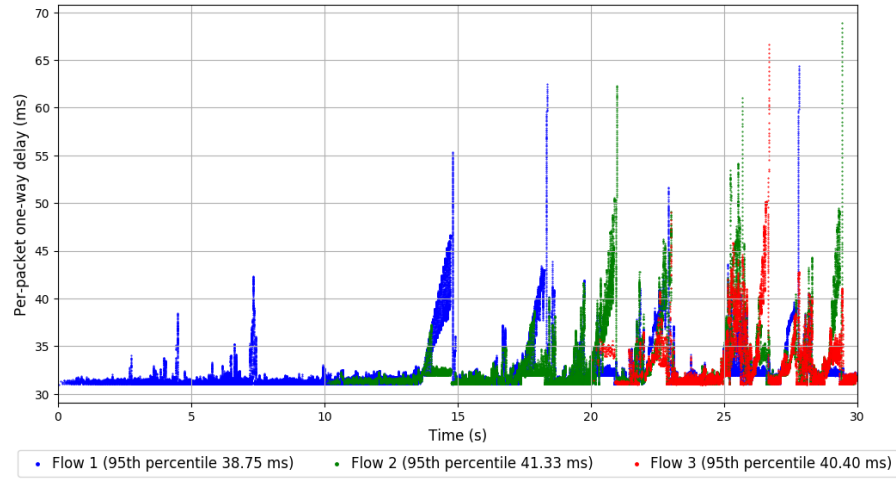
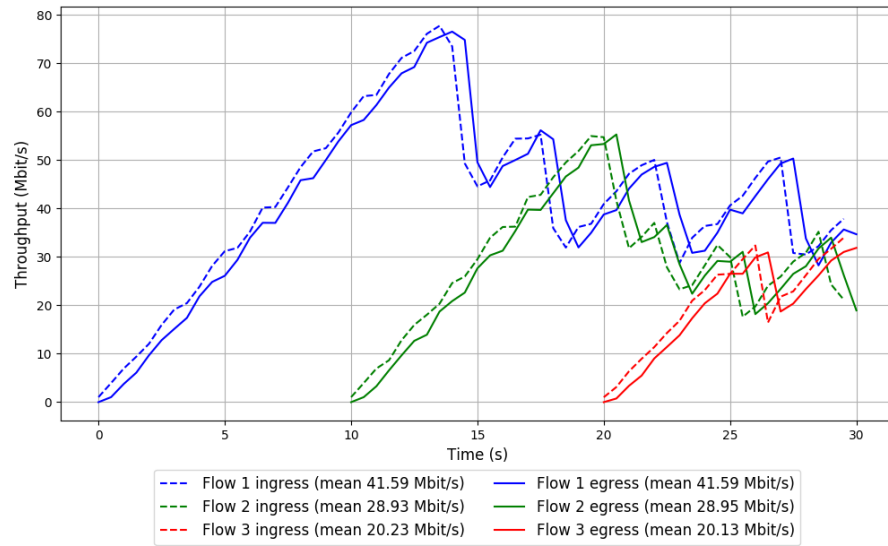
-- Flow 3:

Average throughput: 20.13 Mbit/s

95th percentile per-packet one-way delay: 40.395 ms

Loss rate: 1.17%

# Run 5: Report of LEDBAT — Data Link

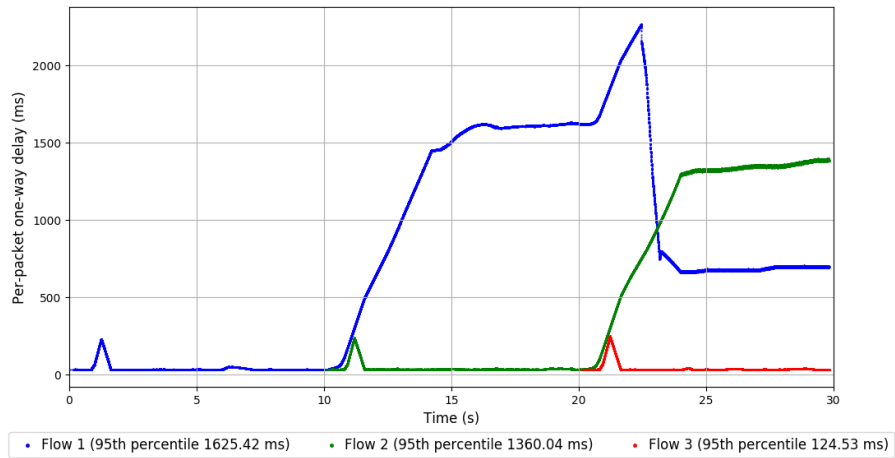
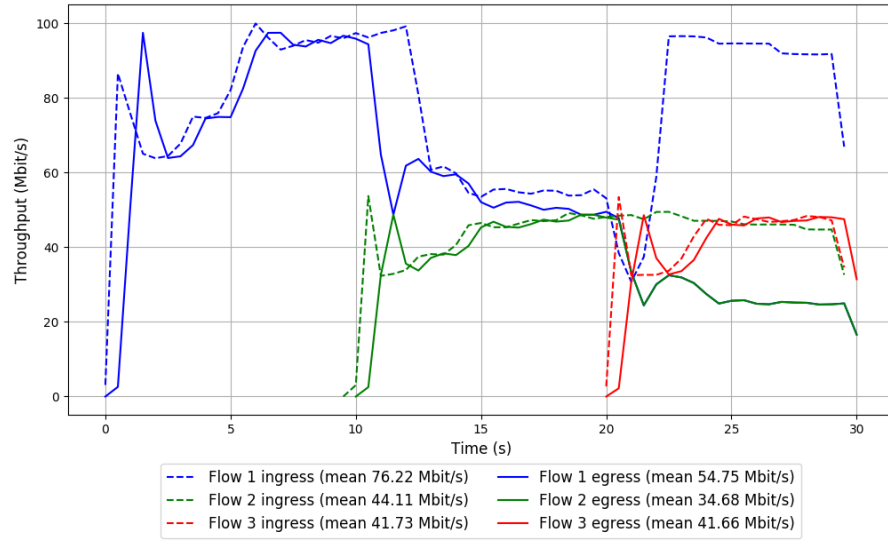


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-22 02:52:22
End at: 2019-01-22 02:52:52
Local clock offset: -3.571 ms
Remote clock offset: -4.952 ms

# Below is generated by plot.py at 2019-01-22 05:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.48 Mbit/s
95th percentile per-packet one-way delay: 1619.331 ms
Loss rate: 23.50%
-- Flow 1:
Average throughput: 54.75 Mbit/s
95th percentile per-packet one-way delay: 1625.419 ms
Loss rate: 28.32%
-- Flow 2:
Average throughput: 34.68 Mbit/s
95th percentile per-packet one-way delay: 1360.044 ms
Loss rate: 21.63%
-- Flow 3:
Average throughput: 41.66 Mbit/s
95th percentile per-packet one-way delay: 124.529 ms
Loss rate: 0.81%
```

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



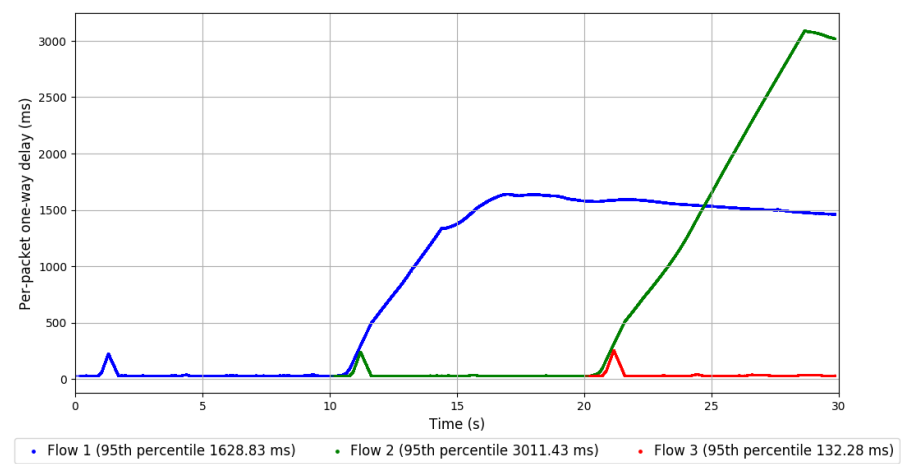
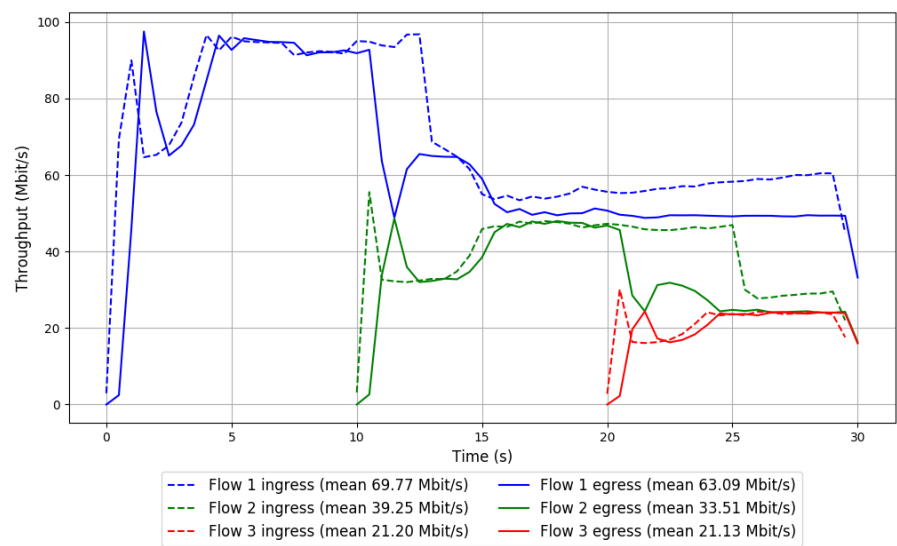


Run 2: Statistics of PCC-Allegro

Start at: 2019-01-22 03:23:13  
End at: 2019-01-22 03:23:43  
Local clock offset: -1.322 ms  
Remote clock offset: -1.907 ms

# Below is generated by plot.py at 2019-01-22 05:17:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.30 Mbit/s  
95th percentile per-packet one-way delay: 1639.150 ms  
Loss rate: 10.46%  
-- Flow 1:  
Average throughput: 63.09 Mbit/s  
95th percentile per-packet one-way delay: 1628.832 ms  
Loss rate: 9.76%  
-- Flow 2:  
Average throughput: 33.51 Mbit/s  
95th percentile per-packet one-way delay: 3011.434 ms  
Loss rate: 14.87%  
-- Flow 3:  
Average throughput: 21.13 Mbit/s  
95th percentile per-packet one-way delay: 132.282 ms  
Loss rate: 0.96%

Run 2: Report of PCC-Allegro — Data Link

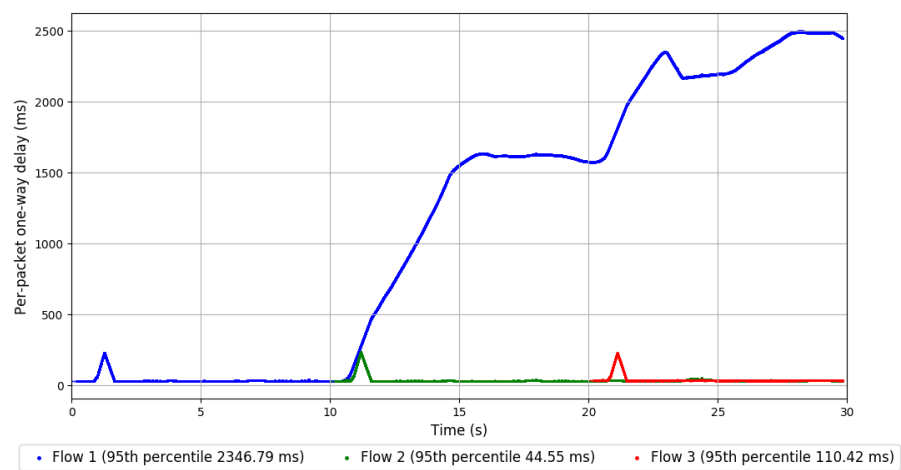
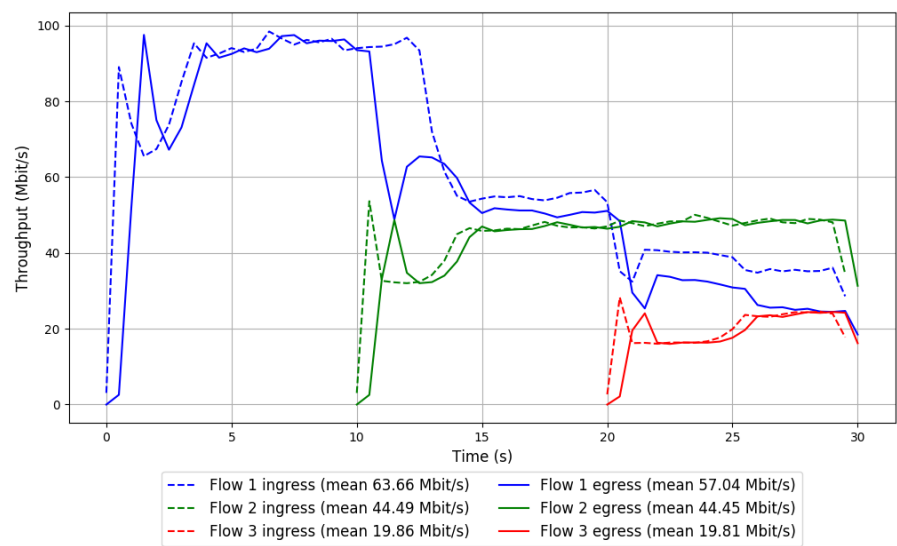


Run 3: Statistics of PCC-Allegro

Start at: 2019-01-22 03:59:15  
End at: 2019-01-22 03:59:45  
Local clock offset: 0.288 ms  
Remote clock offset: -0.386 ms

# Below is generated by plot.py at 2019-01-22 05:17:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.08 Mbit/s  
95th percentile per-packet one-way delay: 2223.141 ms  
Loss rate: 6.93%  
-- Flow 1:  
Average throughput: 57.04 Mbit/s  
95th percentile per-packet one-way delay: 2346.794 ms  
Loss rate: 10.58%  
-- Flow 2:  
Average throughput: 44.45 Mbit/s  
95th percentile per-packet one-way delay: 44.555 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 19.81 Mbit/s  
95th percentile per-packet one-way delay: 110.424 ms  
Loss rate: 0.89%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-22 04:29:57

End at: 2019-01-22 04:30:27

Local clock offset: 0.184 ms

Remote clock offset: 0.255 ms

# Below is generated by plot.py at 2019-01-22 05:17:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.99 Mbit/s

95th percentile per-packet one-way delay: 1642.030 ms

Loss rate: 23.04%

-- Flow 1:

Average throughput: 55.49 Mbit/s

95th percentile per-packet one-way delay: 1657.700 ms

Loss rate: 27.14%

-- Flow 2:

Average throughput: 34.96 Mbit/s

95th percentile per-packet one-way delay: 1289.106 ms

Loss rate: 22.52%

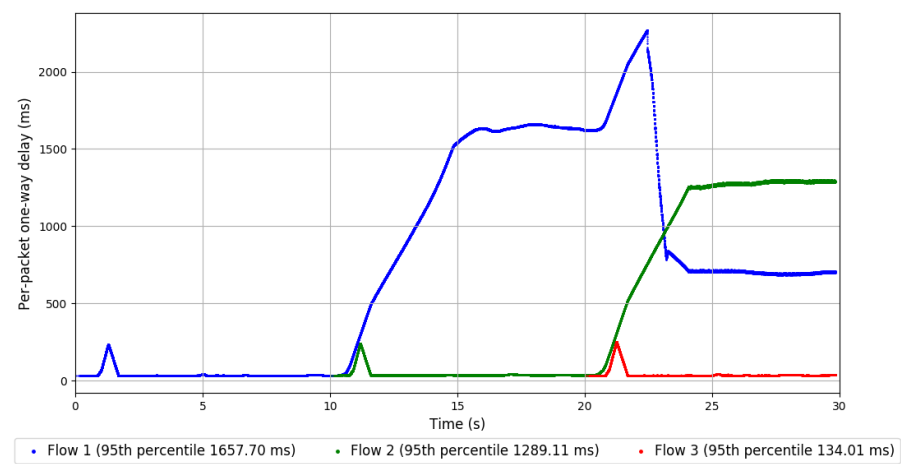
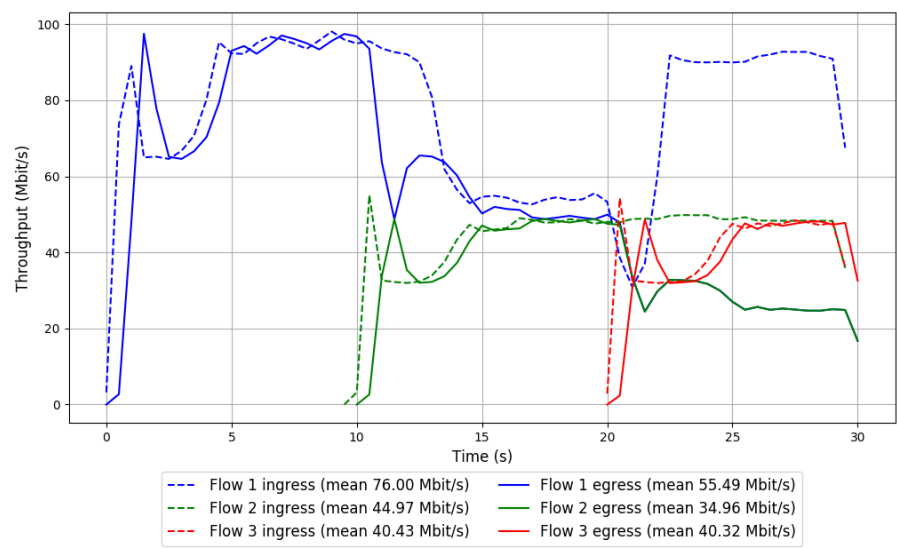
-- Flow 3:

Average throughput: 40.32 Mbit/s

95th percentile per-packet one-way delay: 134.009 ms

Loss rate: 0.91%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-22 04:59:44

End at: 2019-01-22 05:00:14

Local clock offset: 0.176 ms

Remote clock offset: 0.337 ms

# Below is generated by plot.py at 2019-01-22 05:17:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.12 Mbit/s

95th percentile per-packet one-way delay: 1658.879 ms

Loss rate: 10.47%

-- Flow 1:

Average throughput: 62.51 Mbit/s

95th percentile per-packet one-way delay: 1636.164 ms

Loss rate: 9.81%

-- Flow 2:

Average throughput: 34.49 Mbit/s

95th percentile per-packet one-way delay: 2951.993 ms

Loss rate: 14.60%

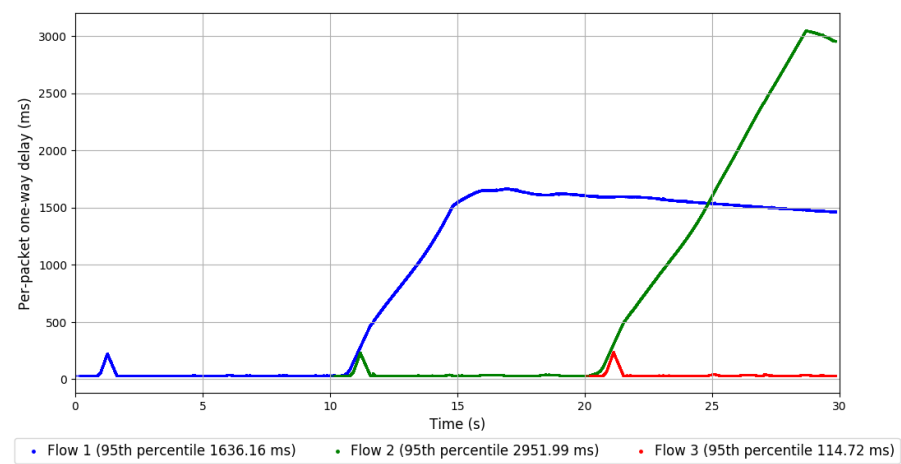
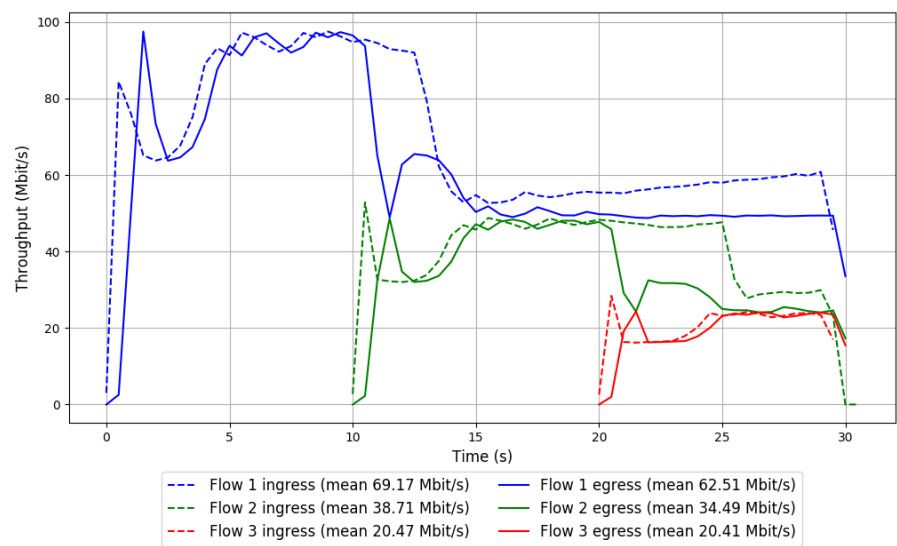
-- Flow 3:

Average throughput: 20.41 Mbit/s

95th percentile per-packet one-way delay: 114.718 ms

Loss rate: 0.95%

Run 5: Report of PCC-Allegro — Data Link



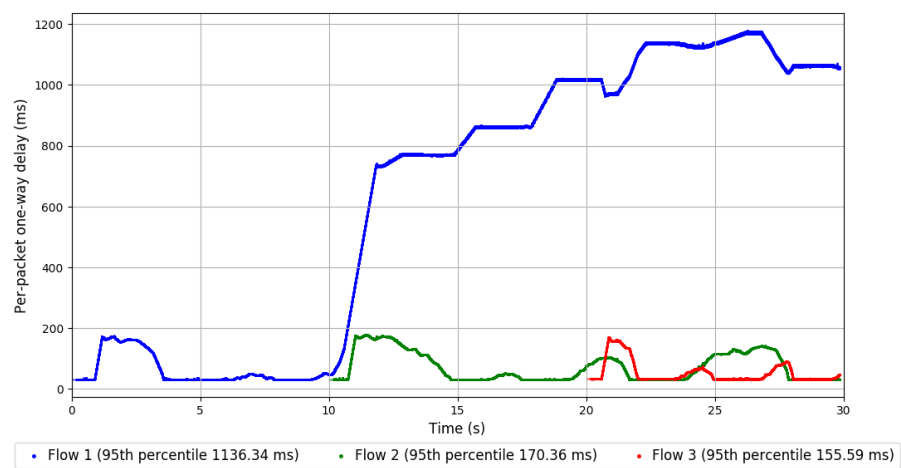
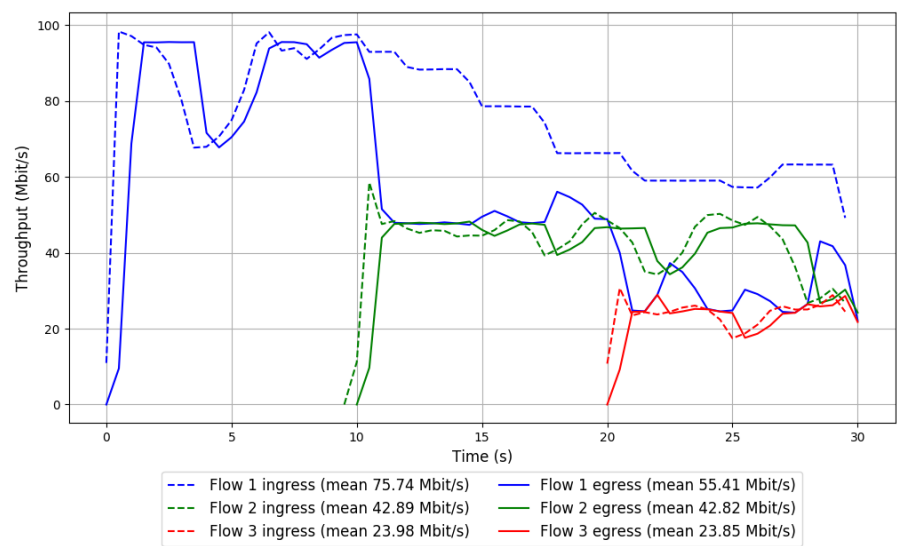


