

## Pantheon Report

Generated at 2019-02-12 23:15:53 (UTC).

Data path: GCE London on **ens4** (*local*) → GCE Iowa on **ens4** (*remote*).

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

### System info:

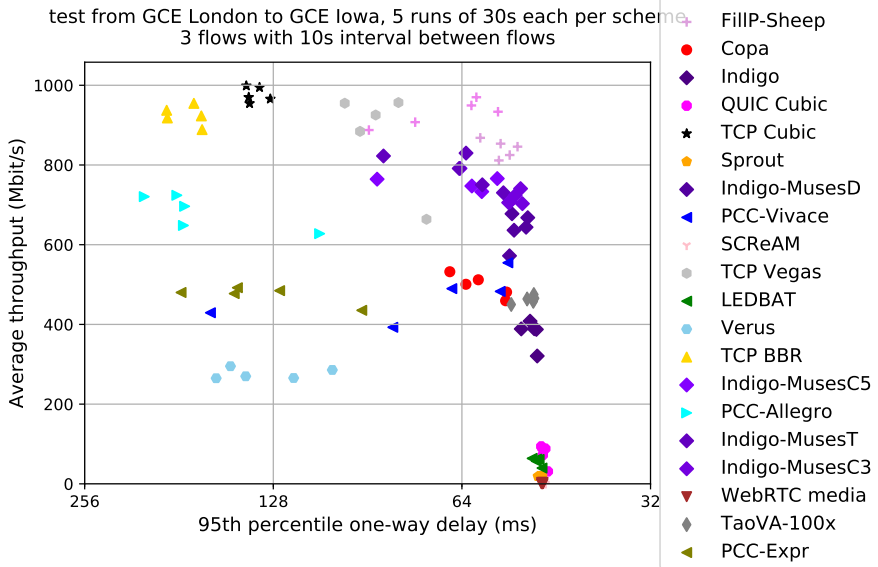
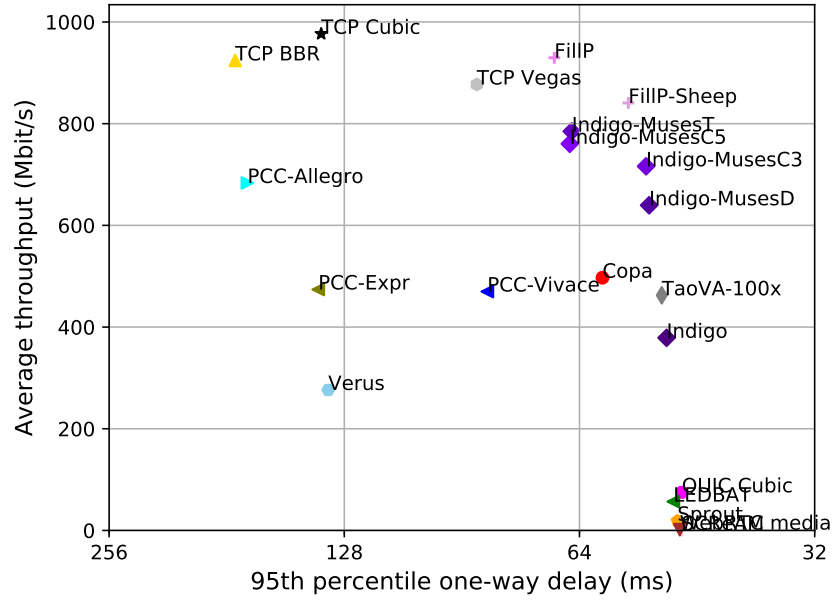
```
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

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

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

test from GCE London to GCE Iowa, 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	473.86	465.42	422.79	177.58	175.28	145.50	0.74	0.83	1.34
Copa	5	265.62	239.52	216.38	57.29	61.96	62.75	0.00	0.01	0.02
TCP Cubic	5	518.64	472.44	431.63	127.14	130.45	129.28	0.08	0.18	0.76
FillP	5	594.01	365.16	279.61	74.22	51.94	52.24	0.11	0.00	0.00
FillP-Sheep	5	543.36	319.26	257.22	59.06	51.08	50.98	0.00	0.00	0.01
Indigo	5	194.53	193.38	173.77	49.21	49.81	49.25	0.00	0.00	0.00
Indigo-MusesC3	5	425.46	356.34	238.04	53.18	52.02	51.38	0.00	0.00	0.36
Indigo-MusesC5	5	469.99	395.89	128.02	64.99	70.35	49.37	0.02	0.01	0.00
Indigo-MusesD	5	378.23	304.26	243.35	52.53	52.55	49.77	0.00	0.00	0.00
Indigo-MusesT	5	470.51	388.21	264.54	67.04	64.64	51.50	0.00	0.00	0.02
LEDBAT	5	35.60	24.91	13.73	48.47	48.44	48.29	0.00	0.00	0.00
PCC-Allegro	5	397.11	303.00	257.54	178.37	87.73	117.30	7.72	0.21	0.61
PCC-Expr	5	267.20	241.42	140.07	142.04	101.89	51.64	1.32	0.84	0.00
QUIC Cubic	5	33.28	50.41	25.17	47.19	47.33	47.18	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	47.22	47.04	47.00	0.00	0.00	0.00
Sprout	5	9.60	9.52	9.22	47.88	47.45	47.84	0.00	0.00	0.00
TaoVA-100x	5	237.52	230.32	215.44	49.67	51.00	50.37	0.00	0.00	0.00
TCP Vegas	5	473.07	416.65	380.50	85.67	77.89	92.35	0.06	0.05	0.18
Verus	5	154.08	137.90	94.01	128.76	128.09	64.51	0.22	0.25	0.00
PCC-Vivace	5	287.78	250.08	47.67	67.70	82.34	47.51	0.01	0.06	0.00
WebRTC media	5	0.84	0.54	0.23	47.29	47.71	47.16	0.00	0.00	0.00

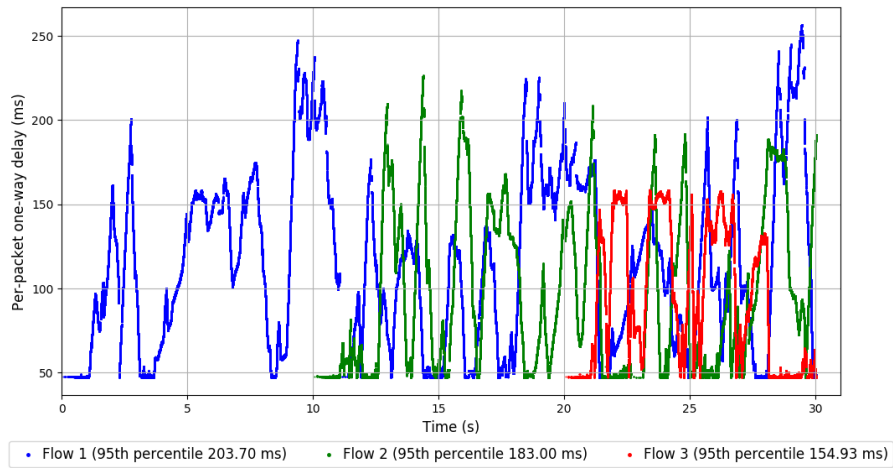
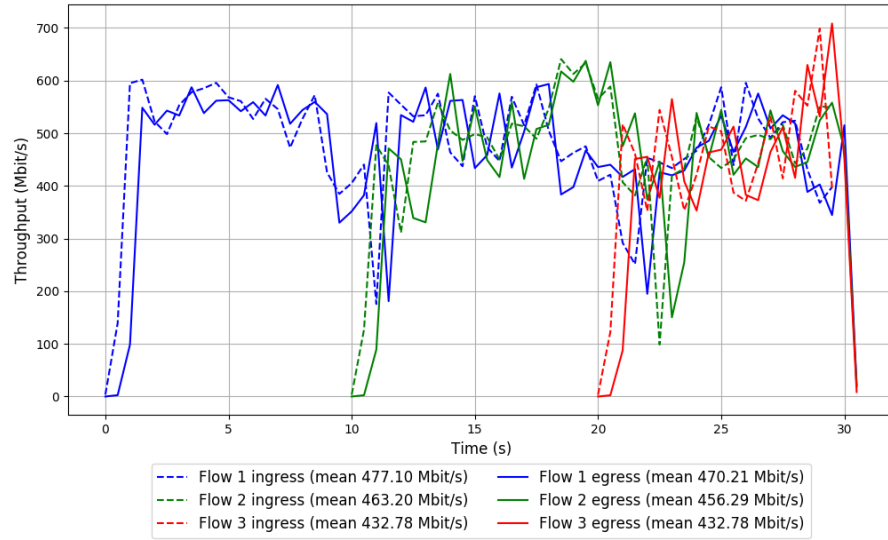


Run 1: Statistics of TCP BBR

Start at: 2019-02-12 16:57:37  
End at: 2019-02-12 16:58:07  
Local clock offset: -0.154 ms  
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2019-02-12 20:36:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 918.07 Mbit/s  
95th percentile per-packet one-way delay: 188.918 ms  
Loss rate: 1.23%  
-- Flow 1:  
Average throughput: 470.21 Mbit/s  
95th percentile per-packet one-way delay: 203.703 ms  
Loss rate: 1.44%  
-- Flow 2:  
Average throughput: 456.29 Mbit/s  
95th percentile per-packet one-way delay: 183.005 ms  
Loss rate: 1.49%  
-- Flow 3:  
Average throughput: 432.78 Mbit/s  
95th percentile per-packet one-way delay: 154.925 ms  
Loss rate: 0.00%

# Run 1: Report of TCP BBR — Data Link

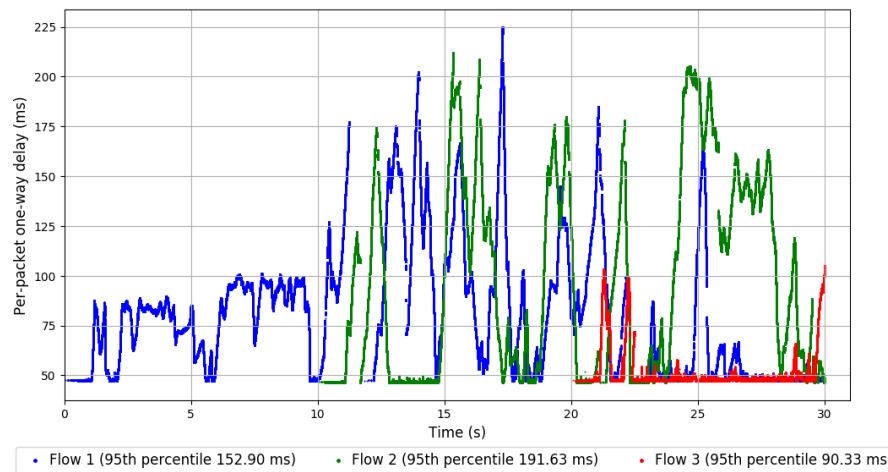
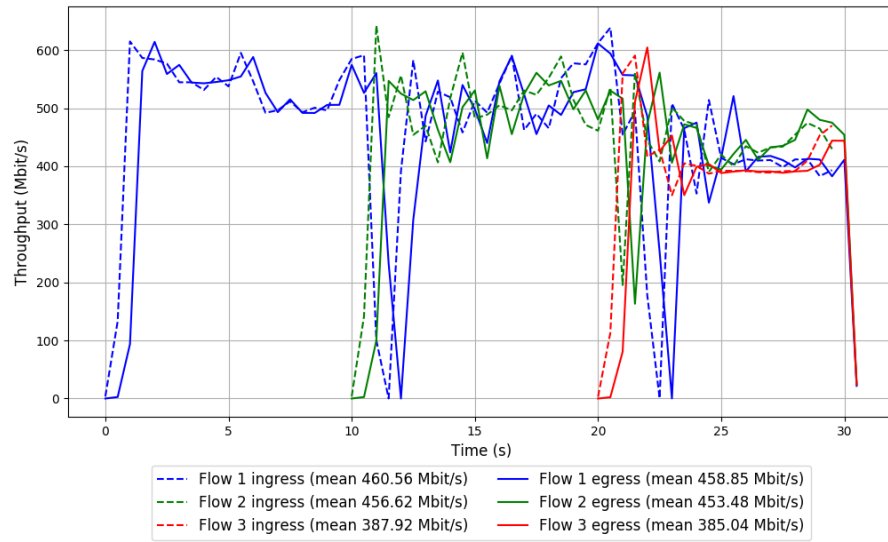


Run 2: Statistics of TCP BBR

Start at: 2019-02-12 17:33:34  
End at: 2019-02-12 17:34:04  
Local clock offset: -0.091 ms  
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2019-02-12 20:36:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 888.84 Mbit/s  
95th percentile per-packet one-way delay: 166.285 ms  
Loss rate: 0.53%  
-- Flow 1:  
Average throughput: 458.85 Mbit/s  
95th percentile per-packet one-way delay: 152.902 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 453.48 Mbit/s  
95th percentile per-packet one-way delay: 191.627 ms  
Loss rate: 0.68%  
-- Flow 3:  
Average throughput: 385.04 Mbit/s  
95th percentile per-packet one-way delay: 90.334 ms  
Loss rate: 0.73%

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

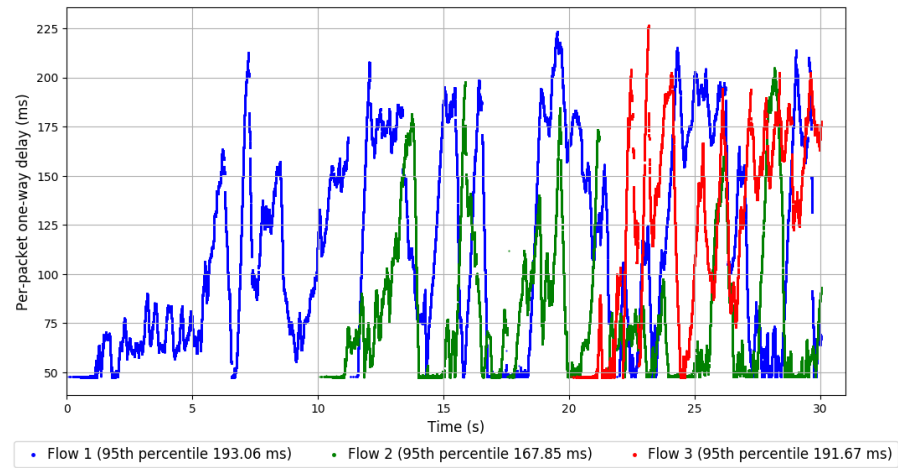
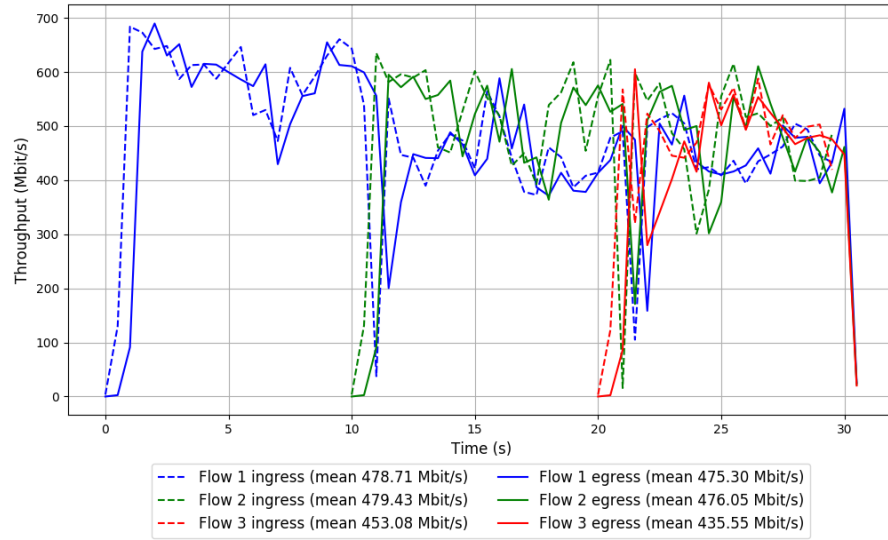


Run 3: Statistics of TCP BBR

Start at: 2019-02-12 18:10:04  
End at: 2019-02-12 18:10:34  
Local clock offset: 2.857 ms  
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2019-02-12 20:36:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 937.31 Mbit/s  
95th percentile per-packet one-way delay: 189.406 ms  
Loss rate: 1.20%  
-- Flow 1:  
Average throughput: 475.30 Mbit/s  
95th percentile per-packet one-way delay: 193.063 ms  
Loss rate: 0.71%  
-- Flow 2:  
Average throughput: 476.05 Mbit/s  
95th percentile per-packet one-way delay: 167.855 ms  
Loss rate: 0.70%  
-- Flow 3:  
Average throughput: 435.55 Mbit/s  
95th percentile per-packet one-way delay: 191.674 ms  
Loss rate: 3.85%

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

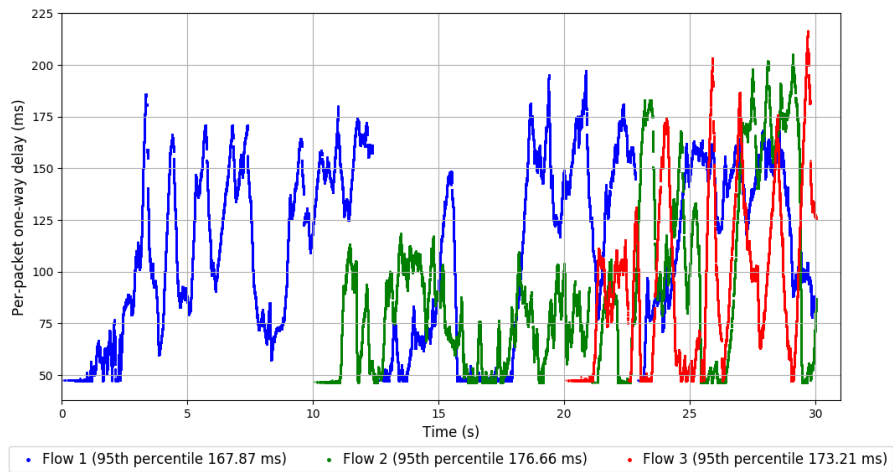
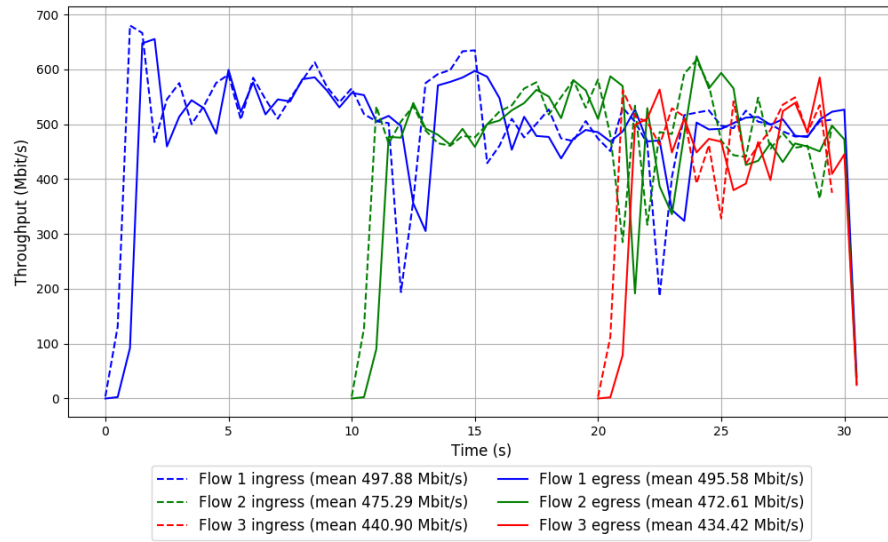


Run 4: Statistics of TCP BBR

Start at: 2019-02-12 18:48:45  
End at: 2019-02-12 18:49:15  
Local clock offset: 6.305 ms  
Remote clock offset: -0.047 ms

# Below is generated by plot.py at 2019-02-12 20:37:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 954.70 Mbit/s  
95th percentile per-packet one-way delay: 171.383 ms  
Loss rate: 0.65%  
-- Flow 1:  
Average throughput: 495.58 Mbit/s  
95th percentile per-packet one-way delay: 167.869 ms  
Loss rate: 0.46%  
-- Flow 2:  
Average throughput: 472.61 Mbit/s  
95th percentile per-packet one-way delay: 176.663 ms  
Loss rate: 0.56%  
-- Flow 3:  
Average throughput: 434.42 Mbit/s  
95th percentile per-packet one-way delay: 173.209 ms  
Loss rate: 1.47%

# Run 4: Report of TCP BBR — Data Link



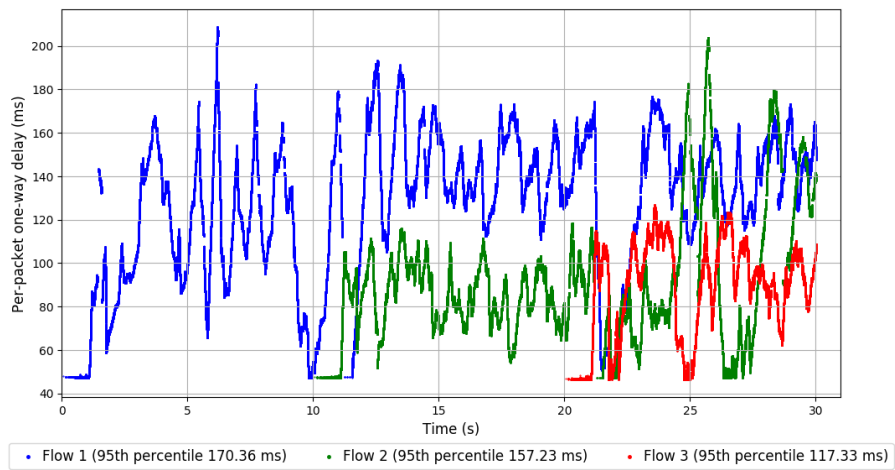
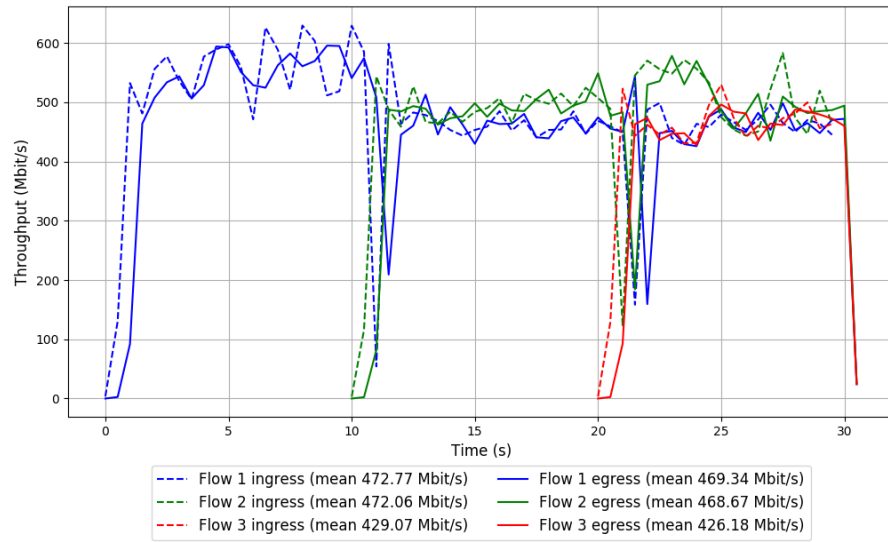


Run 5: Statistics of TCP BBR

Start at: 2019-02-12 19:27:56  
End at: 2019-02-12 19:28:26  
Local clock offset: 3.571 ms  
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-02-12 20:37:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 923.17 Mbit/s  
95th percentile per-packet one-way delay: 166.733 ms  
Loss rate: 0.71%  
-- Flow 1:  
Average throughput: 469.34 Mbit/s  
95th percentile per-packet one-way delay: 170.358 ms  
Loss rate: 0.73%  
-- Flow 2:  
Average throughput: 468.67 Mbit/s  
95th percentile per-packet one-way delay: 157.228 ms  
Loss rate: 0.71%  
-- Flow 3:  
Average throughput: 426.18 Mbit/s  
95th percentile per-packet one-way delay: 117.334 ms  
Loss rate: 0.66%

# Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-02-12 17:00:51

End at: 2019-02-12 17:01:21

Local clock offset: -0.163 ms

Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2019-02-12 20:37:48

# Datalink statistics

-- Total of 3 flows:

Average throughput: 532.22 Mbit/s

95th percentile per-packet one-way delay: 66.910 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 279.77 Mbit/s

95th percentile per-packet one-way delay: 61.938 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 266.22 Mbit/s

95th percentile per-packet one-way delay: 74.296 ms

Loss rate: 0.00%

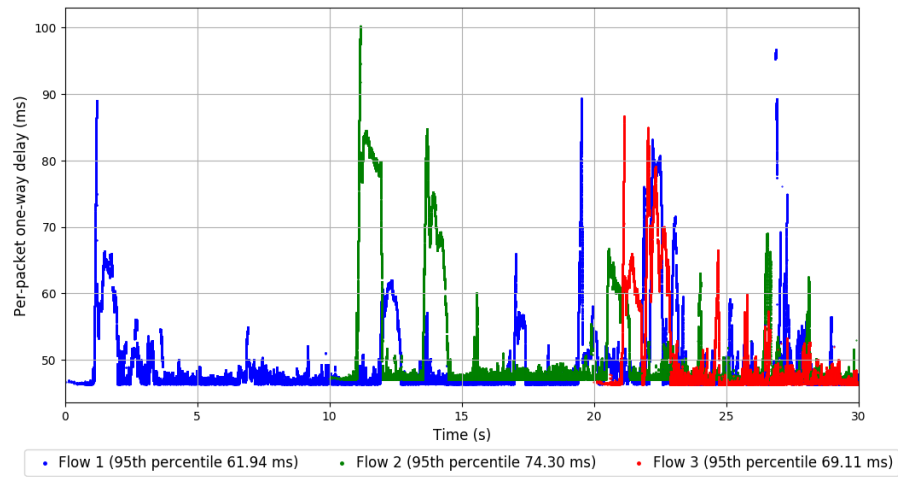
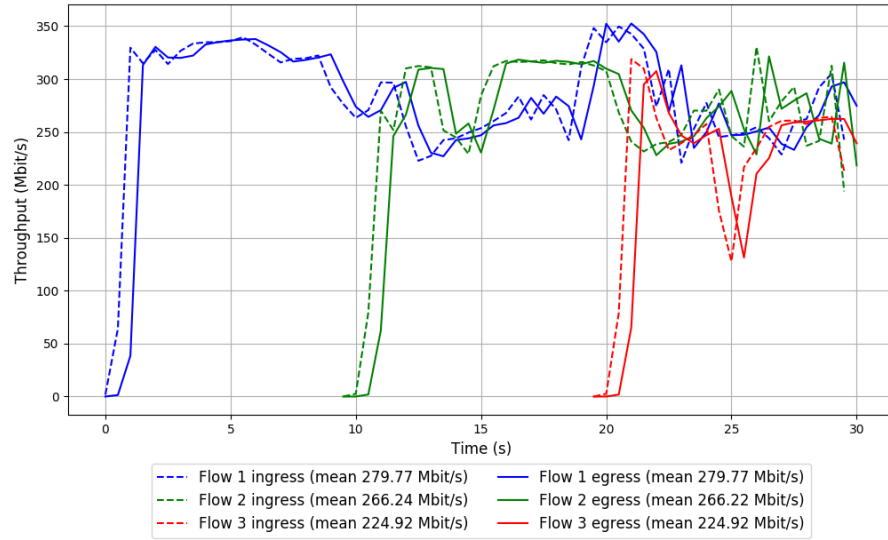
-- Flow 3:

Average throughput: 224.92 Mbit/s

95th percentile per-packet one-way delay: 69.105 ms

Loss rate: 0.00%

## Run 1: Report of Copa — Data Link

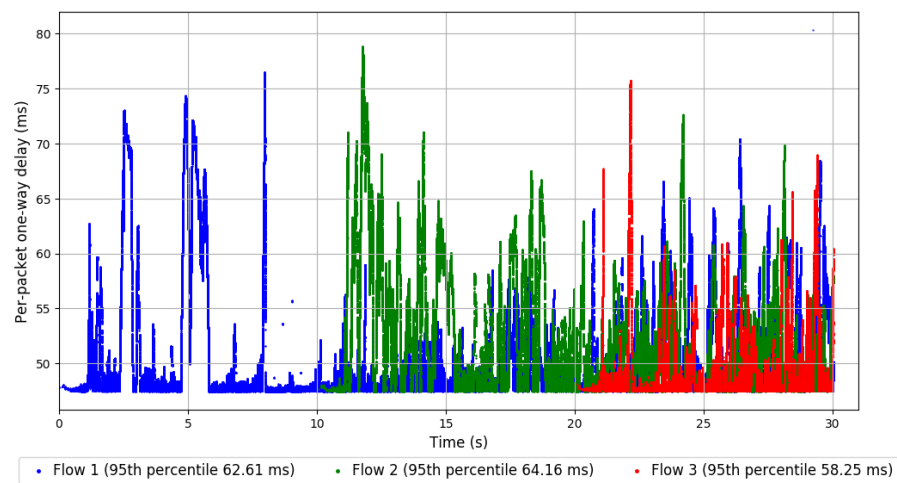
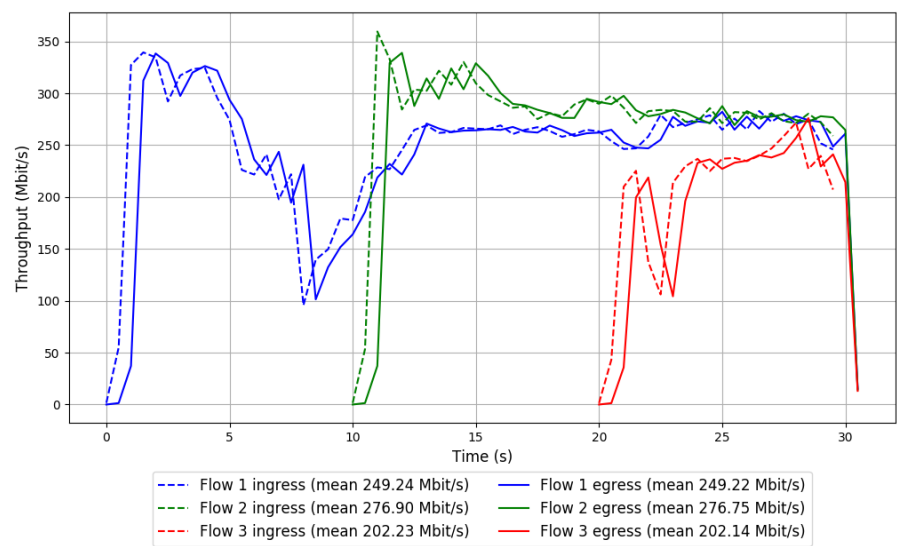


Run 2: Statistics of Copa

Start at: 2019-02-12 17:36:46  
End at: 2019-02-12 17:37:16  
Local clock offset: -0.434 ms  
Remote clock offset: -0.053 ms

# Below is generated by plot.py at 2019-02-12 20:37:48  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 500.70 Mbit/s  
95th percentile per-packet one-way delay: 63.061 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 249.22 Mbit/s  
95th percentile per-packet one-way delay: 62.611 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 276.75 Mbit/s  
95th percentile per-packet one-way delay: 64.161 ms  
Loss rate: 0.05%  
-- Flow 3:  
Average throughput: 202.14 Mbit/s  
95th percentile per-packet one-way delay: 58.252 ms  
Loss rate: 0.04%

Run 2: Report of Copa — Data Link

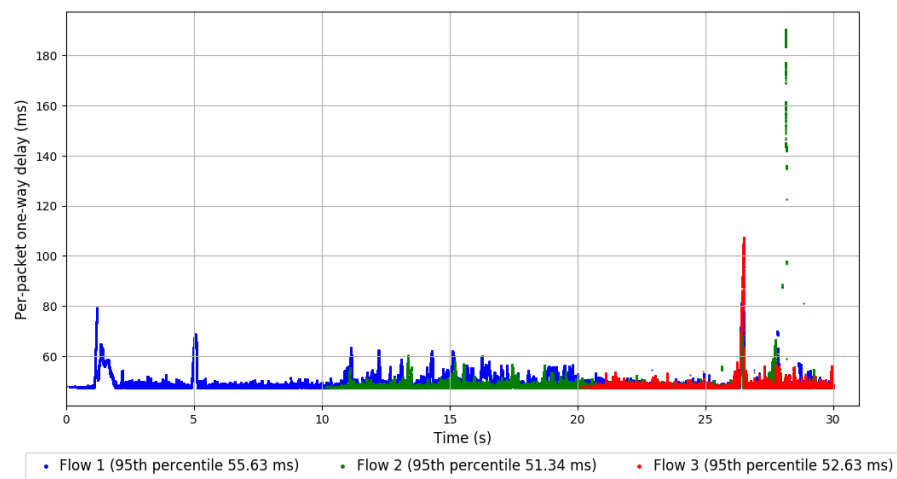
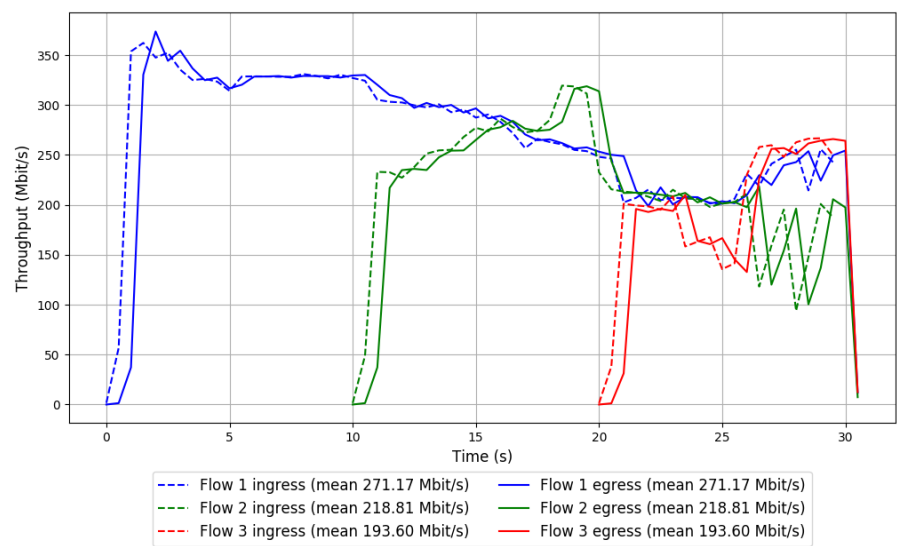


Run 3: Statistics of Copa

Start at: 2019-02-12 18:13:25  
End at: 2019-02-12 18:13:55  
Local clock offset: 4.469 ms  
Remote clock offset: -0.023 ms

# Below is generated by plot.py at 2019-02-12 20:37:48  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 481.11 Mbit/s  
95th percentile per-packet one-way delay: 54.312 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 271.17 Mbit/s  
95th percentile per-packet one-way delay: 55.629 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 218.81 Mbit/s  
95th percentile per-packet one-way delay: 51.344 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 193.60 Mbit/s  
95th percentile per-packet one-way delay: 52.631 ms  
Loss rate: 0.00%

Run 3: Report of Copa — Data Link



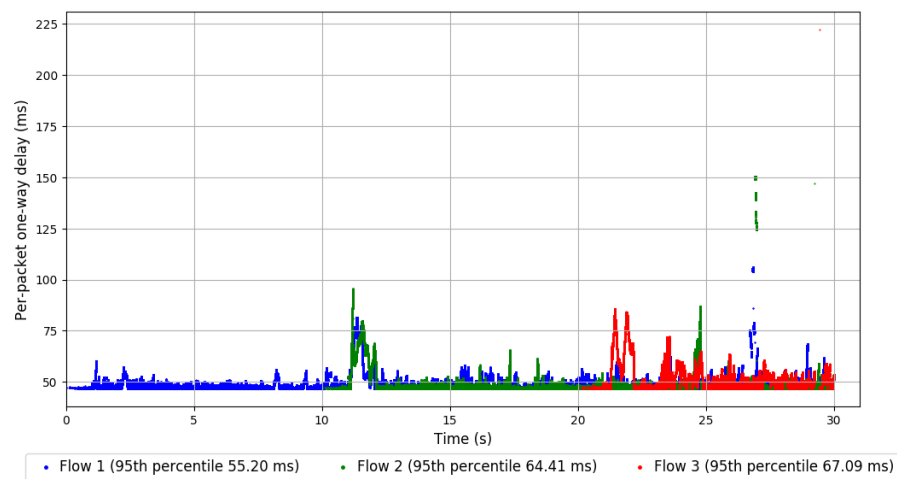
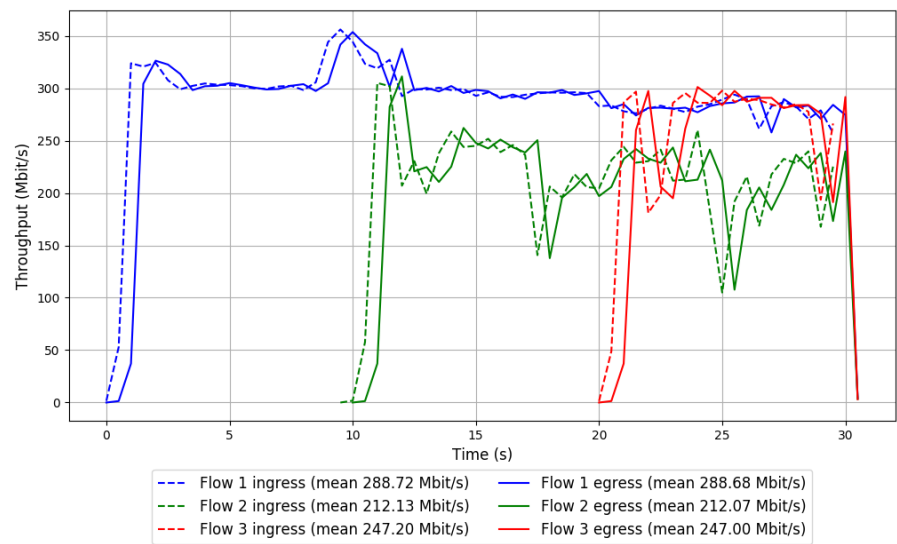


Run 4: Statistics of Copa

Start at: 2019-02-12 18:52:09  
End at: 2019-02-12 18:52:39  
Local clock offset: 6.946 ms  
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2019-02-12 20:55:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 512.01 Mbit/s  
95th percentile per-packet one-way delay: 60.257 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 288.68 Mbit/s  
95th percentile per-packet one-way delay: 55.204 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 212.07 Mbit/s  
95th percentile per-packet one-way delay: 64.411 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 247.00 Mbit/s  
95th percentile per-packet one-way delay: 67.094 ms  
Loss rate: 0.08%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-02-12 19:31:23

End at: 2019-02-12 19:31:53

Local clock offset: 3.821 ms

Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2019-02-12 20:55:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 459.41 Mbit/s

95th percentile per-packet one-way delay: 54.506 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 239.28 Mbit/s

95th percentile per-packet one-way delay: 51.077 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 223.74 Mbit/s

95th percentile per-packet one-way delay: 55.598 ms

Loss rate: 0.00%

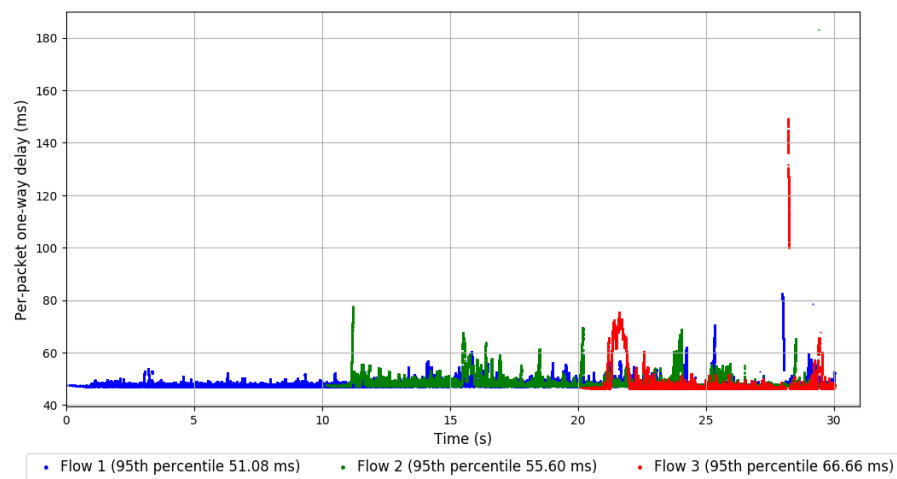
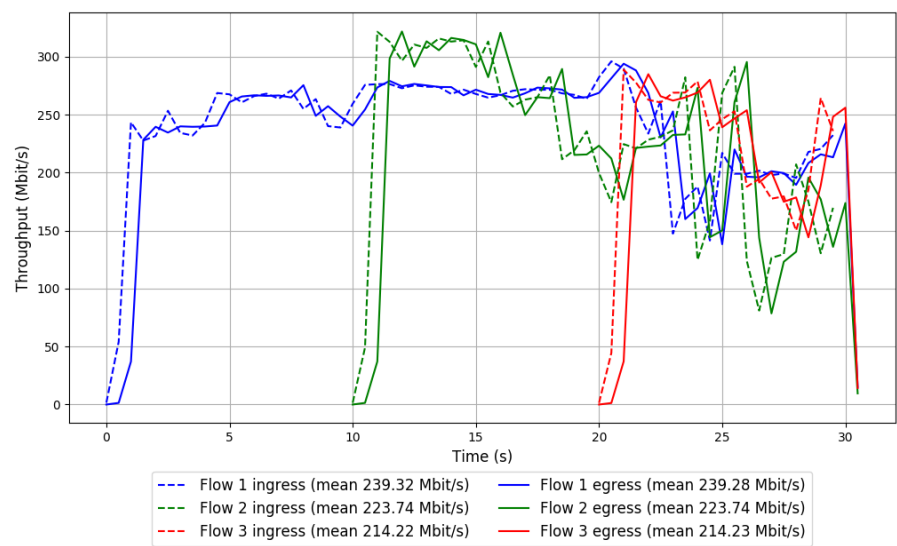
-- Flow 3:

Average throughput: 214.23 Mbit/s

95th percentile per-packet one-way delay: 66.662 ms

Loss rate: 0.00%

Run 5: Report of Copa — Data Link

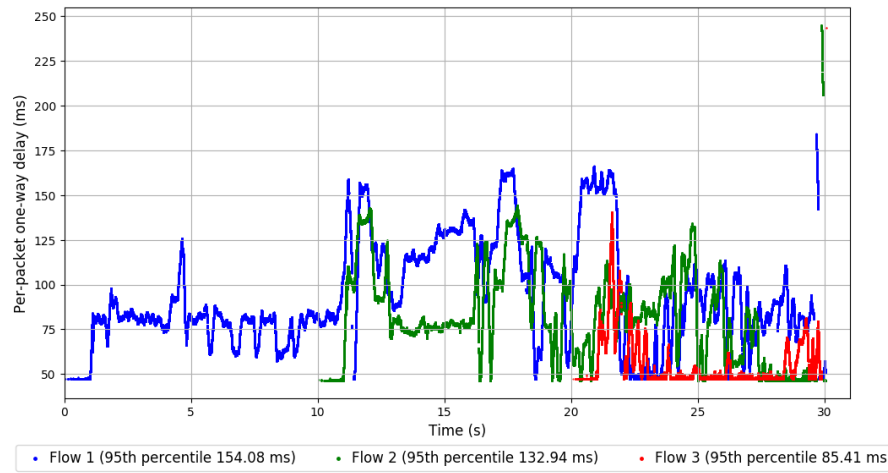
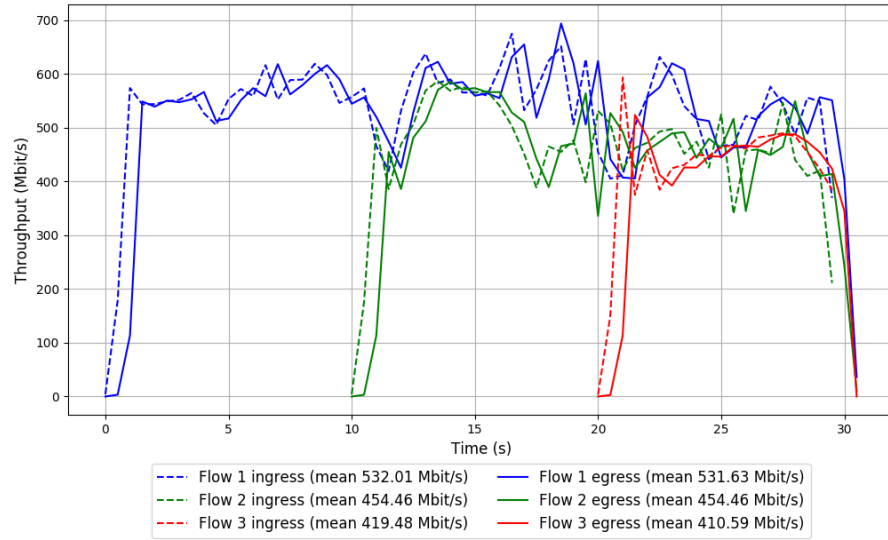


Run 1: Statistics of TCP Cubic

Start at: 2019-02-12 17:06:46  
End at: 2019-02-12 17:07:16  
Local clock offset: -0.147 ms  
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2019-02-12 20:56:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 969.92 Mbit/s  
95th percentile per-packet one-way delay: 140.103 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 531.63 Mbit/s  
95th percentile per-packet one-way delay: 154.076 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 454.46 Mbit/s  
95th percentile per-packet one-way delay: 132.935 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 410.59 Mbit/s  
95th percentile per-packet one-way delay: 85.407 ms  
Loss rate: 1.16%

# Run 1: Report of TCP Cubic — Data Link

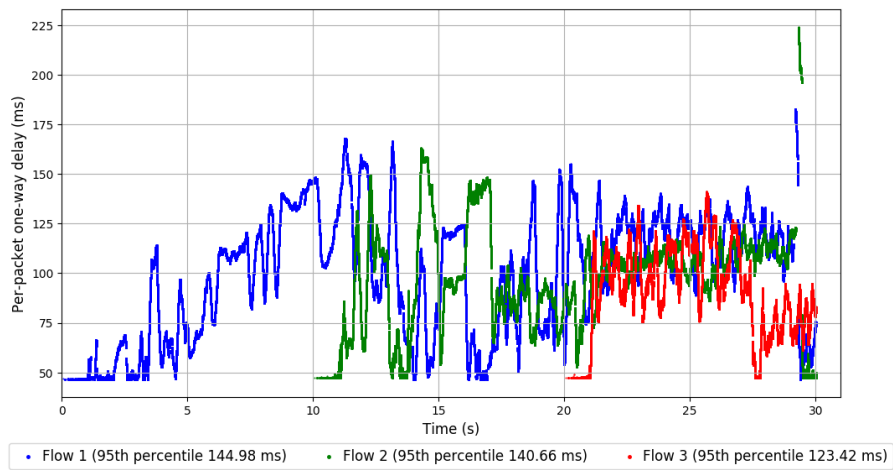
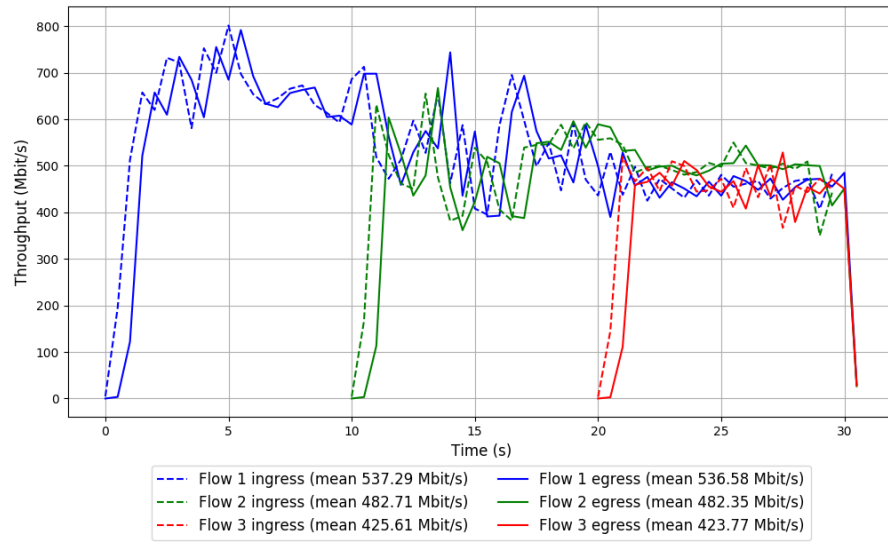


Run 2: Statistics of TCP Cubic

Start at: 2019-02-12 17:42:39  
End at: 2019-02-12 17:43:09  
Local clock offset: -0.095 ms  
