

## Pantheon Report

Generated at 2019-01-20 03:48:40 (UTC).

Data path: GCE Tokyo on `ens4` (*remote*) → GCE Sydney on `ens4` (*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.google.com` and have been applied to correct the timestamps in logs.

### System info:

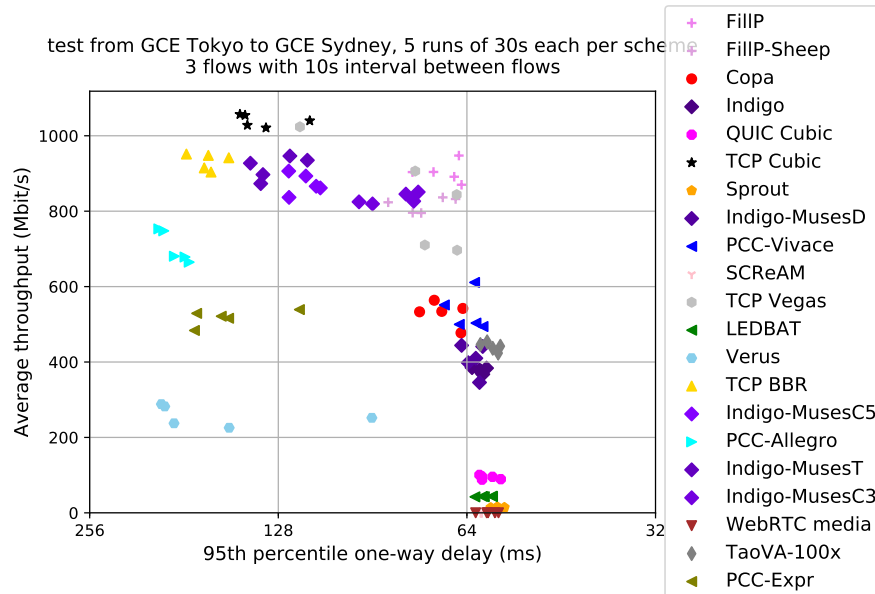
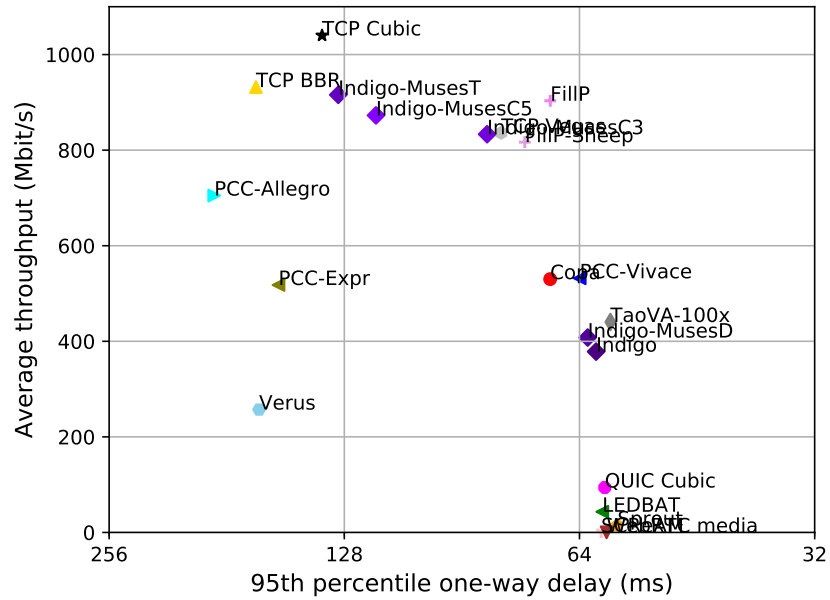
```
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ c80a283586bf7b0cc1fe08c69c8f60d56498f81c
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ c3eee875824760ec5b2fd207fefe166e1afe2170
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 GCE Tokyo to GCE Sydney, 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	485.46	466.24	413.57	165.15	159.33	146.55	1.31	1.21	2.22
Copa	5	279.06	258.99	239.16	65.20	69.98	77.28	0.35	0.53	1.34
TCP Cubic	5	550.49	517.22	441.72	118.47	130.13	150.42	0.48	0.88	2.24
FillP	5	574.62	366.61	259.98	72.48	61.77	61.29	0.19	0.51	1.43
FillP-Sheep	5	516.38	325.26	256.66	83.59	62.15	61.66	0.26	0.43	1.21
Indigo	5	202.77	181.76	166.07	59.96	60.40	60.14	0.38	0.61	1.33
Indigo-MusesC3	5	502.66	424.76	221.02	89.11	72.13	65.05	0.36	0.65	2.79
Indigo-MusesC5	5	536.55	444.60	185.19	114.57	122.50	73.31	0.32	0.45	1.97
Indigo-MusesD	5	316.74	130.05	28.46	63.16	60.70	59.57	0.46	1.00	3.32
Indigo-MusesT	5	551.79	462.03	245.46	136.42	101.70	65.81	0.42	0.63	2.55
LEDBAT	5	28.13	18.35	9.06	58.92	58.69	58.71	0.76	1.17	2.36
PCC-Allegro	5	405.25	309.41	289.08	193.38	141.71	133.03	4.84	3.22	4.38
PCC-Expr	5	304.56	241.66	161.38	162.81	129.98	91.50	2.96	1.03	3.19
QUIC Cubic	5	54.29	41.32	36.67	57.44	58.80	58.83	0.44	1.07	1.73
SCReAM	5	0.22	0.22	0.22	57.46	58.76	58.77	0.38	0.61	1.01
Sprout	5	7.51	7.37	6.80	57.09	57.23	57.44	0.30	0.48	1.24
TaoVA-100x	5	226.67	219.21	206.22	58.27	58.14	58.28	0.39	0.63	1.04
TCP Vegas	5	410.18	424.45	435.70	73.91	82.70	84.83	0.39	0.52	1.32
Verus	5	139.30	125.49	105.56	114.42	142.31	125.64	0.96	1.31	3.73
PCC-Vivace	5	342.13	247.46	78.39	63.59	72.21	61.82	0.35	0.66	2.66
WebRTC media	5	0.05	0.05	0.05	58.32	57.53	57.77	0.00	0.00	0.00

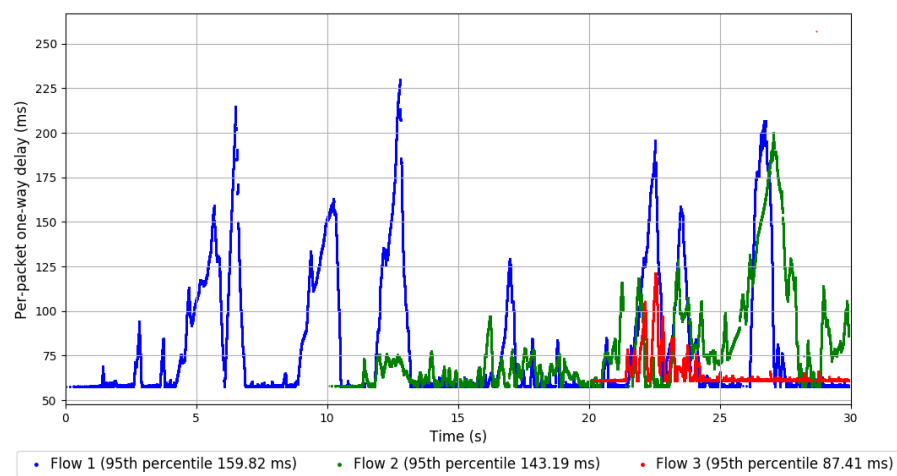
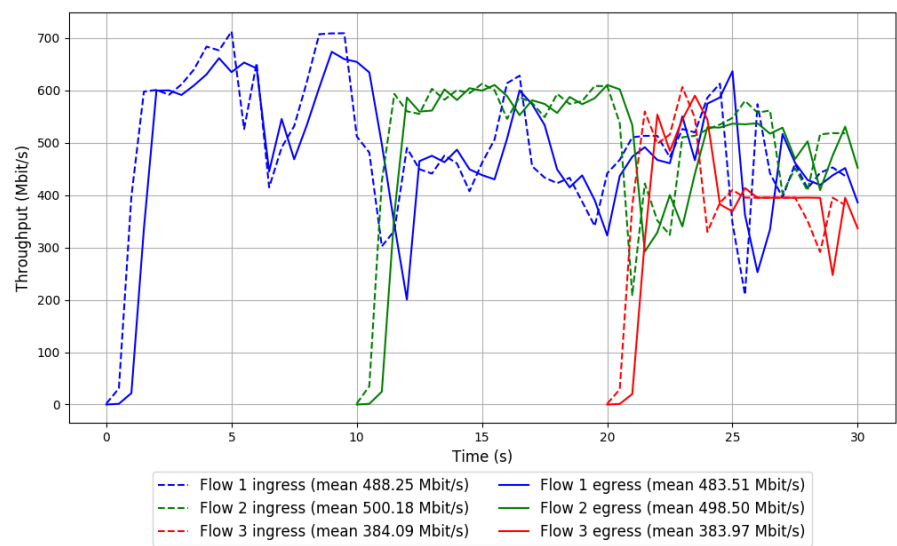


Run 1: Statistics of TCP BBR

Start at: 2019-01-19 21:46:23  
End at: 2019-01-19 21:46:53  
Local clock offset: -0.028 ms  
Remote clock offset: -0.636 ms

# Below is generated by plot.py at 2019-01-20 01:07:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 941.66 Mbit/s  
95th percentile per-packet one-way delay: 153.540 ms  
Loss rate: 1.18%  
-- Flow 1:  
Average throughput: 483.51 Mbit/s  
95th percentile per-packet one-way delay: 159.824 ms  
Loss rate: 1.35%  
-- Flow 2:  
Average throughput: 498.50 Mbit/s  
95th percentile per-packet one-way delay: 143.192 ms  
Loss rate: 0.91%  
-- Flow 3:  
Average throughput: 383.97 Mbit/s  
95th percentile per-packet one-way delay: 87.408 ms  
Loss rate: 1.22%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-01-19 22:26:01

End at: 2019-01-19 22:26:31

Local clock offset: 0.441 ms

Remote clock offset: 0.566 ms

# Below is generated by plot.py at 2019-01-20 01:07:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 914.75 Mbit/s

95th percentile per-packet one-way delay: 168.028 ms

Loss rate: 1.54%

-- Flow 1:

Average throughput: 495.49 Mbit/s

95th percentile per-packet one-way delay: 157.872 ms

Loss rate: 1.51%

-- Flow 2:

Average throughput: 413.07 Mbit/s

95th percentile per-packet one-way delay: 154.902 ms

Loss rate: 0.80%

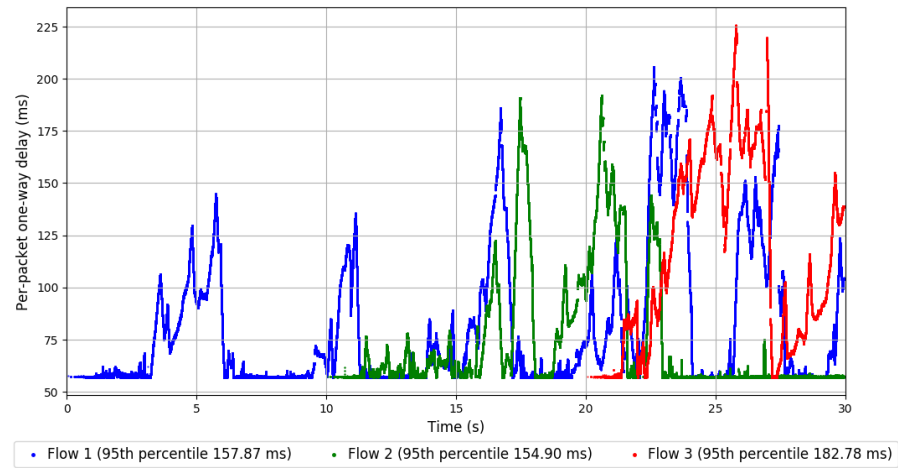
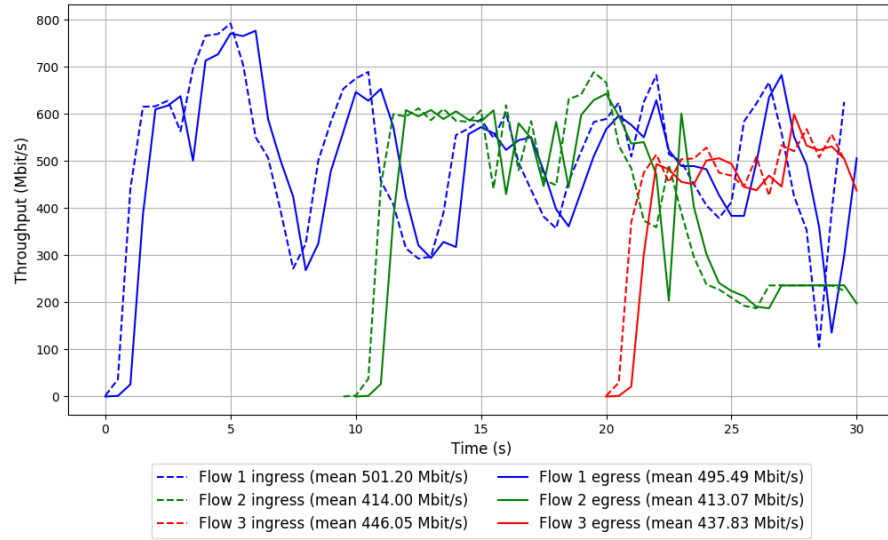
-- Flow 3:

Average throughput: 437.83 Mbit/s

95th percentile per-packet one-way delay: 182.778 ms

Loss rate: 2.97%

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

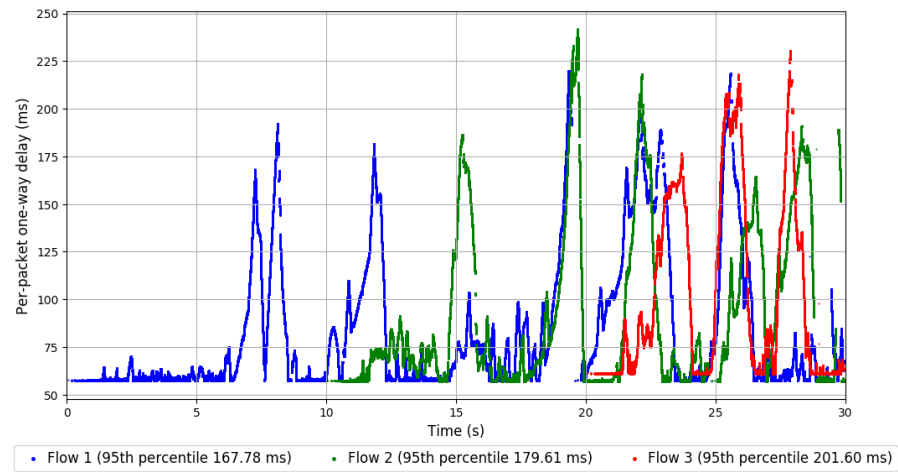
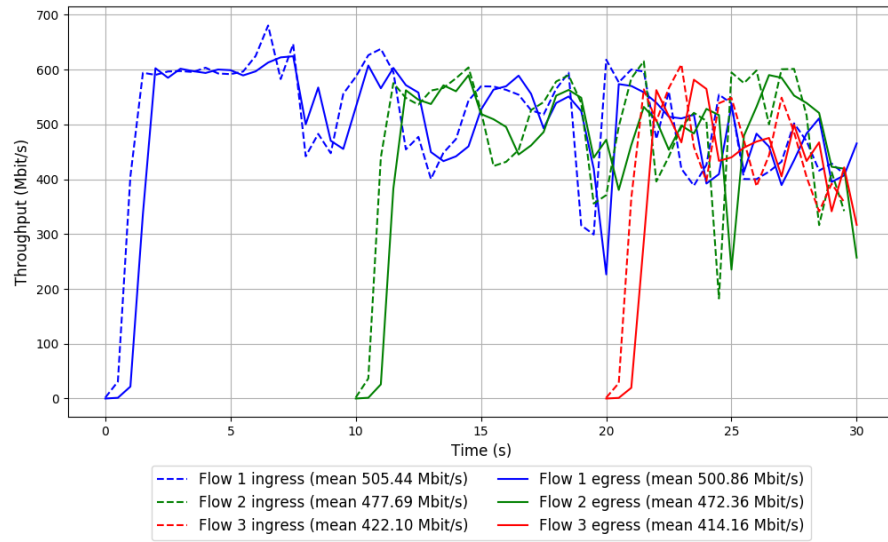


Run 3: Statistics of TCP BBR

Start at: 2019-01-19 23:05:43  
End at: 2019-01-19 23:06:13  
Local clock offset: 0.31 ms  
Remote clock offset: -0.153 ms

# Below is generated by plot.py at 2019-01-20 01:07:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 951.54 Mbit/s  
95th percentile per-packet one-way delay: 179.411 ms  
Loss rate: 1.48%  
-- Flow 1:  
Average throughput: 500.86 Mbit/s  
95th percentile per-packet one-way delay: 167.777 ms  
Loss rate: 0.92%  
-- Flow 2:  
Average throughput: 472.36 Mbit/s  
95th percentile per-packet one-way delay: 179.613 ms  
Loss rate: 1.68%  
-- Flow 3:  
Average throughput: 414.16 Mbit/s  
95th percentile per-packet one-way delay: 201.602 ms  
Loss rate: 3.04%

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

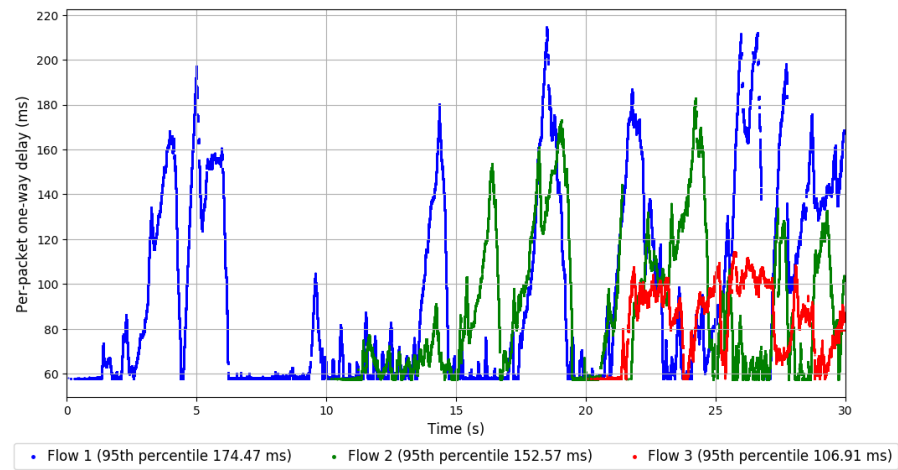
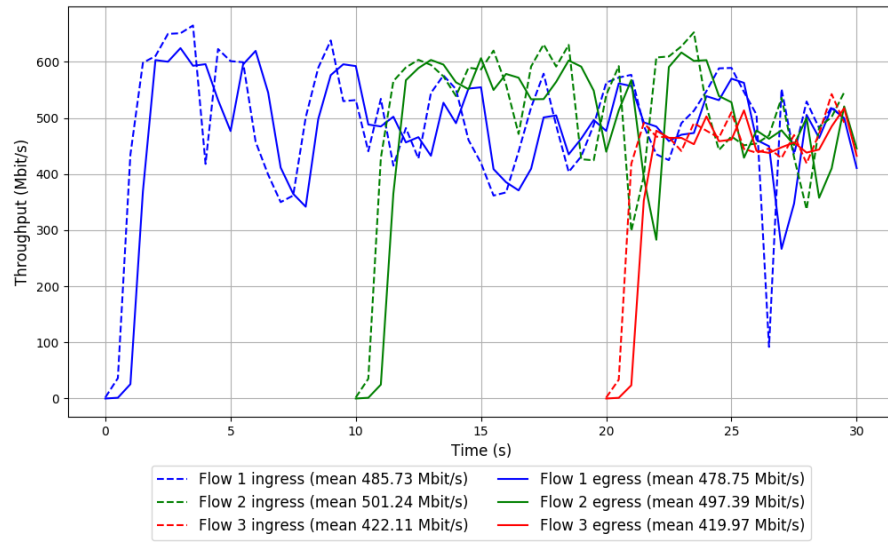


Run 4: Statistics of TCP BBR

Start at: 2019-01-19 23:45:22  
End at: 2019-01-19 23:45:52  
Local clock offset: 0.39 ms  
Remote clock offset: -0.302 ms

# Below is generated by plot.py at 2019-01-20 01:07:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 948.00 Mbit/s  
95th percentile per-packet one-way delay: 165.527 ms  
Loss rate: 1.63%  
-- Flow 1:  
Average throughput: 478.75 Mbit/s  
95th percentile per-packet one-way delay: 174.471 ms  
Loss rate: 1.82%  
-- Flow 2:  
Average throughput: 497.39 Mbit/s  
95th percentile per-packet one-way delay: 152.572 ms  
Loss rate: 1.34%  
-- Flow 3:  
Average throughput: 419.97 Mbit/s  
95th percentile per-packet one-way delay: 106.907 ms  
Loss rate: 1.66%

# Run 4: Report of TCP BBR — Data Link





Run 5: Statistics of TCP BBR

Start at: 2019-01-20 00:25:34

End at: 2019-01-20 00:26:04

Local clock offset: 0.346 ms

Remote clock offset: 0.754 ms

# Below is generated by plot.py at 2019-01-20 01:07:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 903.81 Mbit/s

95th percentile per-packet one-way delay: 163.897 ms

Loss rate: 1.27%

-- Flow 1:

Average throughput: 468.69 Mbit/s

95th percentile per-packet one-way delay: 165.789 ms

Loss rate: 0.97%

-- Flow 2:

Average throughput: 449.89 Mbit/s

95th percentile per-packet one-way delay: 166.372 ms

Loss rate: 1.30%

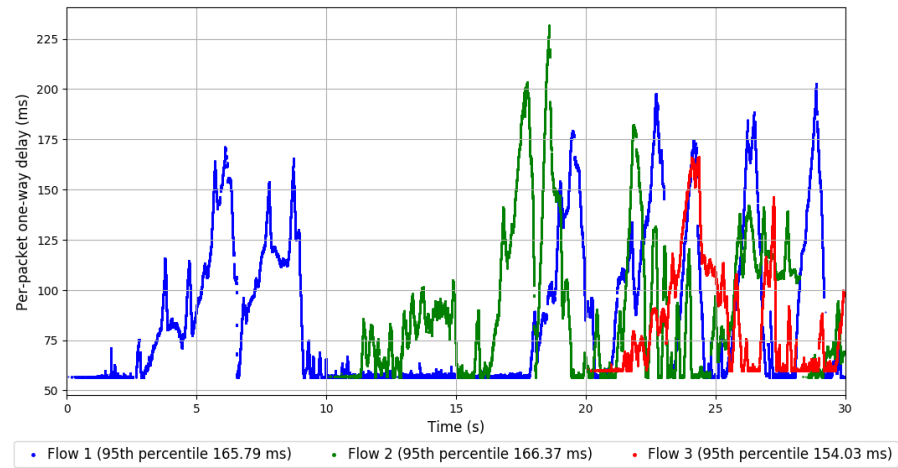
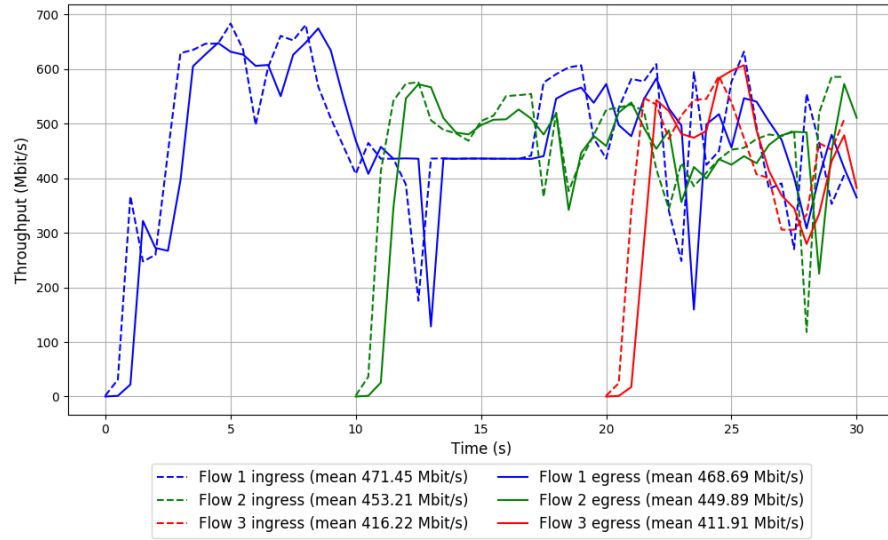
-- Flow 3:

Average throughput: 411.91 Mbit/s

95th percentile per-packet one-way delay: 154.032 ms

Loss rate: 2.22%

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



Run 1: Statistics of Copa

Start at: 2019-01-19 21:48:37

End at: 2019-01-19 21:49:07

Local clock offset: -0.473 ms

Remote clock offset: 0.087 ms

# Below is generated by plot.py at 2019-01-20 01:08:40

# Datalink statistics

-- Total of 3 flows:

Average throughput: 534.28 Mbit/s

95th percentile per-packet one-way delay: 70.194 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 284.56 Mbit/s

95th percentile per-packet one-way delay: 65.080 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 263.65 Mbit/s

95th percentile per-packet one-way delay: 69.697 ms

Loss rate: 0.60%

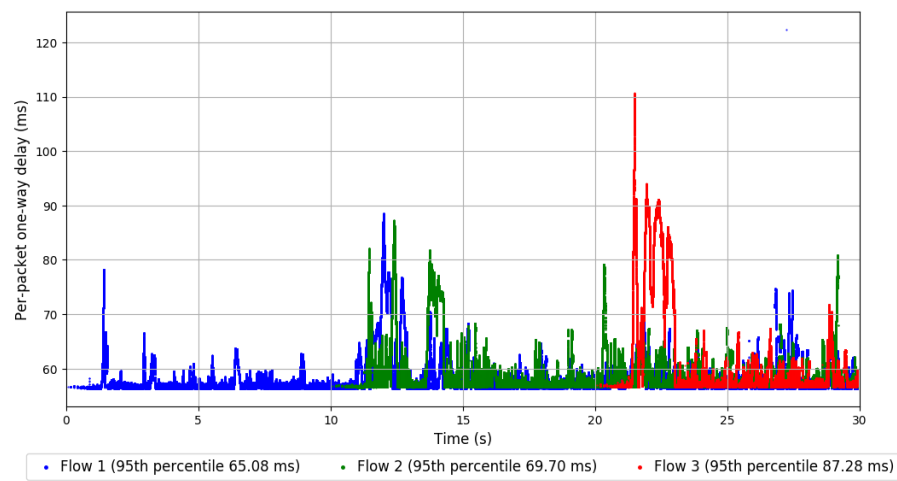
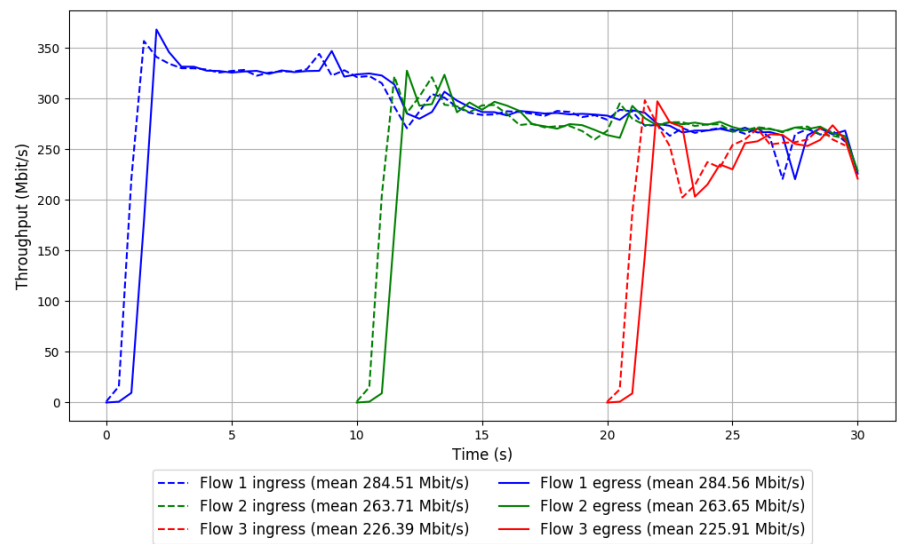
-- Flow 3:

Average throughput: 225.91 Mbit/s

95th percentile per-packet one-way delay: 87.283 ms

Loss rate: 1.35%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-01-19 22:28:23

End at: 2019-01-19 22:28:53

Local clock offset: -0.408 ms

Remote clock offset: 0.437 ms

# Below is generated by plot.py at 2019-01-20 01:08:40

# Datalink statistics

-- Total of 3 flows:

Average throughput: 477.30 Mbit/s

95th percentile per-packet one-way delay: 65.409 ms

Loss rate: 0.41%

-- Flow 1:

Average throughput: 248.68 Mbit/s

95th percentile per-packet one-way delay: 60.037 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 240.77 Mbit/s

95th percentile per-packet one-way delay: 66.236 ms

Loss rate: 0.25%

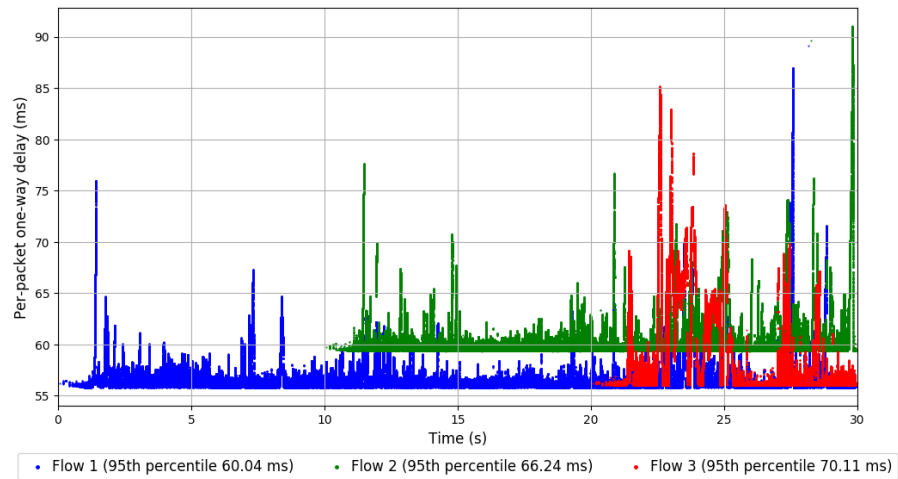
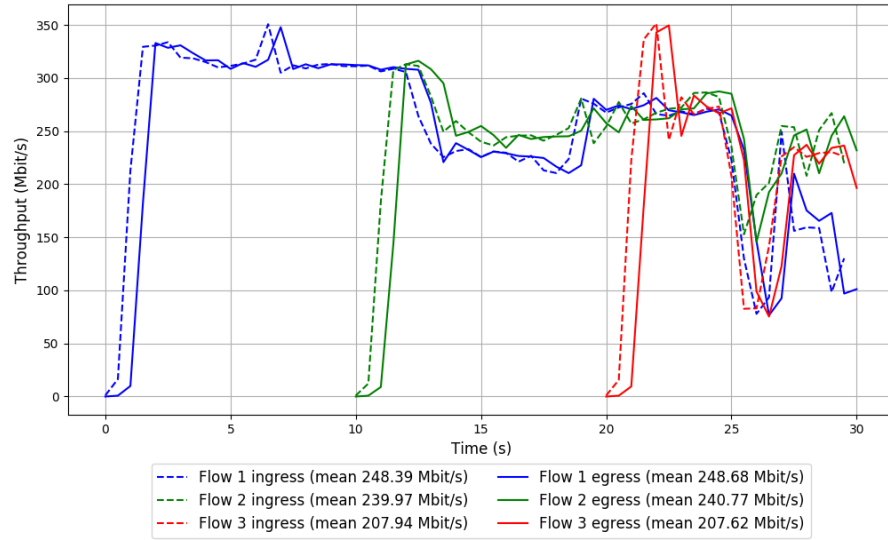
-- Flow 3:

Average throughput: 207.62 Mbit/s

95th percentile per-packet one-way delay: 70.108 ms

Loss rate: 1.30%

## Run 2: Report of Copa — Data Link

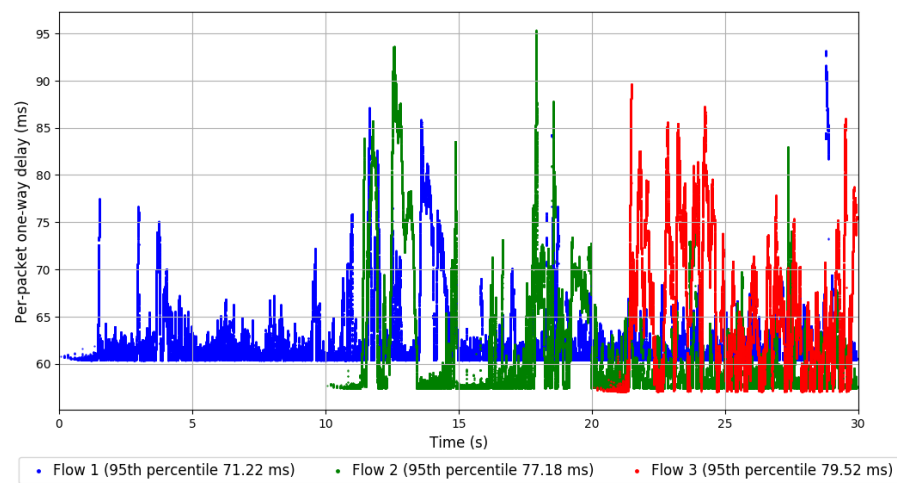
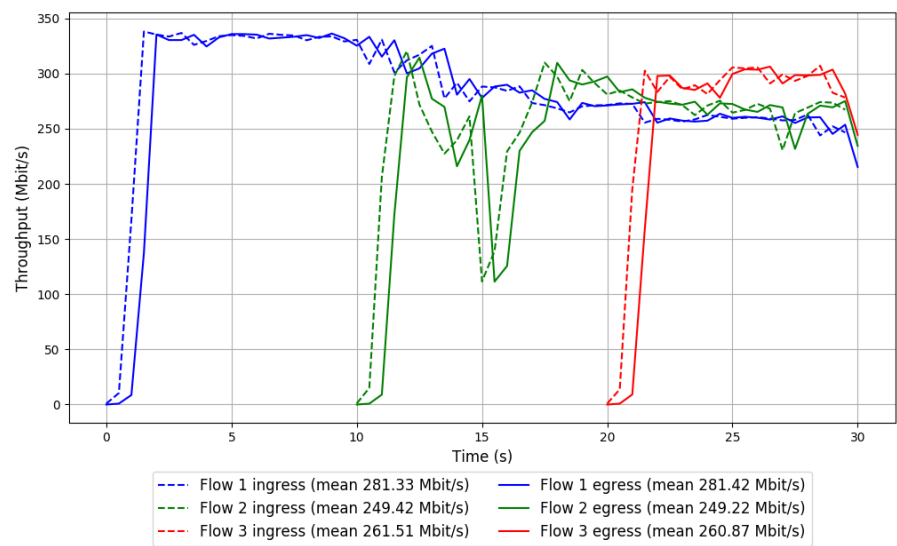


Run 3: Statistics of Copa

Start at: 2019-01-19 23:08:05  
End at: 2019-01-19 23:08:35  
Local clock offset: -0.014 ms  
Remote clock offset: -0.272 ms

# Below is generated by plot.py at 2019-01-20 01:08:40  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 533.13 Mbit/s  
95th percentile per-packet one-way delay: 76.161 ms  
Loss rate: 0.62%  
-- Flow 1:  
Average throughput: 281.42 Mbit/s  
95th percentile per-packet one-way delay: 71.219 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 249.22 Mbit/s  
95th percentile per-packet one-way delay: 77.182 ms  
Loss rate: 0.65%  
-- Flow 3:  
Average throughput: 260.87 Mbit/s  
95th percentile per-packet one-way delay: 79.516 ms  
Loss rate: 1.39%

Run 3: Report of Copa — Data Link



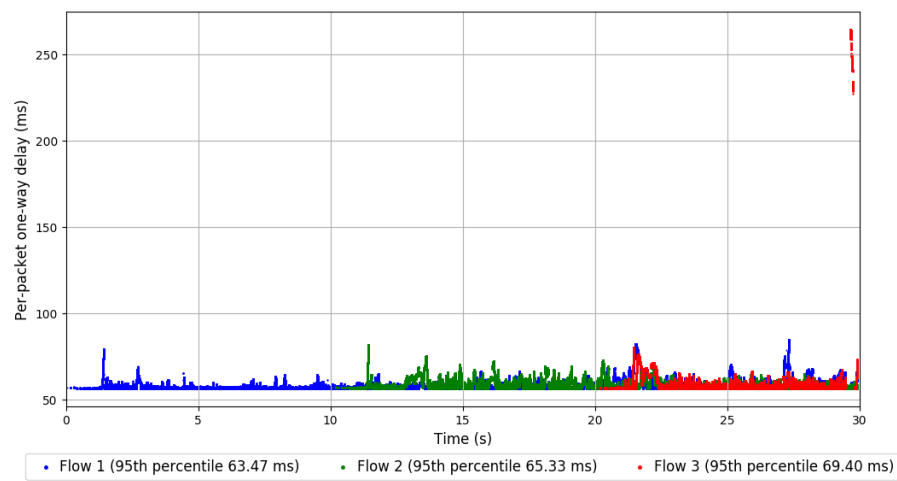
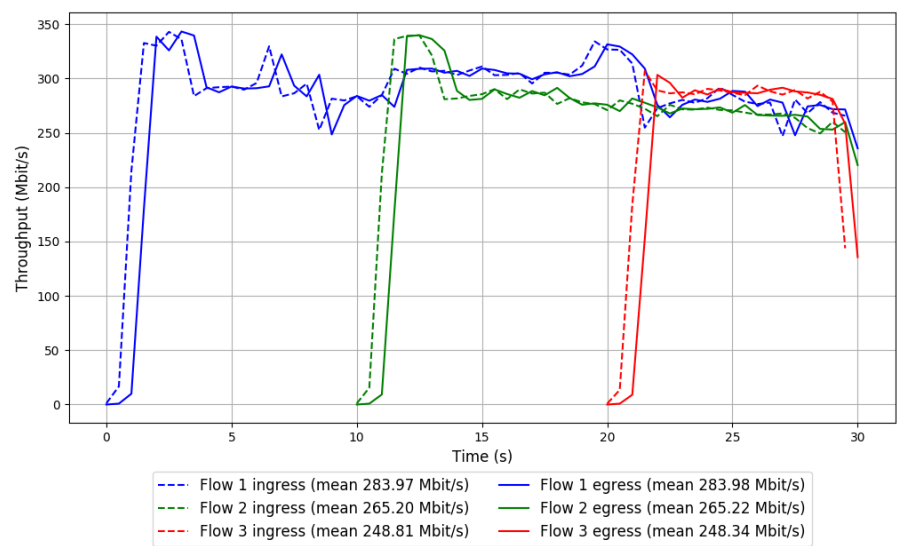


Run 4: Statistics of Copa

Start at: 2019-01-19 23:47:33  
End at: 2019-01-19 23:48:03  
Local clock offset: -0.339 ms  
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2019-01-20 01:26:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 542.13 Mbit/s  
95th percentile per-packet one-way delay: 64.967 ms  
Loss rate: 0.58%  
-- Flow 1:  
Average throughput: 283.98 Mbit/s  
95th percentile per-packet one-way delay: 63.471 ms  
Loss rate: 0.38%  
-- Flow 2:  
Average throughput: 265.22 Mbit/s  
95th percentile per-packet one-way delay: 65.328 ms  
Loss rate: 0.57%  
-- Flow 3:  
Average throughput: 248.34 Mbit/s  
95th percentile per-packet one-way delay: 69.397 ms  
Loss rate: 1.33%

Run 4: Report of Copa — Data Link

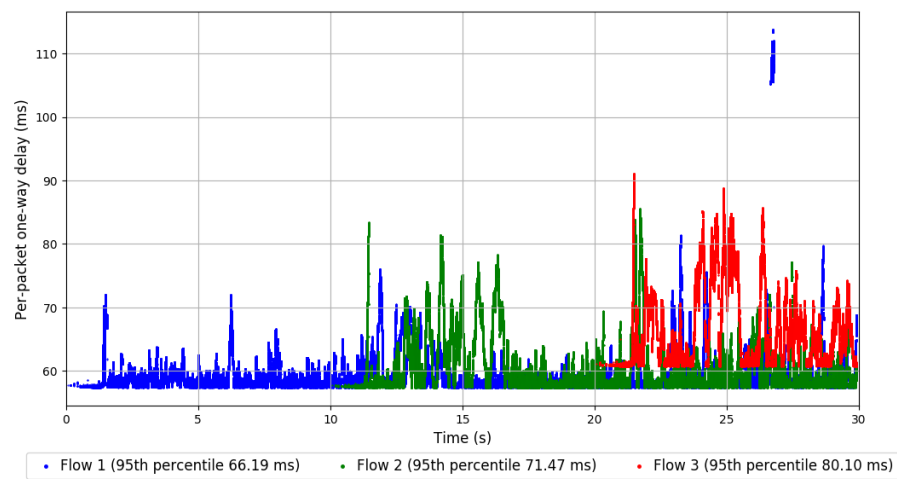
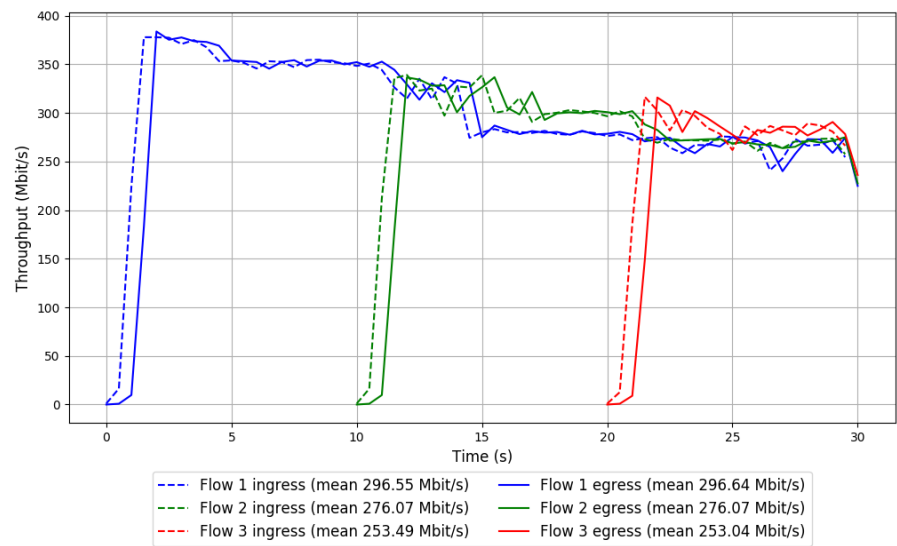


Run 5: Statistics of Copa

Start at: 2019-01-20 00:27:55  
End at: 2019-01-20 00:28:25  
Local clock offset: -0.096 ms  
Remote clock offset: -0.618 ms

# Below is generated by plot.py at 2019-01-20 01:28:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 563.76 Mbit/s  
95th percentile per-packet one-way delay: 72.159 ms  
Loss rate: 0.57%  
-- Flow 1:  
Average throughput: 296.64 Mbit/s  
95th percentile per-packet one-way delay: 66.188 ms  
Loss rate: 0.35%  
-- Flow 2:  
Average throughput: 276.07 Mbit/s  
95th percentile per-packet one-way delay: 71.467 ms  
Loss rate: 0.57%  
-- Flow 3:  
Average throughput: 253.04 Mbit/s  
95th percentile per-packet one-way delay: 80.103 ms  
Loss rate: 1.35%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-01-19 21:35:02

End at: 2019-01-19 21:35:32

Local clock offset: -0.035 ms

Remote clock offset: 0.519 ms

# Below is generated by plot.py at 2019-01-20 01:28:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 1039.95 Mbit/s

95th percentile per-packet one-way delay: 114.026 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 550.97 Mbit/s

95th percentile per-packet one-way delay: 115.095 ms

Loss rate: 0.52%

-- Flow 2:

Average throughput: 519.76 Mbit/s

95th percentile per-packet one-way delay: 114.838 ms

Loss rate: 0.75%

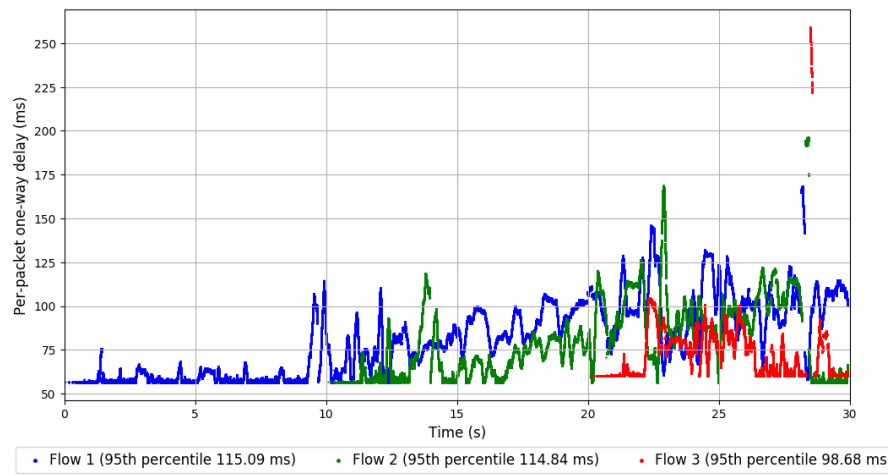
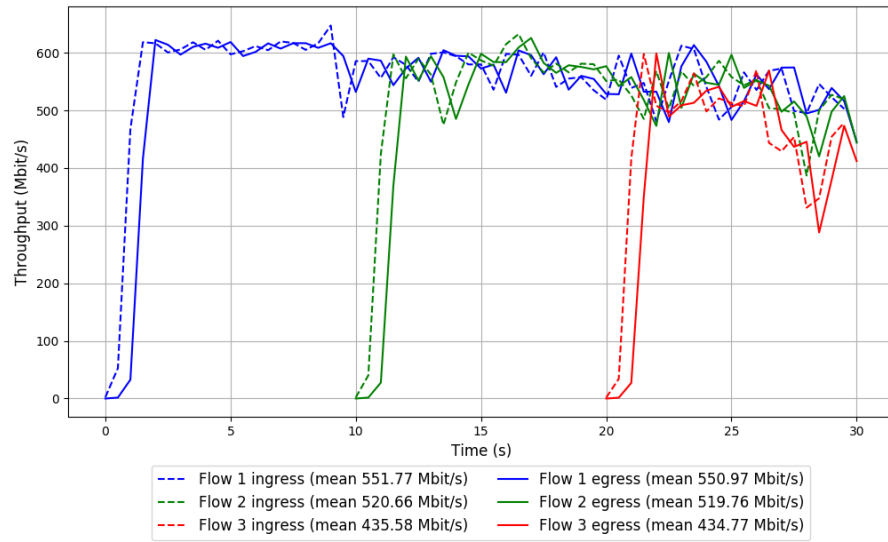
-- Flow 3:

Average throughput: 434.77 Mbit/s

95th percentile per-packet one-way delay: 98.676 ms

Loss rate: 1.37%

# Run 1: Report of TCP Cubic — Data Link

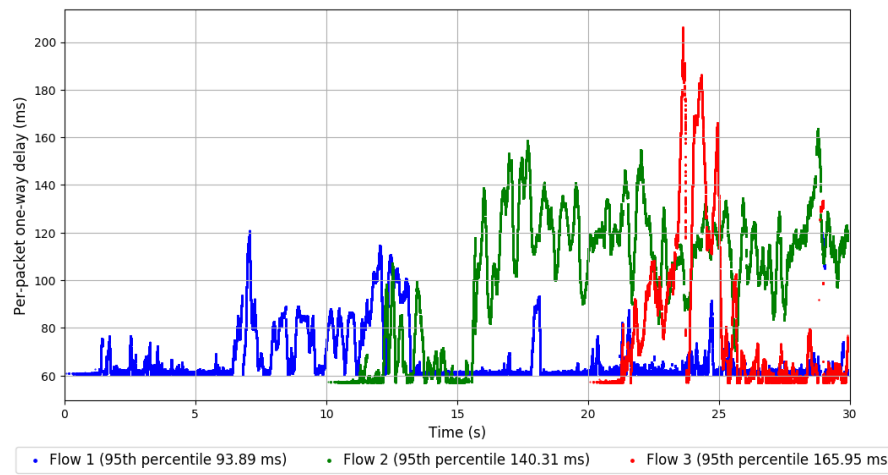
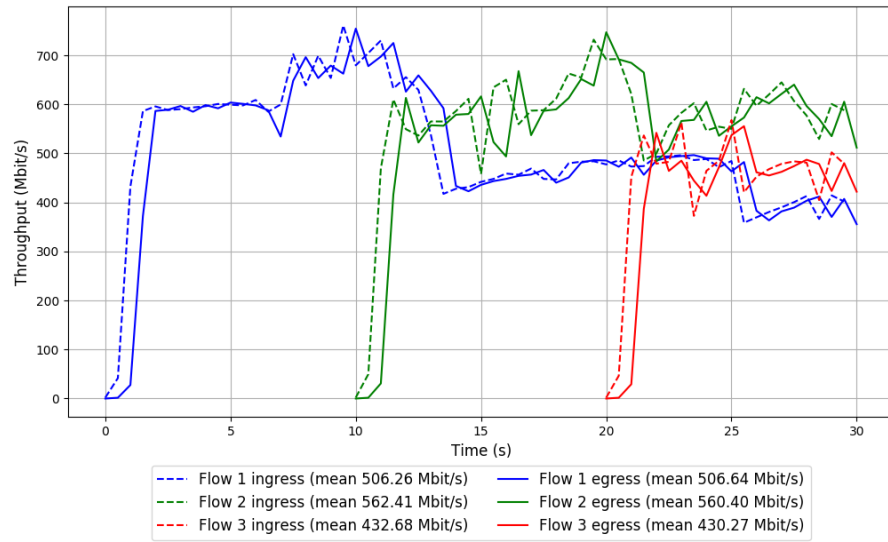


Run 2: Statistics of TCP Cubic

Start at: 2019-01-19 22:14:41  
End at: 2019-01-19 22:15:11  
Local clock offset: 0.195 ms  
Remote clock offset: -0.023 ms

# Below is generated by plot.py at 2019-01-20 01:28:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1021.17 Mbit/s  
95th percentile per-packet one-way delay: 133.926 ms  
Loss rate: 0.74%  
-- Flow 1:  
Average throughput: 506.64 Mbit/s  
95th percentile per-packet one-way delay: 93.895 ms  
Loss rate: 0.32%  
-- Flow 2:  