```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-22 02:28:26
End at: 2019-01-22 02:28:56
Local clock offset: -2.827 ms
Remote clock offset: -5.649 ms

# Below is generated by plot.py at 2019-01-22 05:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.72 Mbit/s
95th percentile per-packet one-way delay: 1114.991 ms
Loss rate: 18.43%
-- Flow 1:
Average throughput: 55.41 Mbit/s
95th percentile per-packet one-way delay: 1136.343 ms
Loss rate: 27.00%
-- Flow 2:
Average throughput: 42.82 Mbit/s
95th percentile per-packet one-way delay: 170.364 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 23.85 Mbit/s
95th percentile per-packet one-way delay: 155.589 ms
Loss rate: 1.18%
```

Run 1: Report of PCC-Expr — Data Link

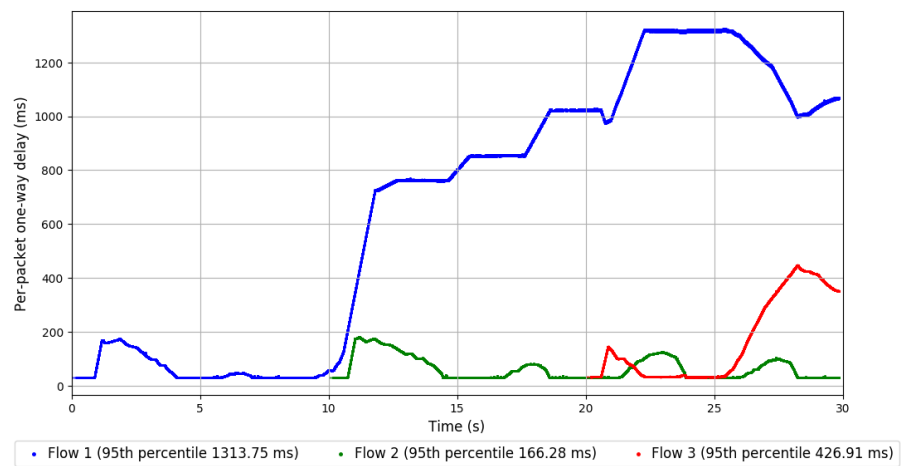
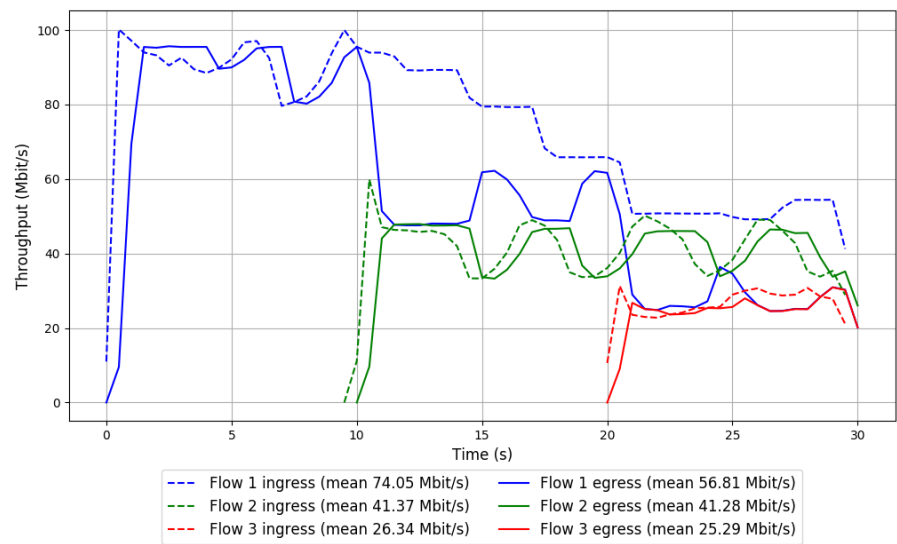


Run 2: Statistics of PCC-Expr

Start at: 2019-01-22 02:59:30  
End at: 2019-01-22 03:00:00  
Local clock offset: -3.363 ms  
Remote clock offset: -4.223 ms

# Below is generated by plot.py at 2019-01-22 05:18:59  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.55 Mbit/s  
95th percentile per-packet one-way delay: 1182.263 ms  
Loss rate: 16.24%  
-- Flow 1:  
Average throughput: 56.81 Mbit/s  
95th percentile per-packet one-way delay: 1313.748 ms  
Loss rate: 23.44%  
-- Flow 2:  
Average throughput: 41.28 Mbit/s  
95th percentile per-packet one-way delay: 166.277 ms  
Loss rate: 0.54%  
-- Flow 3:  
Average throughput: 25.29 Mbit/s  
95th percentile per-packet one-way delay: 426.910 ms  
Loss rate: 4.59%

Run 2: Report of PCC-Expr — Data Link

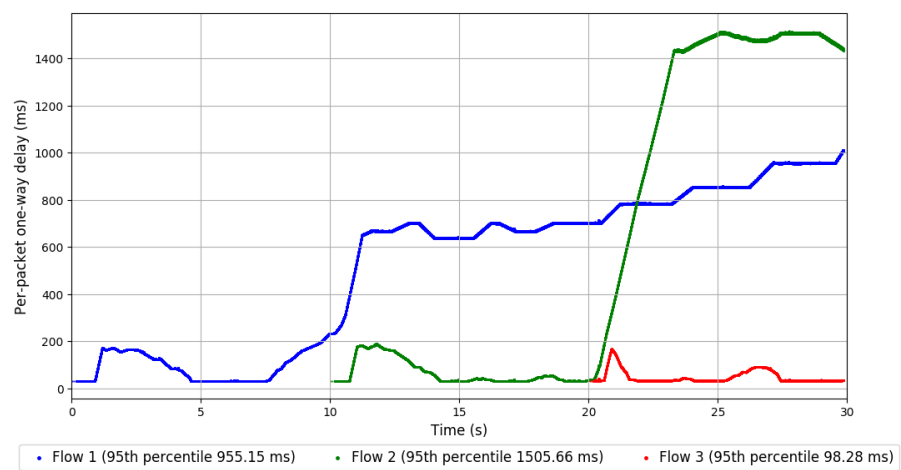
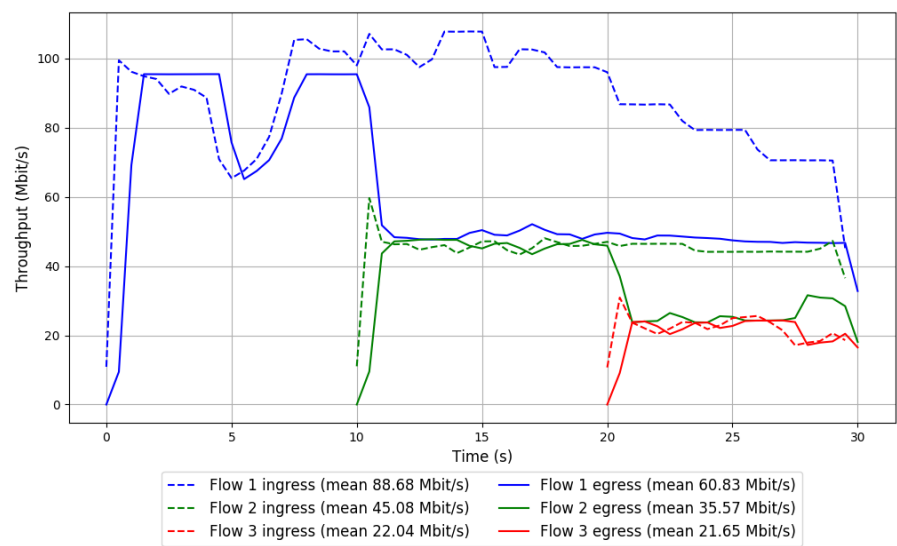


Run 3: Statistics of PCC-Expr

Start at: 2019-01-22 03:32:00  
End at: 2019-01-22 03:32:30  
Local clock offset: -0.167 ms  
Remote clock offset: -1.442 ms

# Below is generated by plot.py at 2019-01-22 05:19:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.60 Mbit/s  
95th percentile per-packet one-way delay: 1461.013 ms  
Loss rate: 27.43%  
-- Flow 1:  
Average throughput: 60.83 Mbit/s  
95th percentile per-packet one-way delay: 955.146 ms  
Loss rate: 31.55%  
-- Flow 2:  
Average throughput: 35.57 Mbit/s  
95th percentile per-packet one-way delay: 1505.665 ms  
Loss rate: 21.35%  
-- Flow 3:  
Average throughput: 21.65 Mbit/s  
95th percentile per-packet one-way delay: 98.276 ms  
Loss rate: 2.44%

Run 3: Report of PCC-Expr — Data Link

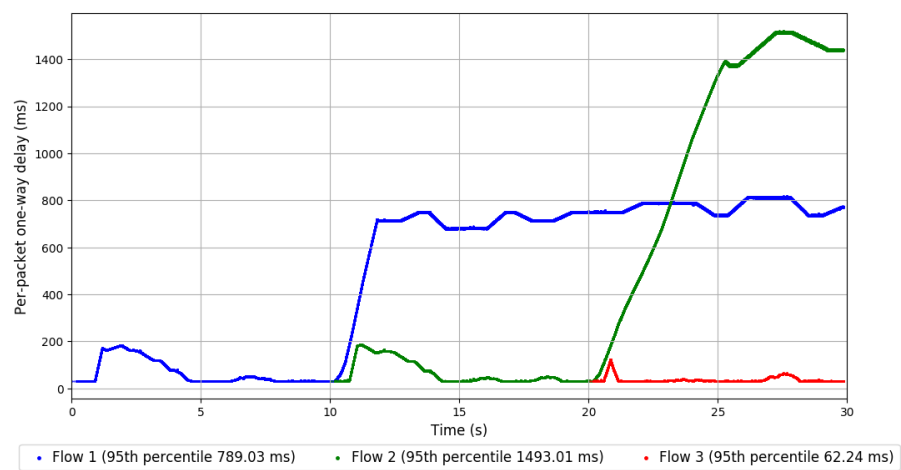
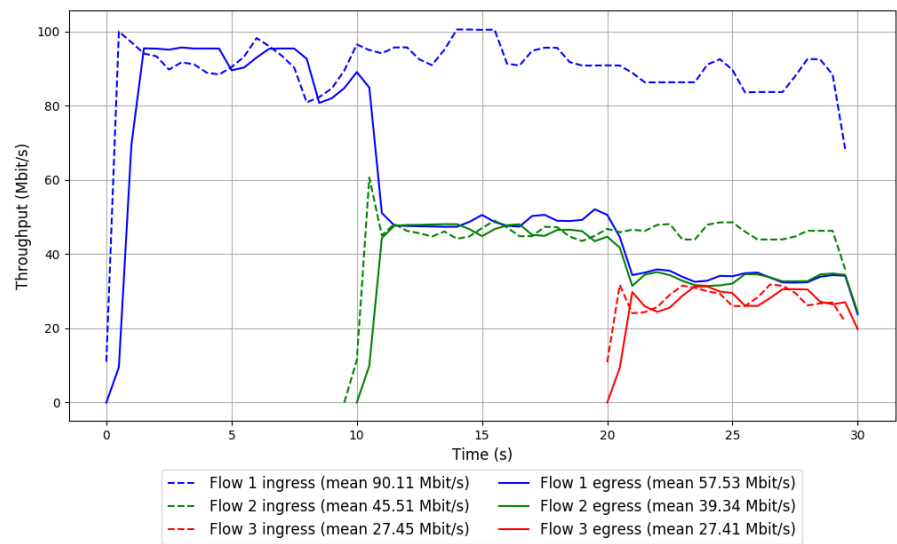


Run 4: Statistics of PCC-Expr

Start at: 2019-01-22 04:06:22  
End at: 2019-01-22 04:06:52  
Local clock offset: 0.335 ms  
Remote clock offset: -0.126 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.71 Mbit/s  
95th percentile per-packet one-way delay: 1377.390 ms  
Loss rate: 28.55%  
-- Flow 1:  
Average throughput: 57.53 Mbit/s  
95th percentile per-packet one-way delay: 789.028 ms  
Loss rate: 36.30%  
-- Flow 2:  
Average throughput: 39.34 Mbit/s  
95th percentile per-packet one-way delay: 1493.012 ms  
Loss rate: 13.84%  
-- Flow 3:  
Average throughput: 27.41 Mbit/s  
95th percentile per-packet one-way delay: 62.242 ms  
Loss rate: 0.79%

Run 4: Report of PCC-Expr — Data Link





Run 5: Statistics of PCC-Expr

Start at: 2019-01-22 04:37:16

End at: 2019-01-22 04:37:46

Local clock offset: 0.187 ms

Remote clock offset: 0.53 ms

# Below is generated by plot.py at 2019-01-22 05:19:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.96 Mbit/s

95th percentile per-packet one-way delay: 1341.420 ms

Loss rate: 27.82%

-- Flow 1:

Average throughput: 57.26 Mbit/s

95th percentile per-packet one-way delay: 942.572 ms

Loss rate: 33.91%

-- Flow 2:

Average throughput: 36.86 Mbit/s

95th percentile per-packet one-way delay: 1396.553 ms

Loss rate: 18.61%

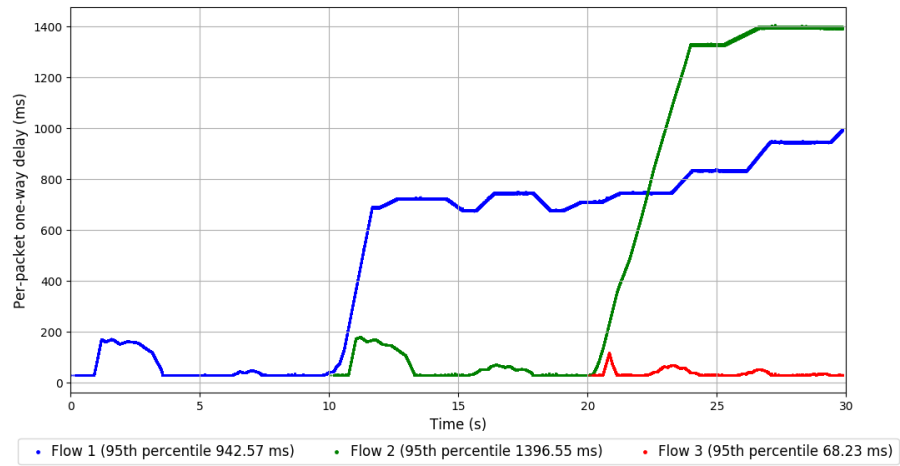
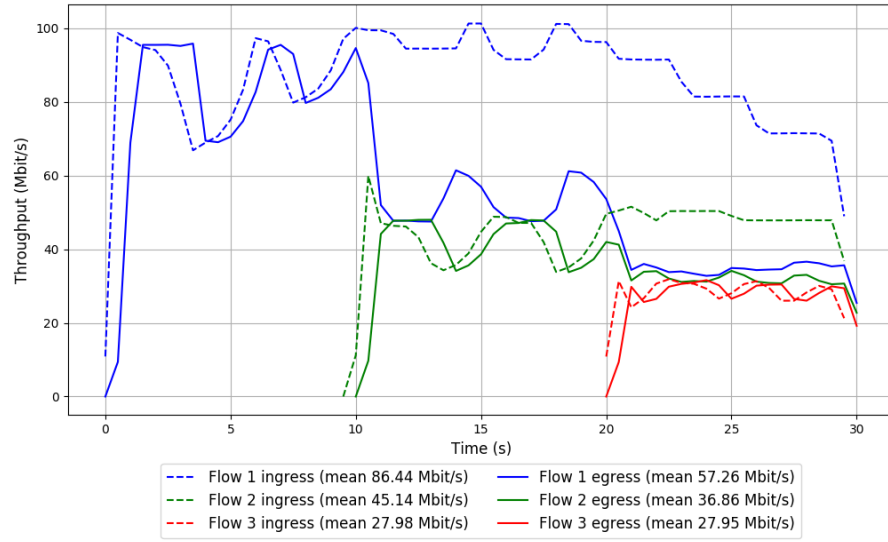
-- Flow 3:

Average throughput: 27.95 Mbit/s

95th percentile per-packet one-way delay: 68.230 ms

Loss rate: 0.73%

# Run 5: Report of PCC-Expr — Data Link

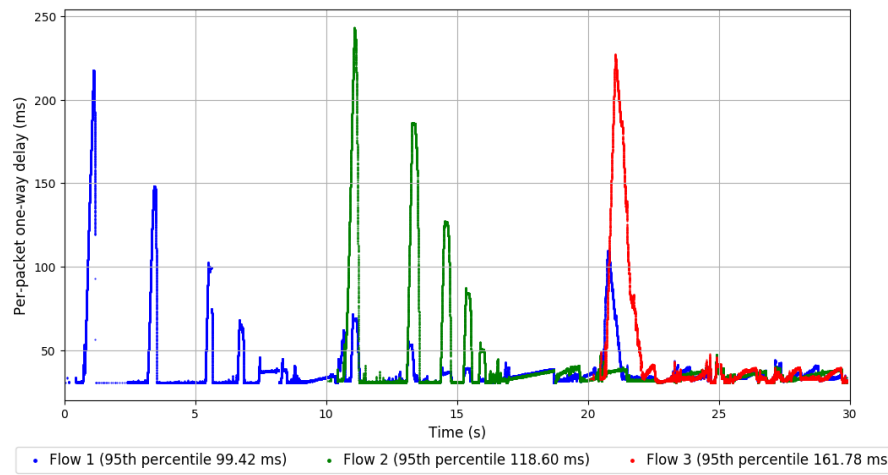
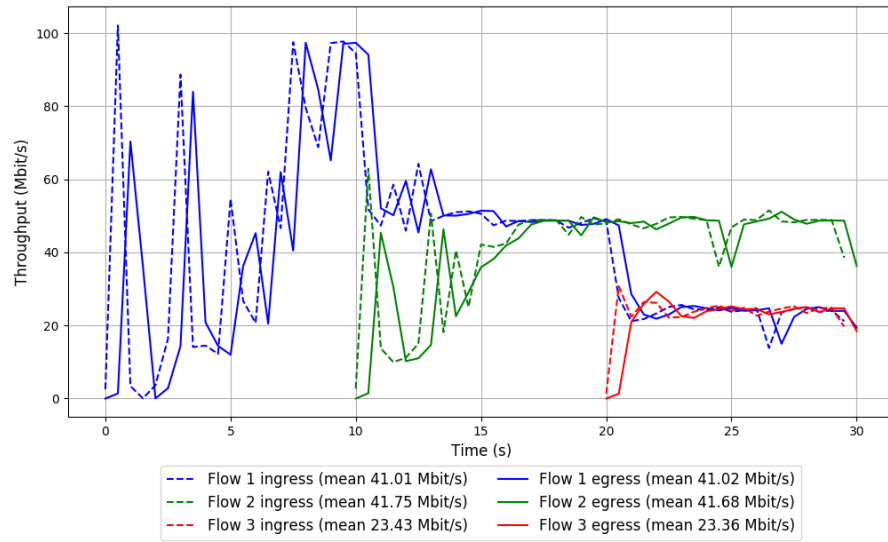


Run 1: Statistics of QUIC Cubic

Start at: 2019-01-22 02:37:12  
End at: 2019-01-22 02:37:42  
Local clock offset: -3.612 ms  
Remote clock offset: -5.564 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 76.42 Mbit/s  
95th percentile per-packet one-way delay: 105.335 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 41.02 Mbit/s  
95th percentile per-packet one-way delay: 99.418 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 41.68 Mbit/s  
95th percentile per-packet one-way delay: 118.604 ms  
Loss rate: 0.48%  
-- Flow 3:  
Average throughput: 23.36 Mbit/s  
95th percentile per-packet one-way delay: 161.777 ms  
Loss rate: 0.97%

# Run 1: Report of QUIC Cubic — Data Link

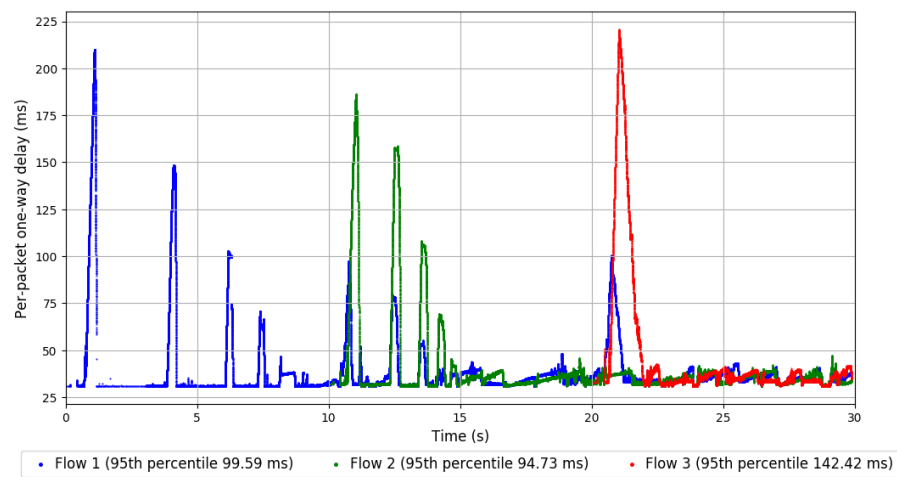
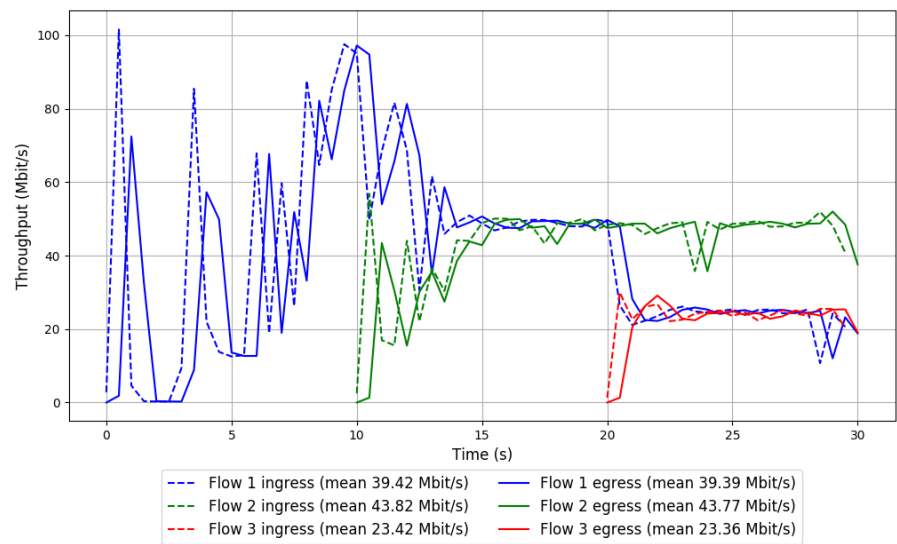


Run 2: Statistics of QUIC Cubic

Start at: 2019-01-22 03:08:37  
End at: 2019-01-22 03:09:07  
Local clock offset: -3.355 ms  
Remote clock offset: -3.006 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 76.19 Mbit/s  
95th percentile per-packet one-way delay: 99.823 ms  
Loss rate: 0.40%  
-- Flow 1:  
Average throughput: 39.39 Mbit/s  
95th percentile per-packet one-way delay: 99.588 ms  
Loss rate: 0.28%  
-- Flow 2:  
Average throughput: 43.77 Mbit/s  
95th percentile per-packet one-way delay: 94.735 ms  
Loss rate: 0.43%  
-- Flow 3:  
Average throughput: 23.36 Mbit/s  
95th percentile per-packet one-way delay: 142.418 ms  
Loss rate: 0.94%

Run 2: Report of QUIC Cubic — Data Link

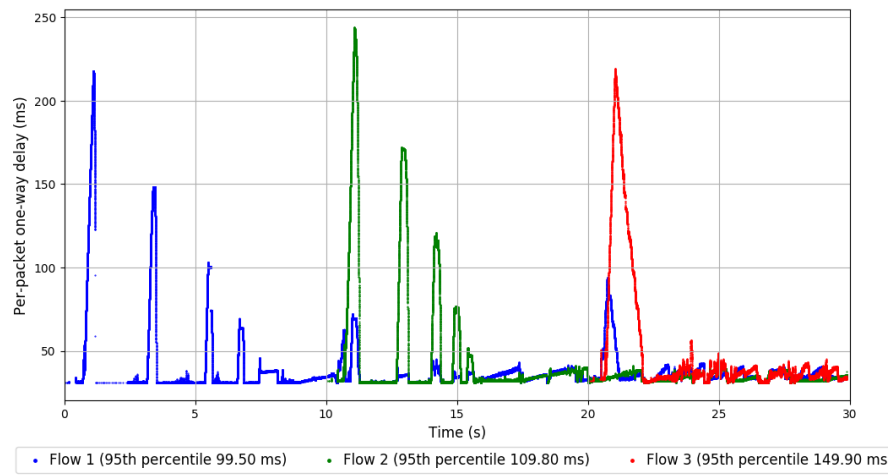
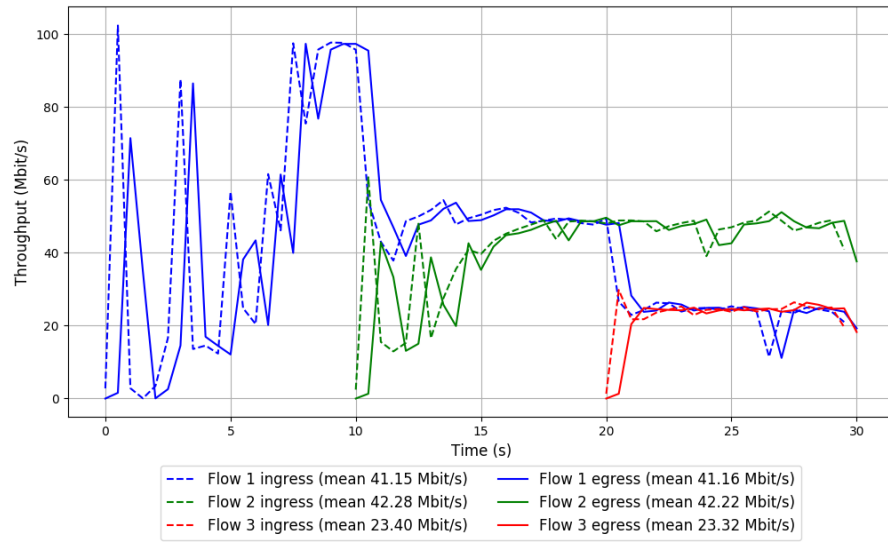


Run 3: Statistics of QUIC Cubic

Start at: 2019-01-22 03:43:53  
End at: 2019-01-22 03:44:23  
Local clock offset: 0.565 ms  
Remote clock offset: -1.089 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 76.89 Mbit/s  
95th percentile per-packet one-way delay: 103.155 ms  
Loss rate: 0.36%  
-- Flow 1:  
Average throughput: 41.16 Mbit/s  
95th percentile per-packet one-way delay: 99.504 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 42.22 Mbit/s  
95th percentile per-packet one-way delay: 109.795 ms  
Loss rate: 0.46%  
-- Flow 3:  
Average throughput: 23.32 Mbit/s  
95th percentile per-packet one-way delay: 149.900 ms  