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-02-12 20:56:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 998.67 Mbit/s  
95th percentile per-packet one-way delay: 141.338 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 536.58 Mbit/s  
95th percentile per-packet one-way delay: 144.980 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 482.35 Mbit/s  
95th percentile per-packet one-way delay: 140.655 ms  
Loss rate: 0.08%  
-- Flow 3:  
Average throughput: 423.77 Mbit/s  
95th percentile per-packet one-way delay: 123.420 ms  
Loss rate: 0.42%

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



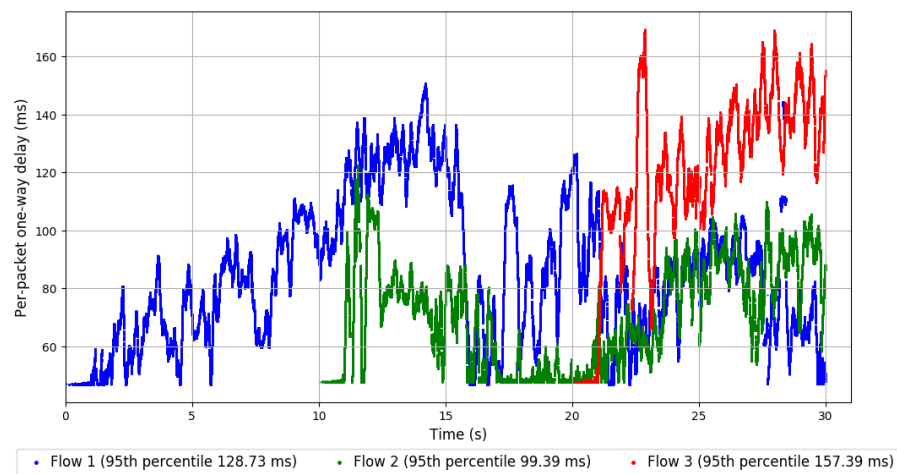
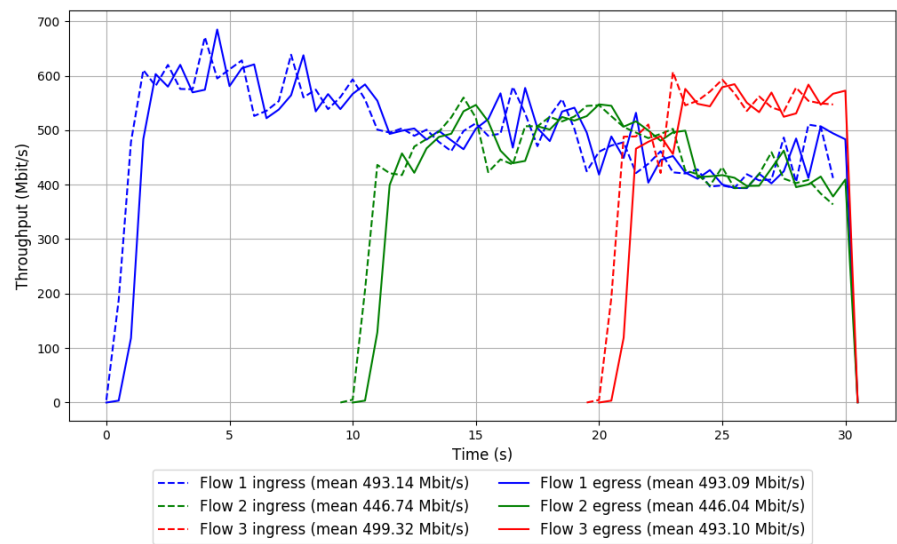


Run 3: Statistics of TCP Cubic

Start at: 2019-02-12 18:19:51  
End at: 2019-02-12 18:20:21  
Local clock offset: 7.497 ms  
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2019-02-12 20:56:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 954.41 Mbit/s  
95th percentile per-packet one-way delay: 139.660 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 493.09 Mbit/s  
95th percentile per-packet one-way delay: 128.733 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 446.04 Mbit/s  
95th percentile per-packet one-way delay: 99.385 ms  
Loss rate: 0.15%  
-- Flow 3:  
Average throughput: 493.10 Mbit/s  
95th percentile per-packet one-way delay: 157.394 ms  
Loss rate: 1.23%

Run 3: Report of TCP Cubic — Data Link

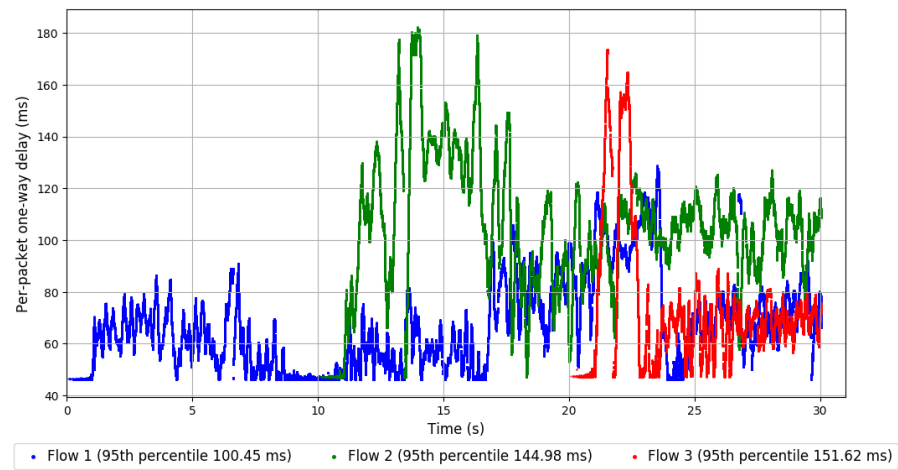
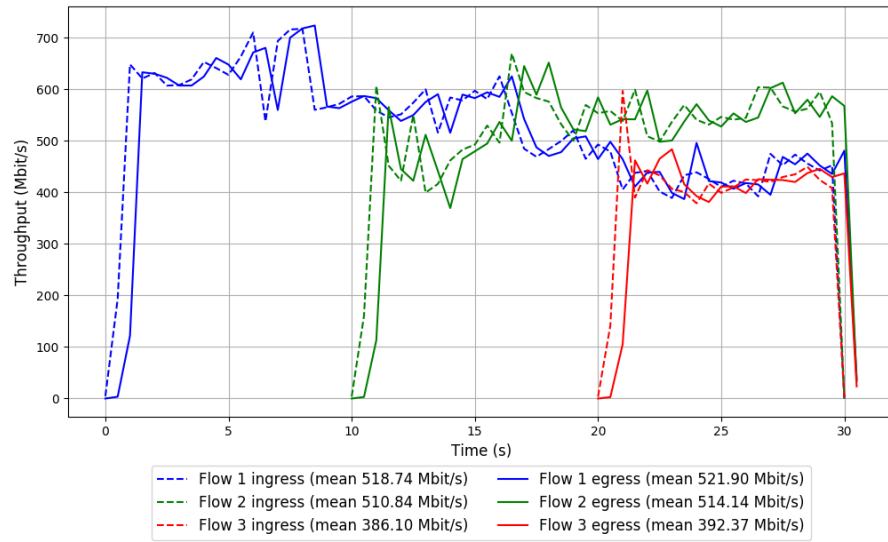


Run 4: Statistics of TCP Cubic

Start at: 2019-02-12 18:58:43  
End at: 2019-02-12 18:59:13  
Local clock offset: 8.049 ms  
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2019-02-12 20:57:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 994.72 Mbit/s  
95th percentile per-packet one-way delay: 134.645 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 521.90 Mbit/s  
95th percentile per-packet one-way delay: 100.452 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 514.14 Mbit/s  
95th percentile per-packet one-way delay: 144.981 ms  
Loss rate: 0.30%  
-- Flow 3:  
Average throughput: 392.37 Mbit/s  
95th percentile per-packet one-way delay: 151.624 ms  
Loss rate: 0.28%

# Run 4: Report of TCP Cubic — Data Link

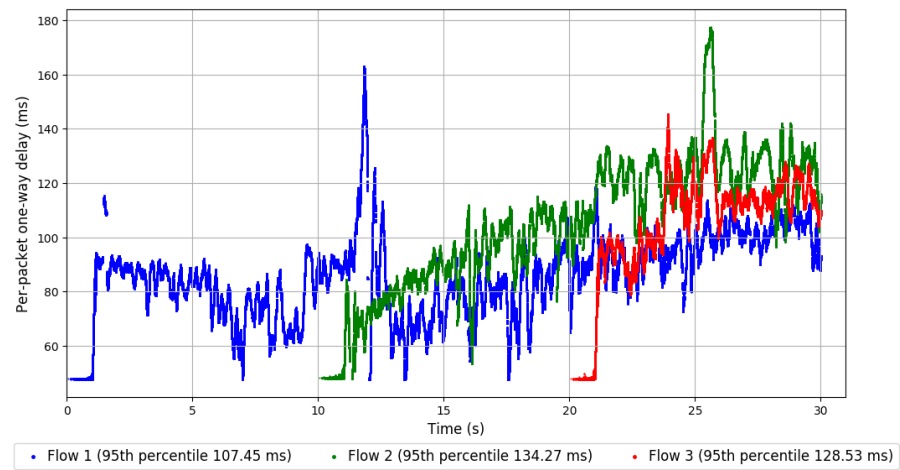
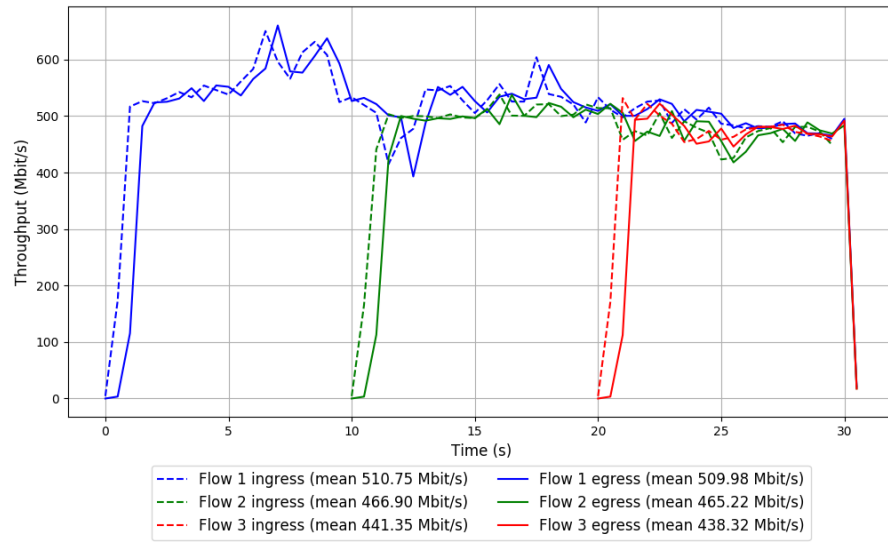


Run 5: Statistics of TCP Cubic

Start at: 2019-02-12 19:38:01  
End at: 2019-02-12 19:38:31  
Local clock offset: 4.037 ms  
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2019-02-12 20:57:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 965.70 Mbit/s  
95th percentile per-packet one-way delay: 129.392 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 509.98 Mbit/s  
95th percentile per-packet one-way delay: 107.452 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 465.22 Mbit/s  
95th percentile per-packet one-way delay: 134.272 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 438.32 Mbit/s  
95th percentile per-packet one-way delay: 128.532 ms  
Loss rate: 0.69%

# Run 5: Report of TCP Cubic — Data Link

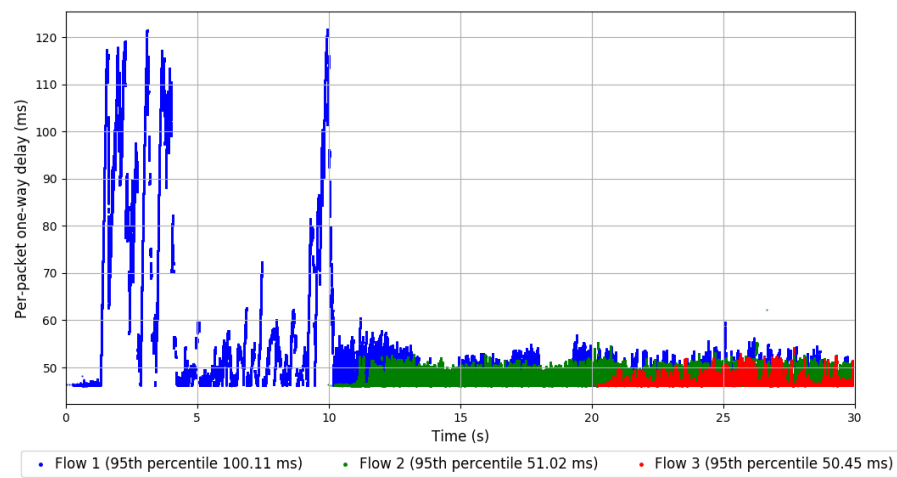
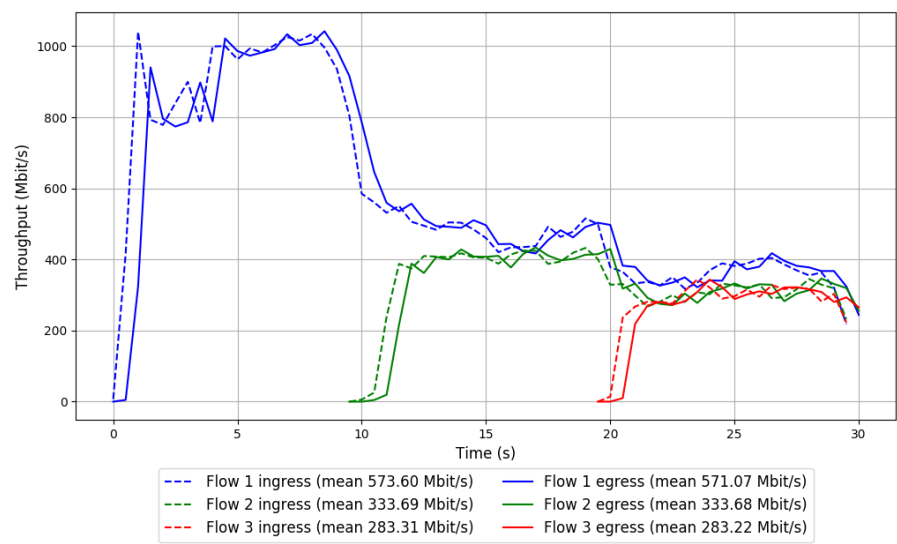


Run 1: Statistics of FillP

Start at: 2019-02-12 17:24:47  
End at: 2019-02-12 17:25:17  
Local clock offset: 0.205 ms  
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2019-02-12 20:59:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 887.66 Mbit/s  
95th percentile per-packet one-way delay: 90.084 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 571.07 Mbit/s  
95th percentile per-packet one-way delay: 100.112 ms  
Loss rate: 0.43%  
-- Flow 2:  
Average throughput: 333.68 Mbit/s  
95th percentile per-packet one-way delay: 51.019 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 283.22 Mbit/s  
95th percentile per-packet one-way delay: 50.450 ms  
Loss rate: 0.00%

Run 1: Report of FillP — Data Link



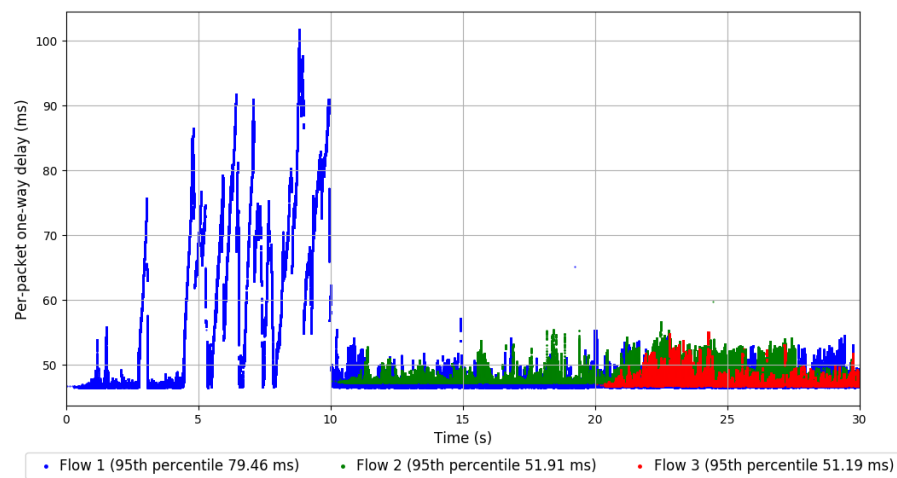
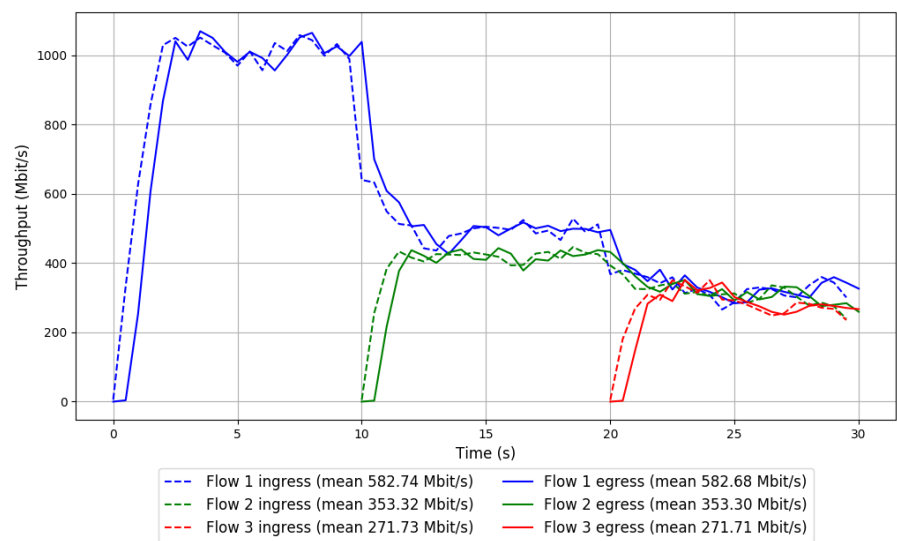


Run 2: Statistics of FillP

Start at: 2019-02-12 18:00:48  
End at: 2019-02-12 18:01:18  
Local clock offset: -0.001 ms  
Remote clock offset: -0.021 ms

# Below is generated by plot.py at 2019-02-12 21:15:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 907.49 Mbit/s  
95th percentile per-packet one-way delay: 75.992 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 582.68 Mbit/s  
95th percentile per-packet one-way delay: 79.456 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 353.30 Mbit/s  
95th percentile per-packet one-way delay: 51.905 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 271.71 Mbit/s  
95th percentile per-packet one-way delay: 51.194 ms  
Loss rate: 0.00%

Run 2: Report of FillP — Data Link

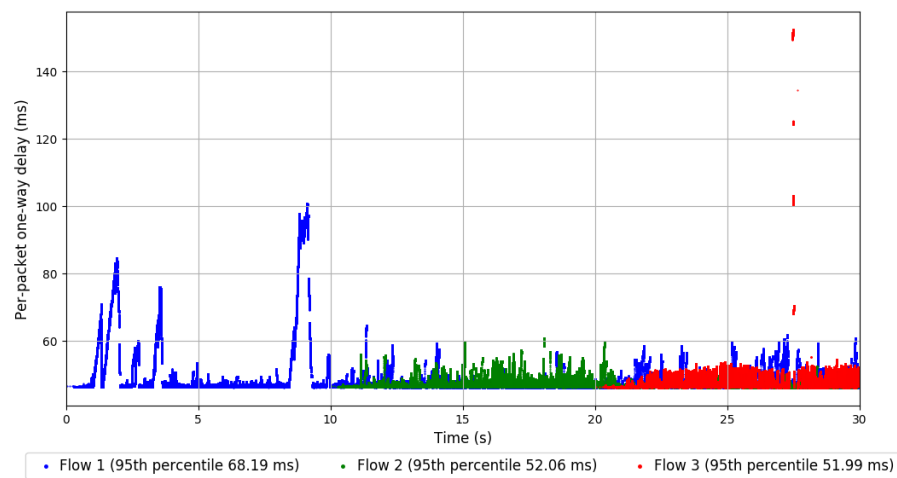
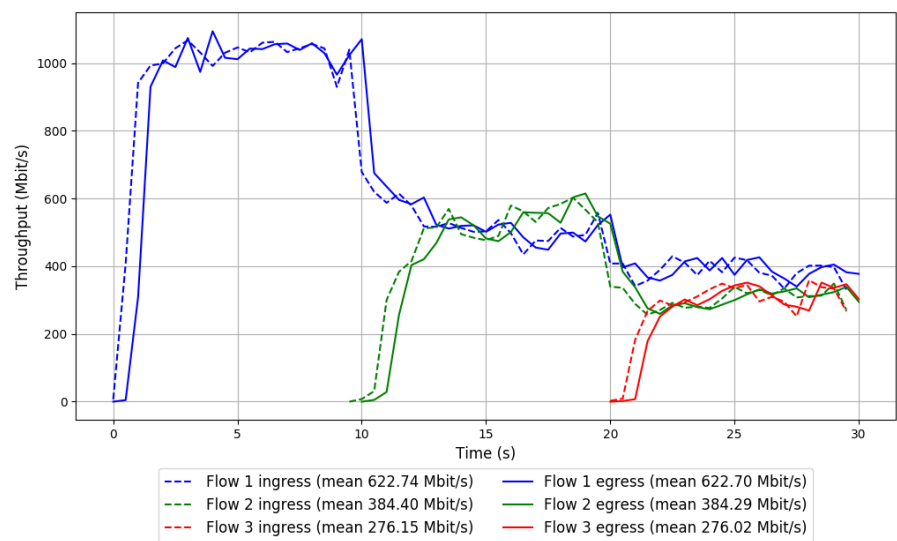


Run 3: Statistics of FillP

Start at: 2019-02-12 18:39:37  
End at: 2019-02-12 18:40:07  
Local clock offset: 7.626 ms  
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2019-02-12 21:19:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 970.00 Mbit/s  
95th percentile per-packet one-way delay: 60.690 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 622.70 Mbit/s  
95th percentile per-packet one-way delay: 68.192 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 384.29 Mbit/s  
95th percentile per-packet one-way delay: 52.065 ms  
Loss rate: 0.02%  
-- Flow 3:  
Average throughput: 276.02 Mbit/s  
95th percentile per-packet one-way delay: 51.992 ms  
Loss rate: 0.00%

Run 3: Report of FillP — Data Link

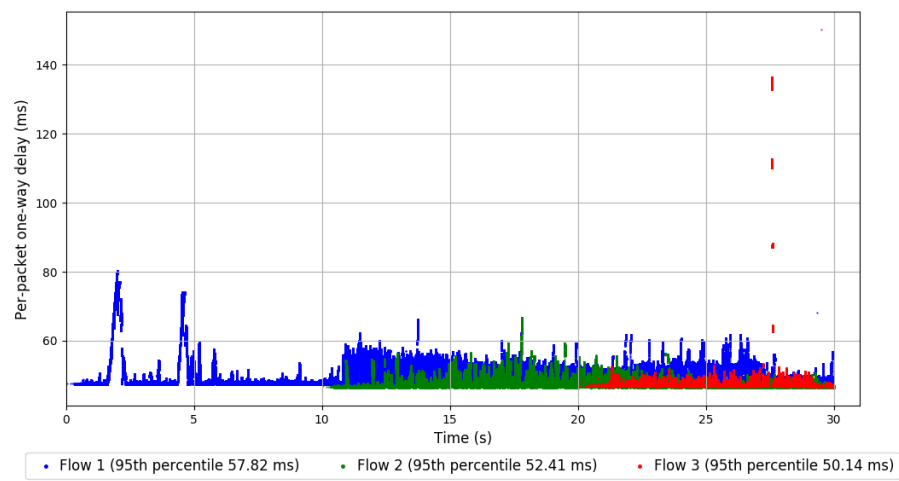
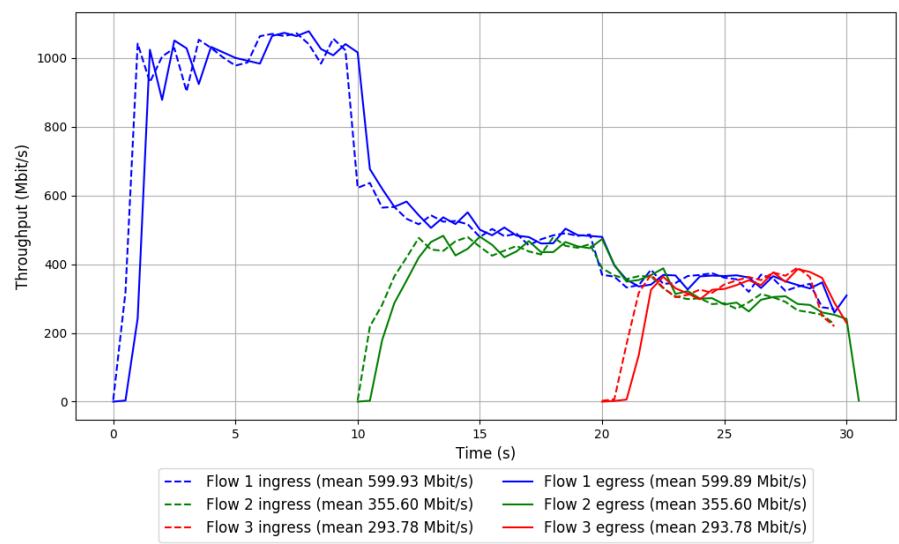


Run 4: Statistics of FillP

Start at: 2019-02-12 19:18:31  
End at: 2019-02-12 19:19:01  
Local clock offset: 3.84 ms  
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-02-12 21:19:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 933.62 Mbit/s  
95th percentile per-packet one-way delay: 56.051 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 599.89 Mbit/s  
95th percentile per-packet one-way delay: 57.822 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 355.60 Mbit/s  
95th percentile per-packet one-way delay: 52.415 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 293.78 Mbit/s  
95th percentile per-packet one-way delay: 50.137 ms  
Loss rate: 0.00%

Run 4: Report of FillP — Data Link

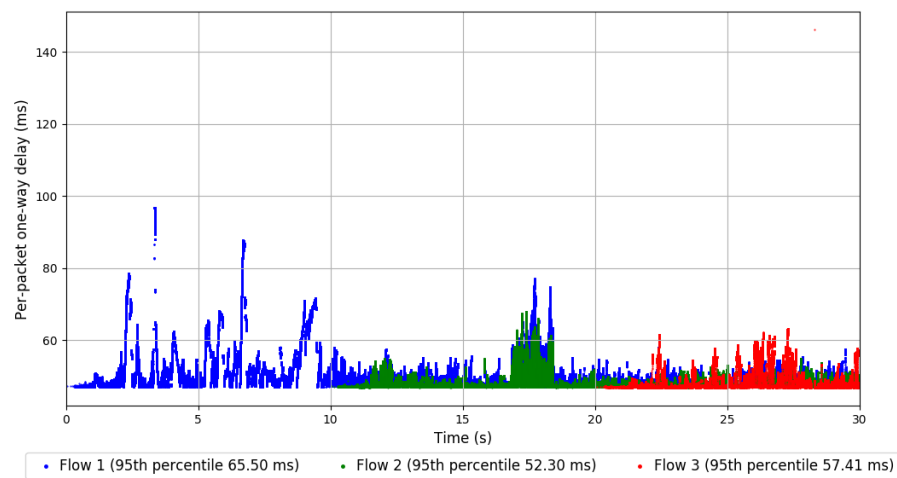
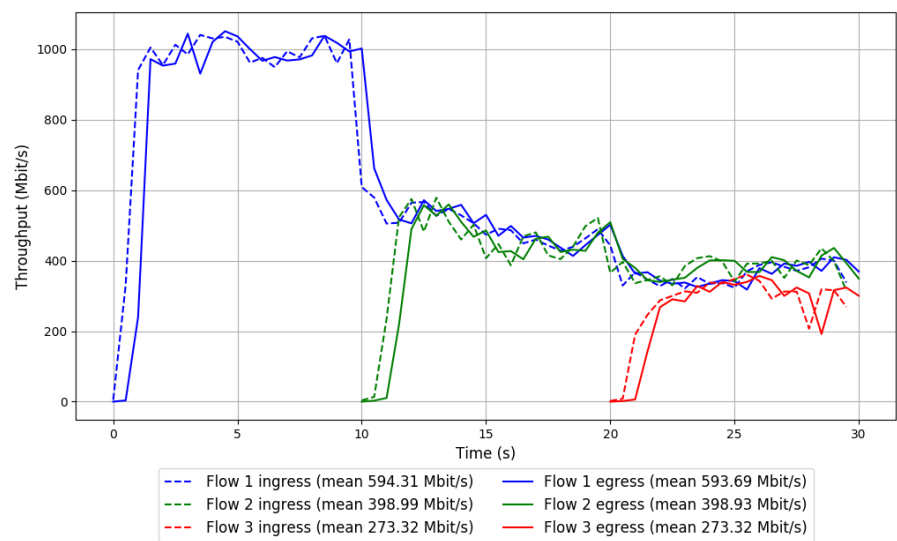


Run 5: Statistics of FillP

Start at: 2019-02-12 19:57:40  
End at: 2019-02-12 19:58:10  
Local clock offset: 1.362 ms  
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2019-02-12 21:19:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 949.37 Mbit/s  
95th percentile per-packet one-way delay: 61.806 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 593.69 Mbit/s  
95th percentile per-packet one-way delay: 65.495 ms  
Loss rate: 0.10%  
-- Flow 2:  
Average throughput: 398.93 Mbit/s  
95th percentile per-packet one-way delay: 52.299 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 273.32 Mbit/s  
95th percentile per-packet one-way delay: 57.413 ms  
Loss rate: 0.00%

Run 5: Report of FillP — Data Link



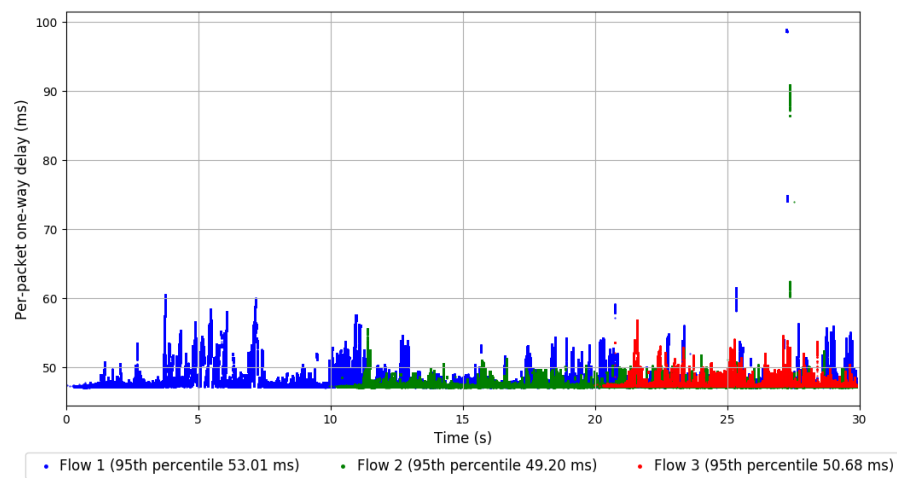
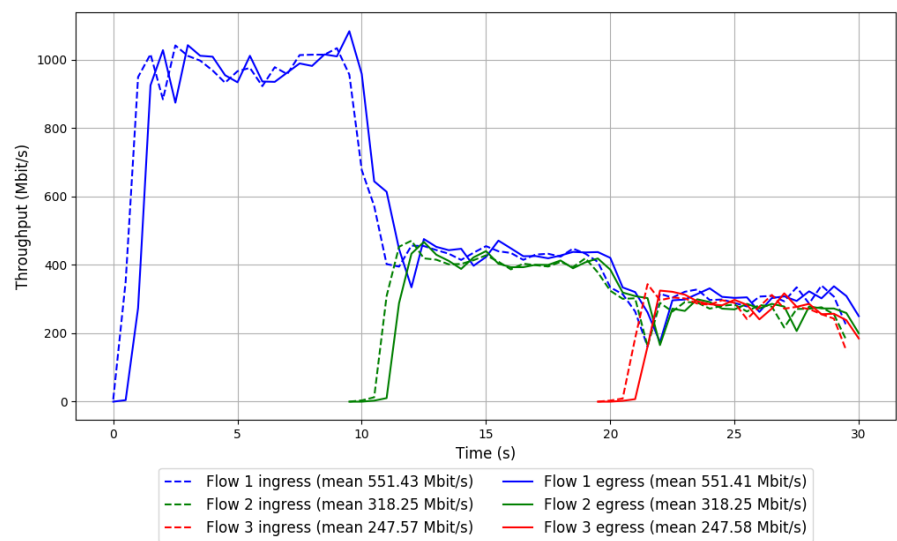


Run 1: Statistics of FillP-Sheep

Start at: 2019-02-12 17:21:02  
End at: 2019-02-12 17:21:32  
Local clock offset: -0.187 ms  
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-02-12 21:19:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 845.96 Mbit/s  
95th percentile per-packet one-way delay: 52.169 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 551.41 Mbit/s  
95th percentile per-packet one-way delay: 53.009 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 318.25 Mbit/s  
95th percentile per-packet one-way delay: 49.200 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 247.58 Mbit/s  
95th percentile per-packet one-way delay: 50.682 ms  
Loss rate: 0.00%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-02-12 17:57:02

End at: 2019-02-12 17:57:32

Local clock offset: -0.02 ms

Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-02-12 21:19:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 868.10 Mbit/s

95th percentile per-packet one-way delay: 59.824 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 552.06 Mbit/s

95th percentile per-packet one-way delay: 69.509 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 334.59 Mbit/s

95th percentile per-packet one-way delay: 50.757 ms

Loss rate: 0.00%

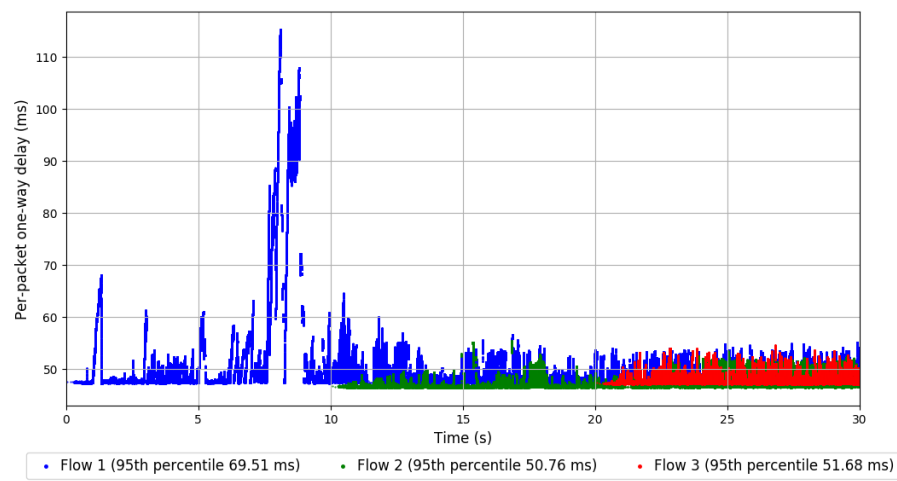
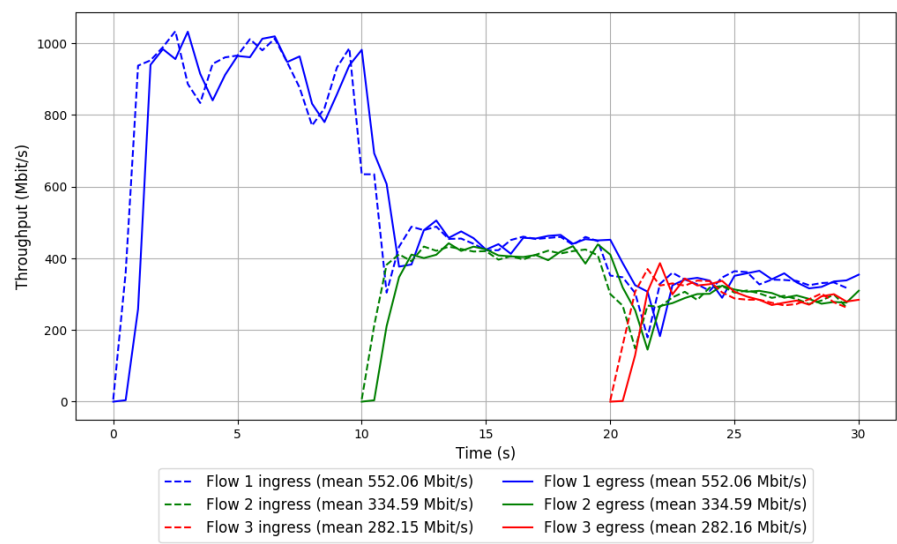
-- Flow 3:

Average throughput: 282.16 Mbit/s

95th percentile per-packet one-way delay: 51.684 ms

Loss rate: 0.00%

Run 2: Report of FillP-Sheep — Data Link

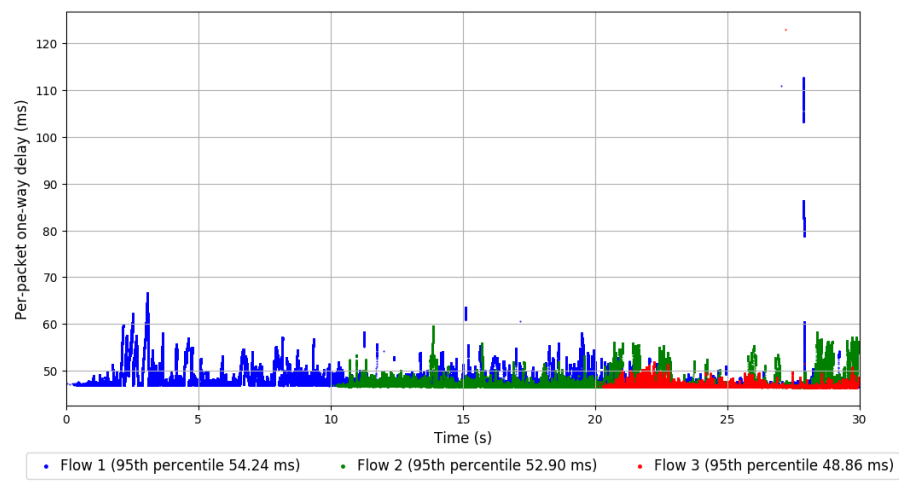
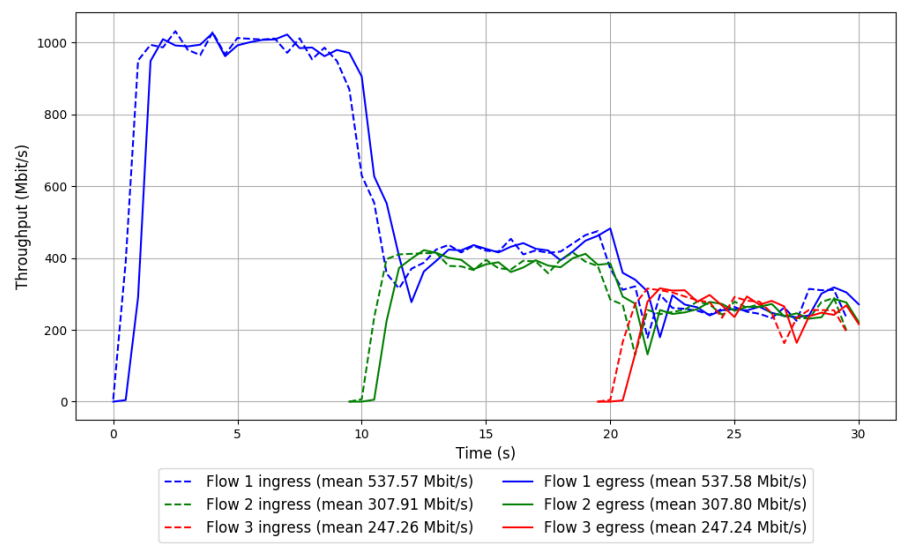


Run 3: Statistics of FillP-Sheep

Start at: 2019-02-12 18:35:48  
End at: 2019-02-12 18:36:18  
Local clock offset: 9.856 ms  
Remote clock offset: -0.034 ms

# Below is generated by plot.py at 2019-02-12 21:19:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 824.99 Mbit/s  
95th percentile per-packet one-way delay: 53.692 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 537.58 Mbit/s  
95th percentile per-packet one-way delay: 54.242 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 307.80 Mbit/s  
95th percentile per-packet one-way delay: 52.903 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 247.24 Mbit/s  
95th percentile per-packet one-way delay: 48.864 ms  
Loss rate: 0.01%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-02-12 19:14:17

End at: 2019-02-12 19:14:47

Local clock offset: 4.817 ms

Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2019-02-12 21:19:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 811.41 Mbit/s

95th percentile per-packet one-way delay: 55.870 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 520.90 Mbit/s

95th percentile per-packet one-way delay: 62.142 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 317.00 Mbit/s

95th percentile per-packet one-way delay: 50.561 ms

Loss rate: 0.00%

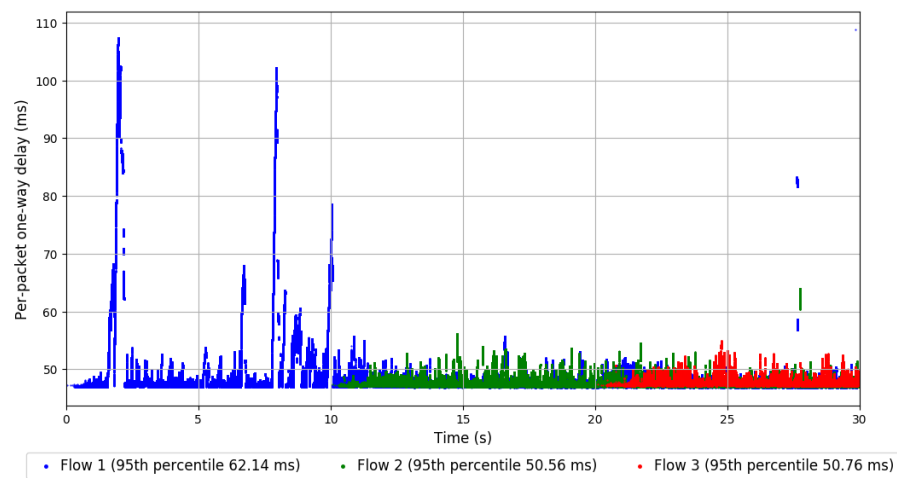
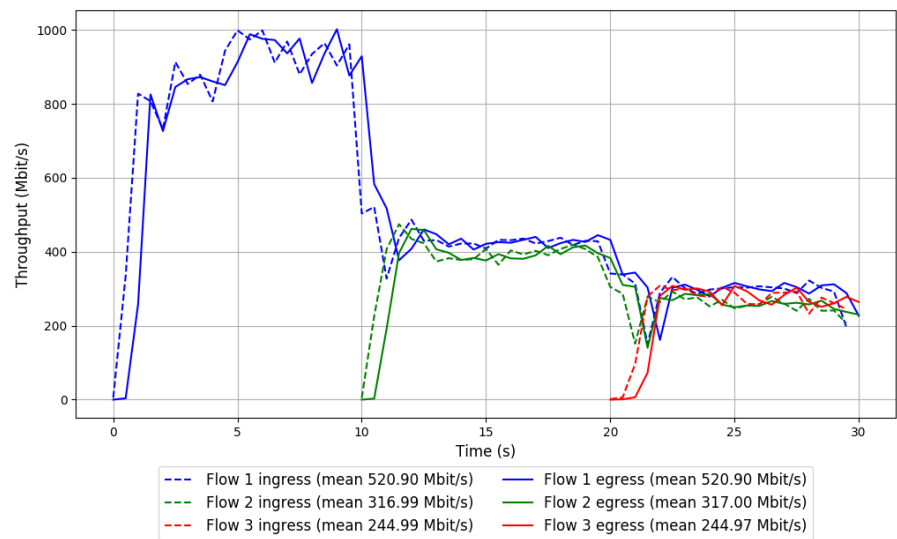
-- Flow 3:

Average throughput: 244.97 Mbit/s

95th percentile per-packet one-way delay: 50.762 ms

Loss rate: 0.01%

Run 4: Report of FillP-Sheep — Data Link



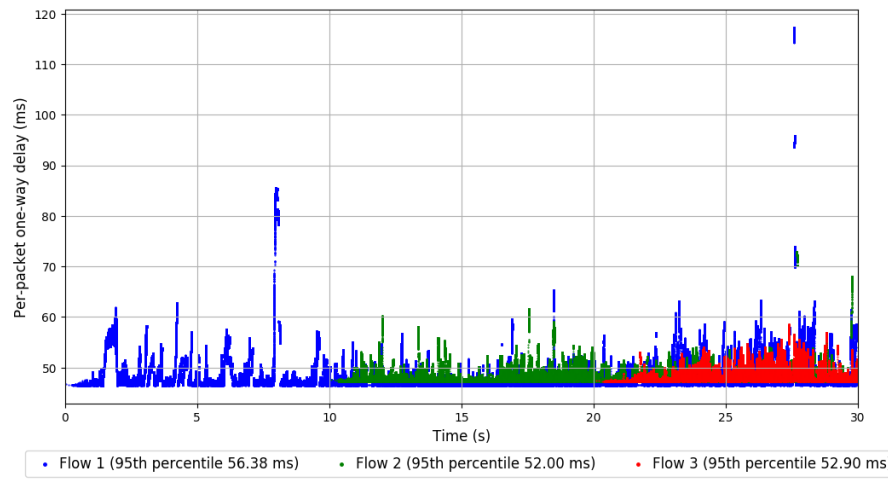
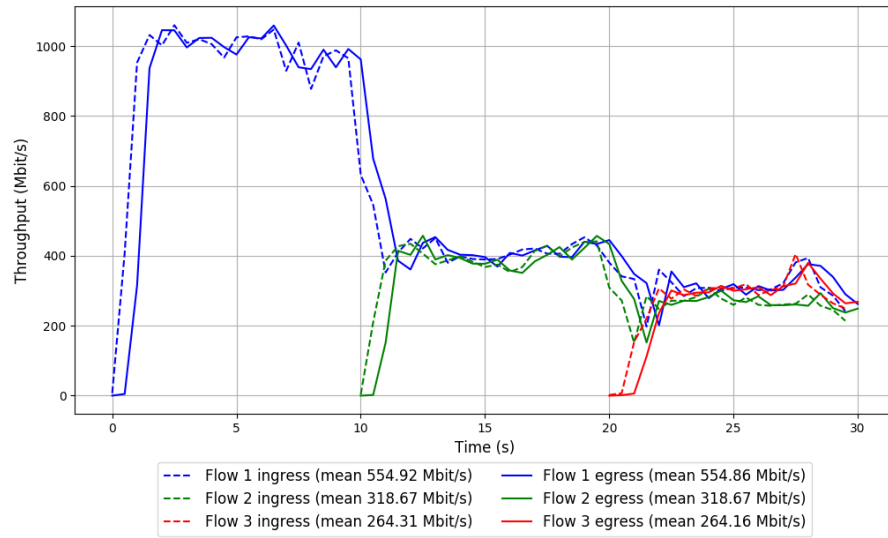


Run 5: Statistics of FillP-Sheep

Start at: 2019-02-12 19:53:33  
End at: 2019-02-12 19:54:03  
Local clock offset: 1.286 ms  
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2019-02-12 21:36:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 853.49 Mbit/s  
95th percentile per-packet one-way delay: 55.514 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 554.86 Mbit/s  
95th percentile per-packet one-way delay: 56.385 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 318.67 Mbit/s  
95th percentile per-packet one-way delay: 51.997 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 264.16 Mbit/s  
95th percentile per-packet one-way delay: 52.901 ms  
Loss rate: 0.04%

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

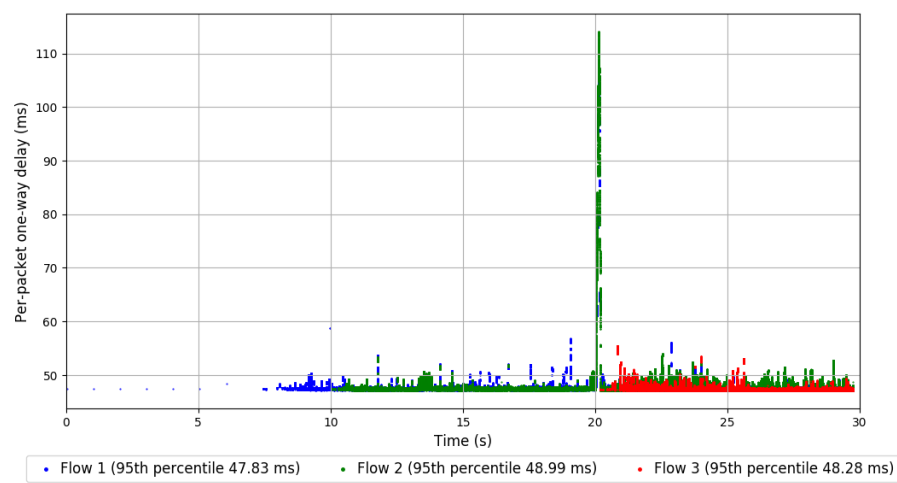
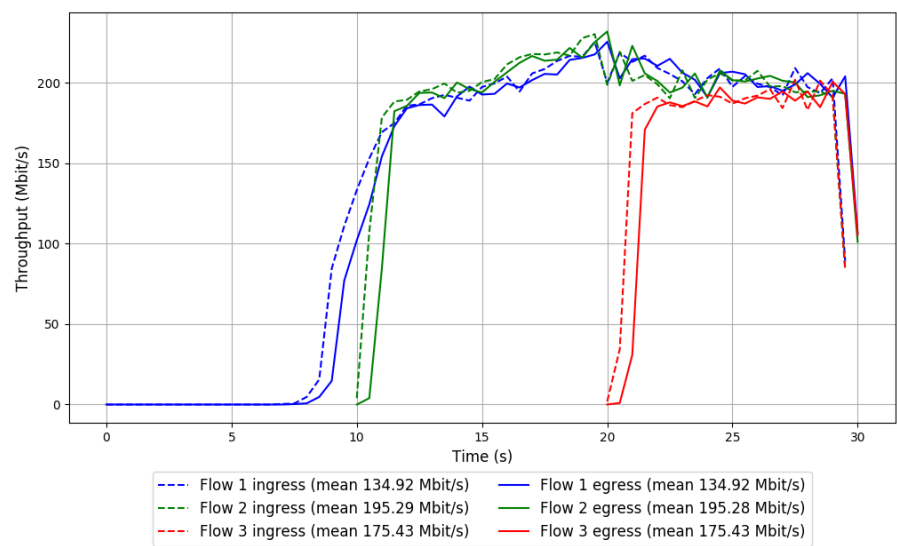