Average throughput: 560.40 Mbit/s  
95th percentile per-packet one-way delay: 140.306 ms  
Loss rate: 0.93%  
-- Flow 3:  
Average throughput: 430.27 Mbit/s  
95th percentile per-packet one-way delay: 165.949 ms  
Loss rate: 1.70%

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





Run 3: Statistics of TCP Cubic

Start at: 2019-01-19 22:54:27

End at: 2019-01-19 22:54:57

Local clock offset: 0.005 ms

Remote clock offset: 0.573 ms

# Below is generated by plot.py at 2019-01-20 01:29:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 1056.79 Mbit/s

95th percentile per-packet one-way delay: 147.377 ms

Loss rate: 0.96%

-- Flow 1:

Average throughput: 555.14 Mbit/s

95th percentile per-packet one-way delay: 147.612 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 536.43 Mbit/s

95th percentile per-packet one-way delay: 156.375 ms

Loss rate: 0.91%

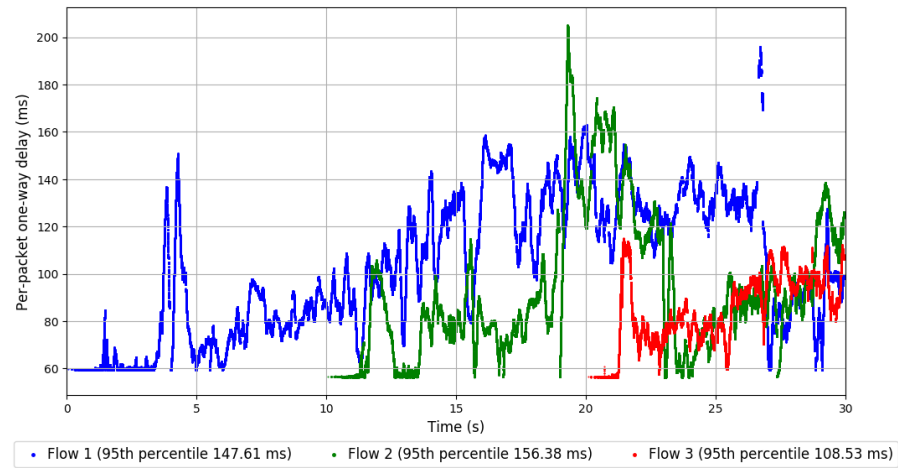
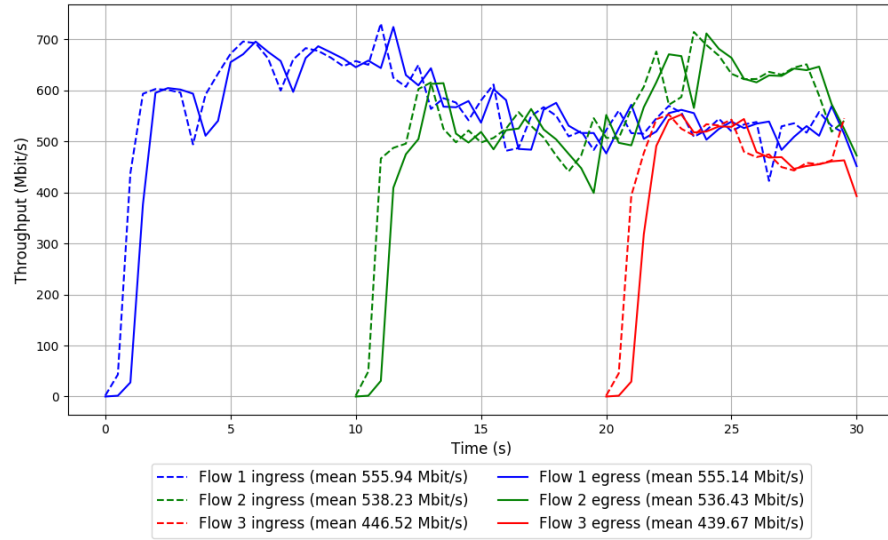
-- Flow 3:

Average throughput: 439.67 Mbit/s

95th percentile per-packet one-way delay: 108.529 ms

Loss rate: 2.65%

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

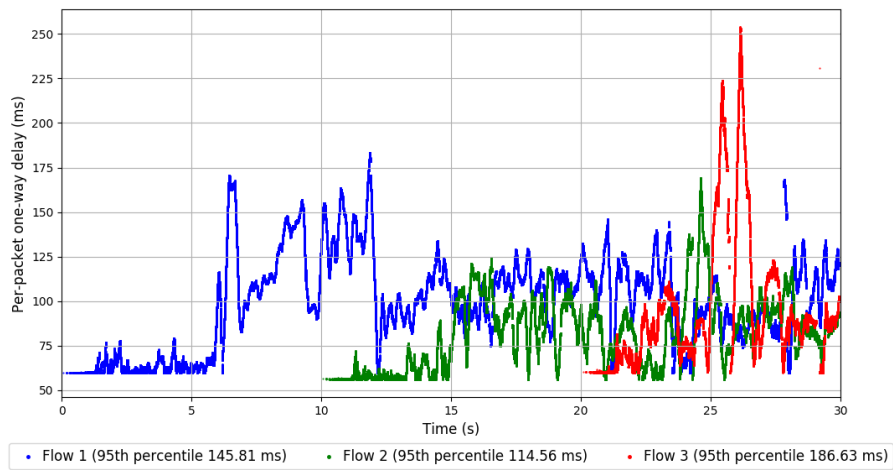
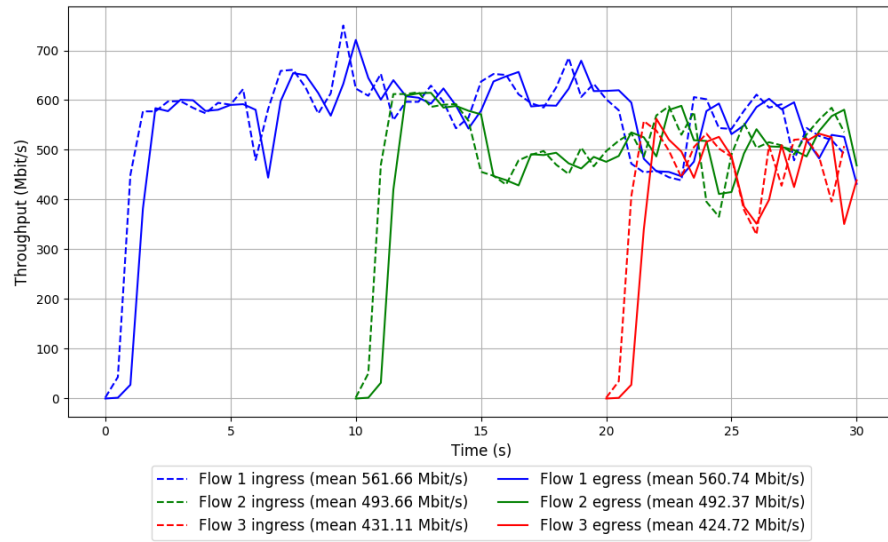


Run 4: Statistics of TCP Cubic

Start at: 2019-01-19 23:34:41  
End at: 2019-01-19 23:35:11  
Local clock offset: -0.015 ms  
Remote clock offset: 0.661 ms

# Below is generated by plot.py at 2019-01-20 01:29:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1028.14 Mbit/s  
95th percentile per-packet one-way delay: 143.394 ms  
Loss rate: 0.93%  
-- Flow 1:  
Average throughput: 560.74 Mbit/s  
95th percentile per-packet one-way delay: 145.811 ms  
Loss rate: 0.56%  
-- Flow 2:  
Average throughput: 492.37 Mbit/s  
95th percentile per-packet one-way delay: 114.564 ms  
Loss rate: 0.83%  
-- Flow 3:  
Average throughput: 424.72 Mbit/s  
95th percentile per-packet one-way delay: 186.632 ms  
Loss rate: 2.65%

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



Run 5: Statistics of TCP Cubic

Start at: 2019-01-20 00:14:12

End at: 2019-01-20 00:14:42

Local clock offset: 0.091 ms

Remote clock offset: 0.095 ms

# Below is generated by plot.py at 2019-01-20 01:30:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 1054.28 Mbit/s

95th percentile per-packet one-way delay: 144.619 ms

Loss rate: 0.98%

-- Flow 1:

Average throughput: 578.98 Mbit/s

95th percentile per-packet one-way delay: 89.948 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 477.12 Mbit/s

95th percentile per-packet one-way delay: 124.555 ms

Loss rate: 0.99%

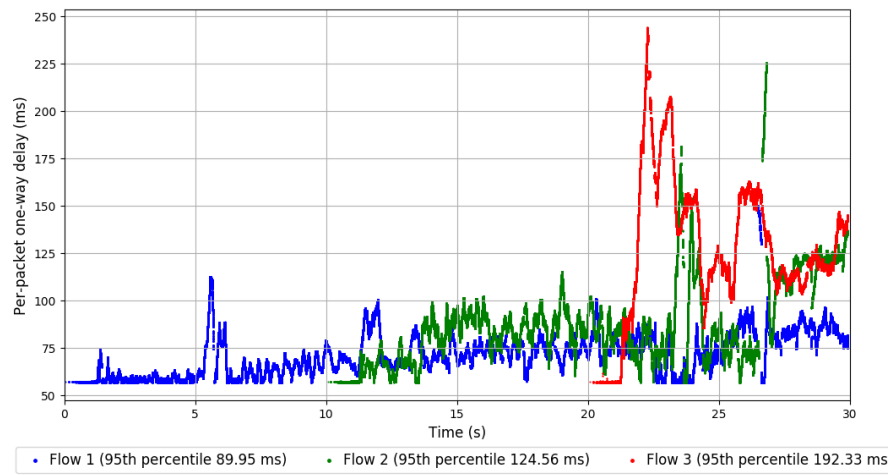
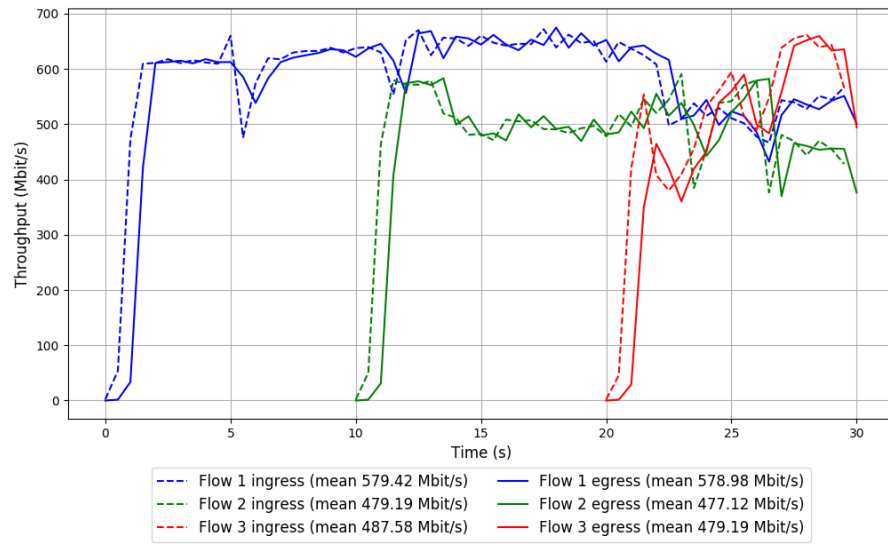
-- Flow 3:

Average throughput: 479.19 Mbit/s

95th percentile per-packet one-way delay: 192.326 ms

Loss rate: 2.85%

# Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-01-19 21:22:54

End at: 2019-01-19 21:23:24

Local clock offset: 0.354 ms

Remote clock offset: 0.743 ms

# Below is generated by plot.py at 2019-01-20 01:30:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 870.06 Mbit/s

95th percentile per-packet one-way delay: 65.275 ms

Loss rate: 0.35%

-- Flow 1:

Average throughput: 563.48 Mbit/s

95th percentile per-packet one-way delay: 66.994 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 339.82 Mbit/s

95th percentile per-packet one-way delay: 62.236 ms

Loss rate: 0.44%

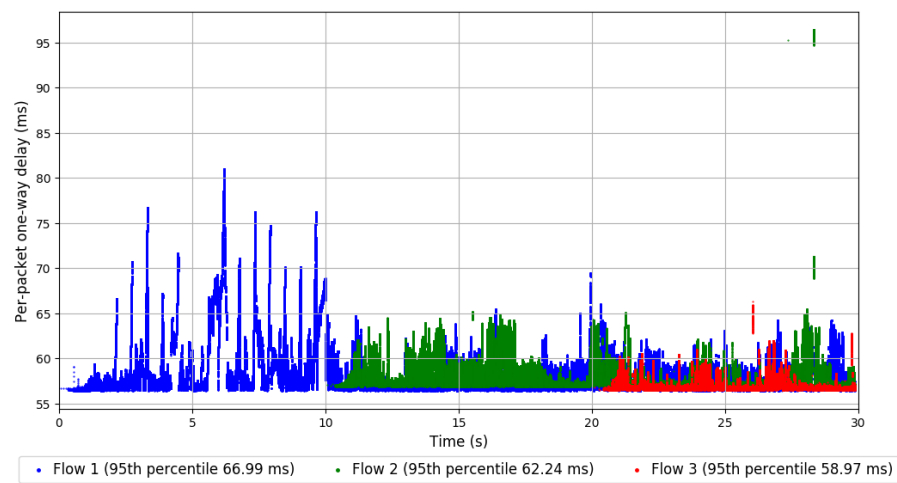
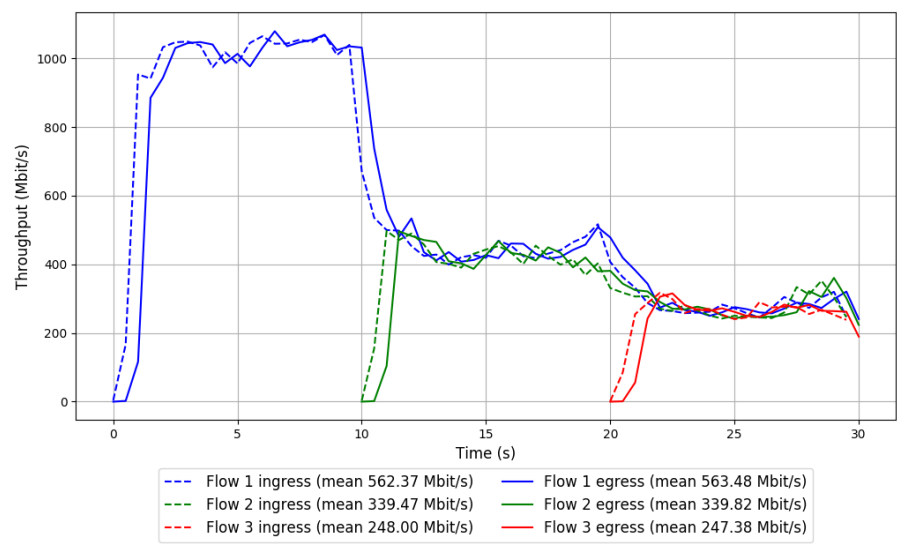
-- Flow 3:

Average throughput: 247.38 Mbit/s

95th percentile per-packet one-way delay: 58.971 ms

Loss rate: 1.42%

Run 1: Report of FillP — Data Link



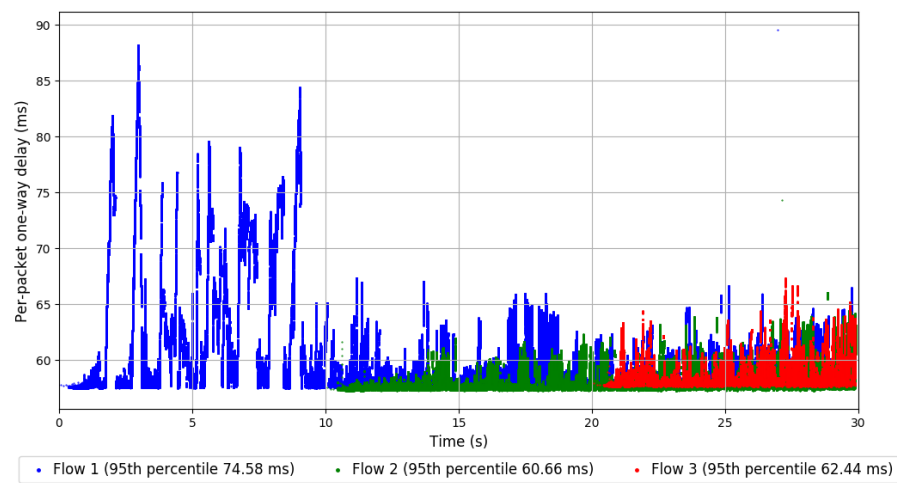
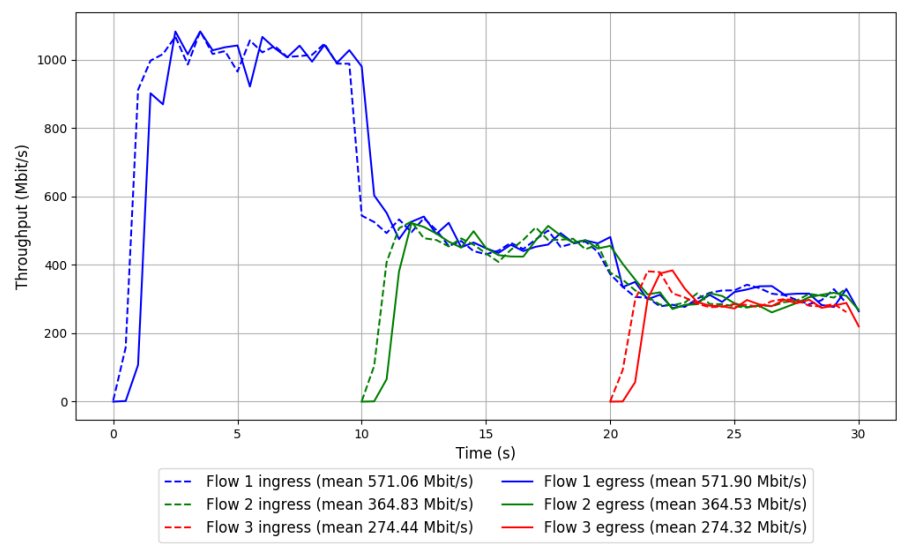


Run 2: Statistics of FillP

Start at: 2019-01-19 22:02:09  
End at: 2019-01-19 22:02:39  
Local clock offset: -0.055 ms  
Remote clock offset: -0.633 ms

# Below is generated by plot.py at 2019-01-20 01:49:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 904.02 Mbit/s  
95th percentile per-packet one-way delay: 72.361 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 571.90 Mbit/s  
95th percentile per-packet one-way delay: 74.580 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 364.53 Mbit/s  
95th percentile per-packet one-way delay: 60.663 ms  
Loss rate: 0.61%  
-- Flow 3:  
Average throughput: 274.32 Mbit/s  
95th percentile per-packet one-way delay: 62.435 ms  
Loss rate: 1.42%

Run 2: Report of FillP — Data Link

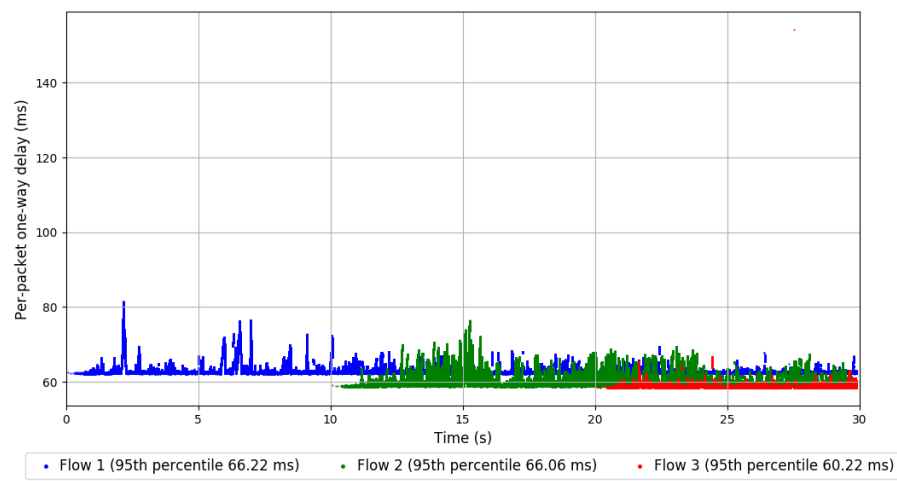
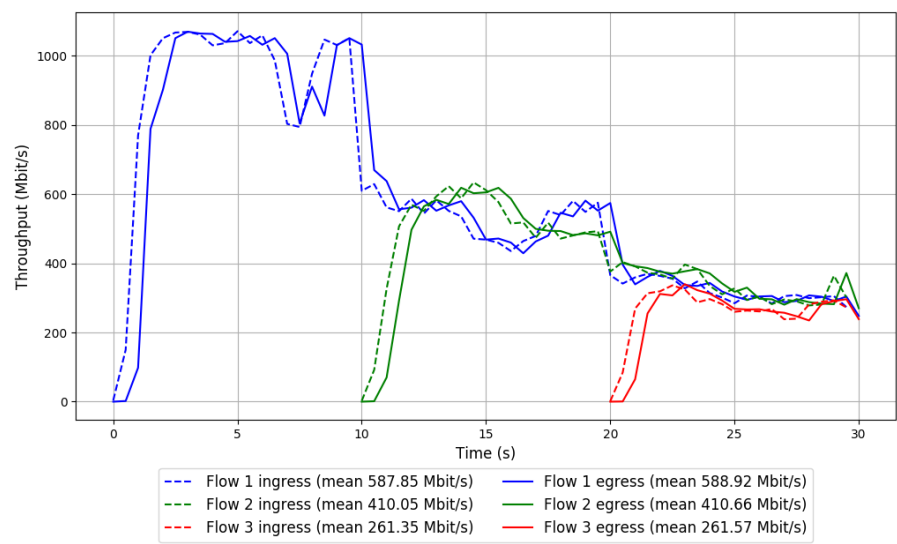


Run 3: Statistics of FillP

Start at: 2019-01-19 22:42:36  
End at: 2019-01-19 22:43:06  
Local clock offset: 0.364 ms  
Remote clock offset: -1.449 ms

# Below is generated by plot.py at 2019-01-20 01:51:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 947.50 Mbit/s  
95th percentile per-packet one-way delay: 65.915 ms  
Loss rate: 0.36%  
-- Flow 1:  
Average throughput: 588.92 Mbit/s  
95th percentile per-packet one-way delay: 66.217 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 410.66 Mbit/s  
95th percentile per-packet one-way delay: 66.056 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 261.57 Mbit/s  
95th percentile per-packet one-way delay: 60.223 ms  
Loss rate: 1.25%

Run 3: Report of FillP — Data Link

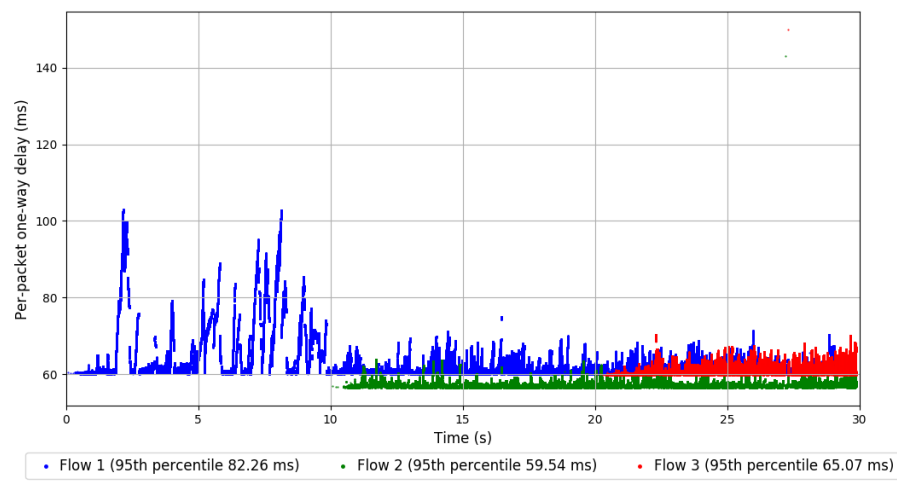
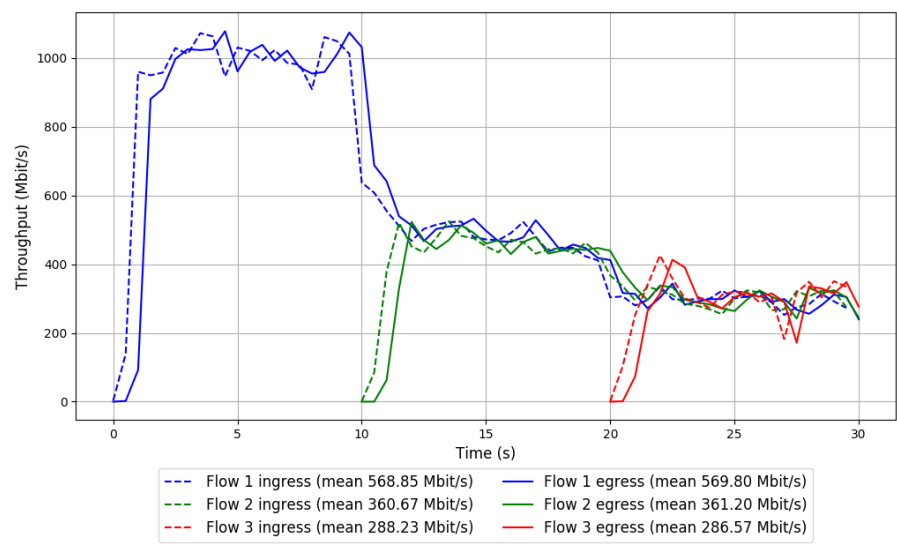


Run 4: Statistics of FillP

Start at: 2019-01-19 23:22:58  
End at: 2019-01-19 23:23:28  
Local clock offset: -0.059 ms  
Remote clock offset: 0.061 ms

# Below is generated by plot.py at 2019-01-20 01:51:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 903.69 Mbit/s  
95th percentile per-packet one-way delay: 78.175 ms  
Loss rate: 0.45%  
-- Flow 1:  
Average throughput: 569.80 Mbit/s  
95th percentile per-packet one-way delay: 82.262 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 361.20 Mbit/s  
95th percentile per-packet one-way delay: 59.542 ms  
Loss rate: 0.53%  
-- Flow 3:  
Average throughput: 286.57 Mbit/s  
95th percentile per-packet one-way delay: 65.073 ms  
Loss rate: 1.70%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-01-20 00:01:57

End at: 2019-01-20 00:02:27

Local clock offset: 0.076 ms

Remote clock offset: 0.639 ms

# Below is generated by plot.py at 2019-01-20 01:51:03

# Datalink statistics

-- Total of 3 flows:

Average throughput: 891.36 Mbit/s

95th percentile per-packet one-way delay: 67.056 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 579.00 Mbit/s

95th percentile per-packet one-way delay: 72.343 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 356.83 Mbit/s

95th percentile per-packet one-way delay: 60.338 ms

Loss rate: 0.56%

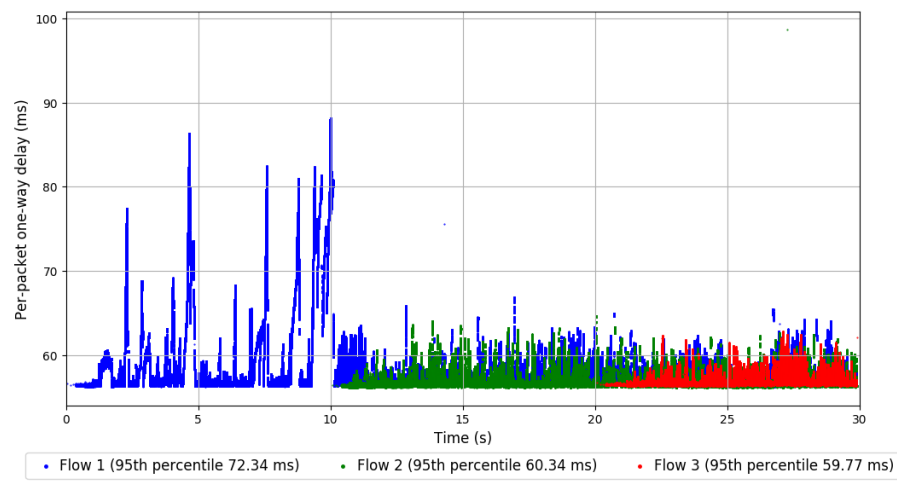
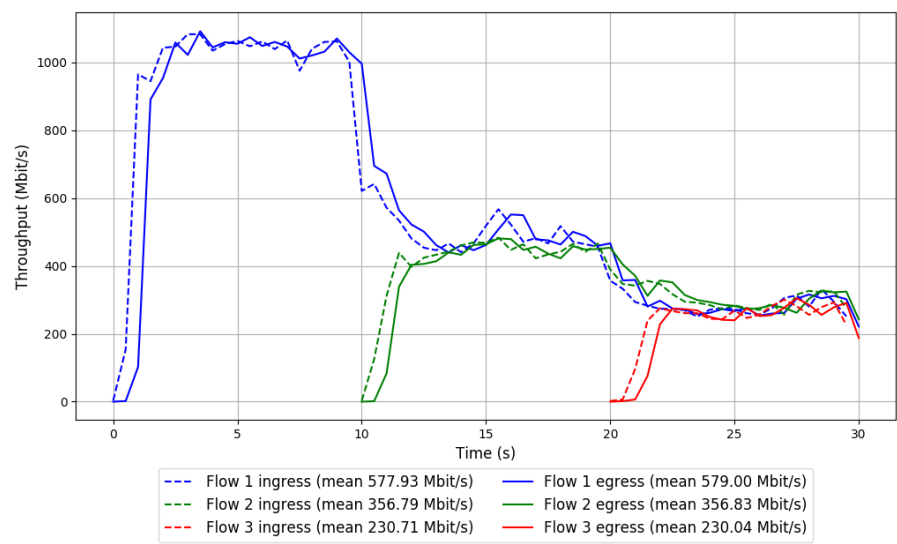
-- Flow 3:

Average throughput: 230.04 Mbit/s

95th percentile per-packet one-way delay: 59.770 ms

Loss rate: 1.34%

Run 5: Report of FillP — Data Link



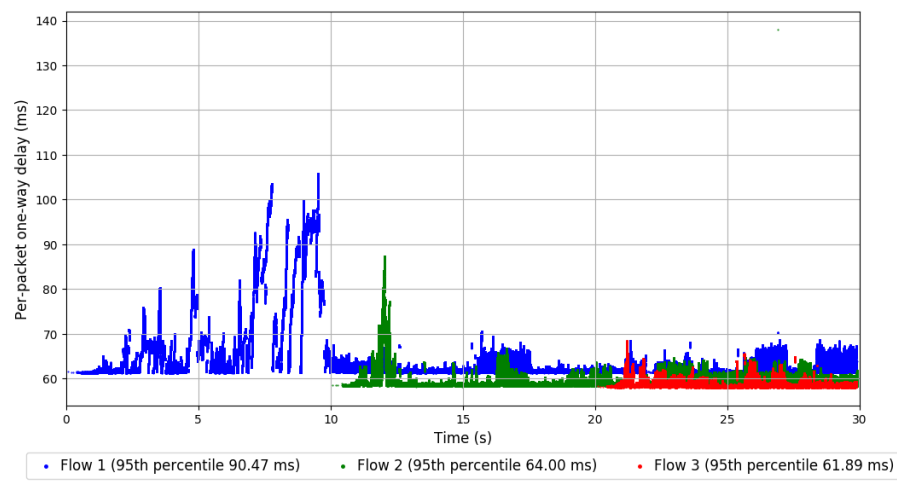
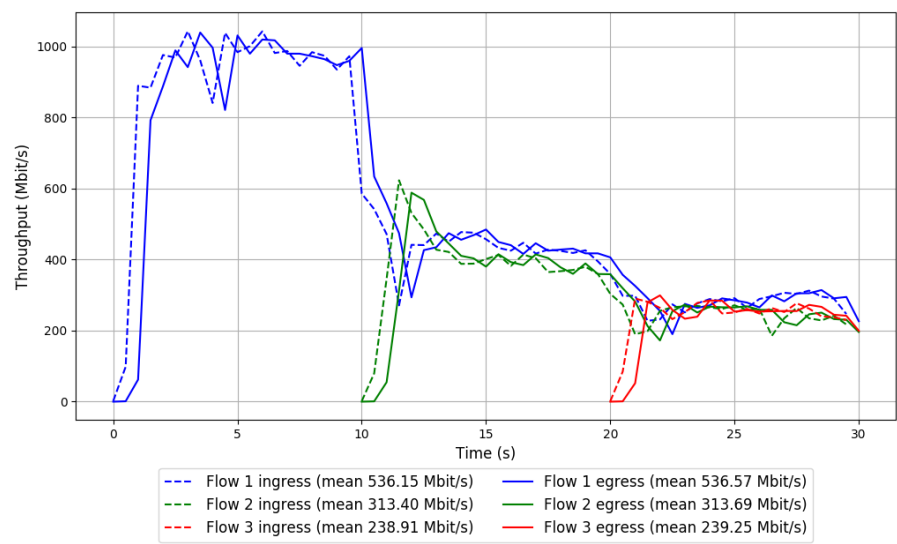


Run 1: Statistics of FillP-Sheep

Start at: 2019-01-19 21:16:52  
End at: 2019-01-19 21:17:22  
Local clock offset: 0.207 ms  
Remote clock offset: -0.825 ms

# Below is generated by plot.py at 2019-01-20 01:51:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 823.55 Mbit/s  
95th percentile per-packet one-way delay: 85.475 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 536.57 Mbit/s  
95th percentile per-packet one-way delay: 90.472 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 313.69 Mbit/s  
95th percentile per-packet one-way delay: 64.002 ms  
Loss rate: 0.43%  
-- Flow 3:  
Average throughput: 239.25 Mbit/s  
95th percentile per-packet one-way delay: 61.891 ms  
Loss rate: 1.13%

Run 1: Report of FillP-Sheep — Data Link

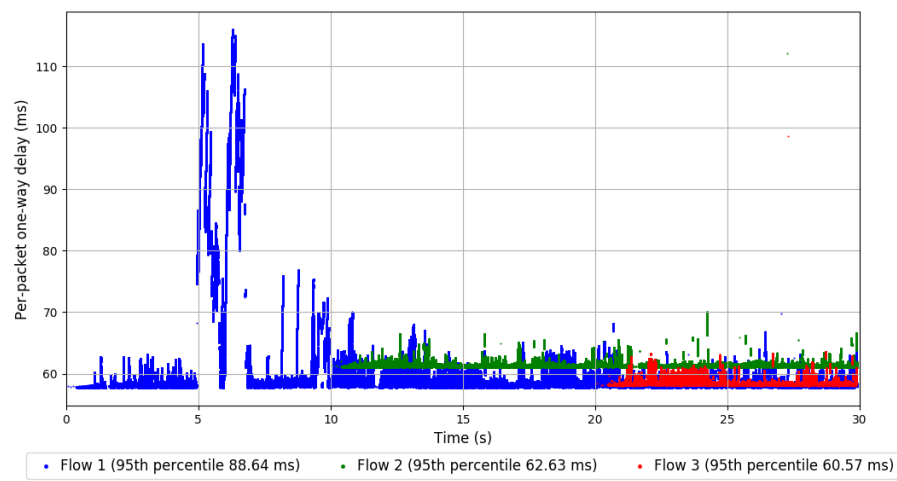
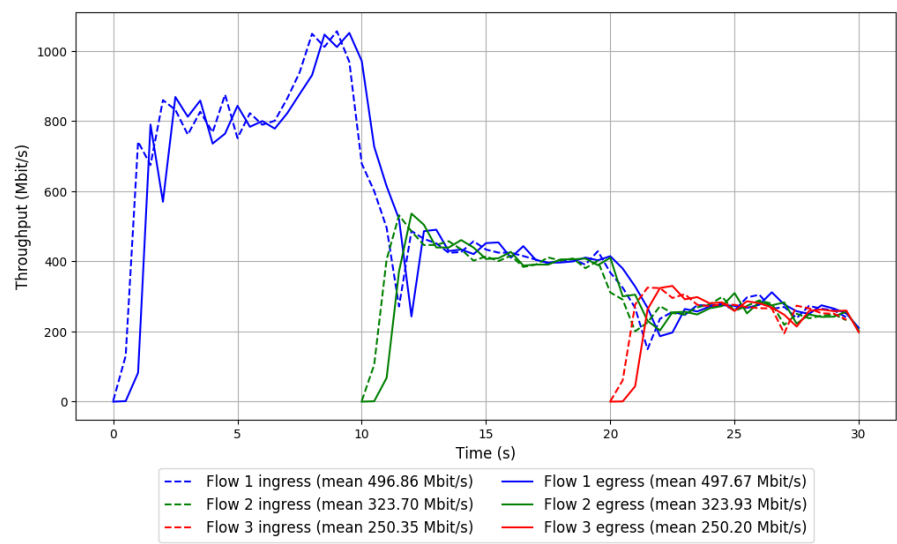


Run 2: Statistics of FillP-Sheep

Start at: 2019-01-19 21:56:20  
End at: 2019-01-19 21:56:50  
Local clock offset: -0.071 ms  
Remote clock offset: -0.881 ms

# Below is generated by plot.py at 2019-01-20 01:51:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 795.21 Mbit/s  
95th percentile per-packet one-way delay: 75.710 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 497.67 Mbit/s  
95th percentile per-packet one-way delay: 88.644 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 323.93 Mbit/s  
95th percentile per-packet one-way delay: 62.629 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 250.20 Mbit/s  
95th percentile per-packet one-way delay: 60.567 ms  
Loss rate: 1.14%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-01-19 22:36:10

End at: 2019-01-19 22:36:40

Local clock offset: 0.134 ms

Remote clock offset: 0.962 ms

# Below is generated by plot.py at 2019-01-20 01:51:03

# Datalink statistics

-- Total of 3 flows:

Average throughput: 795.92 Mbit/s

95th percentile per-packet one-way delay: 78.122 ms

Loss rate: 0.51%

-- Flow 1:

Average throughput: 517.60 Mbit/s

95th percentile per-packet one-way delay: 96.378 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 304.31 Mbit/s

95th percentile per-packet one-way delay: 59.791 ms

Loss rate: 0.41%

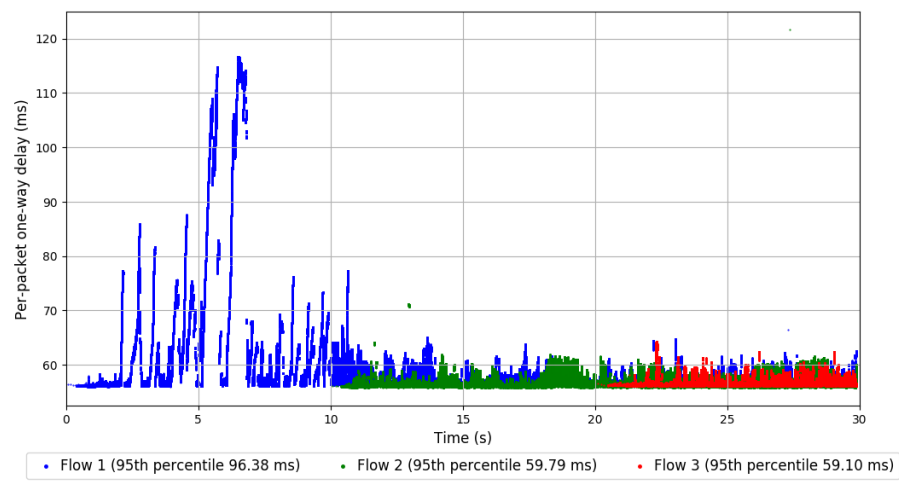
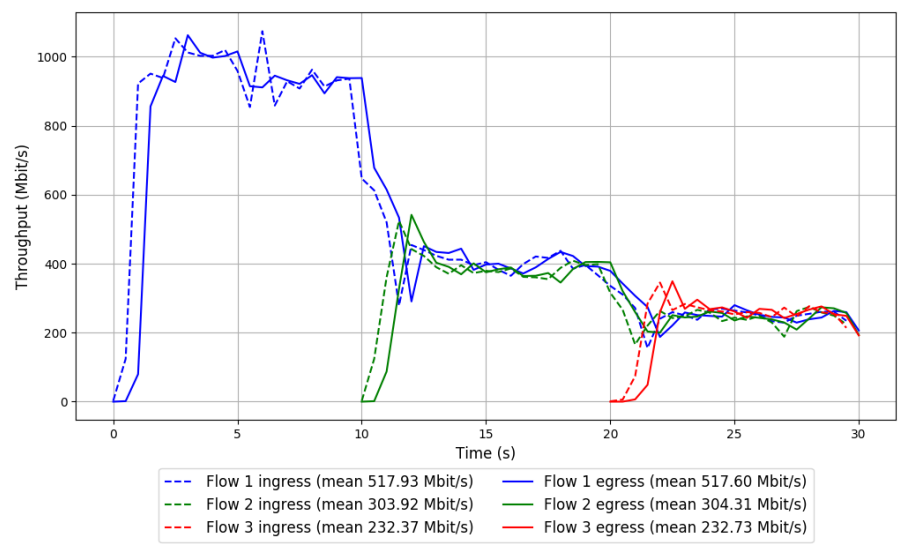
-- Flow 3:

Average throughput: 232.73 Mbit/s

95th percentile per-packet one-way delay: 59.096 ms

Loss rate: 1.20%

Run 3: Report of FillP-Sheep — Data Link

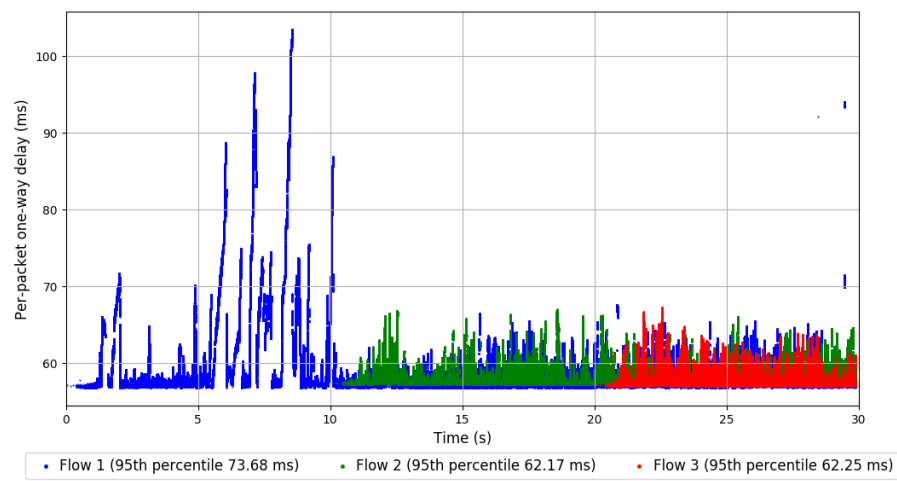
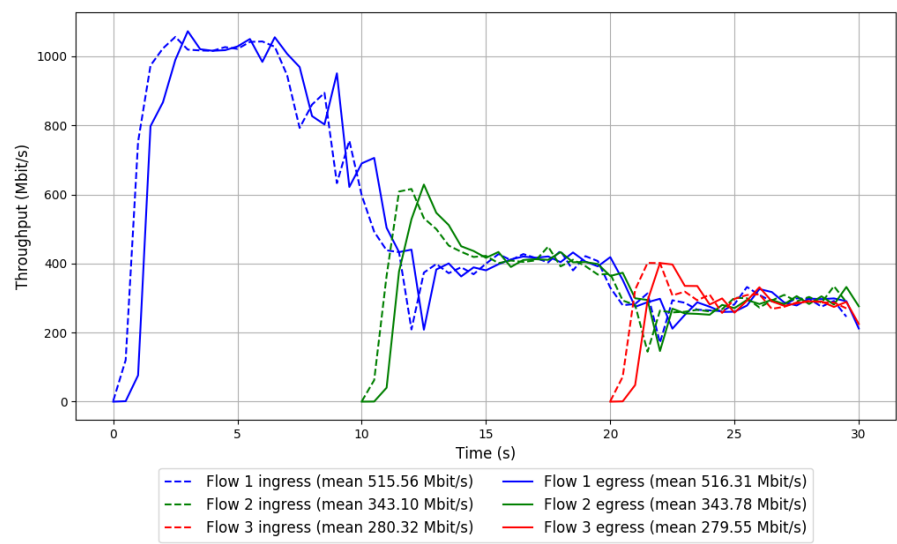


Run 4: Statistics of FillP-Sheep

Start at: 2019-01-19 23:16:11  
End at: 2019-01-19 23:16:41  
Local clock offset: -0.007 ms  
Remote clock offset: -0.228 ms

# Below is generated by plot.py at 2019-01-20 01:51:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 836.57 Mbit/s  
95th percentile per-packet one-way delay: 69.939 ms  
Loss rate: 0.40%  
-- Flow 1:  
Average throughput: 516.31 Mbit/s  
95th percentile per-packet one-way delay: 73.683 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 343.78 Mbit/s  
95th percentile per-packet one-way delay: 62.171 ms  
Loss rate: 0.44%  
-- Flow 3:  
Average throughput: 279.55 Mbit/s  
95th percentile per-packet one-way delay: 62.254 ms  
Loss rate: 1.40%

Run 4: Report of FillP-Sheep — Data Link



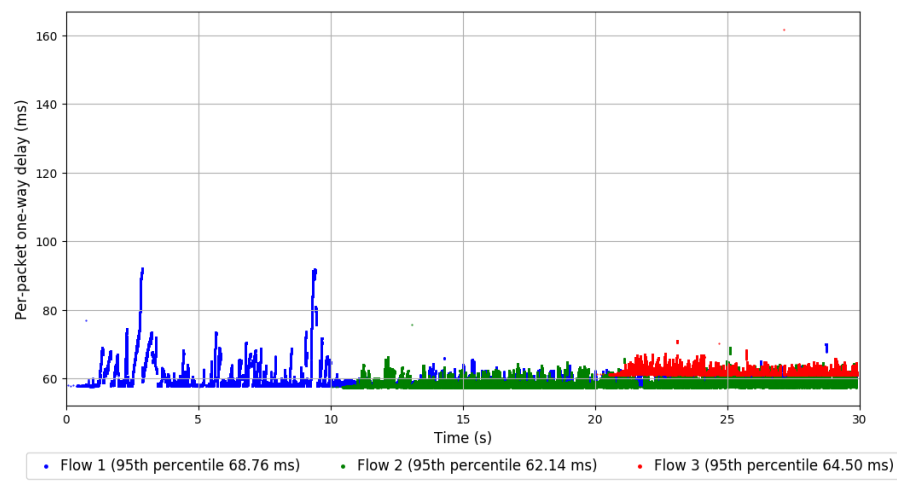
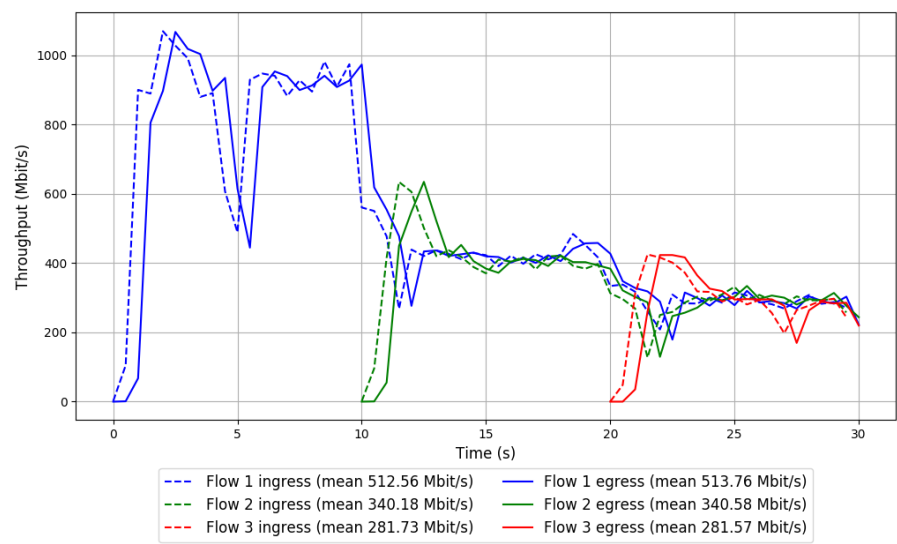


Run 5: Statistics of FillP-Sheep

Start at: 2019-01-19 23:55:35  
End at: 2019-01-19 23:56:05  
Local clock offset: 0.166 ms  
Remote clock offset: -0.479 ms

# Below is generated by plot.py at 2019-01-20 02:08:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 832.27 Mbit/s  
95th percentile per-packet one-way delay: 66.720 ms  
Loss rate: 0.40%  
-- Flow 1:  
Average throughput: 513.76 Mbit/s  
95th percentile per-packet one-way delay: 68.764 ms  
Loss rate: 0.25%  
-- Flow 2:  
Average throughput: 340.58 Mbit/s  
95th percentile per-packet one-way delay: 62.144 ms  
Loss rate: 0.42%  
-- Flow 3:  
Average throughput: 281.57 Mbit/s  
95th percentile per-packet one-way delay: 64.500 ms  
Loss rate: 1.18%

Run 5: Report of FillP-Sheep — Data Link

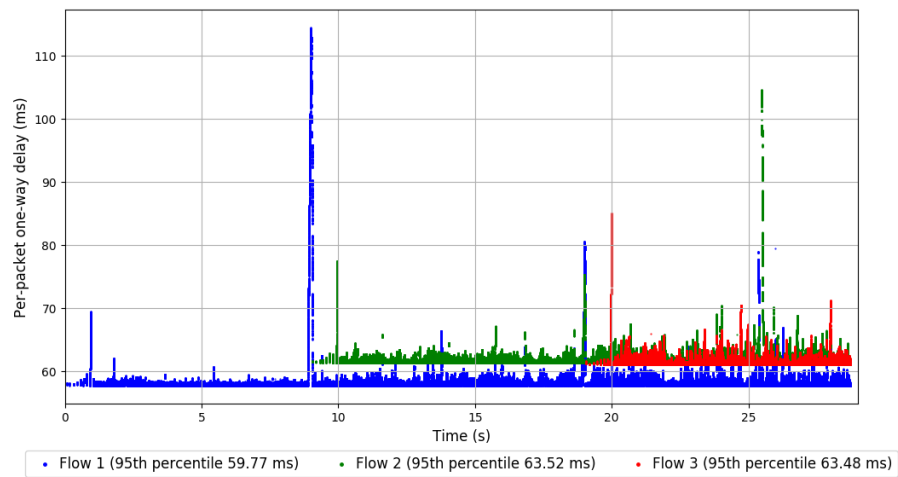
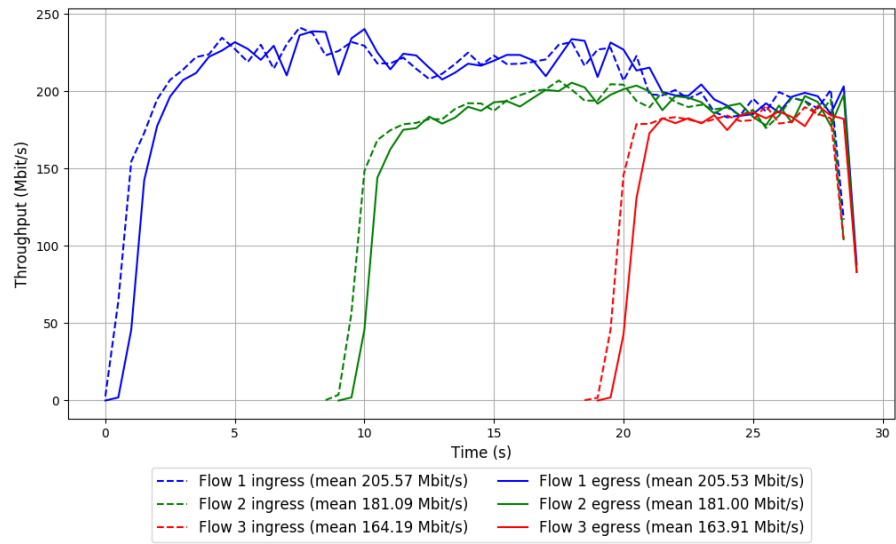


Run 1: Statistics of Indigo

Start at: 2019-01-19 21:39:58  
End at: 2019-01-19 21:40:28  
Local clock offset: 0.101 ms  
Remote clock offset: -0.729 ms

# Below is generated by plot.py at 2019-01-20 02:08:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 385.12 Mbit/s  
95th percentile per-packet one-way delay: 62.806 ms  
Loss rate: 0.63%  
-- Flow 1:  
Average throughput: 205.53 Mbit/s  
95th percentile per-packet one-way delay: 59.773 ms  
Loss rate: 0.42%  
-- Flow 2:  
Average throughput: 181.00 Mbit/s  
95th percentile per-packet one-way delay: 63.524 ms  
Loss rate: 0.64%  
-- Flow 3:  