Loss rate: 0.97%

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





Run 4: Statistics of QUIC Cubic

Start at: 2019-01-22 04:15:52

End at: 2019-01-22 04:16:22

Local clock offset: 0.461 ms

Remote clock offset: 0.224 ms

# Below is generated by plot.py at 2019-01-22 05:19:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.21 Mbit/s

95th percentile per-packet one-way delay: 97.371 ms

Loss rate: 0.36%

-- Flow 1:

Average throughput: 43.16 Mbit/s

95th percentile per-packet one-way delay: 91.509 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 36.18 Mbit/s

95th percentile per-packet one-way delay: 100.535 ms

Loss rate: 0.40%

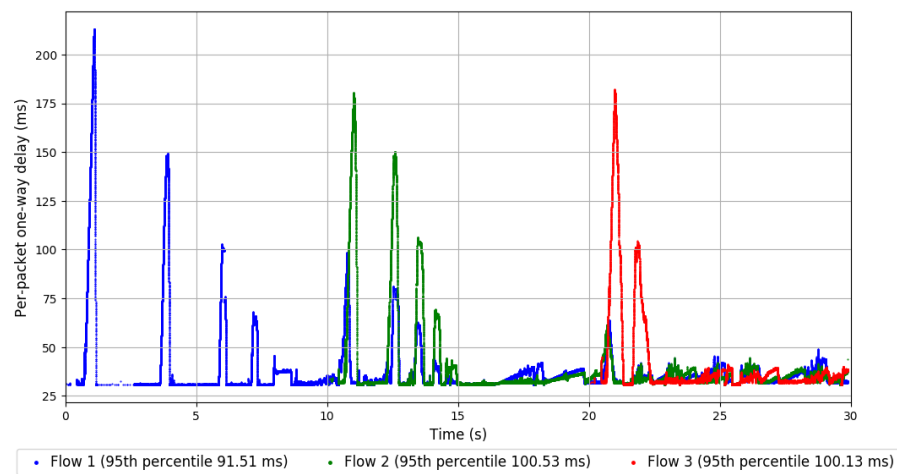
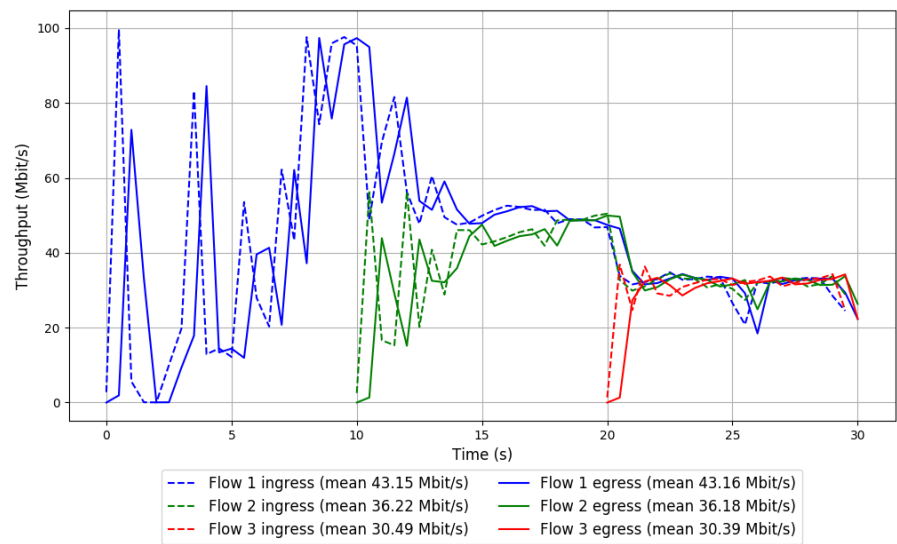
-- Flow 3:

Average throughput: 30.39 Mbit/s

95th percentile per-packet one-way delay: 100.127 ms

Loss rate: 0.95%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-22 04:45:59

End at: 2019-01-22 04:46:29

Local clock offset: 0.267 ms

Remote clock offset: 0.557 ms

# Below is generated by plot.py at 2019-01-22 05:19:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 73.27 Mbit/s

95th percentile per-packet one-way delay: 113.560 ms

Loss rate: 0.44%

-- Flow 1:

Average throughput: 40.53 Mbit/s

95th percentile per-packet one-way delay: 97.351 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 31.93 Mbit/s

95th percentile per-packet one-way delay: 125.365 ms

Loss rate: 0.38%

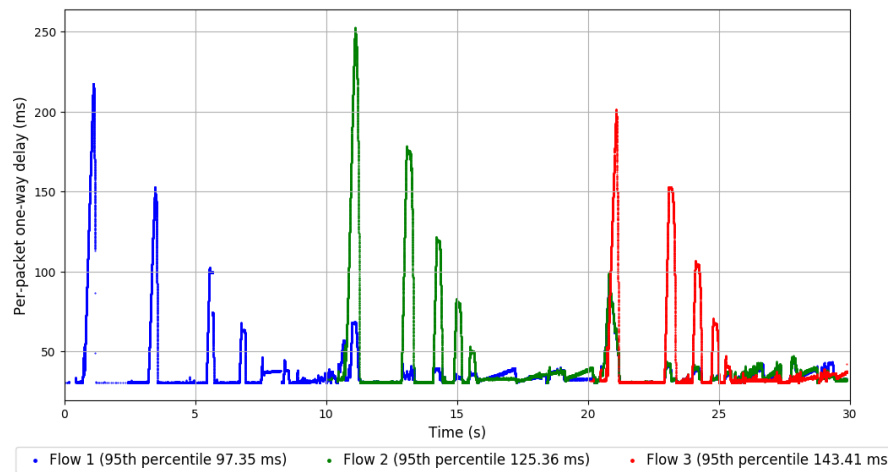
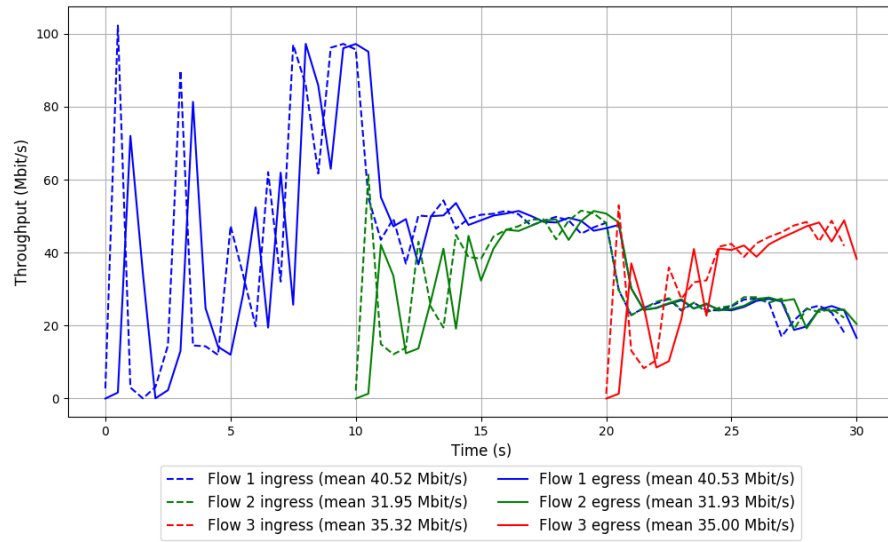
-- Flow 3:

Average throughput: 35.00 Mbit/s

95th percentile per-packet one-way delay: 143.405 ms

Loss rate: 1.51%

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

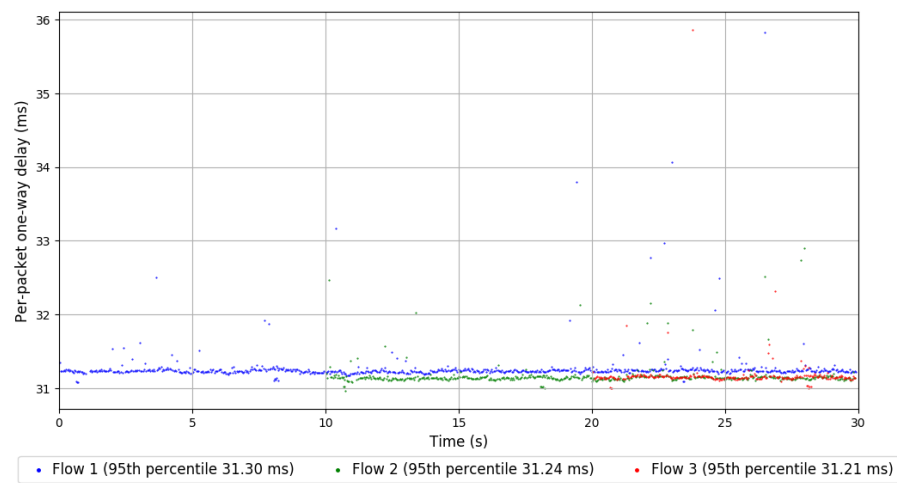
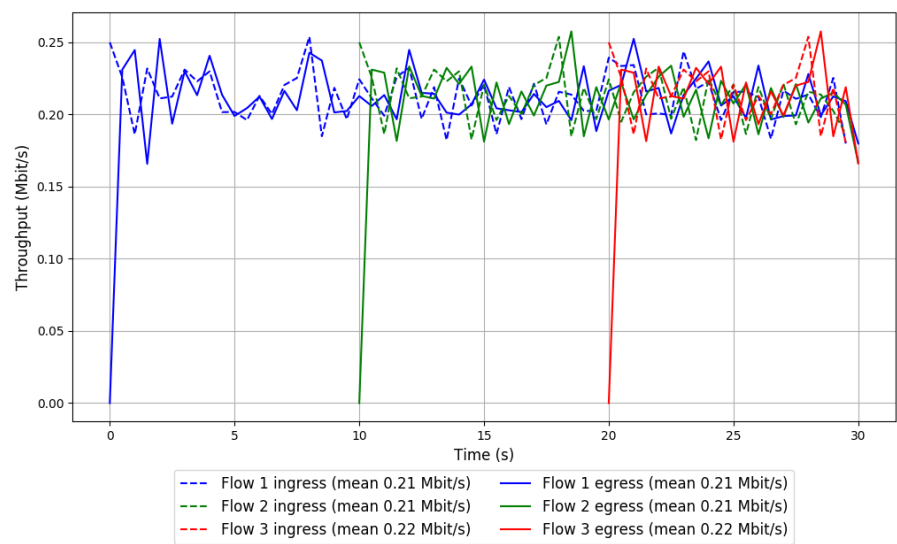


Run 1: Statistics of SReAM

Start at: 2019-01-22 02:50:04  
End at: 2019-01-22 02:50:34  
Local clock offset: -3.681 ms  
Remote clock offset: -5.297 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 31.287 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.301 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.239 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 31.209 ms  
Loss rate: 0.71%

Run 1: Report of SReAM — Data Link

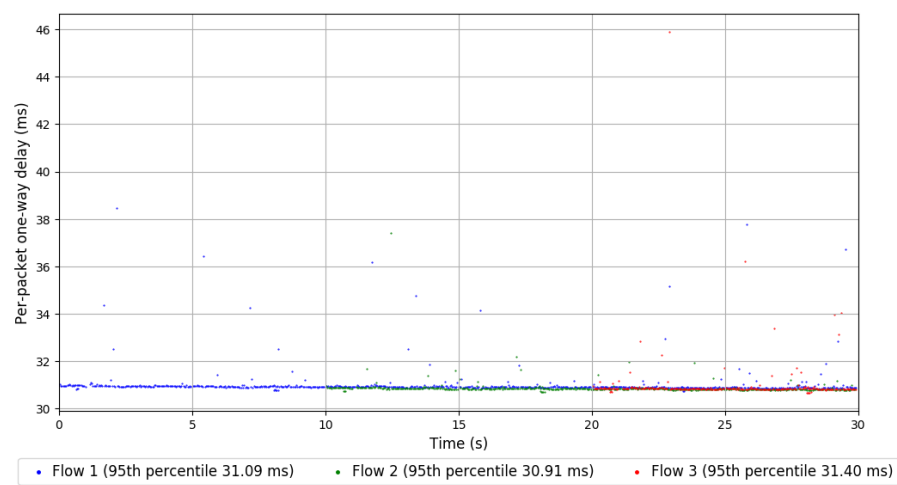
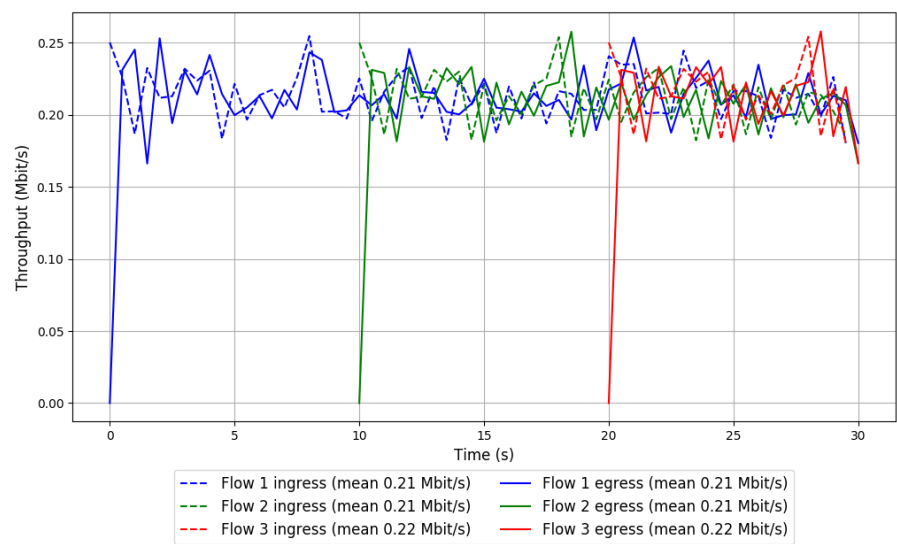


Run 2: Statistics of SReAM

Start at: 2019-01-22 03:20:54  
End at: 2019-01-22 03:21:24  
Local clock offset: -1.817 ms  
Remote clock offset: -2.044 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 31.049 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.090 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.914 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 31.400 ms  
Loss rate: 0.71%

Run 2: Report of SReAM — Data Link



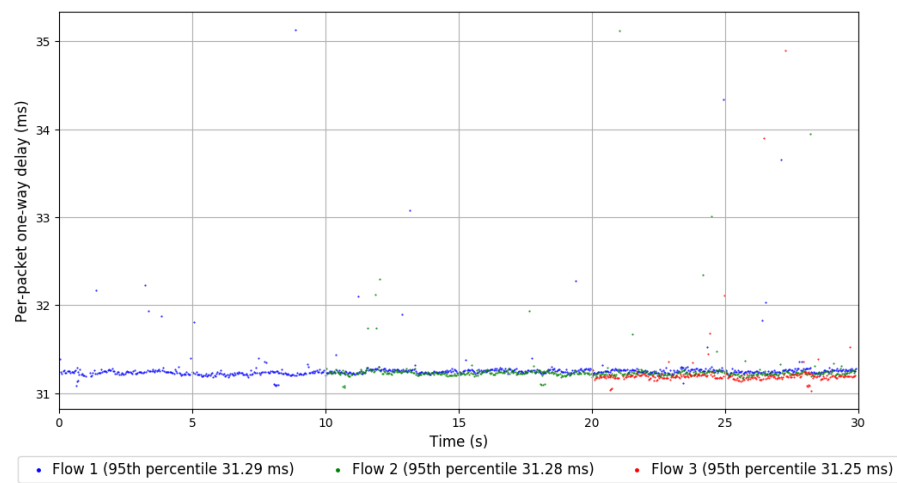
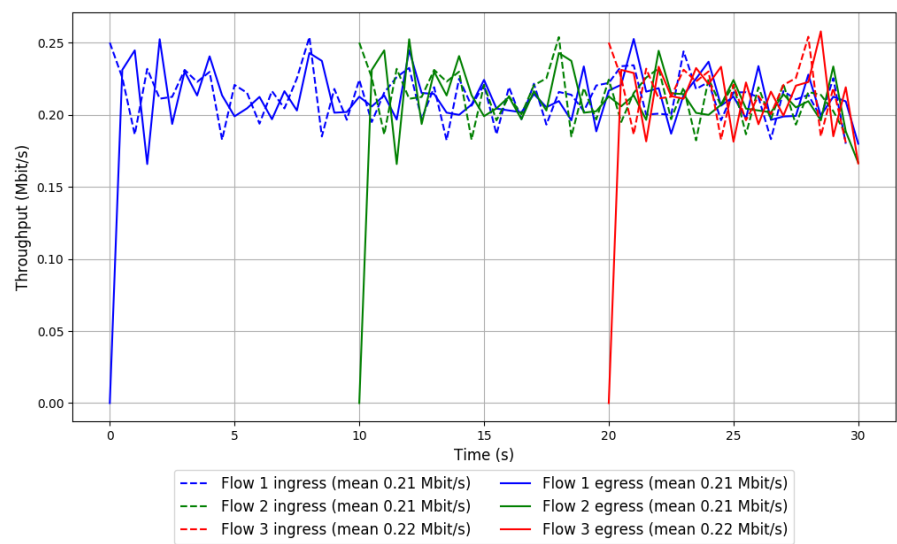


Run 3: Statistics of SReAM

Start at: 2019-01-22 03:56:56  
End at: 2019-01-22 03:57:26  
Local clock offset: 0.295 ms  
Remote clock offset: -0.665 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 31.287 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.290 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.277 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 31.246 ms  
Loss rate: 0.71%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2019-01-22 04:27:40

End at: 2019-01-22 04:28:10

Local clock offset: 0.178 ms

Remote clock offset: 0.267 ms

# Below is generated by plot.py at 2019-01-22 05:19:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 31.191 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.147 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.179 ms

Loss rate: 0.40%

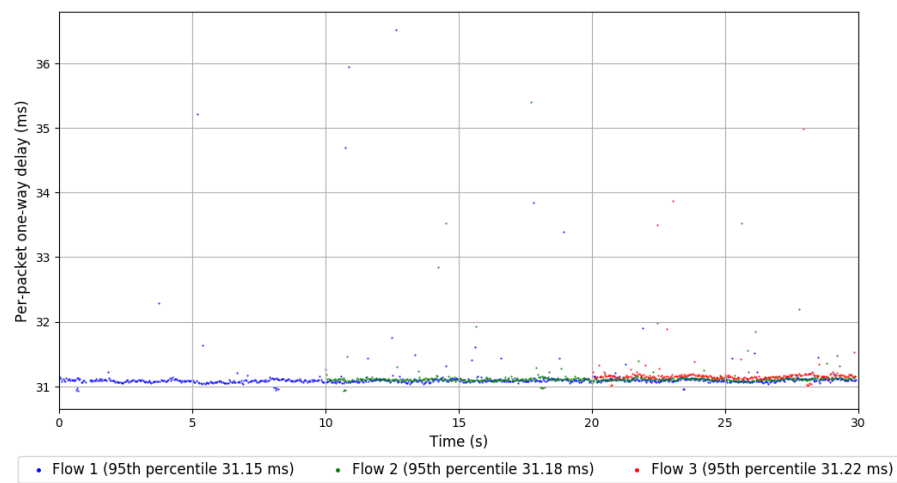
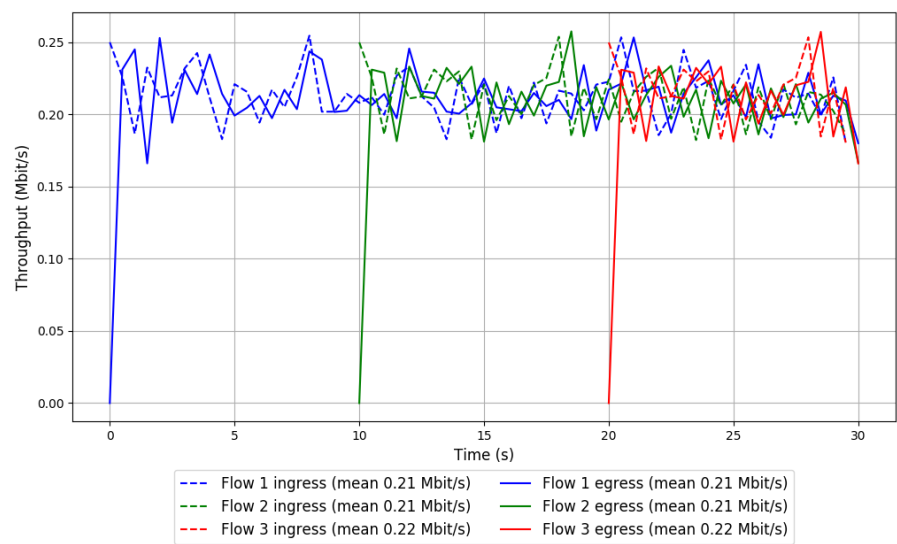
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 31.223 ms

Loss rate: 0.71%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-01-22 04:57:26

End at: 2019-01-22 04:57:56

Local clock offset: 0.188 ms

Remote clock offset: 0.526 ms

# Below is generated by plot.py at 2019-01-22 05:19:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 31.040 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.032 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 31.003 ms

Loss rate: 0.40%

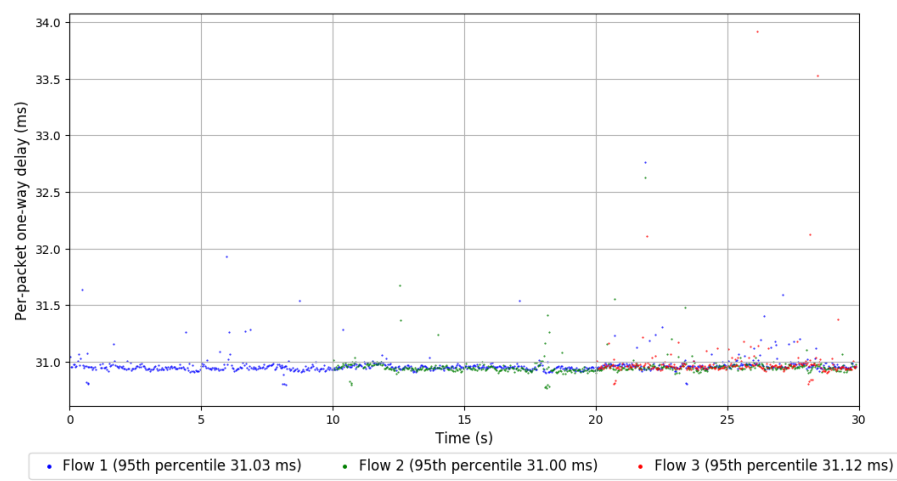
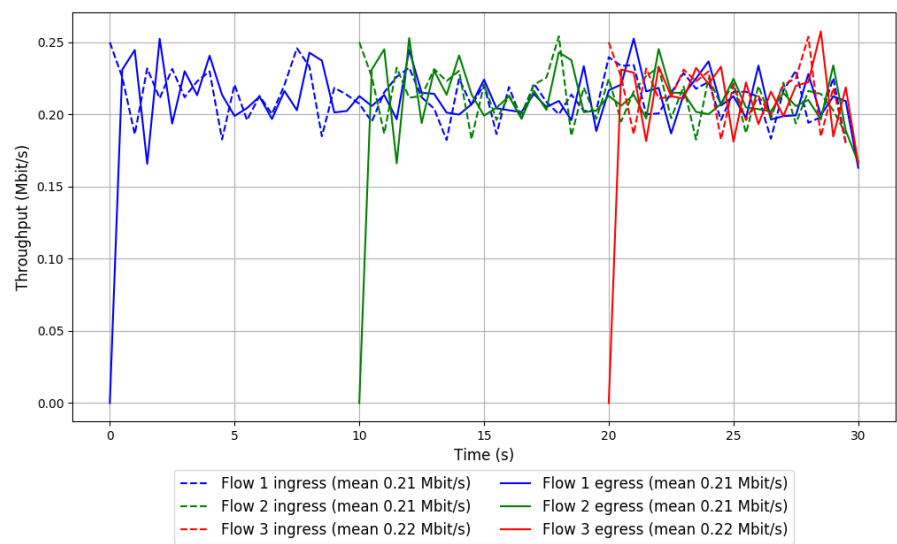
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 31.117 ms

Loss rate: 0.71%

Run 5: Report of SReAM — Data Link

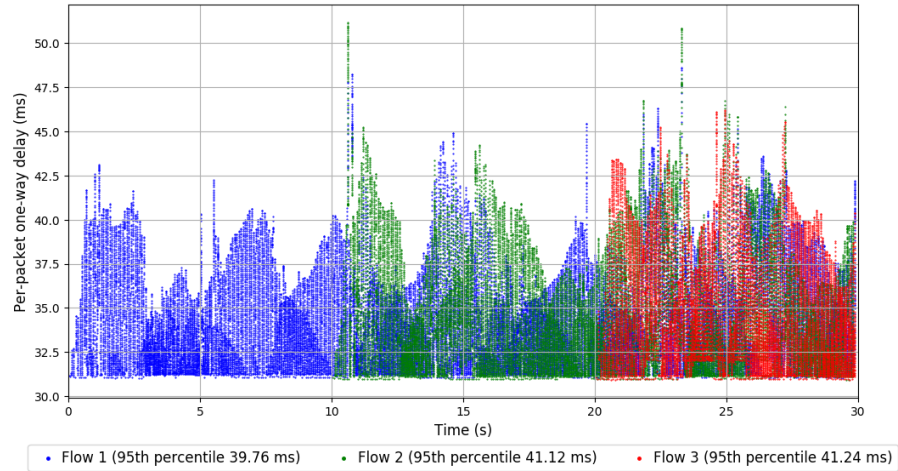
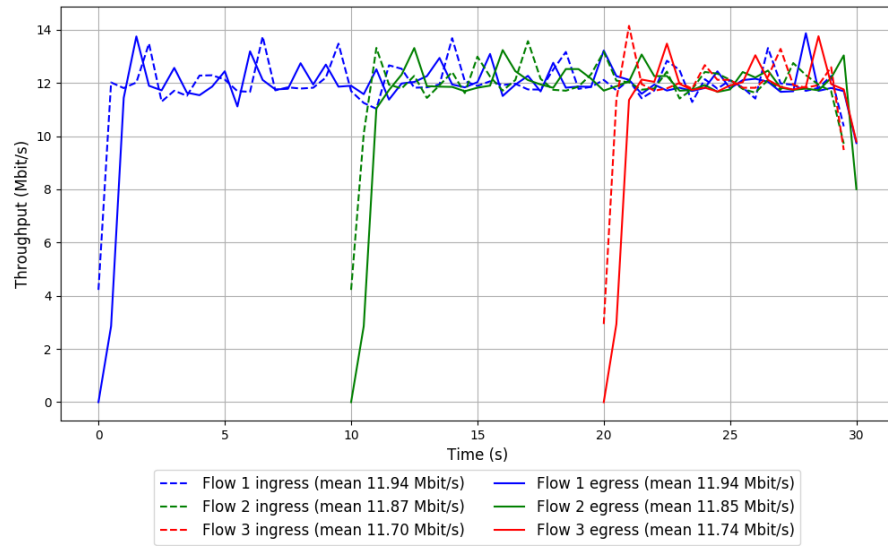


Run 1: Statistics of Sprout

Start at: 2019-01-22 02:45:22  
End at: 2019-01-22 02:45:52  
Local clock offset: -4.091 ms  
Remote clock offset: -5.588 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 23.68 Mbit/s  
95th percentile per-packet one-way delay: 40.550 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 11.94 Mbit/s  
95th percentile per-packet one-way delay: 39.759 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 11.85 Mbit/s  
95th percentile per-packet one-way delay: 41.117 ms  
Loss rate: 0.42%  
-- Flow 3:  
Average throughput: 11.74 Mbit/s  
95th percentile per-packet one-way delay: 41.238 ms  
Loss rate: 0.22%

# Run 1: Report of Sprout — Data Link



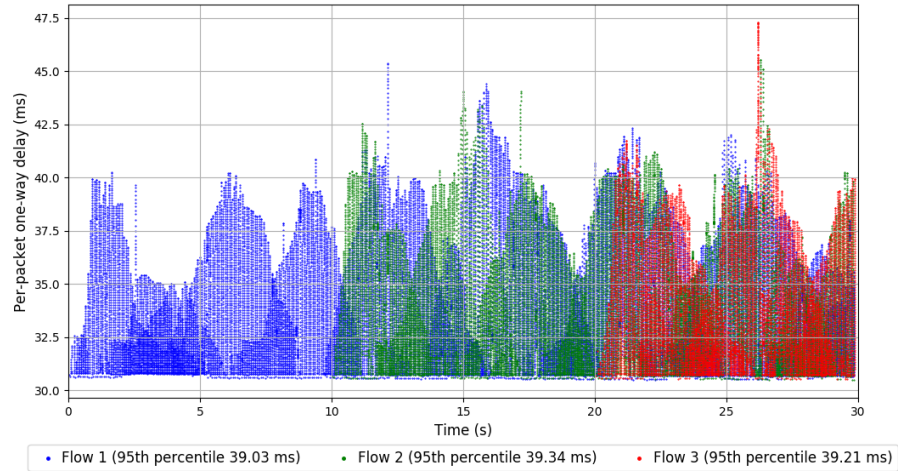
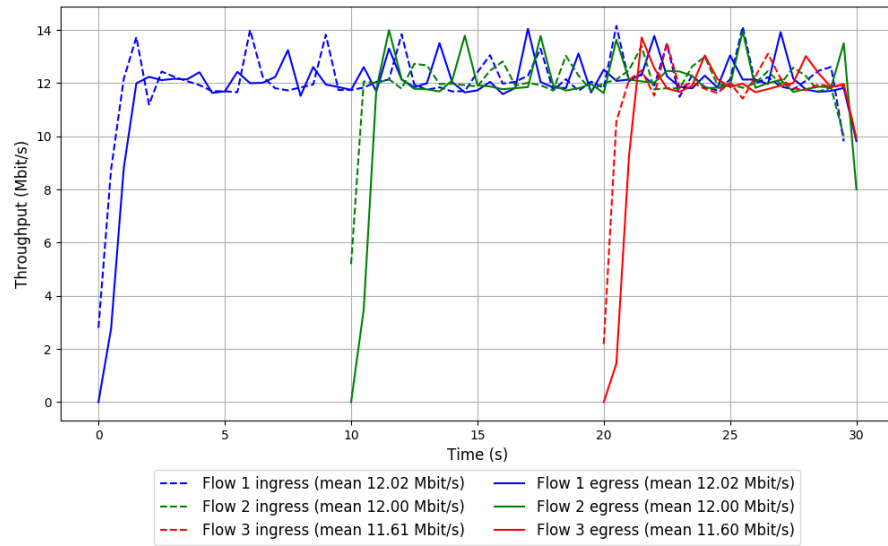


Run 2: Statistics of Sprout

Start at: 2019-01-22 03:16:39  
End at: 2019-01-22 03:17:09  
Local clock offset: -3.221 ms  
Remote clock offset: -2.299 ms

# Below is generated by plot.py at 2019-01-22 05:19:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 23.81 Mbit/s  
95th percentile per-packet one-way delay: 39.162 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 12.02 Mbit/s  
95th percentile per-packet one-way delay: 39.032 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 12.00 Mbit/s  
95th percentile per-packet one-way delay: 39.342 ms  
Loss rate: 0.42%  
-- Flow 3:  
Average throughput: 11.60 Mbit/s  
95th percentile per-packet one-way delay: 39.207 ms  
Loss rate: 0.86%

## Run 2: Report of Sprout — Data Link

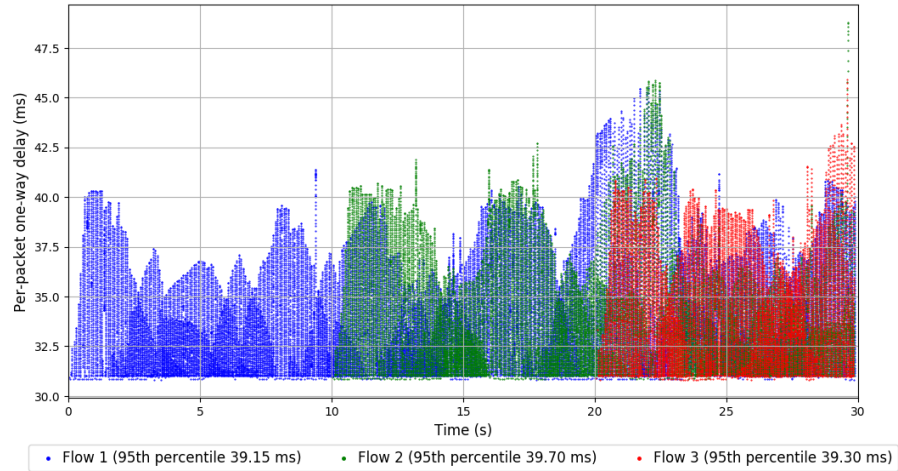
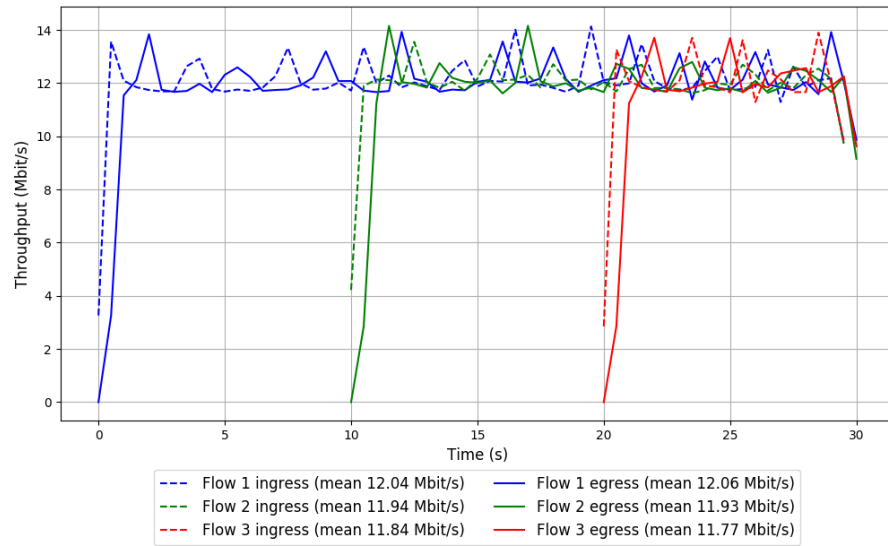


### Run 3: Statistics of Sprout

Start at: 2019-01-22 03:52:44  
End at: 2019-01-22 03:53:14  
Local clock offset: 0.355 ms  
Remote clock offset: -0.522 ms