```
Run 1: Statistics of Indigo

Start at: 2019-02-12 16:50:32
End at: 2019-02-12 16:51:02
Local clock offset: -0.159 ms
Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2019-02-12 21:36:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 320.74 Mbit/s
95th percentile per-packet one-way delay: 48.526 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 134.92 Mbit/s
95th percentile per-packet one-way delay: 47.827 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.28 Mbit/s
95th percentile per-packet one-way delay: 48.990 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 175.43 Mbit/s
95th percentile per-packet one-way delay: 48.282 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

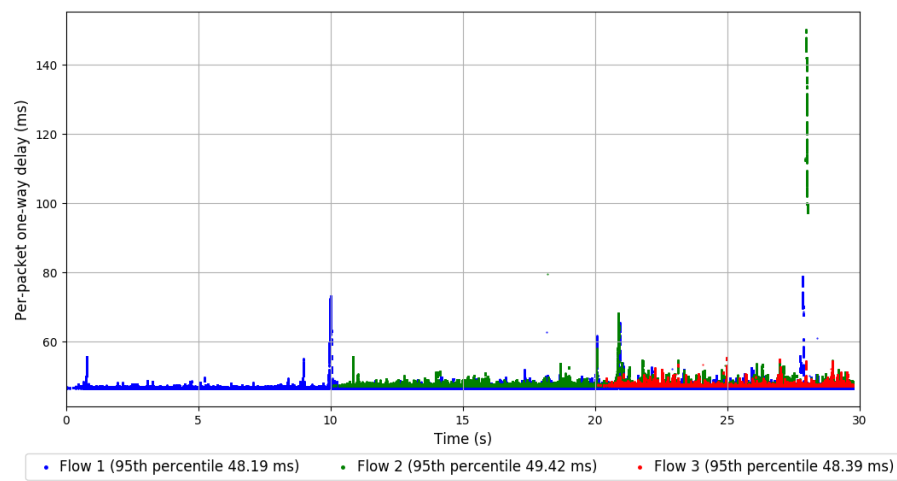
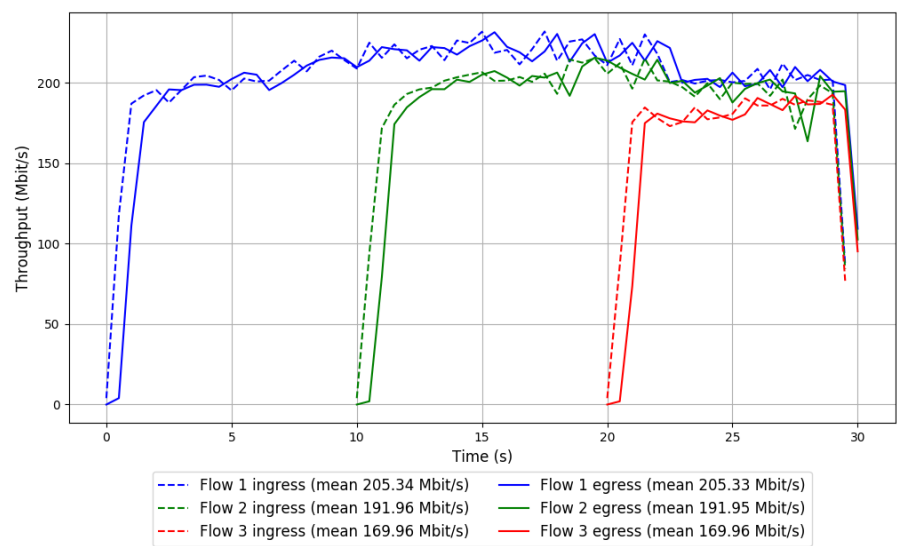


Run 2: Statistics of Indigo

Start at: 2019-02-12 17:26:34  
End at: 2019-02-12 17:27:04  
Local clock offset: 0.01 ms  
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-02-12 21:36:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 387.46 Mbit/s  
95th percentile per-packet one-way delay: 48.677 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 205.33 Mbit/s  
95th percentile per-packet one-way delay: 48.186 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 191.95 Mbit/s  
95th percentile per-packet one-way delay: 49.423 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 169.96 Mbit/s  
95th percentile per-packet one-way delay: 48.394 ms  
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

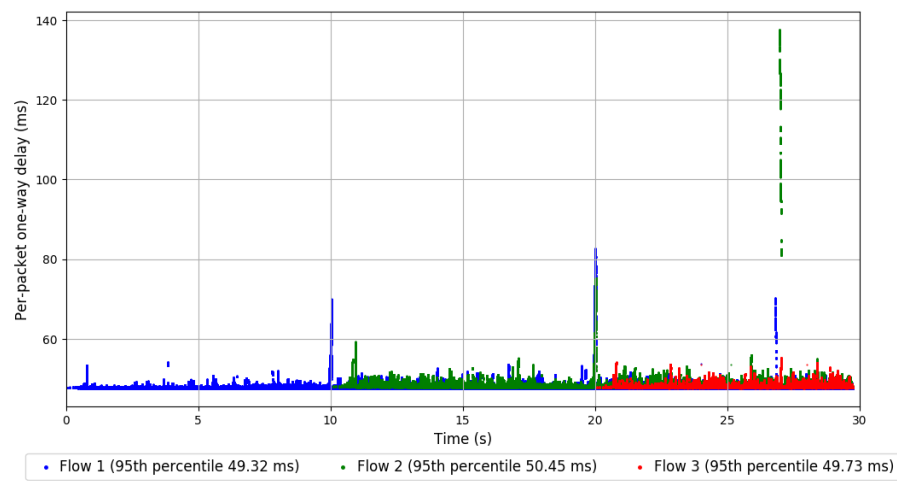
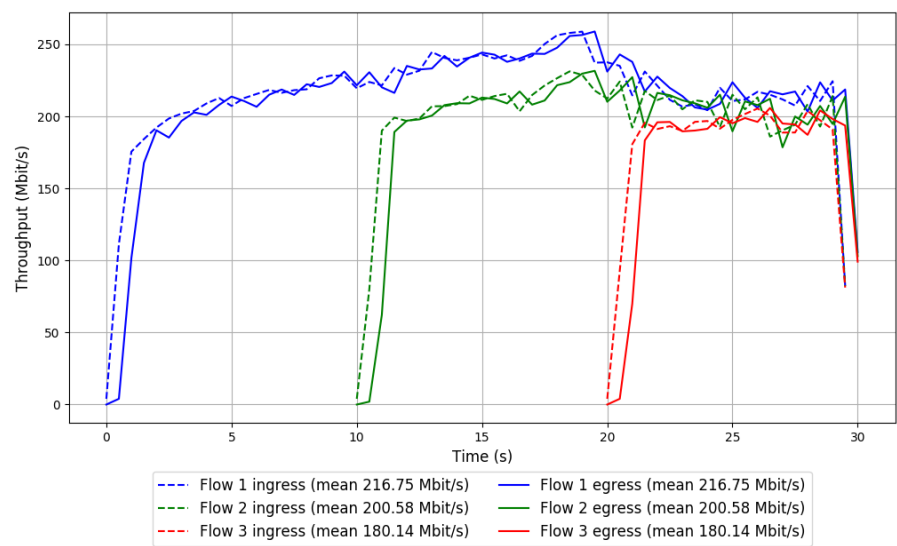


Run 3: Statistics of Indigo

Start at: 2019-02-12 18:02:36  
End at: 2019-02-12 18:03:06  
Local clock offset: -0.434 ms  
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-02-12 21:36:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 408.14 Mbit/s  
95th percentile per-packet one-way delay: 49.820 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 216.75 Mbit/s  
95th percentile per-packet one-way delay: 49.321 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 200.58 Mbit/s  
95th percentile per-packet one-way delay: 50.446 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 180.14 Mbit/s  
95th percentile per-packet one-way delay: 49.728 ms  
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



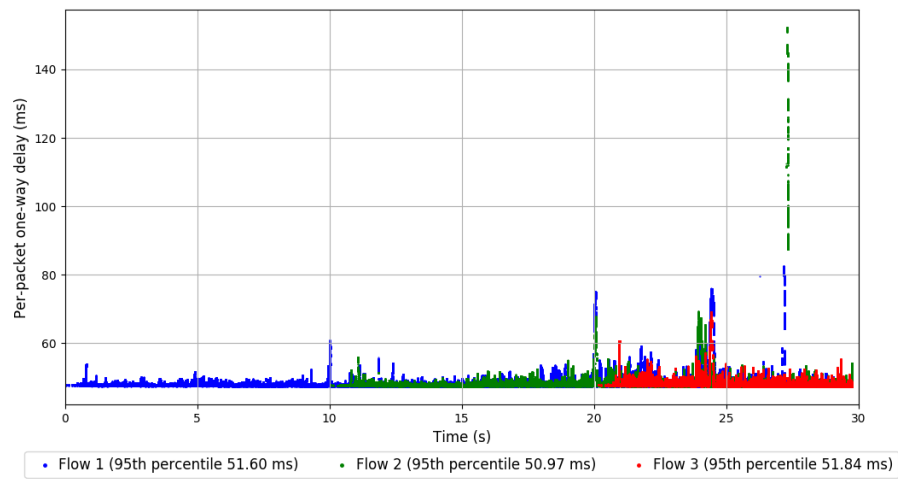
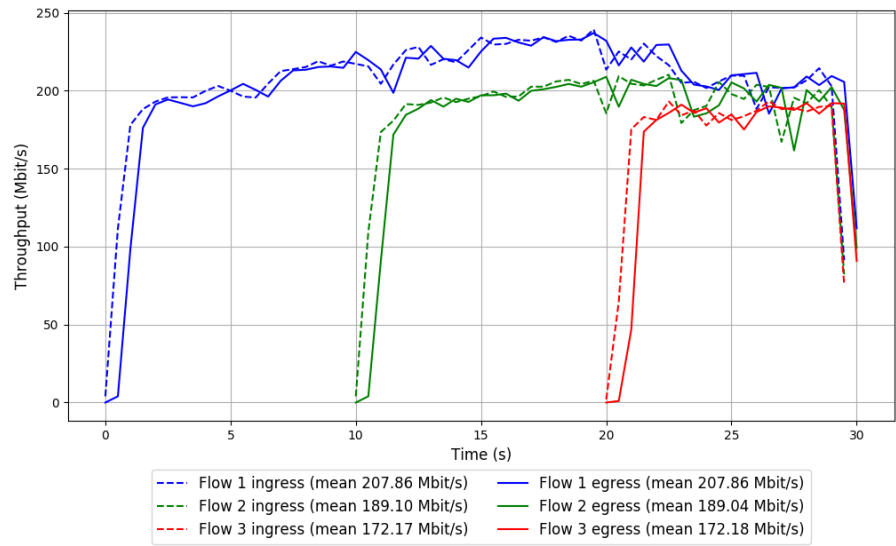


Run 4: Statistics of Indigo

Start at: 2019-02-12 18:41:28  
End at: 2019-02-12 18:41:58  
Local clock offset: 6.616 ms  
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2019-02-12 21:36:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 388.74 Mbit/s  
95th percentile per-packet one-way delay: 51.461 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 207.86 Mbit/s  
95th percentile per-packet one-way delay: 51.601 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 189.04 Mbit/s  
95th percentile per-packet one-way delay: 50.971 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 172.18 Mbit/s  
95th percentile per-packet one-way delay: 51.840 ms  
Loss rate: 0.00%

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

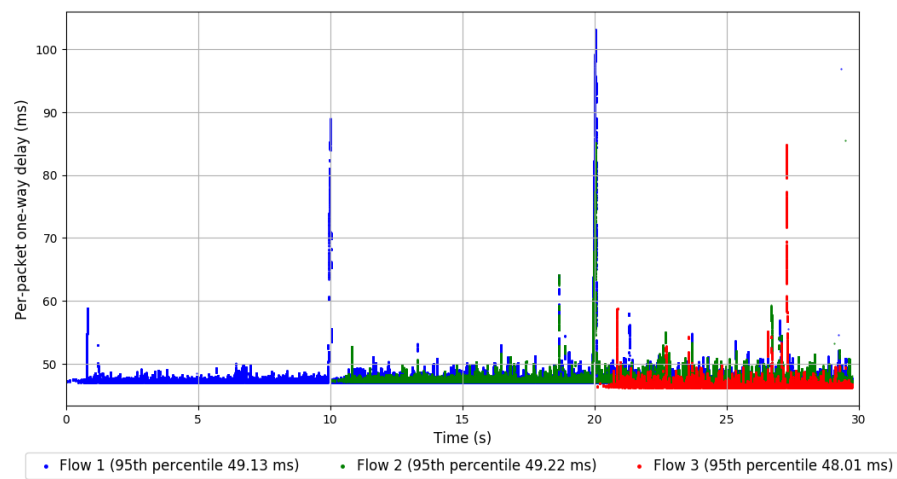
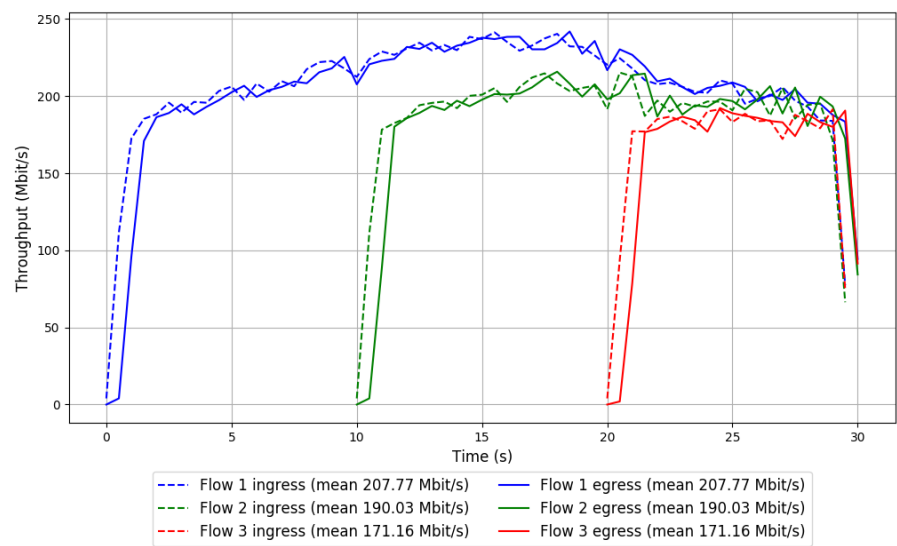


Run 5: Statistics of Indigo

Start at: 2019-02-12 19:20:31  
End at: 2019-02-12 19:21:01  
Local clock offset: 3.688 ms  
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2019-02-12 21:36:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 389.18 Mbit/s  
95th percentile per-packet one-way delay: 49.064 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 207.77 Mbit/s  
95th percentile per-packet one-way delay: 49.135 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 190.03 Mbit/s  
95th percentile per-packet one-way delay: 49.221 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 171.16 Mbit/s  
95th percentile per-packet one-way delay: 48.007 ms  
Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

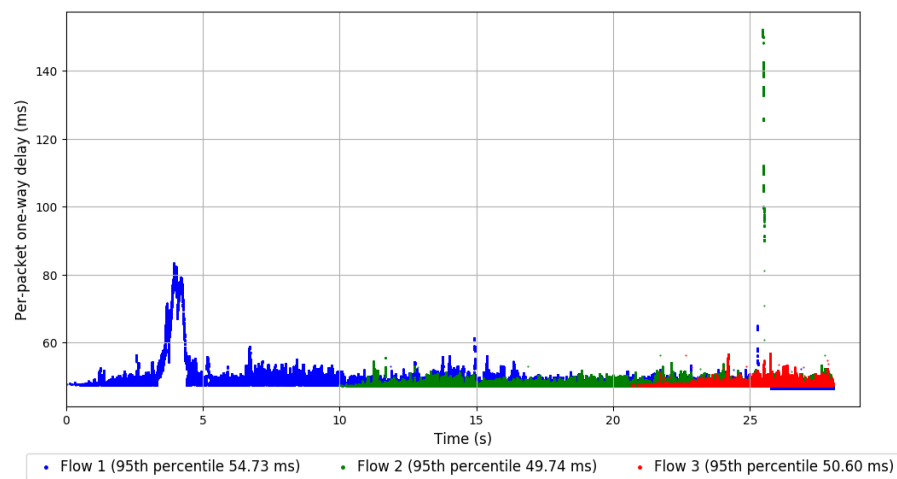
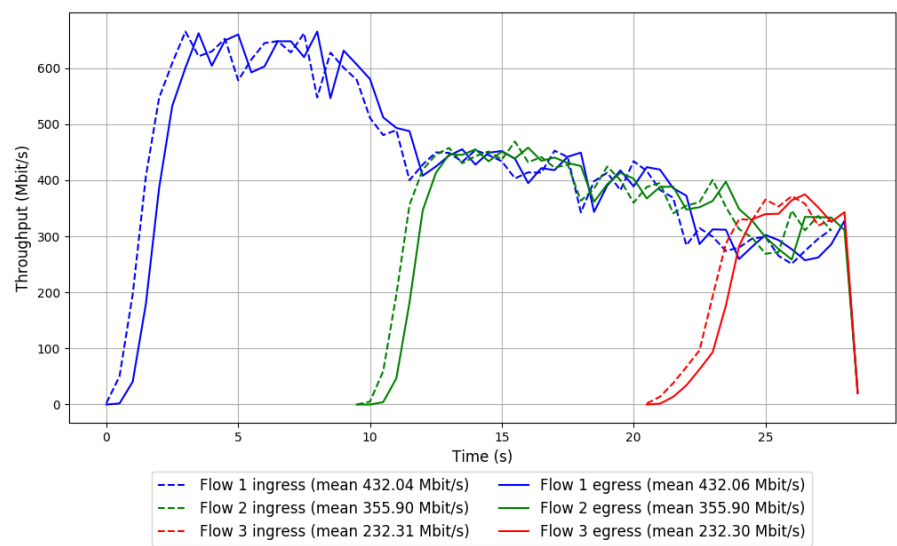


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-12 17:15:04  
End at: 2019-02-12 17:15:34  
Local clock offset: -0.202 ms  
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2019-02-12 21:36:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 723.63 Mbit/s  
95th percentile per-packet one-way delay: 52.629 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 432.06 Mbit/s  
95th percentile per-packet one-way delay: 54.725 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 355.90 Mbit/s  
95th percentile per-packet one-way delay: 49.745 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 232.30 Mbit/s  
95th percentile per-packet one-way delay: 50.601 ms  
Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link

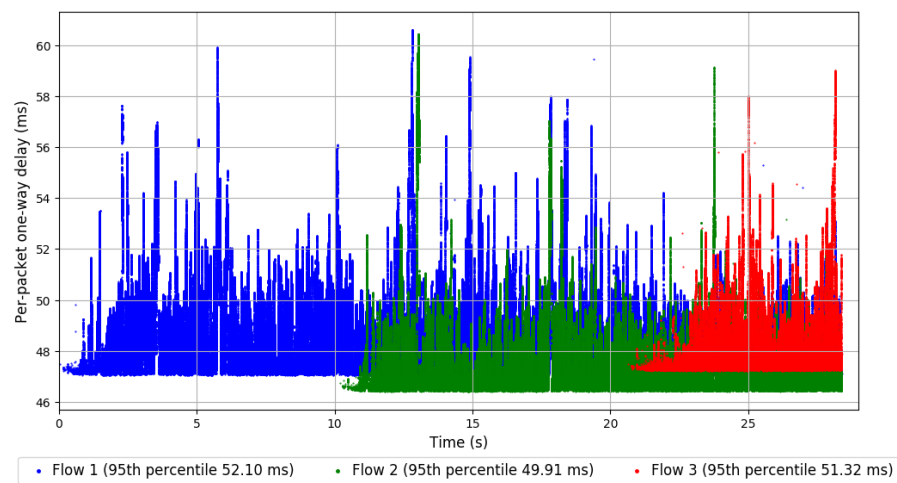
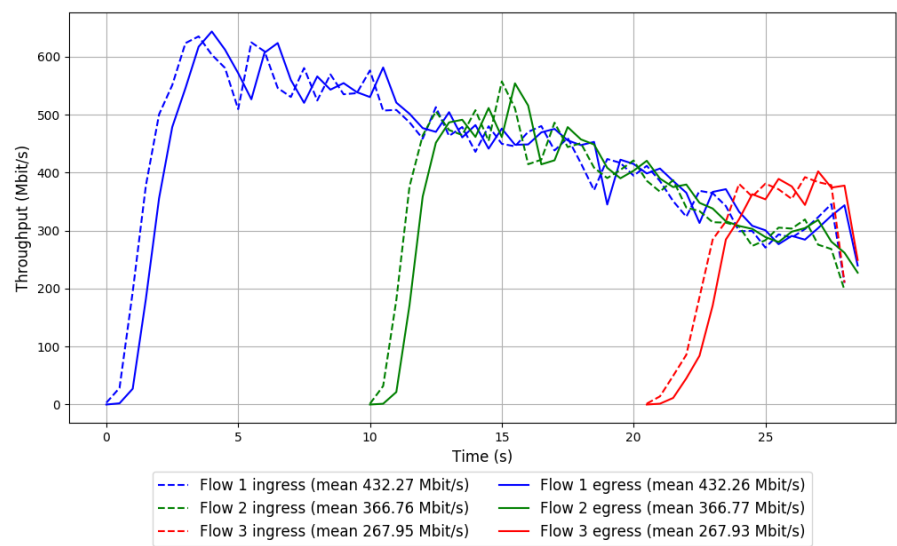


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-12 17:50:59  
End at: 2019-02-12 17:51:30  
Local clock offset: -0.033 ms  
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-02-12 21:36:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 740.70 Mbit/s  
95th percentile per-packet one-way delay: 51.589 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 432.26 Mbit/s  
95th percentile per-packet one-way delay: 52.098 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 366.77 Mbit/s  
95th percentile per-packet one-way delay: 49.911 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 267.93 Mbit/s  
95th percentile per-packet one-way delay: 51.320 ms  
Loss rate: 0.00%

Run 2: Report of Indigo-MusesC3 — Data Link



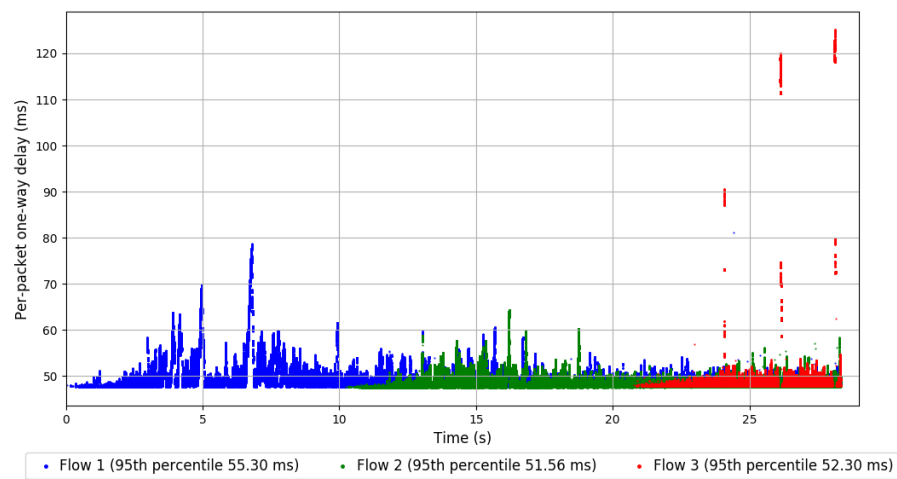
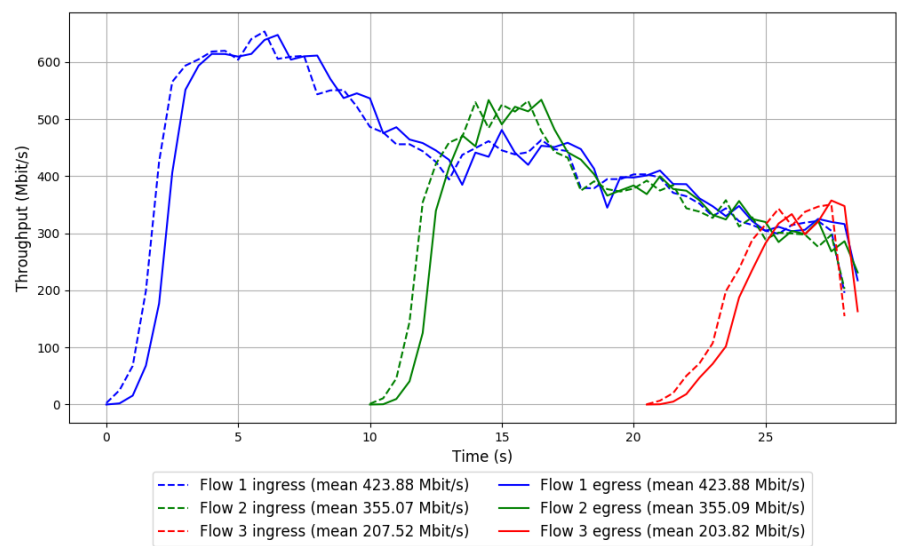


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-12 18:29:17  
End at: 2019-02-12 18:29:47  
Local clock offset: 11.984 ms  
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2019-02-12 21:42:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 705.63 Mbit/s  
95th percentile per-packet one-way delay: 53.904 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 423.88 Mbit/s  
95th percentile per-packet one-way delay: 55.295 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 355.09 Mbit/s  
95th percentile per-packet one-way delay: 51.559 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 203.82 Mbit/s  
95th percentile per-packet one-way delay: 52.302 ms  
Loss rate: 1.79%

Run 3: Report of Indigo-MusesC3 — Data Link

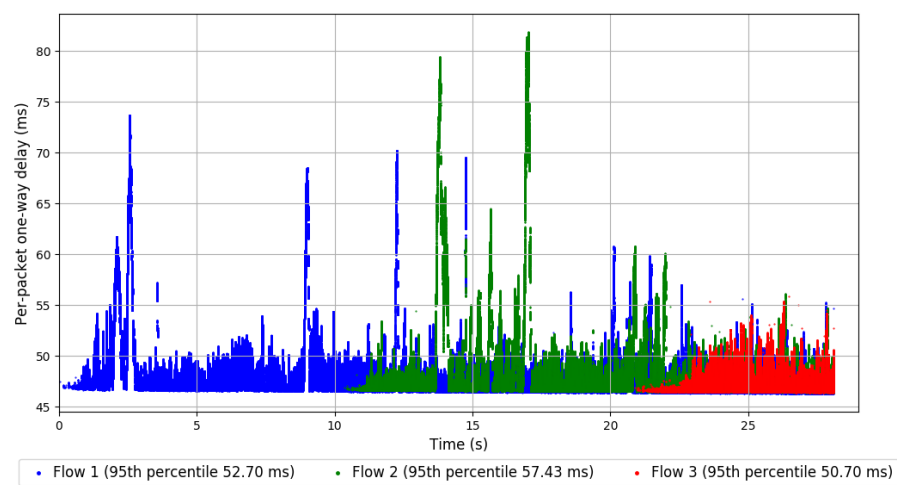
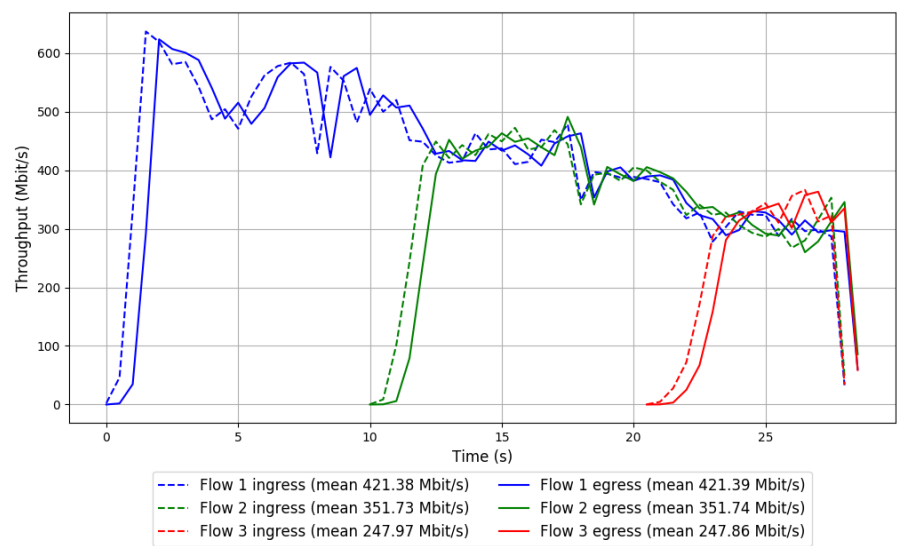


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-12 19:07:43  
End at: 2019-02-12 19:08:13  
Local clock offset: 8.387 ms  
Remote clock offset: -0.137 ms

# Below is generated by plot.py at 2019-02-12 21:46:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 707.83 Mbit/s  
95th percentile per-packet one-way delay: 53.621 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 421.39 Mbit/s  
95th percentile per-packet one-way delay: 52.701 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 351.74 Mbit/s  
95th percentile per-packet one-way delay: 57.427 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 247.86 Mbit/s  
95th percentile per-packet one-way delay: 50.702 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesC3 — Data Link

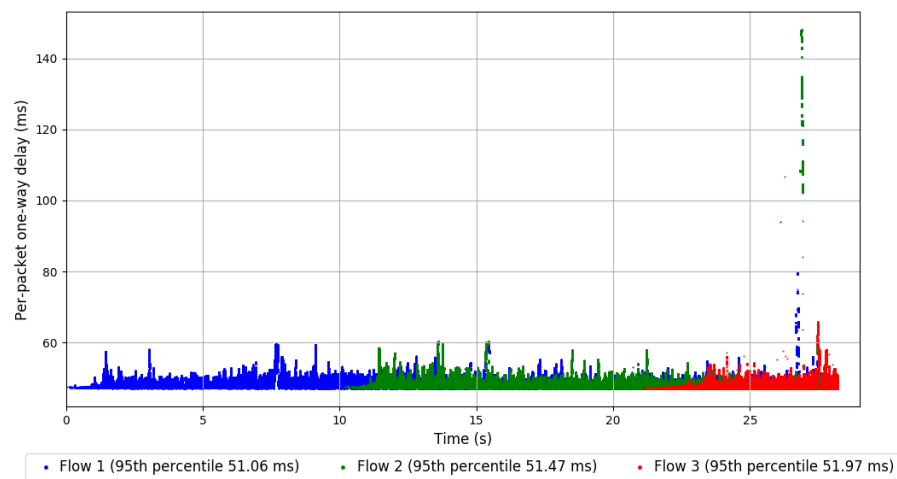
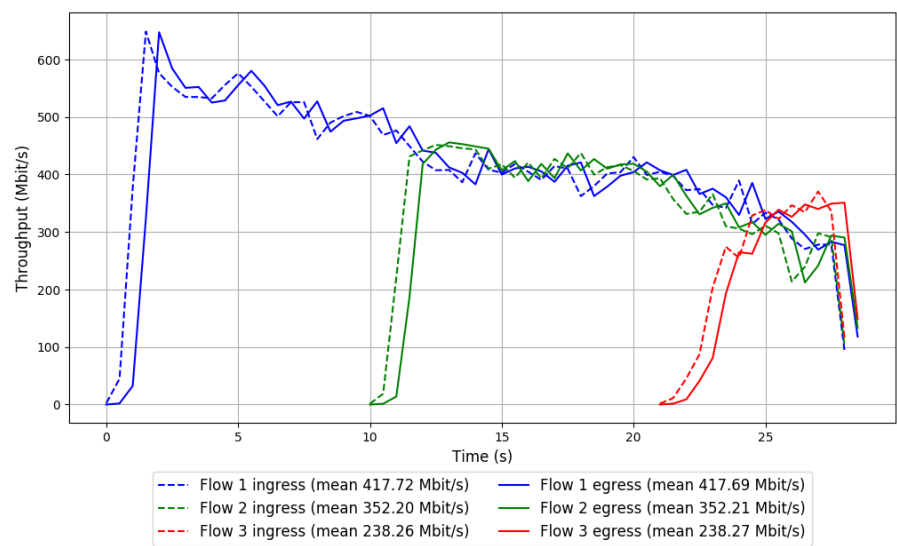


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-12 19:46:57  
End at: 2019-02-12 19:47:27  
Local clock offset: 2.354 ms  
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2019-02-12 21:47:54  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 702.95 Mbit/s  
95th percentile per-packet one-way delay: 51.242 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 417.69 Mbit/s  
95th percentile per-packet one-way delay: 51.058 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 352.21 Mbit/s  
95th percentile per-packet one-way delay: 51.466 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 238.27 Mbit/s  
95th percentile per-packet one-way delay: 51.973 ms  
Loss rate: 0.00%