Average throughput: 163.91 Mbit/s  
95th percentile per-packet one-way delay: 63.480 ms  
Loss rate: 1.38%

## Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-01-19 22:19:37

End at: 2019-01-19 22:20:07

Local clock offset: 0.178 ms

Remote clock offset: 1.198 ms

# Below is generated by plot.py at 2019-01-20 02:08:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 383.83 Mbit/s

95th percentile per-packet one-way delay: 59.546 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 208.56 Mbit/s

95th percentile per-packet one-way delay: 57.312 ms

Loss rate: 0.34%

-- Flow 2:

Average throughput: 184.04 Mbit/s

95th percentile per-packet one-way delay: 57.598 ms

Loss rate: 0.62%

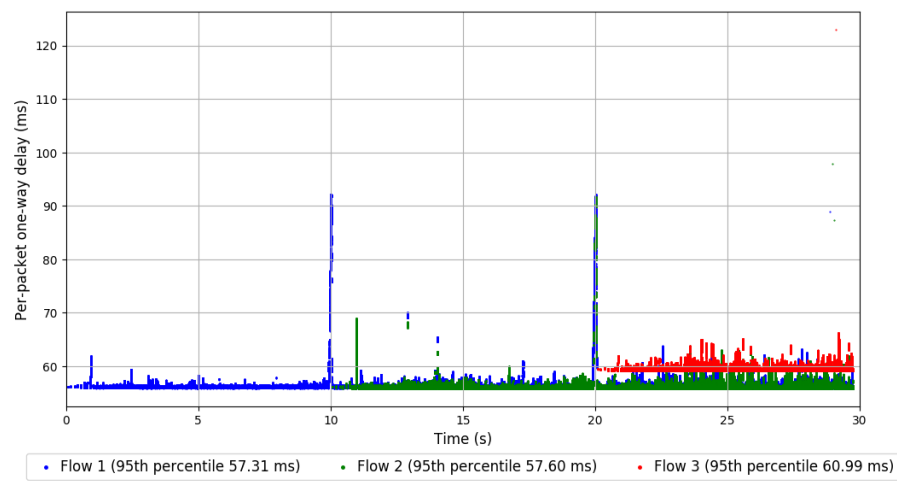
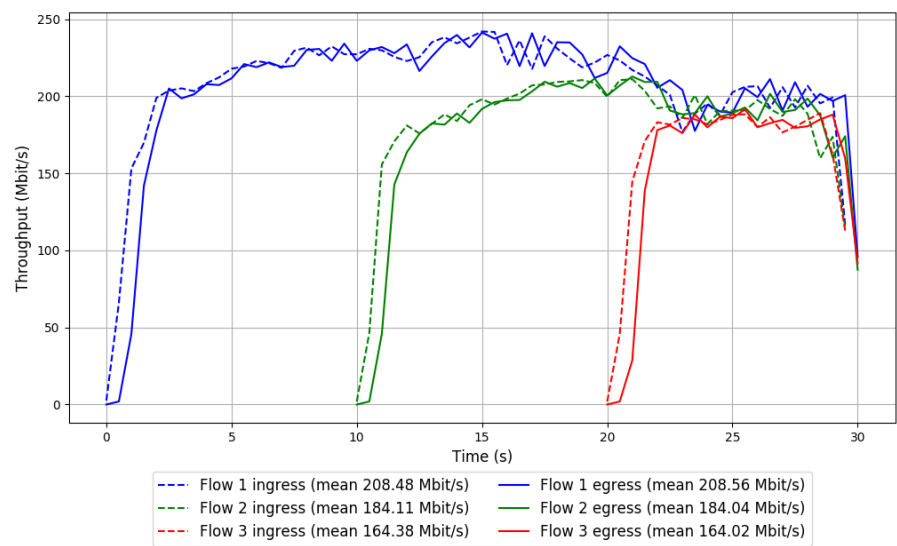
-- Flow 3:

Average throughput: 164.02 Mbit/s

95th percentile per-packet one-way delay: 60.995 ms

Loss rate: 1.43%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-01-19 22:59:15

End at: 2019-01-19 22:59:45

Local clock offset: -0.313 ms

Remote clock offset: 0.891 ms

# Below is generated by plot.py at 2019-01-20 02:08:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 367.53 Mbit/s

95th percentile per-packet one-way delay: 60.363 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 187.71 Mbit/s

95th percentile per-packet one-way delay: 60.440 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 191.98 Mbit/s

95th percentile per-packet one-way delay: 60.642 ms

Loss rate: 0.55%

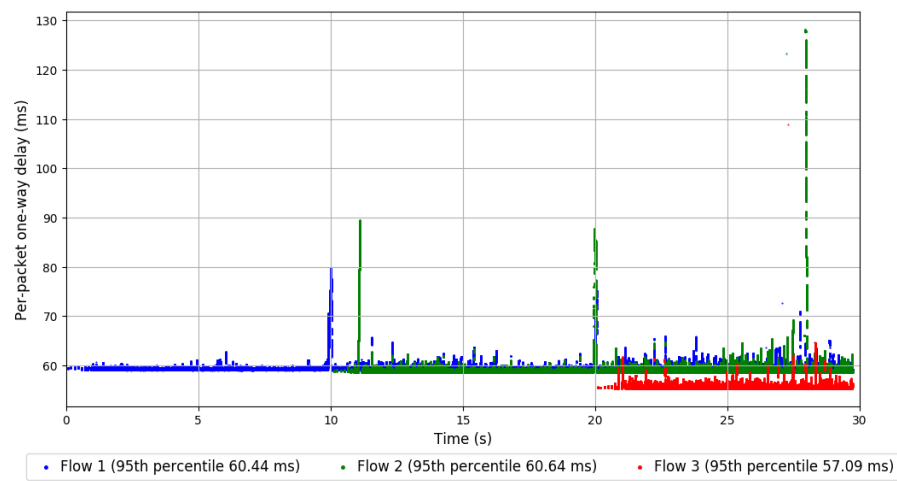
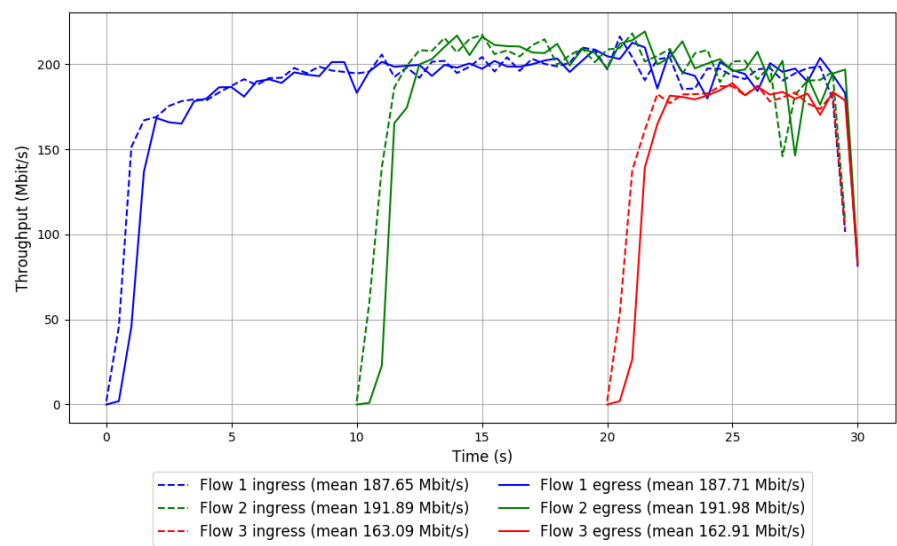
-- Flow 3:

Average throughput: 162.91 Mbit/s

95th percentile per-packet one-way delay: 57.094 ms

Loss rate: 1.29%

Run 3: Report of Indigo — Data Link



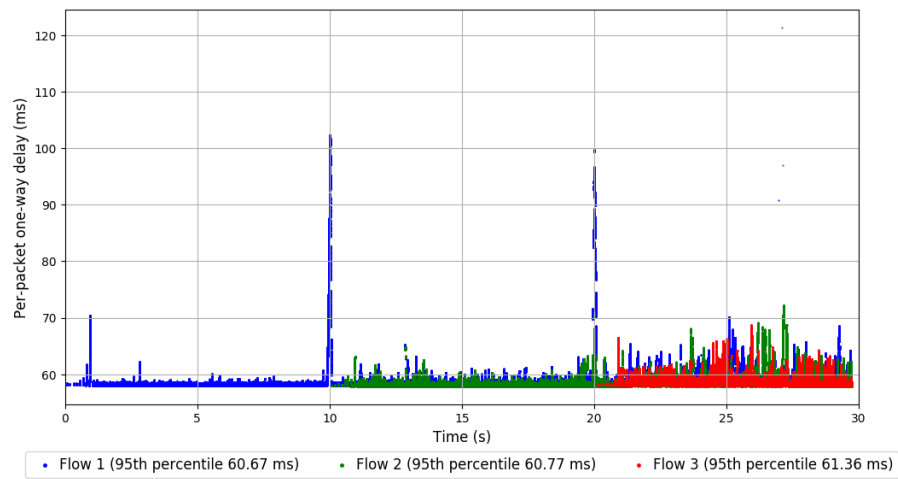
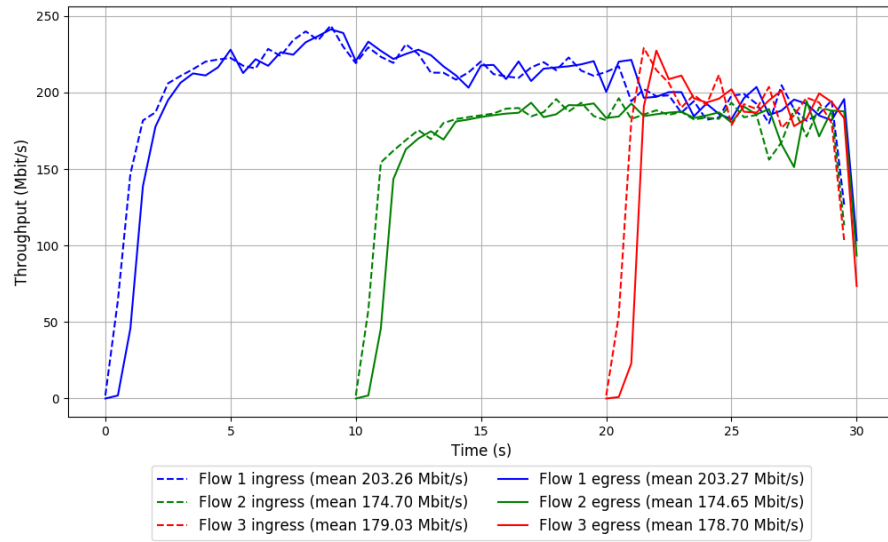


Run 4: Statistics of Indigo

Start at: 2019-01-19 23:39:27  
End at: 2019-01-19 23:39:57  
Local clock offset: 0.418 ms  
Remote clock offset: -0.712 ms

# Below is generated by plot.py at 2019-01-20 02:08:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 376.81 Mbit/s  
95th percentile per-packet one-way delay: 60.859 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 203.27 Mbit/s  
95th percentile per-packet one-way delay: 60.667 ms  
Loss rate: 0.38%  
-- Flow 2:  
Average throughput: 174.65 Mbit/s  
95th percentile per-packet one-way delay: 60.773 ms  
Loss rate: 0.61%  
-- Flow 3:  
Average throughput: 178.70 Mbit/s  
95th percentile per-packet one-way delay: 61.364 ms  
Loss rate: 1.36%

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



Run 5: Statistics of Indigo

Start at: 2019-01-20 00:19:20

End at: 2019-01-20 00:19:50

Local clock offset: 0.125 ms

Remote clock offset: 0.79 ms

# Below is generated by plot.py at 2019-01-20 02:08:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 378.35 Mbit/s

95th percentile per-packet one-way delay: 61.146 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 208.78 Mbit/s

95th percentile per-packet one-way delay: 61.624 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 177.12 Mbit/s

95th percentile per-packet one-way delay: 59.479 ms

Loss rate: 0.62%

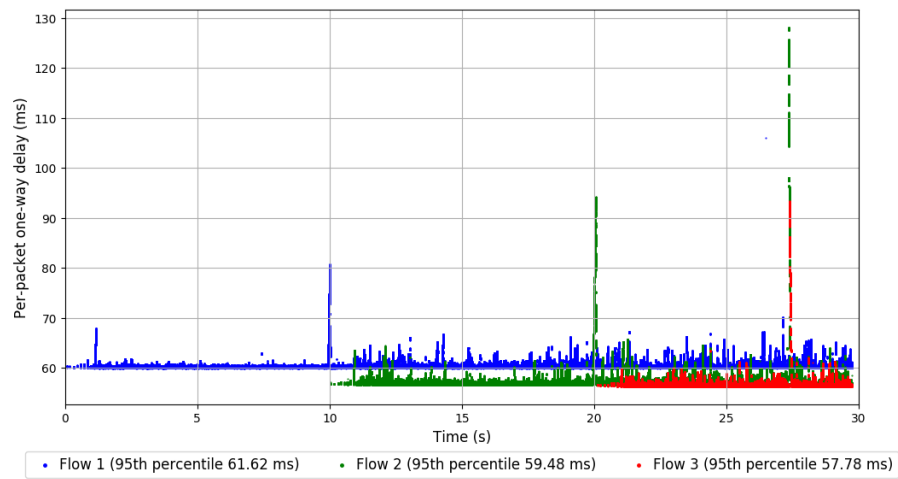
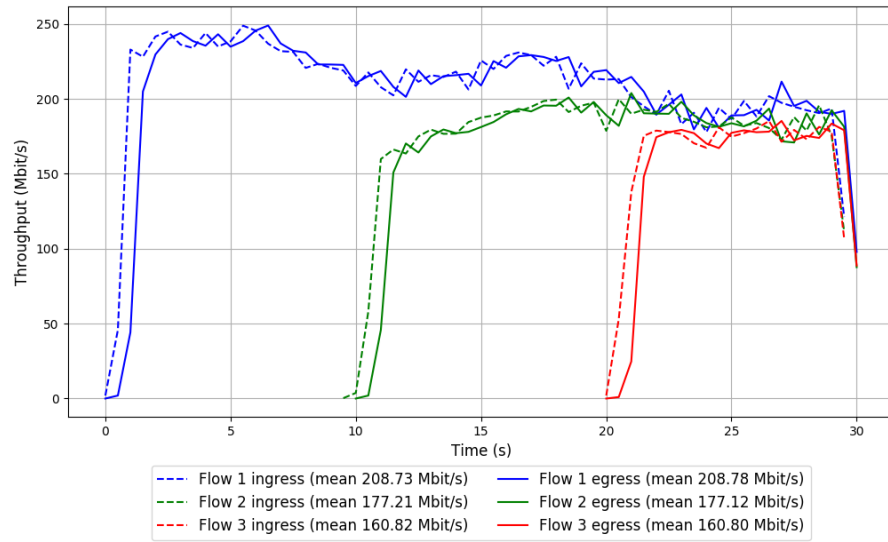
-- Flow 3:

Average throughput: 160.80 Mbit/s

95th percentile per-packet one-way delay: 57.785 ms

Loss rate: 1.19%

## Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-19 21:42:03

End at: 2019-01-19 21:42:33

Local clock offset: -0.17 ms

Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2019-01-20 02:08:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 850.81 Mbit/s

95th percentile per-packet one-way delay: 76.539 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 512.21 Mbit/s

95th percentile per-packet one-way delay: 80.272 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 440.28 Mbit/s

95th percentile per-packet one-way delay: 70.427 ms

Loss rate: 0.70%

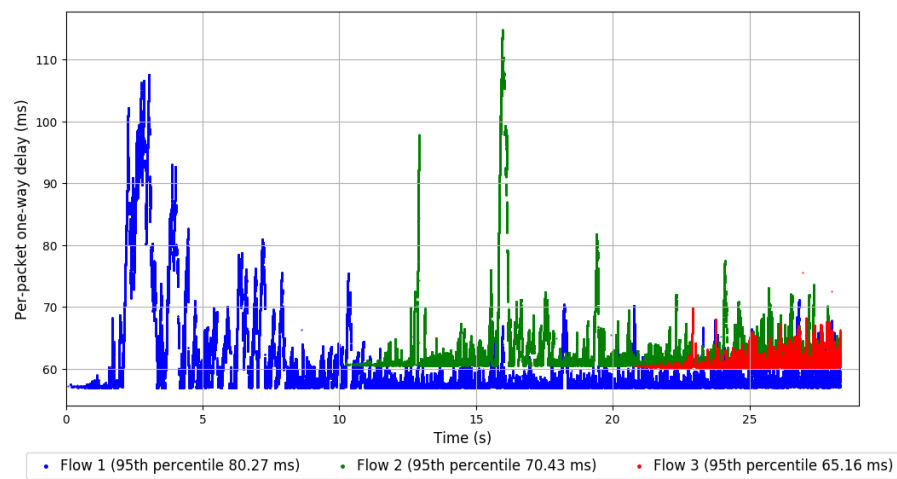
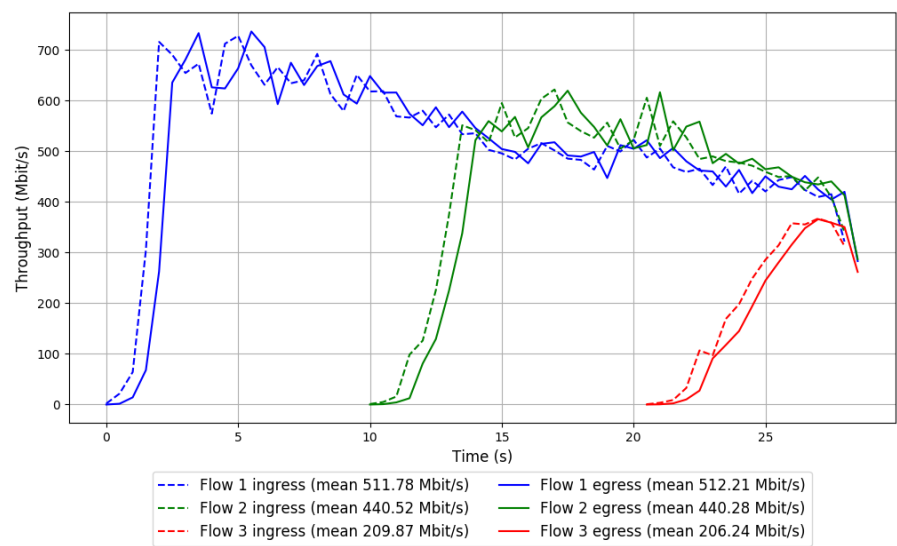
-- Flow 3:

Average throughput: 206.24 Mbit/s

95th percentile per-packet one-way delay: 65.159 ms

Loss rate: 3.23%

Run 1: Report of Indigo-MusesC3 — Data Link

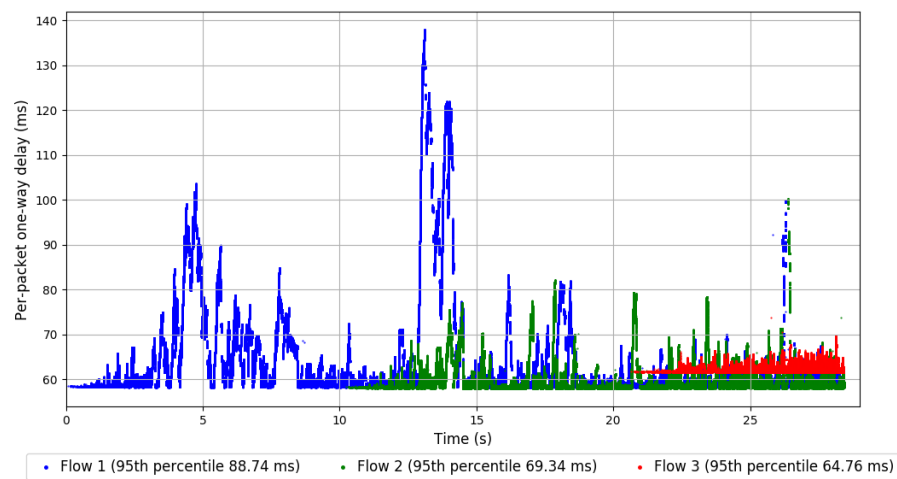
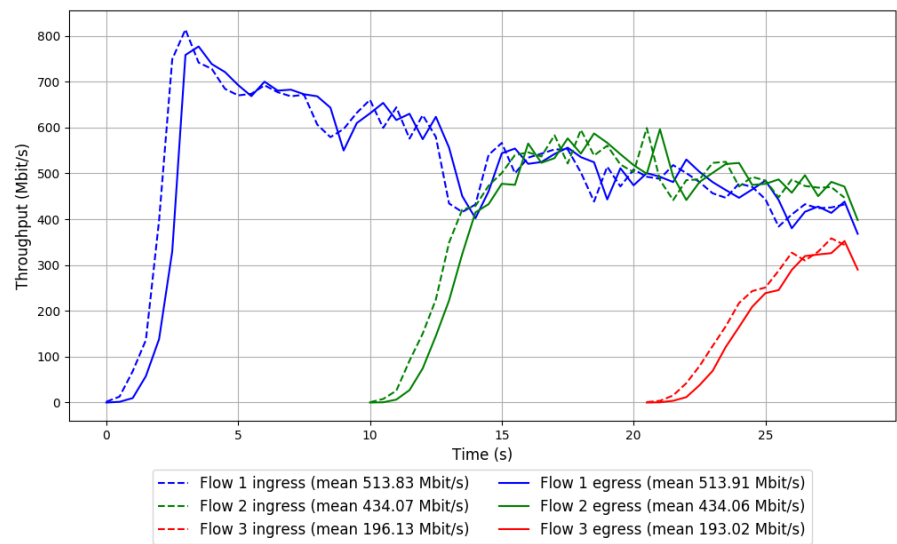


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-19 22:21:40  
End at: 2019-01-19 22:22:10  
Local clock offset: 0.38 ms  
Remote clock offset: -0.956 ms

# Below is generated by plot.py at 2019-01-20 02:08:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 845.33 Mbit/s  
95th percentile per-packet one-way delay: 80.093 ms  
Loss rate: 0.64%  
-- Flow 1:  
Average throughput: 513.91 Mbit/s  
95th percentile per-packet one-way delay: 88.741 ms  
Loss rate: 0.39%  
-- Flow 2:  
Average throughput: 434.06 Mbit/s  
95th percentile per-packet one-way delay: 69.345 ms  
Loss rate: 0.63%  
-- Flow 3:  
Average throughput: 193.02 Mbit/s  
95th percentile per-packet one-way delay: 64.759 ms  
Loss rate: 3.10%

Run 2: Report of Indigo-MusesC3 — Data Link



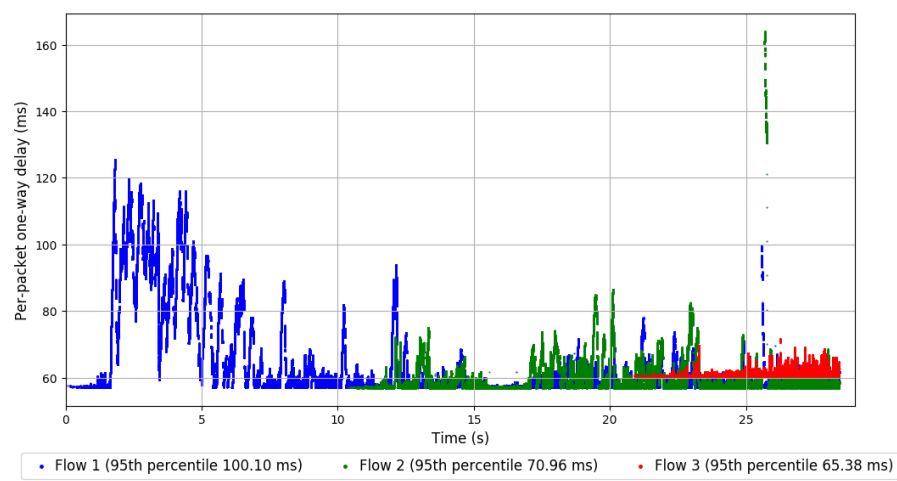
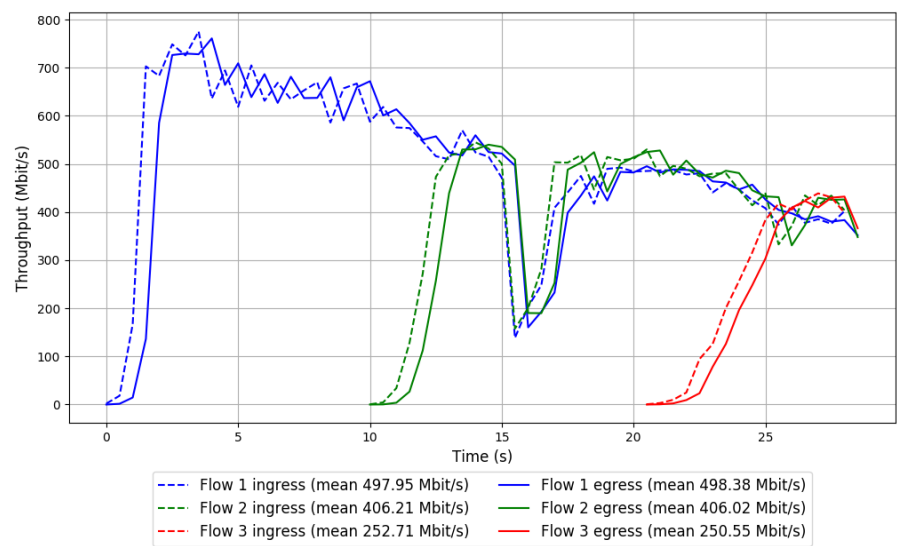


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-19 23:01:11  
End at: 2019-01-19 23:01:41  
Local clock offset: -0.241 ms  
Remote clock offset: -0.262 ms

# Below is generated by plot.py at 2019-01-20 02:19:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 824.75 Mbit/s  
95th percentile per-packet one-way delay: 95.142 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 498.38 Mbit/s  
95th percentile per-packet one-way delay: 100.097 ms  
Loss rate: 0.32%  
-- Flow 2:  
Average throughput: 406.02 Mbit/s  
95th percentile per-packet one-way delay: 70.956 ms  
Loss rate: 0.70%  
-- Flow 3:  
Average throughput: 250.55 Mbit/s  
95th percentile per-packet one-way delay: 65.378 ms  
Loss rate: 2.34%

Run 3: Report of Indigo-MusesC3 — Data Link

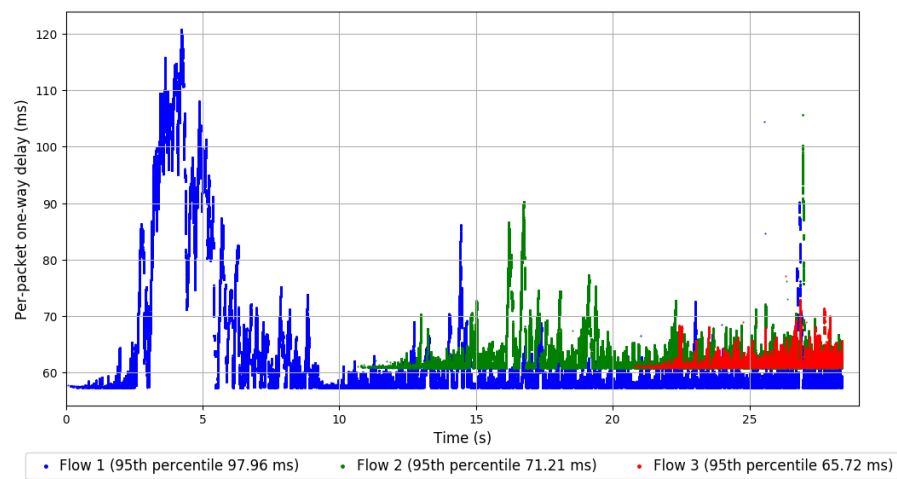
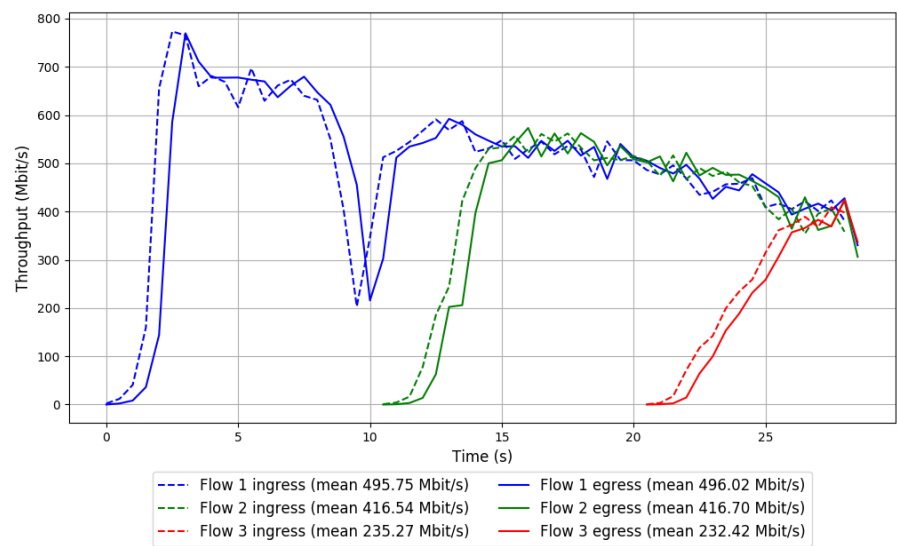


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-19 23:41:19  
End at: 2019-01-19 23:41:49  
Local clock offset: -0.007 ms  
Remote clock offset: -0.689 ms

# Below is generated by plot.py at 2019-01-20 02:20:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 819.28 Mbit/s  
95th percentile per-packet one-way delay: 90.537 ms  
Loss rate: 0.63%  
-- Flow 1:  
Average throughput: 496.02 Mbit/s  
95th percentile per-packet one-way delay: 97.963 ms  
Loss rate: 0.35%  
-- Flow 2:  
Average throughput: 416.70 Mbit/s  
95th percentile per-packet one-way delay: 71.210 ms  
Loss rate: 0.62%  
-- Flow 3:  
Average throughput: 232.42 Mbit/s  
95th percentile per-packet one-way delay: 65.722 ms  
Loss rate: 2.77%

Run 4: Report of Indigo-MusesC3 — Data Link

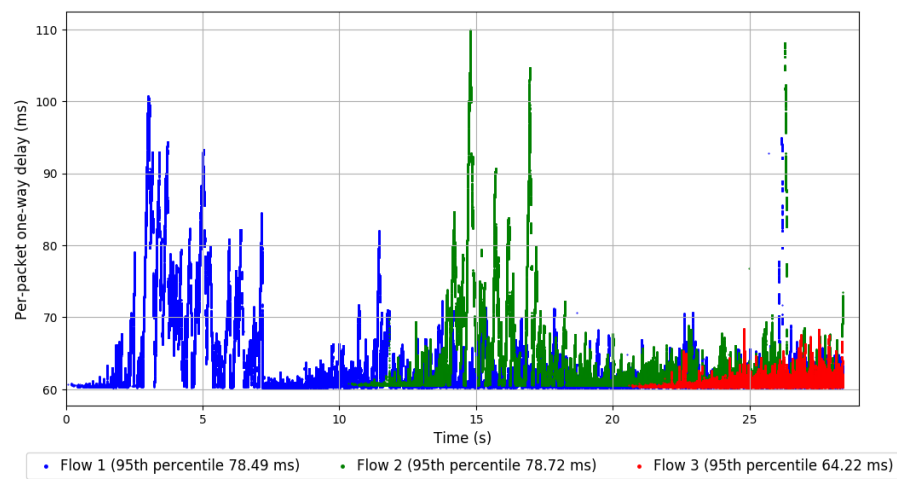
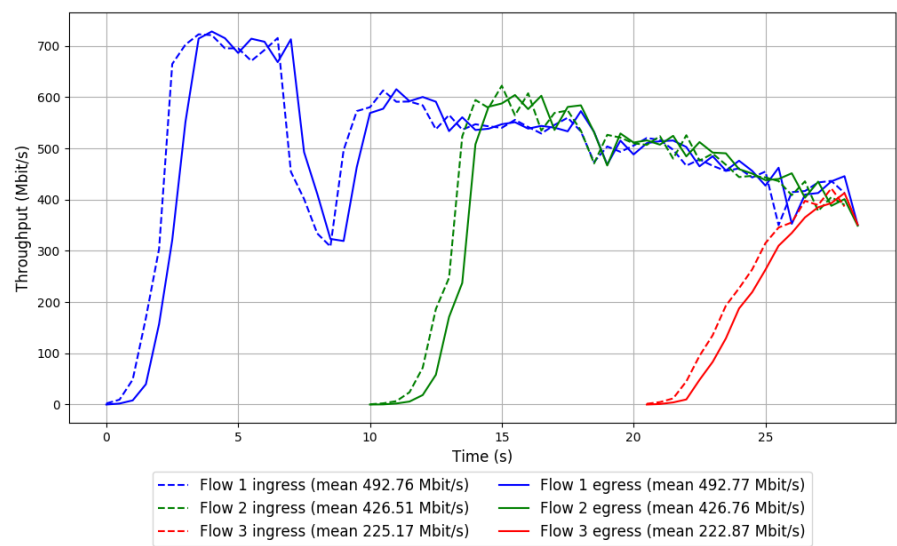


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-20 00:21:24  
End at: 2019-01-20 00:21:54  
Local clock offset: -0.49 ms  
Remote clock offset: -0.448 ms

# Below is generated by plot.py at 2019-01-20 02:20:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 826.45 Mbit/s  
95th percentile per-packet one-way delay: 77.819 ms  
Loss rate: 0.63%  
-- Flow 1:  
Average throughput: 492.77 Mbit/s  
95th percentile per-packet one-way delay: 78.492 ms  
Loss rate: 0.41%  
-- Flow 2:  
Average throughput: 426.76 Mbit/s  
95th percentile per-packet one-way delay: 78.718 ms  
Loss rate: 0.59%  
-- Flow 3:  
Average throughput: 222.87 Mbit/s  
95th percentile per-packet one-way delay: 64.222 ms  
Loss rate: 2.53%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-19 21:29:52

End at: 2019-01-19 21:30:22

Local clock offset: 0.237 ms

Remote clock offset: 0.655 ms

# Below is generated by plot.py at 2019-01-20 02:22:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 866.14 Mbit/s

95th percentile per-packet one-way delay: 111.376 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 530.65 Mbit/s

95th percentile per-packet one-way delay: 110.748 ms

Loss rate: 0.27%

-- Flow 2:

Average throughput: 482.96 Mbit/s

95th percentile per-packet one-way delay: 116.110 ms

Loss rate: 0.81%

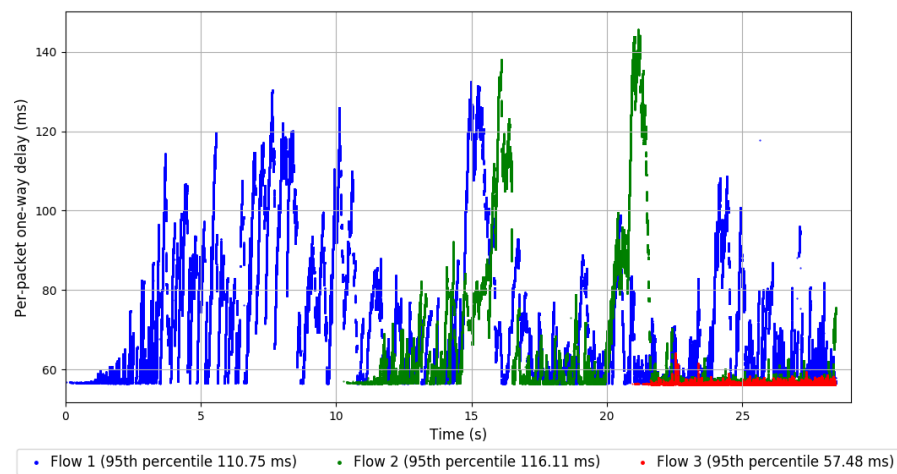
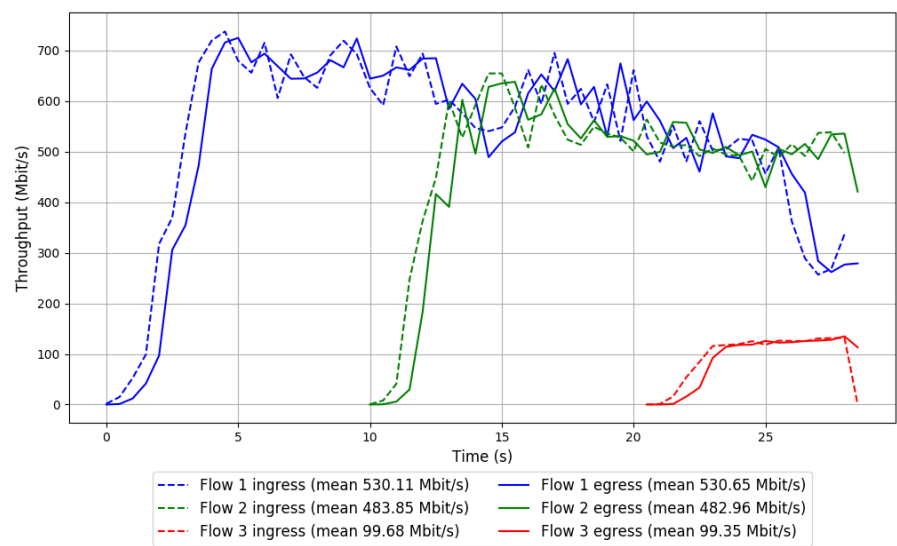
-- Flow 3:

Average throughput: 99.35 Mbit/s

95th percentile per-packet one-way delay: 57.481 ms

Loss rate: 2.03%

Run 1: Report of Indigo-MusesC5 — Data Link





Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-19 22:09:19

End at: 2019-01-19 22:09:49

Local clock offset: 0.157 ms

Remote clock offset: 0.063 ms

# Below is generated by plot.py at 2019-01-20 02:23:03

# Datalink statistics

-- Total of 3 flows:

Average throughput: 893.16 Mbit/s

95th percentile per-packet one-way delay: 115.682 ms

Loss rate: 0.48%

-- Flow 1:

Average throughput: 533.33 Mbit/s

95th percentile per-packet one-way delay: 112.582 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 440.44 Mbit/s

95th percentile per-packet one-way delay: 126.348 ms

Loss rate: 0.44%

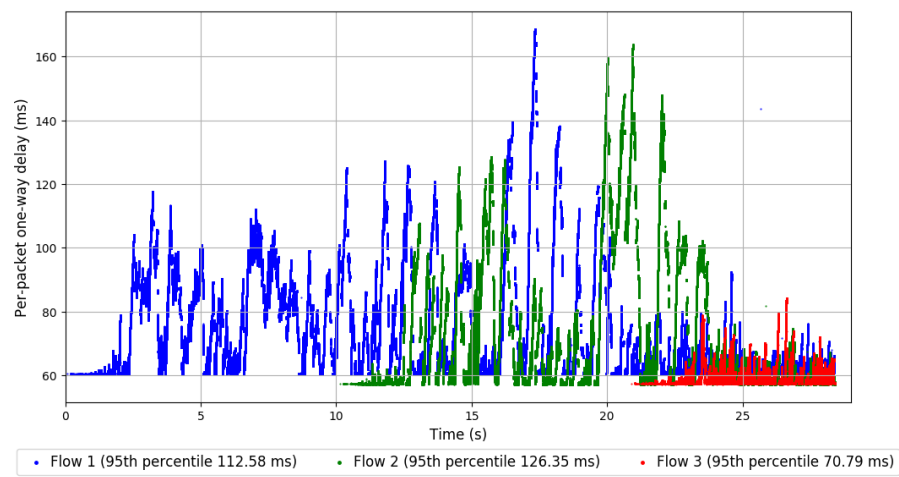
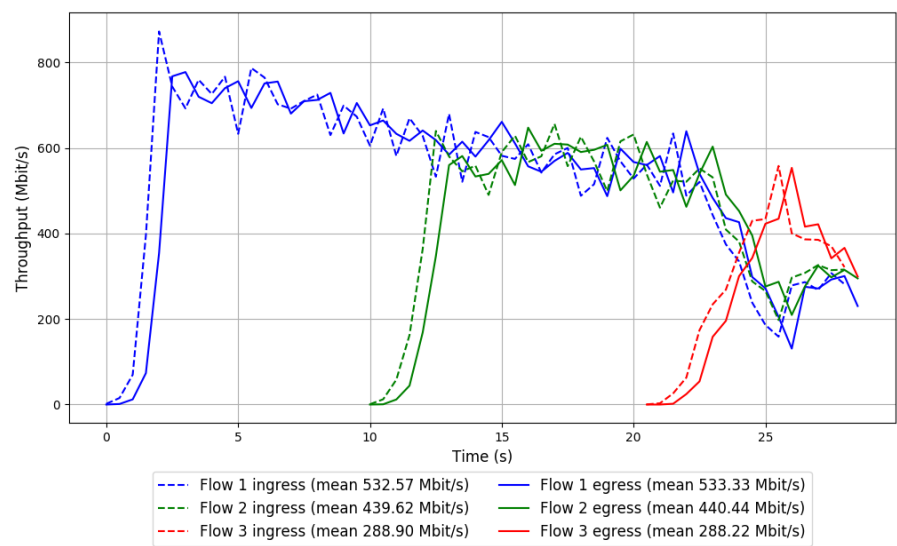
-- Flow 3:

Average throughput: 288.22 Mbit/s

95th percentile per-packet one-way delay: 70.786 ms

Loss rate: 1.72%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-19 22:49:30

End at: 2019-01-19 22:50:00

Local clock offset: 0.009 ms

Remote clock offset: 1.274 ms

# Below is generated by plot.py at 2019-01-20 02:24:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 861.62 Mbit/s

95th percentile per-packet one-way delay: 109.672 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 544.83 Mbit/s

95th percentile per-packet one-way delay: 106.301 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 444.20 Mbit/s

95th percentile per-packet one-way delay: 117.893 ms

Loss rate: 0.33%

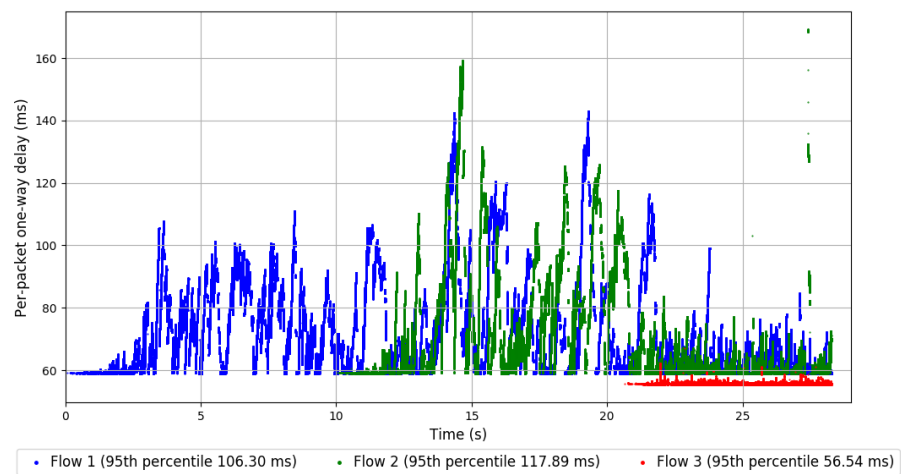
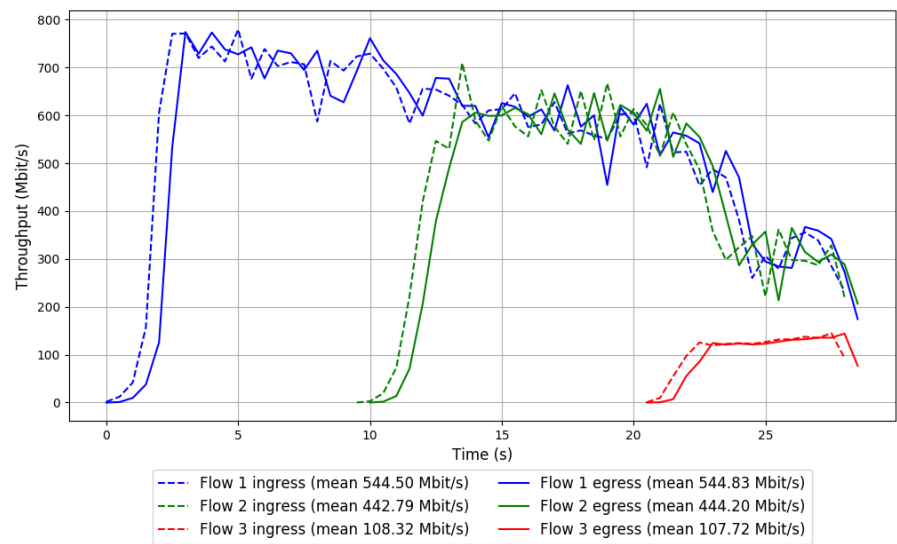
-- Flow 3:

Average throughput: 107.72 Mbit/s

95th percentile per-packet one-way delay: 56.543 ms

Loss rate: 2.02%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-19 23:29:52

End at: 2019-01-19 23:30:22

Local clock offset: -0.46 ms

Remote clock offset: 0.801 ms

# Below is generated by plot.py at 2019-01-20 02:25:03

# Datalink statistics

-- Total of 3 flows:

Average throughput: 836.61 Mbit/s

95th percentile per-packet one-way delay: 123.043 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 532.02 Mbit/s

95th percentile per-packet one-way delay: 118.041 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 433.68 Mbit/s

95th percentile per-packet one-way delay: 136.407 ms

Loss rate: 0.28%

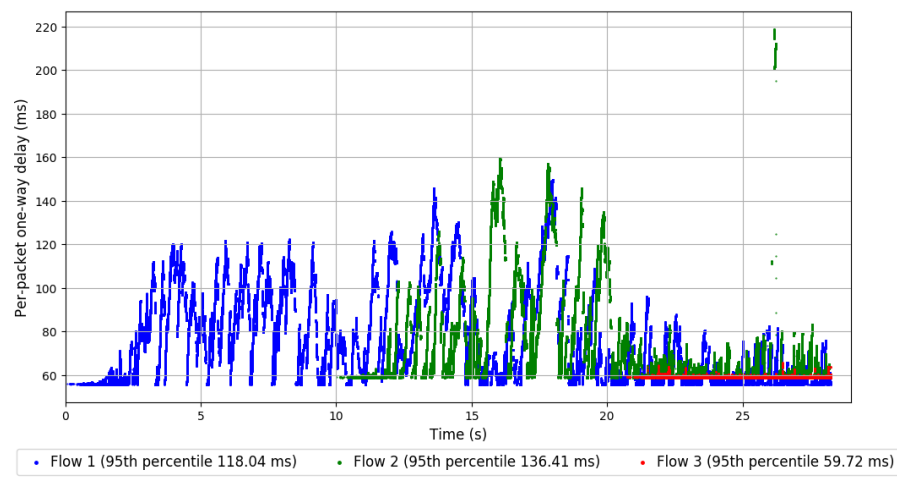
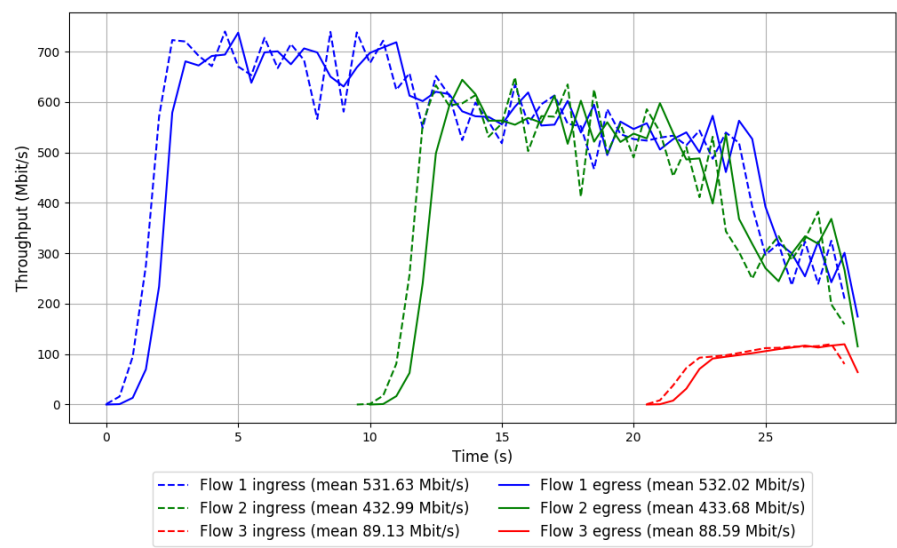
-- Flow 3:

Average throughput: 88.59 Mbit/s

95th percentile per-packet one-way delay: 59.716 ms

Loss rate: 2.11%

Run 4: Report of Indigo-MusesC5 — Data Link

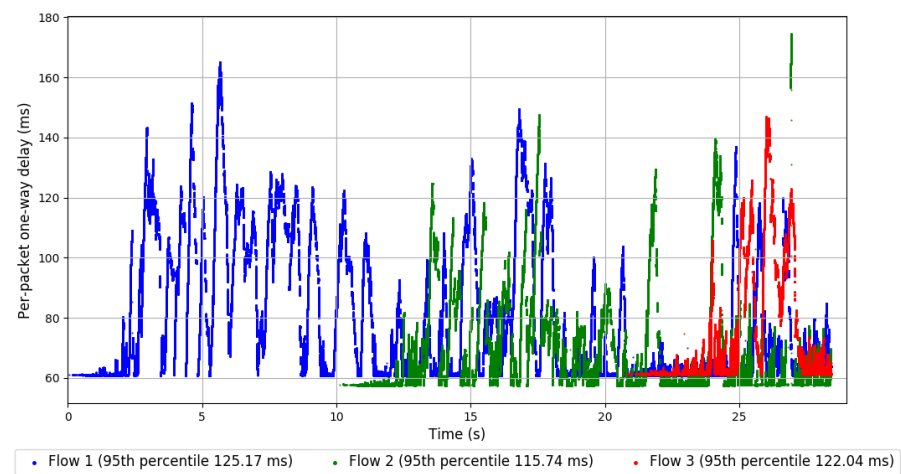
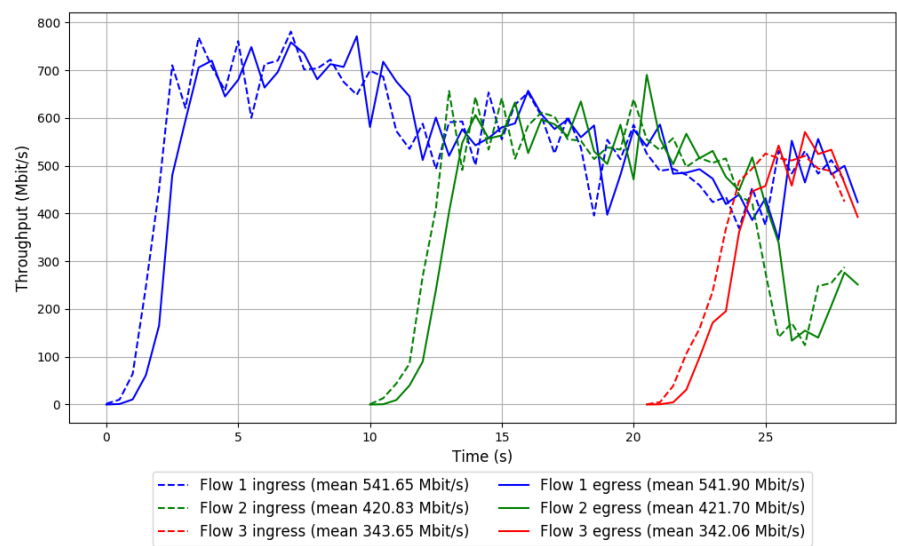


Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-20 00:09:05  
End at: 2019-01-20 00:09:35  
Local clock offset: 0.077 ms  
Remote clock offset: -0.482 ms

# Below is generated by plot.py at 2019-01-20 02:28:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 906.26 Mbit/s  
95th percentile per-packet one-way delay: 123.188 ms  
Loss rate: 0.55%  
-- Flow 1:  
Average throughput: 541.90 Mbit/s  
95th percentile per-packet one-way delay: 125.170 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 421.70 Mbit/s  
95th percentile per-packet one-way delay: 115.738 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 342.06 Mbit/s  
95th percentile per-packet one-way delay: 122.036 ms  
Loss rate: 1.97%

Run 5: Report of Indigo-MusesC5 — Data Link



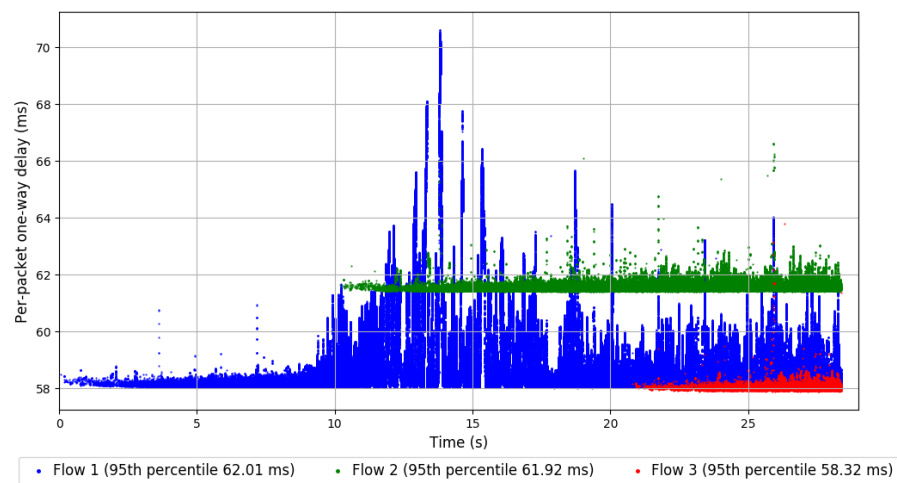
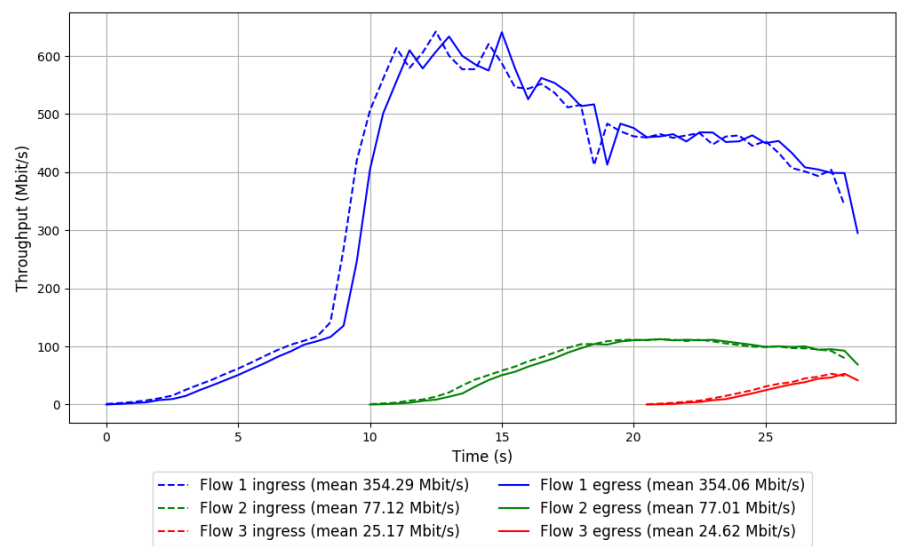