```
# Below is generated by plot.py at 2019-01-22 05:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.85 Mbit/s
95th percentile per-packet one-way delay: 39.361 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 39.153 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 39.701 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 39.300 ms
Loss rate: 0.85%
```

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

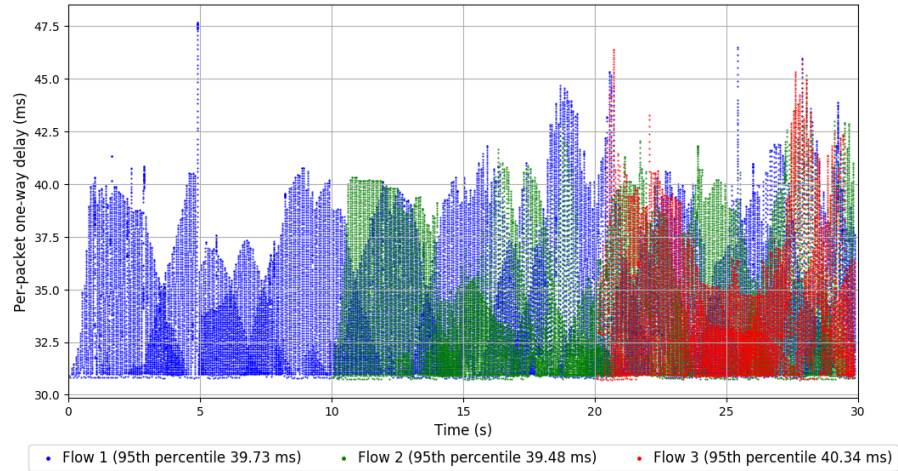
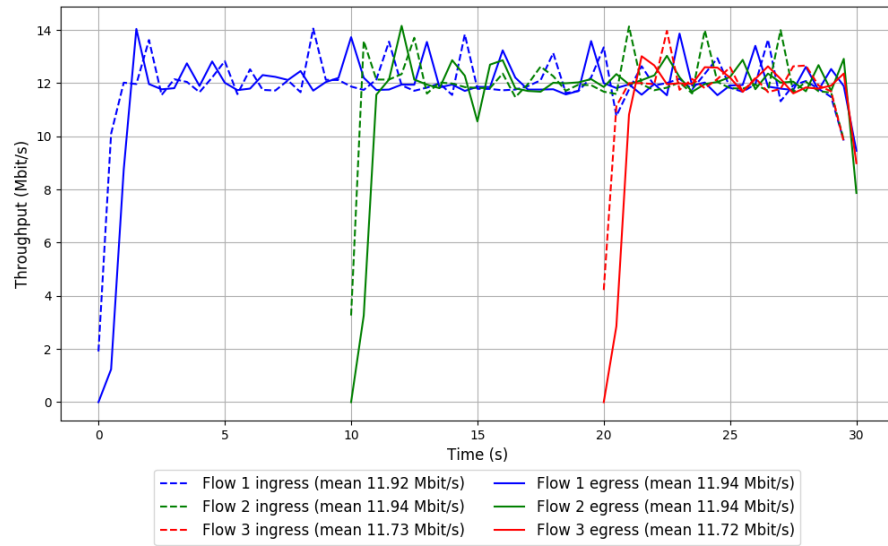


#### Run 4: Statistics of Sprout

Start at: 2019-01-22 04:23:30  
End at: 2019-01-22 04:24:00  
Local clock offset: 0.221 ms  
Remote clock offset: 0.372 ms

```
# Below is generated by plot.py at 2019-01-22 05:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.72 Mbit/s
95th percentile per-packet one-way delay: 39.698 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 11.94 Mbit/s
95th percentile per-packet one-way delay: 39.732 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 11.94 Mbit/s
95th percentile per-packet one-way delay: 39.485 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 11.72 Mbit/s
95th percentile per-packet one-way delay: 40.336 ms
Loss rate: 0.85%
```

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

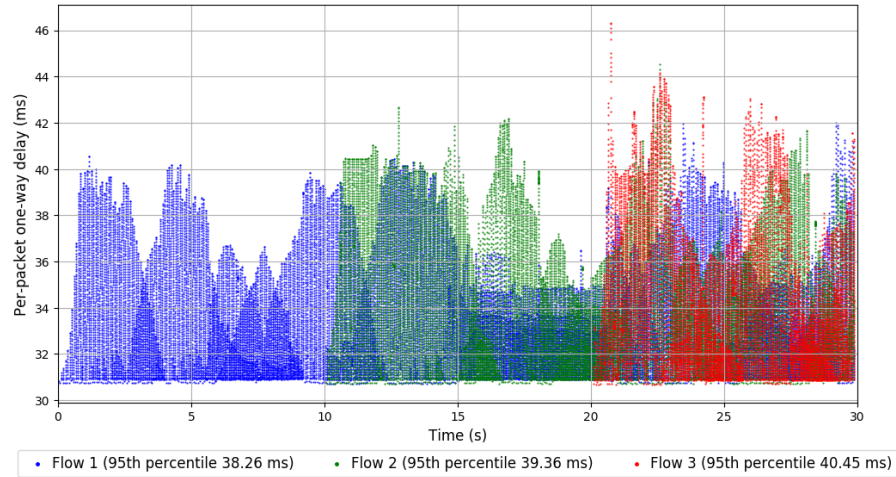
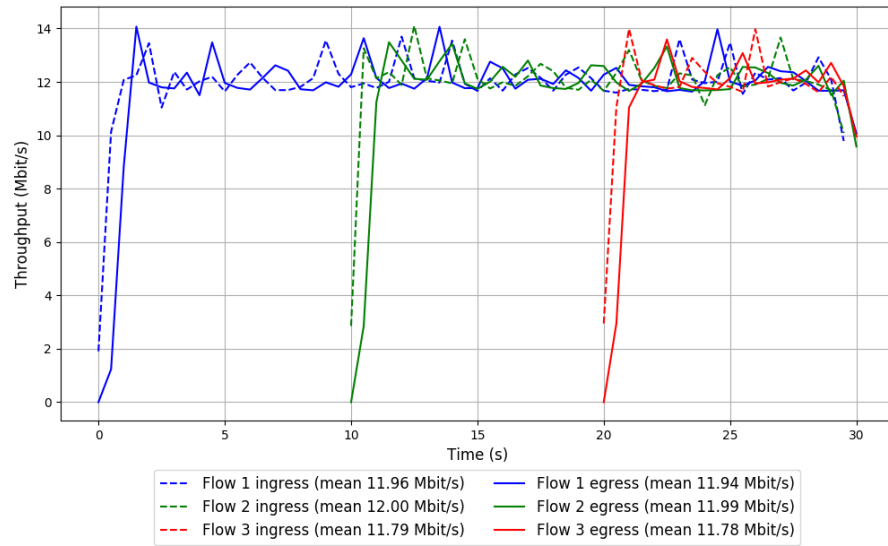


Run 5: Statistics of Sprout

Start at: 2019-01-22 04:53:19  
End at: 2019-01-22 04:53:49  
Local clock offset: 0.194 ms  
Remote clock offset: 0.527 ms