Run 5: Report of Indigo-MusesC3 — Data Link

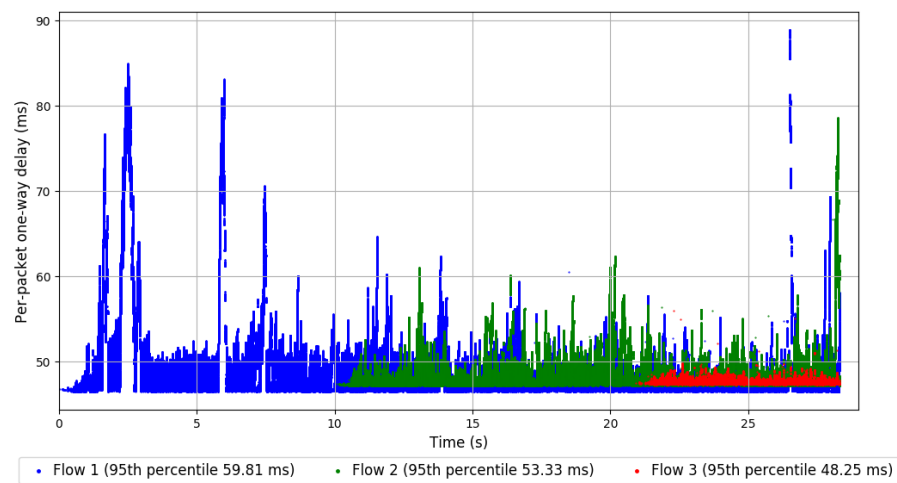
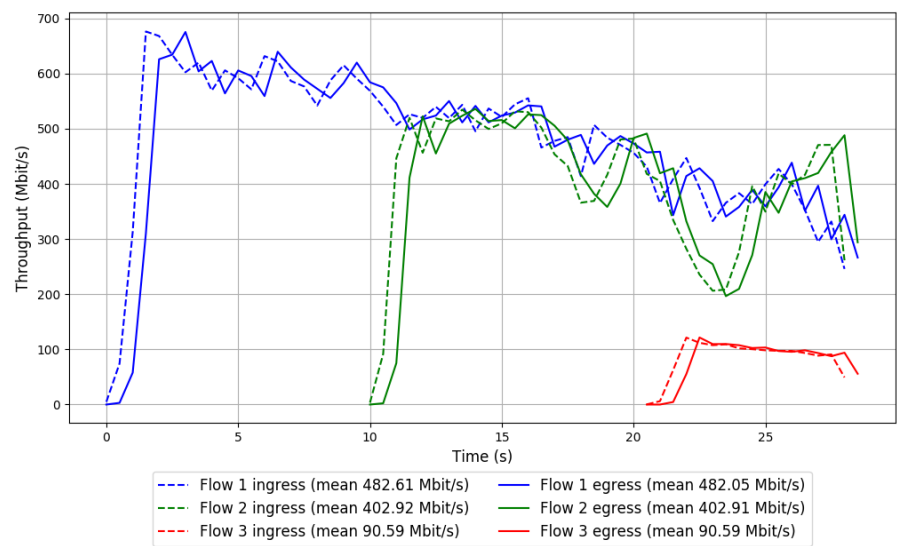


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-12 17:18:03  
End at: 2019-02-12 17:18:33  
Local clock offset: -0.178 ms  
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2019-02-12 21:49:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 765.93 Mbit/s  
95th percentile per-packet one-way delay: 56.200 ms  
Loss rate: 0.07%  
-- Flow 1:  
Average throughput: 482.05 Mbit/s  
95th percentile per-packet one-way delay: 59.809 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 402.91 Mbit/s  
95th percentile per-packet one-way delay: 53.330 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 90.59 Mbit/s  
95th percentile per-packet one-way delay: 48.246 ms  
Loss rate: 0.00%

Run 1: Report of Indigo-MusesC5 — Data Link





Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-12 17:54:04

End at: 2019-02-12 17:54:34

Local clock offset: -0.022 ms

Remote clock offset: -0.04 ms

# Below is generated by plot.py at 2019-02-12 21:50:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 791.44 Mbit/s

95th percentile per-packet one-way delay: 64.441 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 475.95 Mbit/s

95th percentile per-packet one-way delay: 58.282 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 434.97 Mbit/s

95th percentile per-packet one-way delay: 76.722 ms

Loss rate: 0.00%

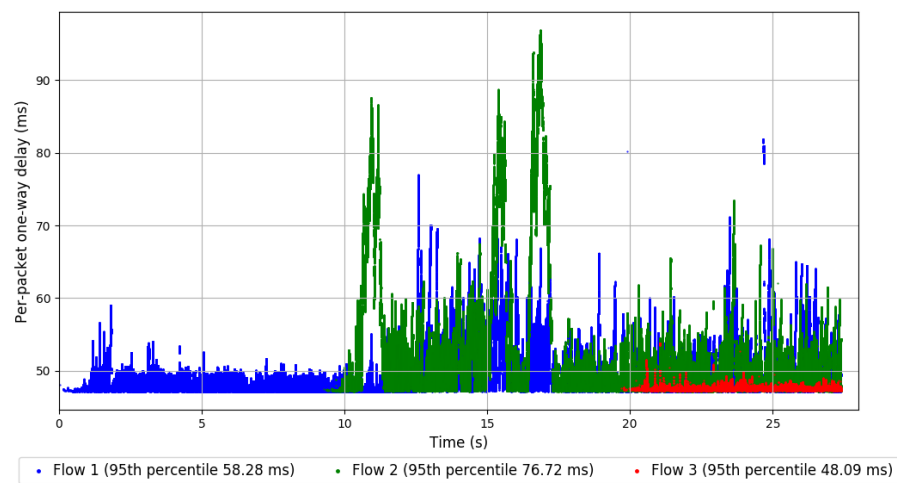
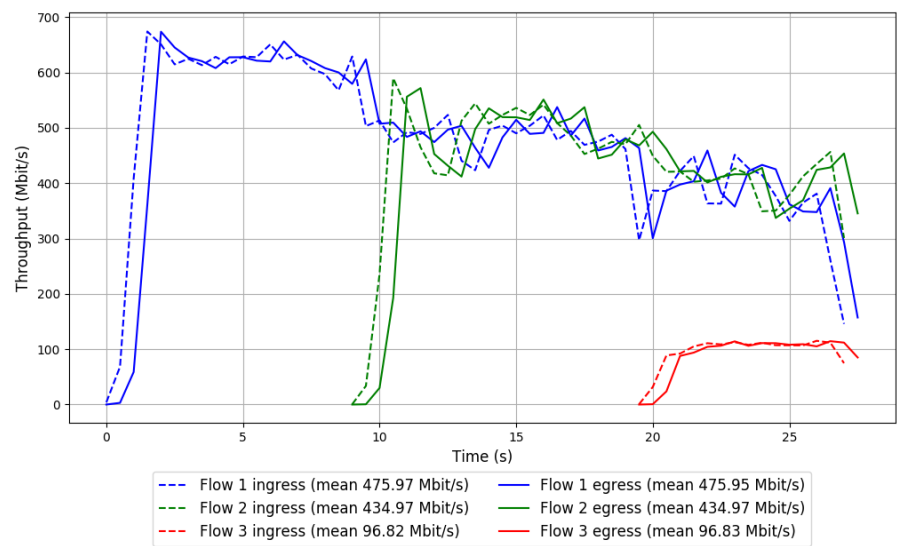
-- Flow 3:

Average throughput: 96.83 Mbit/s

95th percentile per-packet one-way delay: 48.090 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesC5 — Data Link

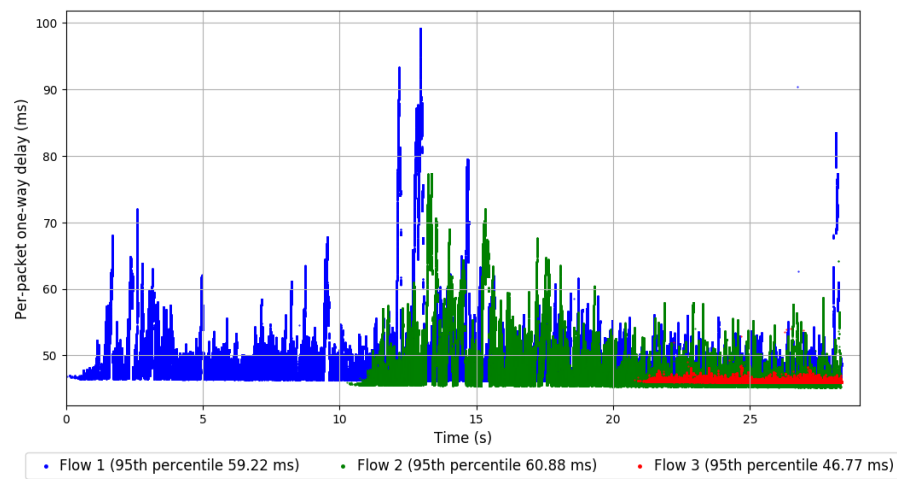
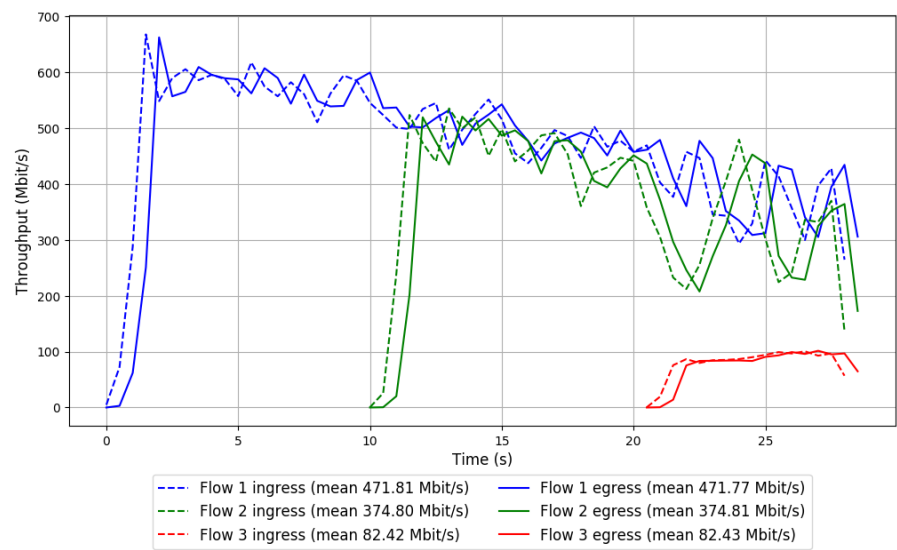


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-12 18:32:36  
End at: 2019-02-12 18:33:06  
Local clock offset: 13.231 ms  
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-02-12 21:50:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 733.13 Mbit/s  
95th percentile per-packet one-way delay: 59.500 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 471.77 Mbit/s  
95th percentile per-packet one-way delay: 59.215 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 374.81 Mbit/s  
95th percentile per-packet one-way delay: 60.883 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 82.43 Mbit/s  
95th percentile per-packet one-way delay: 46.770 ms  
Loss rate: 0.00%

Run 3: Report of Indigo-MusesC5 — Data Link

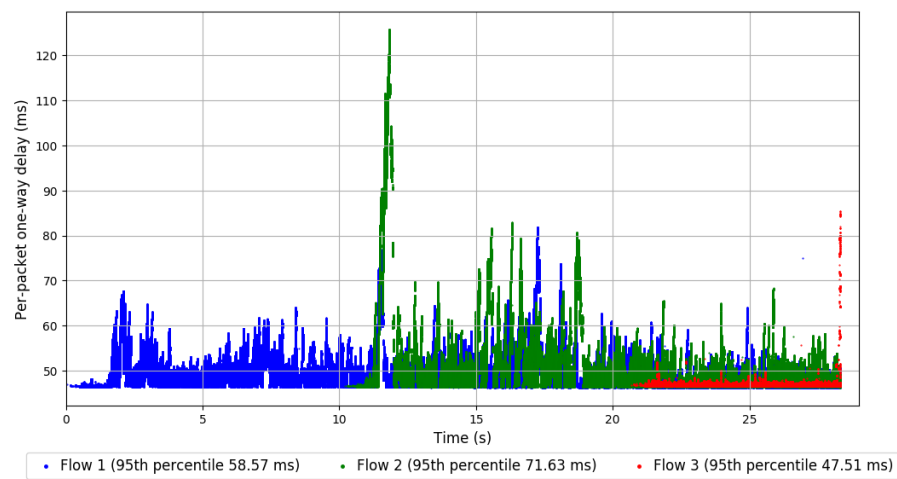
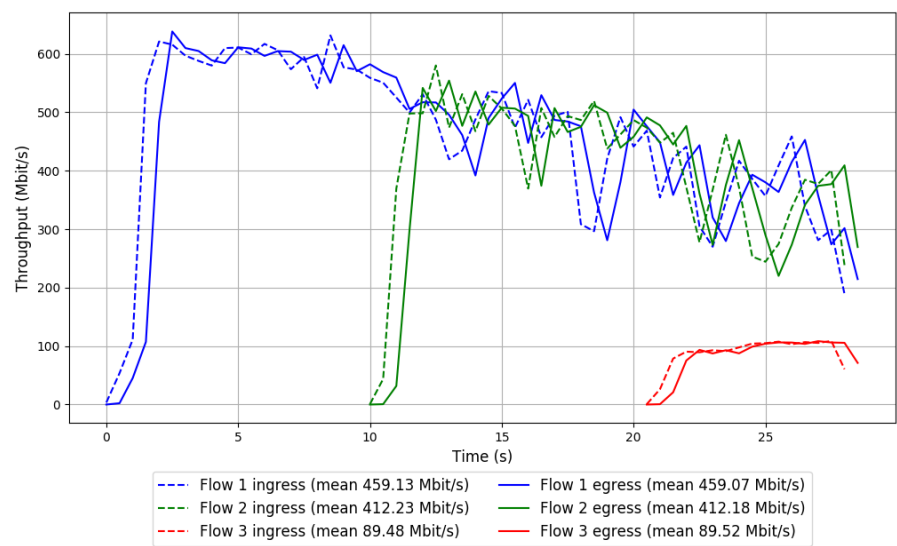


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-12 19:11:02  
End at: 2019-02-12 19:11:32  
Local clock offset: 6.578 ms  
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2019-02-12 21:50:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 747.31 Mbit/s  
95th percentile per-packet one-way delay: 61.709 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 459.07 Mbit/s  
95th percentile per-packet one-way delay: 58.569 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 412.18 Mbit/s  
95th percentile per-packet one-way delay: 71.631 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 89.52 Mbit/s  
95th percentile per-packet one-way delay: 47.510 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesC5 — Data Link

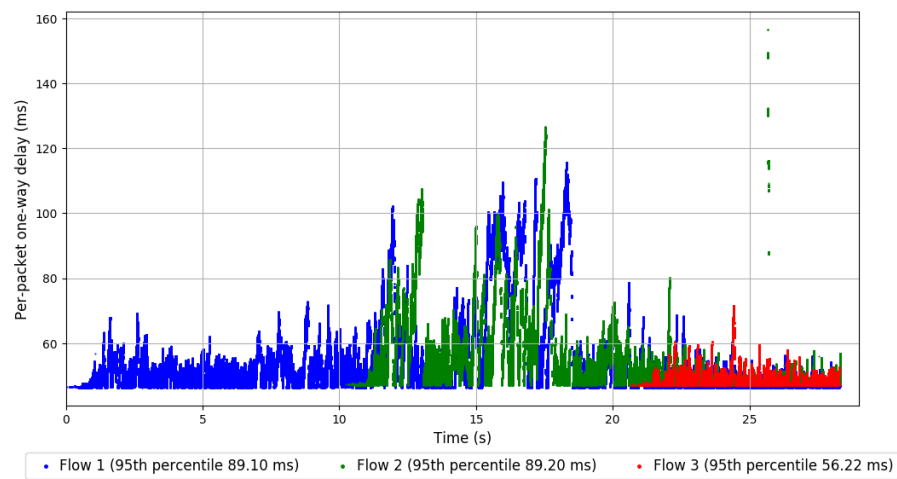
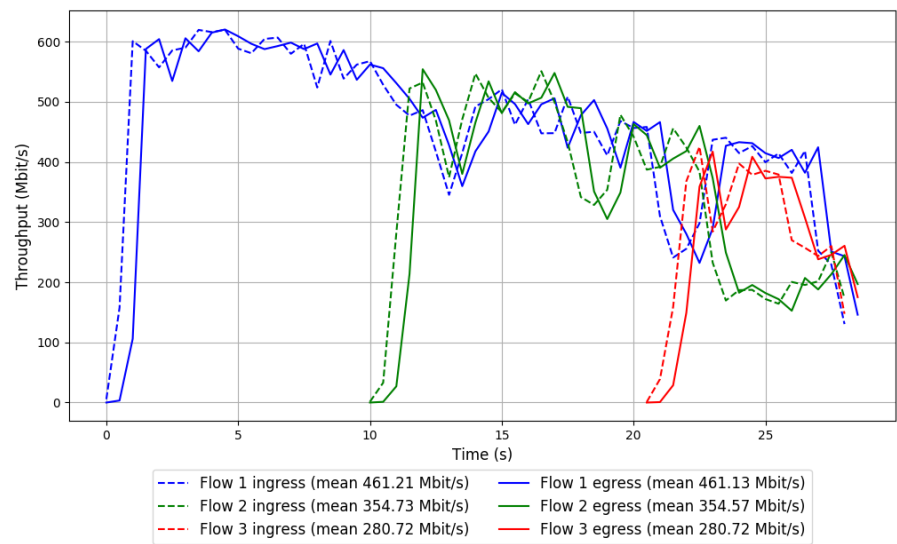


Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-12 19:50:16  
End at: 2019-02-12 19:50:46  
Local clock offset: 1.736 ms  
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-02-12 21:52:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 764.43 Mbit/s  
95th percentile per-packet one-way delay: 87.403 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 461.13 Mbit/s  
95th percentile per-packet one-way delay: 89.098 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 354.57 Mbit/s  
95th percentile per-packet one-way delay: 89.202 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 280.72 Mbit/s  
95th percentile per-packet one-way delay: 56.223 ms  
Loss rate: 0.00%

Run 5: Report of Indigo-MusesC5 — Data Link



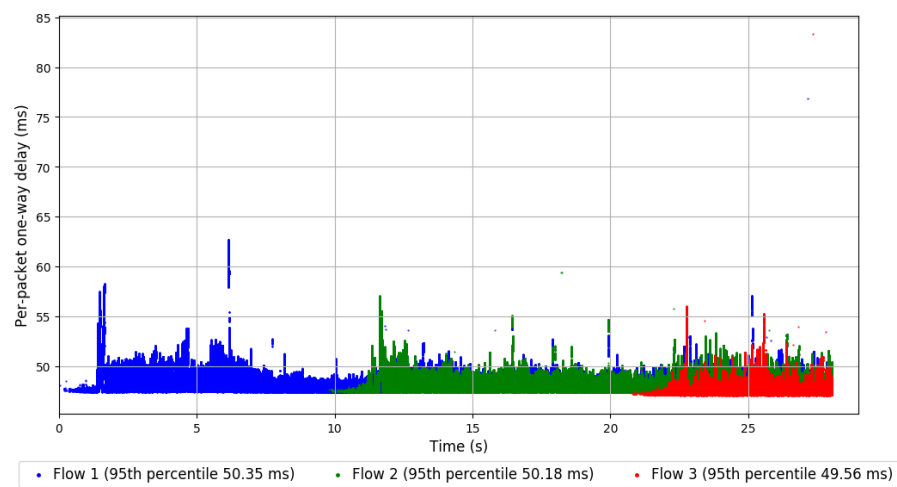
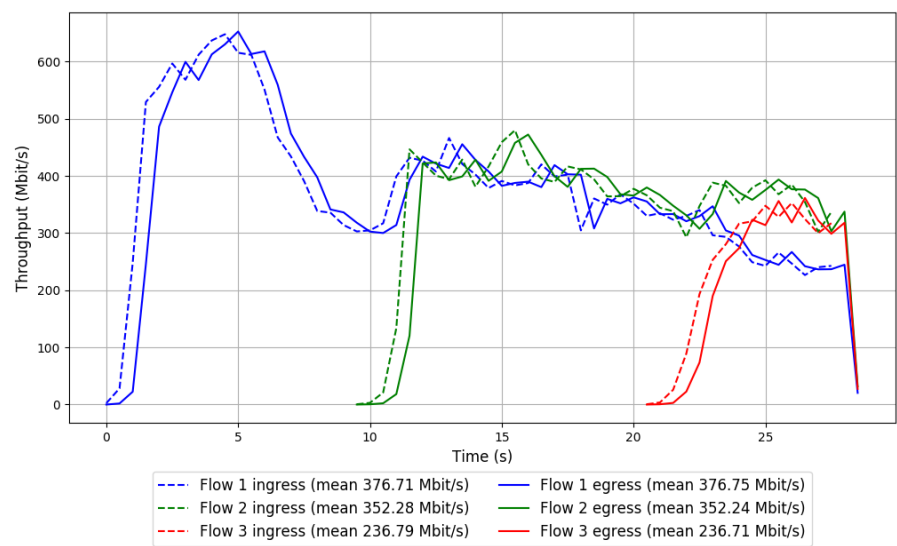


Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-12 16:52:13  
End at: 2019-02-12 16:52:43  
Local clock offset: -0.105 ms  
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-02-12 21:56:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 667.83 Mbit/s  
95th percentile per-packet one-way delay: 50.248 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 376.75 Mbit/s  
95th percentile per-packet one-way delay: 50.354 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 352.24 Mbit/s  
95th percentile per-packet one-way delay: 50.183 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 236.71 Mbit/s  
95th percentile per-packet one-way delay: 49.563 ms  
Loss rate: 0.01%

Run 1: Report of Indigo-MusesD — Data Link

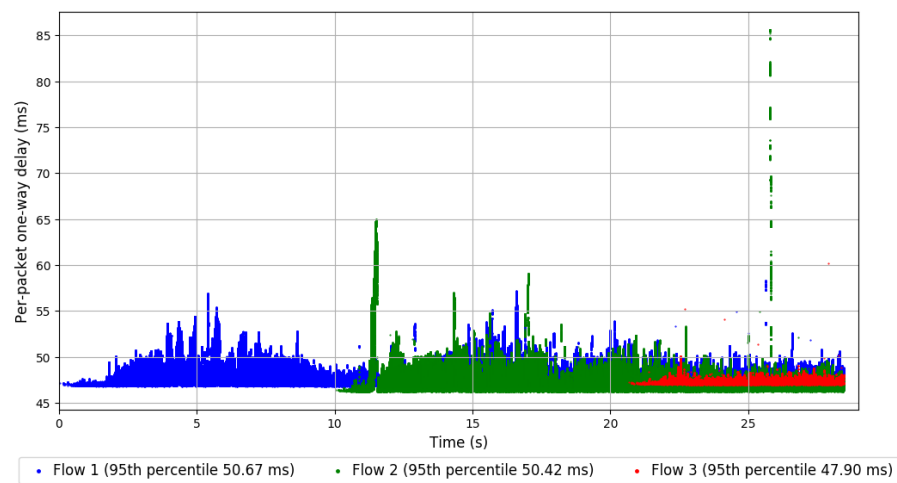
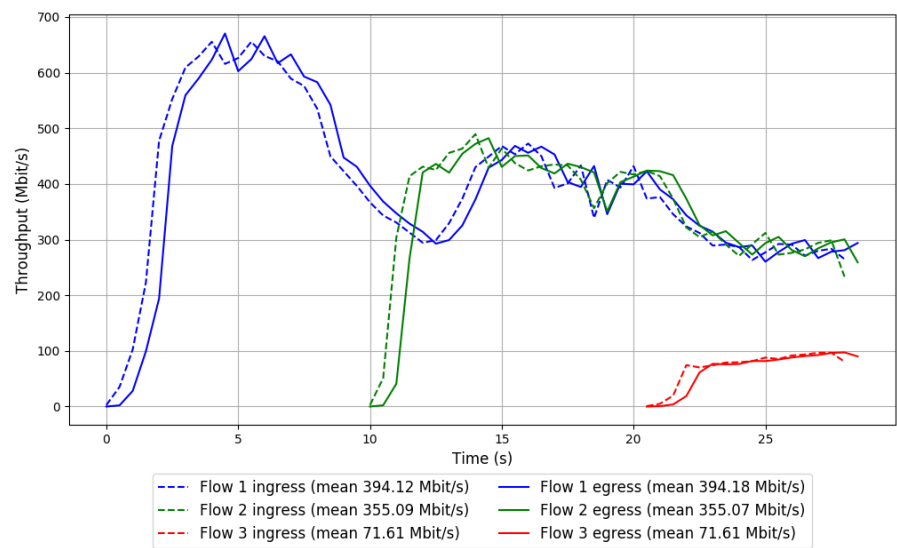


Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-12 17:28:21  
End at: 2019-02-12 17:28:51  
Local clock offset: 0.296 ms  
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2019-02-12 21:59:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 643.84 Mbit/s  
95th percentile per-packet one-way delay: 50.558 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 394.18 Mbit/s  
95th percentile per-packet one-way delay: 50.673 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 355.07 Mbit/s  
95th percentile per-packet one-way delay: 50.418 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 71.61 Mbit/s  
95th percentile per-packet one-way delay: 47.898 ms  
Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link

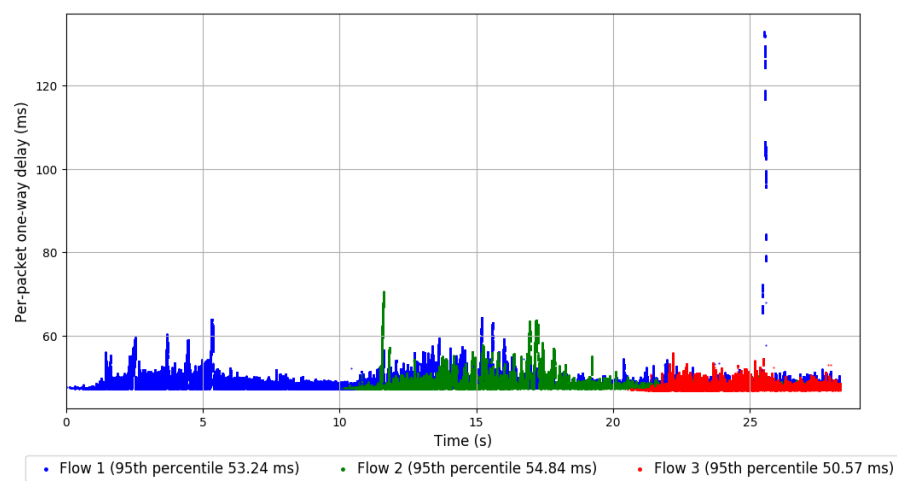
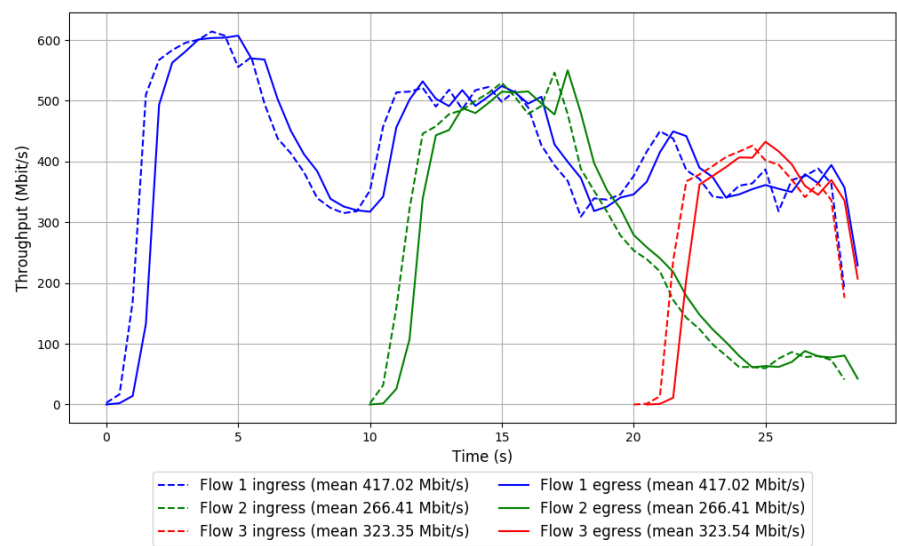


Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-12 18:04:36  
End at: 2019-02-12 18:05:06  
Local clock offset: 0.274 ms  
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2019-02-12 22:01:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 677.62 Mbit/s  
95th percentile per-packet one-way delay: 53.241 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 417.02 Mbit/s  
95th percentile per-packet one-way delay: 53.243 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 266.41 Mbit/s  
95th percentile per-packet one-way delay: 54.842 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 323.54 Mbit/s  
95th percentile per-packet one-way delay: 50.572 ms  
Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link

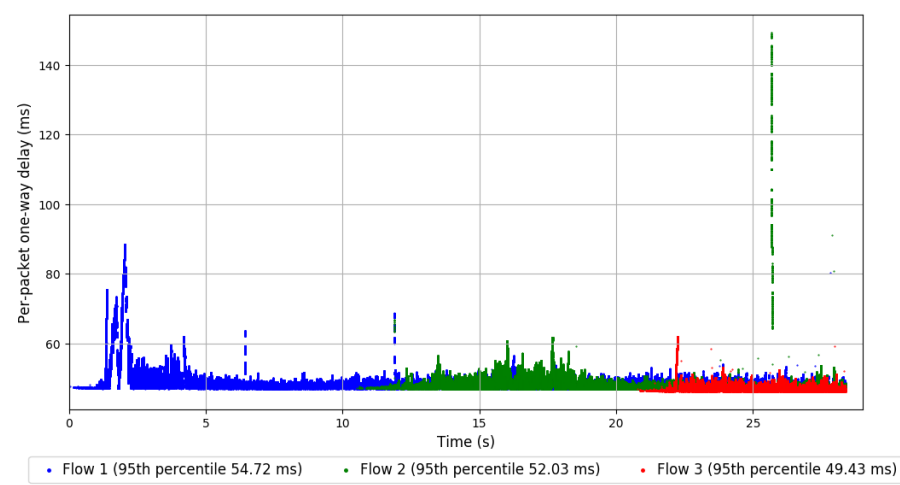
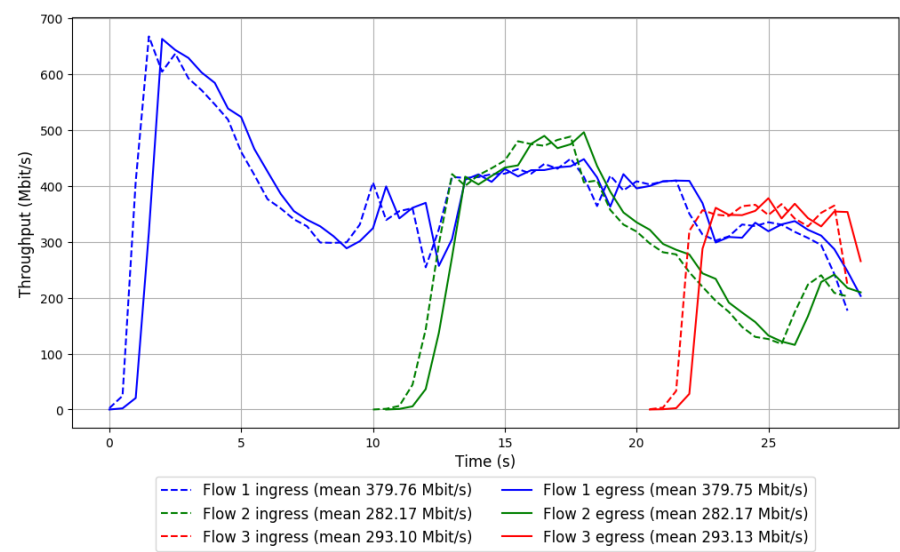


Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-12 18:43:20  
End at: 2019-02-12 18:43:50  
Local clock offset: 6.644 ms  
Remote clock offset: -0.072 ms

# Below is generated by plot.py at 2019-02-12 22:02:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 636.31 Mbit/s  
95th percentile per-packet one-way delay: 52.842 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 379.75 Mbit/s  
95th percentile per-packet one-way delay: 54.721 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 282.17 Mbit/s  
95th percentile per-packet one-way delay: 52.027 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 293.13 Mbit/s  
95th percentile per-packet one-way delay: 49.431 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesD — Data Link



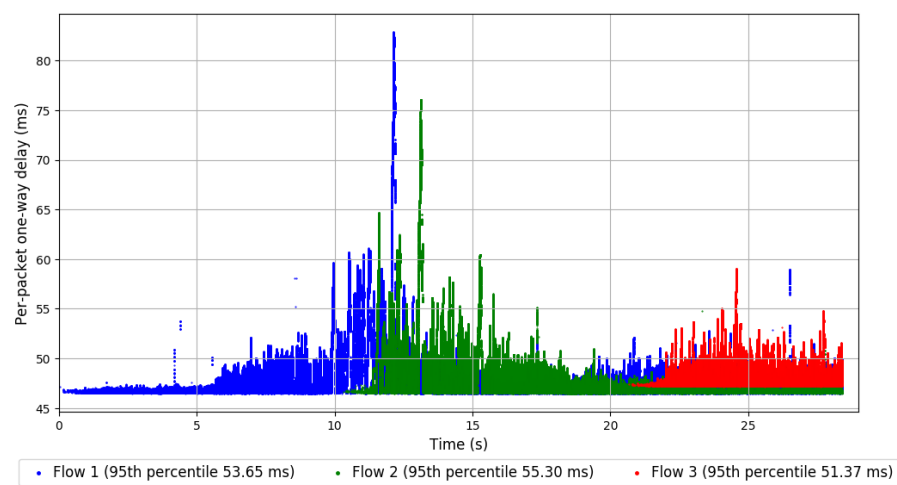
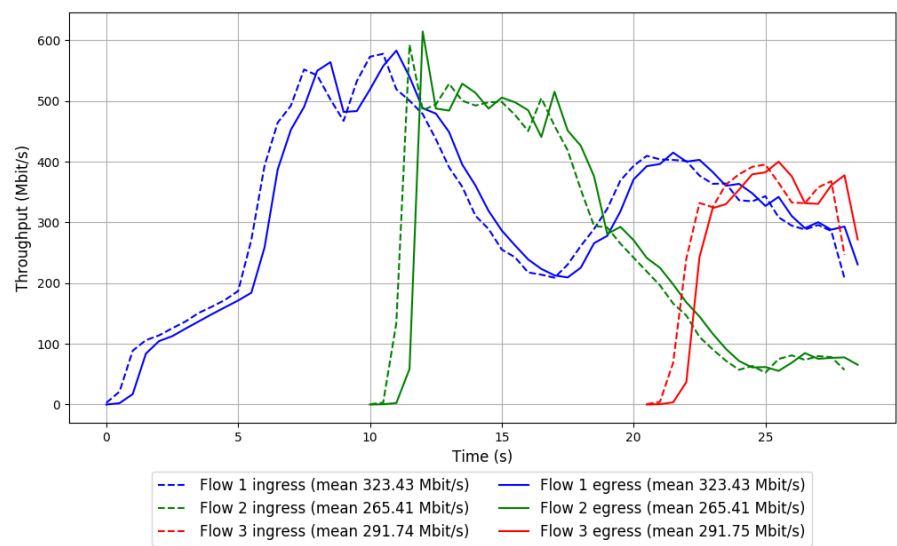


Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-12 19:22:33  
End at: 2019-02-12 19:23:03  
Local clock offset: 3.471 ms  
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-02-12 22:02:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 572.11 Mbit/s  
95th percentile per-packet one-way delay: 53.732 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 323.43 Mbit/s  
95th percentile per-packet one-way delay: 53.653 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 265.41 Mbit/s  
95th percentile per-packet one-way delay: 55.299 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 291.75 Mbit/s  
95th percentile per-packet one-way delay: 51.369 ms  
Loss rate: 0.00%

Run 5: Report of Indigo-MusesD — Data Link

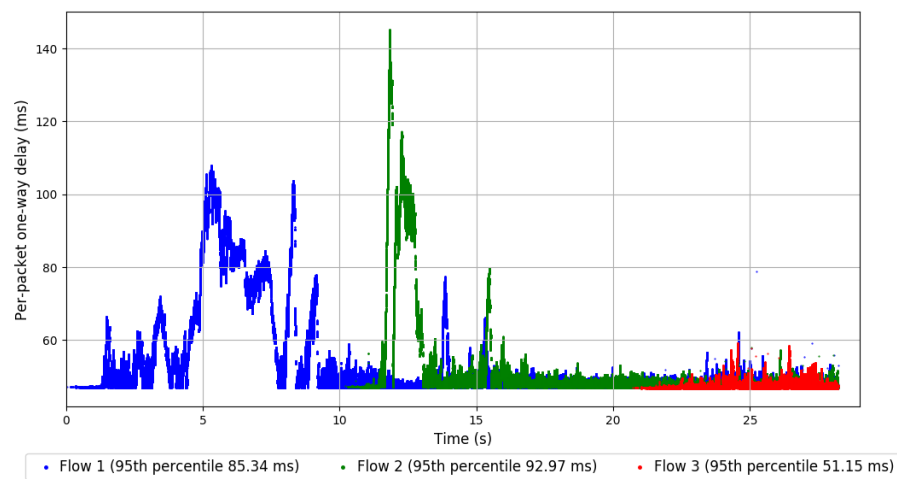
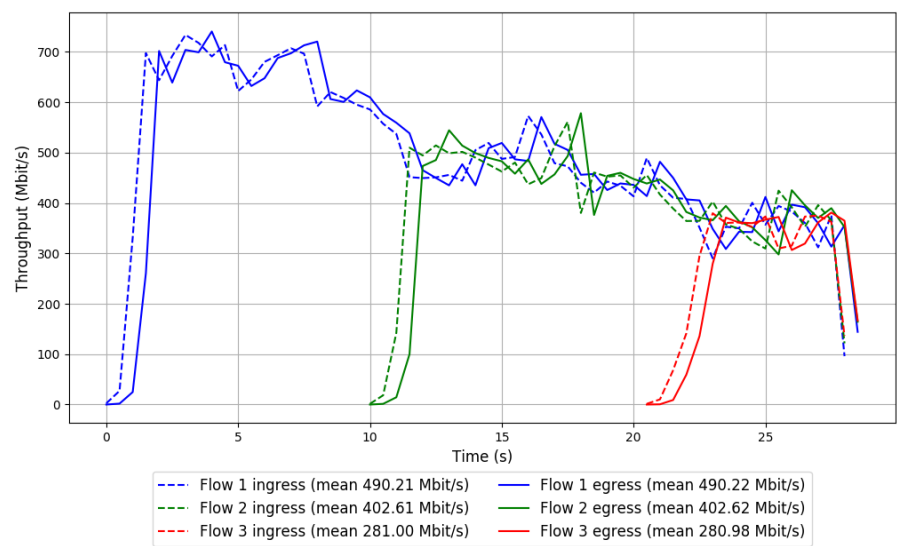


Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-12 17:08:47  
End at: 2019-02-12 17:09:17  
Local clock offset: 0.229 ms  
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-02-12 22:06:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 822.61 Mbit/s  
95th percentile per-packet one-way delay: 85.382 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 490.22 Mbit/s  
95th percentile per-packet one-way delay: 85.342 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 402.62 Mbit/s  
95th percentile per-packet one-way delay: 92.971 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 280.98 Mbit/s  
95th percentile per-packet one-way delay: 51.151 ms  
Loss rate: 0.00%

Run 1: Report of Indigo-MusesT — Data Link

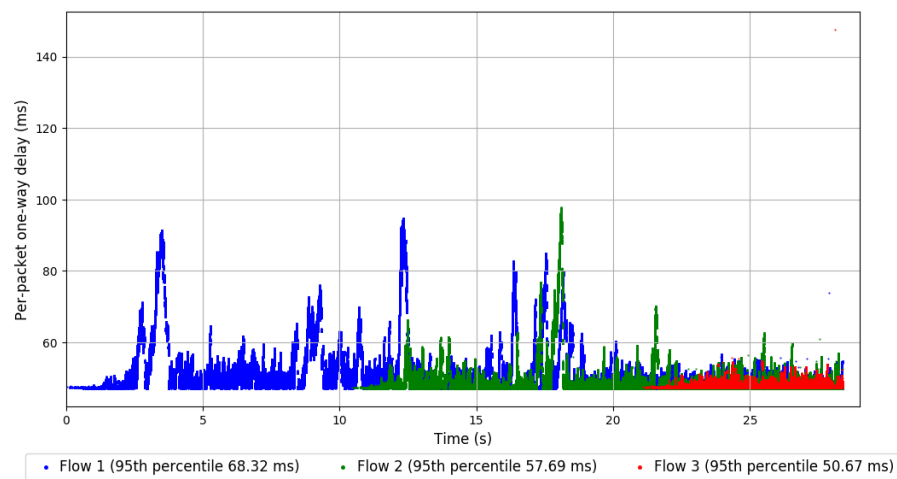
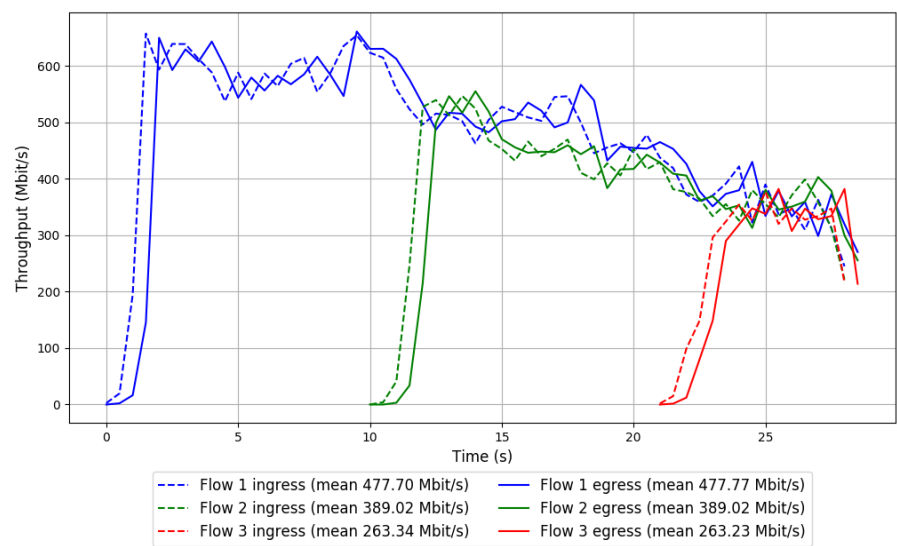


Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-12 17:44:41  
End at: 2019-02-12 17:45:11  
Local clock offset: -0.072 ms  
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2019-02-12 22:06:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 791.38 Mbit/s  
95th percentile per-packet one-way delay: 64.640 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 477.77 Mbit/s  
95th percentile per-packet one-way delay: 68.323 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 389.02 Mbit/s  
95th percentile per-packet one-way delay: 57.692 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 263.23 Mbit/s  
95th percentile per-packet one-way delay: 50.671 ms  
Loss rate: 0.04%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-12 18:22:17

End at: 2019-02-12 18:22:47

Local clock offset: 8.698 ms

Remote clock offset: 0.146 ms

# Below is generated by plot.py at 2019-02-12 22:09:48

# Datalink statistics

-- Total of 3 flows:

Average throughput: 829.83 Mbit/s

95th percentile per-packet one-way delay: 63.038 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 495.60 Mbit/s

95th percentile per-packet one-way delay: 63.502 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 408.67 Mbit/s