```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-19 21:33:25
End at: 2019-01-19 21:33:55
Local clock offset: 0.341 ms
Remote clock offset: -0.63 ms

# Below is generated by plot.py at 2019-01-20 02:28:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.02 Mbit/s
95th percentile per-packet one-way delay: 61.940 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 354.06 Mbit/s
95th percentile per-packet one-way delay: 62.009 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 77.01 Mbit/s
95th percentile per-packet one-way delay: 61.921 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 24.62 Mbit/s
95th percentile per-packet one-way delay: 58.322 ms
Loss rate: 3.62%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-19 22:12:57

End at: 2019-01-19 22:13:27

Local clock offset: 0.027 ms

Remote clock offset: 0.527 ms

# Below is generated by plot.py at 2019-01-20 02:29:38

# Datalink statistics

-- Total of 3 flows:

Average throughput: 441.23 Mbit/s

95th percentile per-packet one-way delay: 60.393 ms

Loss rate: 0.69%

-- Flow 1:

Average throughput: 310.57 Mbit/s

95th percentile per-packet one-way delay: 60.509 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 192.35 Mbit/s

95th percentile per-packet one-way delay: 60.068 ms

Loss rate: 1.34%

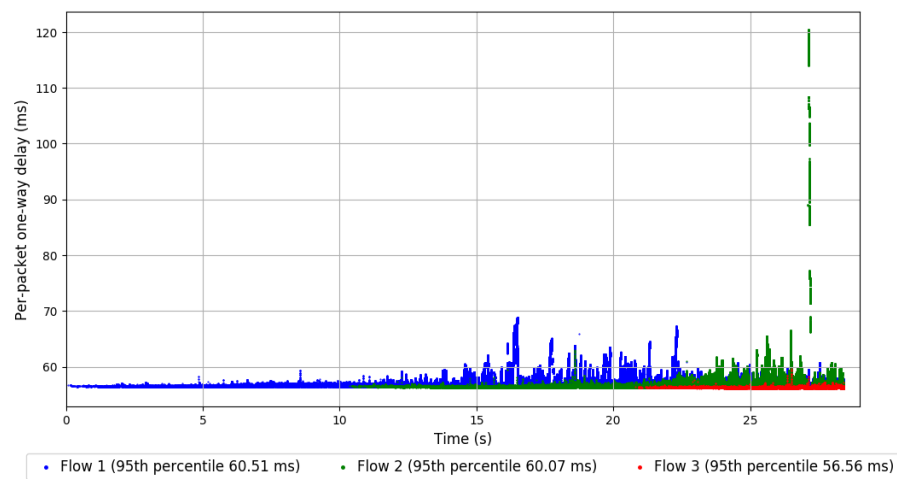
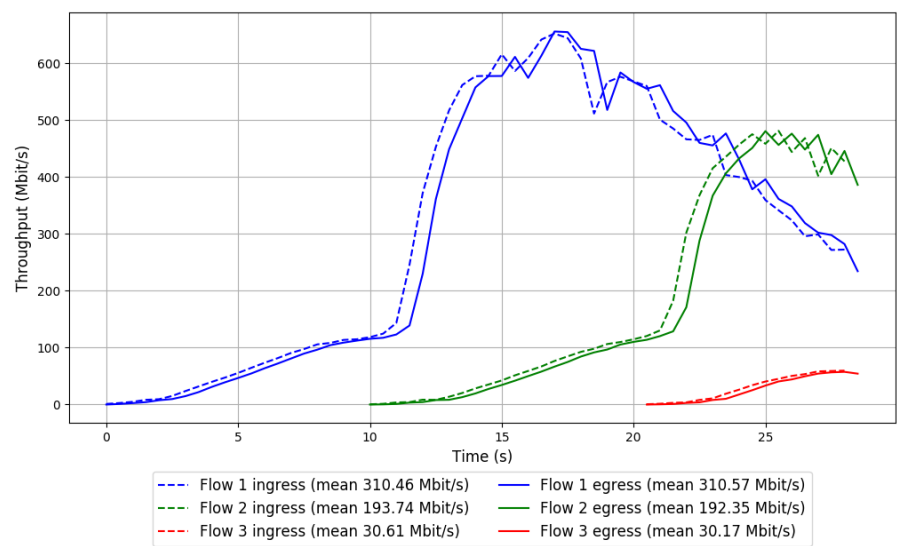
-- Flow 3:

Average throughput: 30.17 Mbit/s

95th percentile per-packet one-way delay: 56.556 ms

Loss rate: 2.89%

Run 2: Report of Indigo-MusesD — Data Link

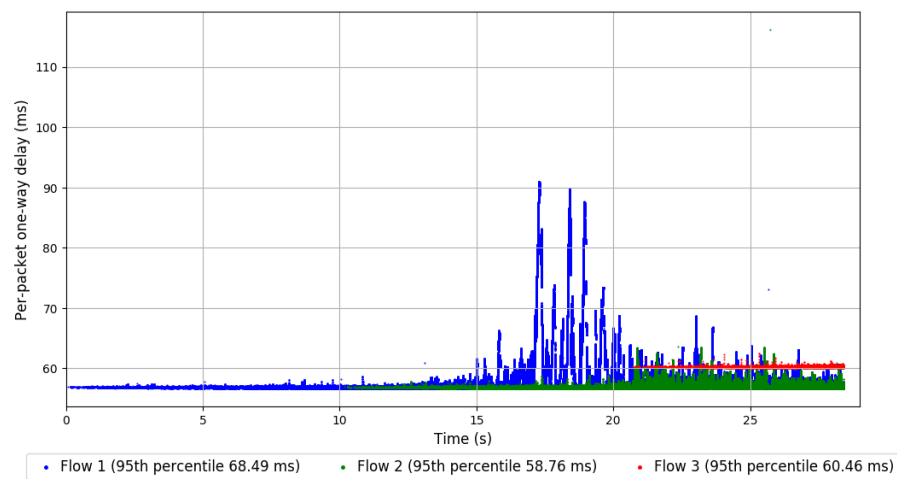
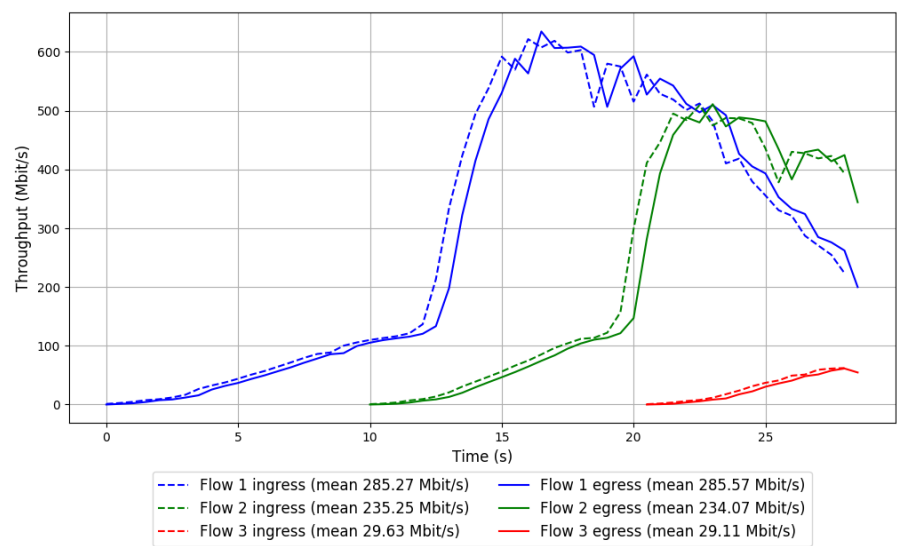


Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-19 22:52:50  
End at: 2019-01-19 22:53:20  
Local clock offset: -0.426 ms  
Remote clock offset: -0.275 ms

# Below is generated by plot.py at 2019-01-20 02:29:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 444.10 Mbit/s  
95th percentile per-packet one-way delay: 65.262 ms  
Loss rate: 0.63%  
-- Flow 1:  
Average throughput: 285.57 Mbit/s  
95th percentile per-packet one-way delay: 68.489 ms  
Loss rate: 0.30%  
-- Flow 2:  
Average throughput: 234.07 Mbit/s  
95th percentile per-packet one-way delay: 58.761 ms  
Loss rate: 1.12%  
-- Flow 3:  
Average throughput: 29.11 Mbit/s  
95th percentile per-packet one-way delay: 60.461 ms  
Loss rate: 3.27%

Run 3: Report of Indigo-MusesD — Data Link

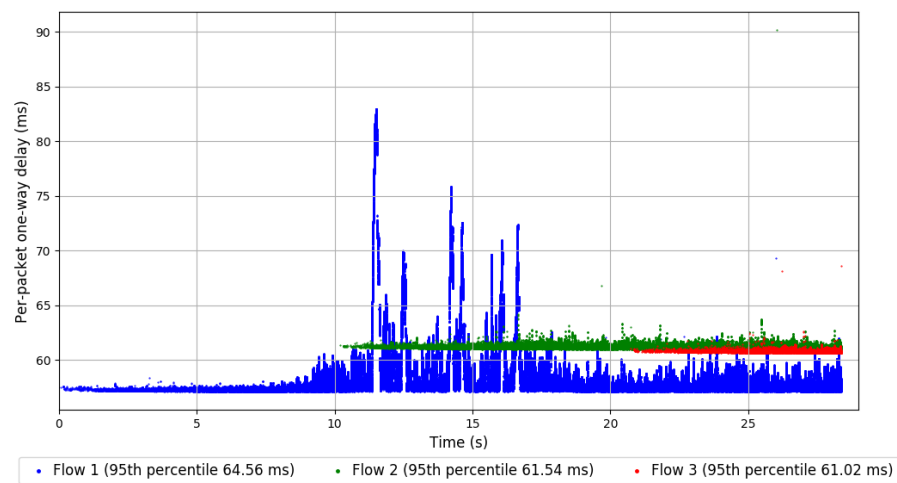
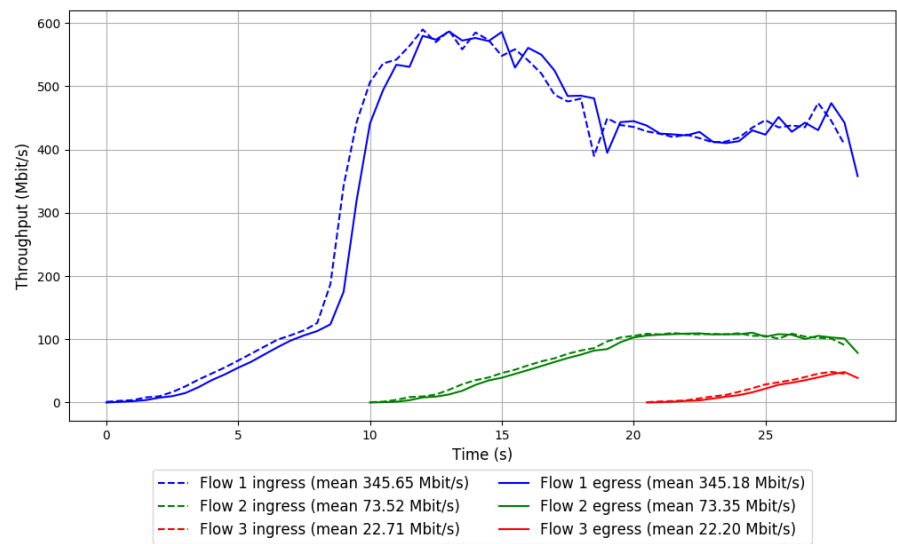


Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-19 23:33:04  
End at: 2019-01-19 23:33:34  
Local clock offset: 0.401 ms  
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-01-20 02:30:16  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 398.12 Mbit/s  
95th percentile per-packet one-way delay: 63.687 ms  
Loss rate: 0.63%  
-- Flow 1:  
Average throughput: 345.18 Mbit/s  
95th percentile per-packet one-way delay: 64.555 ms  
Loss rate: 0.54%  
-- Flow 2:  
Average throughput: 73.35 Mbit/s  
95th percentile per-packet one-way delay: 61.539 ms  
Loss rate: 0.92%  
-- Flow 3:  
Average throughput: 22.20 Mbit/s  
95th percentile per-packet one-way delay: 61.022 ms  
Loss rate: 3.64%

Run 4: Report of Indigo-MusesD — Data Link





Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-20 00:12:37

End at: 2019-01-20 00:13:07

Local clock offset: -0.234 ms

Remote clock offset: -0.64 ms

# Below is generated by plot.py at 2019-01-20 02:30:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 345.76 Mbit/s

95th percentile per-packet one-way delay: 61.106 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 288.31 Mbit/s

95th percentile per-packet one-way delay: 60.263 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 73.45 Mbit/s

95th percentile per-packet one-way delay: 61.230 ms

Loss rate: 0.83%

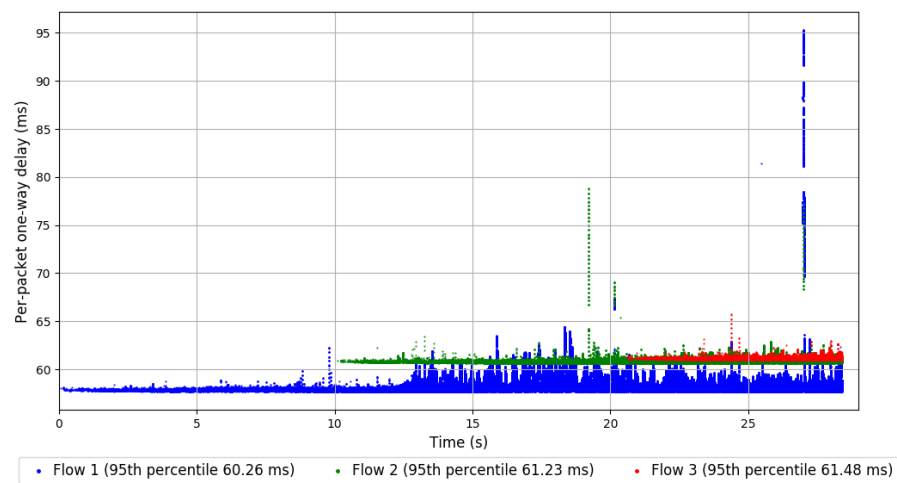
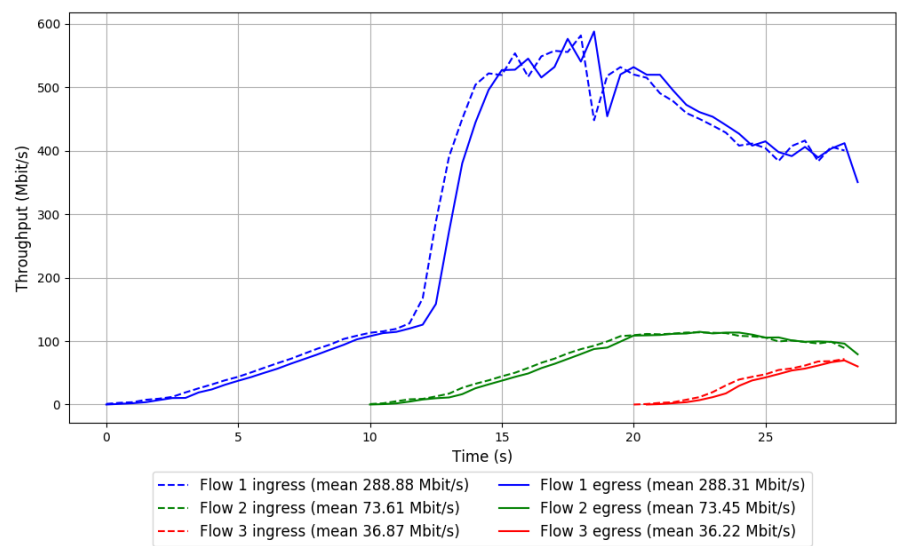
-- Flow 3:

Average throughput: 36.22 Mbit/s

95th percentile per-packet one-way delay: 61.478 ms

Loss rate: 3.17%

Run 5: Report of Indigo-MusesD — Data Link

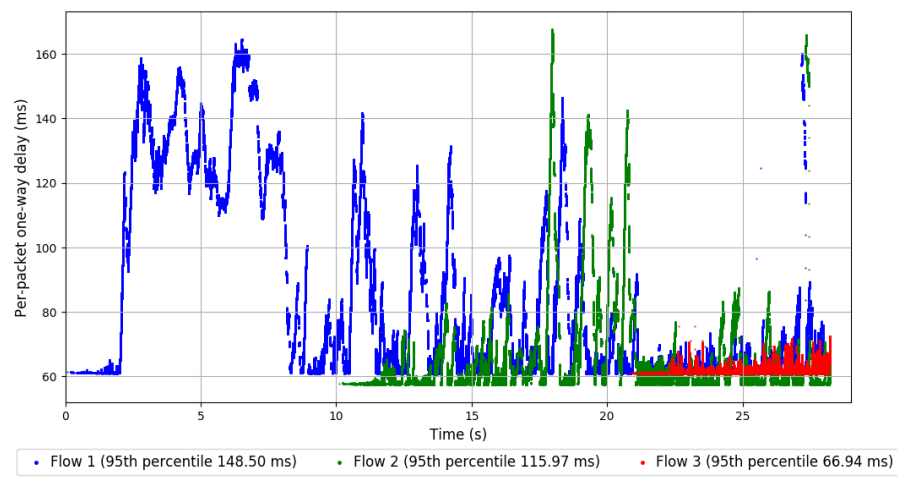
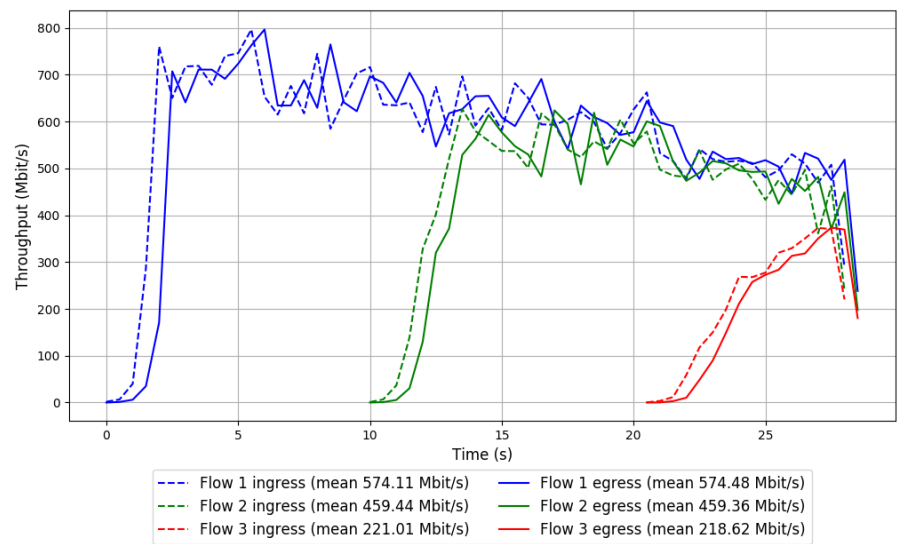


```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-19 21:13:42
End at: 2019-01-19 21:14:12
Local clock offset: 0.619 ms
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2019-01-20 02:42:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 927.21 Mbit/s
95th percentile per-packet one-way delay: 141.831 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 574.48 Mbit/s
95th percentile per-packet one-way delay: 148.499 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 459.36 Mbit/s
95th percentile per-packet one-way delay: 115.967 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 218.62 Mbit/s
95th percentile per-packet one-way delay: 66.943 ms
Loss rate: 2.62%
```

Run 1: Report of Indigo-MusesT — Data Link

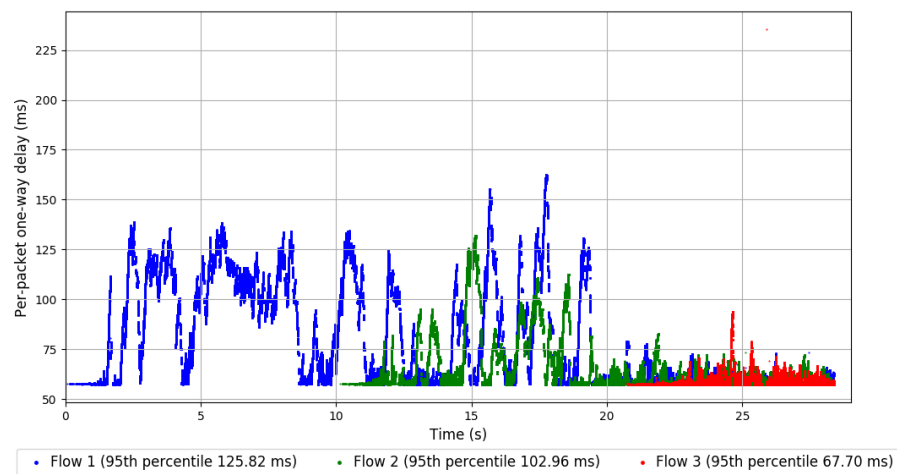
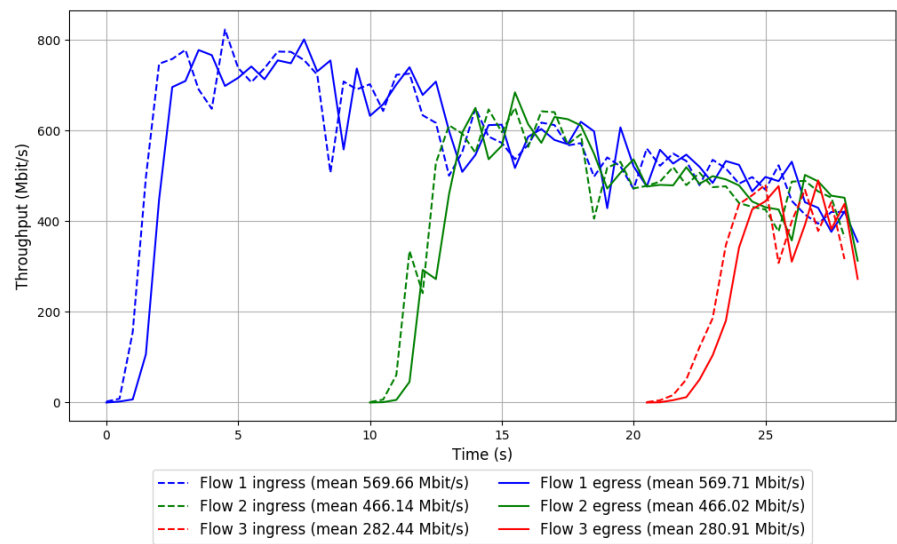


Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-19 21:53:05  
End at: 2019-01-19 21:53:35  
Local clock offset: -0.048 ms  
Remote clock offset: -0.607 ms

# Below is generated by plot.py at 2019-01-20 02:43:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 946.32 Mbit/s  
95th percentile per-packet one-way delay: 122.663 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 569.71 Mbit/s  
95th percentile per-packet one-way delay: 125.820 ms  
Loss rate: 0.39%  
-- Flow 2:  
Average throughput: 466.02 Mbit/s  
95th percentile per-packet one-way delay: 102.959 ms  
Loss rate: 0.64%  
-- Flow 3:  
Average throughput: 280.91 Mbit/s  
95th percentile per-packet one-way delay: 67.698 ms  
Loss rate: 2.01%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-19 22:32:49

End at: 2019-01-19 22:33:19

Local clock offset: 0.104 ms

Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-01-20 02:45:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 935.04 Mbit/s

95th percentile per-packet one-way delay: 115.032 ms

Loss rate: 0.63%

-- Flow 1:

Average throughput: 556.13 Mbit/s

95th percentile per-packet one-way delay: 119.887 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 468.59 Mbit/s

95th percentile per-packet one-way delay: 86.696 ms

Loss rate: 0.59%

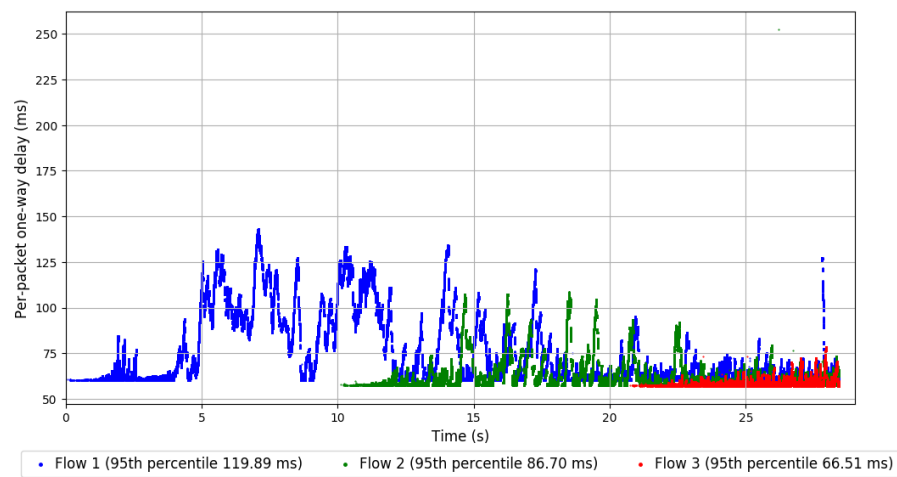
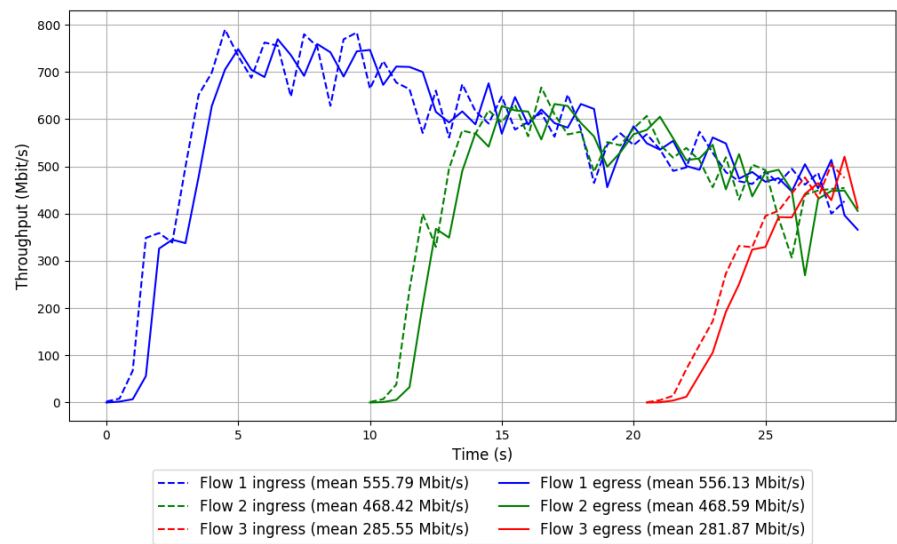
-- Flow 3:

Average throughput: 281.87 Mbit/s

95th percentile per-packet one-way delay: 66.513 ms

Loss rate: 2.75%

Run 3: Report of Indigo-MusesT — Data Link



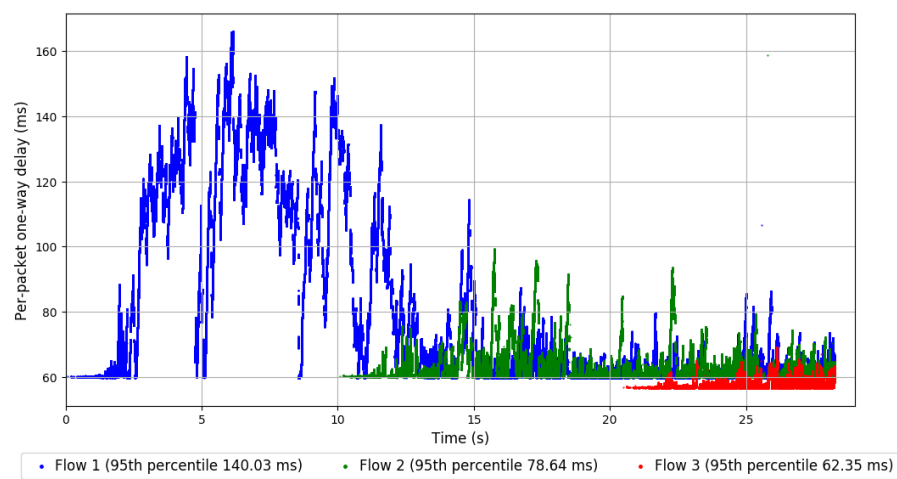
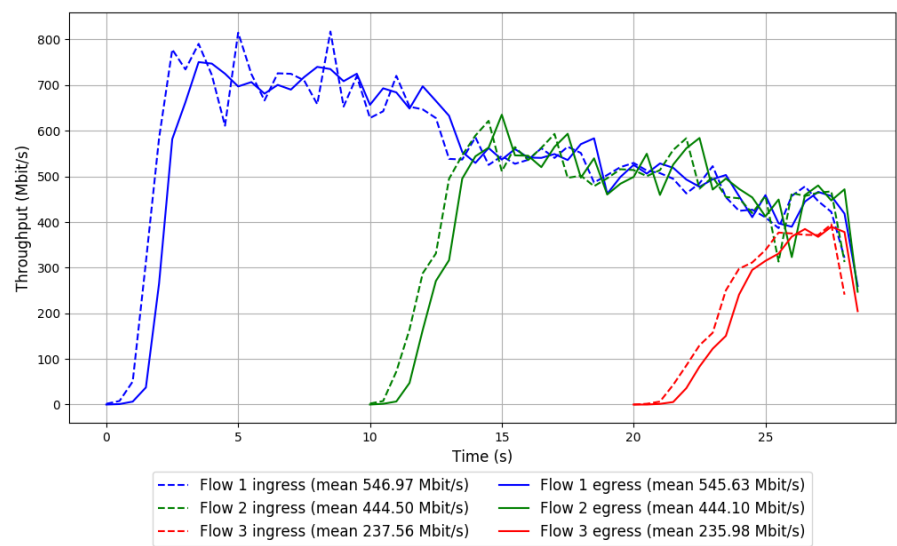


Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-19 23:12:44  
End at: 2019-01-19 23:13:14  
Local clock offset: -0.277 ms  
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-01-20 02:45:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 897.06 Mbit/s  
95th percentile per-packet one-way delay: 135.427 ms  
Loss rate: 0.79%  
-- Flow 1:  
Average throughput: 545.63 Mbit/s  
95th percentile per-packet one-way delay: 140.025 ms  
Loss rate: 0.66%  
-- Flow 2:  
Average throughput: 444.10 Mbit/s  
95th percentile per-packet one-way delay: 78.636 ms  
Loss rate: 0.74%  
-- Flow 3:  
Average throughput: 235.98 Mbit/s  
95th percentile per-packet one-way delay: 62.355 ms  
Loss rate: 2.12%

Run 4: Report of Indigo-MusesT — Data Link

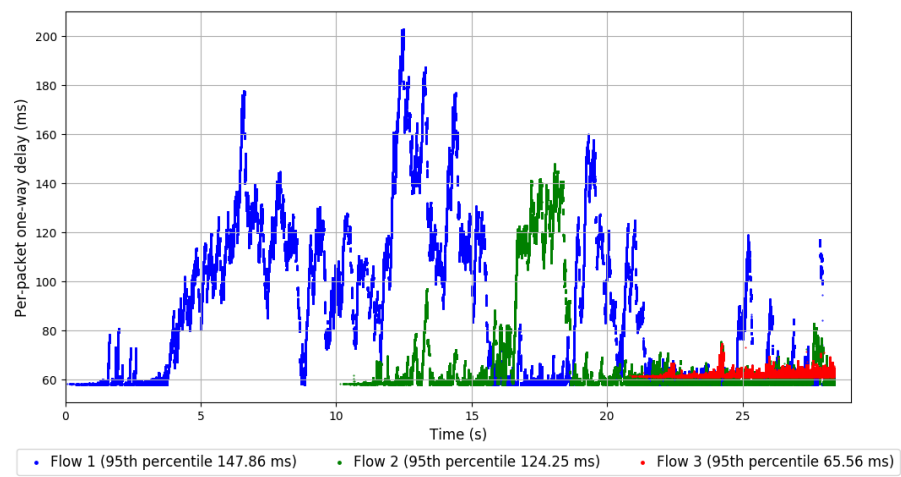
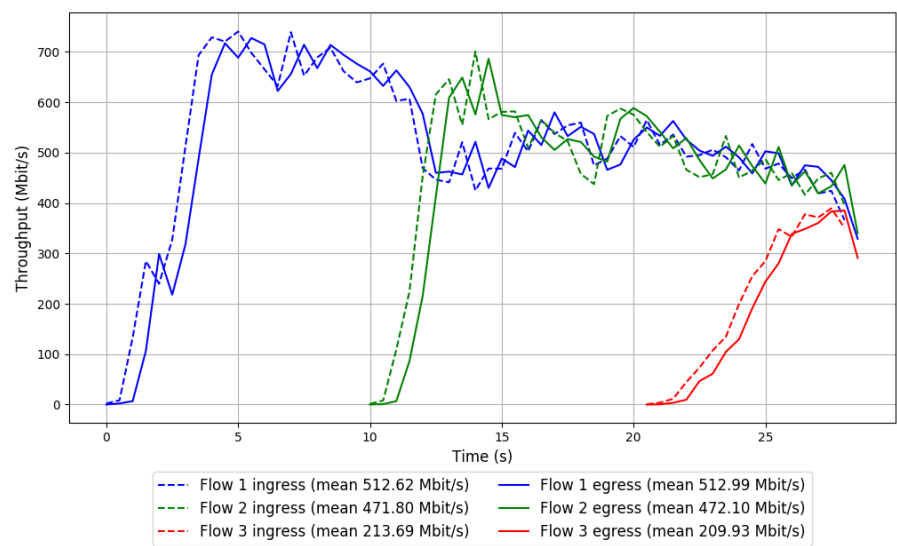


Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-19 23:52:13  
End at: 2019-01-19 23:52:43  
Local clock offset: 0.153 ms  
Remote clock offset: -0.689 ms

# Below is generated by plot.py at 2019-01-20 02:45:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 873.09 Mbit/s  
95th percentile per-packet one-way delay: 136.533 ms  
Loss rate: 0.62%  
-- Flow 1:  
Average throughput: 512.99 Mbit/s  
95th percentile per-packet one-way delay: 147.861 ms  
Loss rate: 0.35%  
-- Flow 2:  
Average throughput: 472.10 Mbit/s  
95th percentile per-packet one-way delay: 124.254 ms  
Loss rate: 0.57%  
-- Flow 3:  
Average throughput: 209.93 Mbit/s  
95th percentile per-packet one-way delay: 65.557 ms  
Loss rate: 3.27%

Run 5: Report of Indigo-MusesT — Data Link

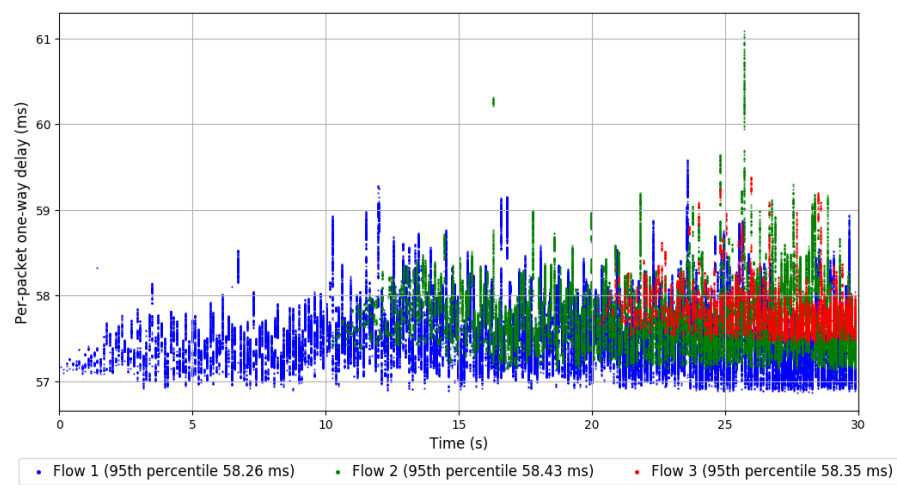
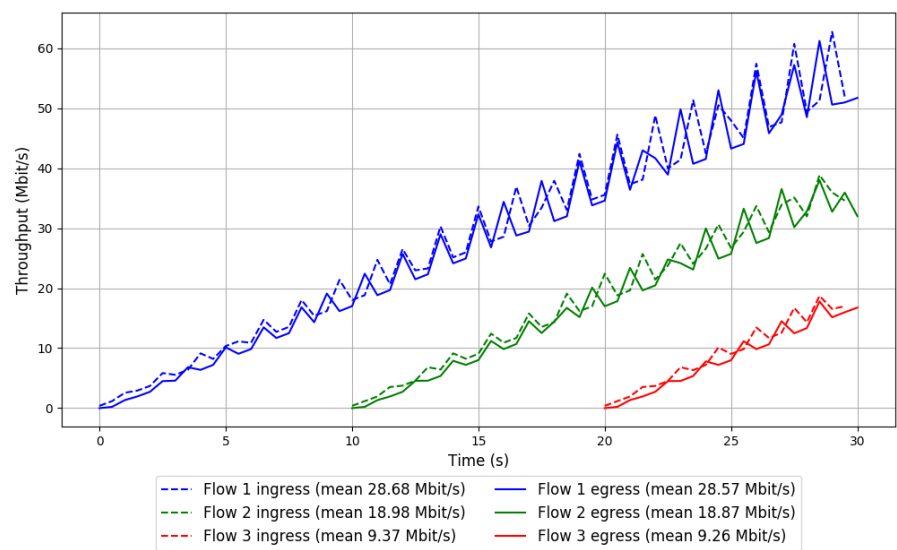