```
# Below is generated by plot.py at 2019-01-22 05:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.78 Mbit/s
95th percentile per-packet one-way delay: 39.033 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 11.94 Mbit/s
95th percentile per-packet one-way delay: 38.261 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 39.363 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 40.449 ms
Loss rate: 0.86%
```

# Run 5: Report of Sprout — Data Link



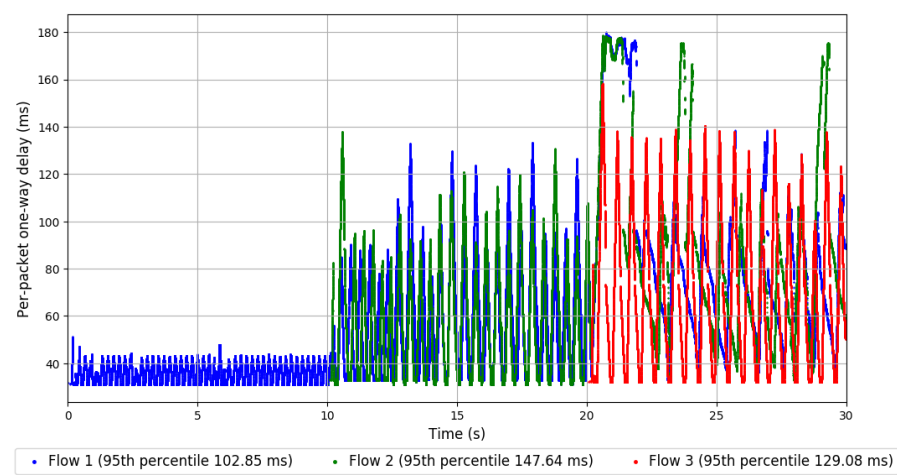
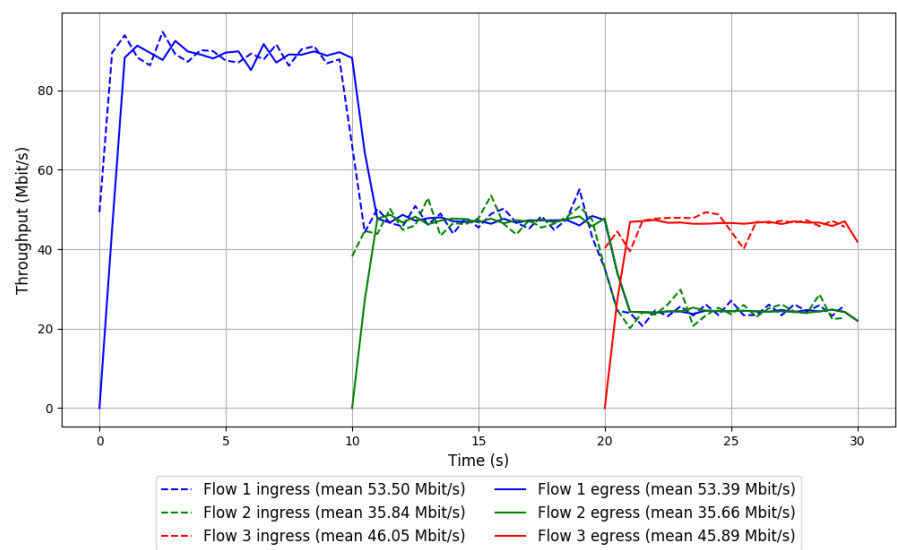


```
Run 1: Statistics of TaoVA-100x

Start at: 2019-01-22 02:35:42
End at: 2019-01-22 02:36:12
Local clock offset: -3.502 ms
Remote clock offset: -5.763 ms