95th percentile per-packet one-way delay: 63.444 ms

Loss rate: 0.00%

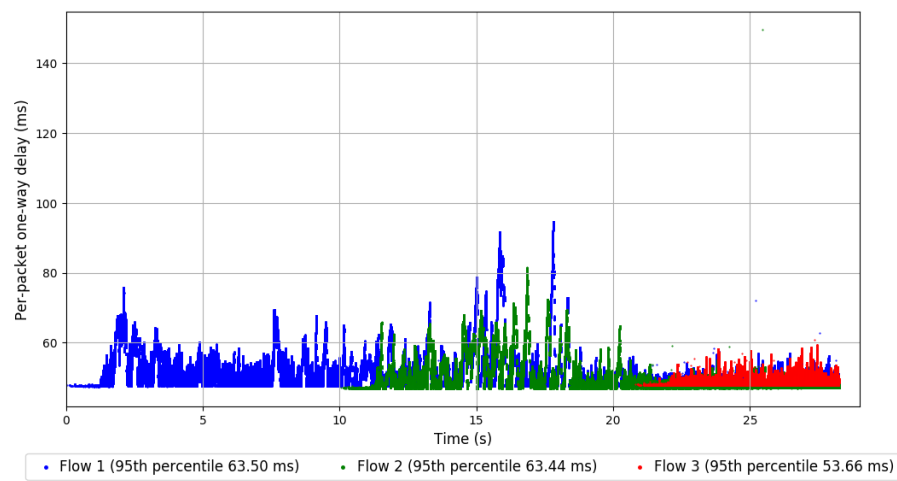
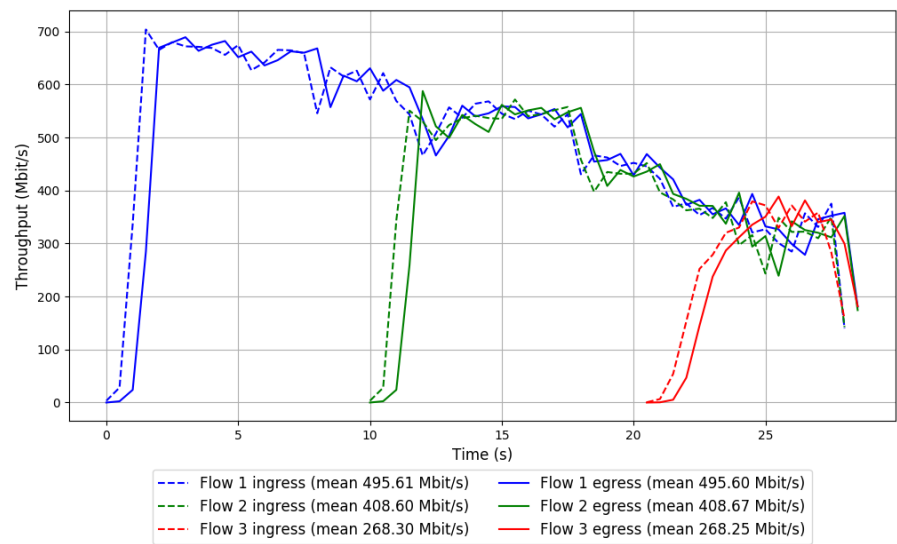
-- Flow 3:

Average throughput: 268.25 Mbit/s

95th percentile per-packet one-way delay: 53.661 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesT — Data Link



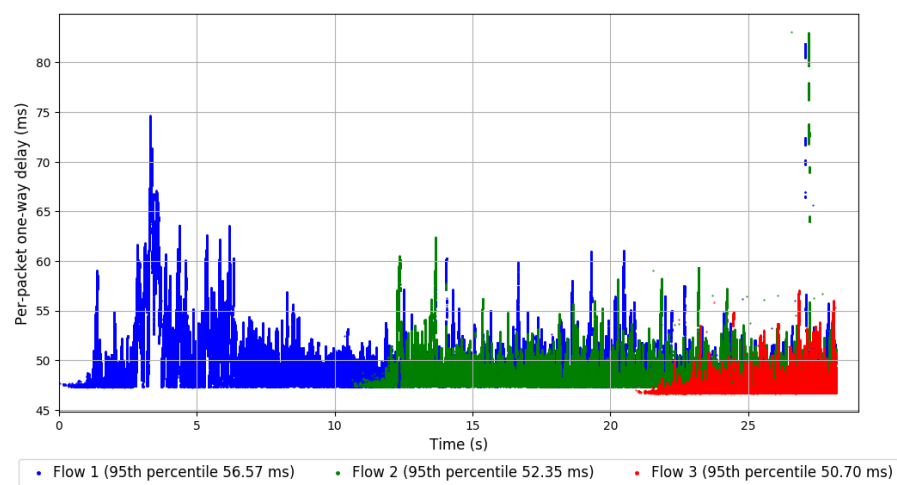
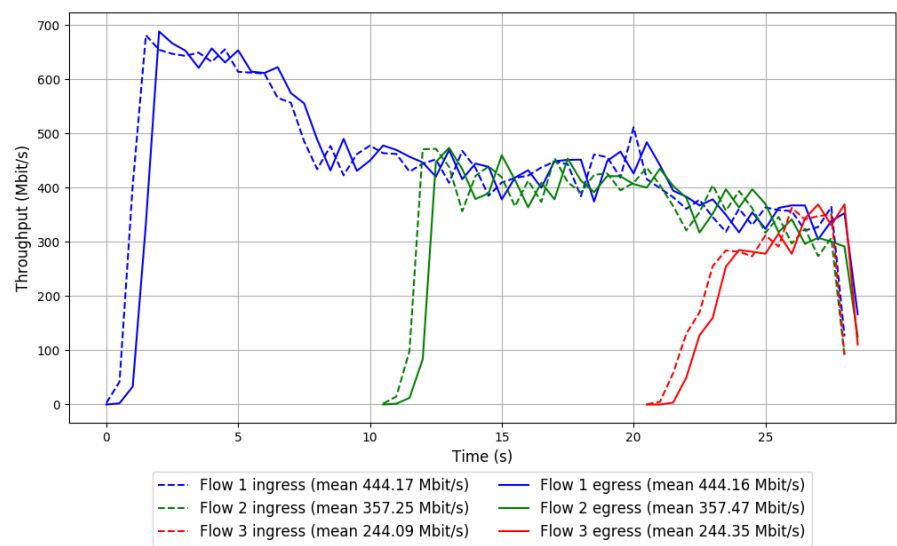


Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-12 19:01:05  
End at: 2019-02-12 19:01:35  
Local clock offset: 8.156 ms  
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-02-12 22:12:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 730.33 Mbit/s  
95th percentile per-packet one-way delay: 54.948 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 444.16 Mbit/s  
95th percentile per-packet one-way delay: 56.571 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 357.47 Mbit/s  
95th percentile per-packet one-way delay: 52.351 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 244.35 Mbit/s  
95th percentile per-packet one-way delay: 50.700 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesT — Data Link

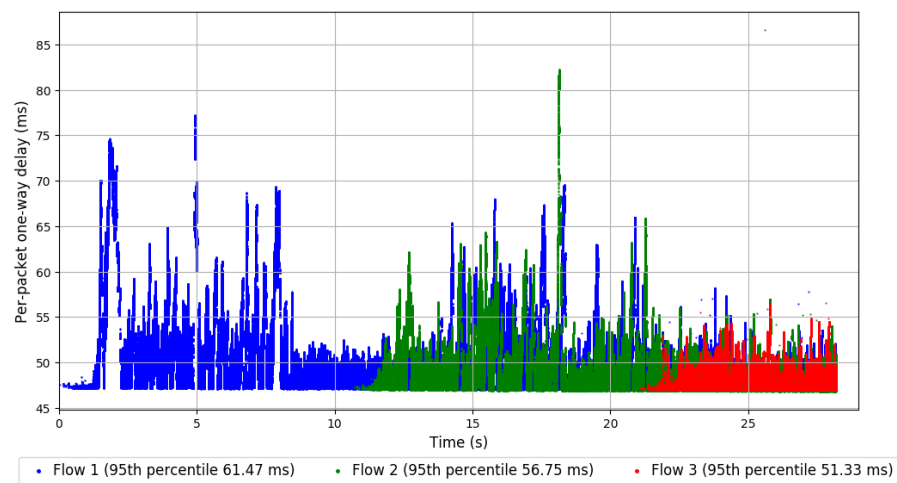
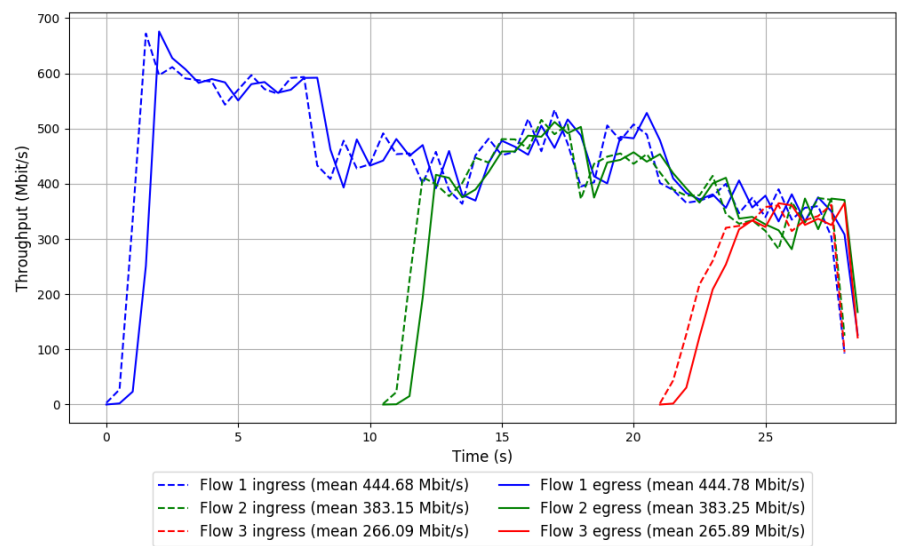


Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-12 19:40:20  
End at: 2019-02-12 19:40:50  
Local clock offset: 4.665 ms  
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2019-02-12 22:14:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 750.32 Mbit/s  
95th percentile per-packet one-way delay: 59.375 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 444.78 Mbit/s  
95th percentile per-packet one-way delay: 61.468 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 383.25 Mbit/s  
95th percentile per-packet one-way delay: 56.746 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 265.89 Mbit/s  
95th percentile per-packet one-way delay: 51.328 ms  
Loss rate: 0.08%

Run 5: Report of Indigo-MusesT — Data Link

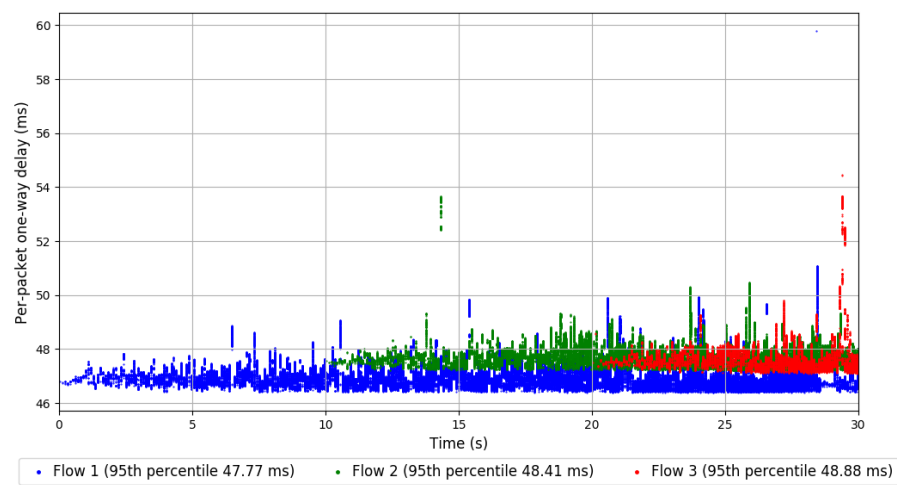
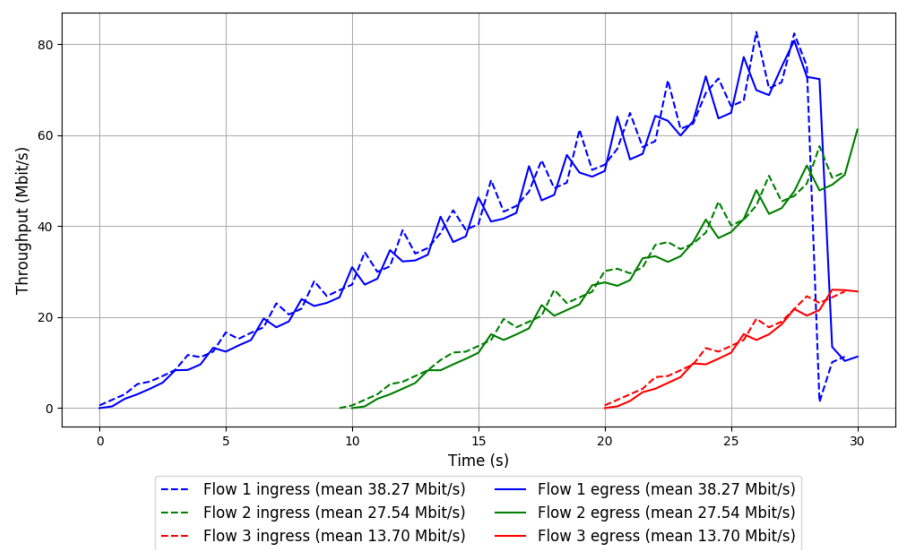


Run 1: Statistics of LEDBAT

Start at: 2019-02-12 17:13:47  
End at: 2019-02-12 17:14:17  
Local clock offset: -0.163 ms  
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2019-02-12 22:14:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 61.11 Mbit/s  
95th percentile per-packet one-way delay: 48.197 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 38.27 Mbit/s  
95th percentile per-packet one-way delay: 47.773 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 27.54 Mbit/s  
95th percentile per-packet one-way delay: 48.410 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 13.70 Mbit/s  
95th percentile per-packet one-way delay: 48.882 ms  
Loss rate: 0.00%

Run 1: Report of LEDBAT — Data Link

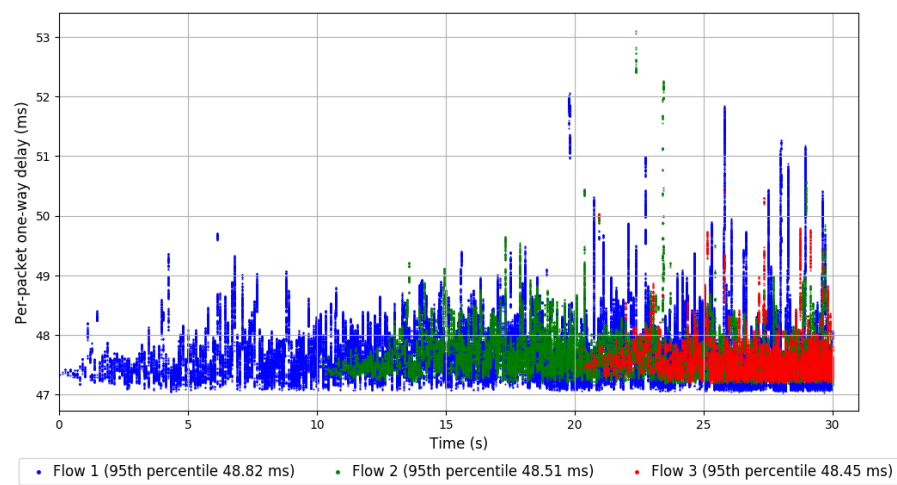
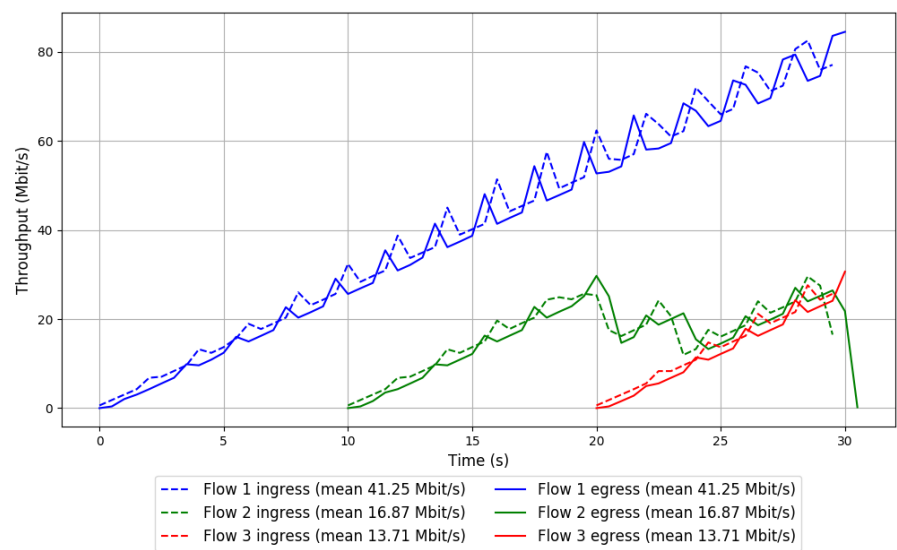


Run 2: Statistics of LEDBAT

Start at: 2019-02-12 17:49:42  
End at: 2019-02-12 17:50:12  
Local clock offset: 0.013 ms  
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2019-02-12 22:14:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 57.00 Mbit/s  
95th percentile per-packet one-way delay: 48.715 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 41.25 Mbit/s  
95th percentile per-packet one-way delay: 48.822 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 16.87 Mbit/s  
95th percentile per-packet one-way delay: 48.509 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 13.71 Mbit/s  
95th percentile per-packet one-way delay: 48.452 ms  
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



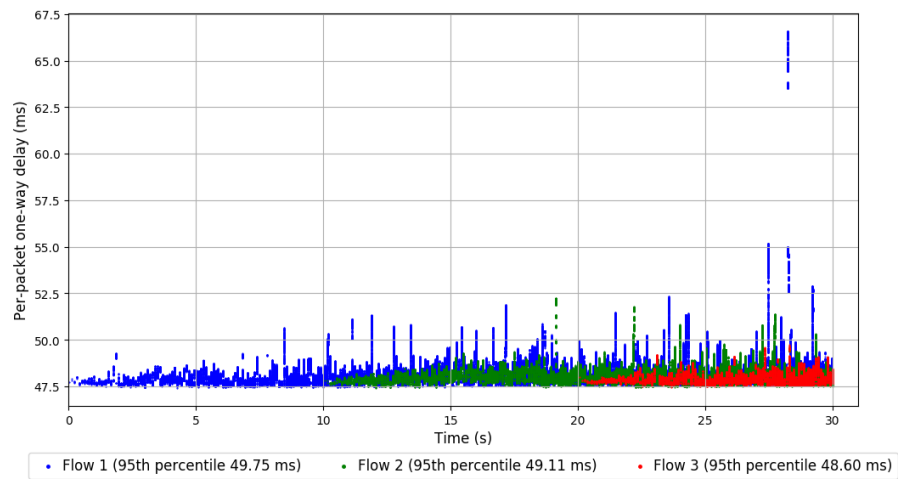
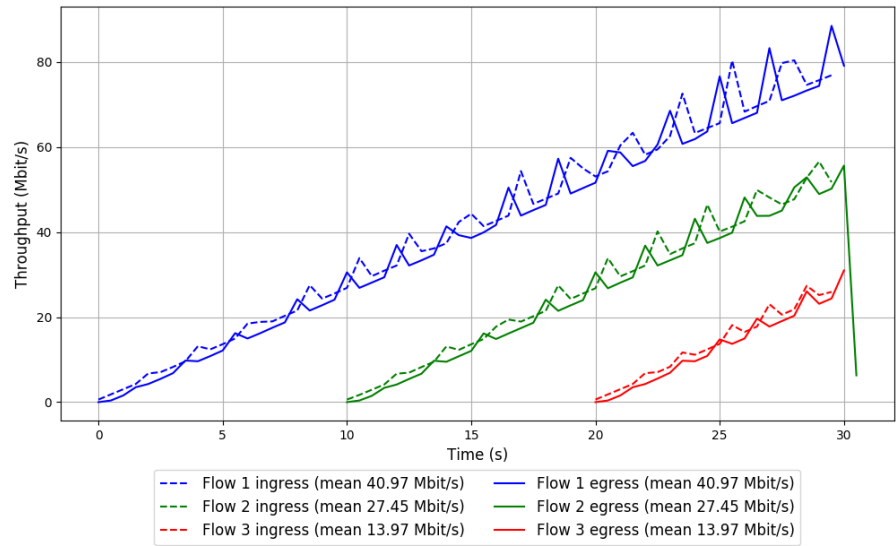


Run 3: Statistics of LEDBAT

Start at: 2019-02-12 18:27:57  
End at: 2019-02-12 18:28:27  
Local clock offset: 11.424 ms  
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-02-12 22:14:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 63.83 Mbit/s  
95th percentile per-packet one-way delay: 49.448 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 40.97 Mbit/s  
95th percentile per-packet one-way delay: 49.749 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 27.45 Mbit/s  
95th percentile per-packet one-way delay: 49.106 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 13.97 Mbit/s  
95th percentile per-packet one-way delay: 48.599 ms  
Loss rate: 0.00%

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

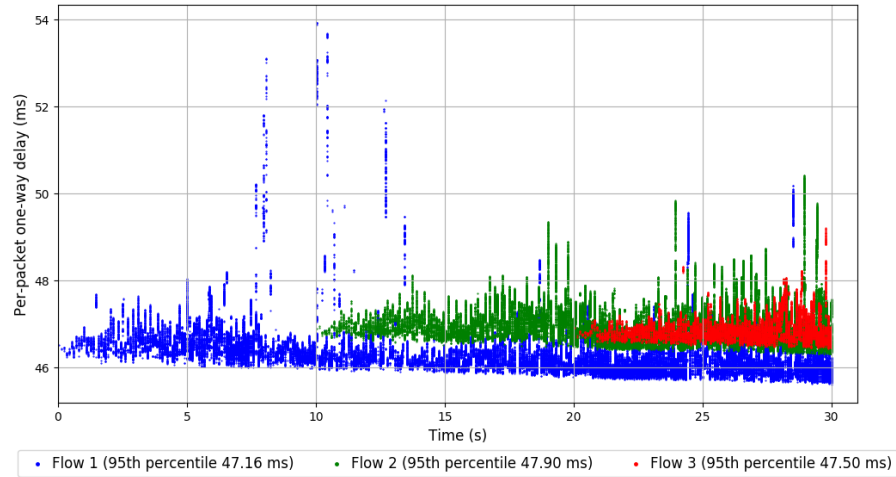
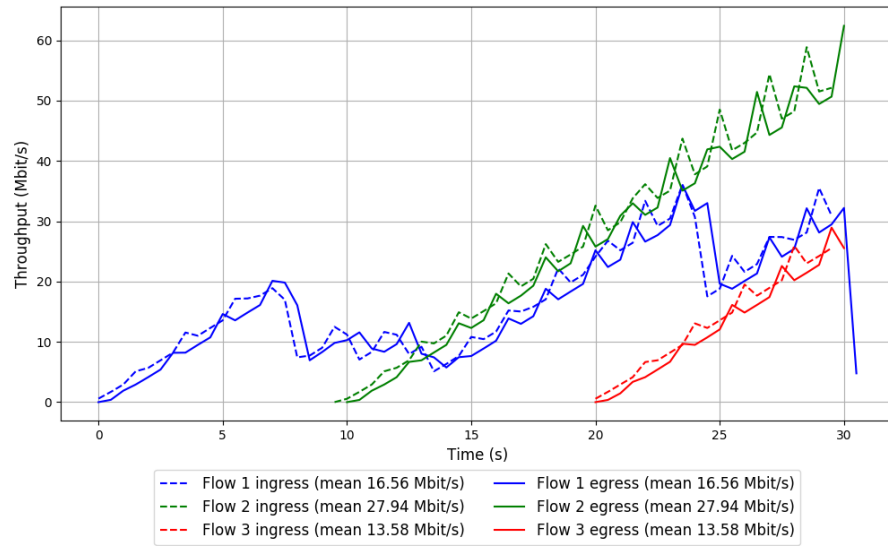


Run 4: Statistics of LEDBAT

Start at: 2019-02-12 19:06:26  
End at: 2019-02-12 19:06:56  
Local clock offset: 9.45 ms  
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-02-12 22:14:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 39.66 Mbit/s  
95th percentile per-packet one-way delay: 47.687 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 16.56 Mbit/s  
95th percentile per-packet one-way delay: 47.158 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 27.94 Mbit/s  
95th percentile per-packet one-way delay: 47.902 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 13.58 Mbit/s  
95th percentile per-packet one-way delay: 47.496 ms  
Loss rate: 0.00%

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

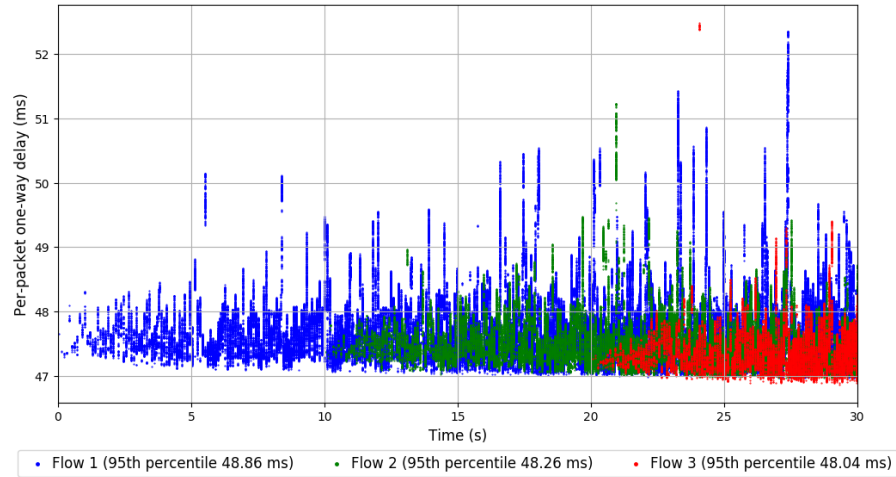
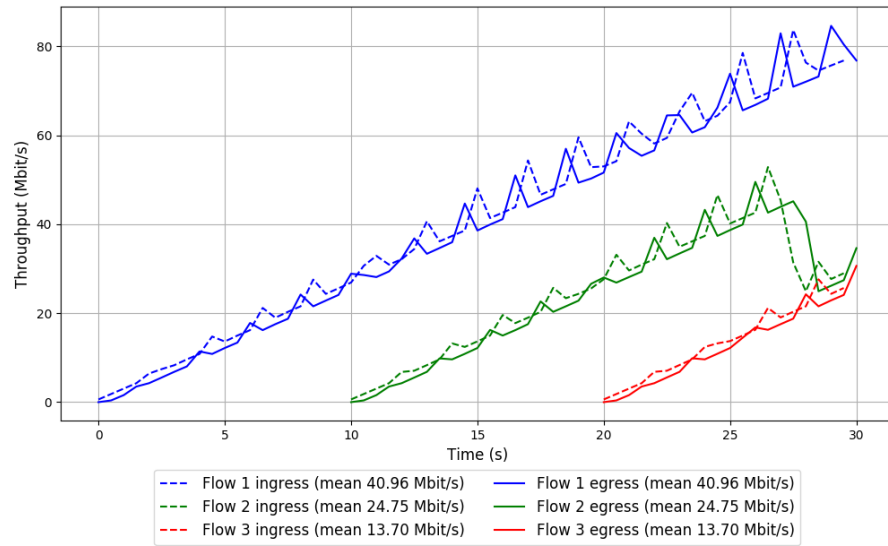


Run 5: Statistics of LEDBAT

Start at: 2019-02-12 19:45:38  
End at: 2019-02-12 19:46:08  
Local clock offset: 2.686 ms  
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-02-12 22:14:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 61.95 Mbit/s  
95th percentile per-packet one-way delay: 48.641 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 40.96 Mbit/s  
95th percentile per-packet one-way delay: 48.861 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 24.75 Mbit/s  
95th percentile per-packet one-way delay: 48.264 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 13.70 Mbit/s  
95th percentile per-packet one-way delay: 48.036 ms  
Loss rate: 0.00%

## Run 5: Report of LEDBAT — Data Link

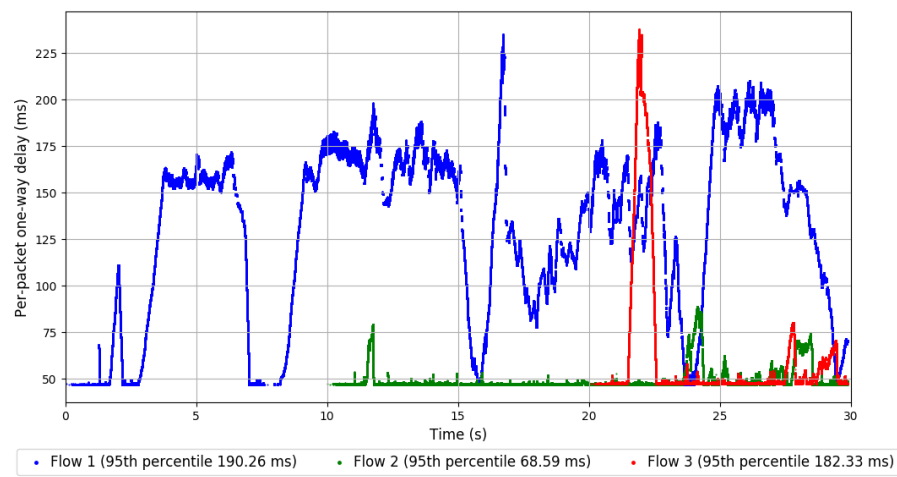
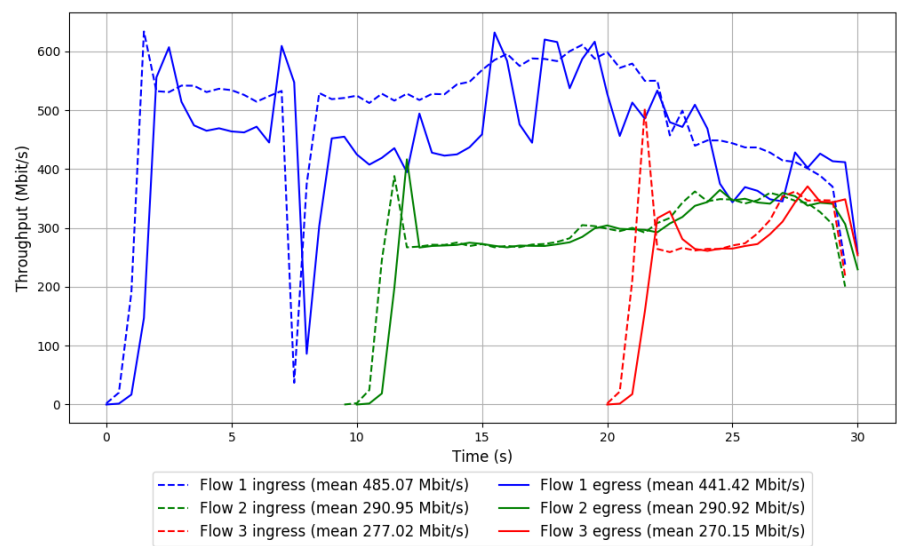


Run 1: Statistics of PCC-Allegro

Start at: 2019-02-12 17:22:47  
End at: 2019-02-12 17:23:17  
Local clock offset: 0.233 ms  
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-02-12 22:35:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 723.93 Mbit/s  
95th percentile per-packet one-way delay: 182.441 ms  
Loss rate: 5.96%  
-- Flow 1:  
Average throughput: 441.42 Mbit/s  
95th percentile per-packet one-way delay: 190.264 ms  
Loss rate: 9.00%  
-- Flow 2:  
Average throughput: 290.92 Mbit/s  
95th percentile per-packet one-way delay: 68.592 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 270.15 Mbit/s  
95th percentile per-packet one-way delay: 182.330 ms  
Loss rate: 2.48%

Run 1: Report of PCC-Allegro — Data Link



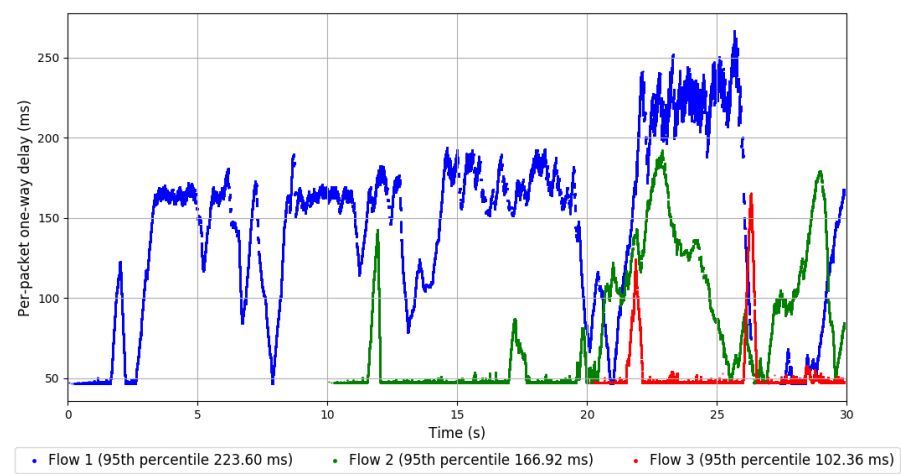
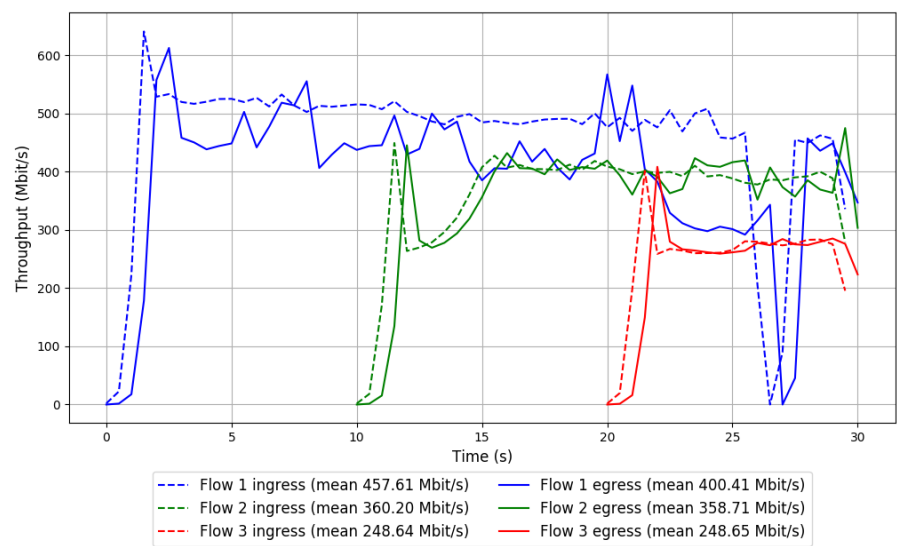


Run 2: Statistics of PCC-Allegro

Start at: 2019-02-12 17:58:48  
End at: 2019-02-12 17:59:18  
Local clock offset: 0.008 ms  
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-02-12 22:35:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 720.62 Mbit/s  
95th percentile per-packet one-way delay: 205.647 ms  
Loss rate: 7.46%  
-- Flow 1:  
Average throughput: 400.41 Mbit/s  
95th percentile per-packet one-way delay: 223.601 ms  
Loss rate: 12.49%  
-- Flow 2:  
Average throughput: 358.71 Mbit/s  
95th percentile per-packet one-way delay: 166.919 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 248.65 Mbit/s  
95th percentile per-packet one-way delay: 102.362 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link

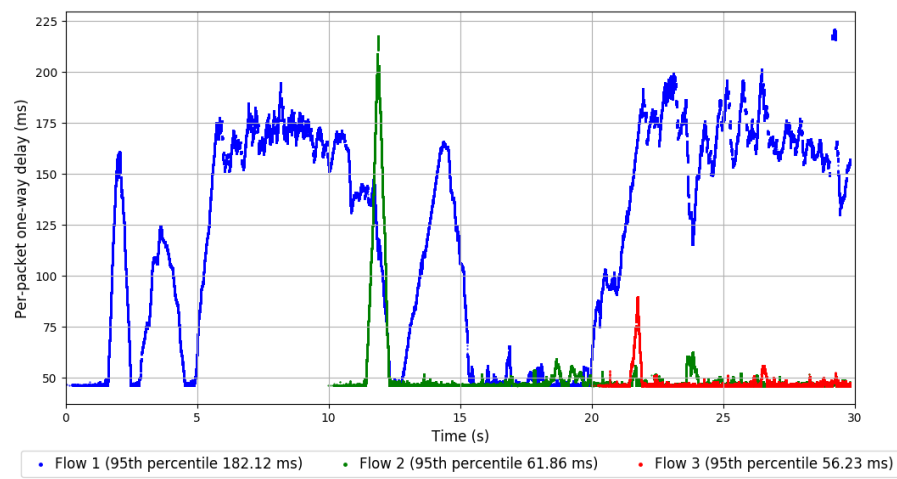
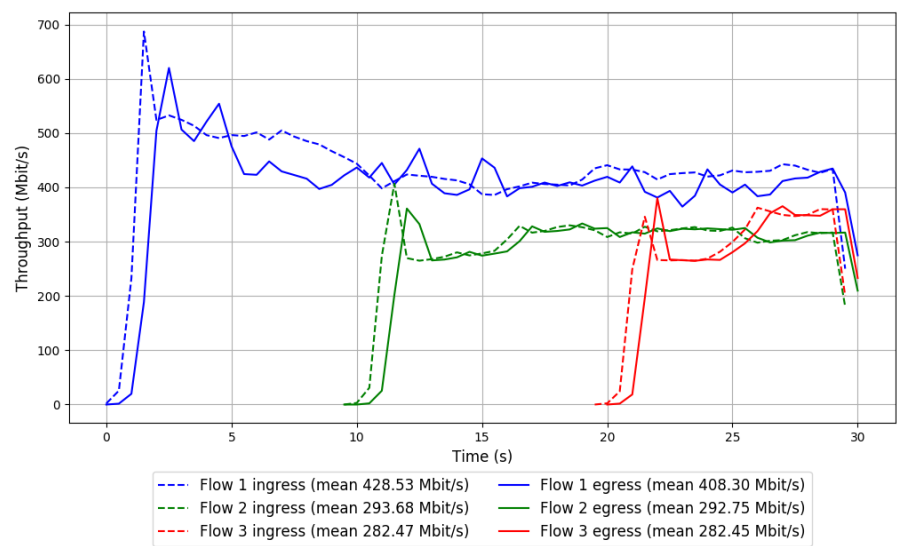


Run 3: Statistics of PCC-Allegro

Start at: 2019-02-12 18:37:40  
End at: 2019-02-12 18:38:10  
Local clock offset: 8.636 ms  
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2019-02-12 22:35:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 696.37 Mbit/s  
95th percentile per-packet one-way delay: 177.287 ms  
Loss rate: 2.90%  
-- Flow 1:  
Average throughput: 408.30 Mbit/s  
95th percentile per-packet one-way delay: 182.123 ms  
Loss rate: 4.72%  
-- Flow 2:  
Average throughput: 292.75 Mbit/s  
95th percentile per-packet one-way delay: 61.860 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 282.45 Mbit/s  
95th percentile per-packet one-way delay: 56.227 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link

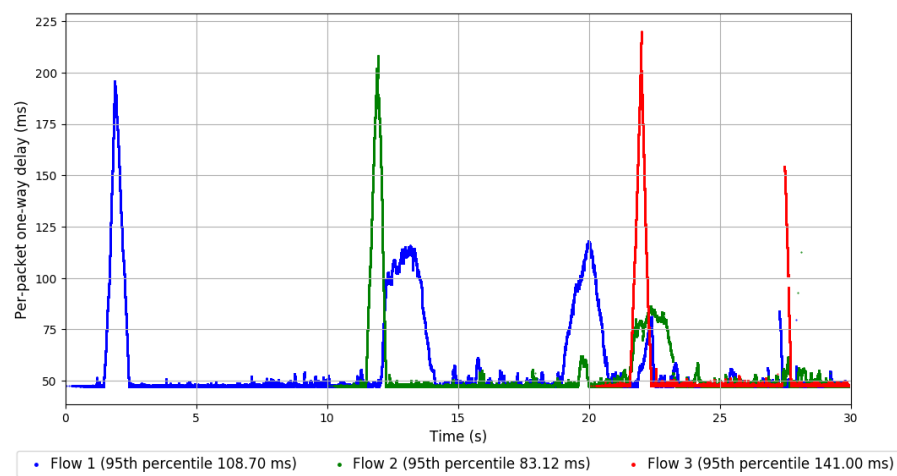
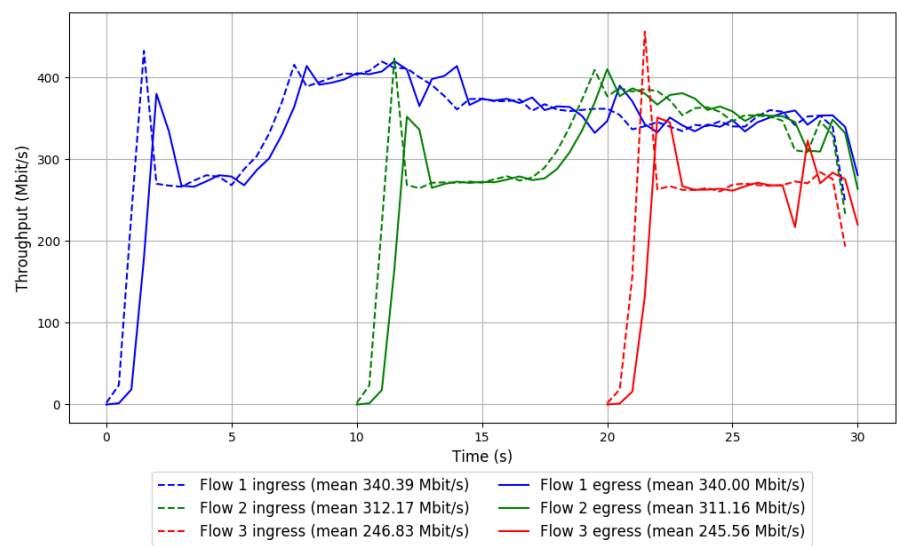


Run 4: Statistics of PCC-Allegro

Start at: 2019-02-12 19:16:17  
End at: 2019-02-12 19:16:47  
Local clock offset: 3.897 ms  
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-02-12 22:35:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 627.68 Mbit/s  
95th percentile per-packet one-way delay: 107.951 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 340.00 Mbit/s  
95th percentile per-packet one-way delay: 108.704 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 311.16 Mbit/s  
95th percentile per-packet one-way delay: 83.117 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 245.56 Mbit/s  
95th percentile per-packet one-way delay: 140.997 ms  
Loss rate: 0.55%

Run 4: Report of PCC-Allegro — Data Link

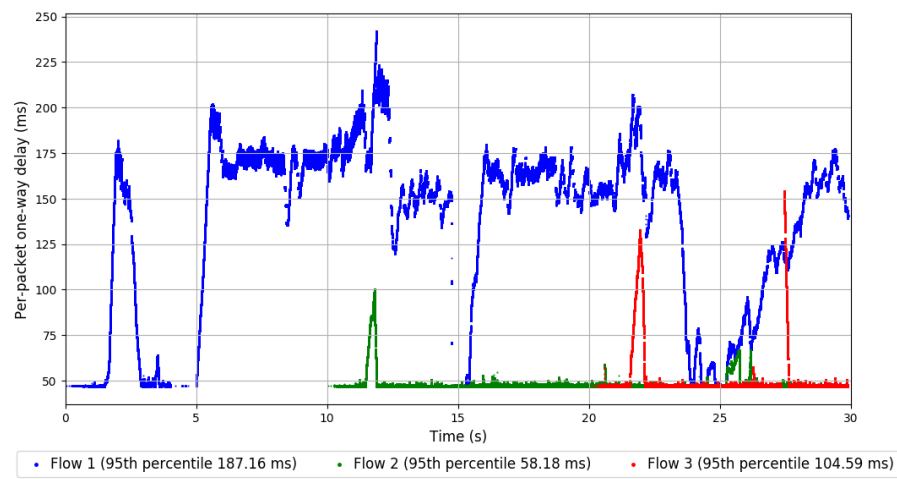
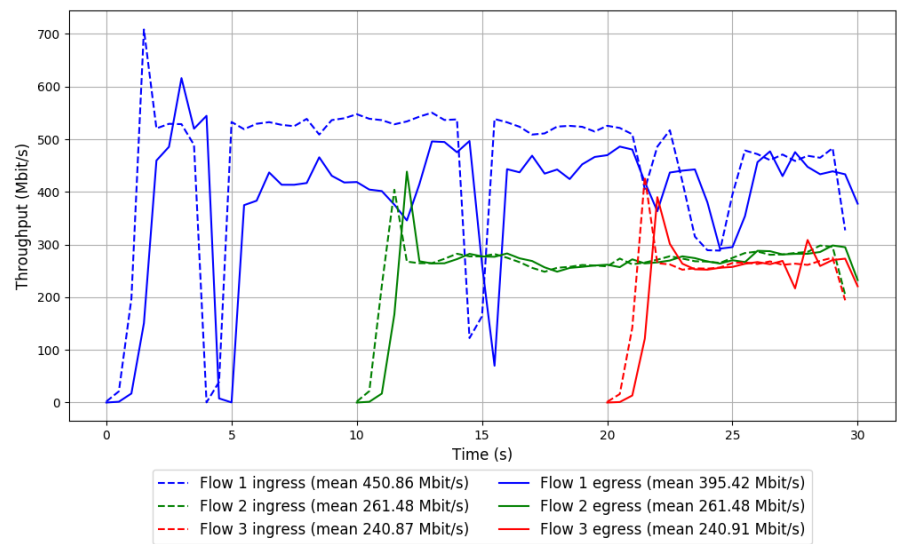