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-19 21:32:08
End at: 2019-01-19 21:32:38
Local clock offset: 0.126 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-01-20 02:45:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.14 Mbit/s
95th percentile per-packet one-way delay: 58.323 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 28.57 Mbit/s
95th percentile per-packet one-way delay: 58.260 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 18.87 Mbit/s
95th percentile per-packet one-way delay: 58.426 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 58.346 ms
Loss rate: 2.34%
```

Run 1: Report of LEDBAT — Data Link

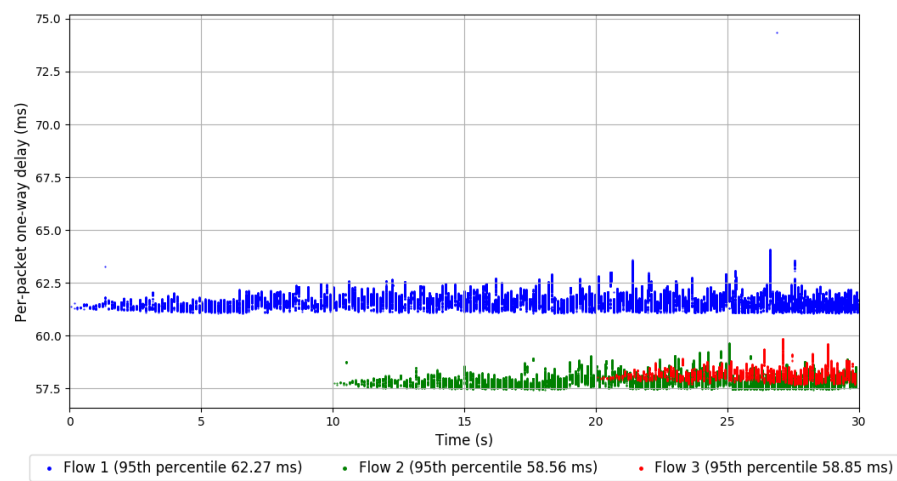
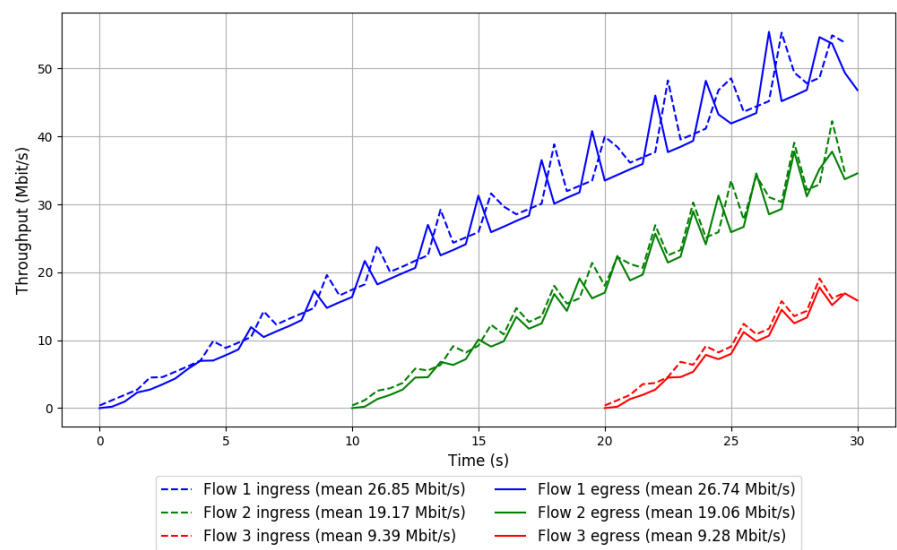


Run 2: Statistics of LEDBAT

Start at: 2019-01-19 22:11:38  
End at: 2019-01-19 22:12:08  
Local clock offset: -0.125 ms  
Remote clock offset: -0.786 ms

# Below is generated by plot.py at 2019-01-20 02:45:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 42.43 Mbit/s  
95th percentile per-packet one-way delay: 62.148 ms  
Loss rate: 1.00%  
-- Flow 1:  
Average throughput: 26.74 Mbit/s  
95th percentile per-packet one-way delay: 62.267 ms  
Loss rate: 0.78%  
-- Flow 2:  
Average throughput: 19.06 Mbit/s  
95th percentile per-packet one-way delay: 58.558 ms  
Loss rate: 1.15%  
-- Flow 3:  
Average throughput: 9.28 Mbit/s  
95th percentile per-packet one-way delay: 58.850 ms  
Loss rate: 2.33%

Run 2: Report of LEDBAT — Data Link



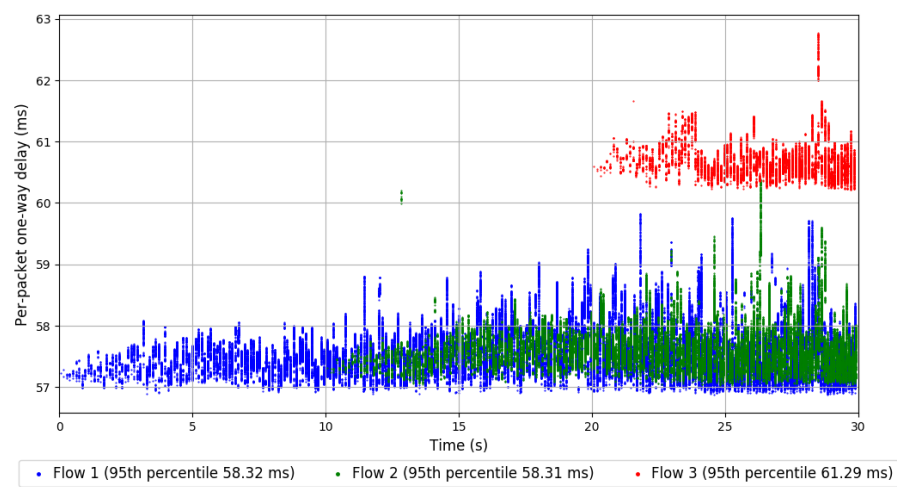
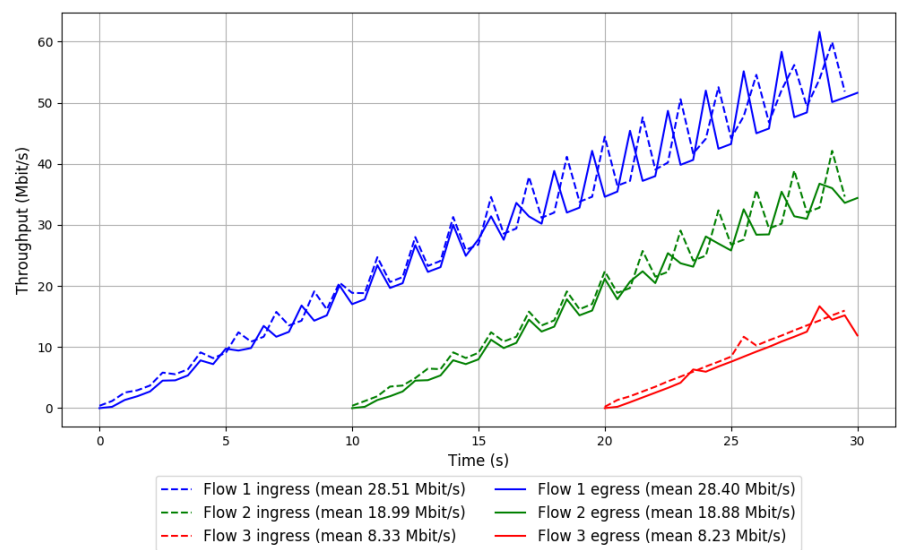


Run 3: Statistics of LEDBAT

Start at: 2019-01-19 22:51:33  
End at: 2019-01-19 22:52:03  
Local clock offset: -0.018 ms  
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-01-20 02:45:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 43.63 Mbit/s  
95th percentile per-packet one-way delay: 60.460 ms  
Loss rate: 0.98%  
-- Flow 1:  
Average throughput: 28.40 Mbit/s  
95th percentile per-packet one-way delay: 58.319 ms  
Loss rate: 0.76%  
-- Flow 2:  
Average throughput: 18.88 Mbit/s  
95th percentile per-packet one-way delay: 58.306 ms  
Loss rate: 1.15%  
-- Flow 3:  
Average throughput: 8.23 Mbit/s  
95th percentile per-packet one-way delay: 61.292 ms  
Loss rate: 2.47%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-01-19 23:31:47

End at: 2019-01-19 23:32:17

Local clock offset: -0.067 ms

Remote clock offset: 0.68 ms

# Below is generated by plot.py at 2019-01-20 02:45:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 42.82 Mbit/s

95th percentile per-packet one-way delay: 60.046 ms

Loss rate: 0.99%

-- Flow 1:

Average throughput: 28.54 Mbit/s

95th percentile per-packet one-way delay: 57.359 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 16.94 Mbit/s

95th percentile per-packet one-way delay: 60.381 ms

Loss rate: 1.22%

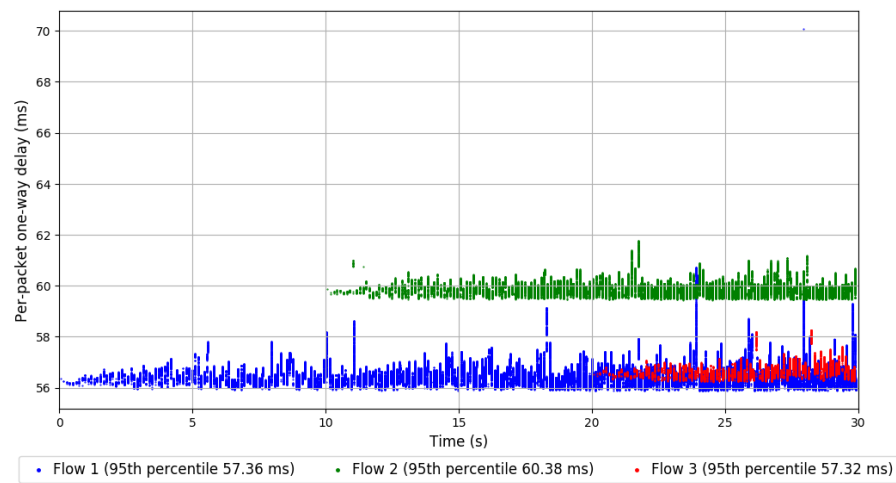
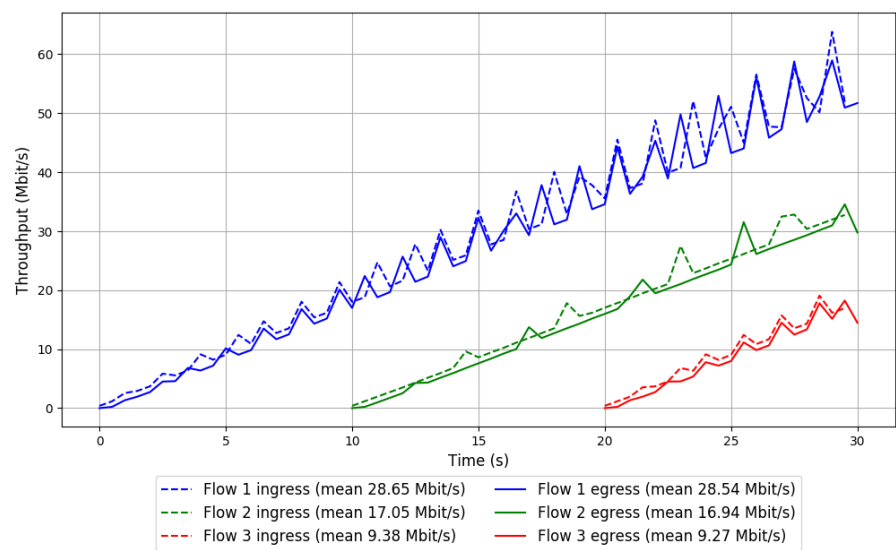
-- Flow 3:

Average throughput: 9.27 Mbit/s

95th percentile per-packet one-way delay: 57.318 ms

Loss rate: 2.32%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-01-20 00:11:19

End at: 2019-01-20 00:11:49

Local clock offset: 0.073 ms

Remote clock offset: 0.213 ms

# Below is generated by plot.py at 2019-01-20 02:45:52

# Datalink statistics

-- Total of 3 flows:

Average throughput: 43.37 Mbit/s

95th percentile per-packet one-way delay: 58.259 ms

Loss rate: 0.99%

-- Flow 1:

Average throughput: 28.38 Mbit/s

95th percentile per-packet one-way delay: 58.375 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 18.00 Mbit/s

95th percentile per-packet one-way delay: 57.760 ms

Loss rate: 1.18%

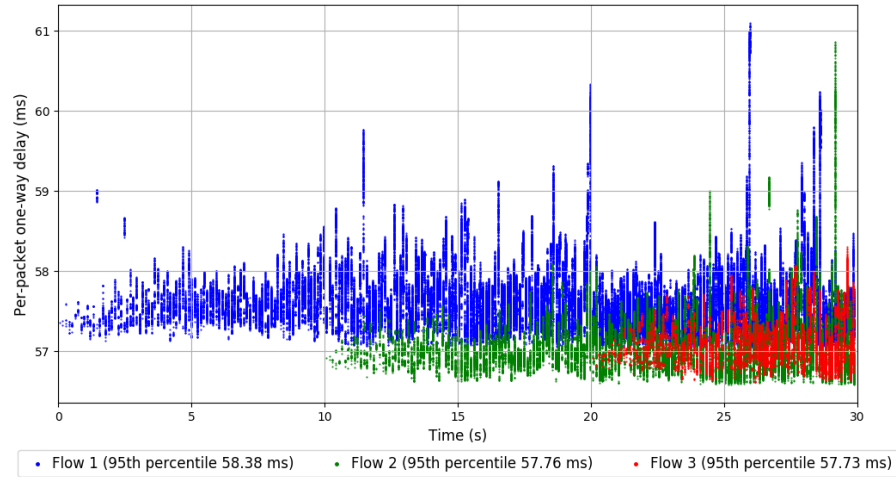
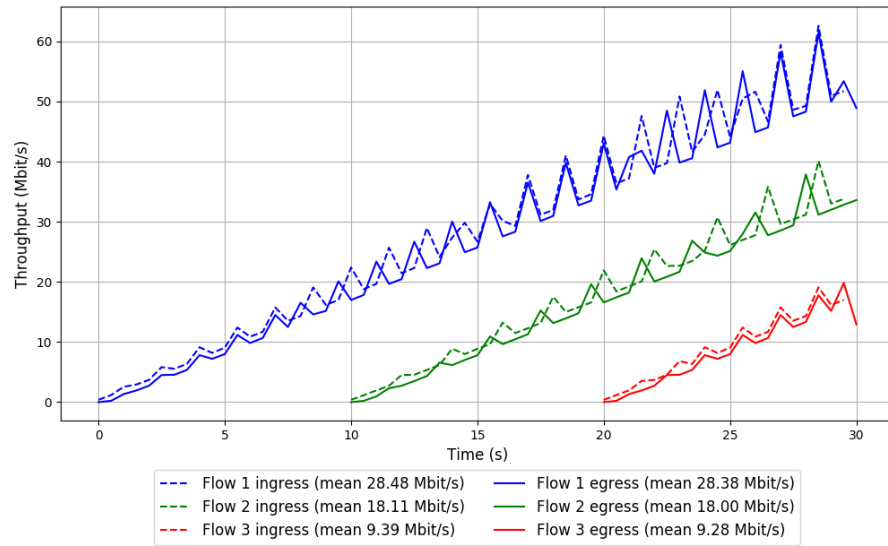
-- Flow 3:

Average throughput: 9.28 Mbit/s

95th percentile per-packet one-way delay: 57.731 ms

Loss rate: 2.33%

## Run 5: Report of LEDBAT — Data Link

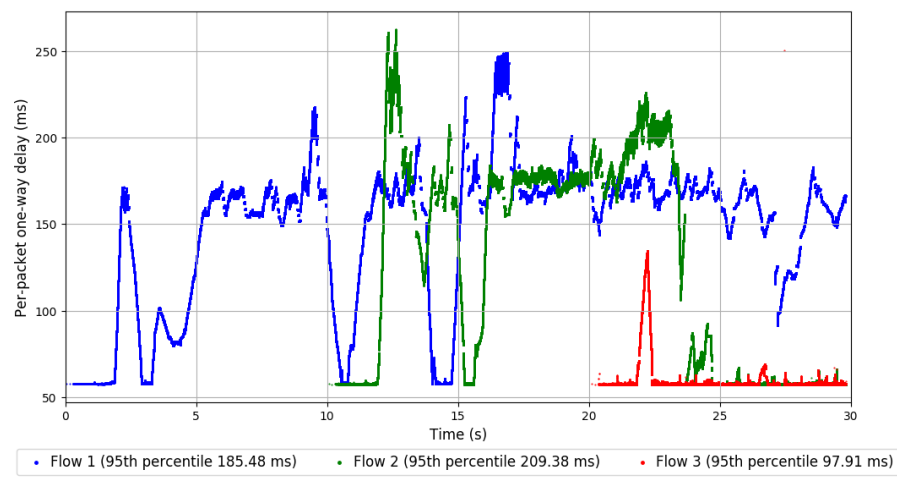
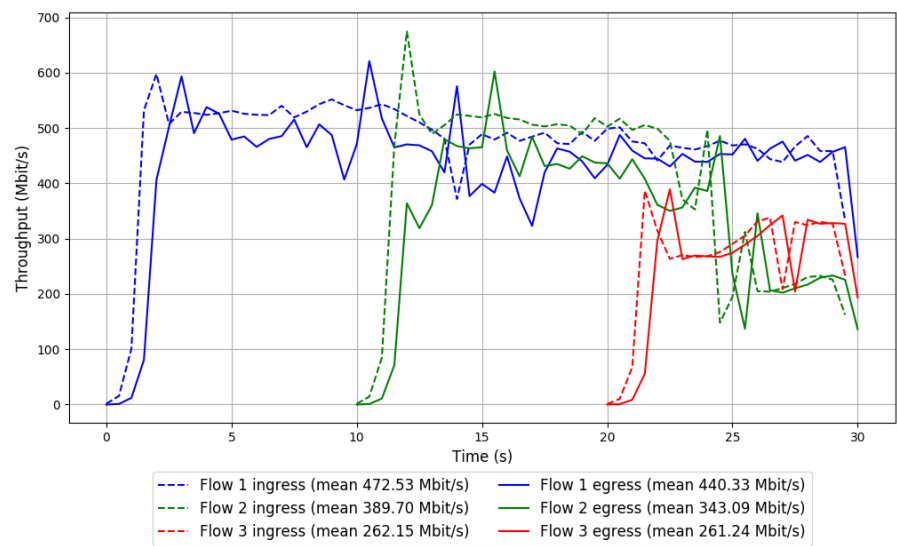


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-19 21:20:32
End at: 2019-01-19 21:21:02
Local clock offset: -0.101 ms
Remote clock offset: -0.649 ms

# Below is generated by plot.py at 2019-01-20 03:02:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 753.08 Mbit/s
95th percentile per-packet one-way delay: 198.540 ms
Loss rate: 8.25%
-- Flow 1:
Average throughput: 440.33 Mbit/s
95th percentile per-packet one-way delay: 185.479 ms
Loss rate: 7.17%
-- Flow 2:
Average throughput: 343.09 Mbit/s
95th percentile per-packet one-way delay: 209.381 ms
Loss rate: 12.47%
-- Flow 3:
Average throughput: 261.24 Mbit/s
95th percentile per-packet one-way delay: 97.907 ms
Loss rate: 1.49%
```

Run 1: Report of PCC-Allegro — Data Link





Run 2: Statistics of PCC-Allegro

Start at: 2019-01-19 22:00:01

End at: 2019-01-19 22:00:31

Local clock offset: -0.375 ms

Remote clock offset: 0.653 ms

# Below is generated by plot.py at 2019-01-20 03:02:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 680.51 Mbit/s

95th percentile per-packet one-way delay: 187.534 ms

Loss rate: 3.21%

-- Flow 1:

Average throughput: 393.59 Mbit/s

95th percentile per-packet one-way delay: 193.214 ms

Loss rate: 4.42%

-- Flow 2:

Average throughput: 301.76 Mbit/s

95th percentile per-packet one-way delay: 65.558 ms

Loss rate: 0.66%

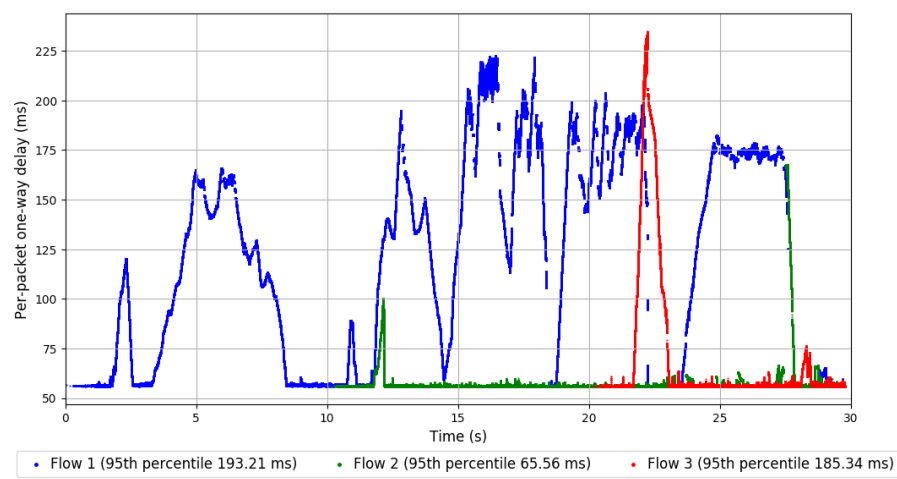
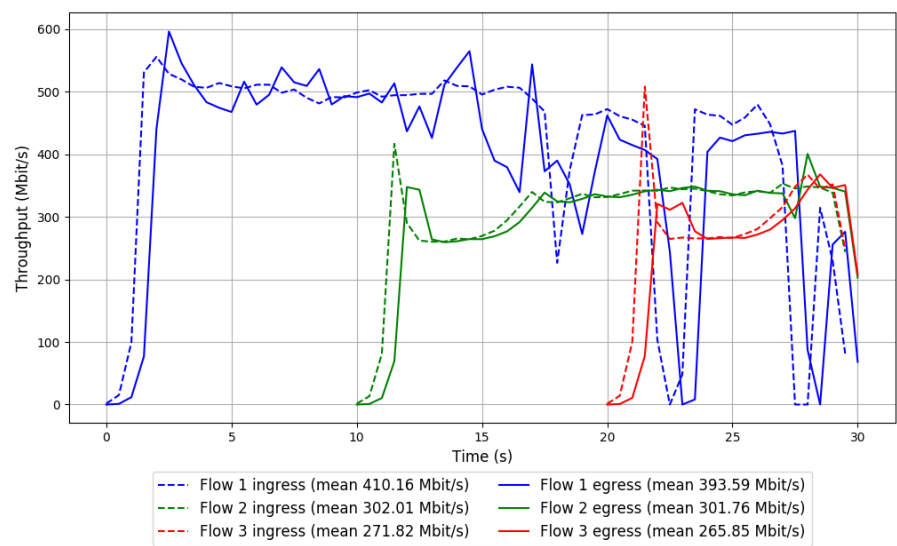
-- Flow 3:

Average throughput: 265.85 Mbit/s

95th percentile per-packet one-way delay: 185.338 ms

Loss rate: 3.34%

Run 2: Report of PCC-Allegro — Data Link

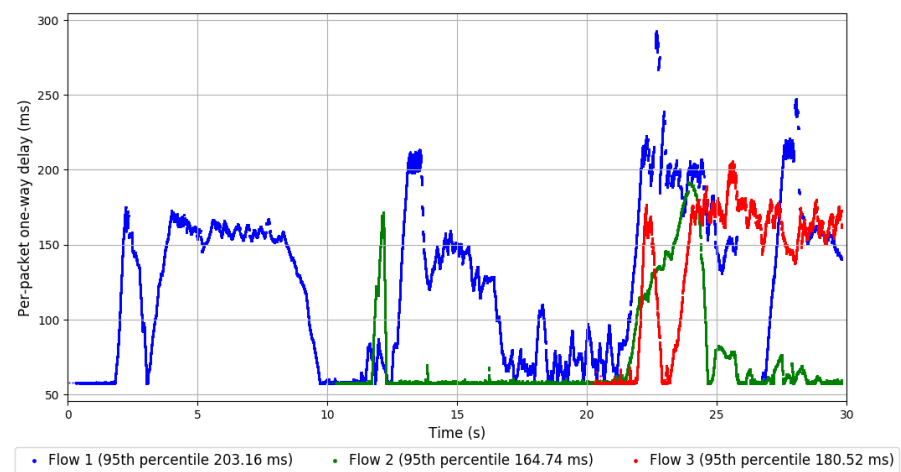
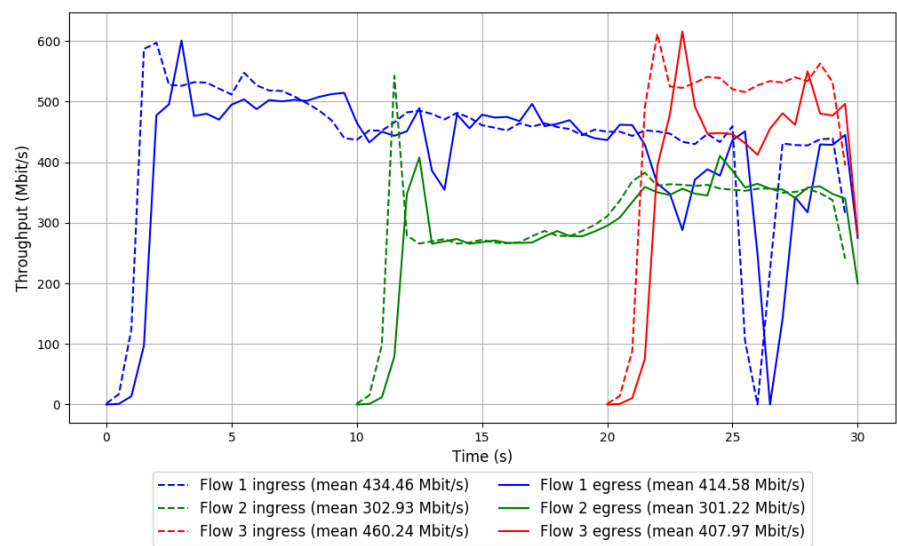


Run 3: Statistics of PCC-Allegro

Start at: 2019-01-19 22:40:16  
End at: 2019-01-19 22:40:46  
Local clock offset: 0.202 ms  
Remote clock offset: -0.352 ms

# Below is generated by plot.py at 2019-01-20 03:03:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 747.81 Mbit/s  
95th percentile per-packet one-way delay: 194.983 ms  
Loss rate: 5.41%  
-- Flow 1:  
Average throughput: 414.58 Mbit/s  
95th percentile per-packet one-way delay: 203.158 ms  
Loss rate: 4.94%  
-- Flow 2:  
Average throughput: 301.22 Mbit/s  
95th percentile per-packet one-way delay: 164.743 ms  
Loss rate: 1.15%  
-- Flow 3:  
Average throughput: 407.97 Mbit/s  
95th percentile per-packet one-way delay: 180.517 ms  
Loss rate: 12.40%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-19 23:20:35

End at: 2019-01-19 23:21:05

Local clock offset: -0.252 ms

Remote clock offset: -0.24 ms

# Below is generated by plot.py at 2019-01-20 03:10:03

# Datalink statistics

-- Total of 3 flows:

Average throughput: 664.81 Mbit/s

95th percentile per-packet one-way delay: 177.587 ms

Loss rate: 3.27%

-- Flow 1:

Average throughput: 374.49 Mbit/s

95th percentile per-packet one-way delay: 180.387 ms

Loss rate: 4.46%

-- Flow 2:

Average throughput: 312.89 Mbit/s

95th percentile per-packet one-way delay: 107.250 ms

Loss rate: 1.13%

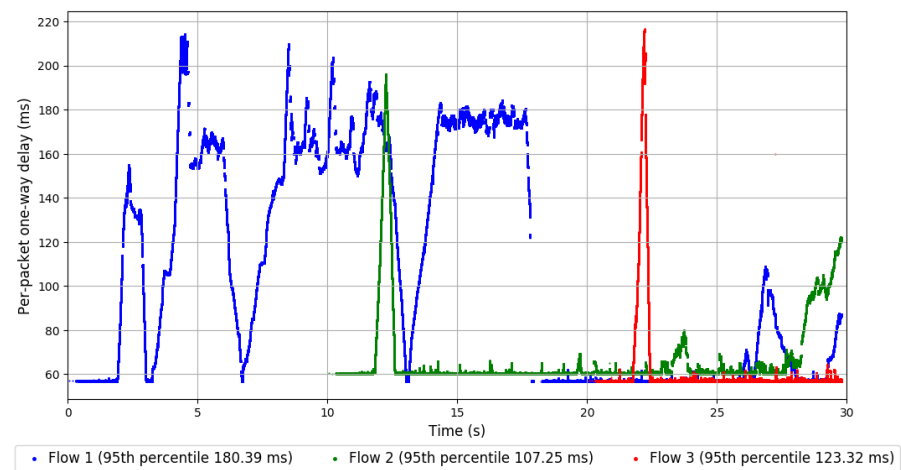
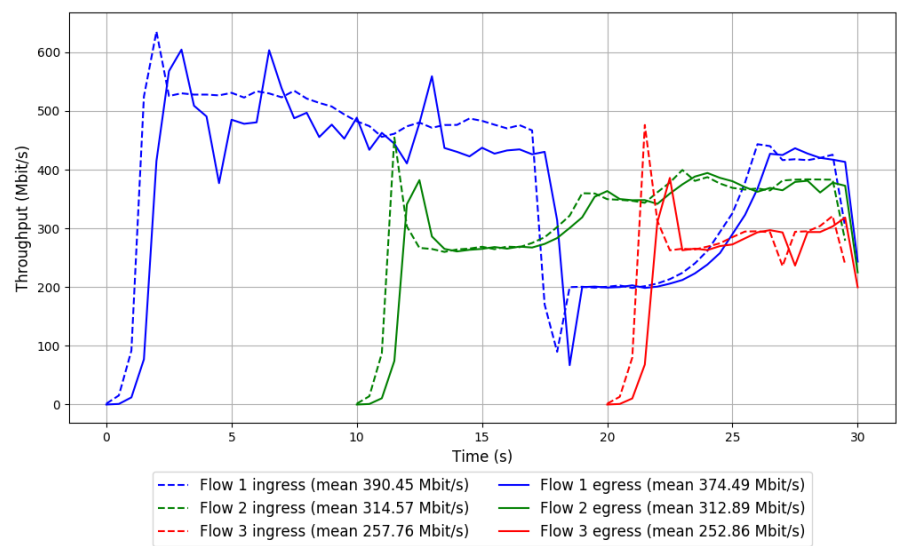
-- Flow 3:

Average throughput: 252.86 Mbit/s

95th percentile per-packet one-way delay: 123.320 ms

Loss rate: 3.05%

Run 4: Report of PCC-Allegro — Data Link

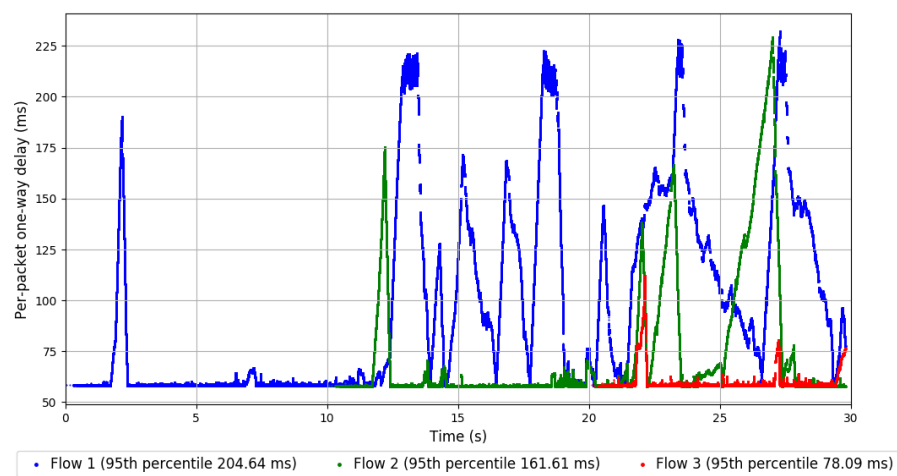
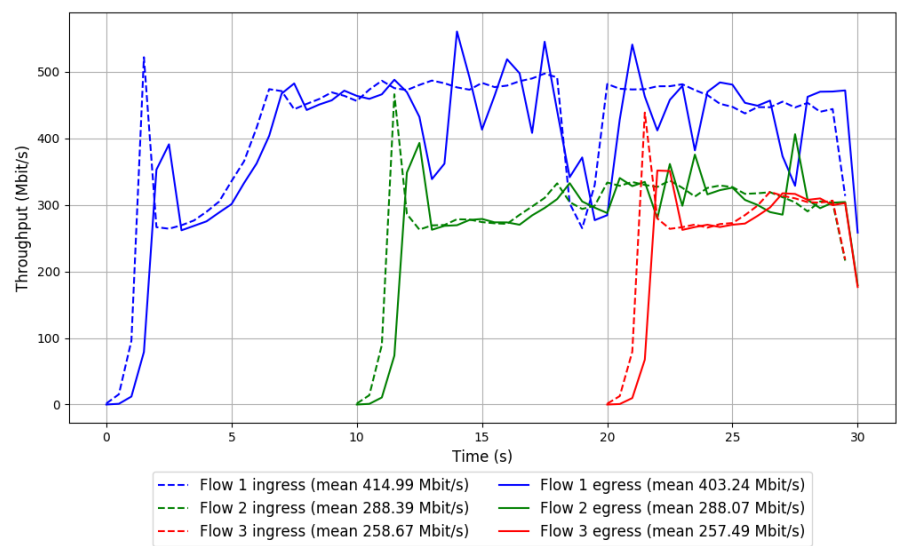


Run 5: Statistics of PCC-Allegro

Start at: 2019-01-19 23:59:42  
End at: 2019-01-20 00:00:12  
Local clock offset: -0.1 ms  
Remote clock offset: -0.719 ms

# Below is generated by plot.py at 2019-01-20 03:11:00  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 678.40 Mbit/s  
95th percentile per-packet one-way delay: 180.318 ms  
Loss rate: 2.31%  
-- Flow 1:  
Average throughput: 403.24 Mbit/s  
95th percentile per-packet one-way delay: 204.638 ms  
Loss rate: 3.21%  
-- Flow 2:  
Average throughput: 288.07 Mbit/s  
95th percentile per-packet one-way delay: 161.608 ms  
Loss rate: 0.69%  
-- Flow 3:  
Average throughput: 257.49 Mbit/s  
95th percentile per-packet one-way delay: 78.091 ms  
Loss rate: 1.62%

Run 5: Report of PCC-Allegro — Data Link



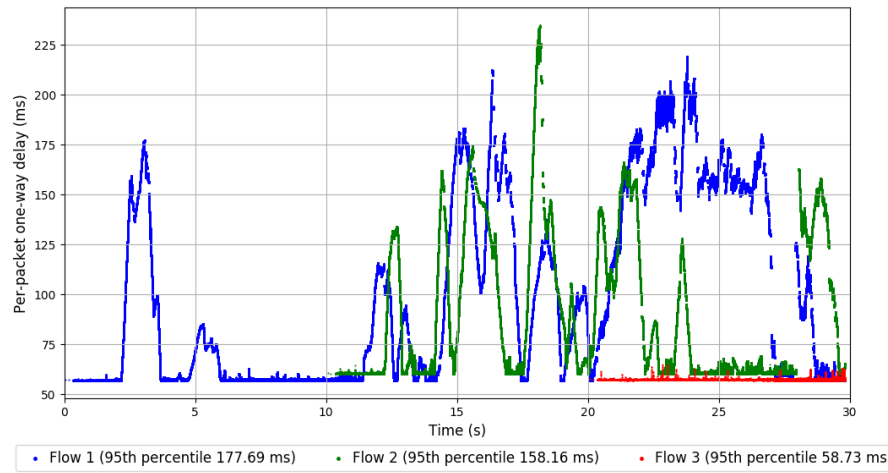
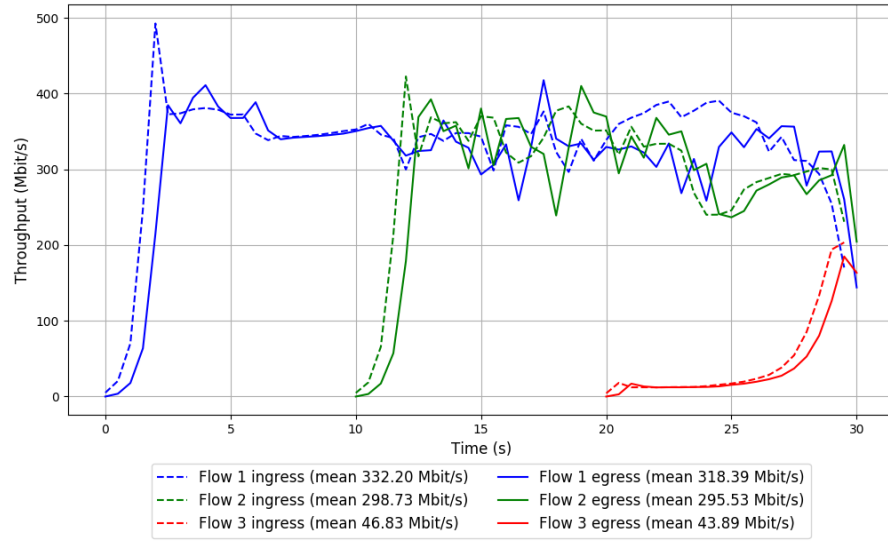


```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-19 21:44:06
End at: 2019-01-19 21:44:36
Local clock offset: -0.113 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2019-01-20 03:11:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 528.94 Mbit/s
95th percentile per-packet one-way delay: 172.800 ms
Loss rate: 3.56%
-- Flow 1:
Average throughput: 318.39 Mbit/s
95th percentile per-packet one-way delay: 177.691 ms
Loss rate: 4.53%
-- Flow 2:
Average throughput: 295.53 Mbit/s
95th percentile per-packet one-way delay: 158.163 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 43.89 Mbit/s
95th percentile per-packet one-way delay: 58.729 ms
Loss rate: 7.38%
```

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



Run 2: Statistics of PCC-Expr

Start at: 2019-01-19 22:23:47

End at: 2019-01-19 22:24:17

Local clock offset: 0.302 ms

Remote clock offset: -0.96 ms

# Below is generated by plot.py at 2019-01-20 03:11:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 539.01 Mbit/s

95th percentile per-packet one-way delay: 118.466 ms

Loss rate: 0.81%

-- Flow 1:

Average throughput: 315.25 Mbit/s

95th percentile per-packet one-way delay: 123.458 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 242.54 Mbit/s

95th percentile per-packet one-way delay: 116.147 ms

Loss rate: 0.79%

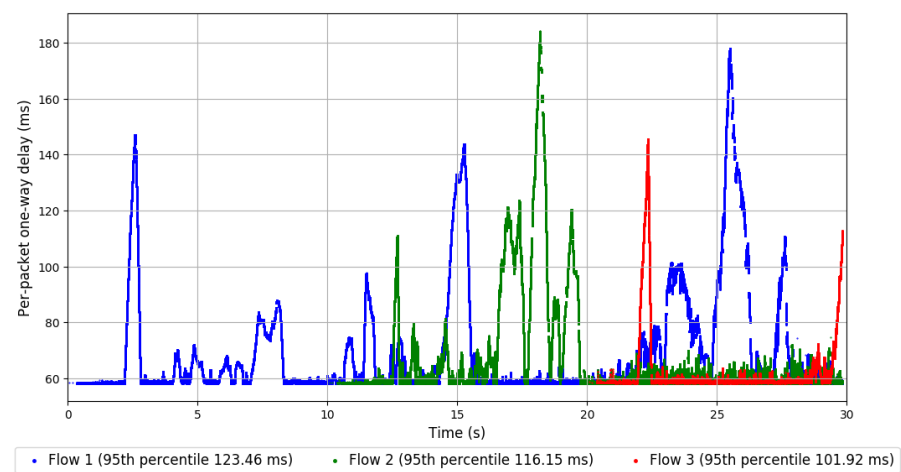
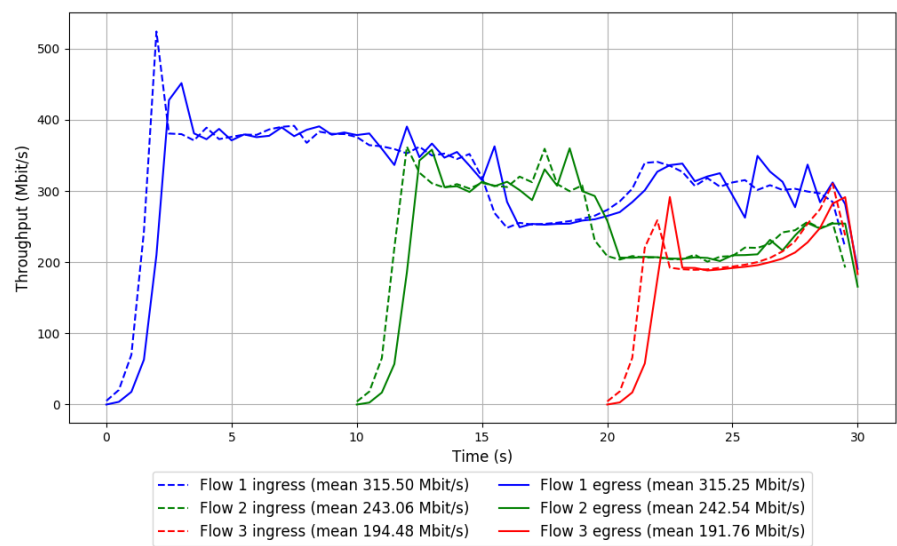
-- Flow 3:

Average throughput: 191.76 Mbit/s

95th percentile per-packet one-way delay: 101.918 ms

Loss rate: 2.59%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

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

End at: 2019-01-19 23:03:49

Local clock offset: 0.315 ms

Remote clock offset: 0.031 ms

# Below is generated by plot.py at 2019-01-20 03:11:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 521.38 Mbit/s

95th percentile per-packet one-way delay: 157.870 ms

Loss rate: 1.57%

-- Flow 1:

Average throughput: 280.52 Mbit/s

95th percentile per-packet one-way delay: 161.549 ms

Loss rate: 1.41%

-- Flow 2:

Average throughput: 265.29 Mbit/s

95th percentile per-packet one-way delay: 140.190 ms

Loss rate: 1.26%

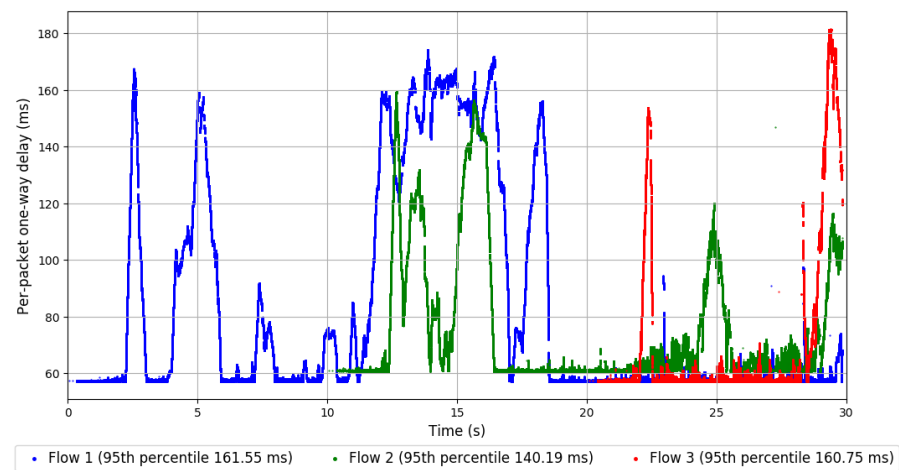
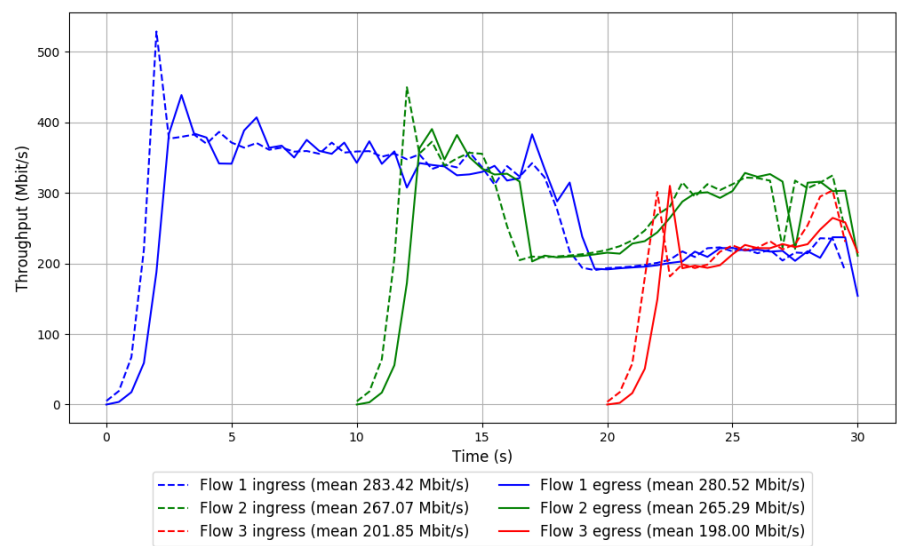
-- Flow 3:

Average throughput: 198.00 Mbit/s

95th percentile per-packet one-way delay: 160.755 ms

Loss rate: 3.05%

Run 3: Report of PCC-Expr — Data Link

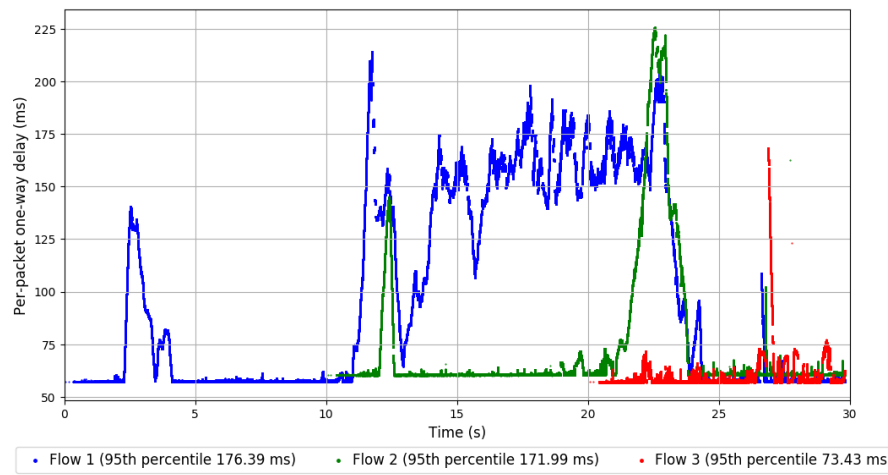
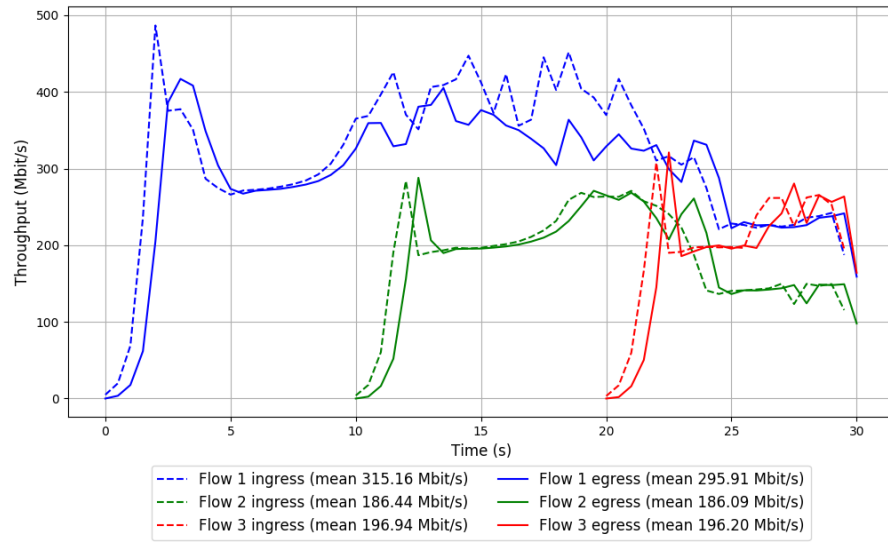


Run 4: Statistics of PCC-Expr

Start at: 2019-01-19 23:43:20  
End at: 2019-01-19 23:43:50  
Local clock offset: -0.045 ms  
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2019-01-20 03:17:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 483.67 Mbit/s  
95th percentile per-packet one-way delay: 174.225 ms  
Loss rate: 4.43%  
-- Flow 1:  
Average throughput: 295.91 Mbit/s  
95th percentile per-packet one-way delay: 176.394 ms  
Loss rate: 6.47%  
-- Flow 2:  
Average throughput: 186.09 Mbit/s  
95th percentile per-packet one-way delay: 171.986 ms  
Loss rate: 0.78%  
-- Flow 3:  
Average throughput: 196.20 Mbit/s  
95th percentile per-packet one-way delay: 73.430 ms  
Loss rate: 1.53%