# Below is generated by plot.py at 2019-01-22 05:21:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.33 Mbit/s
95th percentile per-packet one-way delay: 121.972 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 53.39 Mbit/s
95th percentile per-packet one-way delay: 102.851 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 35.66 Mbit/s
95th percentile per-packet one-way delay: 147.639 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 45.89 Mbit/s
95th percentile per-packet one-way delay: 129.077 ms
Loss rate: 0.99%
```

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

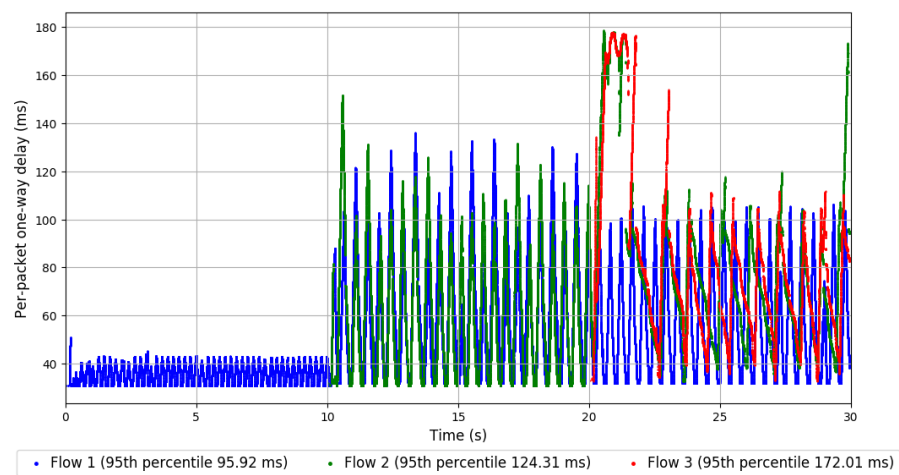
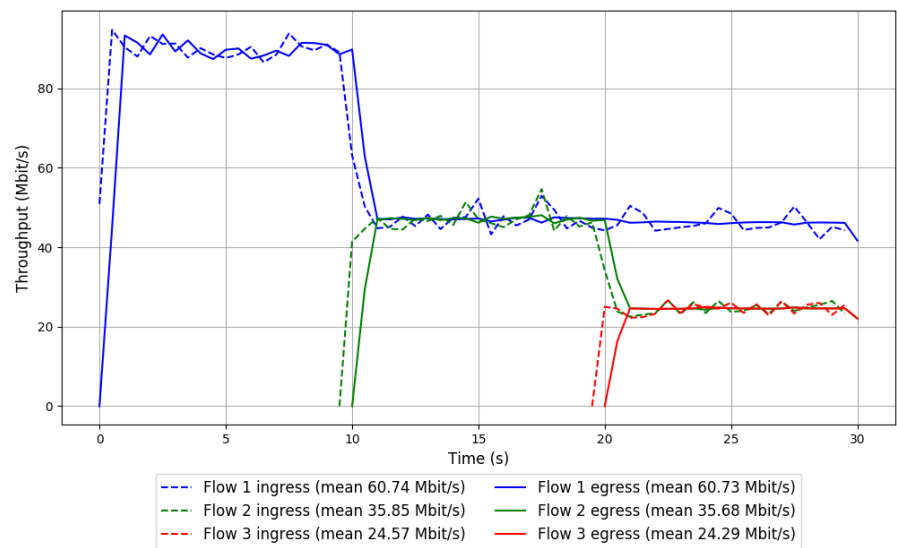


Run 2: Statistics of TaoVA-100x

Start at: 2019-01-22 03:06:53  
End at: 2019-01-22 03:07:23  
Local clock offset: -3.355 ms  
Remote clock offset: -3.186 ms

# Below is generated by plot.py at 2019-01-22 05:21:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.54 Mbit/s  
95th percentile per-packet one-way delay: 106.648 ms  
Loss rate: 0.50%  
-- Flow 1:  
Average throughput: 60.73 Mbit/s  
95th percentile per-packet one-way delay: 95.922 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 35.68 Mbit/s  
95th percentile per-packet one-way delay: 124.309 ms  
Loss rate: 0.79%  
-- Flow 3:  
Average throughput: 24.29 Mbit/s  
95th percentile per-packet one-way delay: 172.007 ms  
Loss rate: 1.79%

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

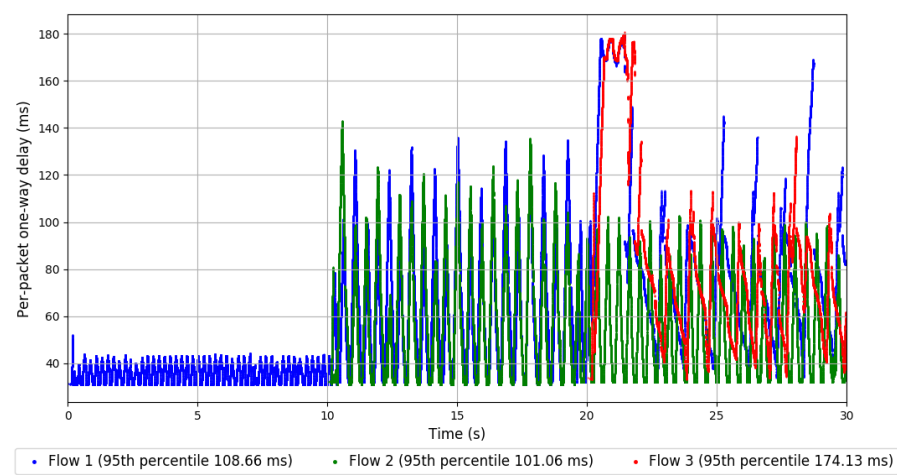
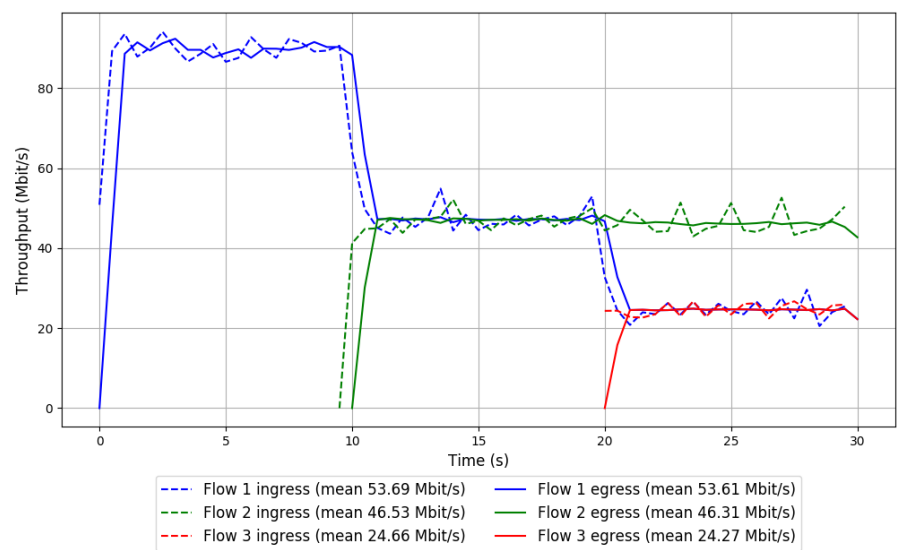


Run 3: Statistics of TaoVA-100x

Start at: 2019-01-22 03:41:35  
End at: 2019-01-22 03:42:05  
Local clock offset: 0.476 ms  
Remote clock offset: -1.041 ms

# Below is generated by plot.py at 2019-01-22 05:21:37  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.49 Mbit/s  
95th percentile per-packet one-way delay: 109.926 ms  
Loss rate: 0.66%  
-- Flow 1:  
Average throughput: 53.61 Mbit/s  
95th percentile per-packet one-way delay: 108.658 ms  
Loss rate: 0.34%  
-- Flow 2:  
Average throughput: 46.31 Mbit/s  
95th percentile per-packet one-way delay: 101.060 ms  
Loss rate: 0.80%  
-- Flow 3:  
Average throughput: 24.27 Mbit/s  
95th percentile per-packet one-way delay: 174.132 ms  
Loss rate: 2.22%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-22 04:13:59

End at: 2019-01-22 04:14:29

Local clock offset: 0.424 ms

Remote clock offset: 0.137 ms

# Below is generated by plot.py at 2019-01-22 05:21:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.44 Mbit/s

95th percentile per-packet one-way delay: 118.410 ms

Loss rate: 0.66%

-- Flow 1:

Average throughput: 53.48 Mbit/s

95th percentile per-packet one-way delay: 102.606 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 35.69 Mbit/s

95th percentile per-packet one-way delay: 132.634 ms

Loss rate: 1.00%

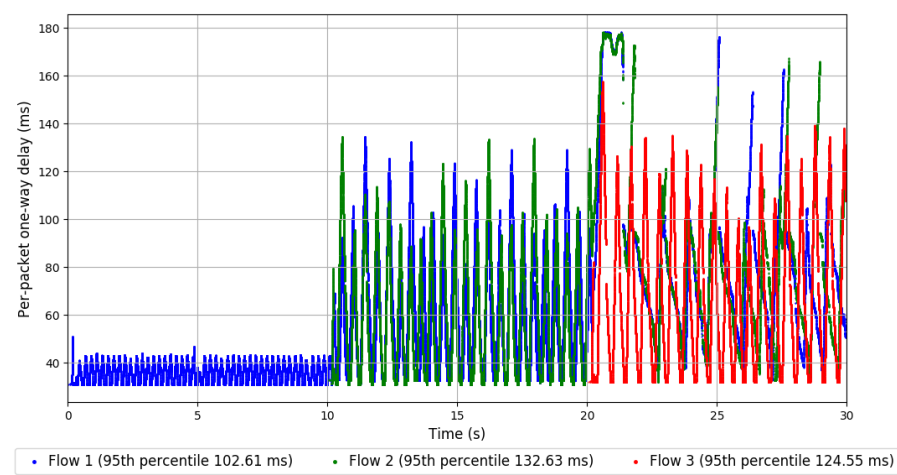
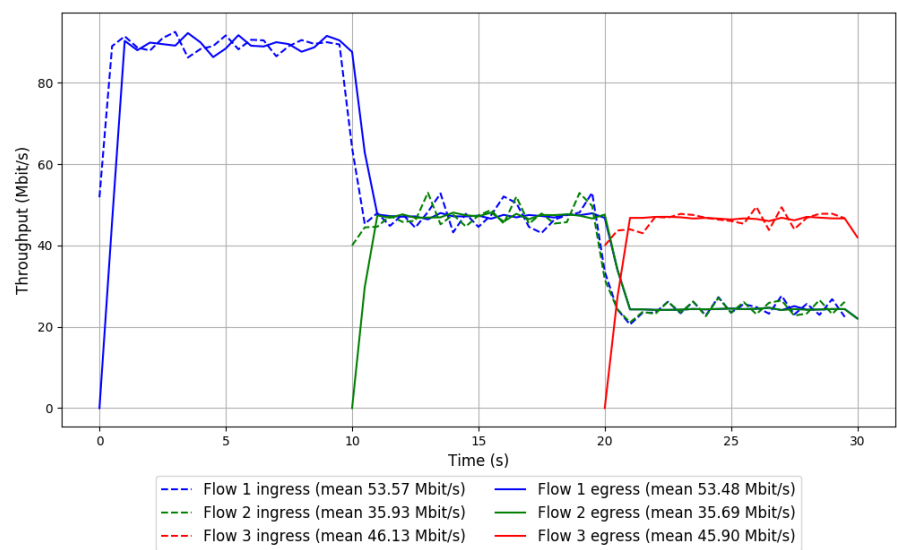
-- Flow 3:

Average throughput: 45.90 Mbit/s

95th percentile per-packet one-way delay: 124.550 ms

Loss rate: 1.15%

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





Run 5: Statistics of TaoVA-100x

Start at: 2019-01-22 04:44:18

End at: 2019-01-22 04:44:48

Local clock offset: 0.257 ms

Remote clock offset: 0.495 ms

# Below is generated by plot.py at 2019-01-22 05:21:40

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.49 Mbit/s

95th percentile per-packet one-way delay: 124.704 ms

Loss rate: 1.48%

-- Flow 1:

Average throughput: 56.18 Mbit/s

95th percentile per-packet one-way delay: 123.700 ms

Loss rate: 0.48%

-- Flow 2:

Average throughput: 39.11 Mbit/s

95th percentile per-packet one-way delay: 124.848 ms

Loss rate: 2.04%

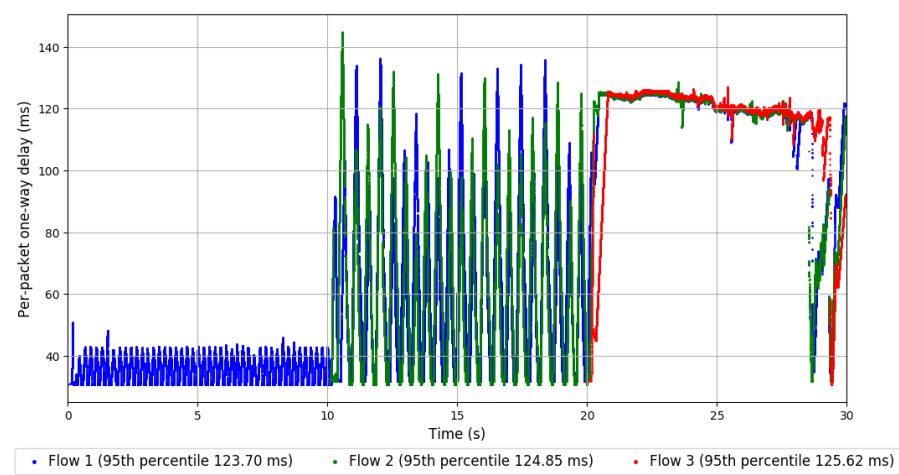
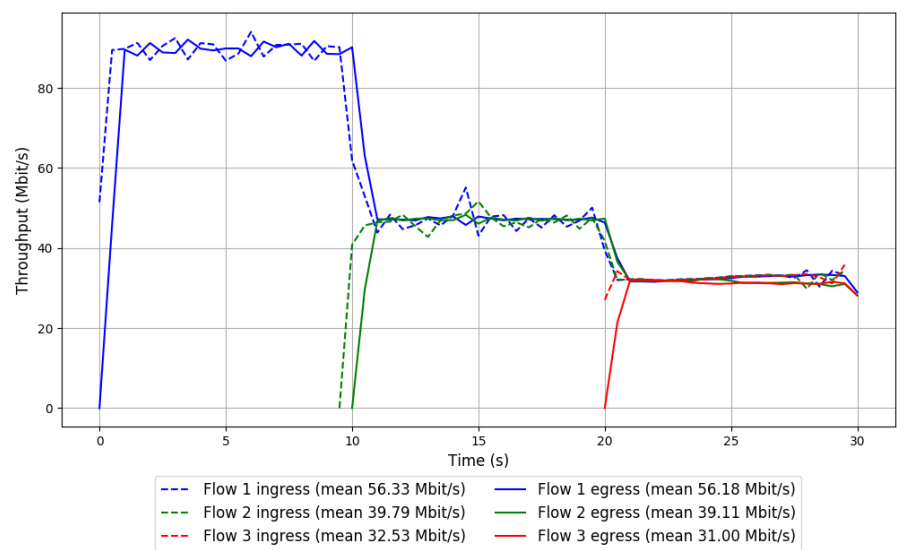
-- Flow 3:

Average throughput: 31.00 Mbit/s

95th percentile per-packet one-way delay: 125.621 ms

Loss rate: 5.32%

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

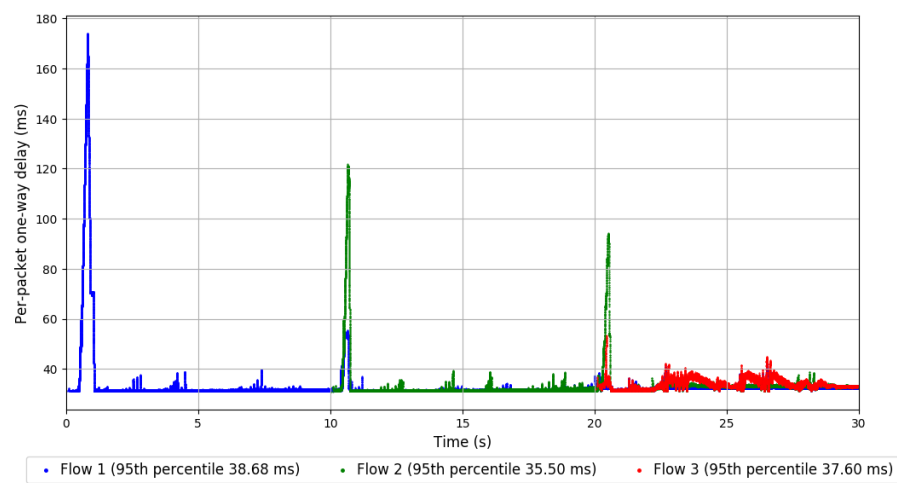
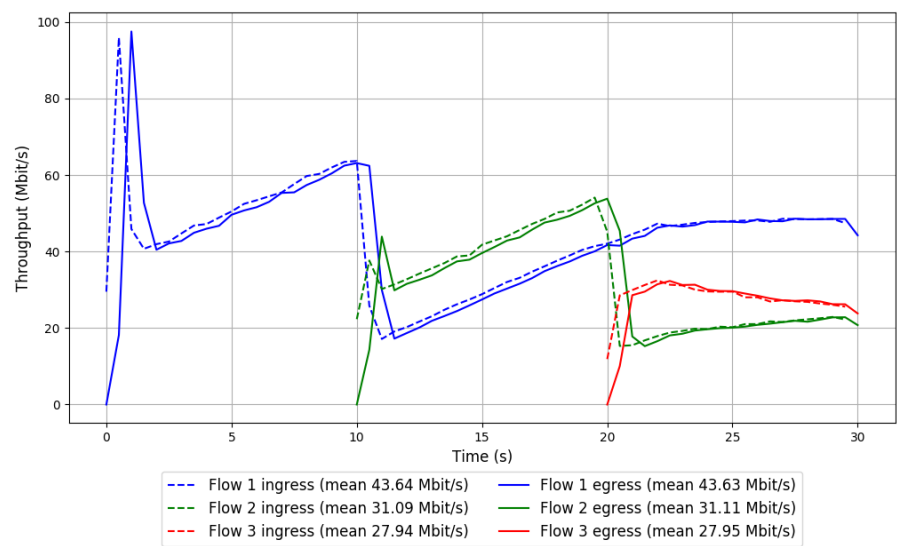


Run 1: Statistics of TCP Vegas

Start at: 2019-01-22 02:31:37  
End at: 2019-01-22 02:32:07  
Local clock offset: -3.169 ms  
Remote clock offset: -5.751 ms

# Below is generated by plot.py at 2019-01-22 05:21:40  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.58 Mbit/s  
95th percentile per-packet one-way delay: 37.508 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 43.63 Mbit/s  
95th percentile per-packet one-way delay: 38.679 ms  
Loss rate: 0.25%  
-- Flow 2:  
Average throughput: 31.11 Mbit/s  
95th percentile per-packet one-way delay: 35.501 ms  
Loss rate: 0.26%  
-- Flow 3:  
Average throughput: 27.95 Mbit/s  
95th percentile per-packet one-way delay: 37.604 ms  
Loss rate: 0.62%

Run 1: Report of TCP Vegas — Data Link

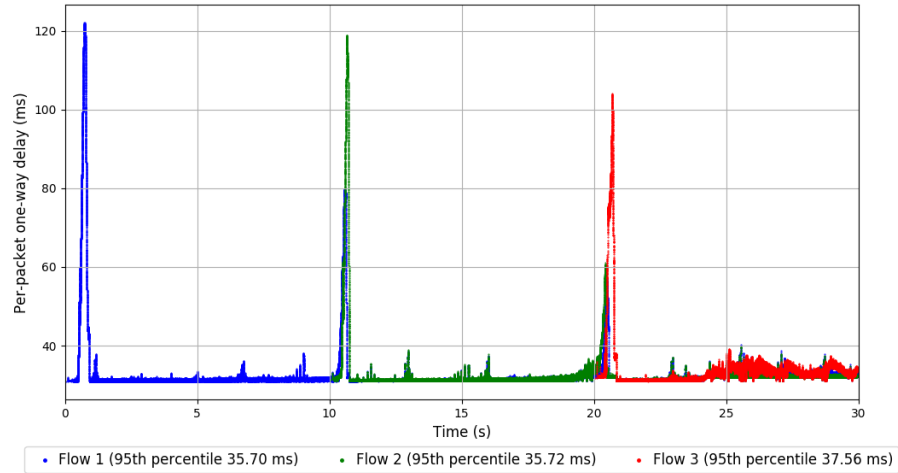
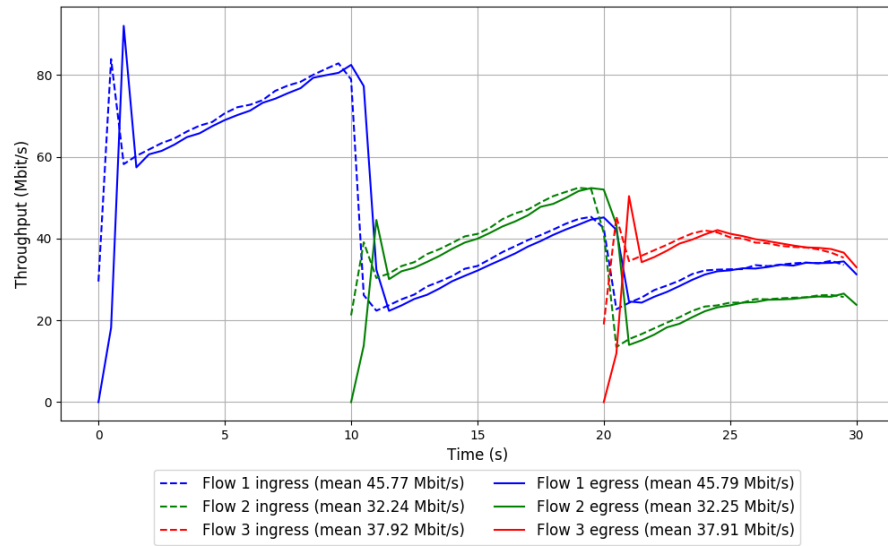


Run 2: Statistics of TCP Vegas

Start at: 2019-01-22 03:02:31  
End at: 2019-01-22 03:03:01  
Local clock offset: -3.35 ms  
Remote clock offset: -3.601 ms

# Below is generated by plot.py at 2019-01-22 05:21:40  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.80 Mbit/s  
95th percentile per-packet one-way delay: 36.503 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 45.79 Mbit/s  
95th percentile per-packet one-way delay: 35.699 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 32.25 Mbit/s  
95th percentile per-packet one-way delay: 35.720 ms  
Loss rate: 0.28%  
-- Flow 3:  
Average throughput: 37.91 Mbit/s  
95th percentile per-packet one-way delay: 37.560 ms  
Loss rate: 0.66%

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

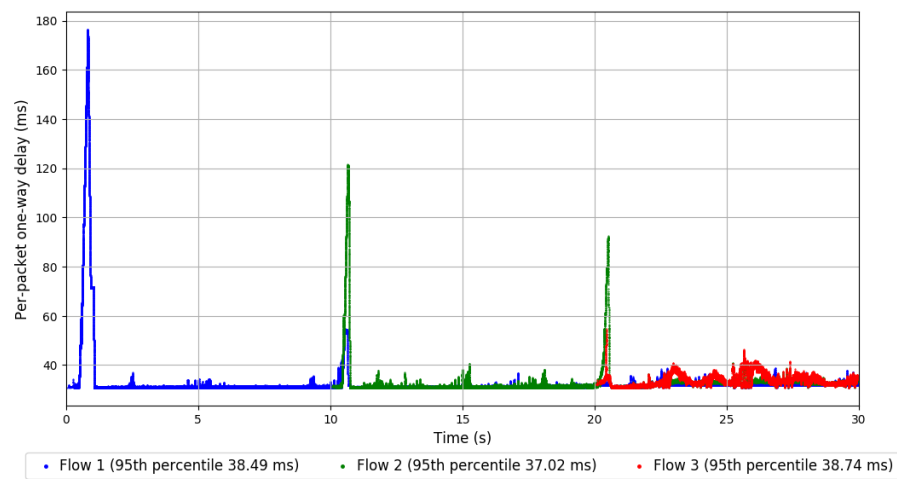
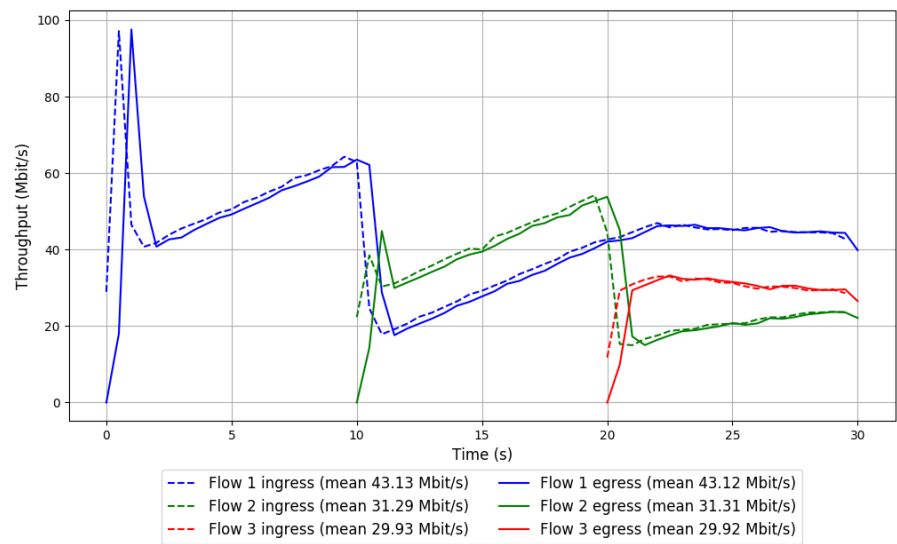


Run 3: Statistics of TCP Vegas

Start at: 2019-01-22 03:36:14  
End at: 2019-01-22 03:36:44  
Local clock offset: 0.152 ms  
Remote clock offset: -1.149 ms

# Below is generated by plot.py at 2019-01-22 05:21:40  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.86 Mbit/s  
95th percentile per-packet one-way delay: 38.323 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 43.12 Mbit/s  
95th percentile per-packet one-way delay: 38.495 ms  
Loss rate: 0.24%  
-- Flow 2:  
Average throughput: 31.31 Mbit/s  
95th percentile per-packet one-way delay: 37.019 ms  
Loss rate: 0.27%  
-- Flow 3:  
Average throughput: 29.92 Mbit/s  
95th percentile per-packet one-way delay: 38.741 ms  
Loss rate: 0.67%

Run 3: Report of TCP Vegas — Data Link



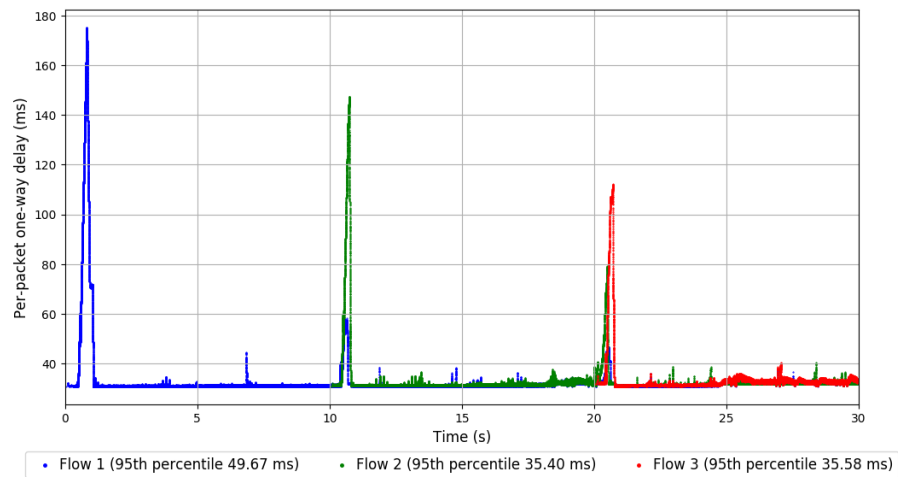
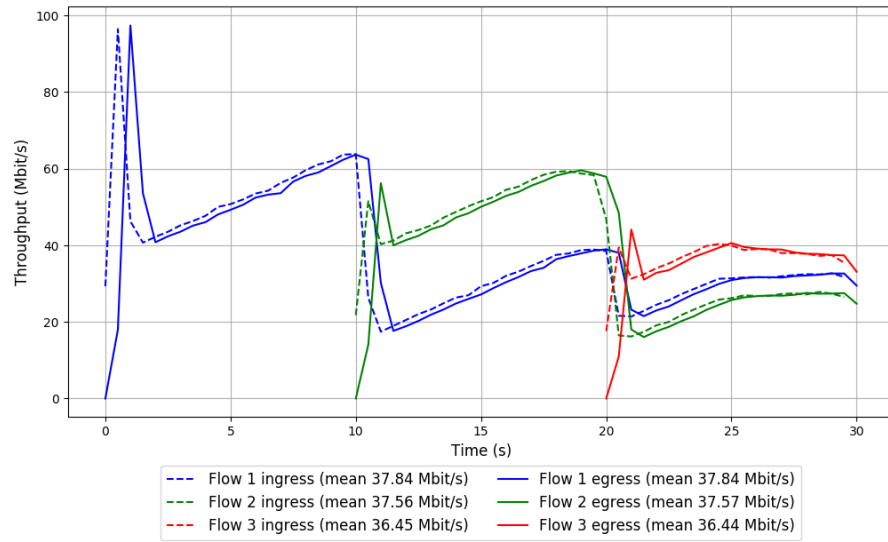


Run 4: Statistics of TCP Vegas

Start at: 2019-01-22 04:09:25  
End at: 2019-01-22 04:09:55  
Local clock offset: 0.369 ms  