Run 5: Statistics of PCC-Allegro

Start at: 2019-02-12 19:55:33  
End at: 2019-02-12 19:56:03  
Local clock offset: 1.52 ms  
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2019-02-12 22:35:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 648.30 Mbit/s  
95th percentile per-packet one-way delay: 178.091 ms  
Loss rate: 7.88%  
-- Flow 1:  
Average throughput: 395.42 Mbit/s  
95th percentile per-packet one-way delay: 187.159 ms  
Loss rate: 12.29%  
-- Flow 2:  
Average throughput: 261.48 Mbit/s  
95th percentile per-packet one-way delay: 58.184 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 240.91 Mbit/s  
95th percentile per-packet one-way delay: 104.591 ms  
Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link



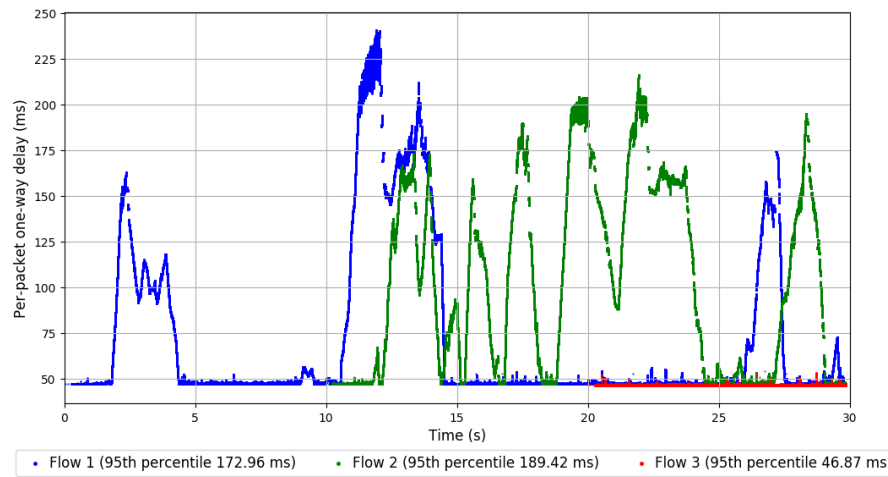
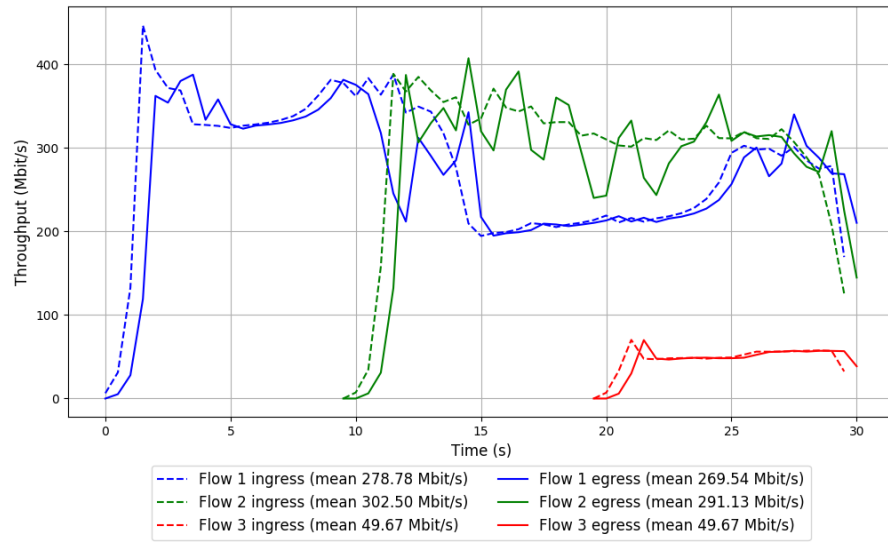


Run 1: Statistics of PCC-Expr

Start at: 2019-02-12 17:04:50  
End at: 2019-02-12 17:05:20  
Local clock offset: -0.114 ms  
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2019-02-12 22:35:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 480.10 Mbit/s  
95th percentile per-packet one-way delay: 179.670 ms  
Loss rate: 3.39%  
-- Flow 1:  
Average throughput: 269.54 Mbit/s  
95th percentile per-packet one-way delay: 172.957 ms  
Loss rate: 3.31%  
-- Flow 2:  
Average throughput: 291.13 Mbit/s  
95th percentile per-packet one-way delay: 189.419 ms  
Loss rate: 3.76%  
-- Flow 3:  
Average throughput: 49.67 Mbit/s  
95th percentile per-packet one-way delay: 46.870 ms  
Loss rate: 0.00%

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

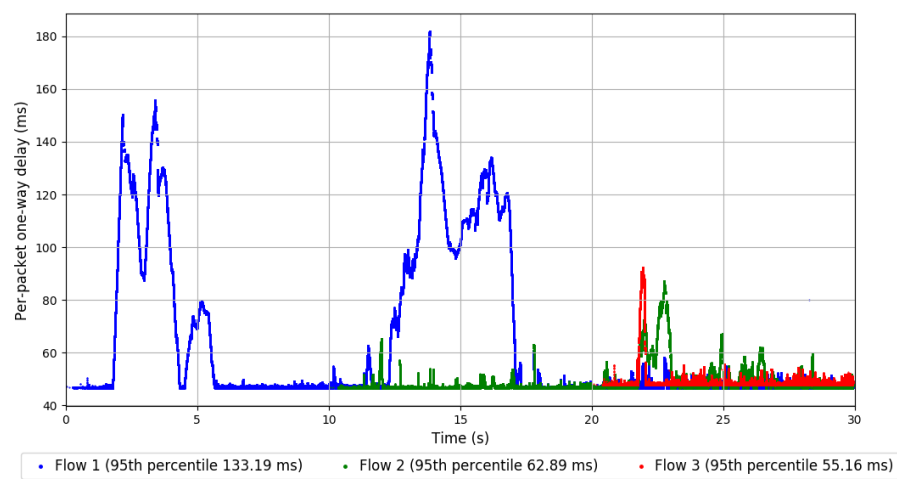
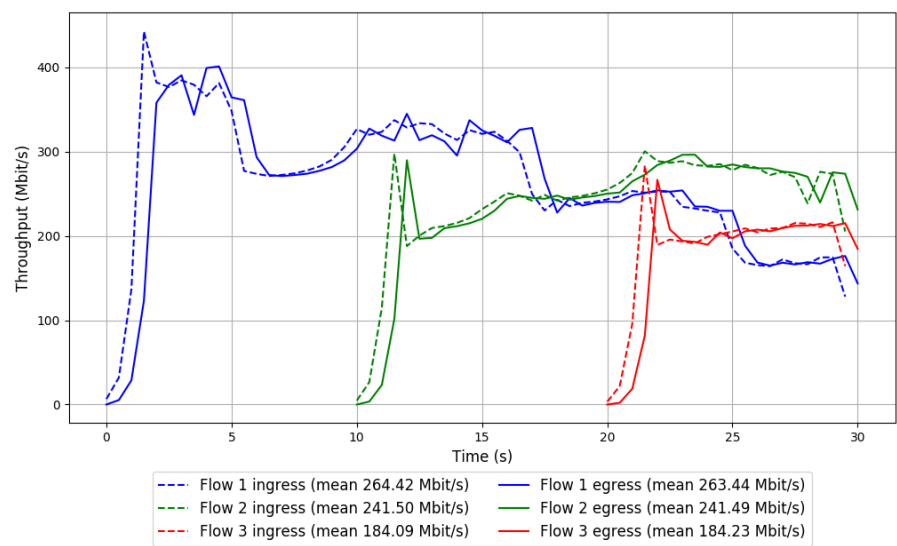


Run 2: Statistics of PCC-Expr

Start at: 2019-02-12 17:40:41  
End at: 2019-02-12 17:41:11  
Local clock offset: -0.102 ms  
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-02-12 22:35:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 484.78 Mbit/s  
95th percentile per-packet one-way delay: 125.068 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 263.44 Mbit/s  
95th percentile per-packet one-way delay: 133.185 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 241.49 Mbit/s  
95th percentile per-packet one-way delay: 62.892 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 184.23 Mbit/s  
95th percentile per-packet one-way delay: 55.165 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-02-12 18:17:45

End at: 2019-02-12 18:18:15

Local clock offset: 6.537 ms

Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2019-02-12 22:35:28

# Datalink statistics

-- Total of 3 flows:

Average throughput: 492.10 Mbit/s

95th percentile per-packet one-way delay: 146.084 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 277.02 Mbit/s

95th percentile per-packet one-way delay: 153.170 ms

Loss rate: 1.19%

-- Flow 2:

Average throughput: 236.80 Mbit/s

95th percentile per-packet one-way delay: 79.622 ms

Loss rate: 0.10%

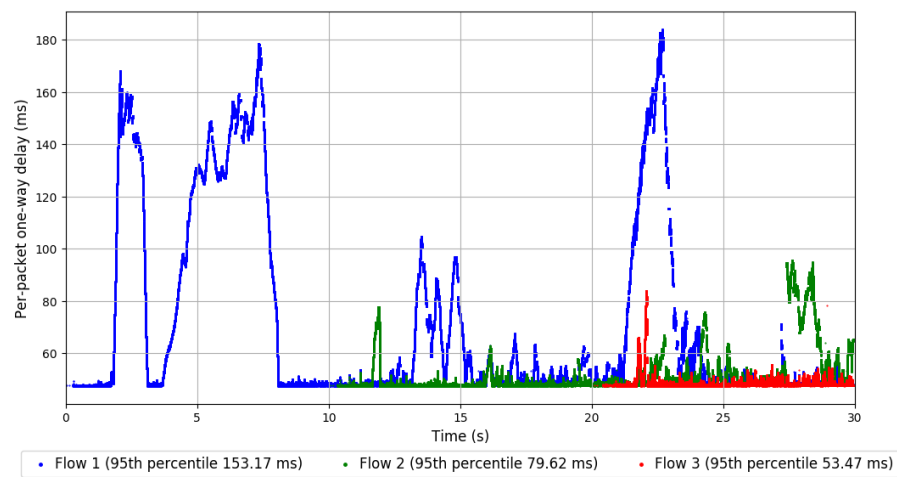
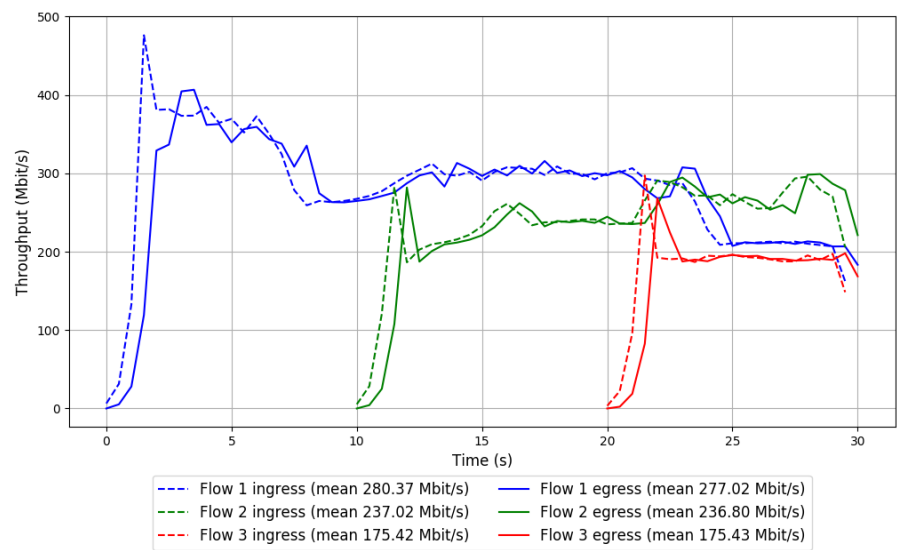
-- Flow 3:

Average throughput: 175.43 Mbit/s

95th percentile per-packet one-way delay: 53.468 ms

Loss rate: 0.00%

Run 3: Report of PCC-Expr — Data Link

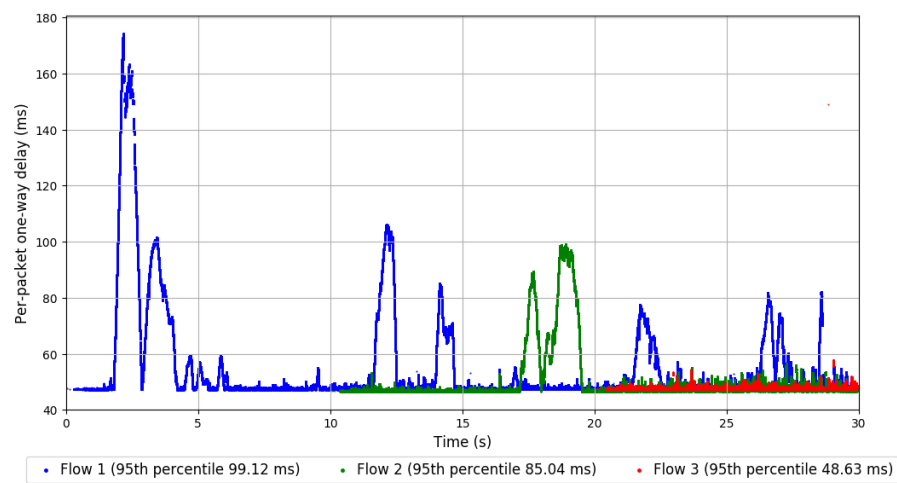
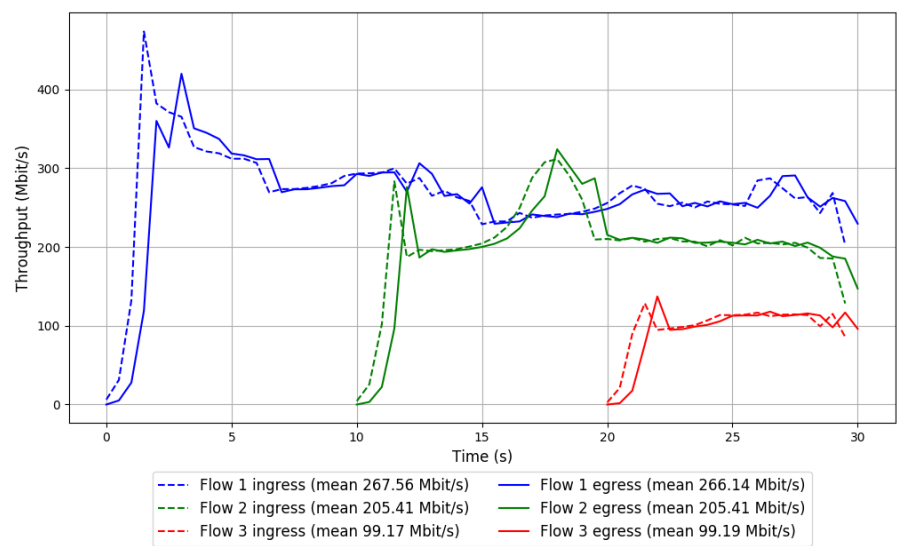


Run 4: Statistics of PCC-Expr

Start at: 2019-02-12 18:56:35  
End at: 2019-02-12 18:57:05  
Local clock offset: 7.225 ms  
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-02-12 22:44:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 435.30 Mbit/s  
95th percentile per-packet one-way delay: 92.483 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 266.14 Mbit/s  
95th percentile per-packet one-way delay: 99.123 ms  
Loss rate: 0.53%  
-- Flow 2:  
Average throughput: 205.41 Mbit/s  
95th percentile per-packet one-way delay: 85.038 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 99.19 Mbit/s  
95th percentile per-packet one-way delay: 48.631 ms  
Loss rate: 0.00%

Run 4: Report of PCC-Expr — Data Link



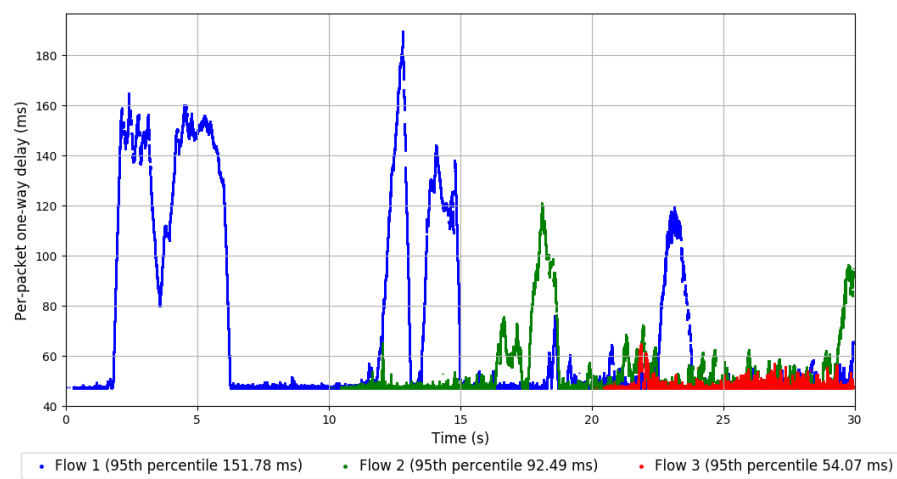
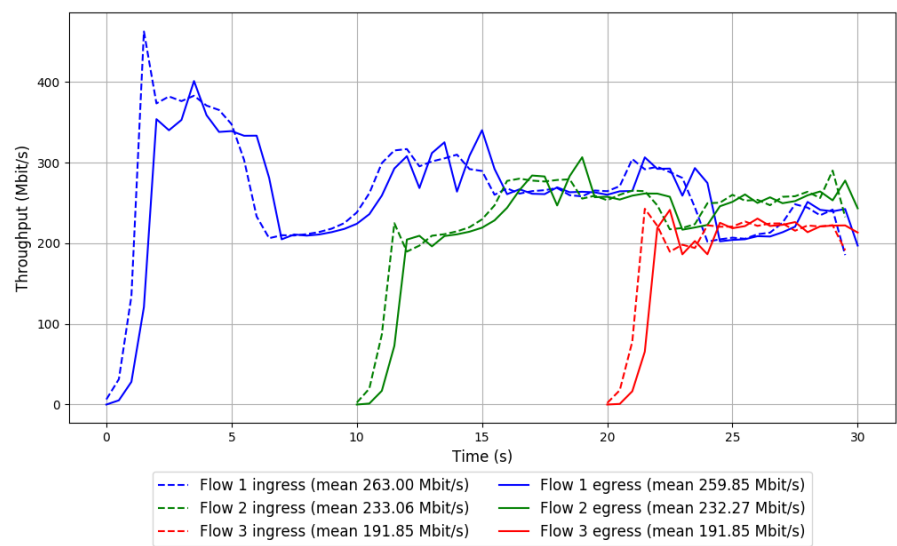


Run 5: Statistics of PCC-Expr

Start at: 2019-02-12 19:35:53  
End at: 2019-02-12 19:36:23  
Local clock offset: 4.176 ms  
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 477.36 Mbit/s  
95th percentile per-packet one-way delay: 147.793 ms  
Loss rate: 0.76%  
-- Flow 1:  
Average throughput: 259.85 Mbit/s  
95th percentile per-packet one-way delay: 151.779 ms  
Loss rate: 1.20%  
-- Flow 2:  
Average throughput: 232.27 Mbit/s  
95th percentile per-packet one-way delay: 92.487 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 191.85 Mbit/s  
95th percentile per-packet one-way delay: 54.072 ms  
Loss rate: 0.00%

Run 5: Report of PCC-Expr — Data Link

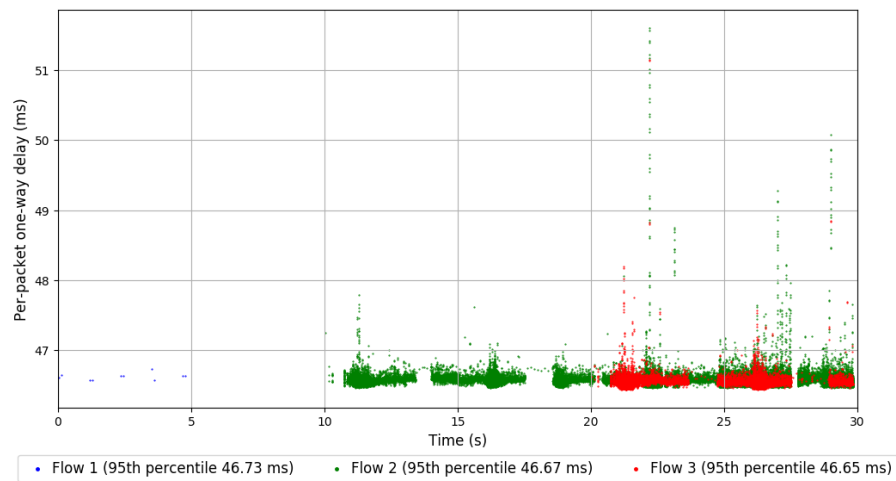
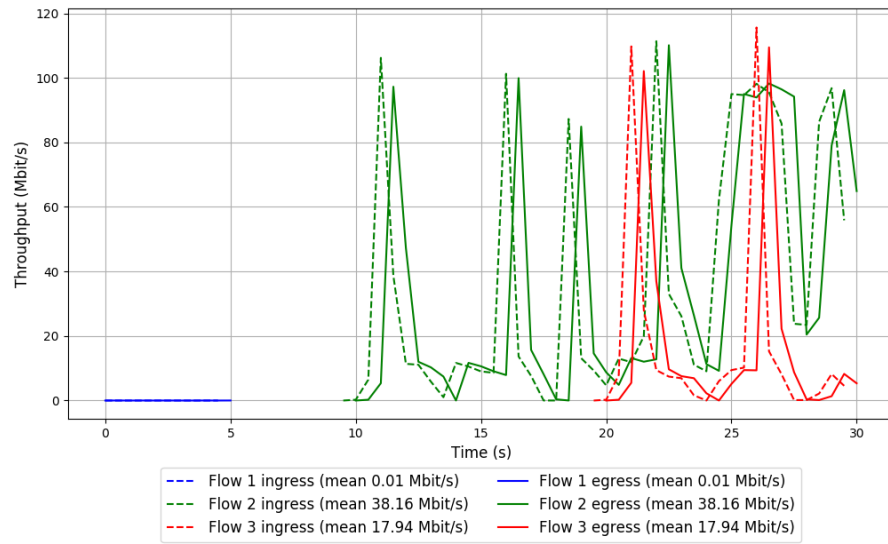


Run 1: Statistics of QUIC Cubic

Start at: 2019-02-12 17:16:50  
End at: 2019-02-12 17:17:20  
Local clock offset: -0.182 ms  
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 31.26 Mbit/s  
95th percentile per-packet one-way delay: 46.666 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 46.732 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 38.16 Mbit/s  
95th percentile per-packet one-way delay: 46.670 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 17.94 Mbit/s  
95th percentile per-packet one-way delay: 46.650 ms  
Loss rate: 0.00%

# Run 1: Report of QUIC Cubic — Data Link

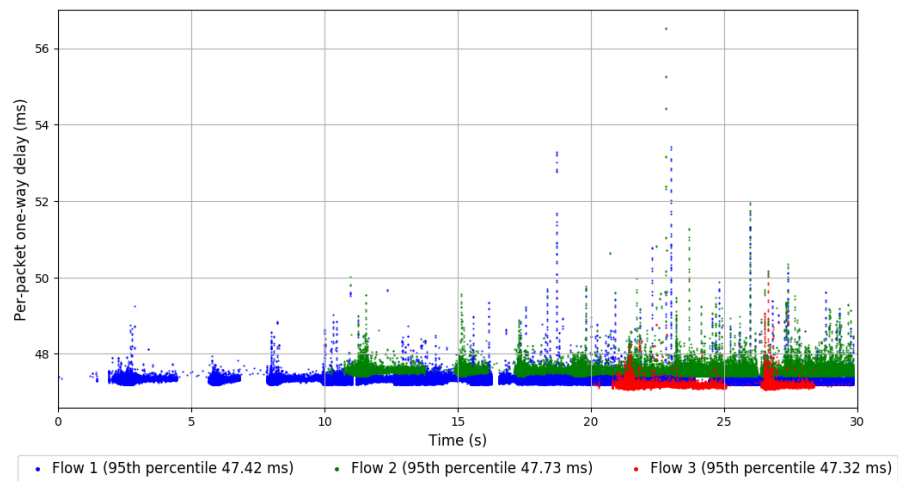
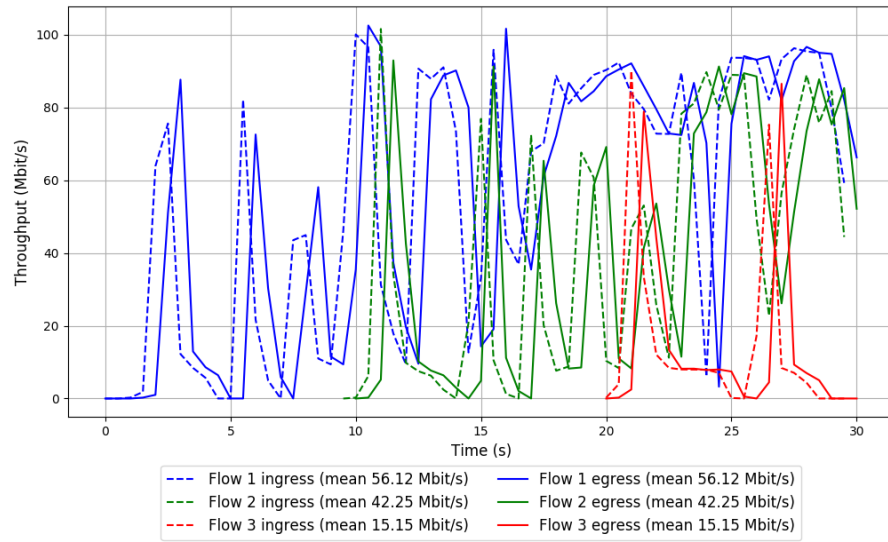


Run 2: Statistics of QUIC Cubic

Start at: 2019-02-12 17:52:46  
End at: 2019-02-12 17:53:16  
Local clock offset: -0.019 ms  
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 89.08 Mbit/s  
95th percentile per-packet one-way delay: 47.605 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 56.12 Mbit/s  
95th percentile per-packet one-way delay: 47.416 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 42.25 Mbit/s  
95th percentile per-packet one-way delay: 47.728 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 15.15 Mbit/s  
95th percentile per-packet one-way delay: 47.319 ms  
Loss rate: 0.00%

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



Run 3: Statistics of QUIC Cubic

Start at: 2019-02-12 18:31:16

End at: 2019-02-12 18:31:46

Local clock offset: 12.992 ms

Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-02-12 22:49:27

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.01 Mbit/s

95th percentile per-packet one-way delay: 47.811 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 44.17 Mbit/s

95th percentile per-packet one-way delay: 46.988 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 66.98 Mbit/s

95th percentile per-packet one-way delay: 47.878 ms

Loss rate: 0.00%

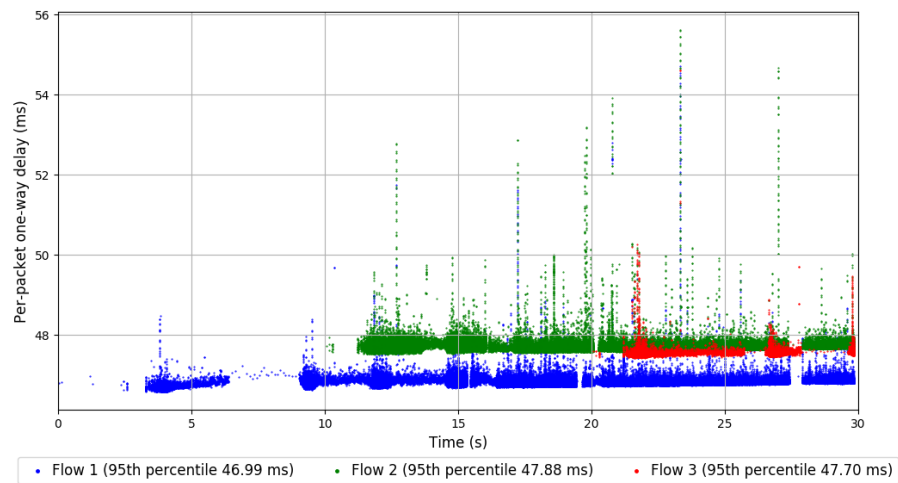
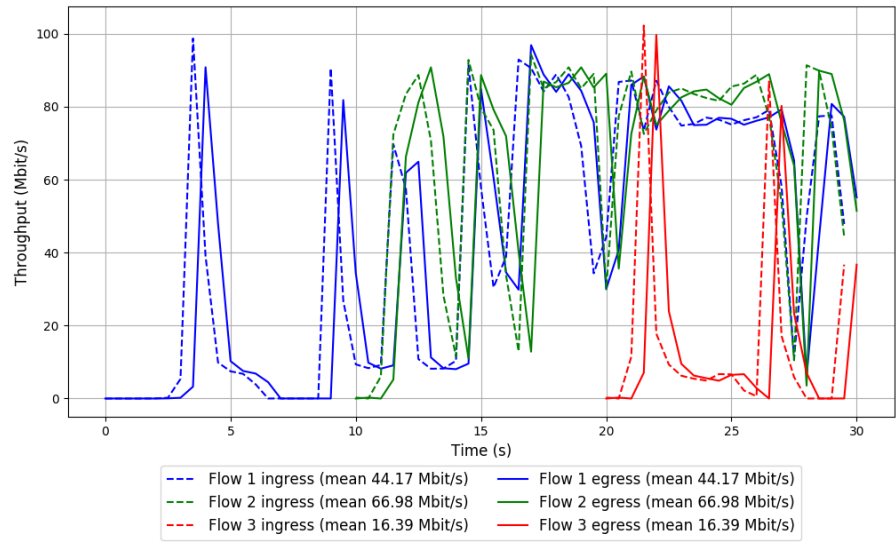
-- Flow 3:

Average throughput: 16.39 Mbit/s

95th percentile per-packet one-way delay: 47.701 ms

Loss rate: 0.00%

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



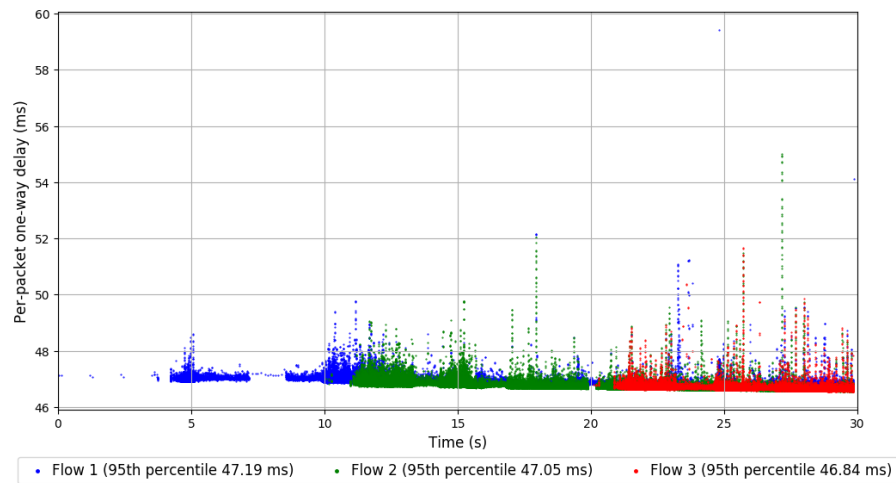
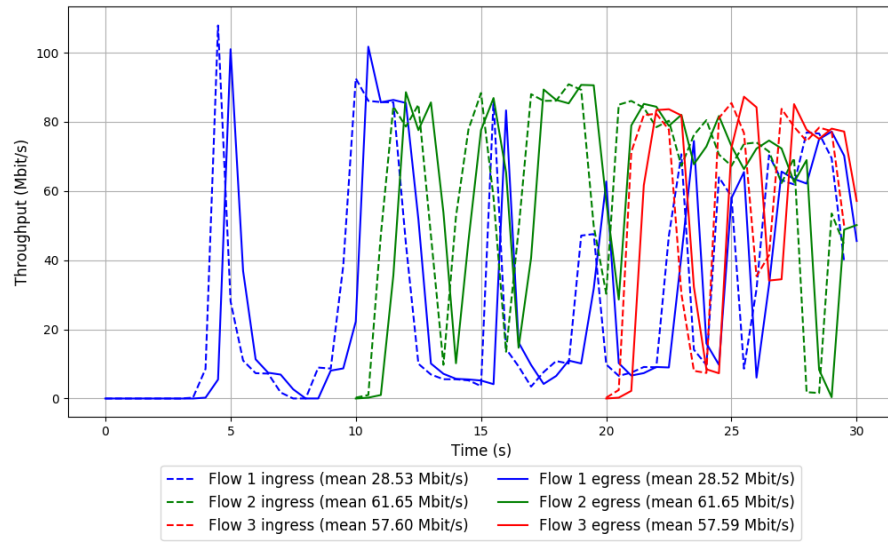


Run 4: Statistics of QUIC Cubic

Start at: 2019-02-12 19:09:43  
End at: 2019-02-12 19:10:13  
Local clock offset: 6.864 ms  
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.30 Mbit/s  
95th percentile per-packet one-way delay: 47.103 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 28.52 Mbit/s  
95th percentile per-packet one-way delay: 47.186 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 61.65 Mbit/s  
95th percentile per-packet one-way delay: 47.047 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 57.59 Mbit/s  
95th percentile per-packet one-way delay: 46.842 ms  
Loss rate: 0.02%

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

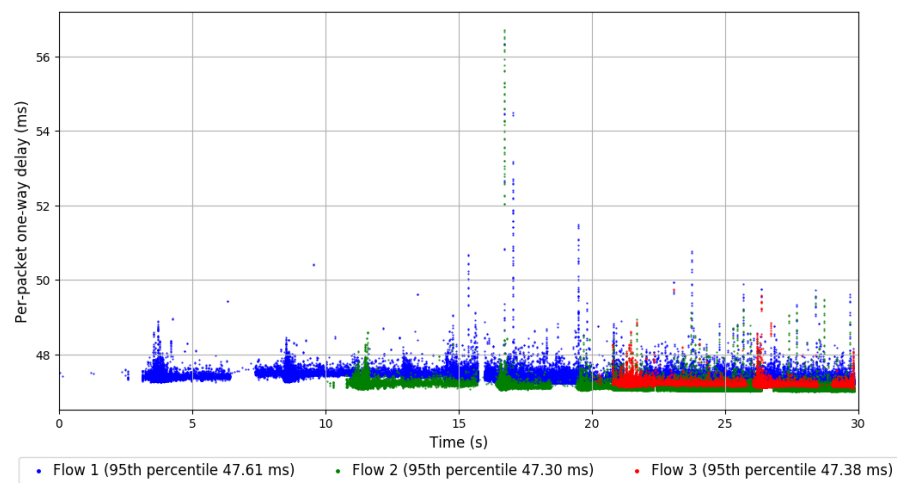
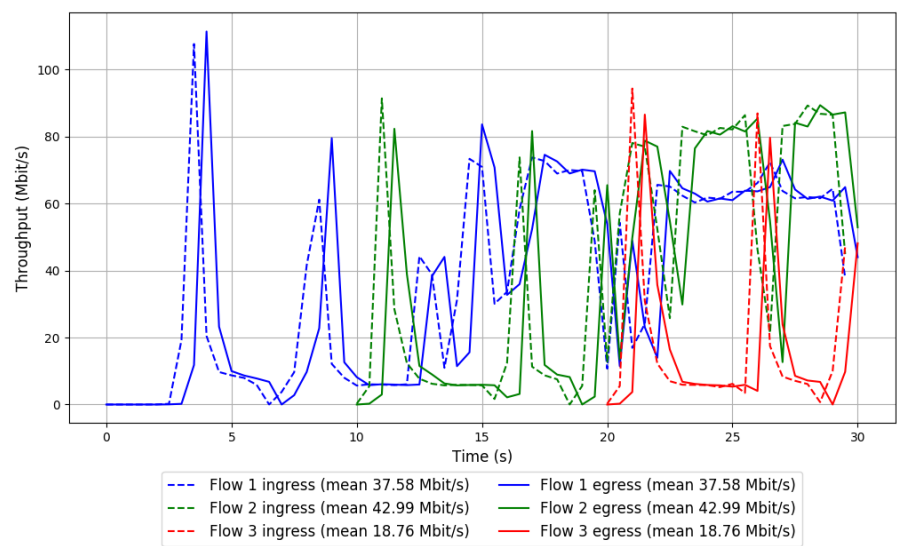


Run 5: Statistics of QUIC Cubic

Start at: 2019-02-12 19:48:58  
End at: 2019-02-12 19:49:28  
Local clock offset: 1.895 ms  
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 72.25 Mbit/s  
95th percentile per-packet one-way delay: 47.538 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 37.58 Mbit/s  
95th percentile per-packet one-way delay: 47.606 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 42.99 Mbit/s  
95th percentile per-packet one-way delay: 47.303 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 18.76 Mbit/s  
95th percentile per-packet one-way delay: 47.384 ms  
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