#### Run 4: Report of PCC-Expr — Data Link



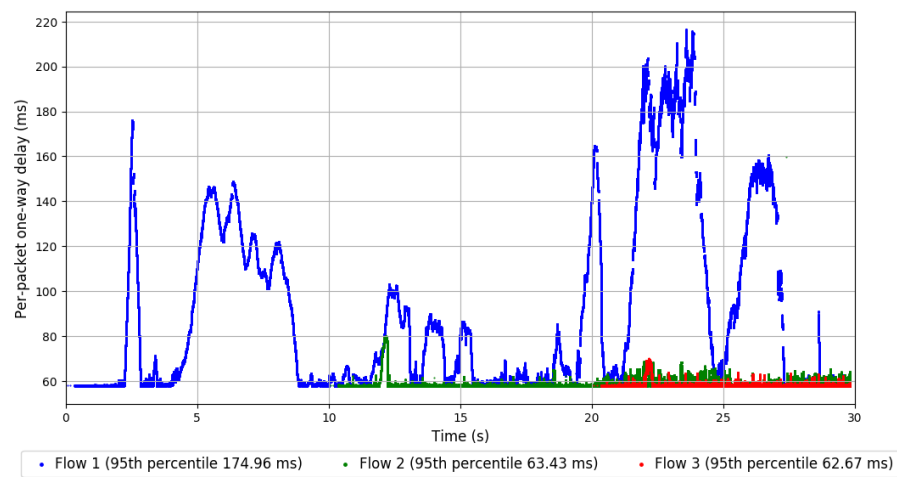
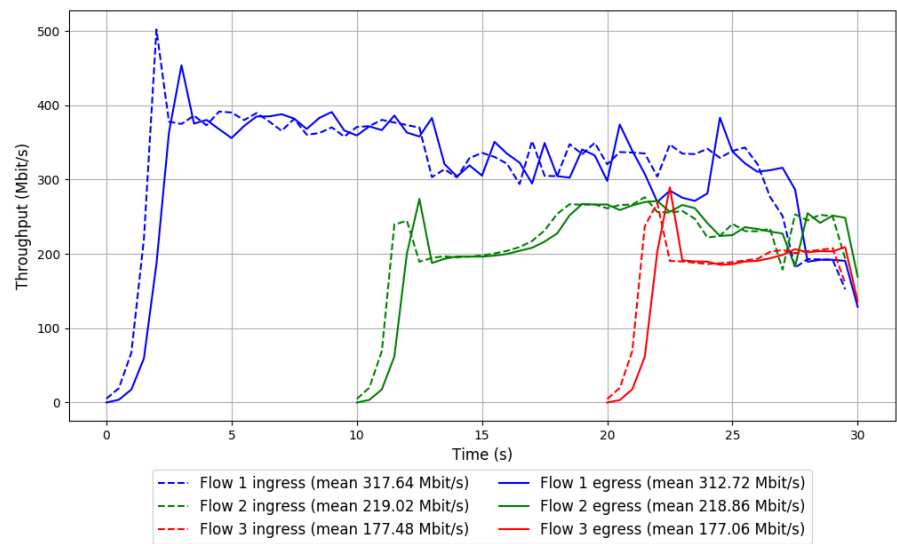


Run 5: Statistics of PCC-Expr

Start at: 2019-01-20 00:23:22  
End at: 2019-01-20 00:23:52  
Local clock offset: -0.037 ms  
Remote clock offset: -0.888 ms

# Below is generated by plot.py at 2019-01-20 03:22:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 515.99 Mbit/s  
95th percentile per-packet one-way delay: 153.655 ms  
Loss rate: 1.51%  
-- Flow 1:  
Average throughput: 312.72 Mbit/s  
95th percentile per-packet one-way delay: 174.963 ms  
Loss rate: 1.92%  
-- Flow 2:  
Average throughput: 218.86 Mbit/s  
95th percentile per-packet one-way delay: 63.433 ms  
Loss rate: 0.66%  
-- Flow 3:  
Average throughput: 177.06 Mbit/s  
95th percentile per-packet one-way delay: 62.668 ms  
Loss rate: 1.41%

Run 5: Report of PCC-Expr — Data Link

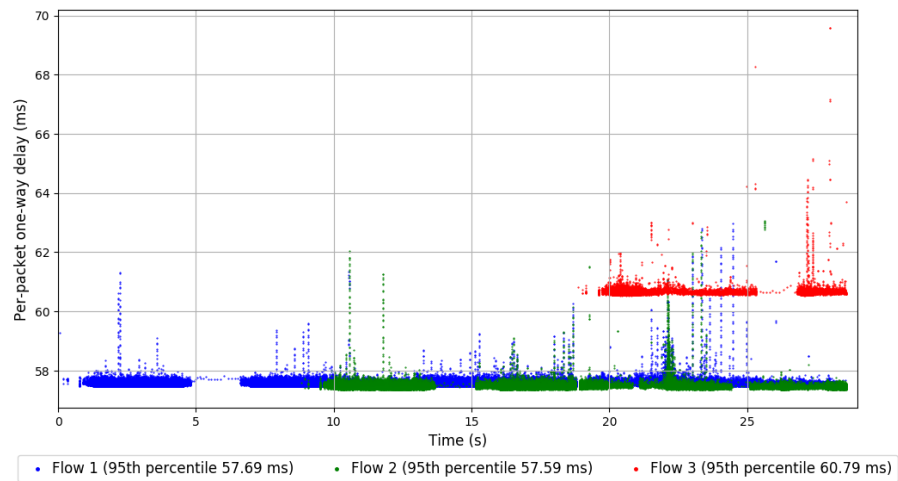
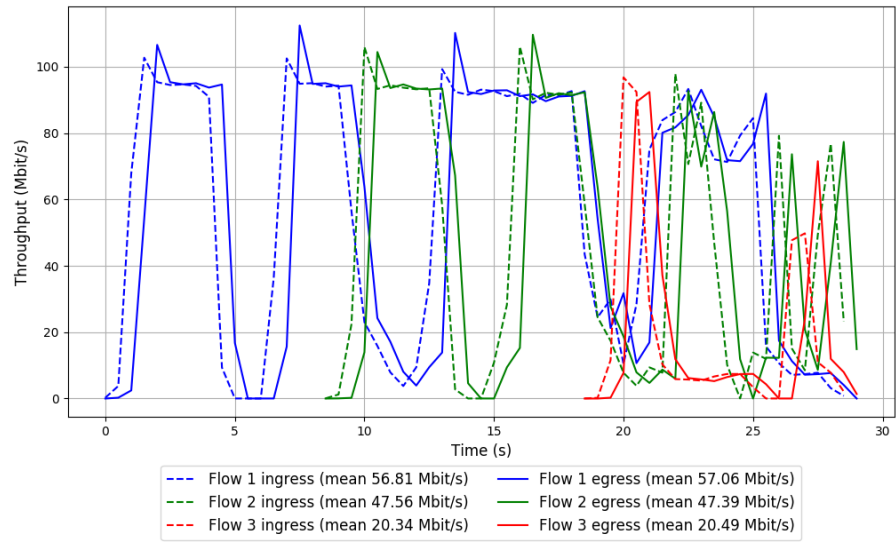


Run 1: Statistics of QUIC Cubic

Start at: 2019-01-19 21:38:38  
End at: 2019-01-19 21:39:08  
Local clock offset: -0.023 ms  
Remote clock offset: -0.481 ms

# Below is generated by plot.py at 2019-01-20 03:22:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.84 Mbit/s  
95th percentile per-packet one-way delay: 60.594 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 57.06 Mbit/s  
95th percentile per-packet one-way delay: 57.691 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 47.39 Mbit/s  
95th percentile per-packet one-way delay: 57.588 ms  
Loss rate: 0.91%  
-- Flow 3:  
Average throughput: 20.49 Mbit/s  
95th percentile per-packet one-way delay: 60.788 ms  
Loss rate: 0.40%

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

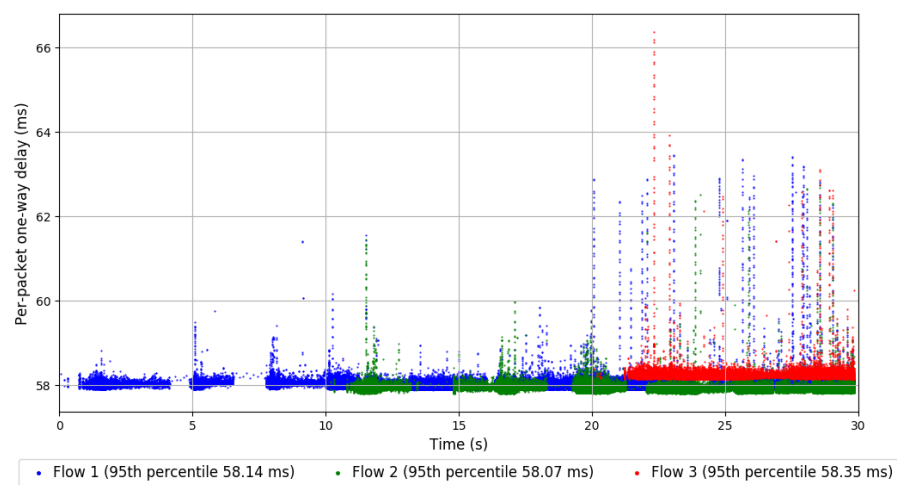
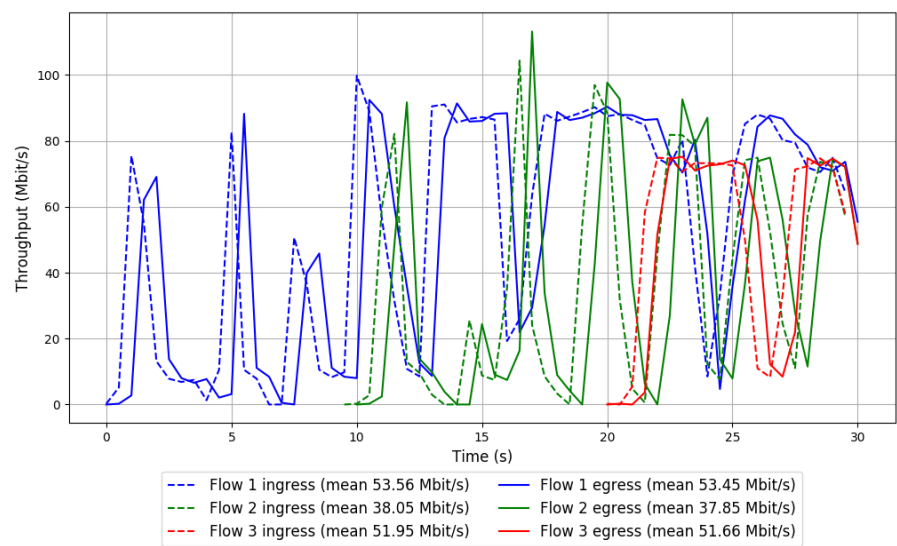


Run 2: Statistics of QUIC Cubic

Start at: 2019-01-19 22:18:18  
End at: 2019-01-19 22:18:48  
Local clock offset: 0.234 ms  
Remote clock offset: -0.816 ms

# Below is generated by plot.py at 2019-01-20 03:22:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.54 Mbit/s  
95th percentile per-packet one-way delay: 58.261 ms  
Loss rate: 0.92%  
-- Flow 1:  
Average throughput: 53.45 Mbit/s  
95th percentile per-packet one-way delay: 58.136 ms  
Loss rate: 0.59%  
-- Flow 2:  
Average throughput: 37.85 Mbit/s  
95th percentile per-packet one-way delay: 58.067 ms  
Loss rate: 1.09%  
-- Flow 3:  
Average throughput: 51.66 Mbit/s  
95th percentile per-packet one-way delay: 58.347 ms  
Loss rate: 1.70%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-19 22:57:57

End at: 2019-01-19 22:58:27

Local clock offset: -0.428 ms

Remote clock offset: 0.161 ms

# Below is generated by plot.py at 2019-01-20 03:22:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.32 Mbit/s

95th percentile per-packet one-way delay: 56.510 ms

Loss rate: 0.95%

-- Flow 1:

Average throughput: 57.29 Mbit/s

95th percentile per-packet one-way delay: 56.508 ms

Loss rate: 0.47%

-- Flow 2:

Average throughput: 40.04 Mbit/s

95th percentile per-packet one-way delay: 56.524 ms

Loss rate: 1.25%

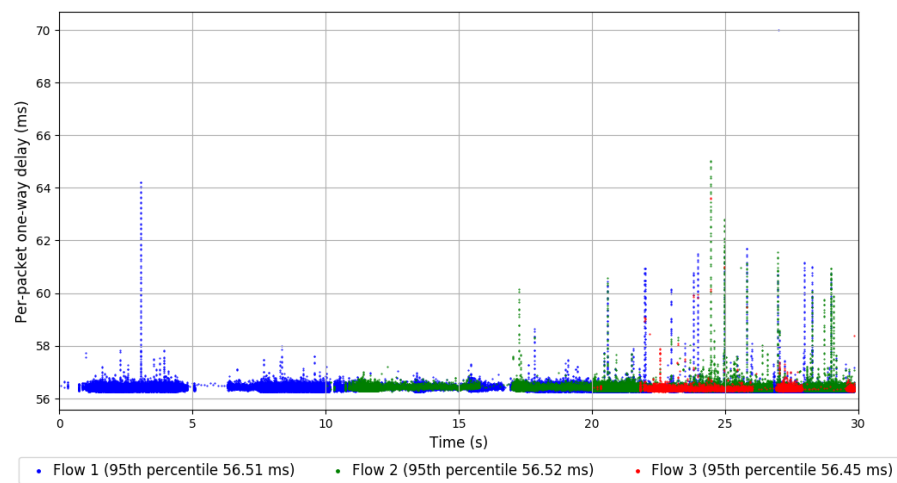
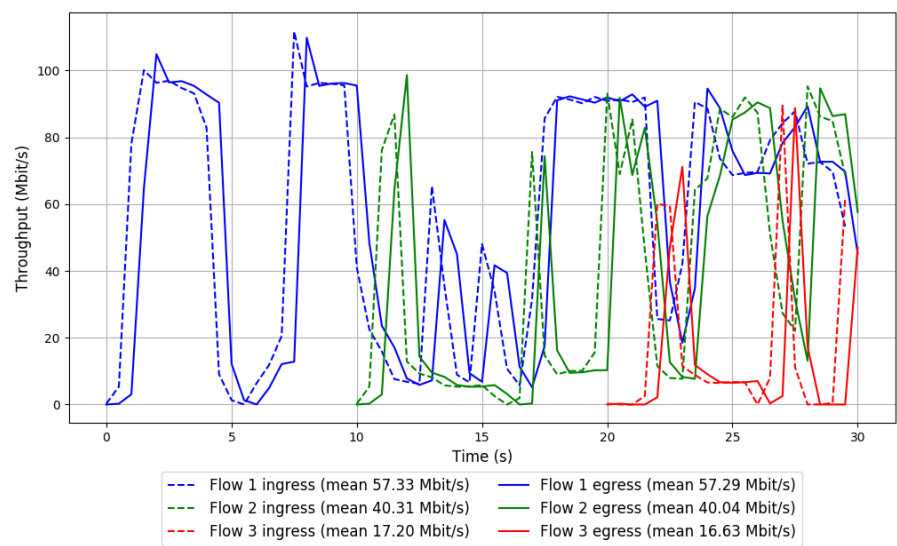
-- Flow 3:

Average throughput: 16.63 Mbit/s

95th percentile per-packet one-way delay: 56.449 ms

Loss rate: 4.46%

Run 3: Report of QUIC Cubic — Data Link





Run 4: Statistics of QUIC Cubic

Start at: 2019-01-19 23:38:08

End at: 2019-01-19 23:38:38

Local clock offset: -0.043 ms

Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2019-01-20 03:22:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.04 Mbit/s

95th percentile per-packet one-way delay: 60.541 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 45.94 Mbit/s

95th percentile per-packet one-way delay: 56.962 ms

Loss rate: 0.50%

-- Flow 2:

Average throughput: 46.84 Mbit/s

95th percentile per-packet one-way delay: 60.661 ms

Loss rate: 1.10%

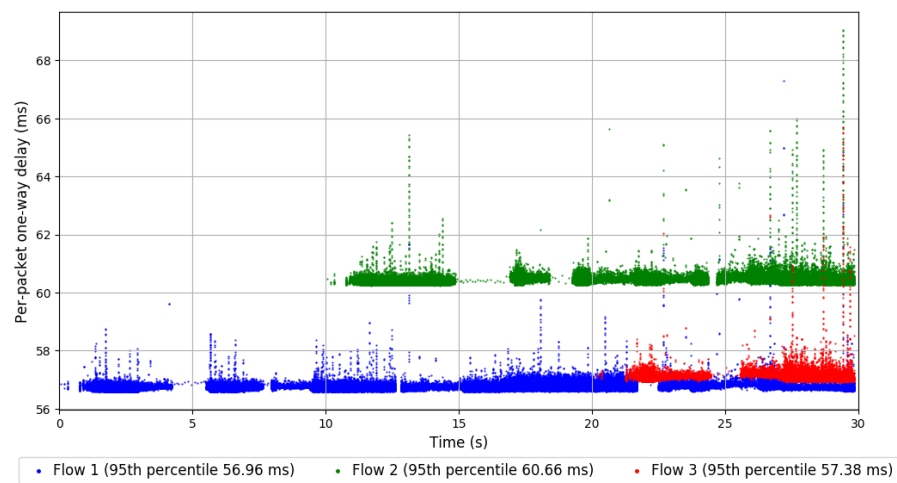
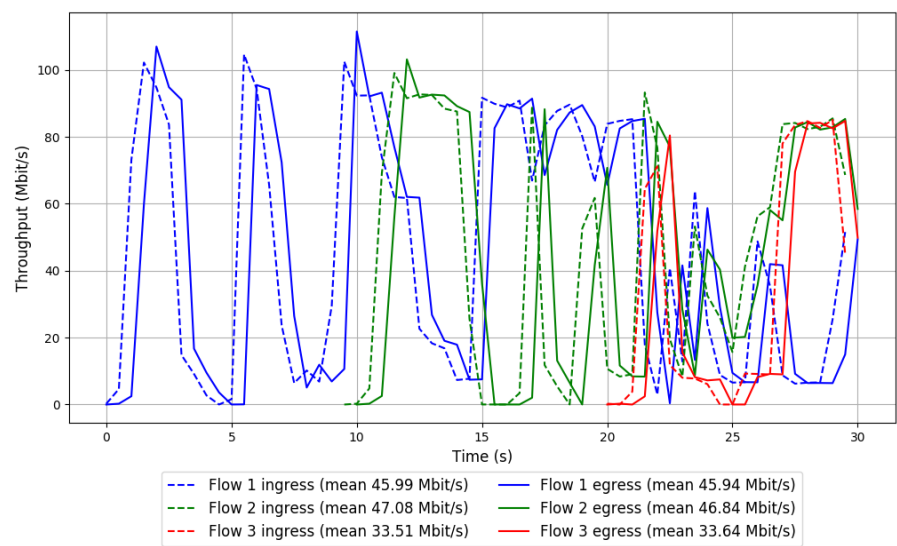
-- Flow 3:

Average throughput: 33.64 Mbit/s

95th percentile per-packet one-way delay: 57.382 ms

Loss rate: 0.77%

Run 4: Report of QUIC Cubic — Data Link

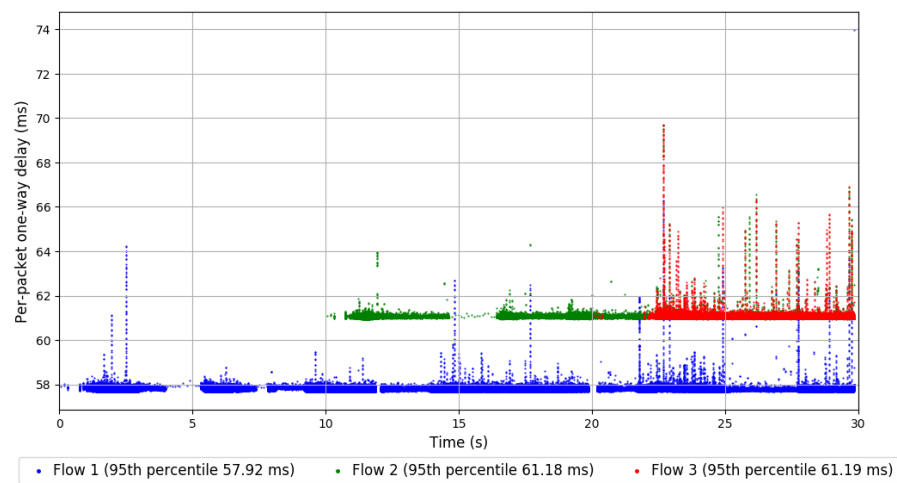
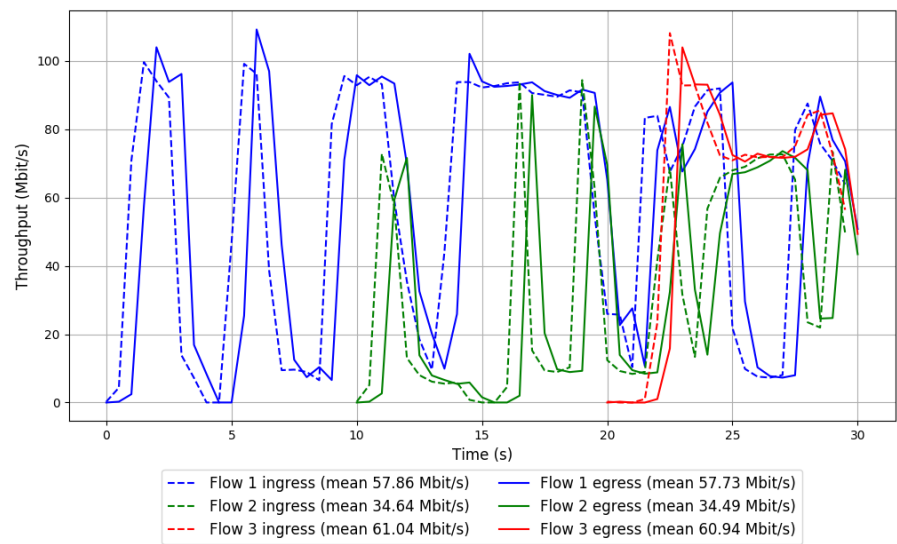


Run 5: Statistics of QUIC Cubic

Start at: 2019-01-20 00:18:00  
End at: 2019-01-20 00:18:30  
Local clock offset: 0.078 ms  
Remote clock offset: -0.615 ms

# Below is generated by plot.py at 2019-01-20 03:22:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 100.59 Mbit/s  
95th percentile per-packet one-way delay: 61.121 ms  
Loss rate: 0.85%  
-- Flow 1:  
Average throughput: 57.73 Mbit/s  
95th percentile per-packet one-way delay: 57.918 ms  
Loss rate: 0.61%  
-- Flow 2:  
Average throughput: 34.49 Mbit/s  
95th percentile per-packet one-way delay: 61.176 ms  
Loss rate: 0.99%  
-- Flow 3:  
Average throughput: 60.94 Mbit/s  
95th percentile per-packet one-way delay: 61.190 ms  
Loss rate: 1.34%

Run 5: Report of QUIC Cubic — Data Link

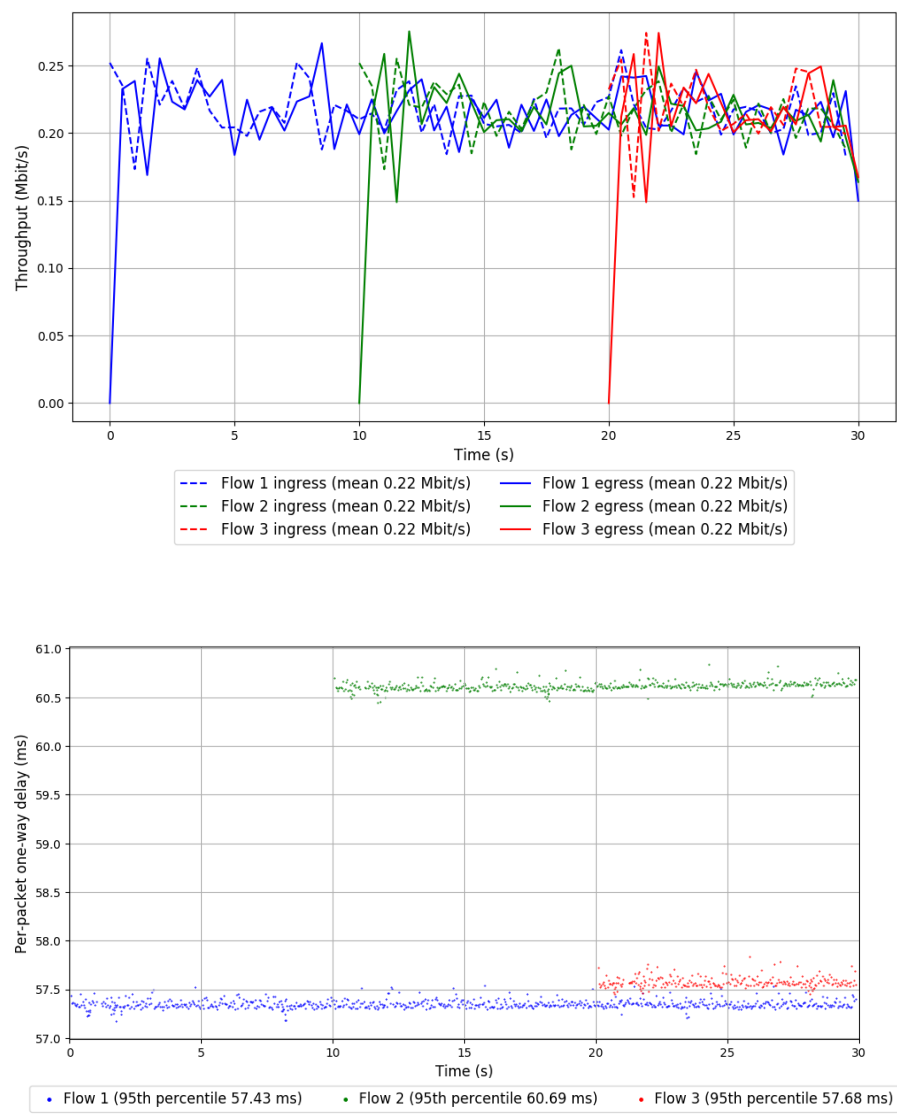


```
Run 1: Statistics of SReAM

Start at: 2019-01-19 21:15:40
End at: 2019-01-19 21:16:10
Local clock offset: 0.091 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-01-20 03:22:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 60.650 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.432 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.693 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.684 ms
Loss rate: 1.09%
```

Run 1: Report of SReAM — Data Link

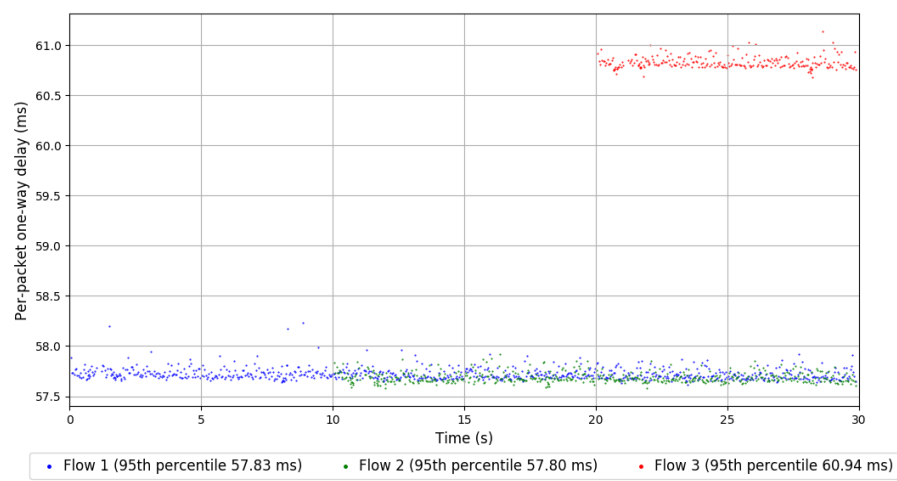
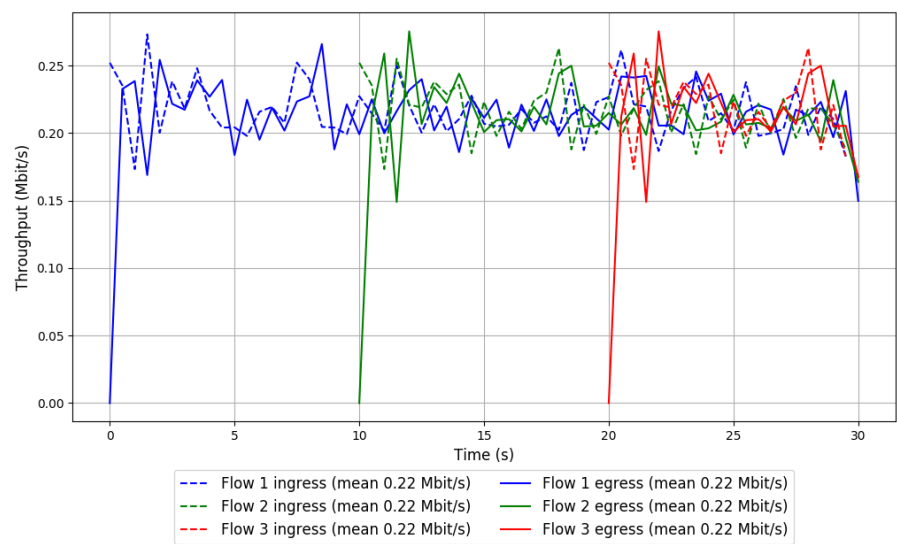


```
Run 2: Statistics of SReAM

Start at: 2019-01-19 21:55:08
End at: 2019-01-19 21:55:38
Local clock offset: 0.53 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2019-01-20 03:22:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 60.843 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.827 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.796 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.943 ms
Loss rate: 1.08%
```

Run 2: Report of SReAM — Data Link



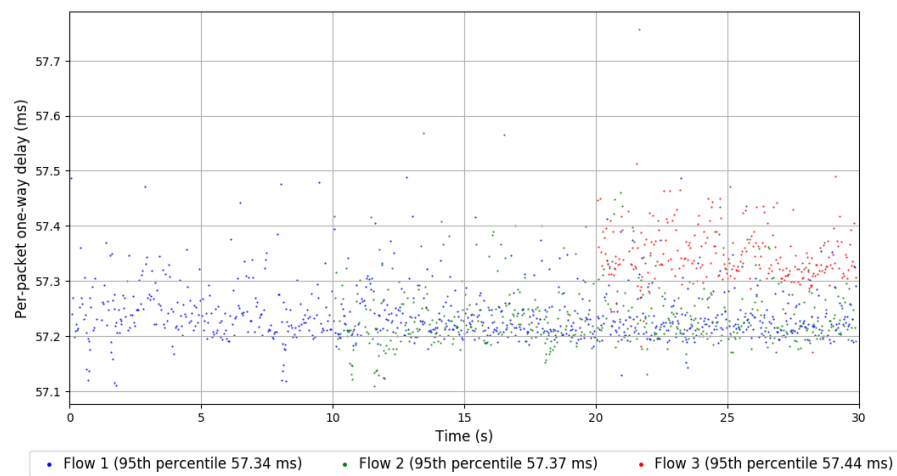
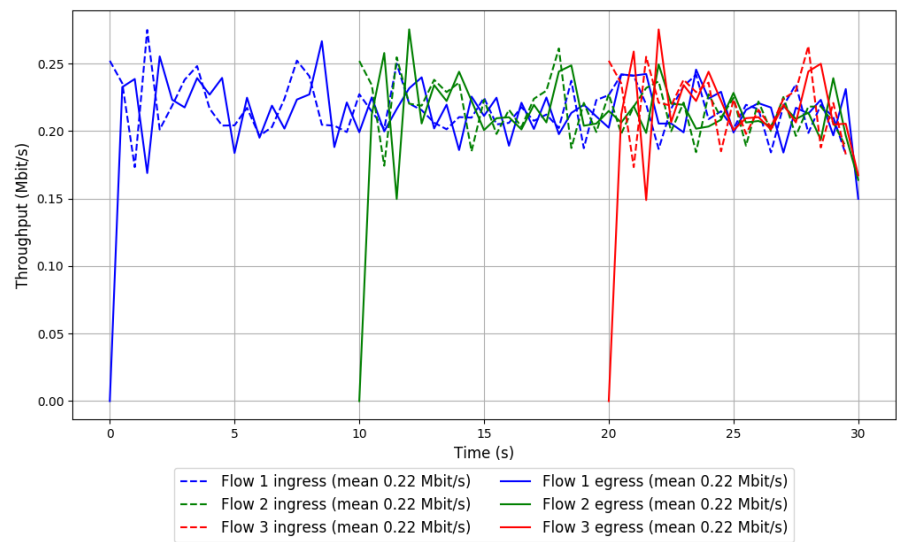


Run 3: Statistics of SReAM

Start at: 2019-01-19 22:34:58  
End at: 2019-01-19 22:35:28  
Local clock offset: 0.166 ms  
Remote clock offset: -0.224 ms

# Below is generated by plot.py at 2019-01-20 03:22:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 57.389 ms  
Loss rate: 0.58%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 57.338 ms  
Loss rate: 0.38%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 57.367 ms  
Loss rate: 0.61%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 57.435 ms  
Loss rate: 1.08%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2019-01-19 23:14:59

End at: 2019-01-19 23:15:29

Local clock offset: 0.486 ms

Remote clock offset: 0.256 ms

# Below is generated by plot.py at 2019-01-20 03:22:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 60.625 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 57.405 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 57.170 ms

Loss rate: 0.61%

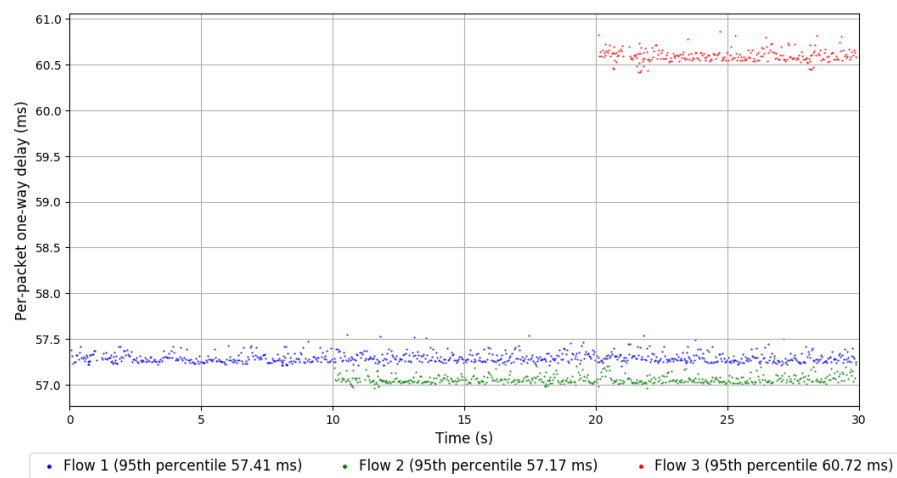
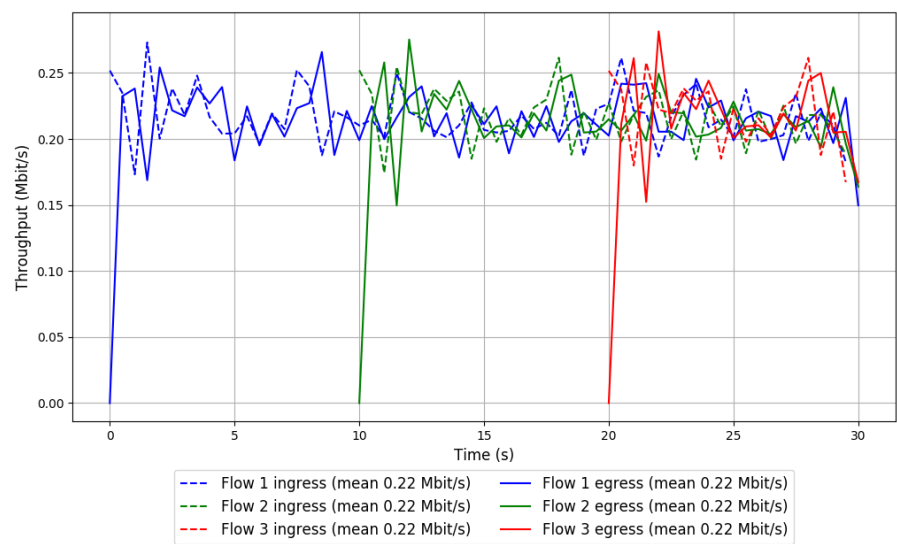
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 60.721 ms

Loss rate: 0.73%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-01-19 23:54:23

End at: 2019-01-19 23:54:53

Local clock offset: 0.048 ms

Remote clock offset: 0.017 ms

# Below is generated by plot.py at 2019-01-20 03:22:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 60.724 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 57.298 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 60.782 ms

Loss rate: 0.61%

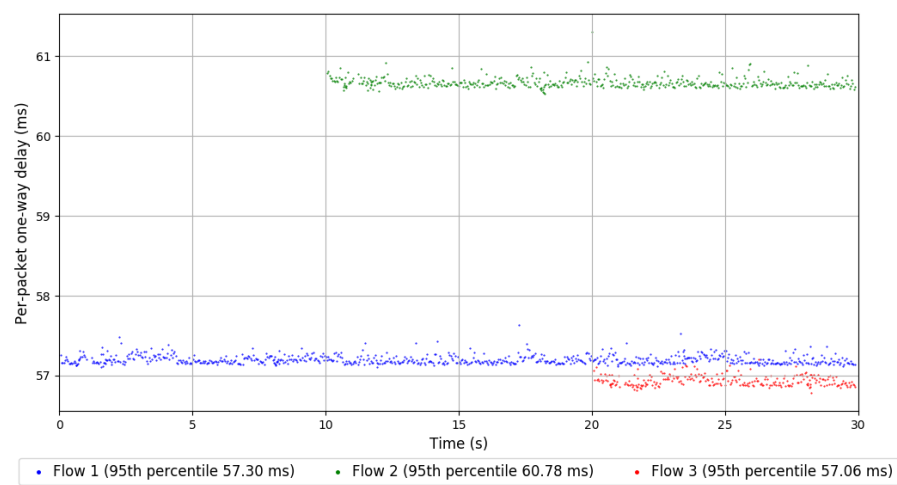
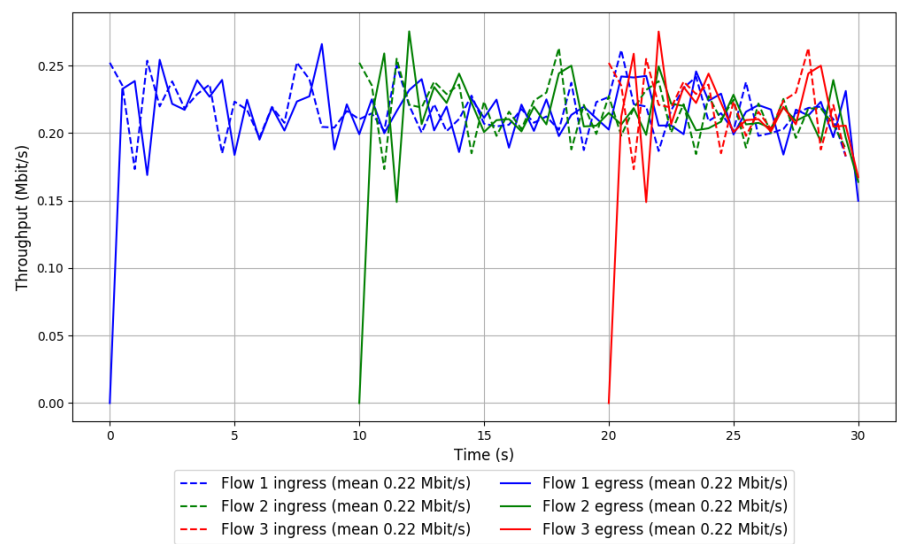
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 57.061 ms

Loss rate: 1.08%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-01-19 21:37:23

End at: 2019-01-19 21:37:53

Local clock offset: -0.395 ms

Remote clock offset: 0.205 ms

# Below is generated by plot.py at 2019-01-20 03:22:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 15.38 Mbit/s

95th percentile per-packet one-way delay: 57.218 ms

Loss rate: 0.65%

-- Flow 1:

Average throughput: 7.86 Mbit/s

95th percentile per-packet one-way delay: 57.013 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 7.77 Mbit/s

95th percentile per-packet one-way delay: 57.245 ms

Loss rate: 0.73%

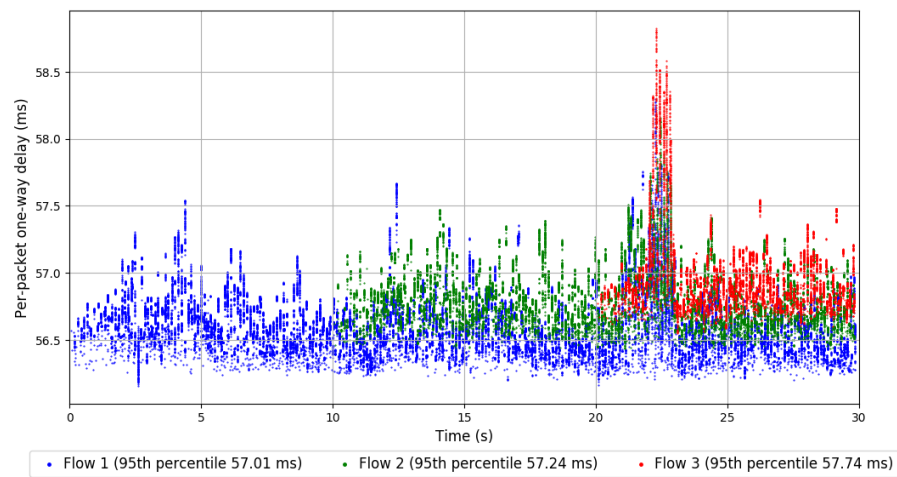
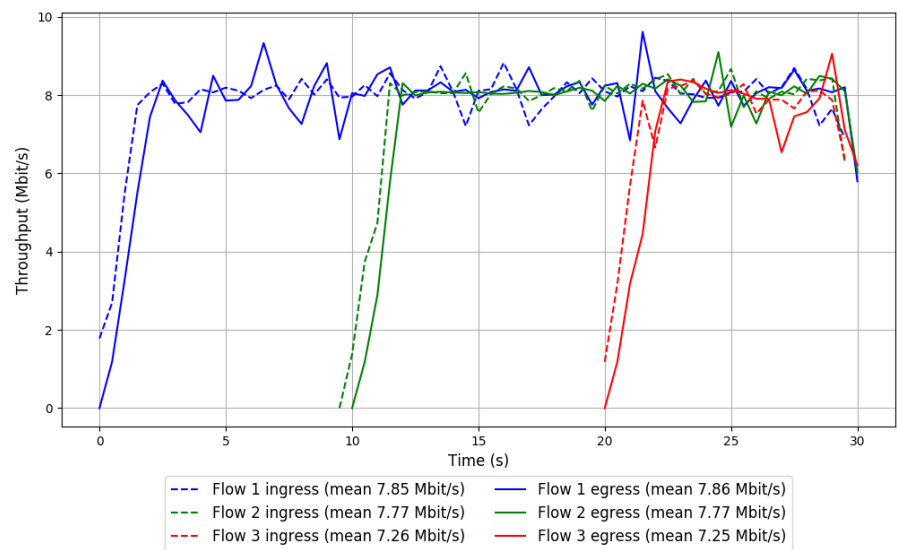
-- Flow 3:

Average throughput: 7.25 Mbit/s

95th percentile per-packet one-way delay: 57.741 ms

Loss rate: 1.42%

Run 1: Report of Sprout — Data Link



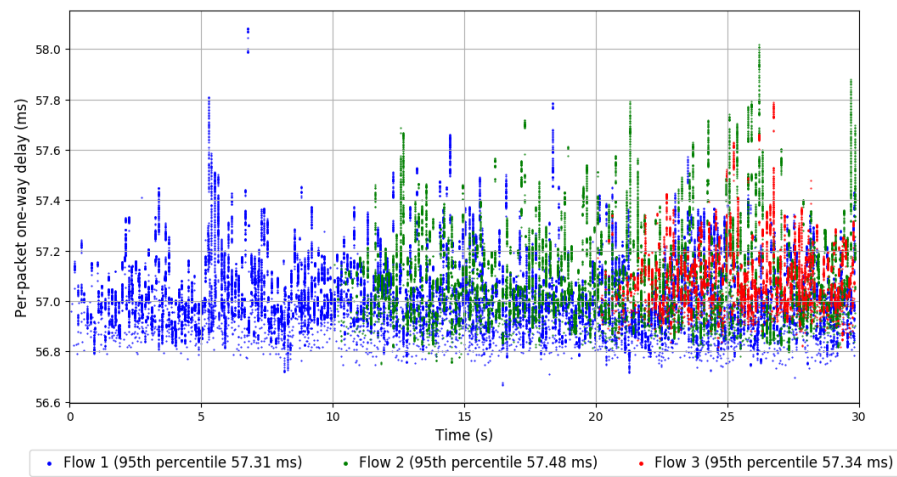
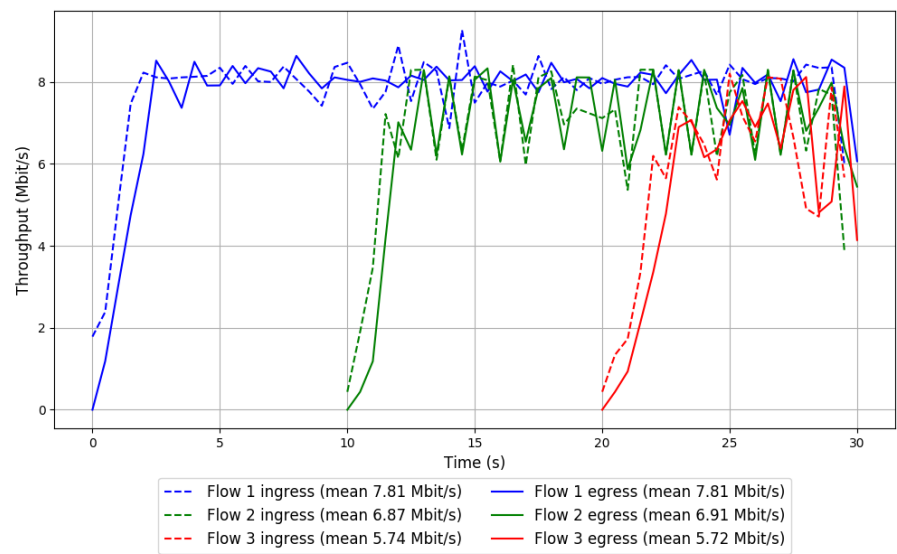


Run 2: Statistics of Sprout

Start at: 2019-01-19 22:17:04  
End at: 2019-01-19 22:17:34  
Local clock offset: 0.398 ms  
Remote clock offset: 0.566 ms

# Below is generated by plot.py at 2019-01-20 03:22:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 14.26 Mbit/s  
95th percentile per-packet one-way delay: 57.368 ms  
Loss rate: 0.44%  
-- Flow 1:  
Average throughput: 7.81 Mbit/s  
95th percentile per-packet one-way delay: 57.311 ms  
Loss rate: 0.42%  
-- Flow 2:  
Average throughput: 6.91 Mbit/s  
95th percentile per-packet one-way delay: 57.480 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 5.72 Mbit/s  
95th percentile per-packet one-way delay: 57.335 ms  
Loss rate: 1.58%

Run 2: Report of Sprout — Data Link

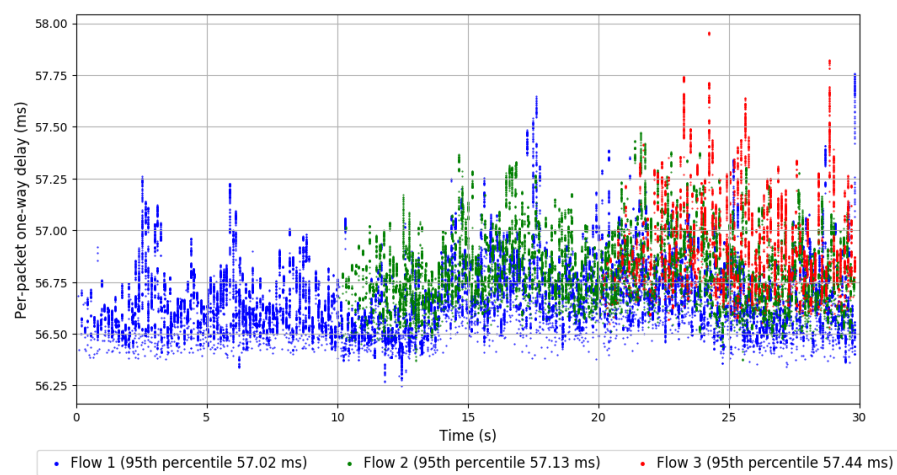
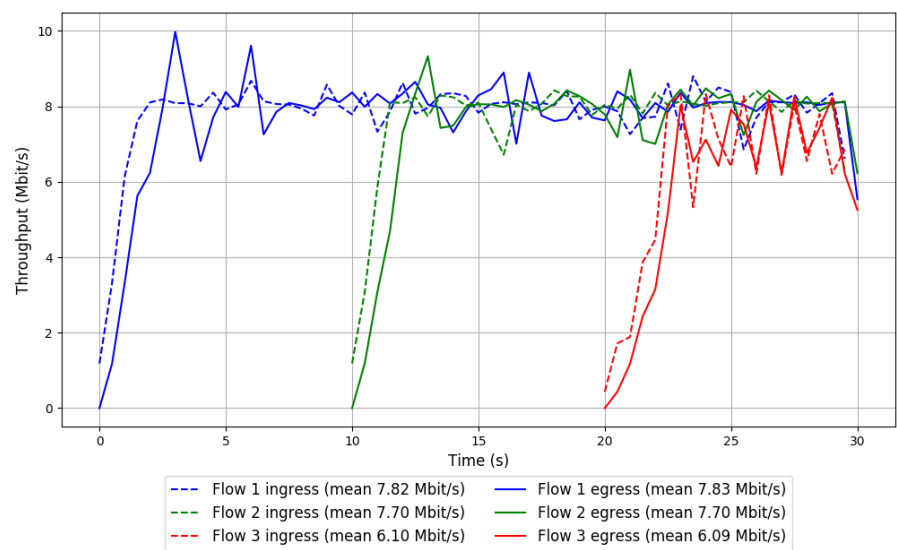