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-01-22 05:21:40  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 74.89 Mbit/s  
95th percentile per-packet one-way delay: 39.953 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 37.84 Mbit/s  
95th percentile per-packet one-way delay: 49.666 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 37.57 Mbit/s  
95th percentile per-packet one-way delay: 35.400 ms  
Loss rate: 0.29%  
-- Flow 3:  
Average throughput: 36.44 Mbit/s  
95th percentile per-packet one-way delay: 35.578 ms  
Loss rate: 0.67%

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



Run 5: Statistics of TCP Vegas

Start at: 2019-01-22 04:40:05

End at: 2019-01-22 04:40:35

Local clock offset: 0.19 ms

Remote clock offset: 0.556 ms

# Below is generated by plot.py at 2019-01-22 05:21:40

# Datalink statistics

-- Total of 3 flows:

Average throughput: 73.37 Mbit/s

95th percentile per-packet one-way delay: 34.870 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 37.41 Mbit/s

95th percentile per-packet one-way delay: 48.607 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 37.25 Mbit/s

95th percentile per-packet one-way delay: 33.950 ms

Loss rate: 0.32%

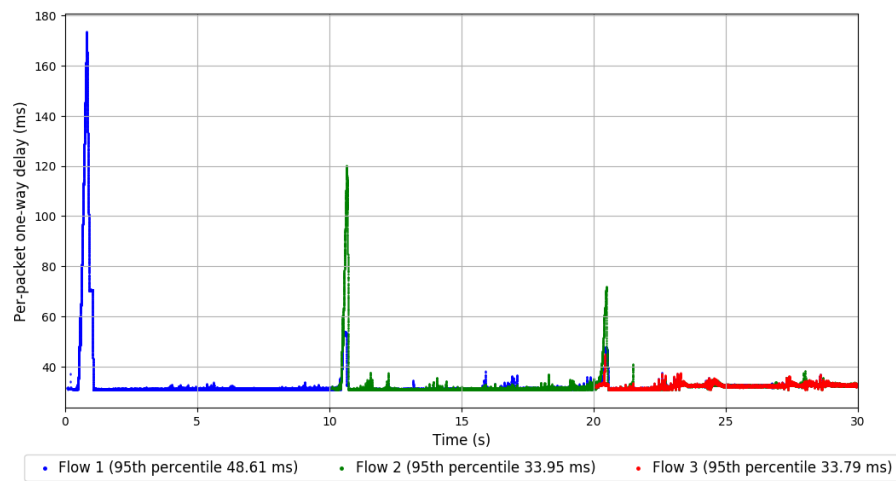
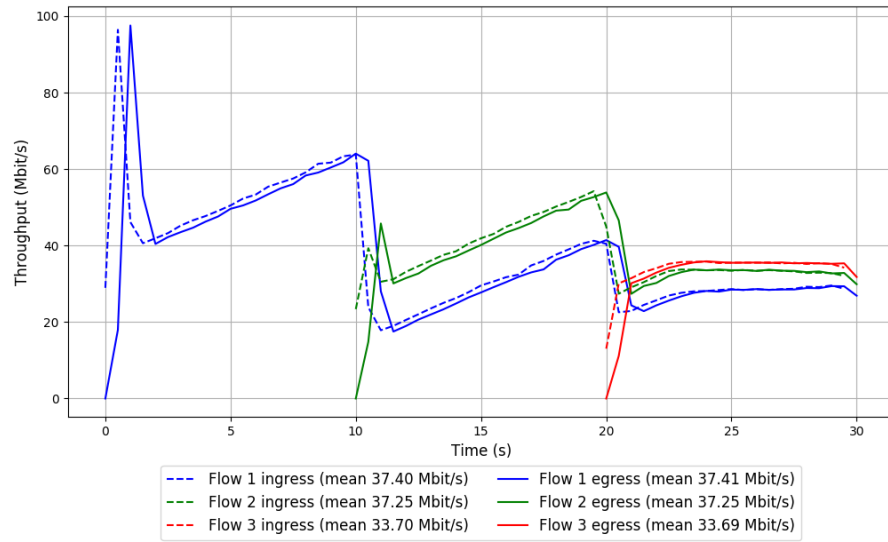
-- Flow 3:

Average throughput: 33.69 Mbit/s

95th percentile per-packet one-way delay: 33.794 ms

Loss rate: 0.69%

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

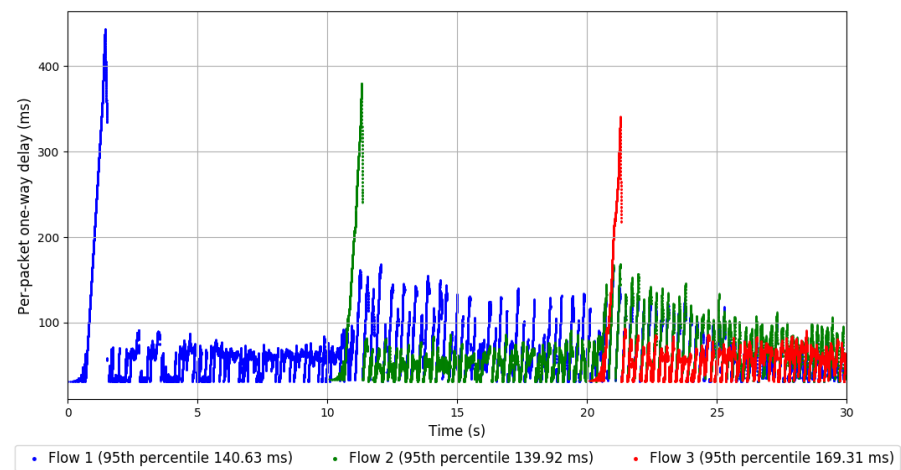
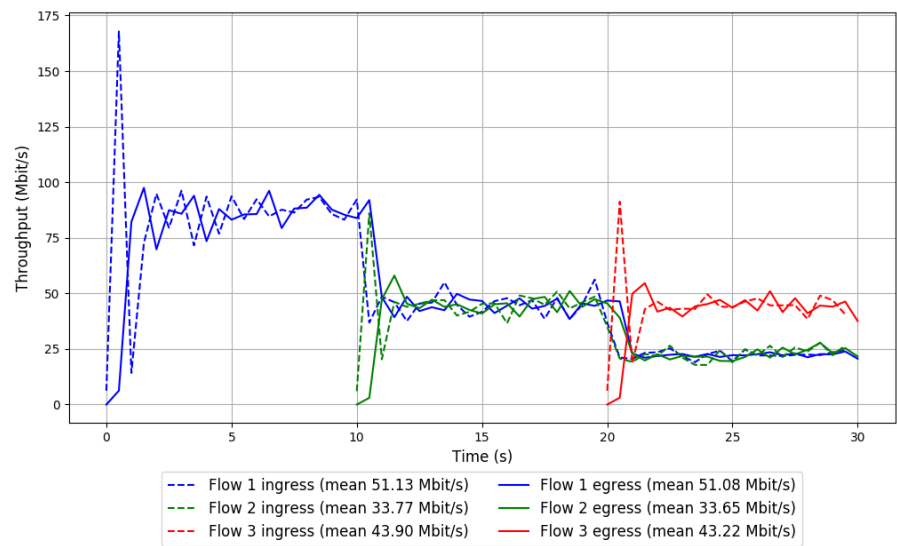


Run 1: Statistics of Verus

Start at: 2019-01-22 02:33:02  
End at: 2019-01-22 02:33:32  
Local clock offset: -3.302 ms  
Remote clock offset: -5.673 ms

# Below is generated by plot.py at 2019-01-22 05:21:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.77 Mbit/s  
95th percentile per-packet one-way delay: 141.262 ms  
Loss rate: 0.71%  
-- Flow 1:  
Average throughput: 51.08 Mbit/s  
95th percentile per-packet one-way delay: 140.631 ms  
Loss rate: 0.32%  
-- Flow 2:  
Average throughput: 33.65 Mbit/s  
95th percentile per-packet one-way delay: 139.921 ms  
Loss rate: 0.66%  
-- Flow 3:  
Average throughput: 43.22 Mbit/s  
95th percentile per-packet one-way delay: 169.305 ms  
Loss rate: 2.14%

Run 1: Report of Verus — Data Link

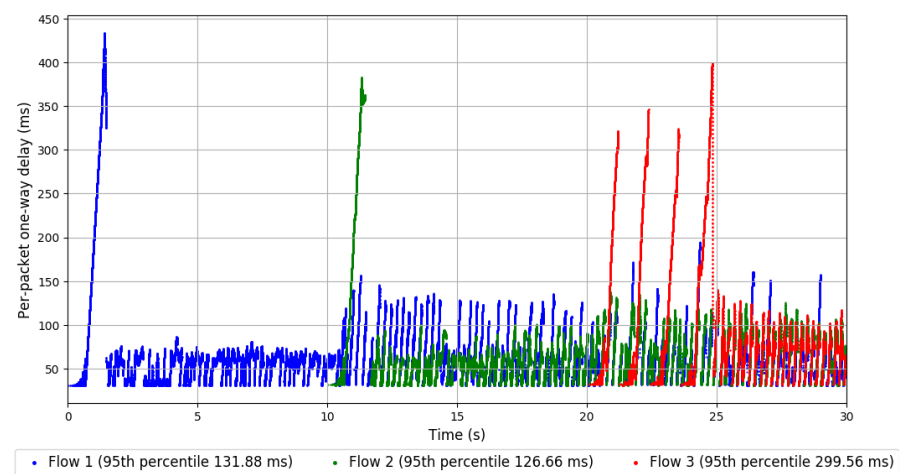
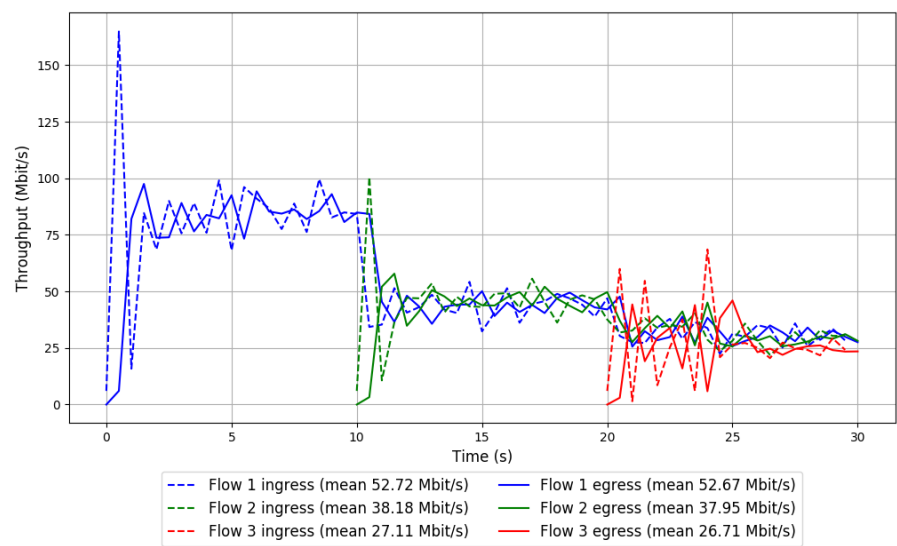


Run 2: Statistics of Verus

Start at: 2019-01-22 03:03:55  
End at: 2019-01-22 03:04:25  
Local clock offset: -3.349 ms  
Remote clock offset: -3.485 ms

# Below is generated by plot.py at 2019-01-22 05:22:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.76 Mbit/s  
95th percentile per-packet one-way delay: 194.914 ms  
Loss rate: 0.64%  
-- Flow 1:  
Average throughput: 52.67 Mbit/s  
95th percentile per-packet one-way delay: 131.878 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 37.95 Mbit/s  
95th percentile per-packet one-way delay: 126.664 ms  
Loss rate: 0.91%  
-- Flow 3:  
Average throughput: 26.71 Mbit/s  
95th percentile per-packet one-way delay: 299.562 ms  
Loss rate: 2.09%

Run 2: Report of Verus — Data Link



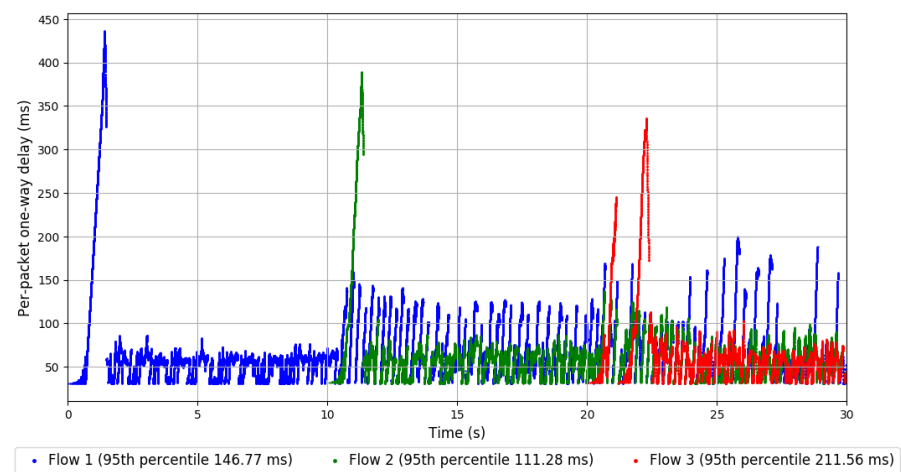
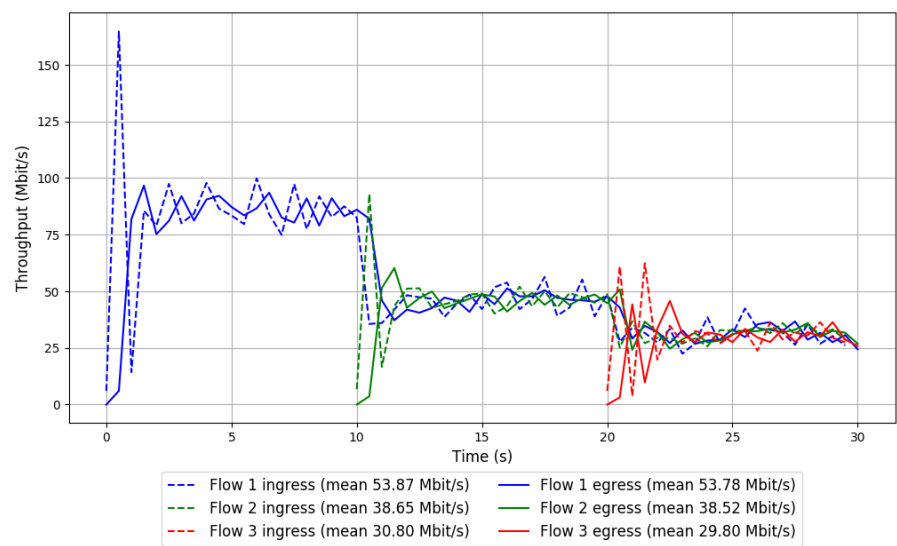


Run 3: Statistics of Verus

Start at: 2019-01-22 03:37:58  
End at: 2019-01-22 03:38:28  
Local clock offset: 0.269 ms  
Remote clock offset: -1.316 ms

# Below is generated by plot.py at 2019-01-22 05:22:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 89.28 Mbit/s  
95th percentile per-packet one-way delay: 148.622 ms  
Loss rate: 0.83%  
-- Flow 1:  
Average throughput: 53.78 Mbit/s  
95th percentile per-packet one-way delay: 146.771 ms  
Loss rate: 0.34%  
-- Flow 2:  
Average throughput: 38.52 Mbit/s  
95th percentile per-packet one-way delay: 111.279 ms  
Loss rate: 0.66%  
-- Flow 3:  
Average throughput: 29.80 Mbit/s  
95th percentile per-packet one-way delay: 211.564 ms  
Loss rate: 3.80%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-01-22 04:10:51

End at: 2019-01-22 04:11:21

Local clock offset: 0.395 ms

Remote clock offset: 0.07 ms

# Below is generated by plot.py at 2019-01-22 05:22:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.05 Mbit/s

95th percentile per-packet one-way delay: 176.010 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 54.50 Mbit/s

95th percentile per-packet one-way delay: 164.564 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 38.30 Mbit/s

95th percentile per-packet one-way delay: 115.443 ms

Loss rate: 0.55%

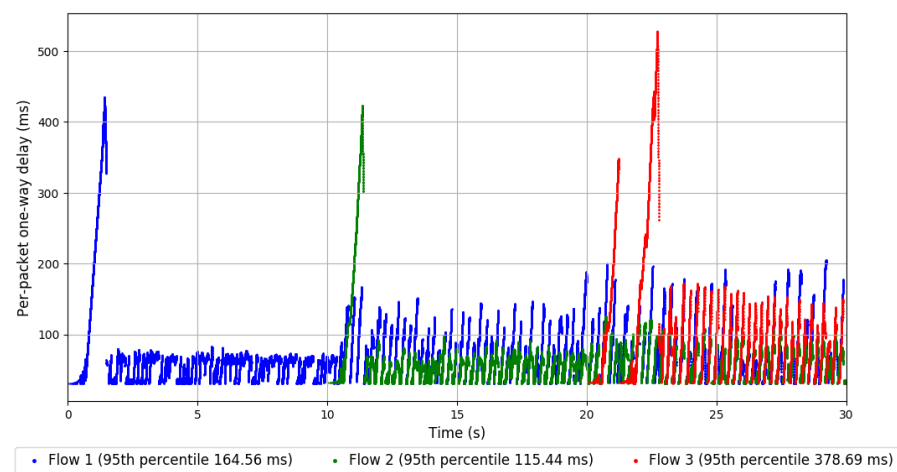
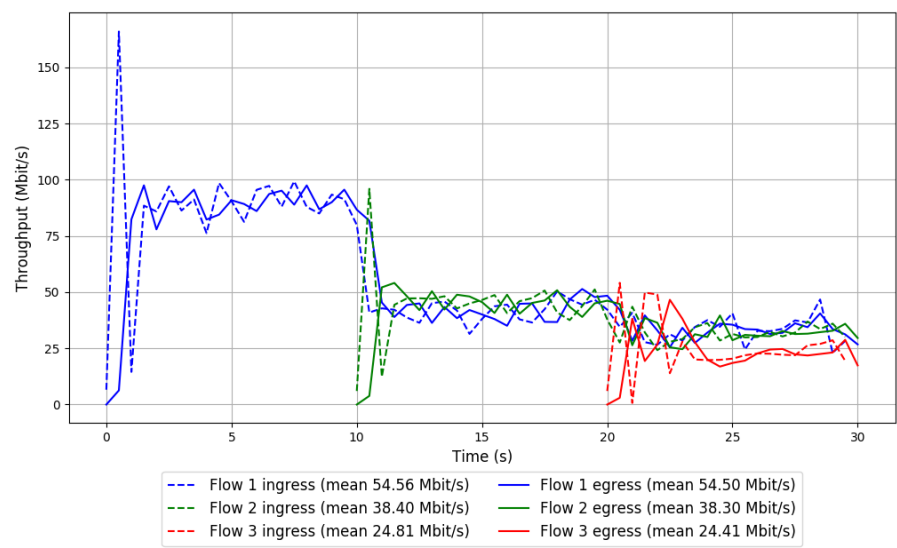
-- Flow 3:

Average throughput: 24.41 Mbit/s

95th percentile per-packet one-way delay: 378.686 ms

Loss rate: 2.39%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-01-22 04:41:23

End at: 2019-01-22 04:41:53

Local clock offset: 0.205 ms

Remote clock offset: 0.521 ms

# Below is generated by plot.py at 2019-01-22 05:22:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.79 Mbit/s

95th percentile per-packet one-way delay: 155.927 ms

Loss rate: 0.53%

-- Flow 1:

Average throughput: 59.13 Mbit/s

95th percentile per-packet one-way delay: 122.185 ms

Loss rate: 0.34%

-- Flow 2:

Average throughput: 31.84 Mbit/s

95th percentile per-packet one-way delay: 243.322 ms

Loss rate: 0.69%

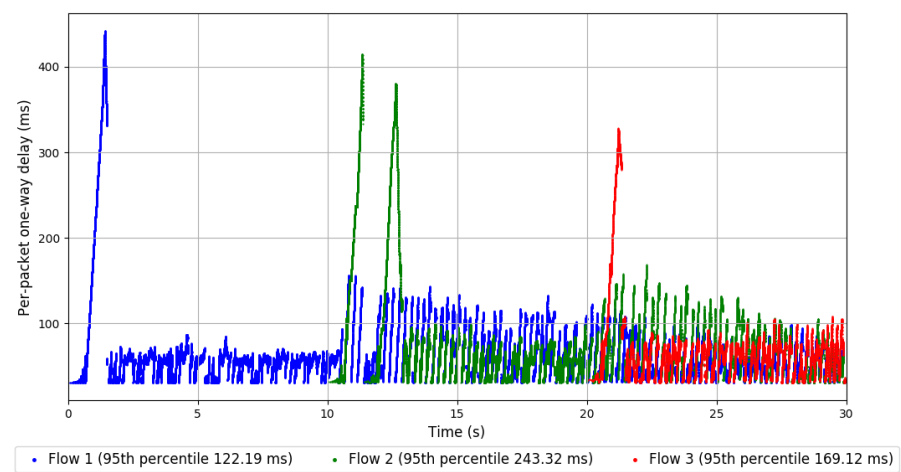
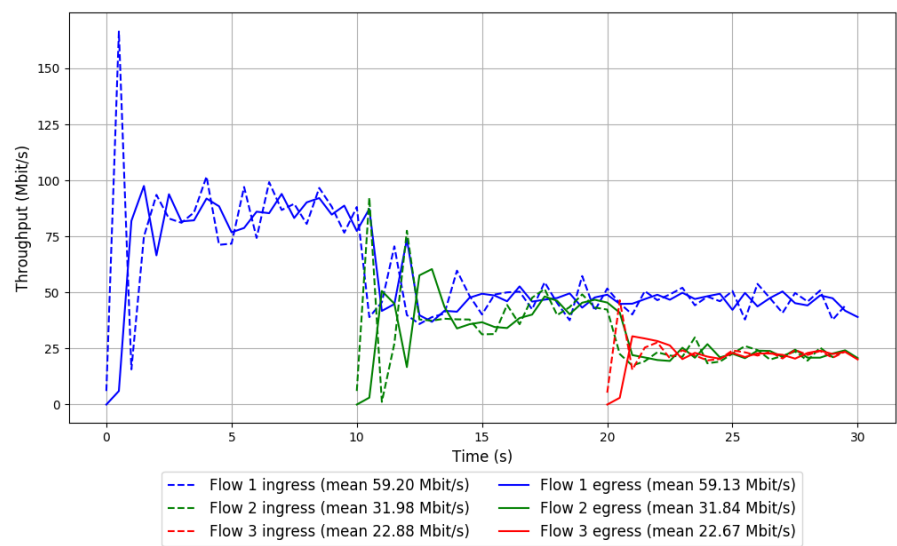
-- Flow 3:

Average throughput: 22.67 Mbit/s

95th percentile per-packet one-way delay: 169.117 ms

Loss rate: 1.53%

Run 5: Report of Verus — Data Link

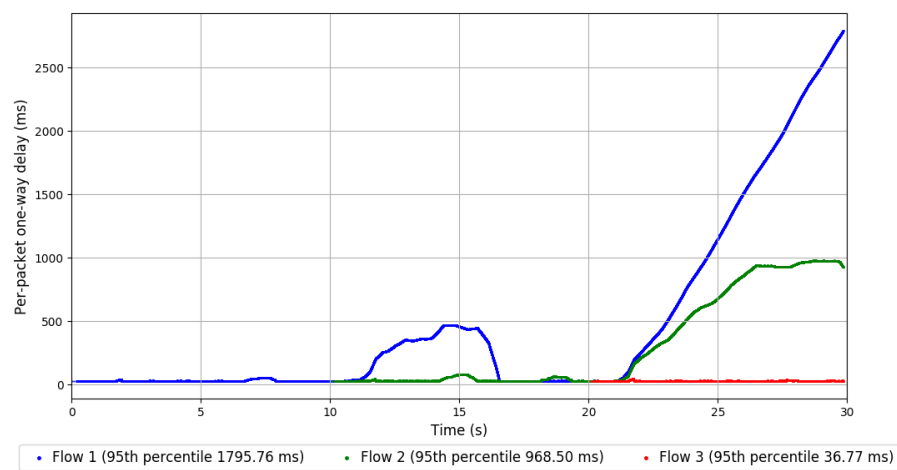
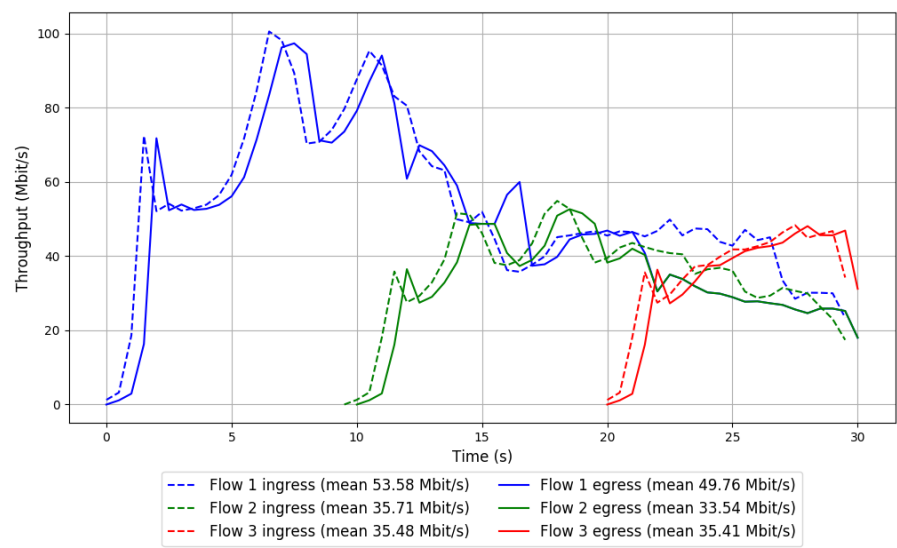


Run 1: Statistics of PCC-Vivace

Start at: 2019-01-22 02:53:57  
End at: 2019-01-22 02:54:27  
Local clock offset: -3.479 ms  
Remote clock offset: -4.805 ms

# Below is generated by plot.py at 2019-01-22 05:22:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 83.70 Mbit/s  
95th percentile per-packet one-way delay: 1164.084 ms  
Loss rate: 6.21%  
-- Flow 1:  
Average throughput: 49.76 Mbit/s  
95th percentile per-packet one-way delay: 1795.756 ms  
Loss rate: 7.32%  
-- Flow 2:  
Average throughput: 33.54 Mbit/s  
95th percentile per-packet one-way delay: 968.501 ms  
Loss rate: 6.34%  
-- Flow 3:  
Average throughput: 35.41 Mbit/s  
95th percentile per-packet one-way delay: 36.767 ms  
Loss rate: 0.85%

Run 1: Report of PCC-Vivace — Data Link



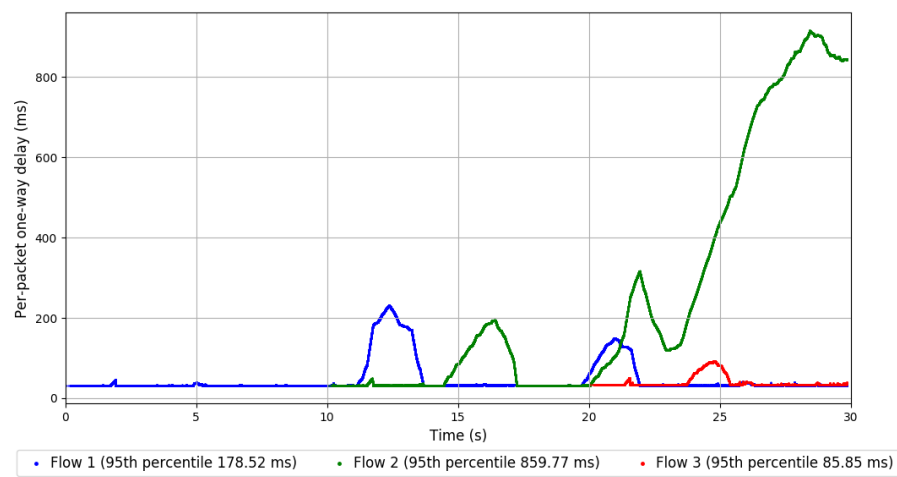
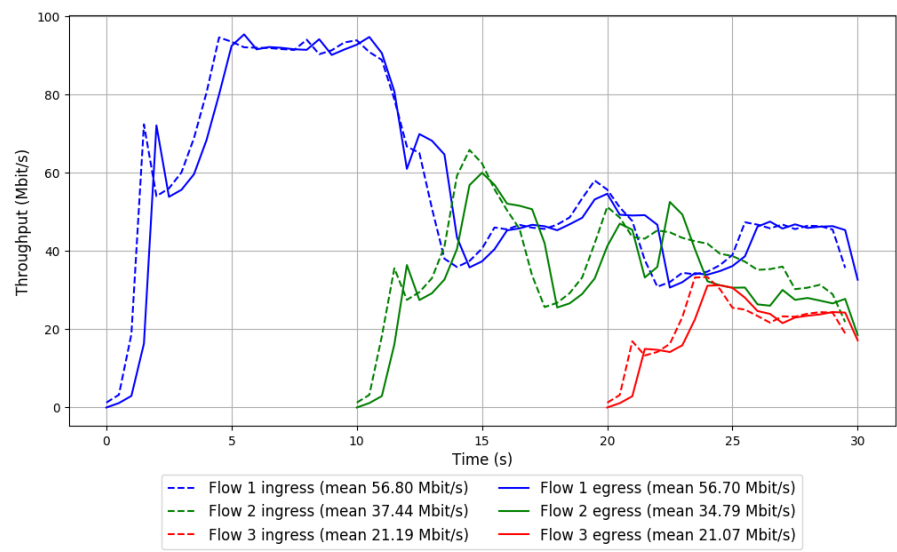


Run 2: Statistics of PCC-Vivace

Start at: 2019-01-22 03:24:58  
End at: 2019-01-22 03:25:28  
Local clock offset: -1.018 ms  
Remote clock offset: -1.779 ms