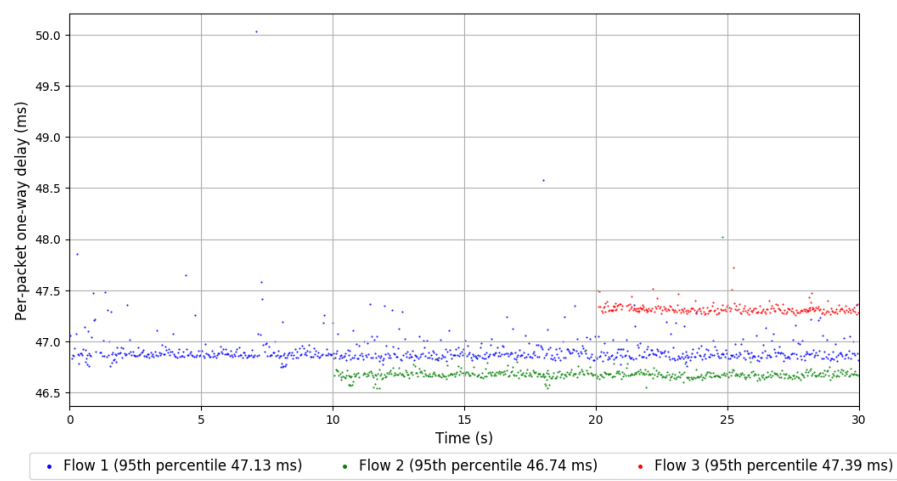
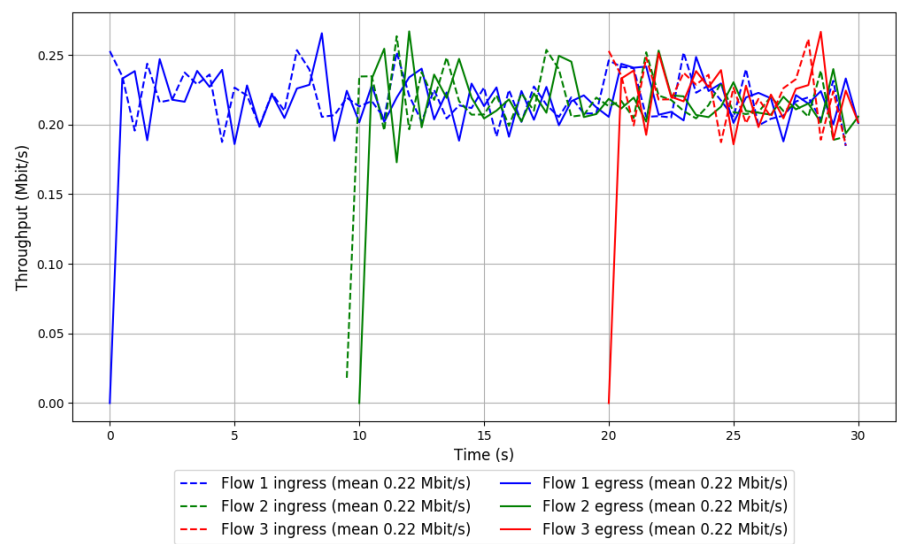


```
Run 1: Statistics of SReAM

Start at: 2019-02-12 17:19:51
End at: 2019-02-12 17:20:21
Local clock offset: -0.145 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-02-12 22:49:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.333 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.127 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.737 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.390 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

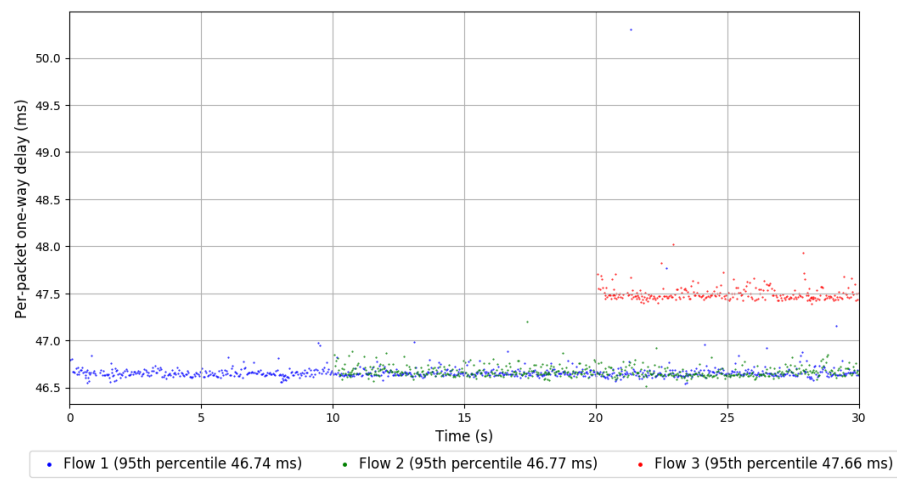
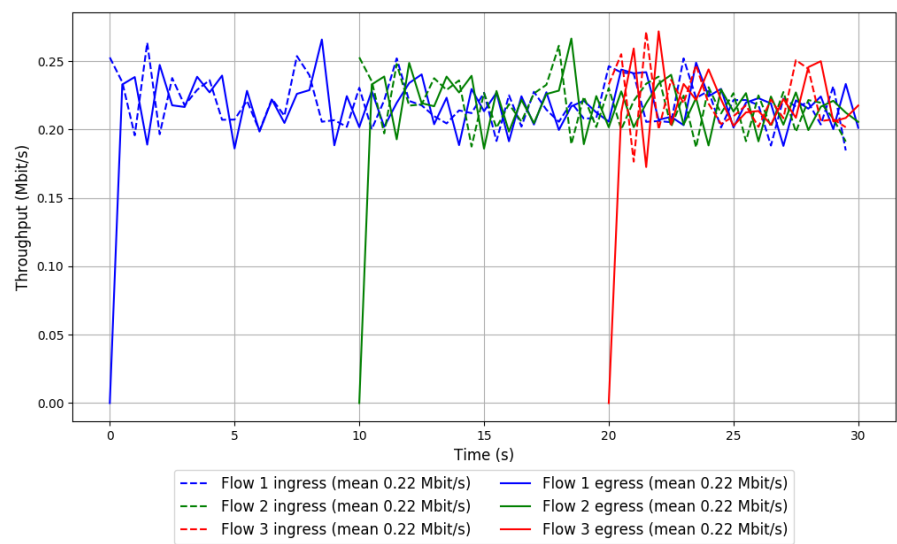


Run 2: Statistics of SReAM

Start at: 2019-02-12 17:55:51  
End at: 2019-02-12 17:56:21  
Local clock offset: -0.001 ms  
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 47.506 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 46.743 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 46.773 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 47.655 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



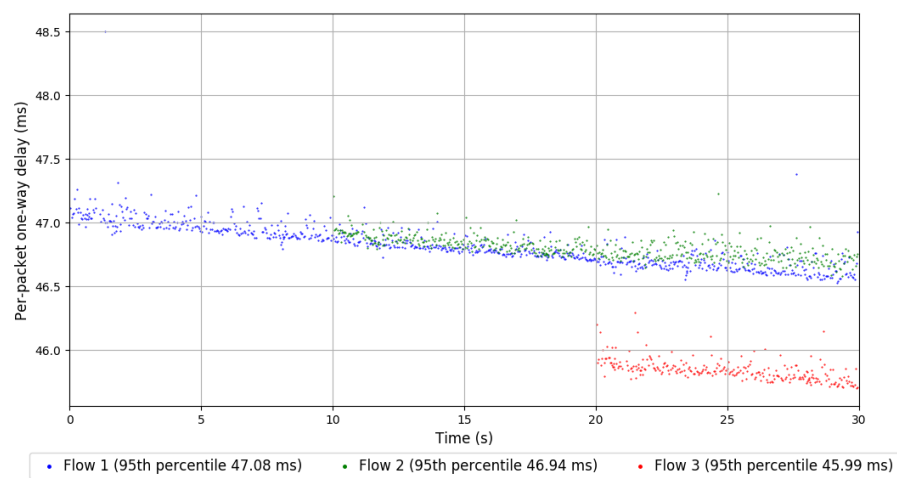
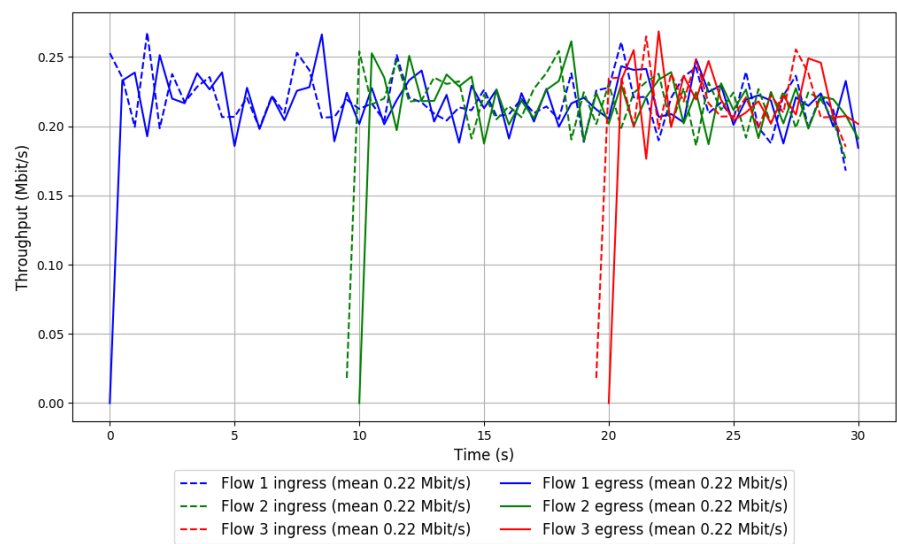


Run 3: Statistics of SReAM

Start at: 2019-02-12 18:34:36  
End at: 2019-02-12 18:35:06  
Local clock offset: 10.969 ms  
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 47.032 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 47.079 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 46.939 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 45.988 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

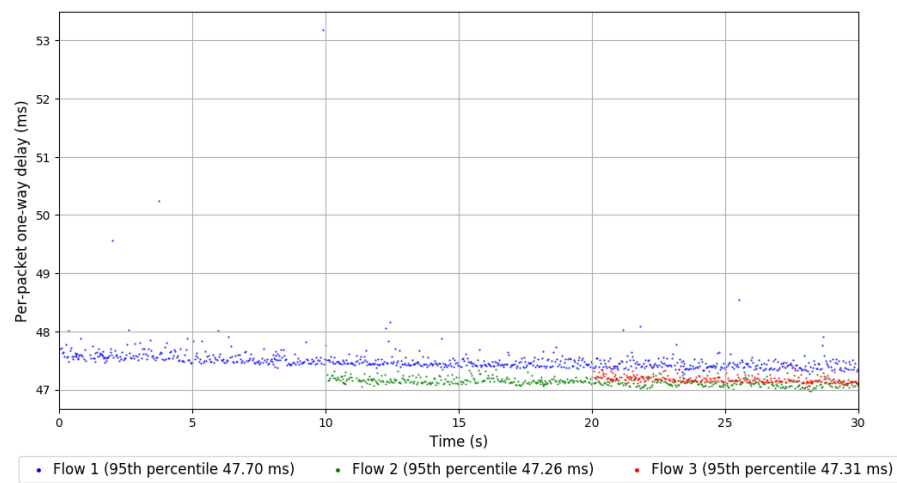
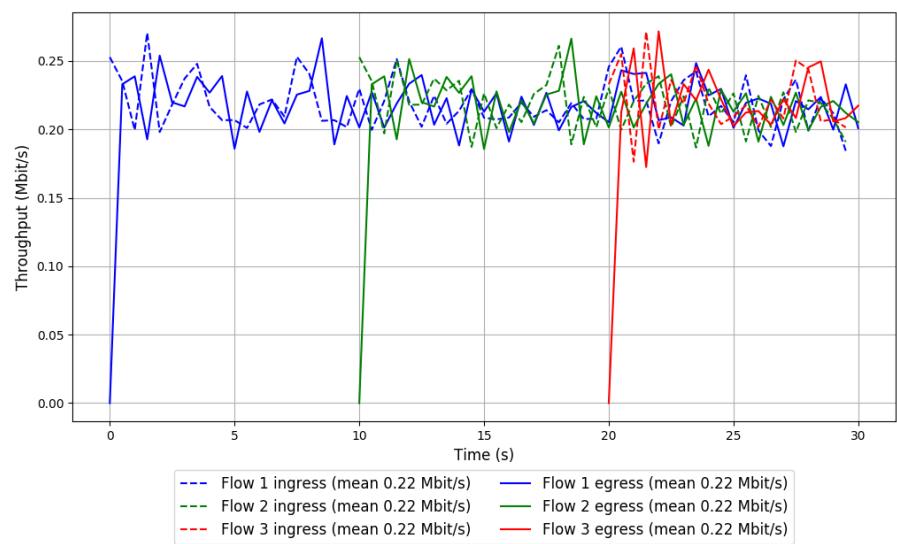


Run 4: Statistics of SReAM

Start at: 2019-02-12 19:13:05  
End at: 2019-02-12 19:13:35  
Local clock offset: 5.202 ms  
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 47.628 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 47.702 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 47.256 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 47.314 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

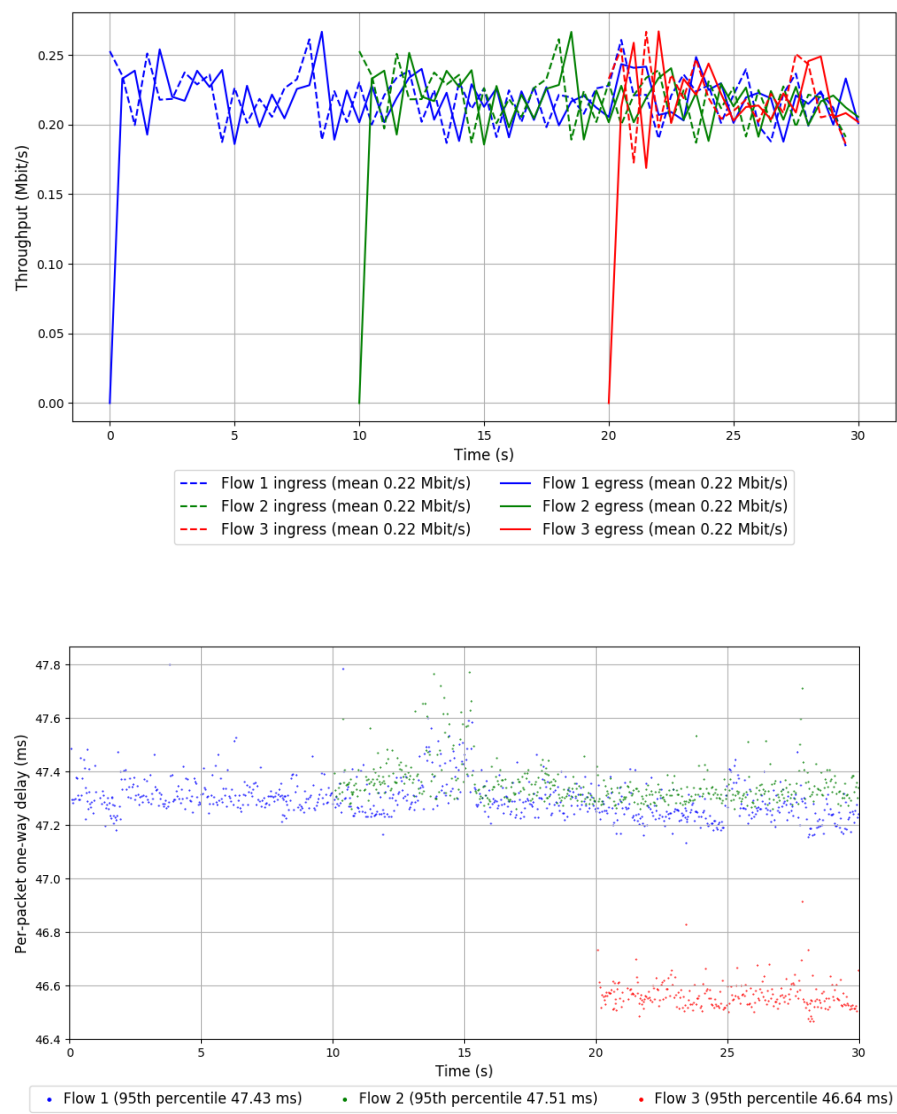


Run 5: Statistics of SReAM

Start at: 2019-02-12 19:52:21  
End at: 2019-02-12 19:52:51  
Local clock offset: 1.42 ms  
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 47.443 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 47.434 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 47.509 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 46.639 ms  
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-02-12 17:12:34

End at: 2019-02-12 17:13:04

Local clock offset: -0.19 ms

Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2019-02-12 22:49:27

# Datalink statistics

-- Total of 3 flows:

Average throughput: 18.69 Mbit/s

95th percentile per-packet one-way delay: 47.909 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 9.41 Mbit/s

95th percentile per-packet one-way delay: 48.022 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 9.55 Mbit/s

95th percentile per-packet one-way delay: 47.187 ms

Loss rate: 0.00%

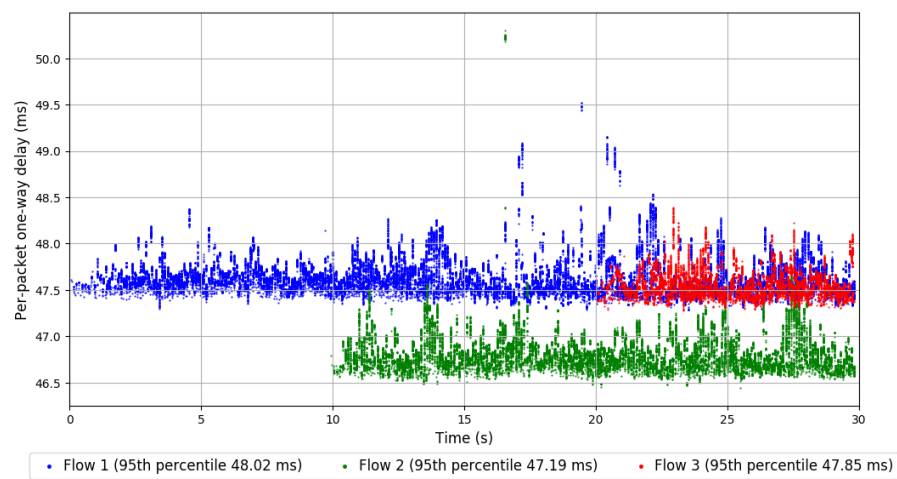
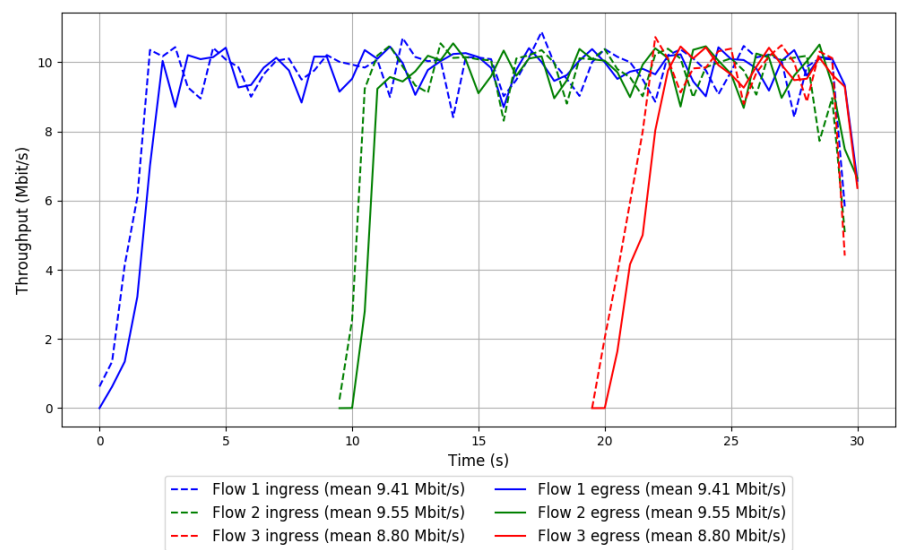
-- Flow 3:

Average throughput: 8.80 Mbit/s

95th percentile per-packet one-way delay: 47.846 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



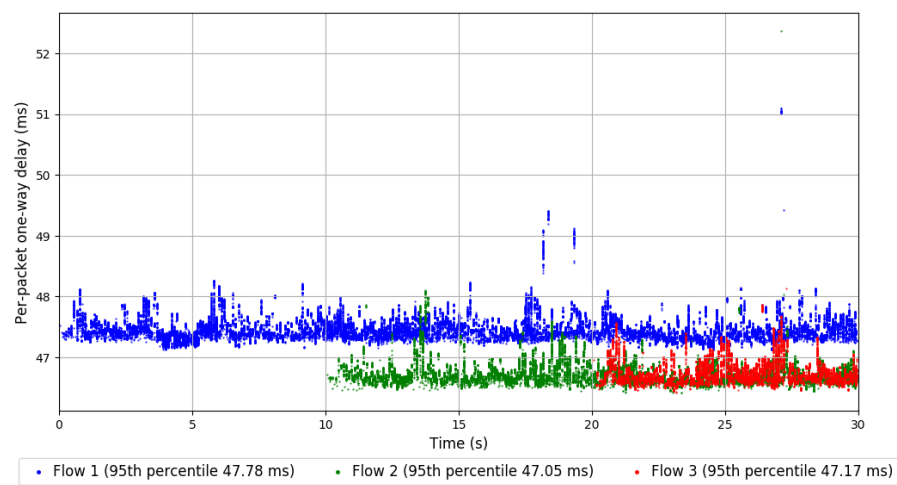
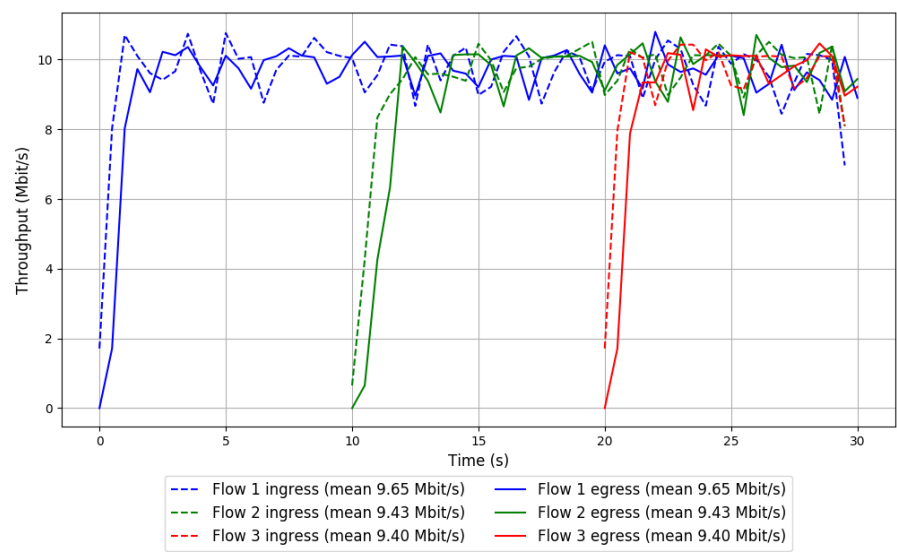


Run 2: Statistics of Sprout

Start at: 2019-02-12 17:48:29  
End at: 2019-02-12 17:48:59  
Local clock offset: 0.007 ms  
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 19.02 Mbit/s  
95th percentile per-packet one-way delay: 47.694 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 9.65 Mbit/s  
95th percentile per-packet one-way delay: 47.783 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 9.43 Mbit/s  
95th percentile per-packet one-way delay: 47.053 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 9.40 Mbit/s  
95th percentile per-packet one-way delay: 47.175 ms  
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

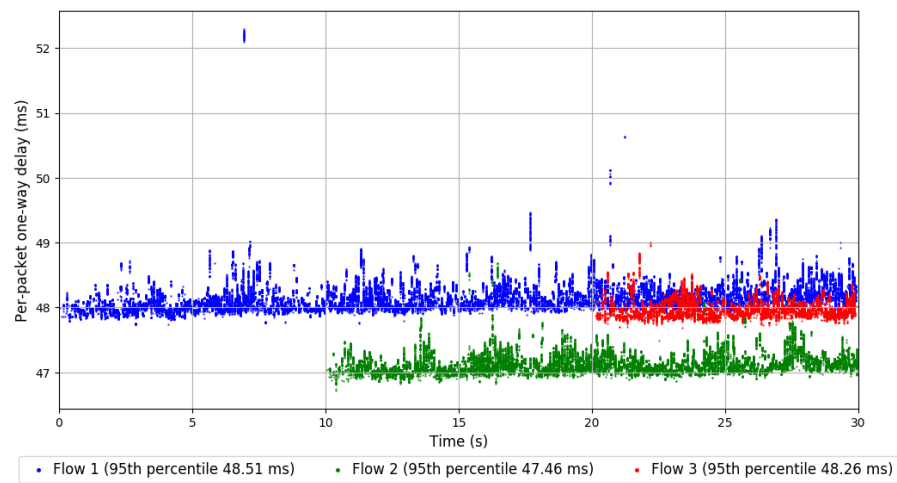
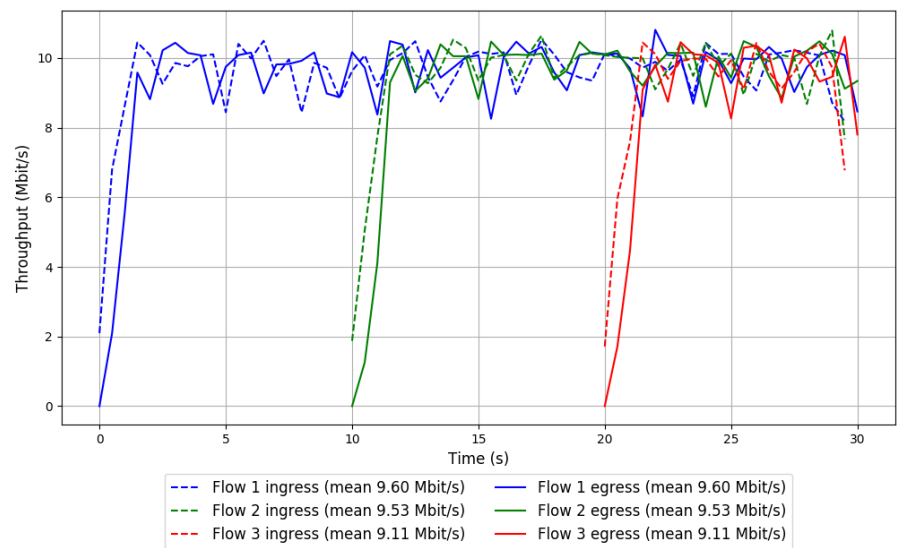


Run 3: Statistics of Sprout

Start at: 2019-02-12 18:26:44  
End at: 2019-02-12 18:27:14  
Local clock offset: 10.78 ms  
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 18.93 Mbit/s  
95th percentile per-packet one-way delay: 48.403 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 9.60 Mbit/s  
95th percentile per-packet one-way delay: 48.509 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 9.53 Mbit/s  
95th percentile per-packet one-way delay: 47.459 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 9.11 Mbit/s  
95th percentile per-packet one-way delay: 48.263 ms  
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

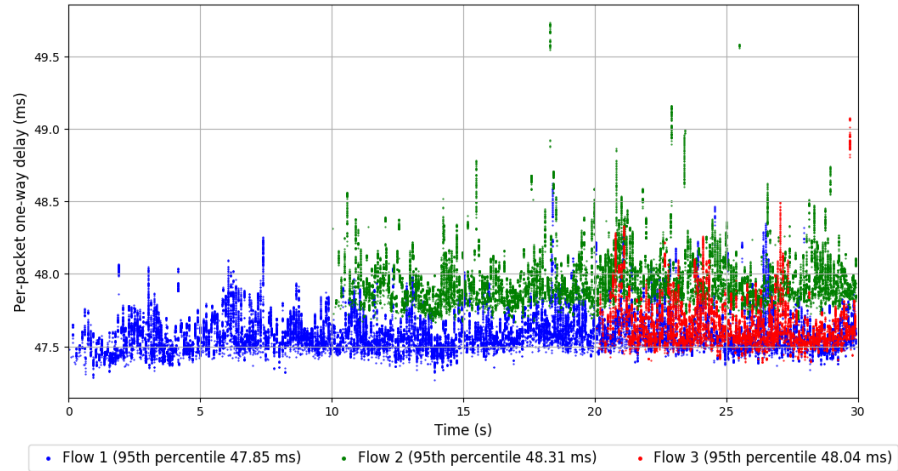
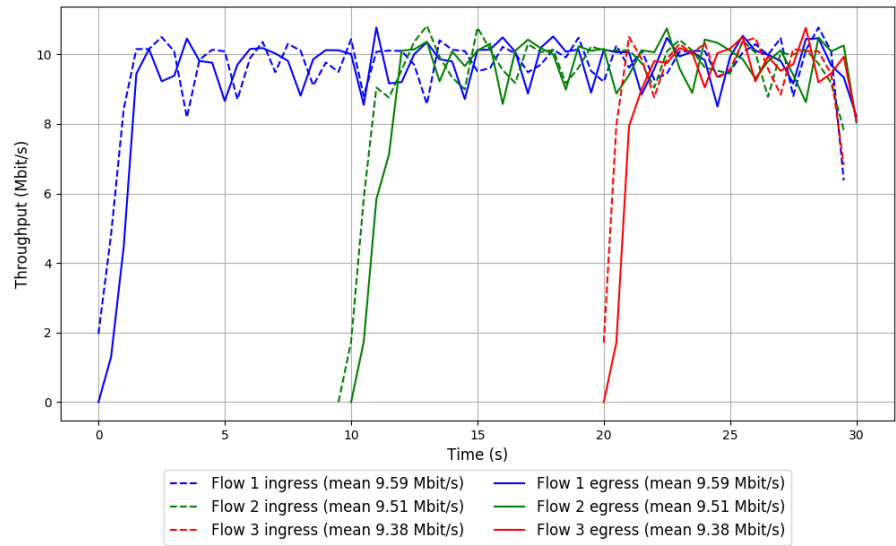


Run 4: Statistics of Sprout

Start at: 2019-02-12 19:05:13  
End at: 2019-02-12 19:05:43  
Local clock offset: 9.137 ms  
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2019-02-12 22:49:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 19.00 Mbit/s  
95th percentile per-packet one-way delay: 48.132 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 9.59 Mbit/s  
95th percentile per-packet one-way delay: 47.852 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 9.51 Mbit/s  
95th percentile per-packet one-way delay: 48.313 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 9.38 Mbit/s  
95th percentile per-packet one-way delay: 48.043 ms  
Loss rate: 0.00%

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

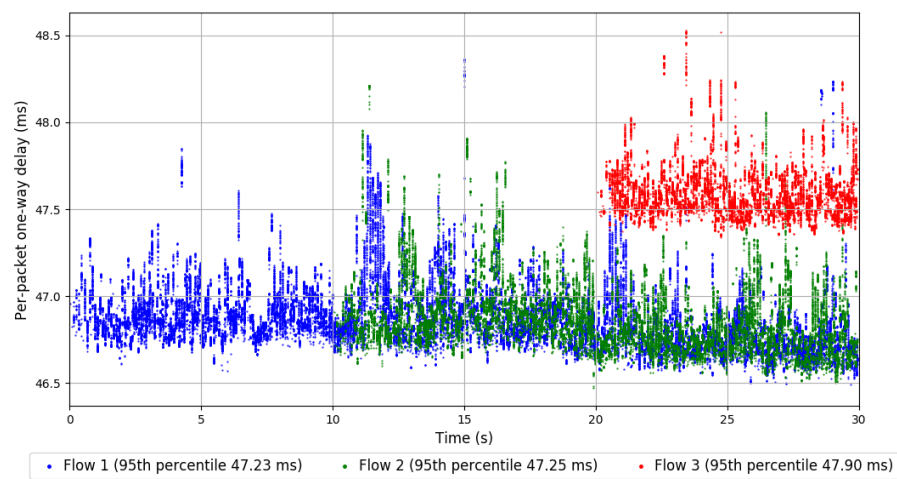
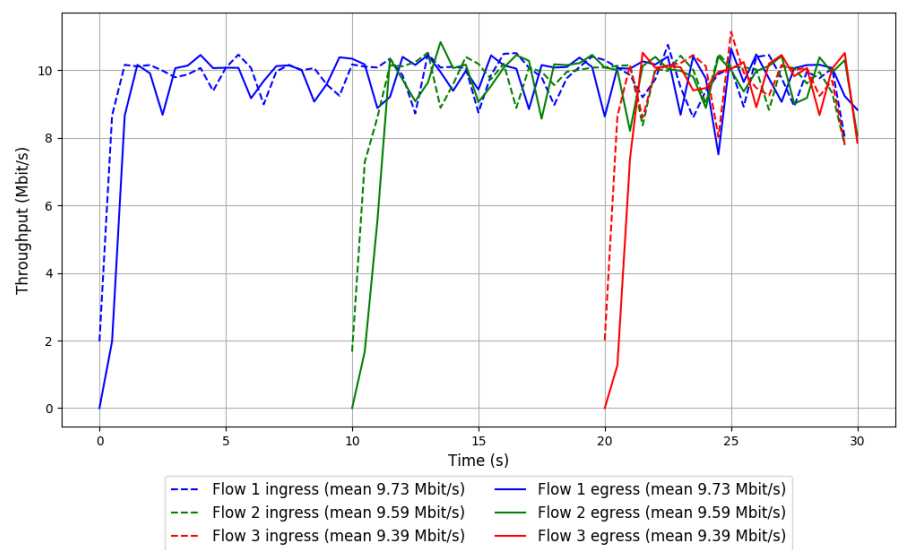


Run 5: Statistics of Sprout

Start at: 2019-02-12 19:44:25  
End at: 2019-02-12 19:44:55  
Local clock offset: 2.777 ms  
Remote clock offset: -0.083 ms

```
# Below is generated by plot.py at 2019-02-12 22:49:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.20 Mbit/s
95th percentile per-packet one-way delay: 47.656 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: 47.226 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.59 Mbit/s
95th percentile per-packet one-way delay: 47.252 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.39 Mbit/s
95th percentile per-packet one-way delay: 47.896 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



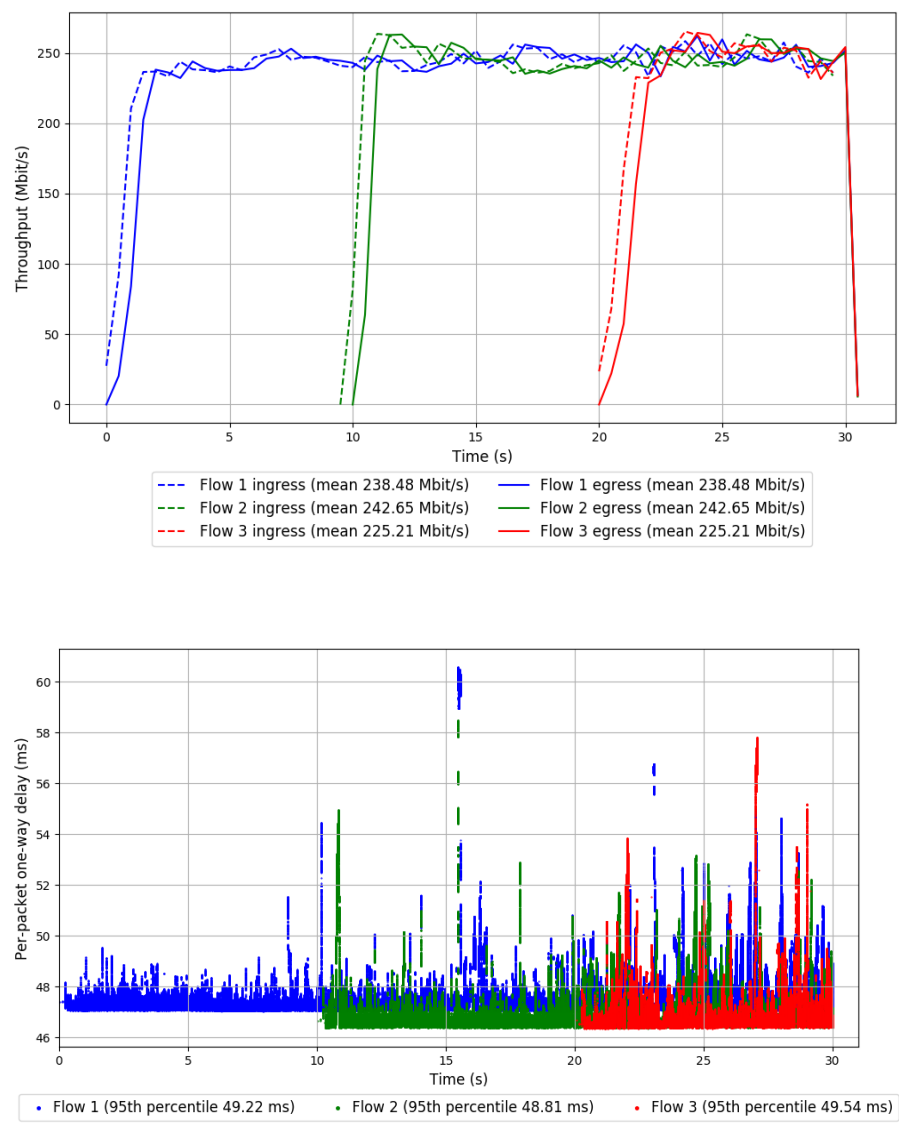


Run 1: Statistics of TaoVA-100x

Start at: 2019-02-12 17:02:53  
End at: 2019-02-12 17:03:23  
Local clock offset: -0.139 ms  
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2019-02-12 22:54:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 474.95 Mbit/s  
95th percentile per-packet one-way delay: 49.132 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 238.48 Mbit/s  
95th percentile per-packet one-way delay: 49.222 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 242.65 Mbit/s  
95th percentile per-packet one-way delay: 48.806 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 225.21 Mbit/s  
95th percentile per-packet one-way delay: 49.542 ms  
Loss rate: 0.00%

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

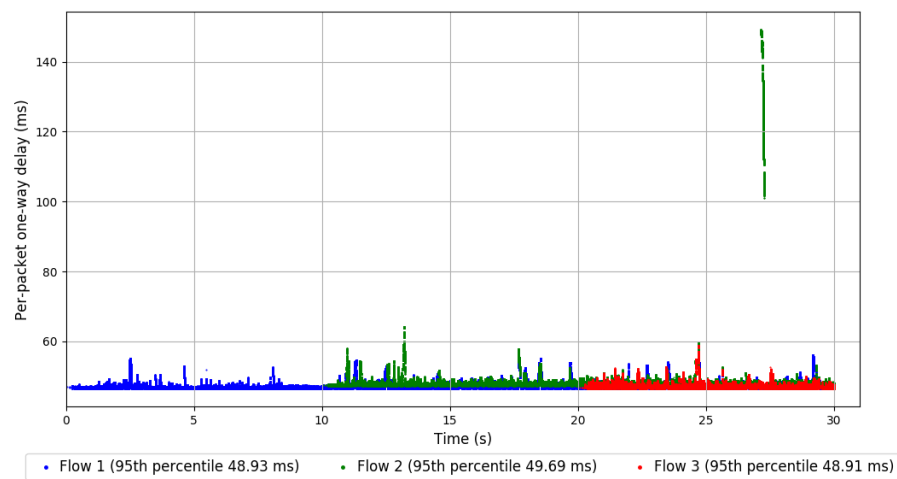
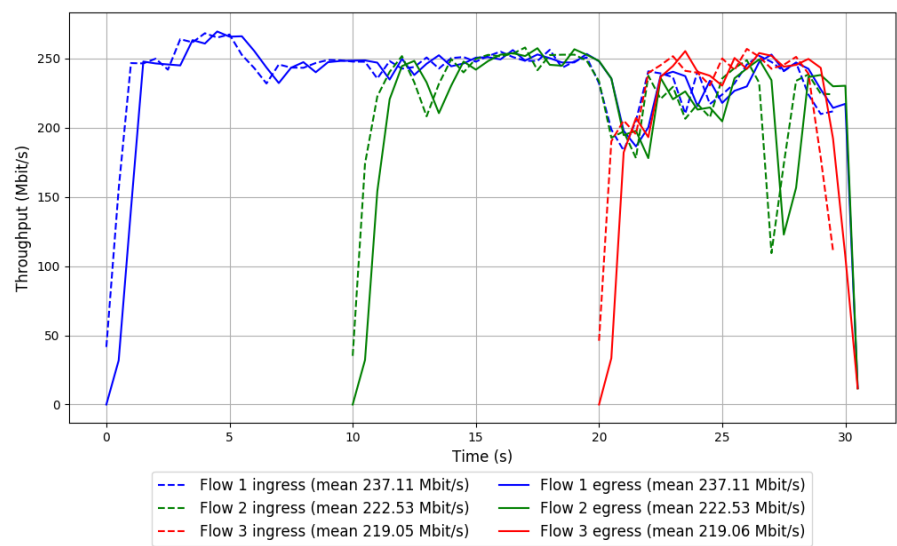


Run 2: Statistics of TaoVA-100x

Start at: 2019-02-12 17:38:46  
End at: 2019-02-12 17:39:16  
Local clock offset: -0.167 ms  
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-02-12 22:54:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 457.92 Mbit/s  
95th percentile per-packet one-way delay: 49.228 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 237.11 Mbit/s  
95th percentile per-packet one-way delay: 48.929 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 222.53 Mbit/s  
95th percentile per-packet one-way delay: 49.688 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 219.06 Mbit/s  
95th percentile per-packet one-way delay: 48.909 ms  
Loss rate: 0.00%

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

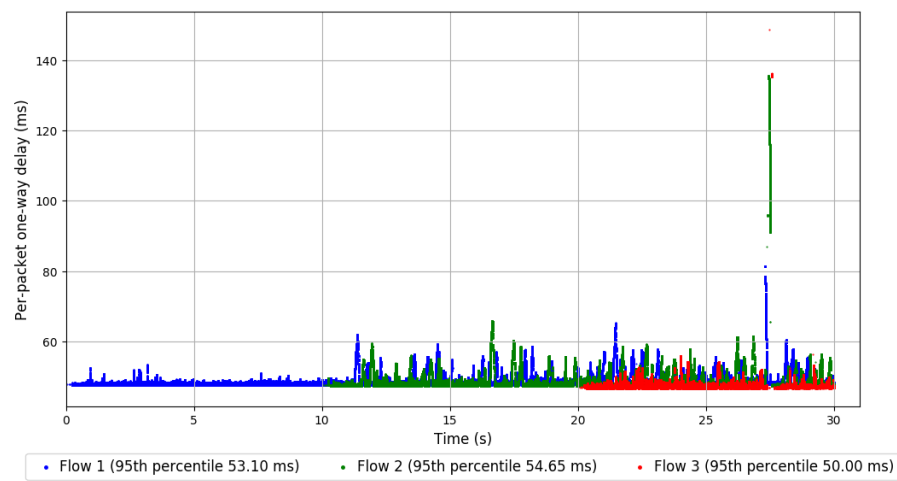
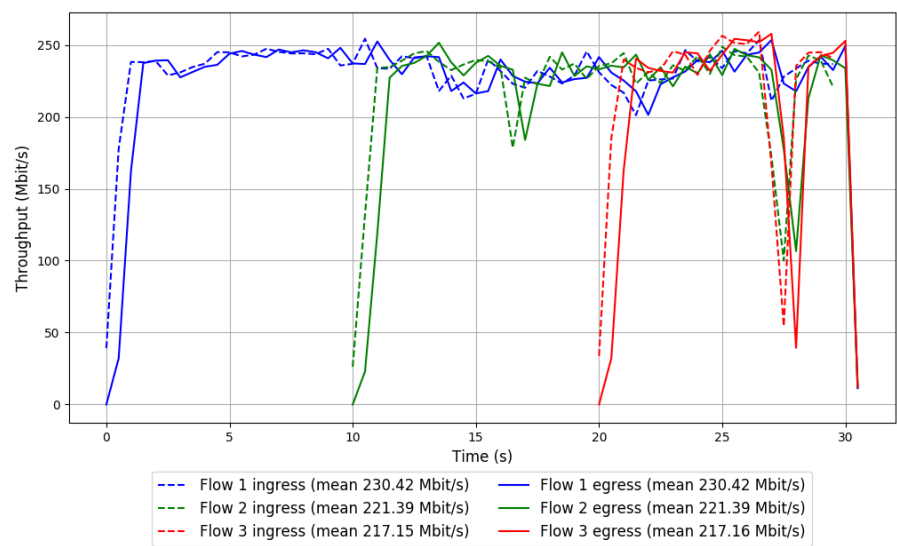


Run 3: Statistics of TaoVA-100x

Start at: 2019-02-12 18:15:36  
End at: 2019-02-12 18:16:06  
Local clock offset: 5.571 ms  
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2019-02-12 22:54:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 450.02 Mbit/s  
95th percentile per-packet one-way delay: 53.391 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 230.42 Mbit/s  
95th percentile per-packet one-way delay: 53.103 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 221.39 Mbit/s  
95th percentile per-packet one-way delay: 54.651 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 217.16 Mbit/s  
95th percentile per-packet one-way delay: 50.004 ms  
Loss rate: 0.00%

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

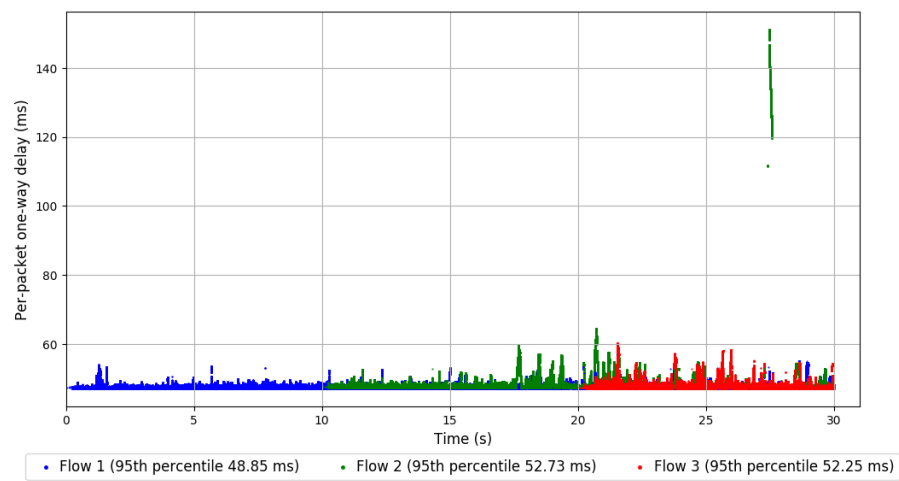
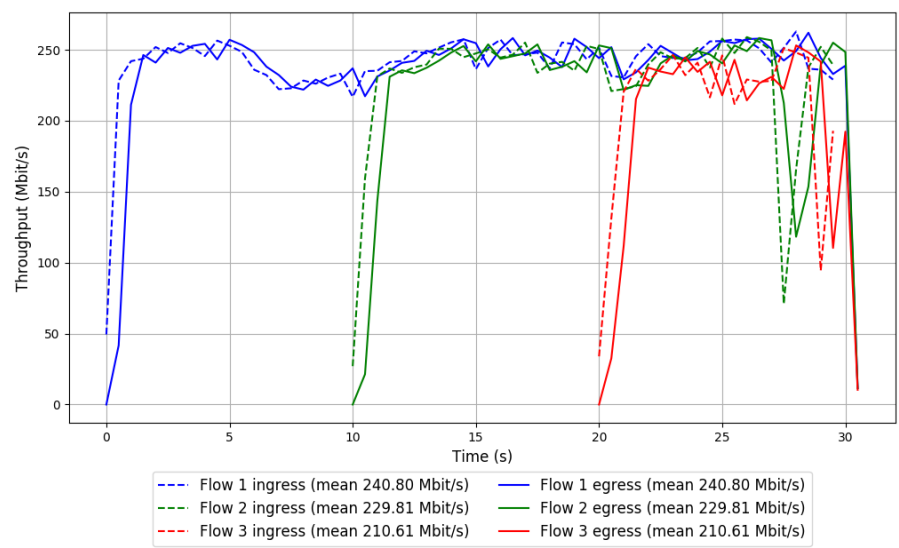


Run 4: Statistics of TaoVA-100x

Start at: 2019-02-12 18:54:29  
End at: 2019-02-12 18:54:59  
Local clock offset: 6.919 ms  
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2019-02-12 22:54:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 463.83 Mbit/s  
95th percentile per-packet one-way delay: 50.359 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 240.80 Mbit/s  
95th percentile per-packet one-way delay: 48.847 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 229.81 Mbit/s  
95th percentile per-packet one-way delay: 52.729 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 210.61 Mbit/s  
95th percentile per-packet one-way delay: 52.253 ms  
Loss rate: 0.00%

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



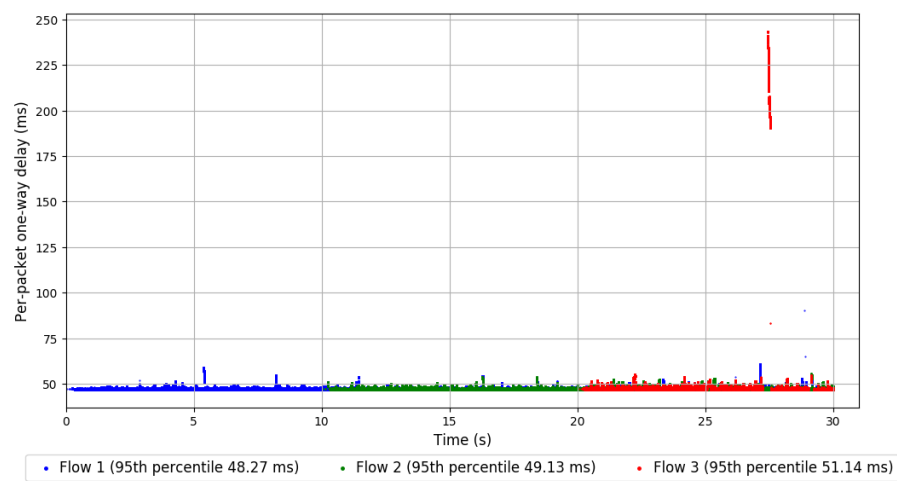
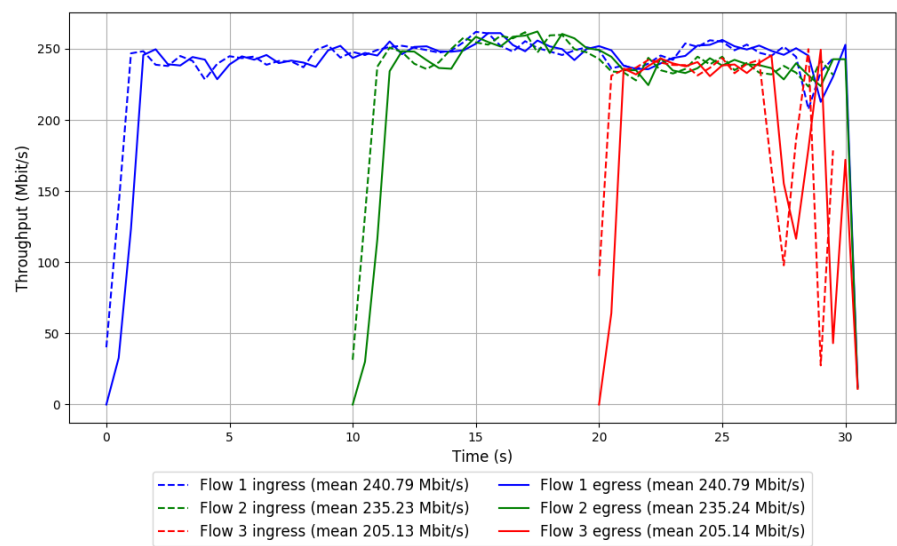