Run 3: Statistics of Sprout

Start at: 2019-01-19 22:56:44  
End at: 2019-01-19 22:57:14  
Local clock offset: 0.178 ms  
Remote clock offset: 0.79 ms

# Below is generated by plot.py at 2019-01-20 03:22:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 14.93 Mbit/s  
95th percentile per-packet one-way delay: 57.164 ms  
Loss rate: 0.56%  
-- Flow 1:  
Average throughput: 7.83 Mbit/s  
95th percentile per-packet one-way delay: 57.017 ms  
Loss rate: 0.28%  
-- Flow 2:  
Average throughput: 7.70 Mbit/s  
95th percentile per-packet one-way delay: 57.134 ms  
Loss rate: 0.67%  
-- Flow 3:  
Average throughput: 6.09 Mbit/s  
95th percentile per-packet one-way delay: 57.444 ms  
Loss rate: 1.34%

Run 3: Report of Sprout — Data Link

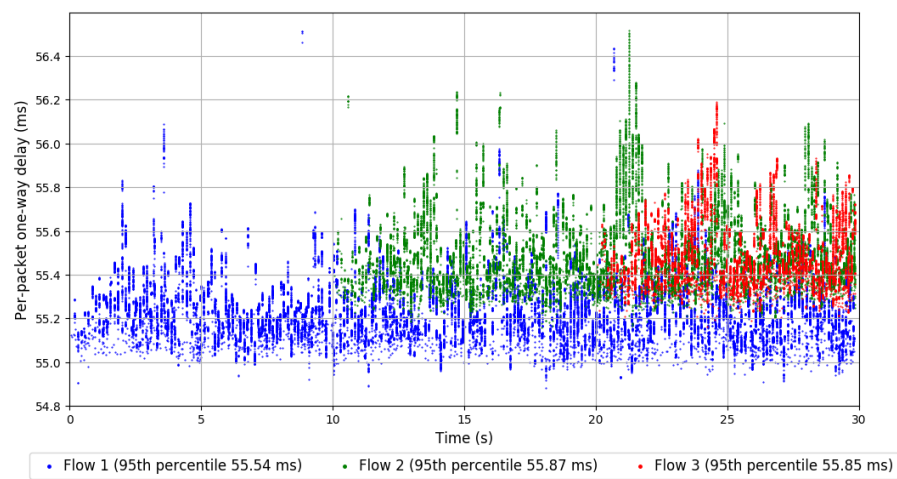
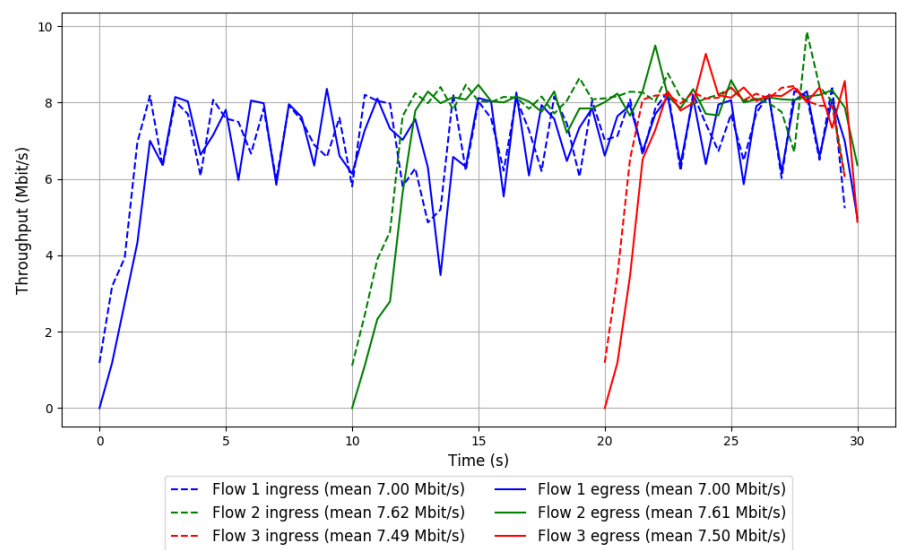


#### Run 4: Statistics of Sprout

Start at: 2019-01-19 23:36:55  
End at: 2019-01-19 23:37:25  
Local clock offset: -0.403 ms  
Remote clock offset: 1.406 ms

```
# Below is generated by plot.py at 2019-01-20 03:22:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.50 Mbit/s
95th percentile per-packet one-way delay: 55.761 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 7.00 Mbit/s
95th percentile per-packet one-way delay: 55.537 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 7.61 Mbit/s
95th percentile per-packet one-way delay: 55.868 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 55.846 ms
Loss rate: 0.80%
```

Run 4: Report of Sprout — Data Link

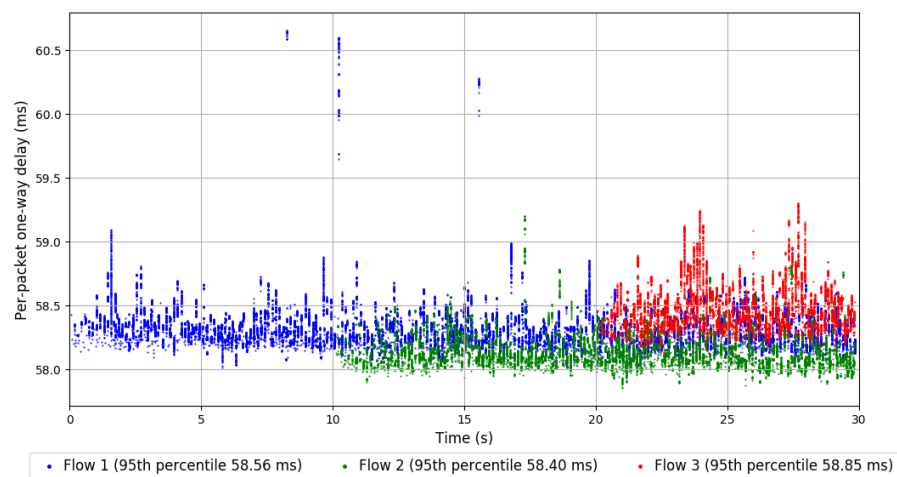
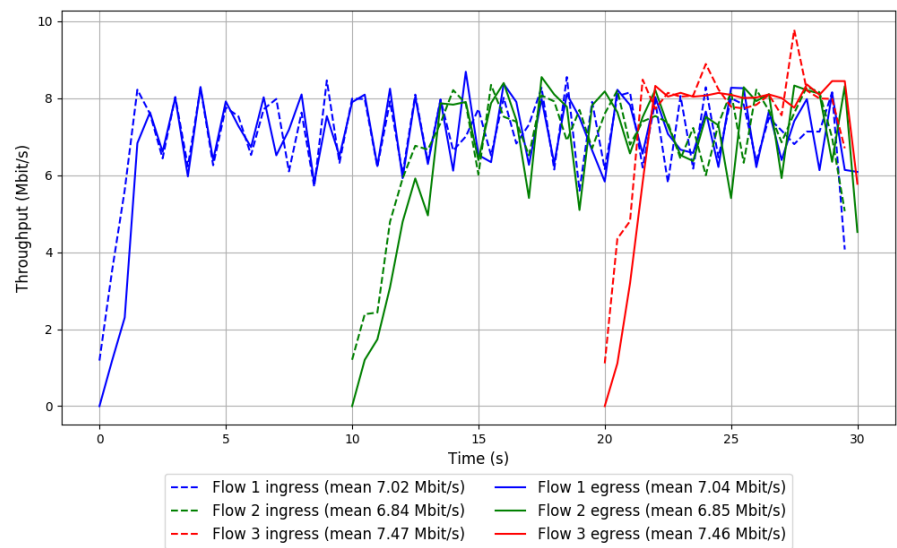


Run 5: Statistics of Sprout

Start at: 2019-01-20 00:16:46  
End at: 2019-01-20 00:17:16  
Local clock offset: -0.065 ms  
Remote clock offset: -1.146 ms

# Below is generated by plot.py at 2019-01-20 03:22:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 14.03 Mbit/s  
95th percentile per-packet one-way delay: 58.632 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 7.04 Mbit/s  
95th percentile per-packet one-way delay: 58.561 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 6.85 Mbit/s  
95th percentile per-packet one-way delay: 58.403 ms  
Loss rate: 0.44%  
-- Flow 3:  
Average throughput: 7.46 Mbit/s  
95th percentile per-packet one-way delay: 58.852 ms  
Loss rate: 1.04%

Run 5: Report of Sprout — Data Link



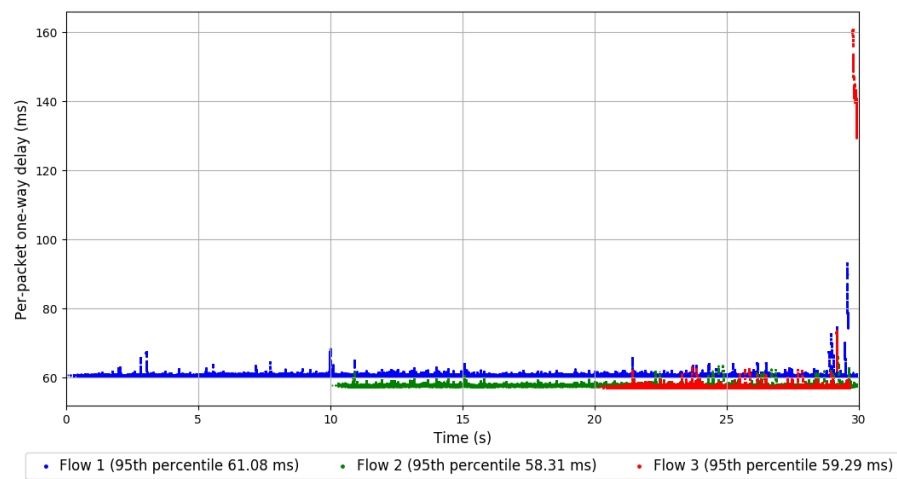
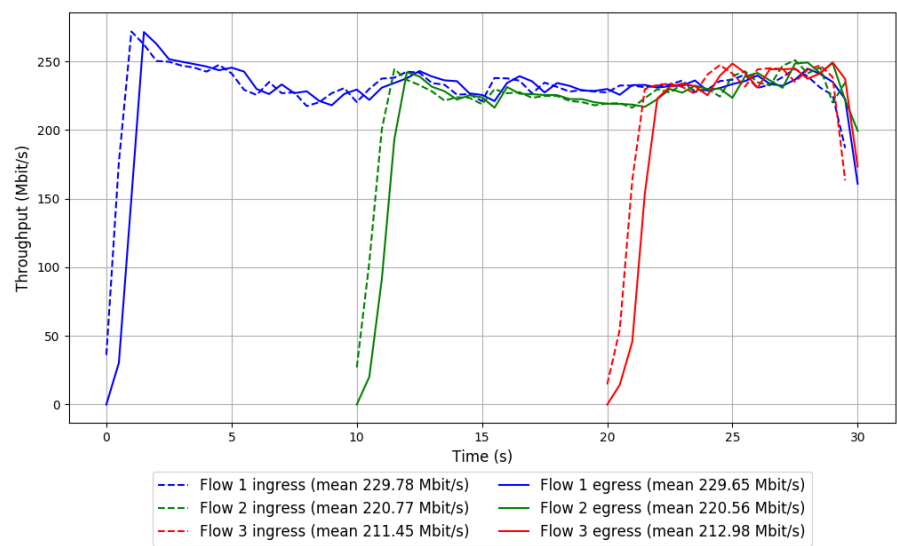


Run 1: Statistics of TaoVA-100x

Start at: 2019-01-19 21:11:47  
End at: 2019-01-19 21:12:17  
Local clock offset: -0.461 ms  
Remote clock offset: -0.712 ms

# Below is generated by plot.py at 2019-01-20 03:26:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 446.39 Mbit/s  
95th percentile per-packet one-way delay: 60.910 ms  
Loss rate: 0.48%  
-- Flow 1:  
Average throughput: 229.65 Mbit/s  
95th percentile per-packet one-way delay: 61.076 ms  
Loss rate: 0.38%  
-- Flow 2:  
Average throughput: 220.56 Mbit/s  
95th percentile per-packet one-way delay: 58.313 ms  
Loss rate: 0.67%  
-- Flow 3:  
Average throughput: 212.98 Mbit/s  
95th percentile per-packet one-way delay: 59.294 ms  
Loss rate: 0.42%

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

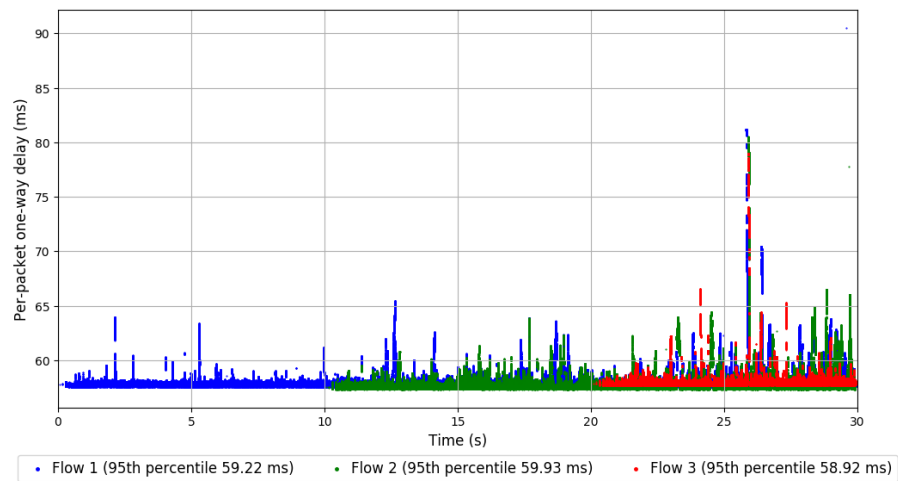
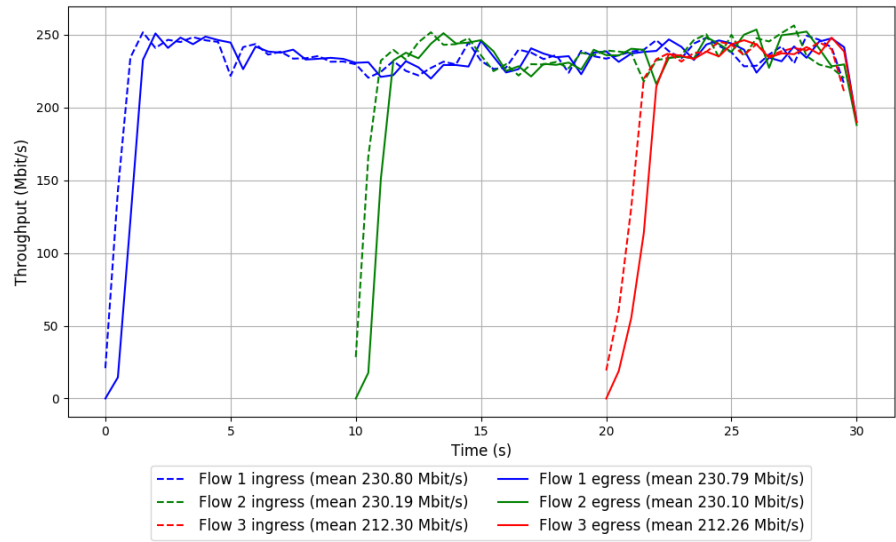


Run 2: Statistics of TaoVA-100x

Start at: 2019-01-19 21:51:04  
End at: 2019-01-19 21:51:34  
Local clock offset: -0.034 ms  
Remote clock offset: -0.694 ms

# Below is generated by plot.py at 2019-01-20 03:27:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 453.70 Mbit/s  
95th percentile per-packet one-way delay: 59.414 ms  
Loss rate: 0.59%  
-- Flow 1:  
Average throughput: 230.79 Mbit/s  
95th percentile per-packet one-way delay: 59.218 ms  
Loss rate: 0.39%  
-- Flow 2:  
Average throughput: 230.10 Mbit/s  
95th percentile per-packet one-way delay: 59.932 ms  
Loss rate: 0.62%  
-- Flow 3:  
Average throughput: 212.26 Mbit/s  
95th percentile per-packet one-way delay: 58.925 ms  
Loss rate: 1.17%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-19 22:30:46

End at: 2019-01-19 22:31:16

Local clock offset: -0.43 ms

Remote clock offset: 0.632 ms

# Below is generated by plot.py at 2019-01-20 03:27:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 423.56 Mbit/s

95th percentile per-packet one-way delay: 57.048 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 222.19 Mbit/s

95th percentile per-packet one-way delay: 56.766 ms

Loss rate: 0.40%

-- Flow 2:

Average throughput: 203.13 Mbit/s

95th percentile per-packet one-way delay: 57.213 ms

Loss rate: 0.66%

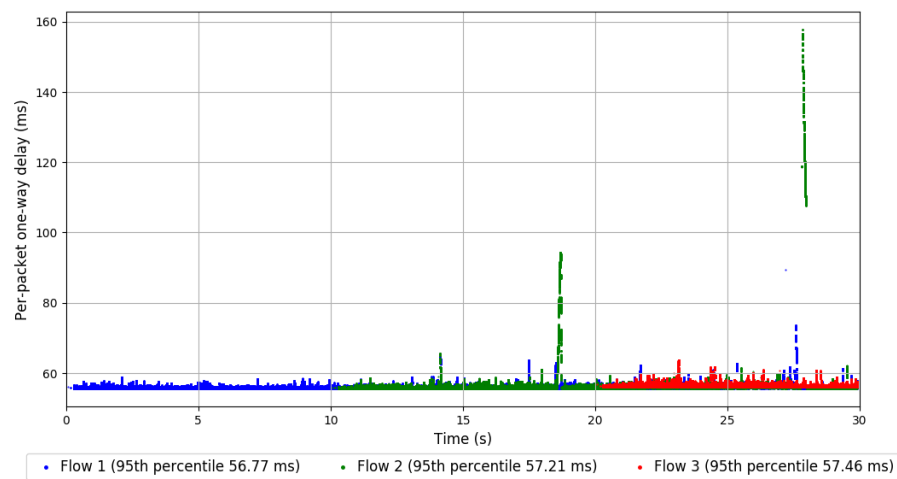
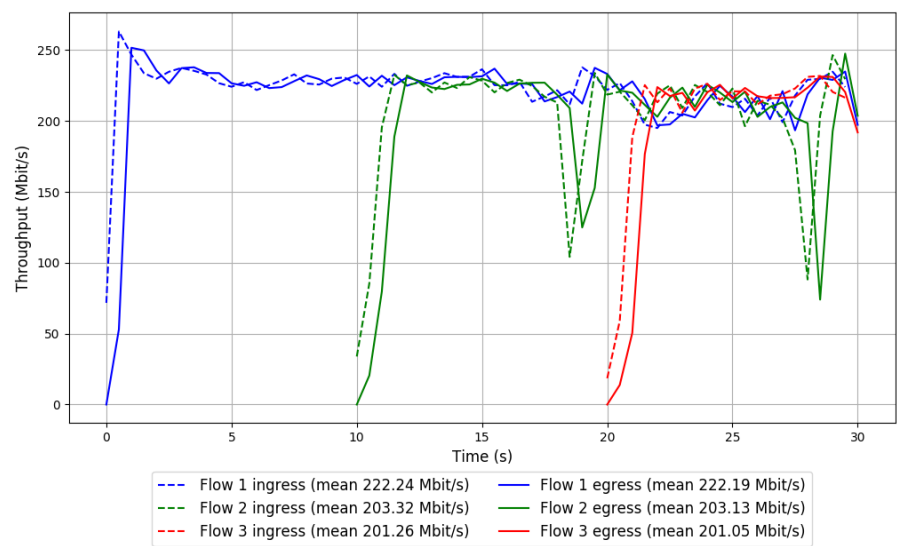
-- Flow 3:

Average throughput: 201.05 Mbit/s

95th percentile per-packet one-way delay: 57.459 ms

Loss rate: 1.26%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-19 23:10:28

End at: 2019-01-19 23:10:58

Local clock offset: 0.207 ms

Remote clock offset: 1.333 ms

# Below is generated by plot.py at 2019-01-20 03:27:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 441.90 Mbit/s

95th percentile per-packet one-way delay: 56.593 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 228.39 Mbit/s

95th percentile per-packet one-way delay: 56.358 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 223.80 Mbit/s

95th percentile per-packet one-way delay: 56.752 ms

Loss rate: 0.59%

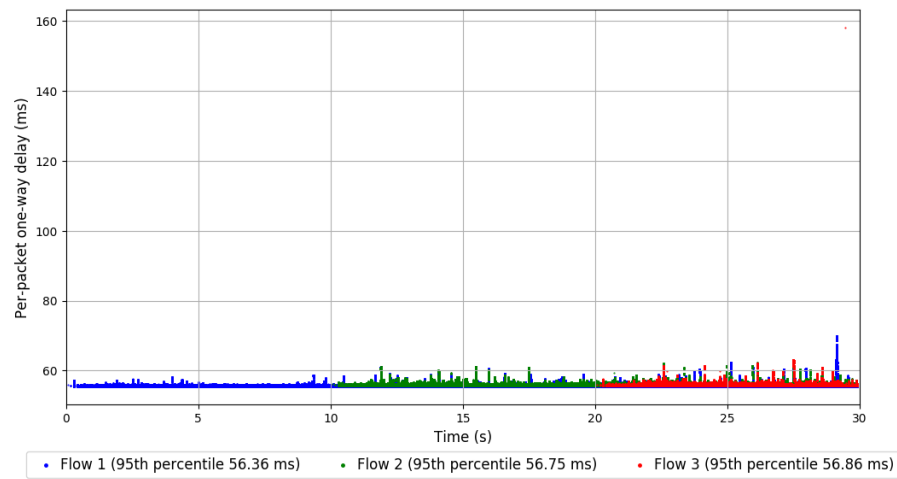
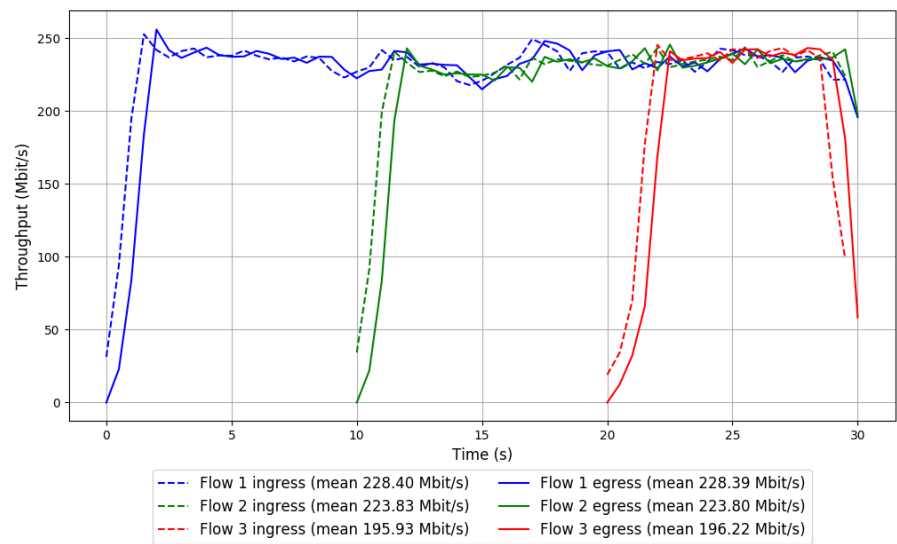
-- Flow 3:

Average throughput: 196.22 Mbit/s

95th percentile per-packet one-way delay: 56.857 ms

Loss rate: 1.03%

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



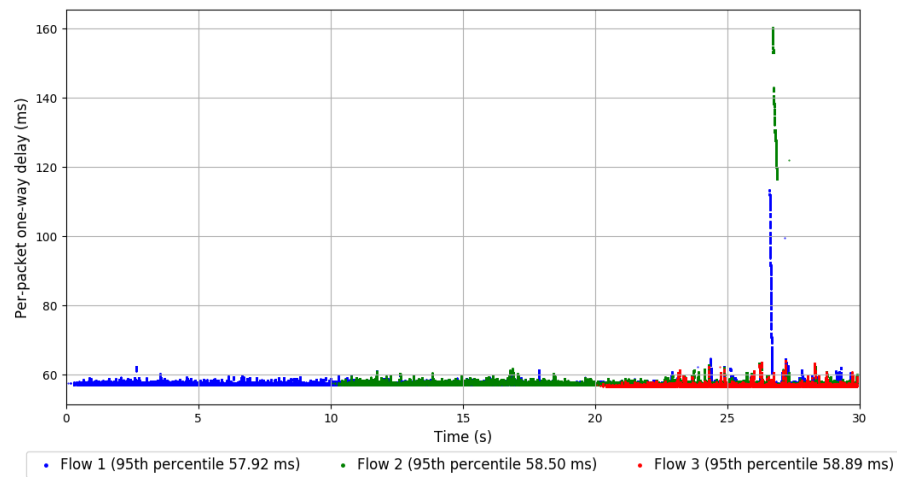
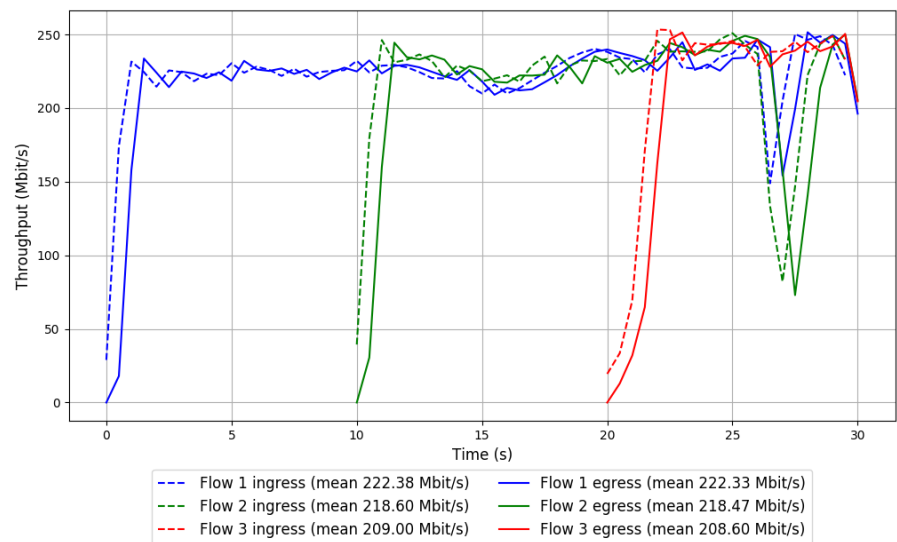


Run 5: Statistics of TaoVA-100x

Start at: 2019-01-19 23:50:01  
End at: 2019-01-19 23:50:31  
Local clock offset: -0.281 ms  
Remote clock offset: -0.201 ms

# Below is generated by plot.py at 2019-01-20 03:27:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 436.39 Mbit/s  
95th percentile per-packet one-way delay: 58.205 ms  
Loss rate: 0.63%  
-- Flow 1:  
Average throughput: 222.33 Mbit/s  
95th percentile per-packet one-way delay: 57.925 ms  
Loss rate: 0.40%  
-- Flow 2:  
Average throughput: 218.47 Mbit/s  
95th percentile per-packet one-way delay: 58.498 ms  
Loss rate: 0.63%  
-- Flow 3:  
Average throughput: 208.60 Mbit/s  
95th percentile per-packet one-way delay: 58.888 ms  
Loss rate: 1.34%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-01-19 21:18:39

End at: 2019-01-19 21:19:09

Local clock offset: 0.375 ms

Remote clock offset: -0.66 ms

# Below is generated by plot.py at 2019-01-20 03:27:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 710.24 Mbit/s

95th percentile per-packet one-way delay: 74.703 ms

Loss rate: 0.69%

-- Flow 1:

Average throughput: 239.59 Mbit/s

95th percentile per-packet one-way delay: 64.150 ms

Loss rate: 0.37%

-- Flow 2:

Average throughput: 487.52 Mbit/s

95th percentile per-packet one-way delay: 93.495 ms

Loss rate: 0.64%

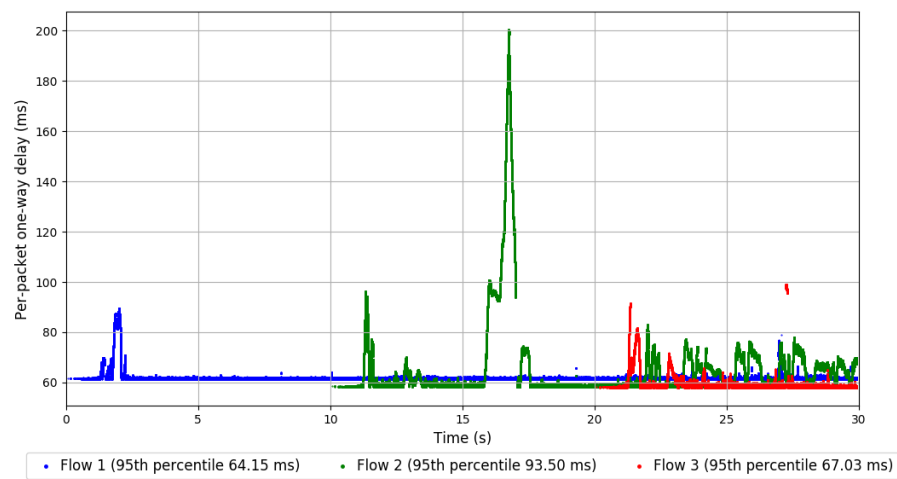
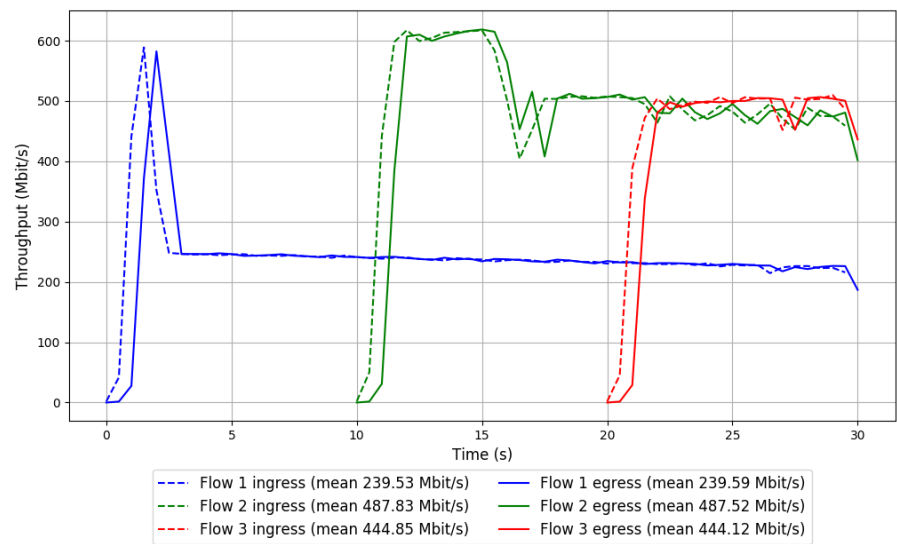
-- Flow 3:

Average throughput: 444.12 Mbit/s

95th percentile per-packet one-way delay: 67.031 ms

Loss rate: 1.31%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-01-19 21:58:09

End at: 2019-01-19 21:58:39

Local clock offset: -0.256 ms

Remote clock offset: 0.532 ms

# Below is generated by plot.py at 2019-01-20 03:33:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 696.51 Mbit/s

95th percentile per-packet one-way delay: 66.348 ms

Loss rate: 0.51%

-- Flow 1:

Average throughput: 364.78 Mbit/s

95th percentile per-packet one-way delay: 60.813 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 272.66 Mbit/s

95th percentile per-packet one-way delay: 75.056 ms

Loss rate: 0.41%

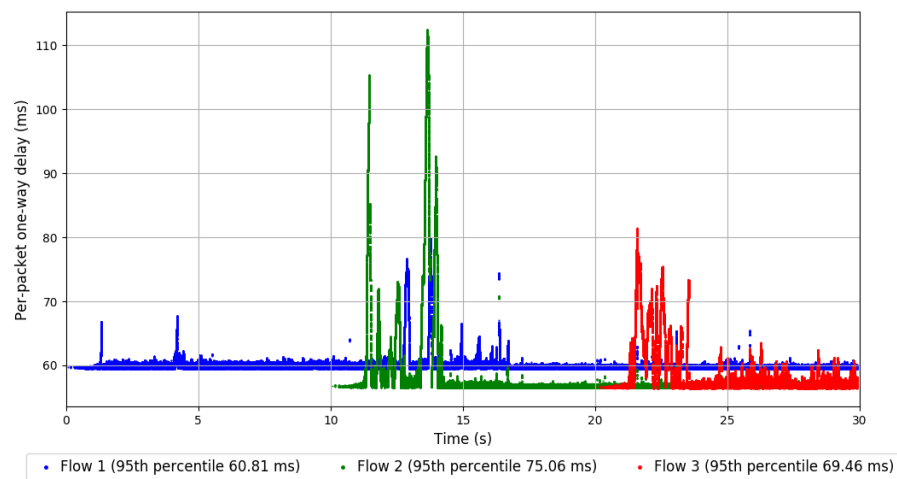
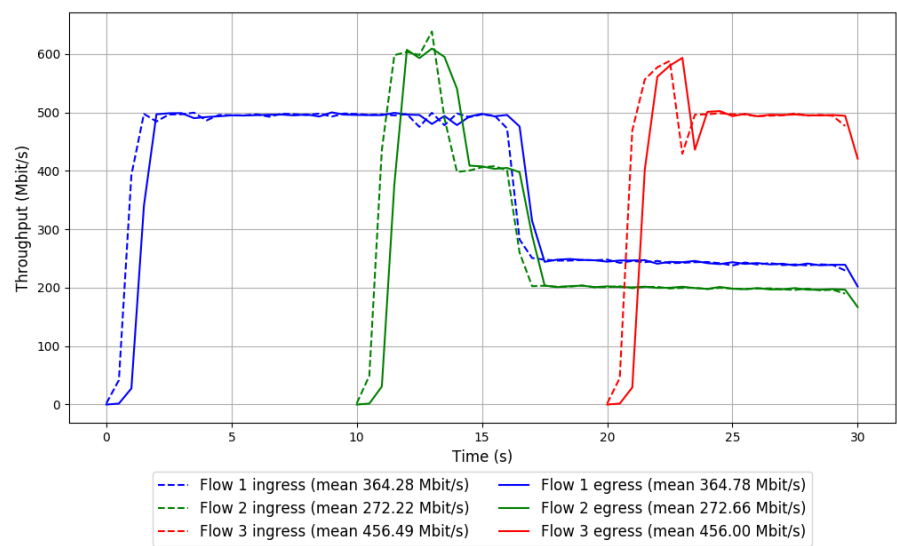
-- Flow 3:

Average throughput: 456.00 Mbit/s

95th percentile per-packet one-way delay: 69.461 ms

Loss rate: 1.25%

Run 2: Report of TCP Vegas — Data Link

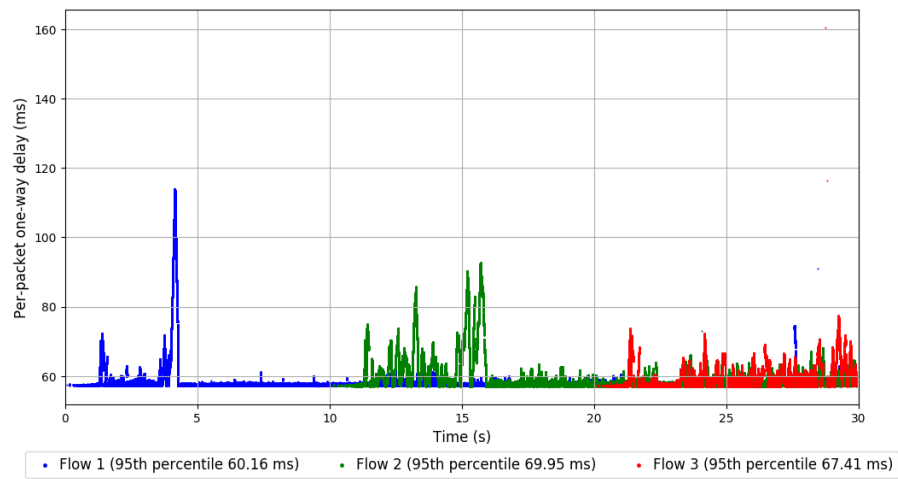
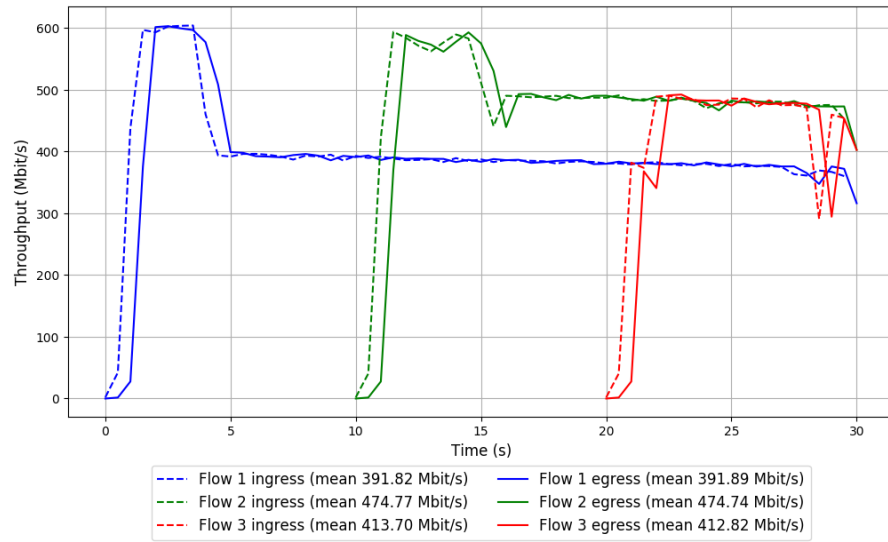


Run 3: Statistics of TCP Vegas

Start at: 2019-01-19 22:38:07  
End at: 2019-01-19 22:38:37  
Local clock offset: -0.024 ms  
Remote clock offset: -0.208 ms

# Below is generated by plot.py at 2019-01-20 03:40:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 843.92 Mbit/s  
95th percentile per-packet one-way delay: 66.450 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 391.89 Mbit/s  
95th percentile per-packet one-way delay: 60.158 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 474.74 Mbit/s  
95th percentile per-packet one-way delay: 69.950 ms  
Loss rate: 0.58%  
-- Flow 3:  
Average throughput: 412.82 Mbit/s  
95th percentile per-packet one-way delay: 67.411 ms  
Loss rate: 1.36%

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



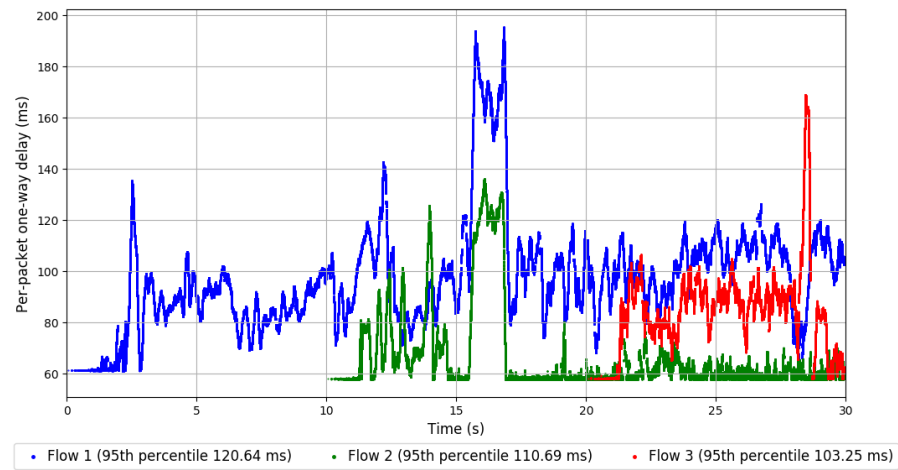
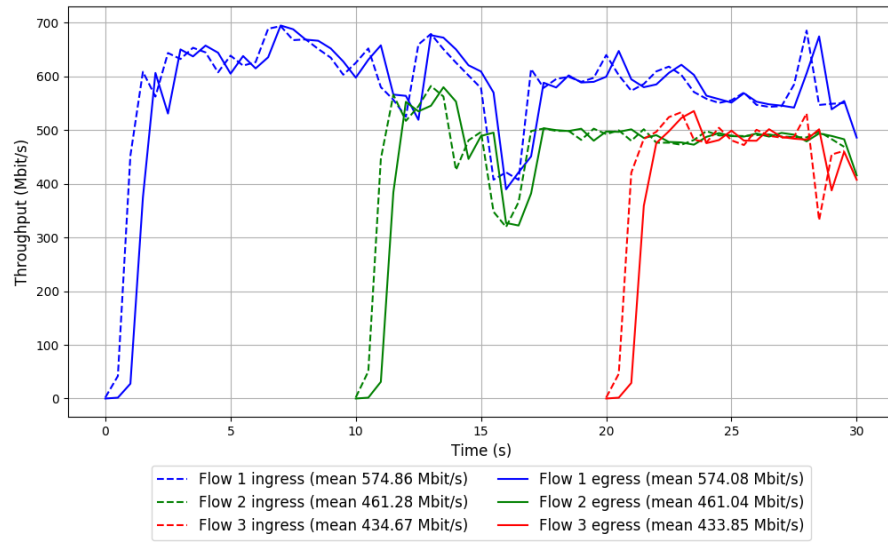


Run 4: Statistics of TCP Vegas

Start at: 2019-01-19 23:18:08  
End at: 2019-01-19 23:18:38  
Local clock offset: 0.381 ms  
Remote clock offset: -0.436 ms

# Below is generated by plot.py at 2019-01-20 03:47:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1023.80 Mbit/s  
95th percentile per-packet one-way delay: 118.221 ms  
Loss rate: 0.67%  
-- Flow 1:  
Average throughput: 574.08 Mbit/s  
95th percentile per-packet one-way delay: 120.638 ms  
Loss rate: 0.53%  
-- Flow 2:  
Average throughput: 461.04 Mbit/s  
95th percentile per-packet one-way delay: 110.688 ms  
Loss rate: 0.63%  
-- Flow 3:  
Average throughput: 433.85 Mbit/s  
95th percentile per-packet one-way delay: 103.250 ms  
Loss rate: 1.34%

# Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-01-19 23:57:30

End at: 2019-01-19 23:58:00

Local clock offset: 0.0 ms

Remote clock offset: 1.065 ms

# Below is generated by plot.py at 2019-01-20 03:47:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 906.37 Mbit/s

95th percentile per-packet one-way delay: 77.388 ms

Loss rate: 0.53%

-- Flow 1:

Average throughput: 480.55 Mbit/s

95th percentile per-packet one-way delay: 63.809 ms

Loss rate: 0.40%

-- Flow 2:

Average throughput: 426.27 Mbit/s

95th percentile per-packet one-way delay: 64.308 ms

Loss rate: 0.33%

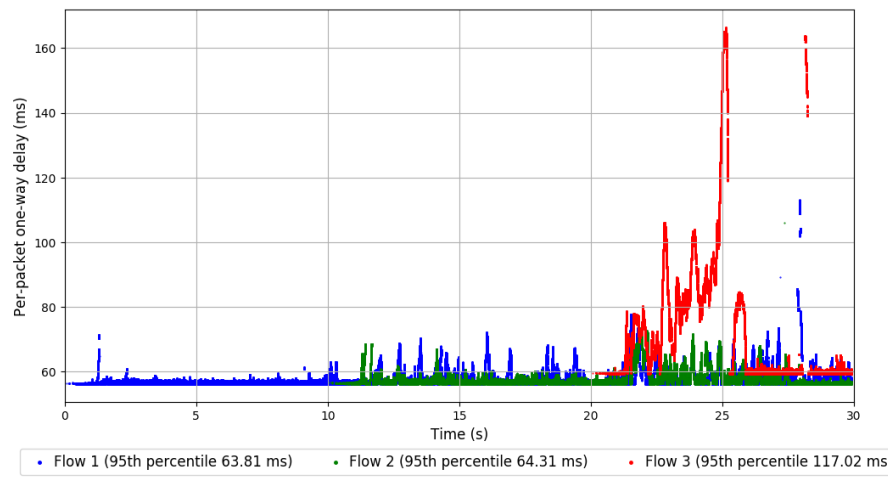
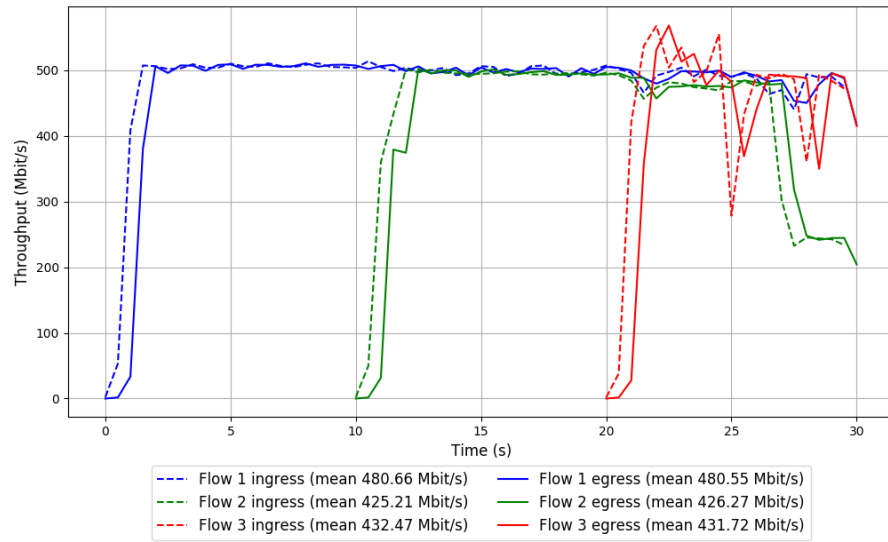
-- Flow 3:

Average throughput: 431.72 Mbit/s

95th percentile per-packet one-way delay: 117.016 ms

Loss rate: 1.35%

# Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-01-19 21:24:55

End at: 2019-01-19 21:25:25

Local clock offset: -0.089 ms

Remote clock offset: -0.91 ms

# Below is generated by plot.py at 2019-01-20 03:47:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 237.49 Mbit/s

95th percentile per-packet one-way delay: 187.769 ms

Loss rate: 2.03%

-- Flow 1:

Average throughput: 108.20 Mbit/s

95th percentile per-packet one-way delay: 95.332 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 125.67 Mbit/s

95th percentile per-packet one-way delay: 143.394 ms

Loss rate: 0.01%

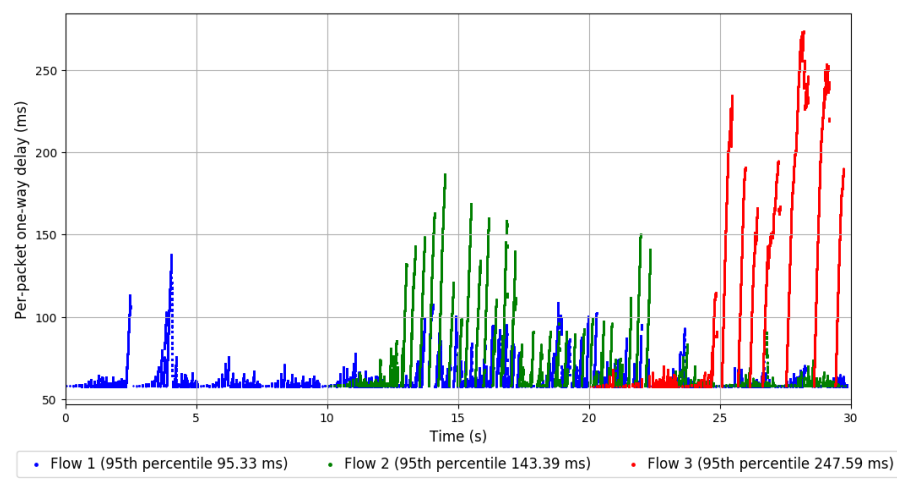
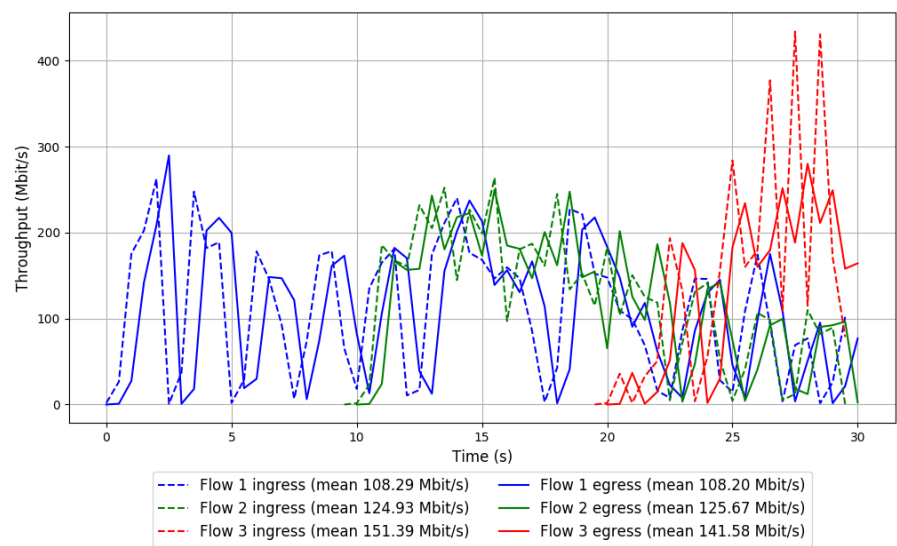
-- Flow 3:

Average throughput: 141.58 Mbit/s

95th percentile per-packet one-way delay: 247.594 ms

Loss rate: 8.75%

Run 1: Report of Verus — Data Link

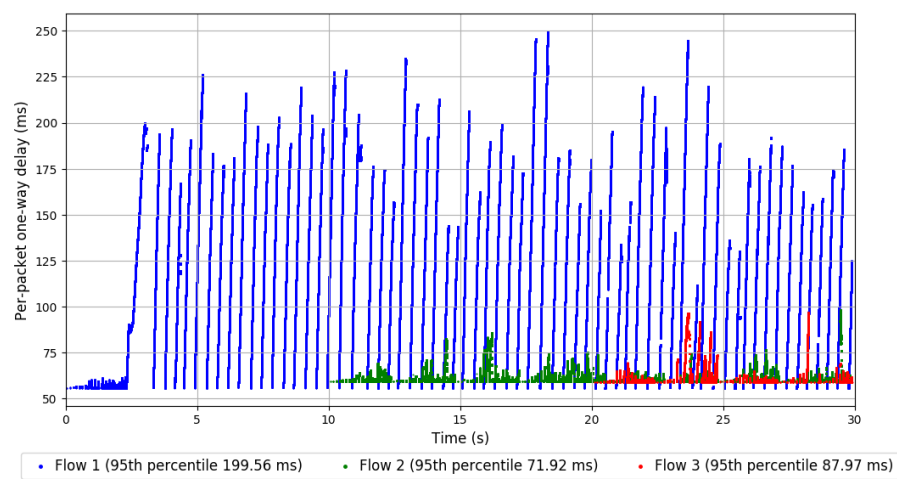
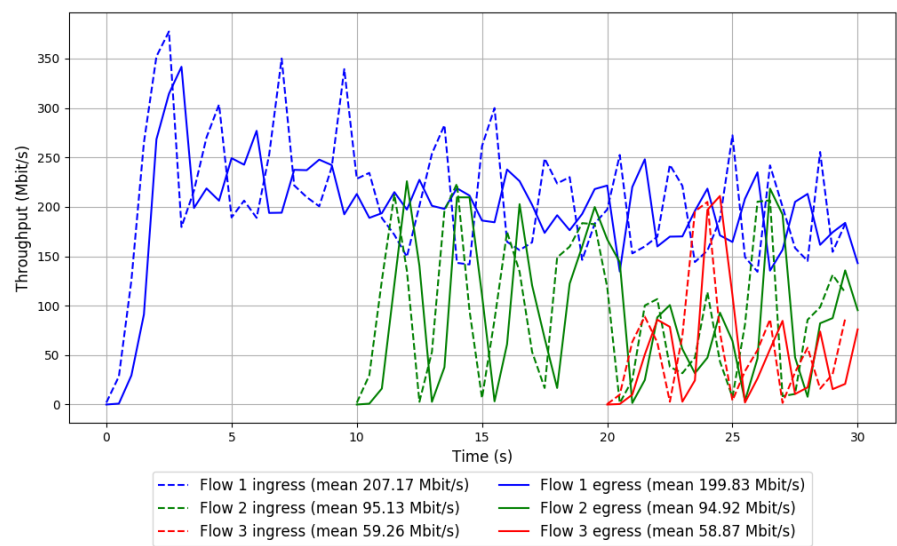


Run 2: Statistics of Verus

Start at: 2019-01-19 22:04:10  
End at: 2019-01-19 22:04:40  
Local clock offset: 0.083 ms  
Remote clock offset: 1.363 ms

# Below is generated by plot.py at 2019-01-20 03:47:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 282.23 Mbit/s  
95th percentile per-packet one-way delay: 194.266 ms  
Loss rate: 2.86%  
-- Flow 1:  
Average throughput: 199.83 Mbit/s  
95th percentile per-packet one-way delay: 199.559 ms  
Loss rate: 3.59%  
-- Flow 2:  
Average throughput: 94.92 Mbit/s  
95th percentile per-packet one-way delay: 71.915 ms  
Loss rate: 0.82%  
-- Flow 3:  
Average throughput: 58.87 Mbit/s  
95th percentile per-packet one-way delay: 87.965 ms  
Loss rate: 1.80%

Run 2: Report of Verus — Data Link





Run 3: Statistics of Verus

Start at: 2019-01-19 22:44:39

End at: 2019-01-19 22:45:09

Local clock offset: 0.383 ms

Remote clock offset: 0.311 ms

# Below is generated by plot.py at 2019-01-20 03:47:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 225.65 Mbit/s

95th percentile per-packet one-way delay: 153.317 ms

Loss rate: 0.80%

-- Flow 1:

Average throughput: 119.02 Mbit/s

95th percentile per-packet one-way delay: 103.246 ms

Loss rate: 0.54%

-- Flow 2:

Average throughput: 123.26 Mbit/s

95th percentile per-packet one-way delay: 172.417 ms

Loss rate: 1.11%

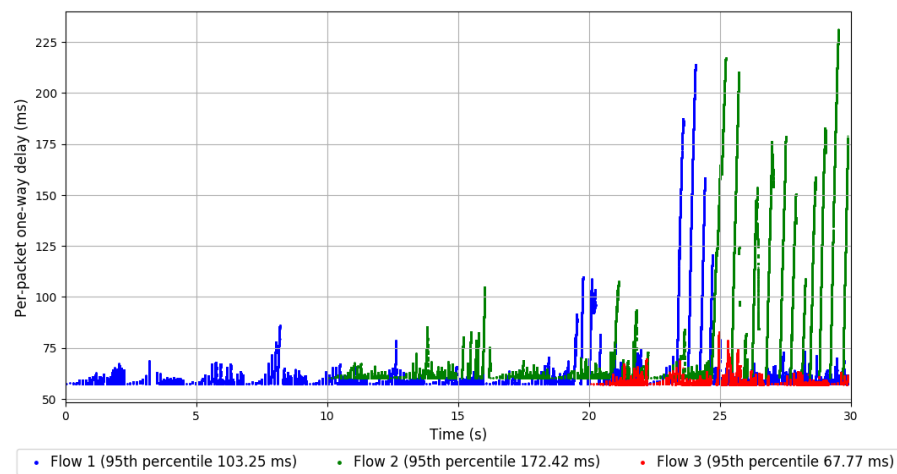
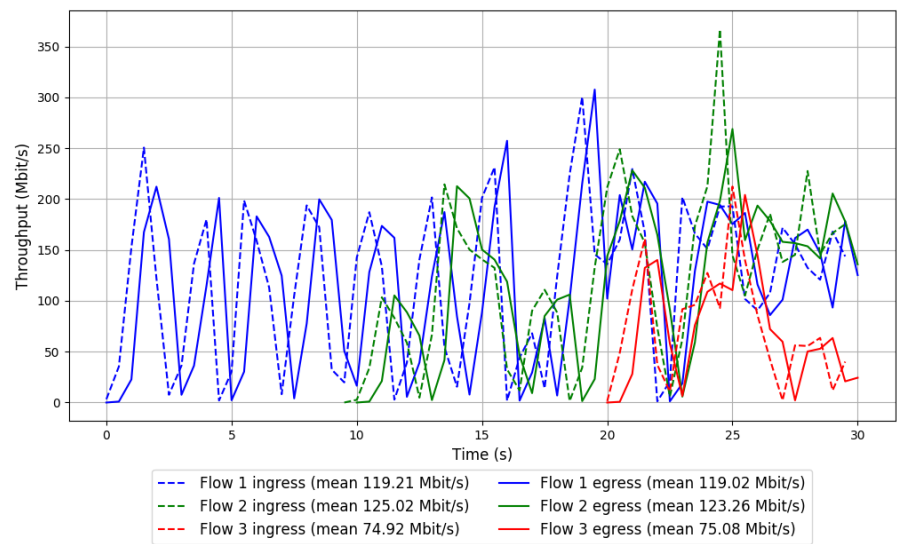
-- Flow 3:

Average throughput: 75.08 Mbit/s

95th percentile per-packet one-way delay: 67.767 ms

Loss rate: 1.06%

Run 3: Report of Verus — Data Link

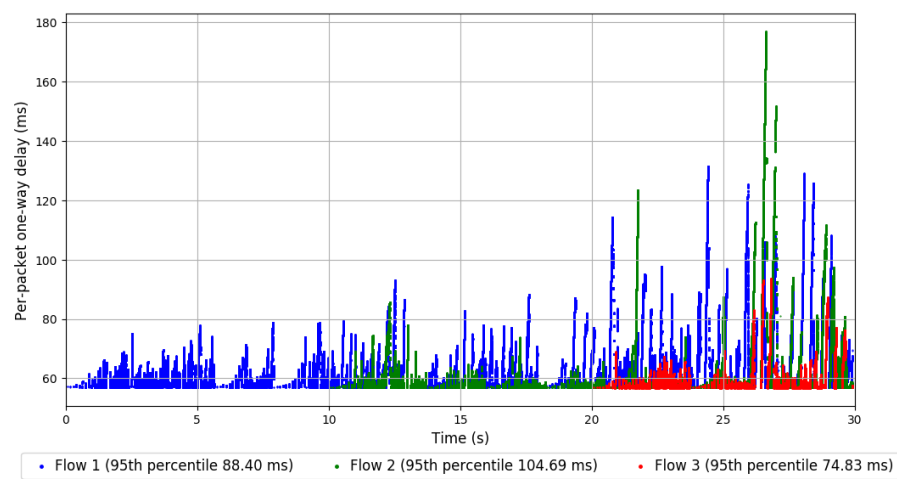
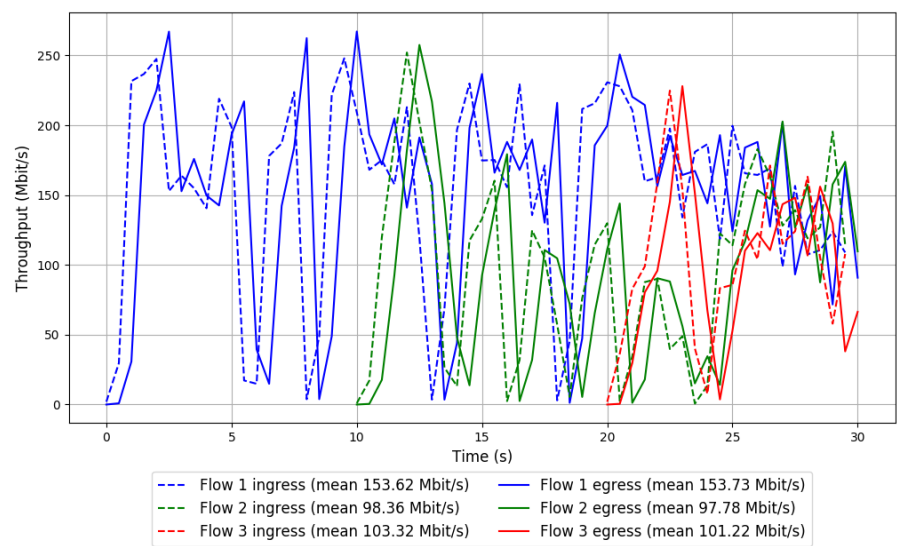


Run 4: Statistics of Verus

Start at: 2019-01-19 23:25:05  
End at: 2019-01-19 23:25:35  
Local clock offset: -0.022 ms  
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2019-01-20 03:47:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 252.01 Mbit/s  
95th percentile per-packet one-way delay: 90.756 ms  
Loss rate: 0.77%  
-- Flow 1:  
Average throughput: 153.73 Mbit/s  
95th percentile per-packet one-way delay: 88.401 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 97.78 Mbit/s  
95th percentile per-packet one-way delay: 104.689 ms  
Loss rate: 0.89%  
-- Flow 3:  
Average throughput: 101.22 Mbit/s  
95th percentile per-packet one-way delay: 74.825 ms  
Loss rate: 2.99%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-01-20 00:03:56

End at: 2019-01-20 00:04:26

Local clock offset: 0.303 ms

Remote clock offset: 0.08 ms

# Below is generated by plot.py at 2019-01-20 03:47:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 288.32 Mbit/s

95th percentile per-packet one-way delay: 196.710 ms

Loss rate: 2.32%

-- Flow 1:

Average throughput: 115.74 Mbit/s

95th percentile per-packet one-way delay: 85.586 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 185.84 Mbit/s

95th percentile per-packet one-way delay: 219.148 ms

Loss rate: 3.70%

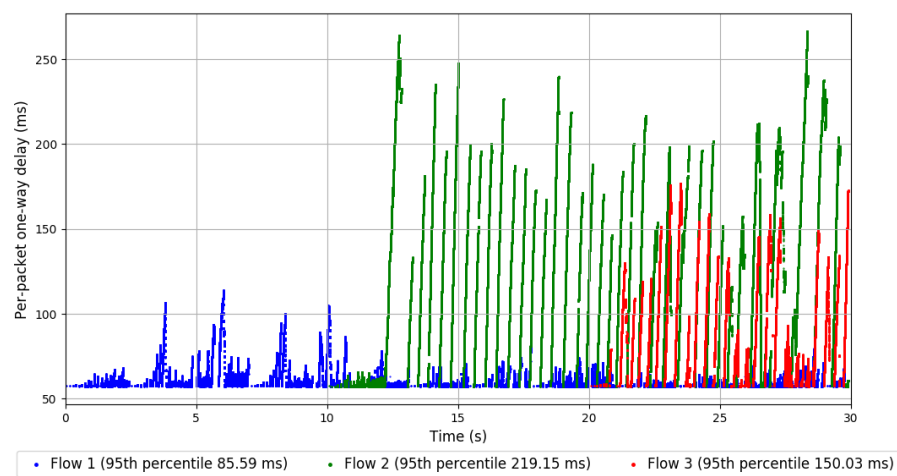
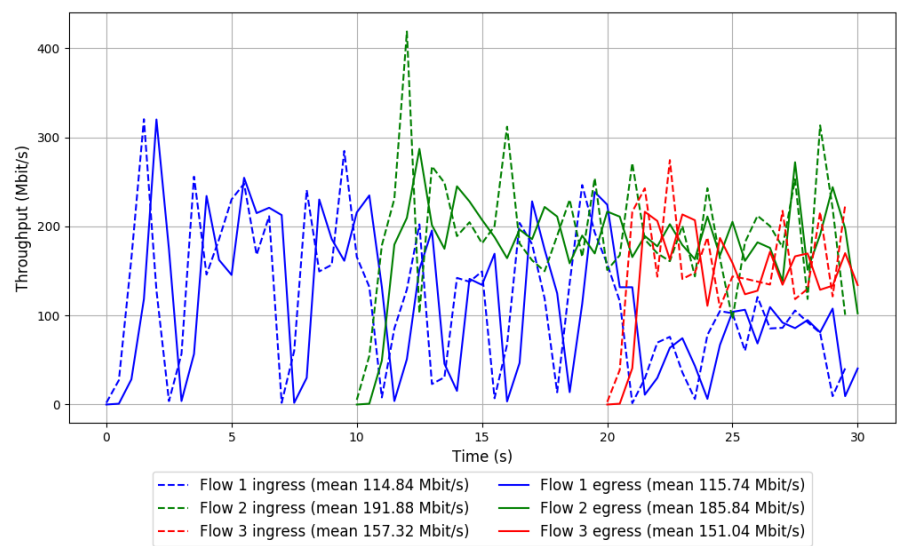
-- Flow 3:

Average throughput: 151.04 Mbit/s

95th percentile per-packet one-way delay: 150.025 ms

Loss rate: 4.04%

Run 5: Report of Verus — Data Link

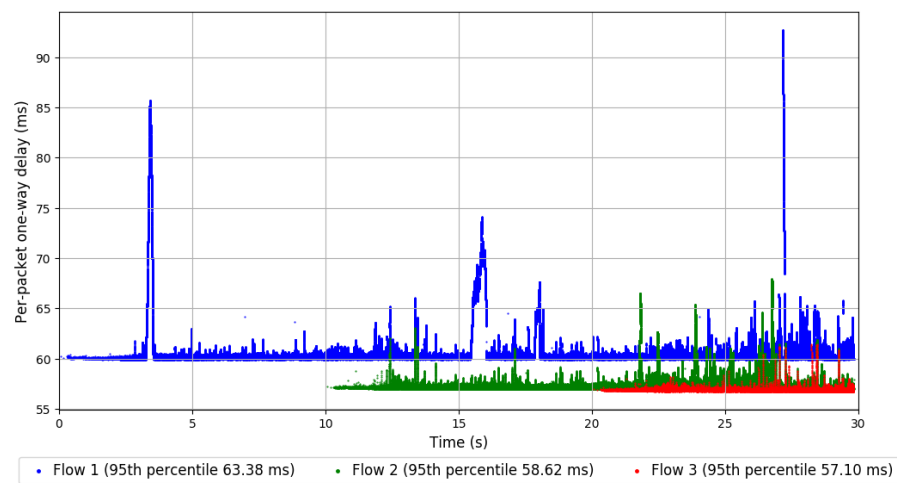
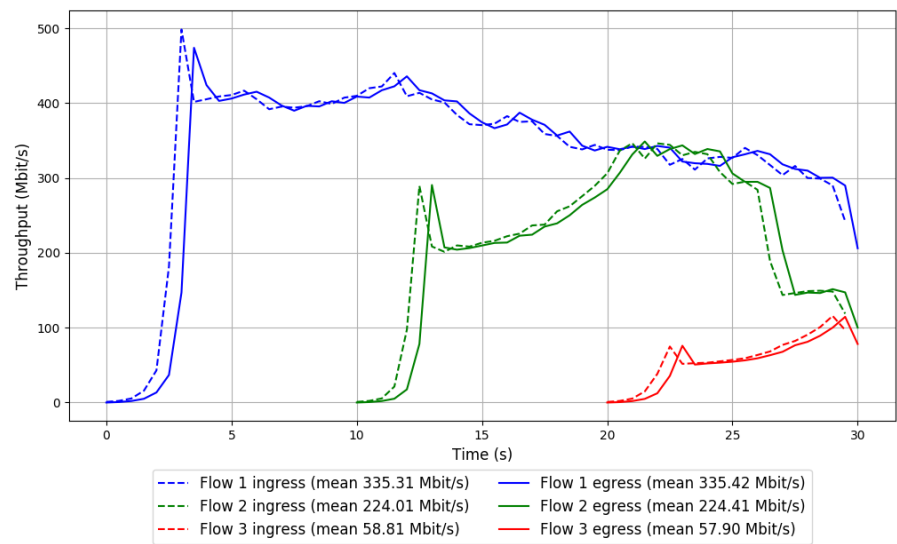


Run 1: Statistics of PCC-Vivace

Start at: 2019-01-19 21:26:38  
End at: 2019-01-19 21:27:08  
Local clock offset: -0.356 ms  
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2019-01-20 03:47:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 503.31 Mbit/s  
95th percentile per-packet one-way delay: 61.914 ms  
Loss rate: 0.46%  
-- Flow 1:  
Average throughput: 335.42 Mbit/s  
95th percentile per-packet one-way delay: 63.378 ms  
Loss rate: 0.36%  
-- Flow 2:  
Average throughput: 224.41 Mbit/s  
95th percentile per-packet one-way delay: 58.624 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 57.90 Mbit/s  
95th percentile per-packet one-way delay: 57.100 ms  
Loss rate: 2.71%

Run 1: Report of PCC-Vivace — Data Link





Run 2: Statistics of PCC-Vivace

Start at: 2019-01-19 22:05:59

End at: 2019-01-19 22:06:29

Local clock offset: -0.278 ms

Remote clock offset: 0.835 ms

# Below is generated by plot.py at 2019-01-20 03:48:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 611.04 Mbit/s

95th percentile per-packet one-way delay: 62.227 ms

Loss rate: 0.49%

-- Flow 1:

Average throughput: 345.69 Mbit/s

95th percentile per-packet one-way delay: 62.185 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 313.97 Mbit/s

95th percentile per-packet one-way delay: 61.256 ms

Loss rate: 0.47%

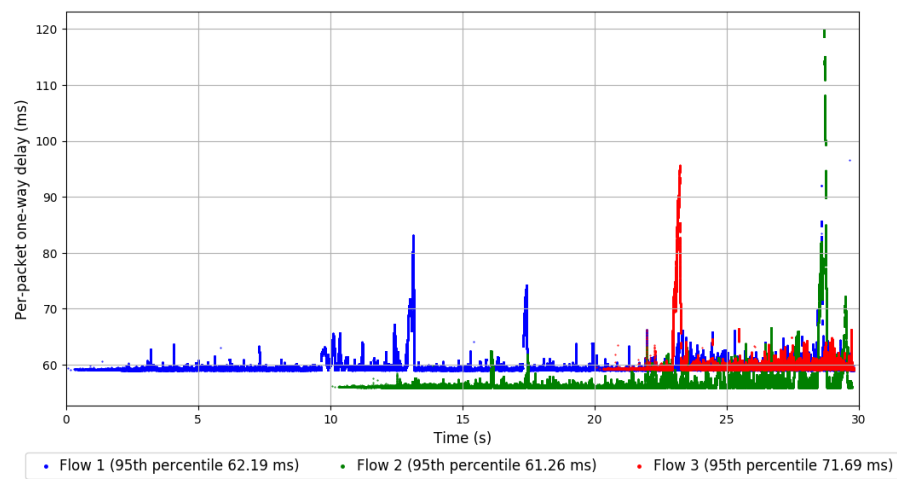
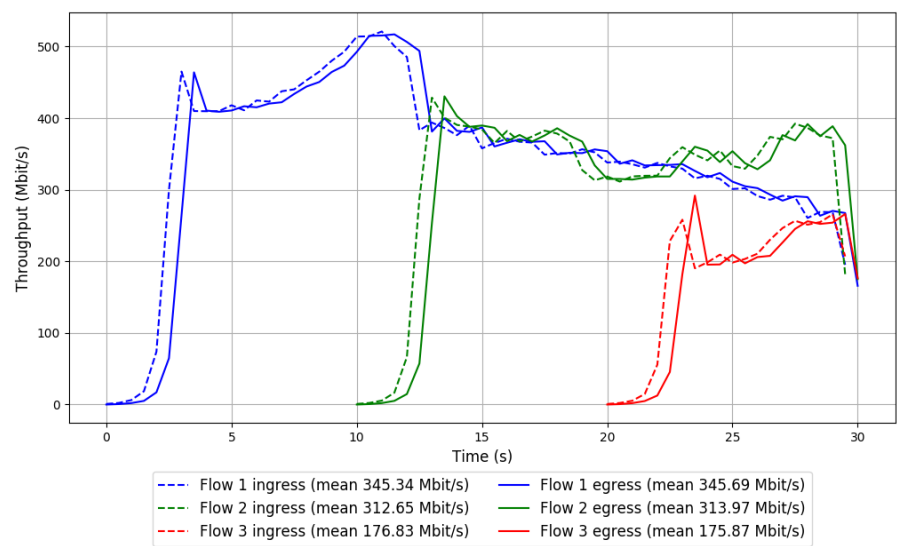
-- Flow 3:

Average throughput: 175.87 Mbit/s

95th percentile per-packet one-way delay: 71.694 ms

Loss rate: 1.74%

Run 2: Report of PCC-Vivace — Data Link

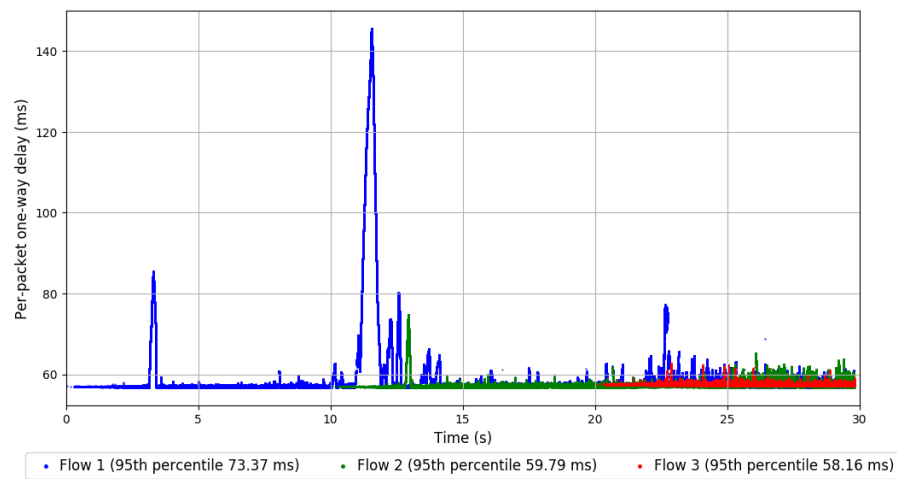
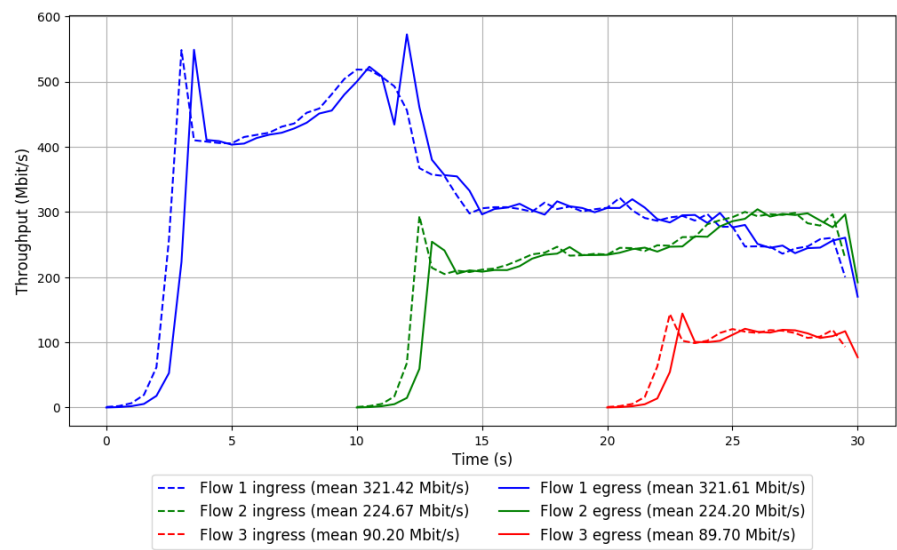


Run 3: Statistics of PCC-Vivace

Start at: 2019-01-19 22:46:22  
End at: 2019-01-19 22:46:52  
Local clock offset: 0.136 ms  
Remote clock offset: -0.066 ms

# Below is generated by plot.py at 2019-01-20 03:48:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 499.79 Mbit/s  
95th percentile per-packet one-way delay: 65.828 ms  
Loss rate: 0.54%  
-- Flow 1:  
Average throughput: 321.61 Mbit/s  
95th percentile per-packet one-way delay: 73.372 ms  
Loss rate: 0.32%  
-- Flow 2:  
Average throughput: 224.20 Mbit/s  
95th percentile per-packet one-way delay: 59.790 ms  
Loss rate: 0.79%  
-- Flow 3:  
Average throughput: 89.70 Mbit/s  
95th percentile per-packet one-way delay: 58.160 ms  
Loss rate: 1.71%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-19 23:26:51

End at: 2019-01-19 23:27:21

Local clock offset: 0.36 ms

Remote clock offset: 0.403 ms

# Below is generated by plot.py at 2019-01-20 03:48:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 494.11 Mbit/s

95th percentile per-packet one-way delay: 60.327 ms

Loss rate: 0.46%

-- Flow 1:

Average throughput: 359.73 Mbit/s

95th percentile per-packet one-way delay: 58.802 ms

Loss rate: 0.38%

-- Flow 2:

Average throughput: 193.57 Mbit/s

95th percentile per-packet one-way delay: 62.447 ms

Loss rate: 0.55%

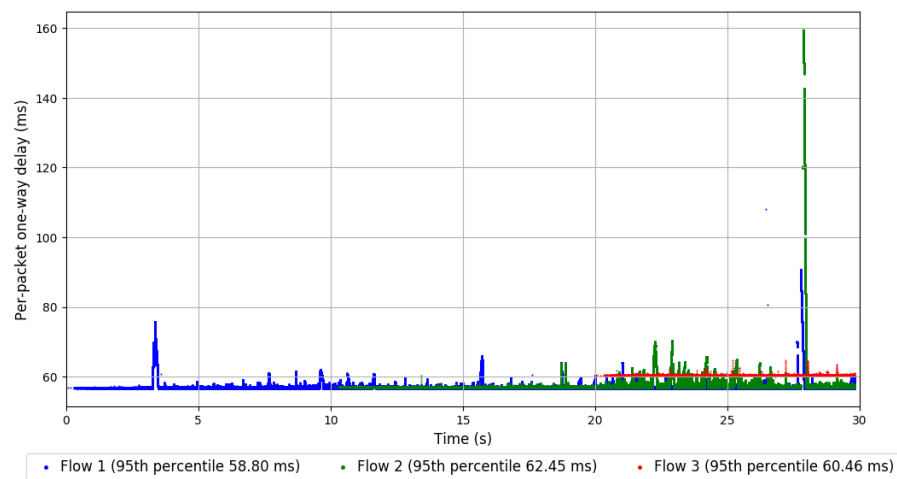
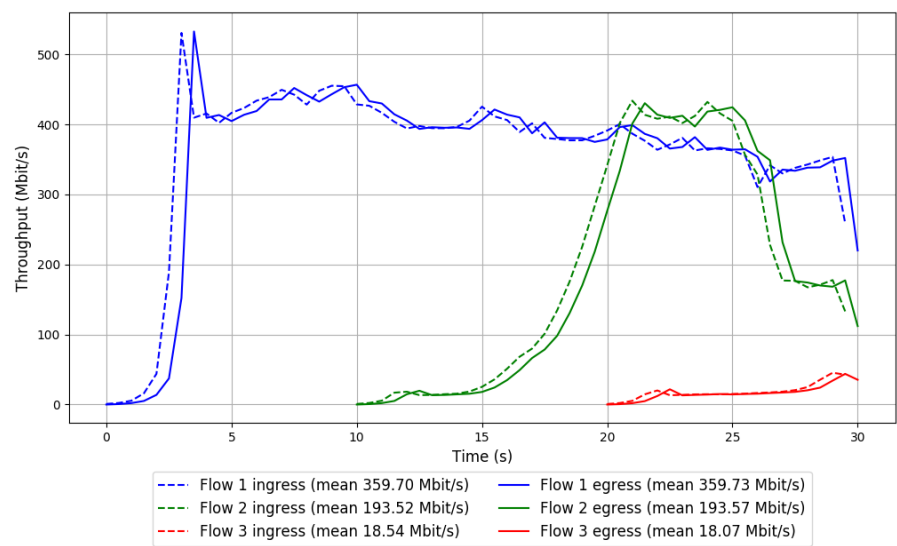
-- Flow 3:

Average throughput: 18.07 Mbit/s

95th percentile per-packet one-way delay: 60.456 ms

Loss rate: 3.70%

Run 4: Report of PCC-Vivace — Data Link

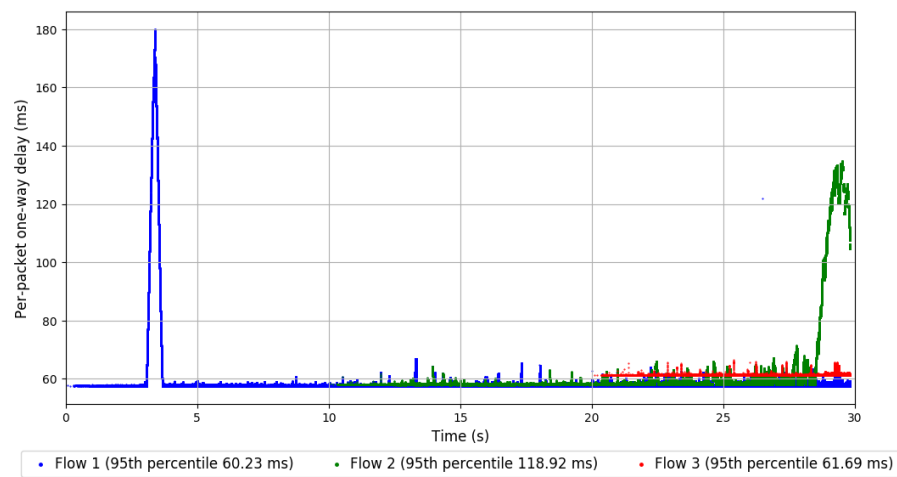
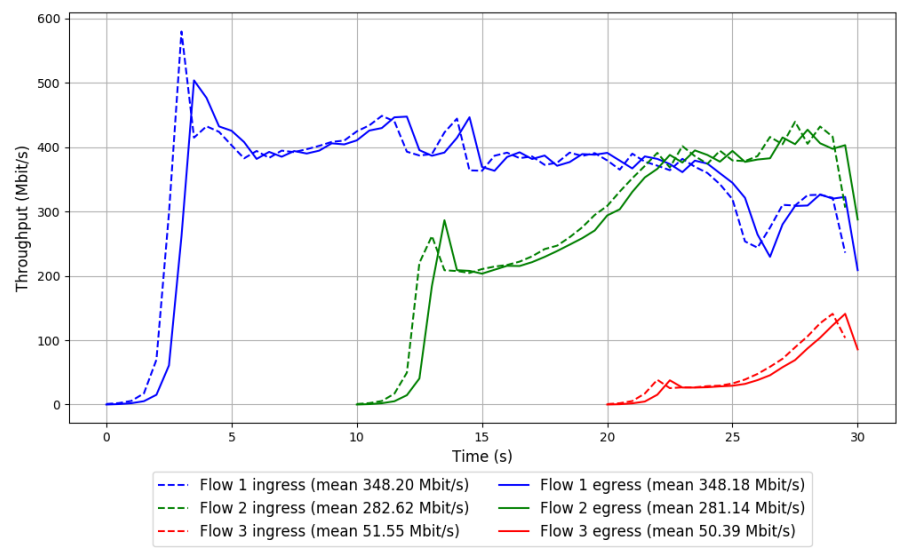


Run 5: Statistics of PCC-Vivace

Start at: 2019-01-20 00:05:47  
End at: 2019-01-20 00:06:17  
Local clock offset: 0.32 ms  
Remote clock offset: -0.448 ms

# Below is generated by plot.py at 2019-01-20 03:48:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 551.26 Mbit/s  
95th percentile per-packet one-way delay: 69.542 ms  
Loss rate: 0.72%  
-- Flow 1:  
Average throughput: 348.18 Mbit/s  
95th percentile per-packet one-way delay: 60.233 ms  
Loss rate: 0.39%  
-- Flow 2:  
Average throughput: 281.14 Mbit/s  
95th percentile per-packet one-way delay: 118.922 ms  
Loss rate: 1.10%  
-- Flow 3:  
Average throughput: 50.39 Mbit/s  
95th percentile per-packet one-way delay: 61.691 ms  
Loss rate: 3.43%

Run 5: Report of PCC-Vivace — Data Link



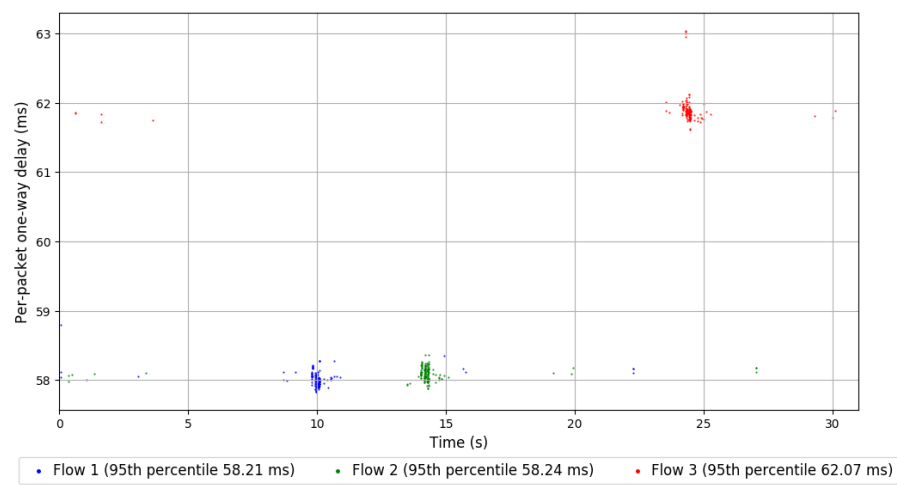
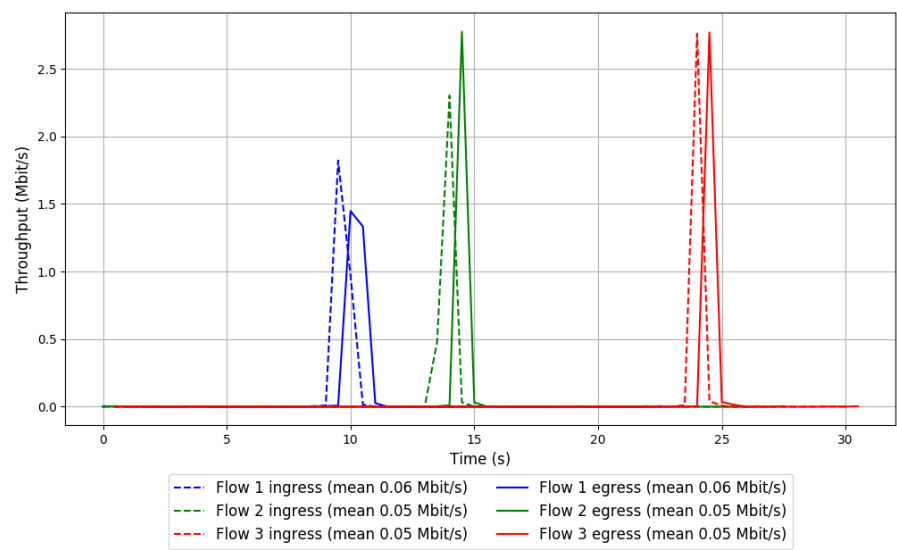


Run 1: Statistics of WebRTC media

Start at: 2019-01-19 21:28:40  
End at: 2019-01-19 21:29:10  
Local clock offset: 0.02 ms  
Remote clock offset: -0.963 ms

# Below is generated by plot.py at 2019-01-20 03:48:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 61.977 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.06 Mbit/s  
95th percentile per-packet one-way delay: 58.207 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 58.238 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 62.072 ms  
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-01-19 22:08:07

End at: 2019-01-19 22:08:37

Local clock offset: -0.439 ms

Remote clock offset: 0.803 ms

# Below is generated by plot.py at 2019-01-20 03:48:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 59.218 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 59.284 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 56.045 ms

Loss rate: 0.00%

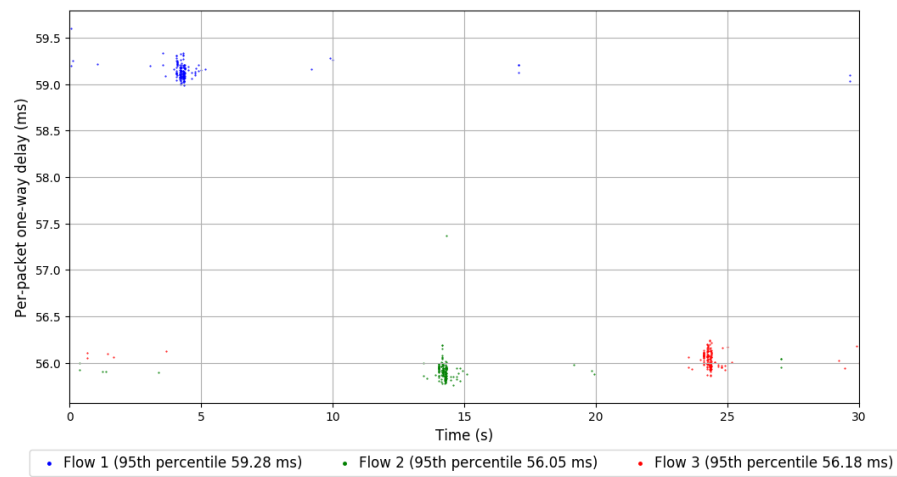
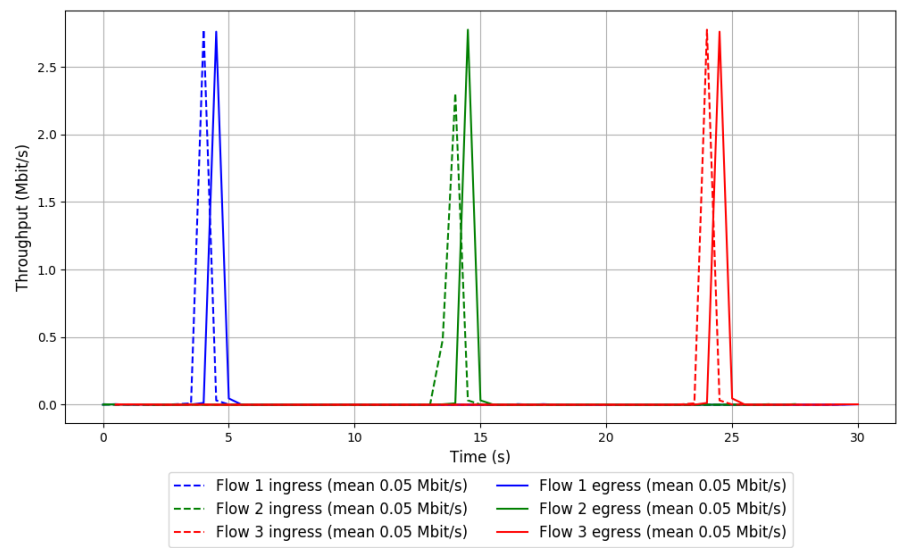
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 56.183 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-01-19 22:48:18

End at: 2019-01-19 22:48:48

Local clock offset: -0.03 ms

Remote clock offset: 1.227 ms

# Below is generated by plot.py at 2019-01-20 03:48:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 59.513 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 59.555 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 58.974 ms

Loss rate: 0.00%

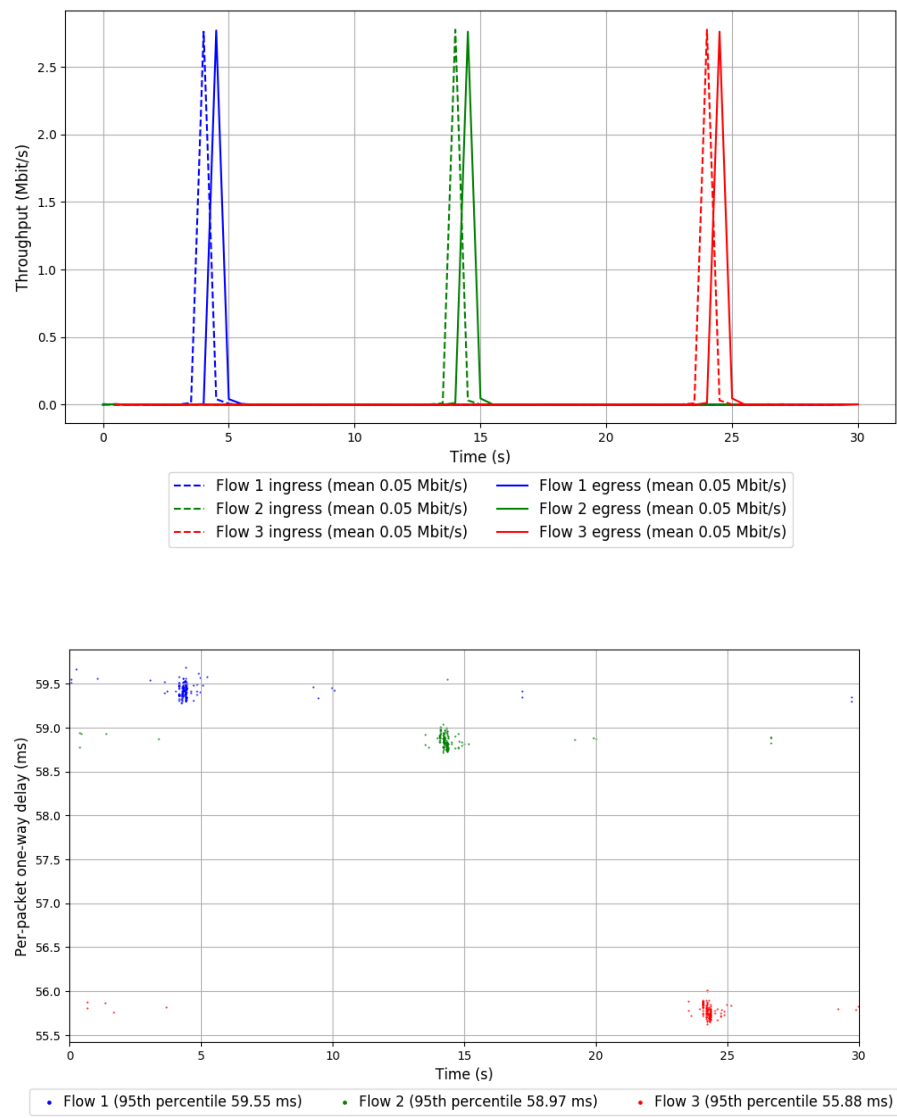
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 55.881 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

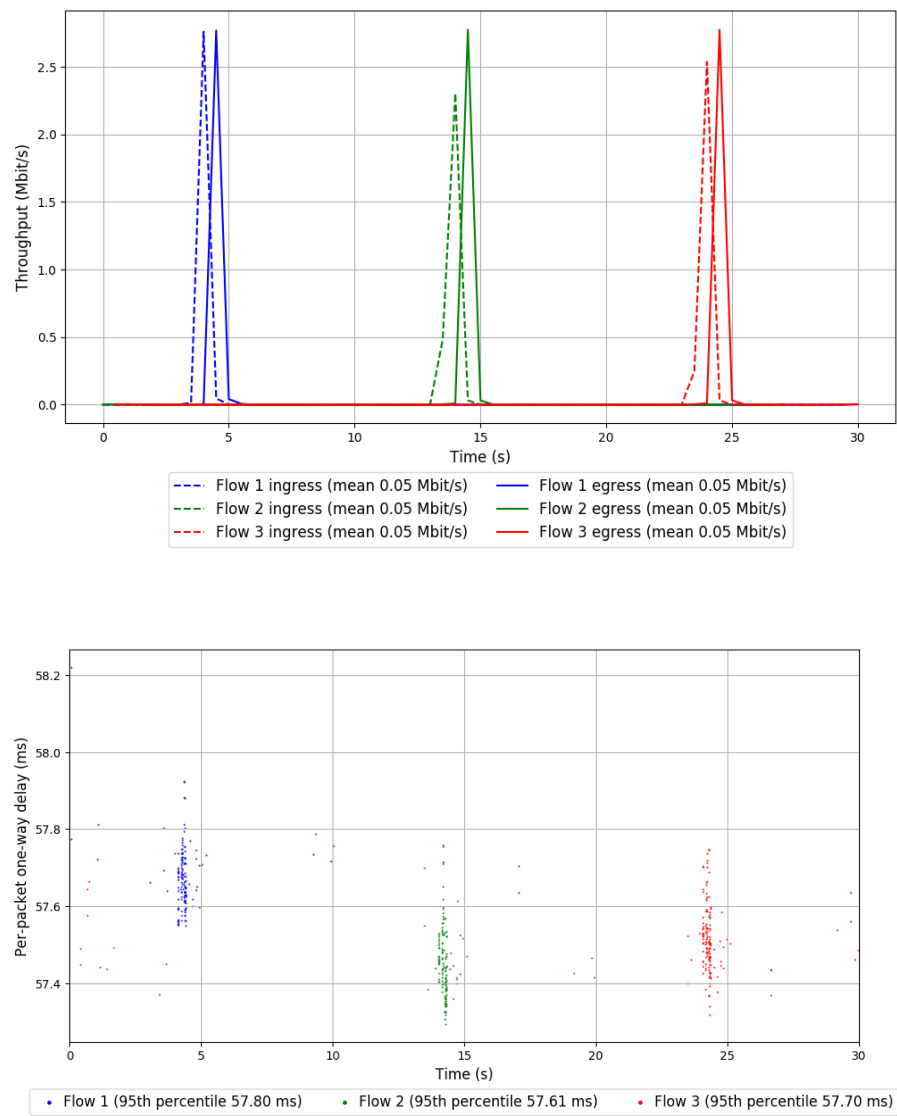


Run 4: Statistics of WebRTC media

Start at: 2019-01-19 23:28:40  
End at: 2019-01-19 23:29:10  
Local clock offset: 0.241 ms  
Remote clock offset: -0.221 ms

# Below is generated by plot.py at 2019-01-20 03:48:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 57.749 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 57.803 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 57.613 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 57.702 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-01-20 00:07:53

End at: 2019-01-20 00:08:23

Local clock offset: -0.318 ms

Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2019-01-20 03:48:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 56.985 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 56.732 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 56.784 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 57.022 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