# Below is generated by plot.py at 2019-01-22 05:22:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.75 Mbit/s  
95th percentile per-packet one-way delay: 449.412 ms  
Loss rate: 2.41%  
-- Flow 1:  
Average throughput: 56.70 Mbit/s  
95th percentile per-packet one-way delay: 178.517 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 34.79 Mbit/s  
95th percentile per-packet one-way delay: 859.768 ms  
Loss rate: 7.38%  
-- Flow 3:  
Average throughput: 21.07 Mbit/s  
95th percentile per-packet one-way delay: 85.848 ms  
Loss rate: 1.24%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-01-22 04:00:41

End at: 2019-01-22 04:01:11

Local clock offset: 0.283 ms

Remote clock offset: -0.37 ms

# Below is generated by plot.py at 2019-01-22 05:22:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.56 Mbit/s

95th percentile per-packet one-way delay: 2010.495 ms

Loss rate: 3.87%

-- Flow 1:

Average throughput: 53.45 Mbit/s

95th percentile per-packet one-way delay: 2232.229 ms

Loss rate: 5.77%

-- Flow 2:

Average throughput: 40.00 Mbit/s

95th percentile per-packet one-way delay: 33.537 ms

Loss rate: 0.36%

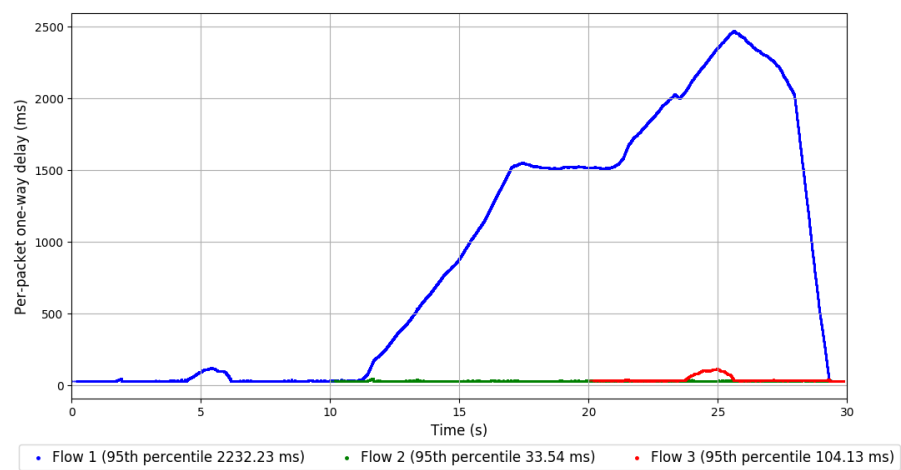
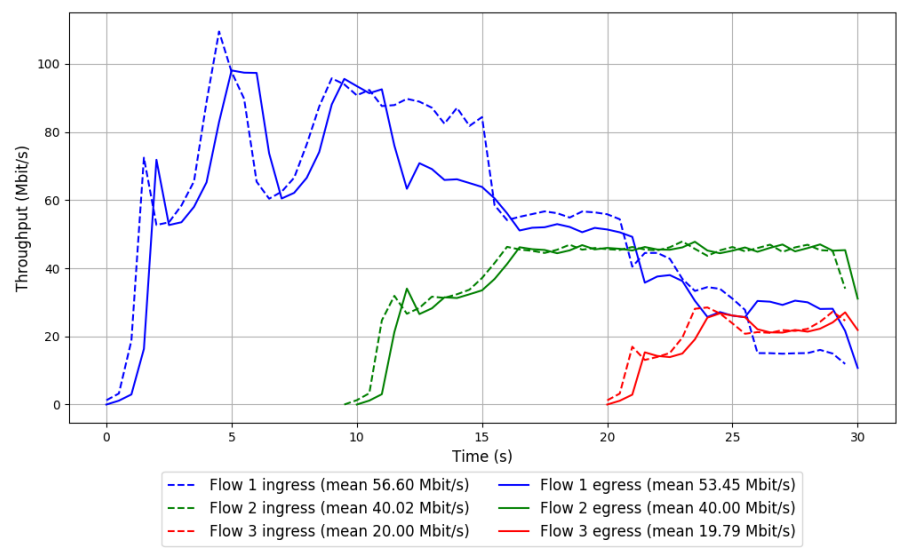
-- Flow 3:

Average throughput: 19.79 Mbit/s

95th percentile per-packet one-way delay: 104.132 ms

Loss rate: 1.70%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-22 04:31:26

End at: 2019-01-22 04:31:56

Local clock offset: 0.17 ms

Remote clock offset: 0.575 ms

# Below is generated by plot.py at 2019-01-22 05:22:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.35 Mbit/s

95th percentile per-packet one-way delay: 269.651 ms

Loss rate: 0.82%

-- Flow 1:

Average throughput: 51.34 Mbit/s

95th percentile per-packet one-way delay: 469.221 ms

Loss rate: 1.00%

-- Flow 2:

Average throughput: 41.03 Mbit/s

95th percentile per-packet one-way delay: 53.418 ms

Loss rate: 0.41%

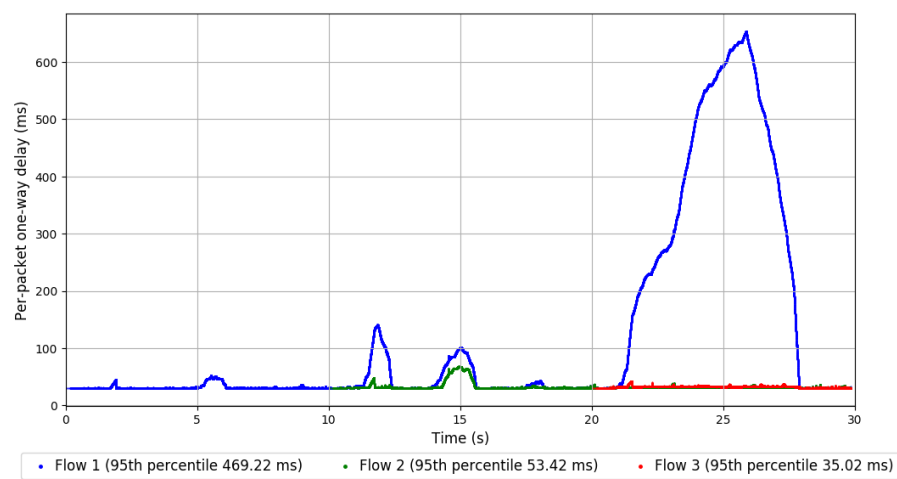
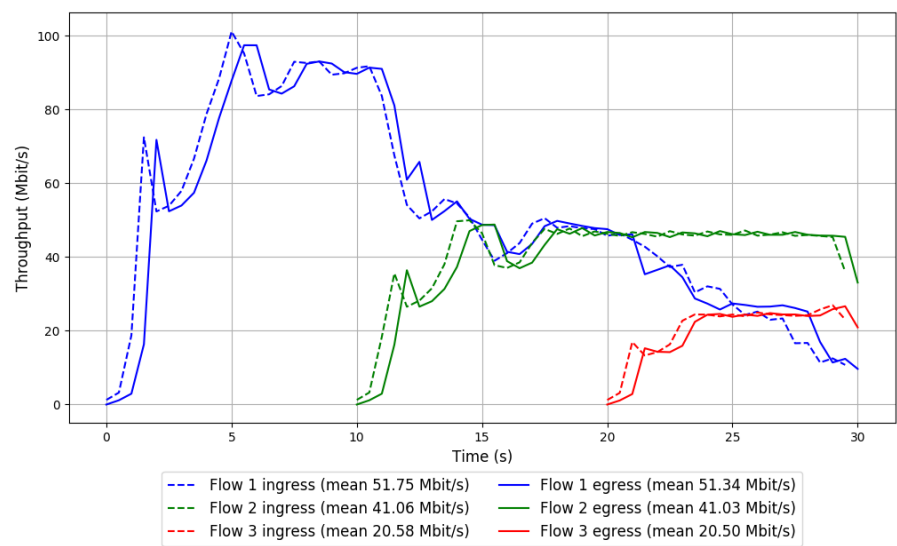
-- Flow 3:

Average throughput: 20.50 Mbit/s

95th percentile per-packet one-way delay: 35.017 ms

Loss rate: 1.02%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-22 05:01:15

End at: 2019-01-22 05:01:45

Local clock offset: 0.178 ms

Remote clock offset: 0.529 ms

# Below is generated by plot.py at 2019-01-22 05:22:50

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.19 Mbit/s

95th percentile per-packet one-way delay: 1405.639 ms

Loss rate: 2.04%

-- Flow 1:

Average throughput: 53.83 Mbit/s

95th percentile per-packet one-way delay: 1460.640 ms

Loss rate: 2.95%

-- Flow 2:

Average throughput: 40.83 Mbit/s

95th percentile per-packet one-way delay: 54.725 ms

Loss rate: 0.46%

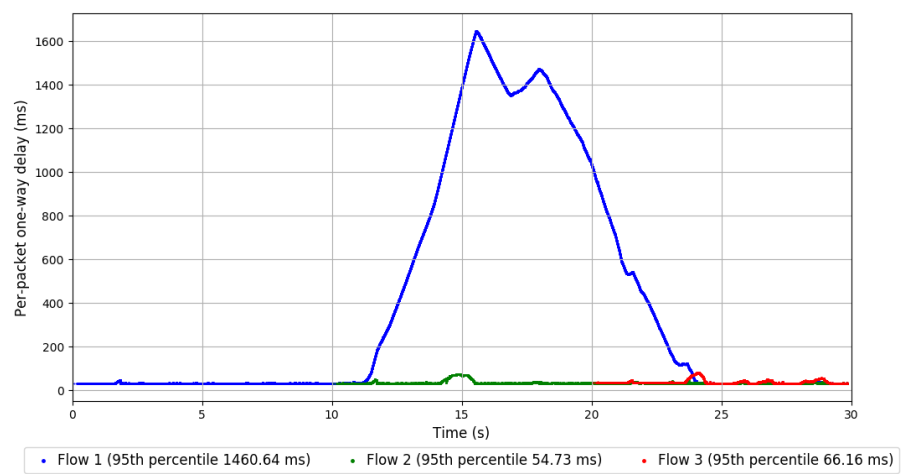
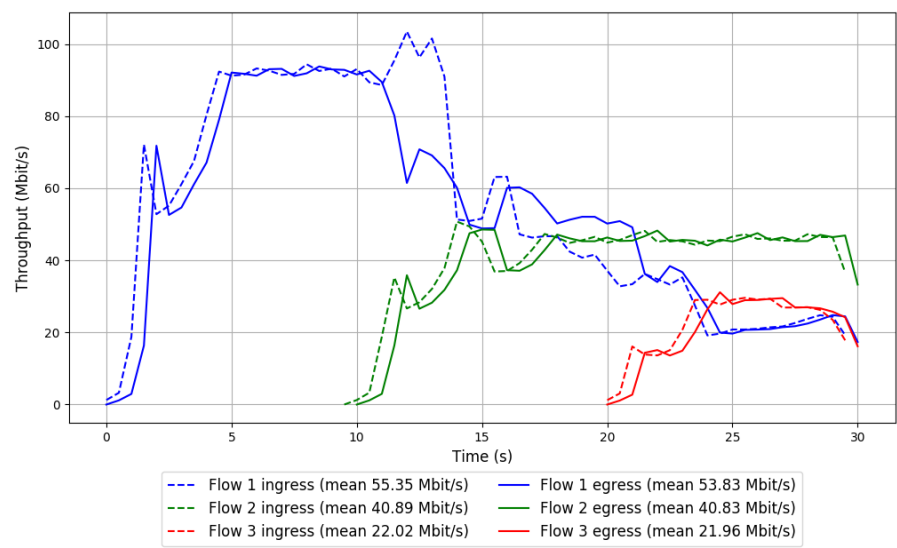
-- Flow 3:

Average throughput: 21.96 Mbit/s

95th percentile per-packet one-way delay: 66.156 ms

Loss rate: 0.96%

Run 5: Report of PCC-Vivace — Data Link



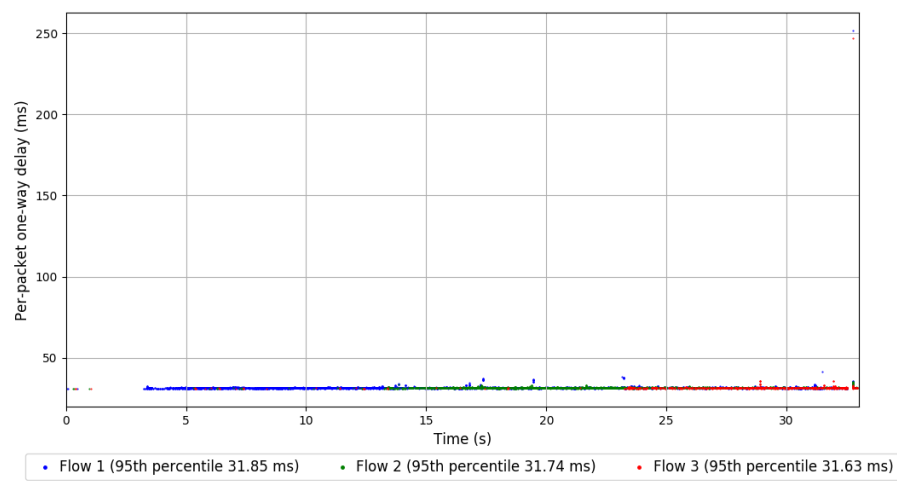
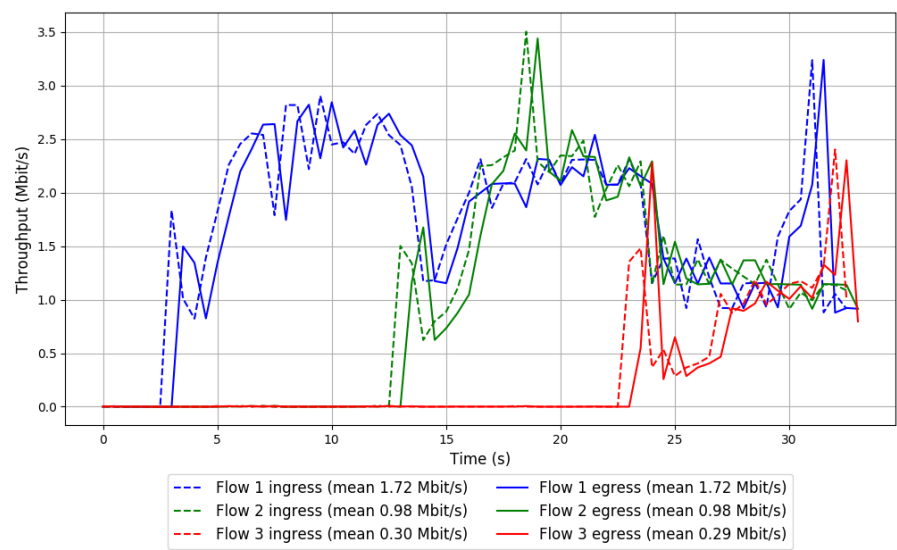


Run 1: Statistics of WebRTC media

Start at: 2019-01-22 02:51:13  
End at: 2019-01-22 02:51:43  
Local clock offset: -3.626 ms  
Remote clock offset: -5.221 ms

# Below is generated by plot.py at 2019-01-22 05:22:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.98 Mbit/s  
95th percentile per-packet one-way delay: 31.797 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 1.72 Mbit/s  
95th percentile per-packet one-way delay: 31.854 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 0.98 Mbit/s  
95th percentile per-packet one-way delay: 31.737 ms  
Loss rate: 0.27%  
-- Flow 3:  
Average throughput: 0.29 Mbit/s  
95th percentile per-packet one-way delay: 31.634 ms  
Loss rate: 1.97%

Run 1: Report of WebRTC media — Data Link

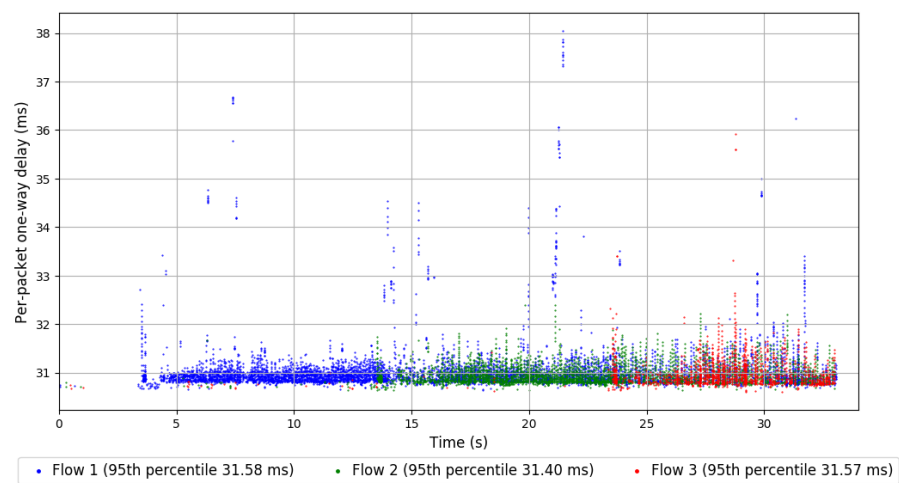
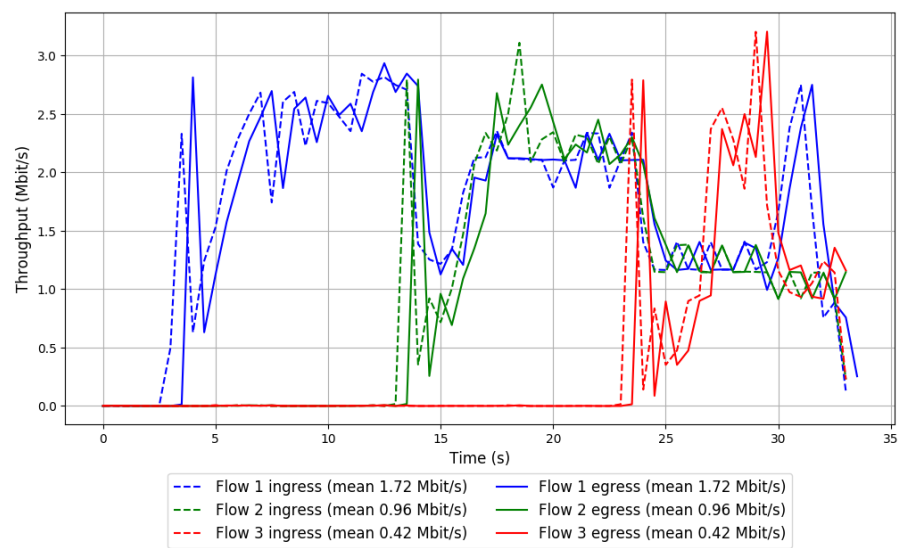


Run 2: Statistics of WebRTC media

Start at: 2019-01-22 03:22:02  
End at: 2019-01-22 03:22:32  
Local clock offset: -1.609 ms  
Remote clock offset: -1.963 ms

# Below is generated by plot.py at 2019-01-22 05:22:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.08 Mbit/s  
95th percentile per-packet one-way delay: 31.509 ms  
Loss rate: 0.22%  
-- Flow 1:  
Average throughput: 1.72 Mbit/s  
95th percentile per-packet one-way delay: 31.581 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.96 Mbit/s  
95th percentile per-packet one-way delay: 31.402 ms  
Loss rate: 0.36%  
-- Flow 3:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 31.569 ms  
Loss rate: 0.84%

Run 2: Report of WebRTC media — Data Link

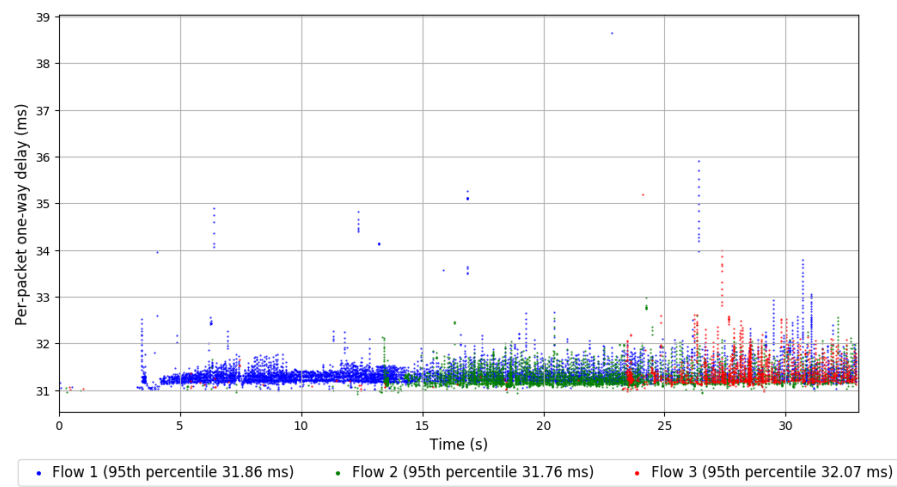
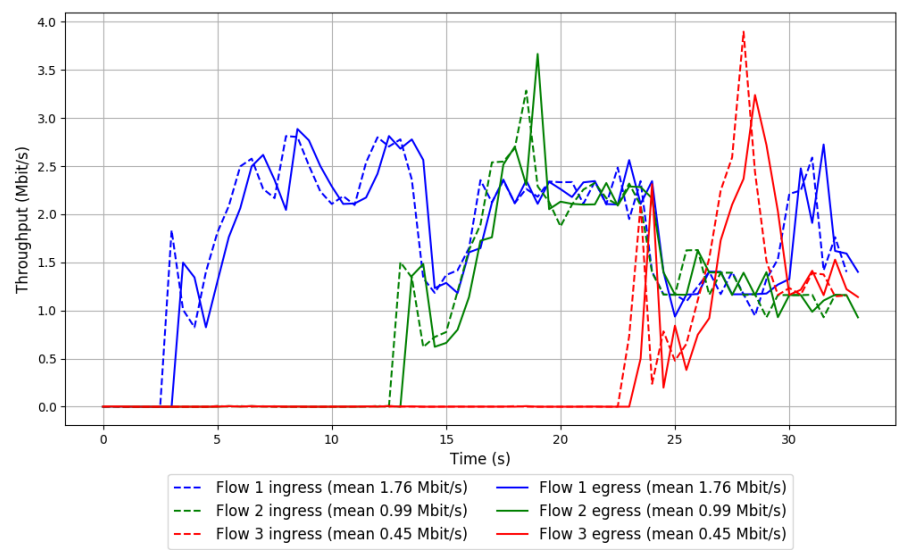


Run 3: Statistics of WebRTC media

Start at: 2019-01-22 03:58:05  
End at: 2019-01-22 03:58:35  
Local clock offset: 0.291 ms  
Remote clock offset: -0.559 ms

# Below is generated by plot.py at 2019-01-22 05:22:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.18 Mbit/s  
95th percentile per-packet one-way delay: 31.869 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 1.76 Mbit/s  
95th percentile per-packet one-way delay: 31.862 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 0.99 Mbit/s  
95th percentile per-packet one-way delay: 31.760 ms  
Loss rate: 0.36%  
-- Flow 3:  
Average throughput: 0.45 Mbit/s  
95th percentile per-packet one-way delay: 32.074 ms  
Loss rate: 0.07%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-22 04:28:48

End at: 2019-01-22 04:29:18

Local clock offset: 0.179 ms

Remote clock offset: 0.451 ms

# Below is generated by plot.py at 2019-01-22 05:22:50

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.12 Mbit/s

95th percentile per-packet one-way delay: 31.509 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 1.74 Mbit/s

95th percentile per-packet one-way delay: 31.478 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 31.560 ms

Loss rate: 0.00%

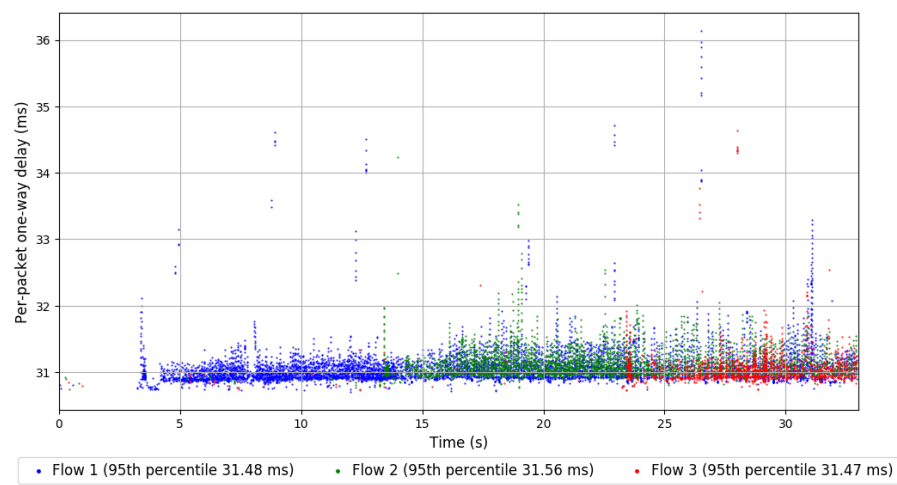
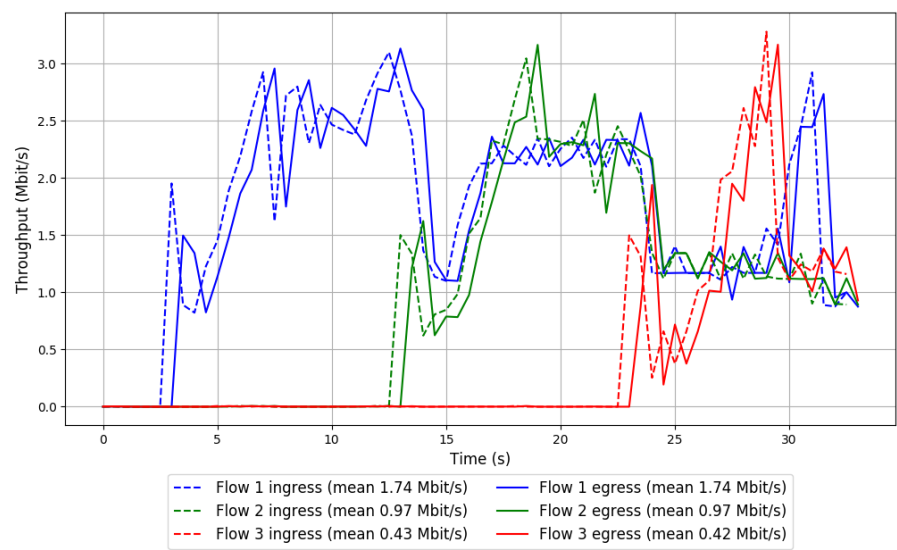
-- Flow 3:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 31.468 ms

Loss rate: 0.83%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-01-22 04:58:34

End at: 2019-01-22 04:59:04

Local clock offset: 0.177 ms

Remote clock offset: 0.523 ms

# Below is generated by plot.py at 2019-01-22 05:22:50

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.12 Mbit/s

95th percentile per-packet one-way delay: 31.516 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 31.570 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 0.99 Mbit/s

95th percentile per-packet one-way delay: 31.458 ms

Loss rate: 0.34%

-- Flow 3:

Average throughput: 0.34 Mbit/s

95th percentile per-packet one-way delay: 31.420 ms

Loss rate: 0.68%

Run 5: Report of WebRTC media — Data Link