Run 5: Statistics of TaoVA-100x

Start at: 2019-02-12 19:33:33  
End at: 2019-02-12 19:34:03  
Local clock offset: 4.351 ms  
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2019-02-12 22:54:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 465.58 Mbit/s  
95th percentile per-packet one-way delay: 48.993 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 240.79 Mbit/s  
95th percentile per-packet one-way delay: 48.268 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 235.24 Mbit/s  
95th percentile per-packet one-way delay: 49.130 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 205.14 Mbit/s  
95th percentile per-packet one-way delay: 51.143 ms  
Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-02-12 17:10:36

End at: 2019-02-12 17:11:06

Local clock offset: -0.166 ms

Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2019-02-12 22:55:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 925.42 Mbit/s

95th percentile per-packet one-way delay: 87.867 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 450.96 Mbit/s

95th percentile per-packet one-way delay: 87.189 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 510.96 Mbit/s

95th percentile per-packet one-way delay: 92.447 ms

Loss rate: 0.06%

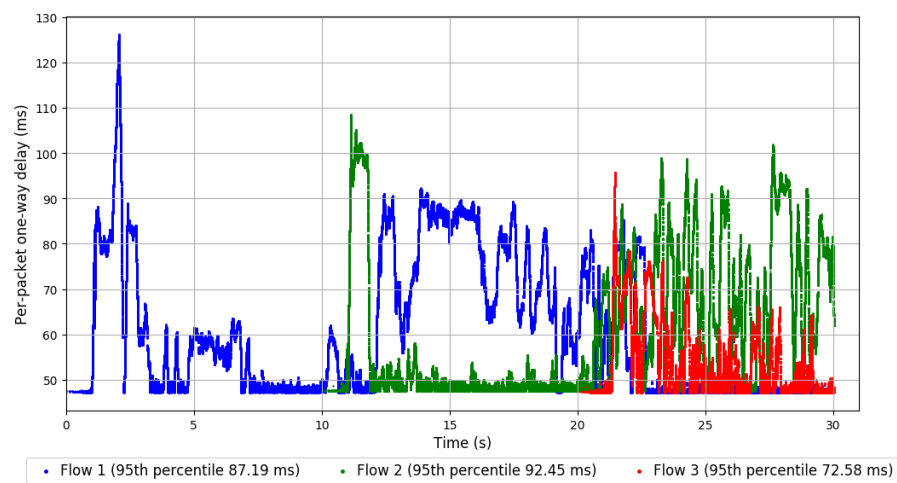
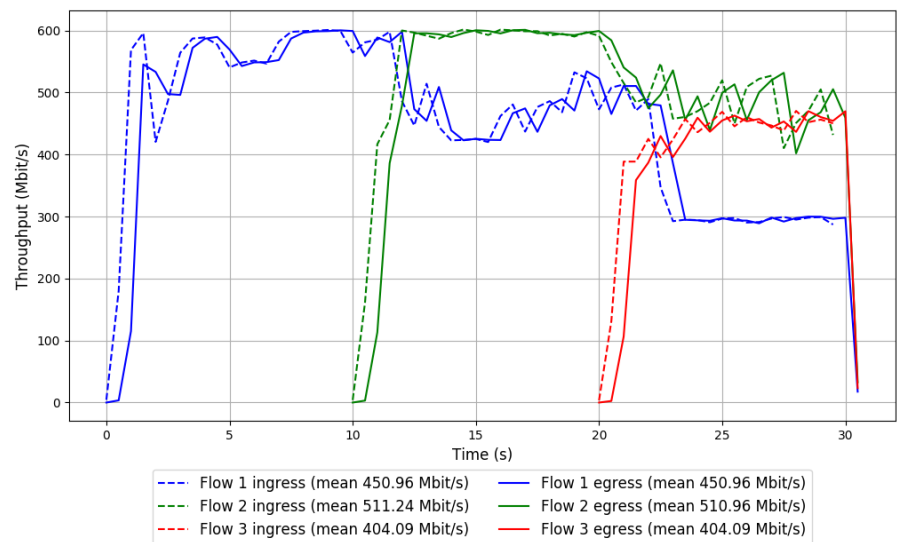
-- Flow 3:

Average throughput: 404.09 Mbit/s

95th percentile per-packet one-way delay: 72.576 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

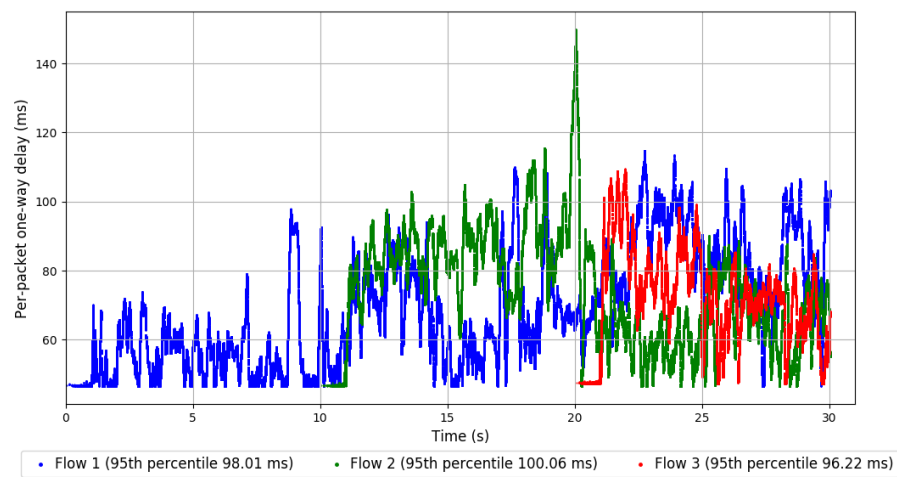
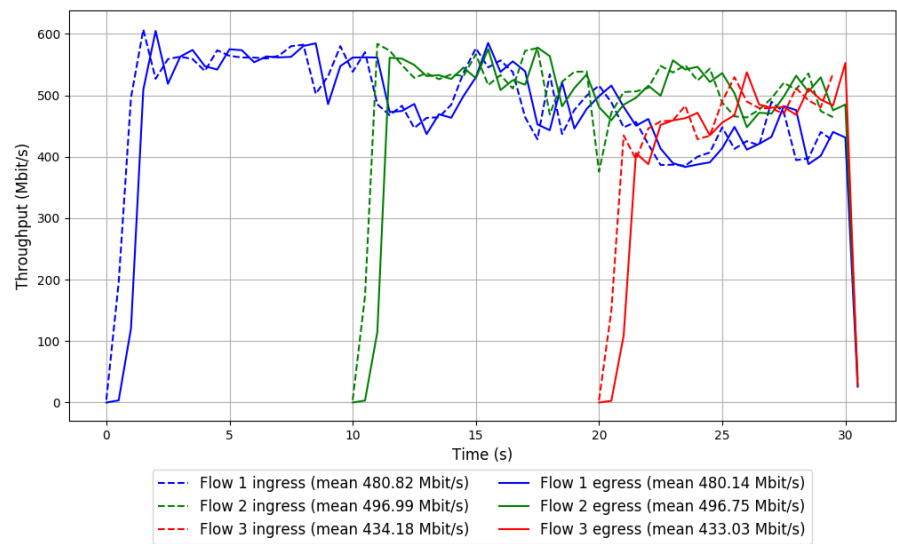


Run 2: Statistics of TCP Vegas

Start at: 2019-02-12 17:46:30  
End at: 2019-02-12 17:47:00  
Local clock offset: -0.028 ms  
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2019-02-12 23:06:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 954.95 Mbit/s  
95th percentile per-packet one-way delay: 98.441 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 480.14 Mbit/s  
95th percentile per-packet one-way delay: 98.006 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 496.75 Mbit/s  
95th percentile per-packet one-way delay: 100.061 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 433.03 Mbit/s  
95th percentile per-packet one-way delay: 96.224 ms  
Loss rate: 0.24%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-02-12 18:24:27

End at: 2019-02-12 18:24:57

Local clock offset: 9.763 ms

Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-02-12 23:09:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 884.35 Mbit/s

95th percentile per-packet one-way delay: 93.061 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 430.14 Mbit/s

95th percentile per-packet one-way delay: 91.429 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 458.16 Mbit/s

95th percentile per-packet one-way delay: 80.194 ms

Loss rate: 0.10%

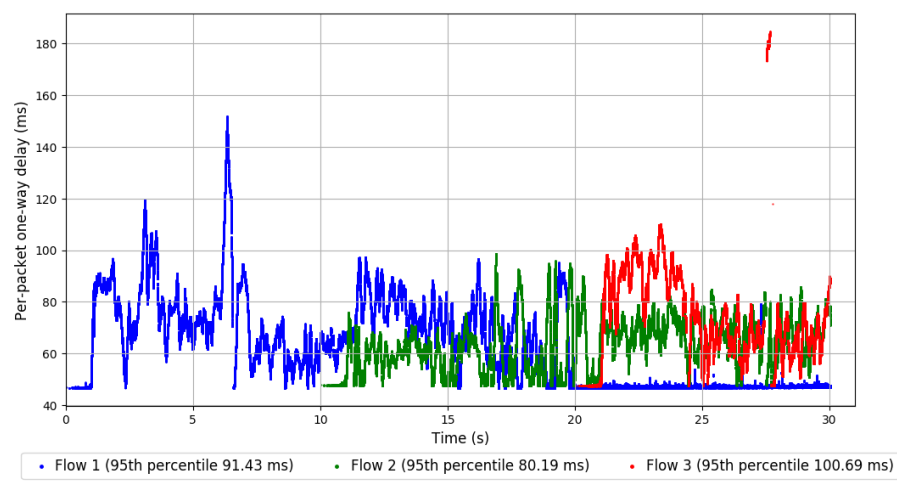
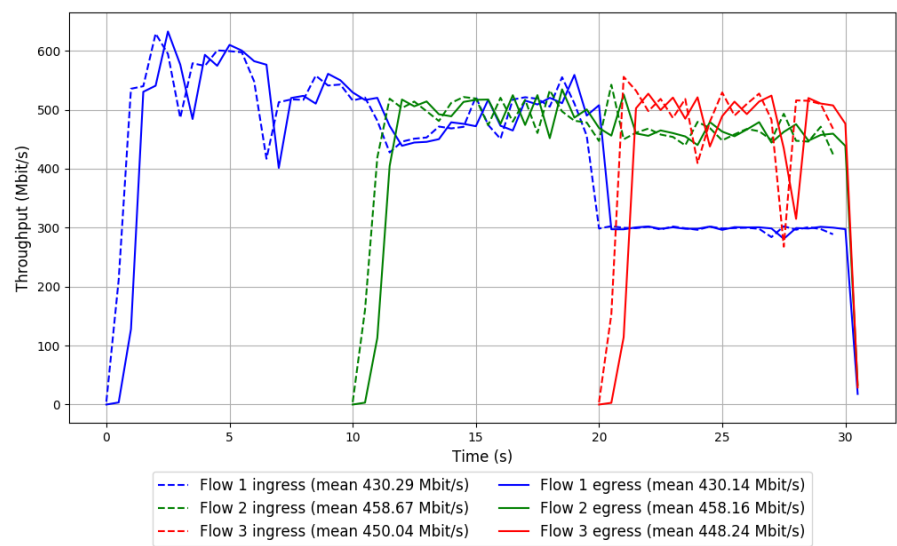
-- Flow 3:

Average throughput: 448.24 Mbit/s

95th percentile per-packet one-way delay: 100.692 ms

Loss rate: 0.38%

Run 3: Report of TCP Vegas — Data Link





Run 4: Statistics of TCP Vegas

Start at: 2019-02-12 19:02:59

End at: 2019-02-12 19:03:29

Local clock offset: 8.605 ms

Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-02-12 23:13:23

# Datalink statistics

-- Total of 3 flows:

Average throughput: 956.62 Mbit/s

95th percentile per-packet one-way delay: 80.812 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 498.21 Mbit/s

95th percentile per-packet one-way delay: 82.088 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 462.50 Mbit/s

95th percentile per-packet one-way delay: 68.728 ms

Loss rate: 0.05%

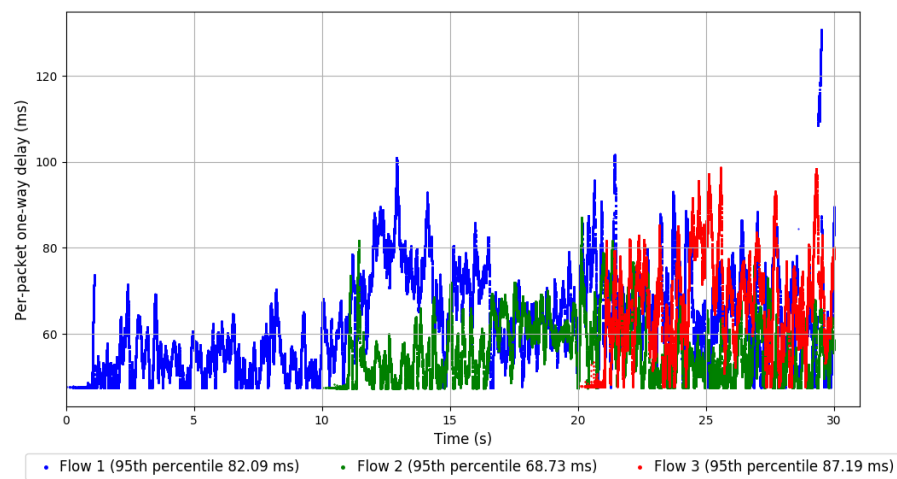
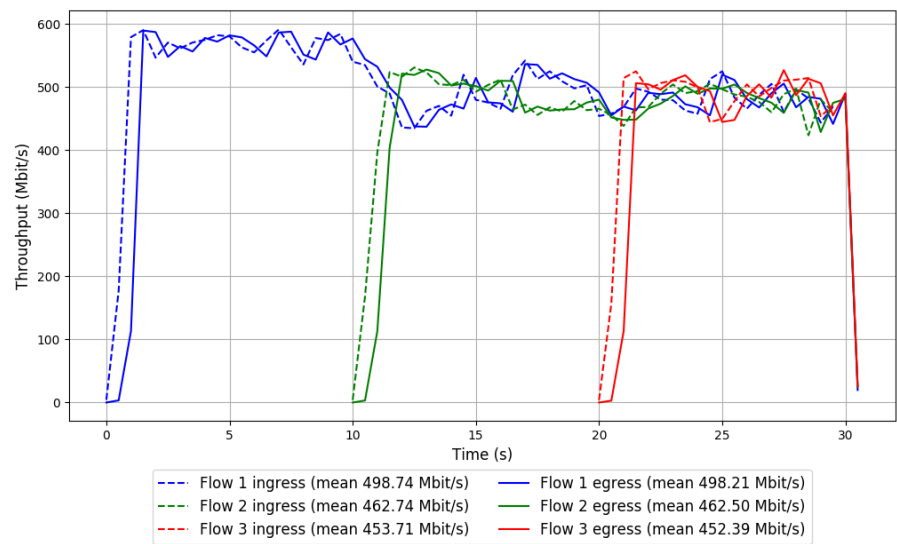
-- Flow 3:

Average throughput: 452.39 Mbit/s

95th percentile per-packet one-way delay: 87.185 ms

Loss rate: 0.28%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-02-12 19:42:18

End at: 2019-02-12 19:42:48

Local clock offset: 3.86 ms

Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2019-02-12 23:13:23

# Datalink statistics

-- Total of 3 flows:

Average throughput: 663.78 Mbit/s

95th percentile per-packet one-way delay: 72.905 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 505.92 Mbit/s

95th percentile per-packet one-way delay: 69.630 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 154.86 Mbit/s

95th percentile per-packet one-way delay: 47.995 ms

Loss rate: 0.02%

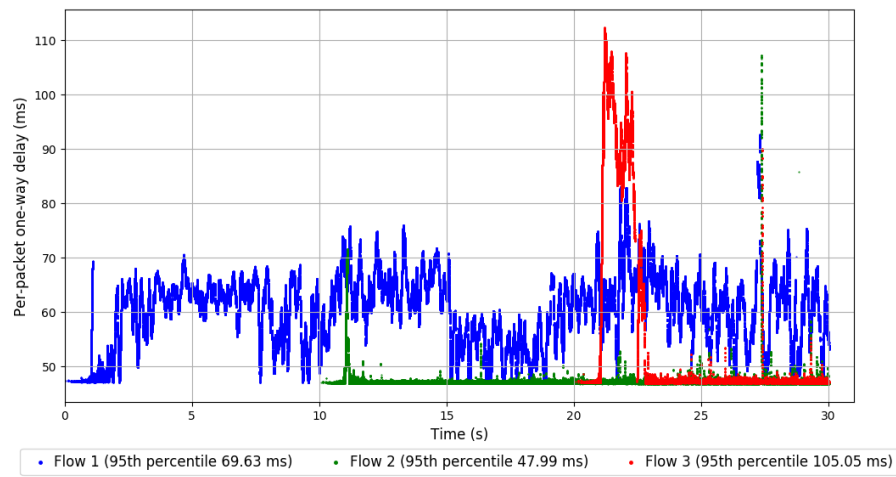
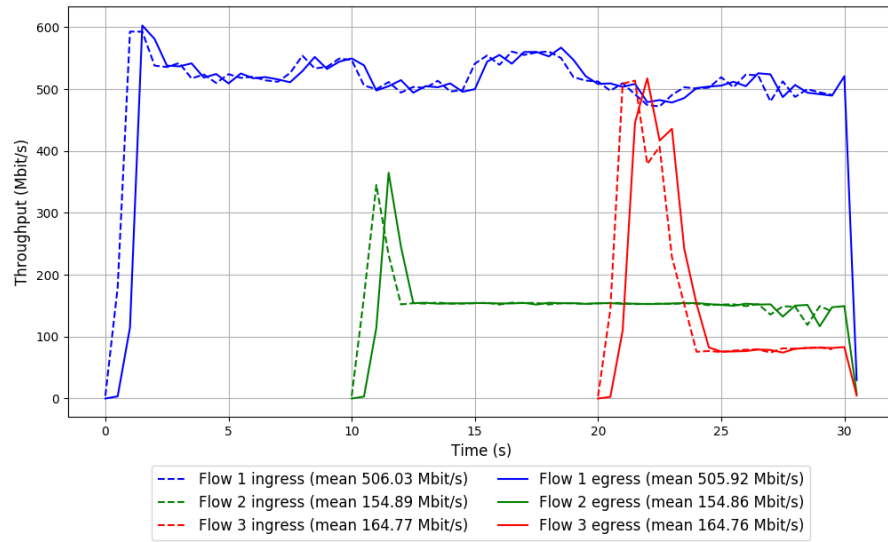
-- Flow 3:

Average throughput: 164.76 Mbit/s

95th percentile per-packet one-way delay: 105.050 ms

Loss rate: 0.00%

# Run 5: Report of TCP Vegas — Data Link

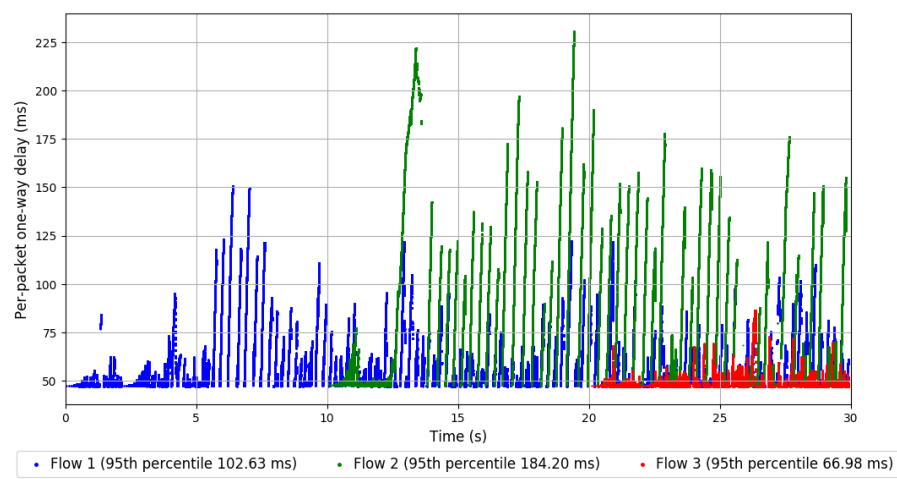
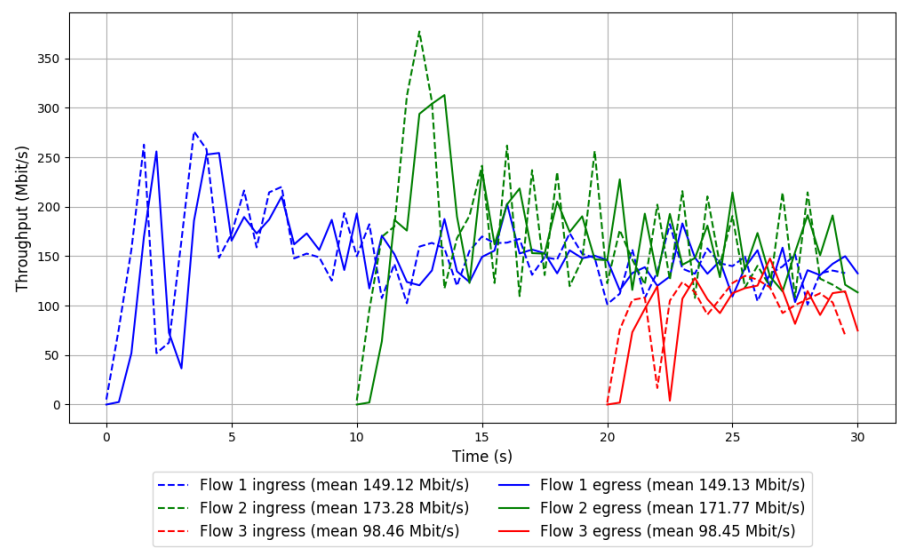


Run 1: Statistics of Verus

Start at: 2019-02-12 16:53:55  
End at: 2019-02-12 16:54:25  
Local clock offset: -0.173 ms  
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2019-02-12 23:13:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 295.15 Mbit/s  
95th percentile per-packet one-way delay: 149.814 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 149.13 Mbit/s  
95th percentile per-packet one-way delay: 102.633 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 171.77 Mbit/s  
95th percentile per-packet one-way delay: 184.204 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 98.45 Mbit/s  
95th percentile per-packet one-way delay: 66.978 ms  
Loss rate: 0.00%

Run 1: Report of Verus — Data Link

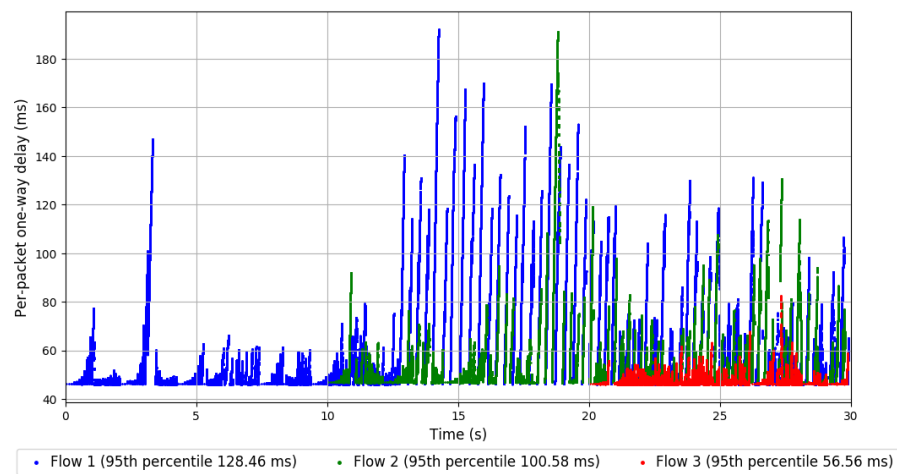
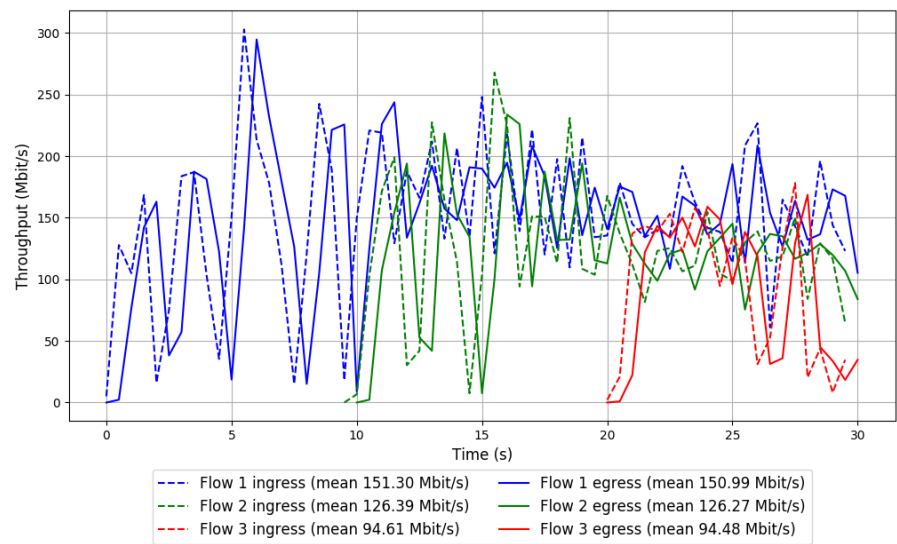


Run 2: Statistics of Verus

Start at: 2019-02-12 17:30:16  
End at: 2019-02-12 17:30:46  
Local clock offset: 0.262 ms  
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2019-02-12 23:13:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 265.57 Mbit/s  
95th percentile per-packet one-way delay: 118.770 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 150.99 Mbit/s  
95th percentile per-packet one-way delay: 128.460 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 126.27 Mbit/s  
95th percentile per-packet one-way delay: 100.581 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 94.48 Mbit/s  
95th percentile per-packet one-way delay: 56.560 ms  
Loss rate: 0.00%

Run 2: Report of Verus — Data Link



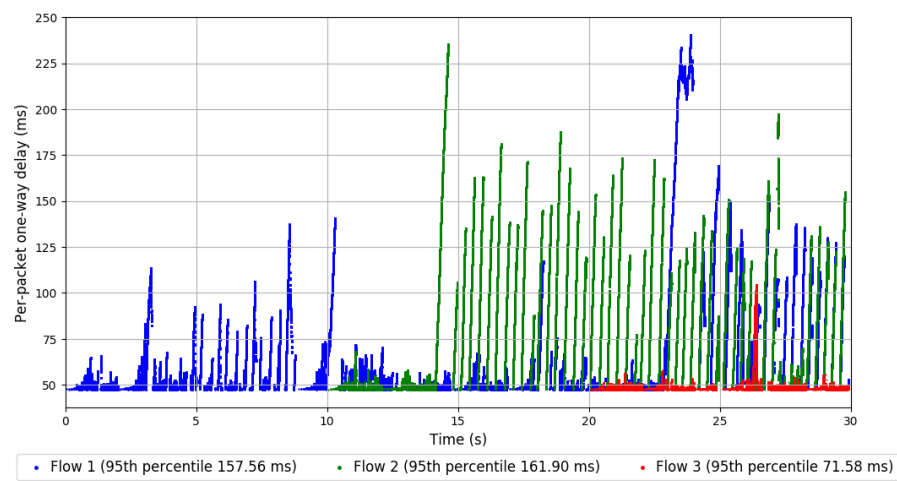
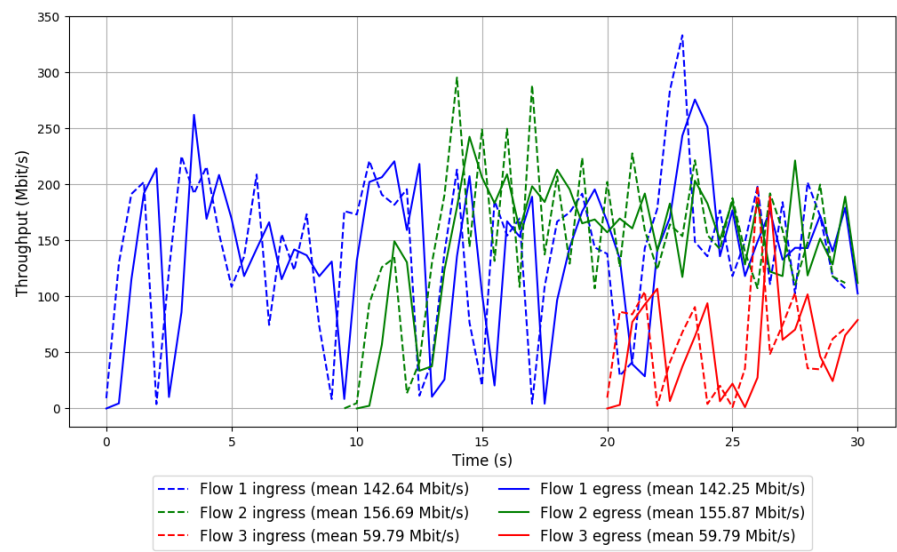


Run 3: Statistics of Verus

Start at: 2019-02-12 18:06:24  
End at: 2019-02-12 18:06:54  
Local clock offset: 1.146 ms  
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2019-02-12 23:13:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 265.01 Mbit/s  
95th percentile per-packet one-way delay: 157.901 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 142.25 Mbit/s  
95th percentile per-packet one-way delay: 157.563 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 155.87 Mbit/s  
95th percentile per-packet one-way delay: 161.901 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 59.79 Mbit/s  
95th percentile per-packet one-way delay: 71.577 ms  
Loss rate: 0.00%

Run 3: Report of Verus — Data Link

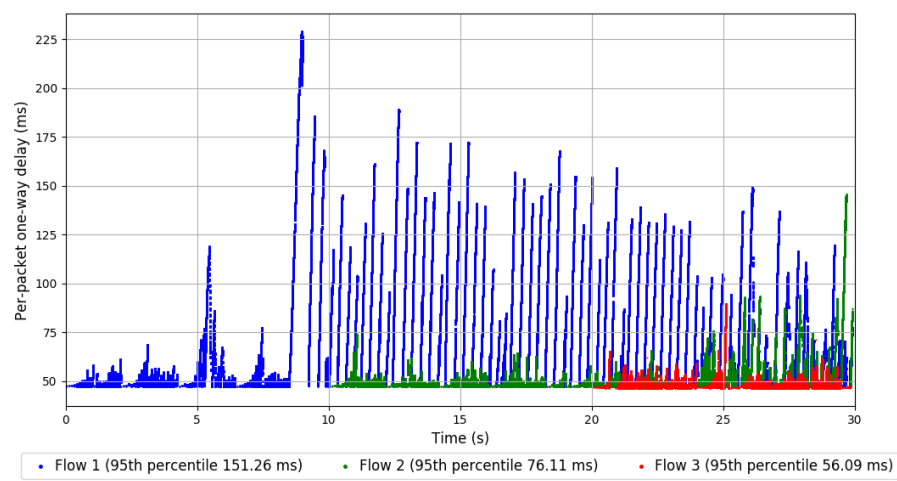
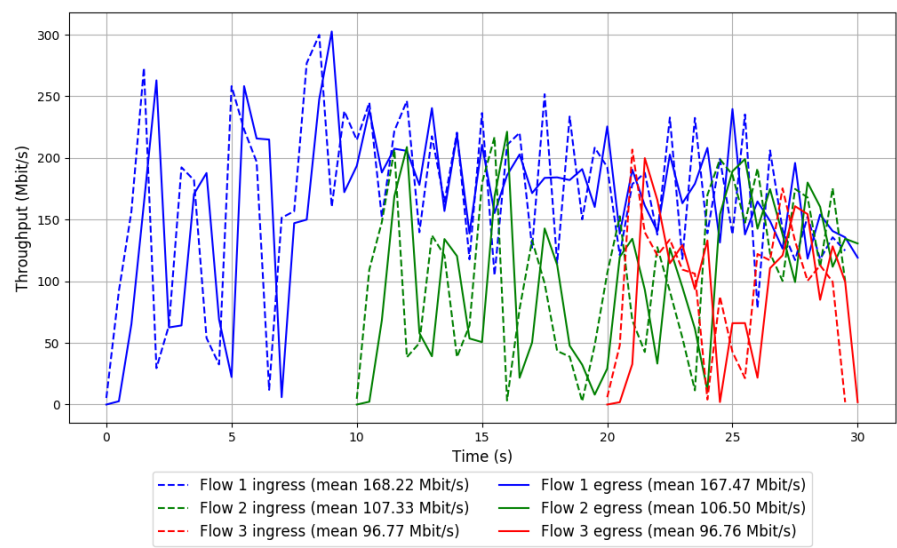


Run 4: Statistics of Verus

Start at: 2019-02-12 18:45:08  
End at: 2019-02-12 18:45:38  
Local clock offset: 6.305 ms  
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2019-02-12 23:13:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 269.88 Mbit/s  
95th percentile per-packet one-way delay: 141.651 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 167.47 Mbit/s  
95th percentile per-packet one-way delay: 151.262 ms  
Loss rate: 0.37%  
-- Flow 2:  
Average throughput: 106.50 Mbit/s  
95th percentile per-packet one-way delay: 76.107 ms  
Loss rate: 0.77%  
-- Flow 3:  
Average throughput: 96.76 Mbit/s  
95th percentile per-packet one-way delay: 56.094 ms  
Loss rate: 0.00%

Run 4: Report of Verus — Data Link

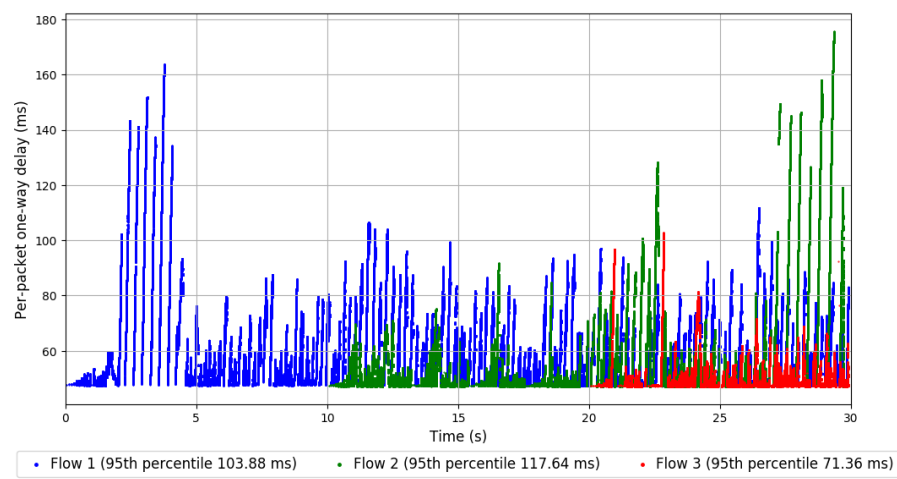
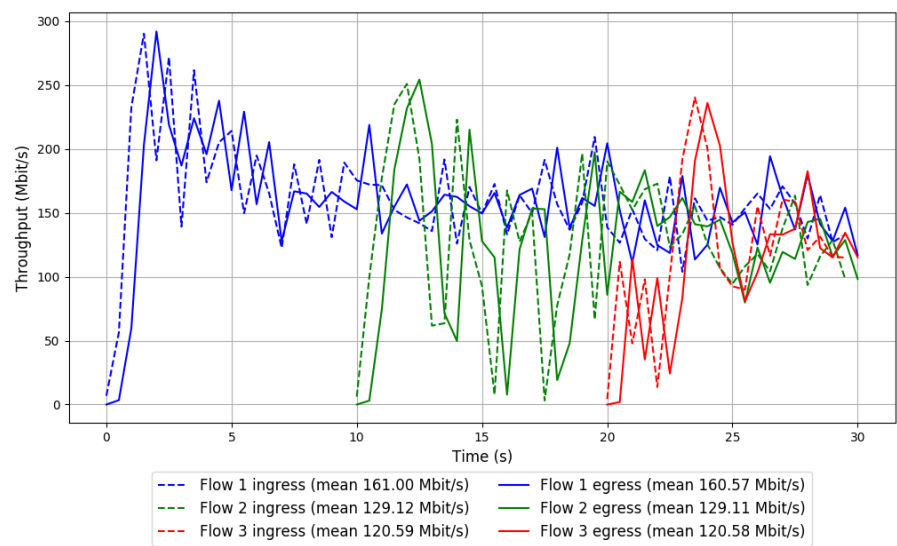


Run 5: Statistics of Verus

Start at: 2019-02-12 19:24:23  
End at: 2019-02-12 19:24:53  
Local clock offset: 3.473 ms  
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-02-12 23:15:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 285.75 Mbit/s  
95th percentile per-packet one-way delay: 103.043 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 160.57 Mbit/s  
95th percentile per-packet one-way delay: 103.879 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 129.11 Mbit/s  
95th percentile per-packet one-way delay: 117.635 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 120.58 Mbit/s  
95th percentile per-packet one-way delay: 71.360 ms  
Loss rate: 0.00%

Run 5: Report of Verus — Data Link

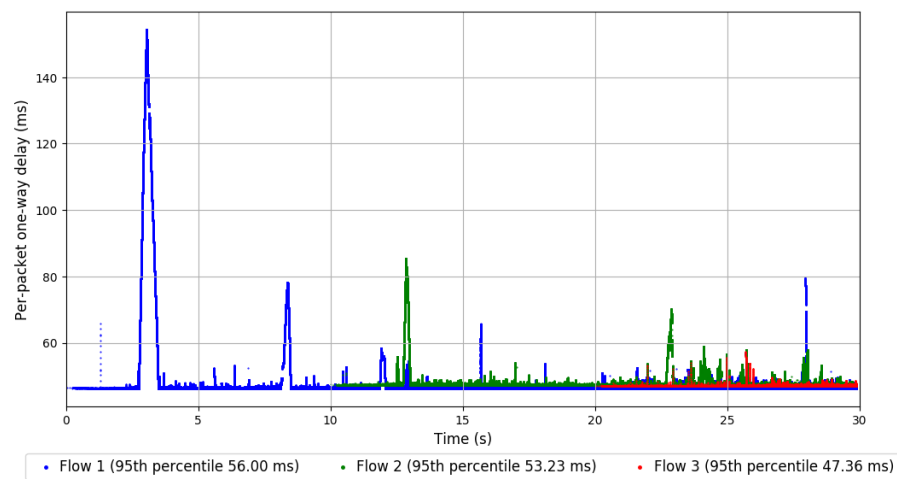
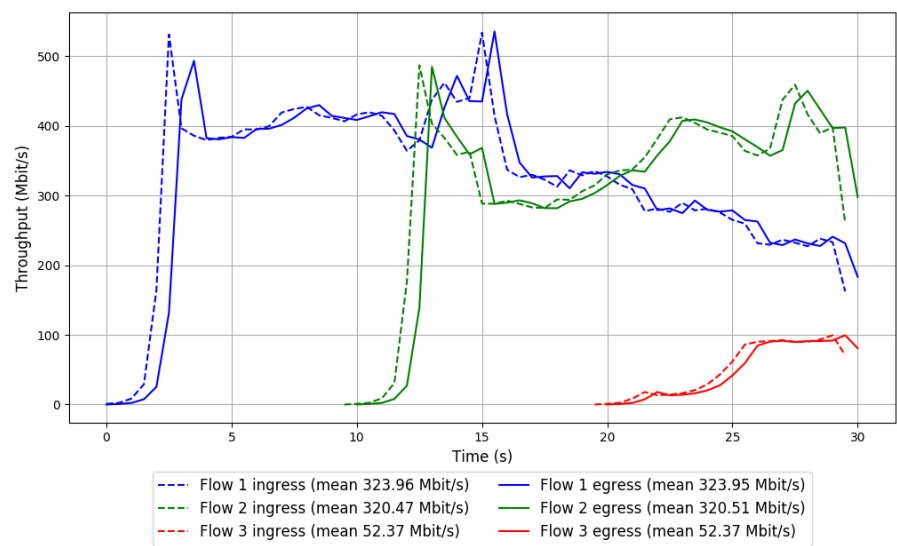


Run 1: Statistics of PCC-Vivace

Start at: 2019-02-12 16:55:42  
End at: 2019-02-12 16:56:12  
Local clock offset: 0.026 ms  
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2019-02-12 23:15:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 554.67 Mbit/s  
95th percentile per-packet one-way delay: 54.061 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 323.95 Mbit/s  
95th percentile per-packet one-way delay: 56.004 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 320.51 Mbit/s  
95th percentile per-packet one-way delay: 53.233 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 52.37 Mbit/s  
95th percentile per-packet one-way delay: 47.363 ms  
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



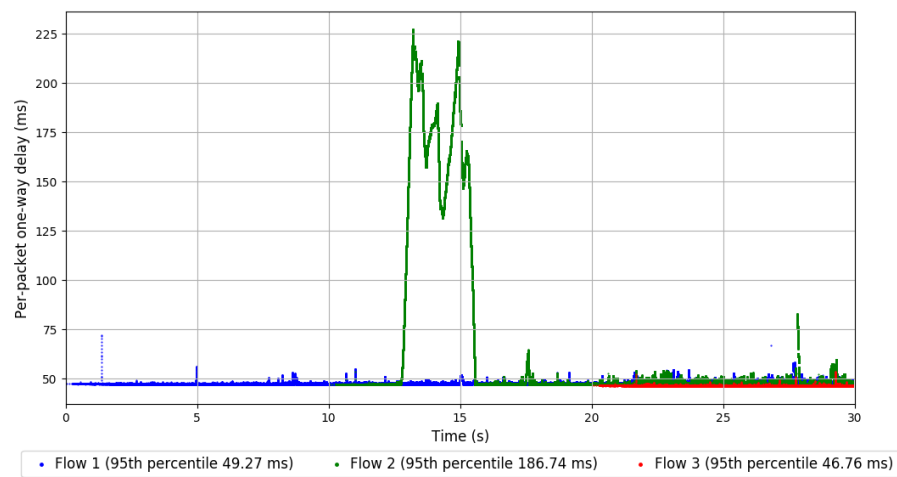
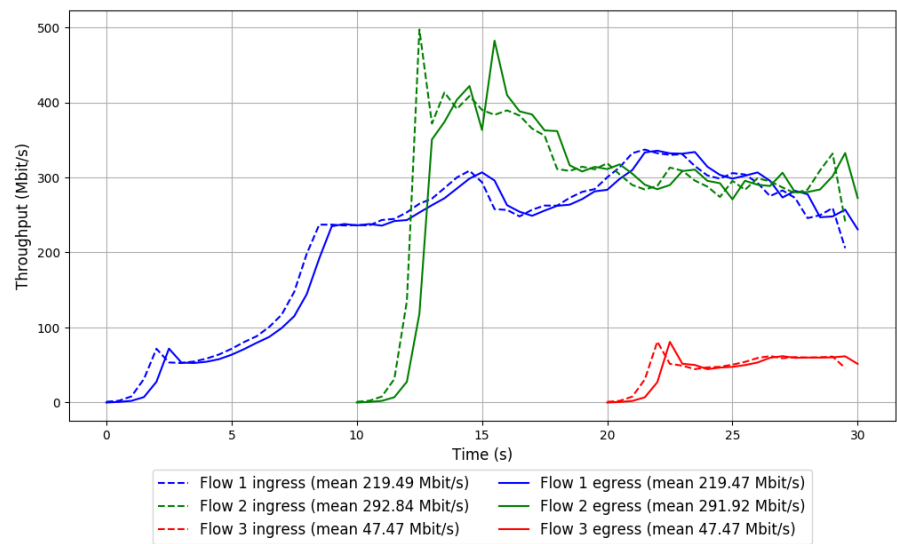


Run 2: Statistics of PCC-Vivace

Start at: 2019-02-12 17:31:53  
End at: 2019-02-12 17:32:23  
Local clock offset: -0.09 ms  
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-02-12 23:15:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 429.26 Mbit/s  
95th percentile per-packet one-way delay: 161.295 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 219.47 Mbit/s  
95th percentile per-packet one-way delay: 49.272 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 291.92 Mbit/s  
95th percentile per-packet one-way delay: 186.737 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 47.47 Mbit/s  
95th percentile per-packet one-way delay: 46.761 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

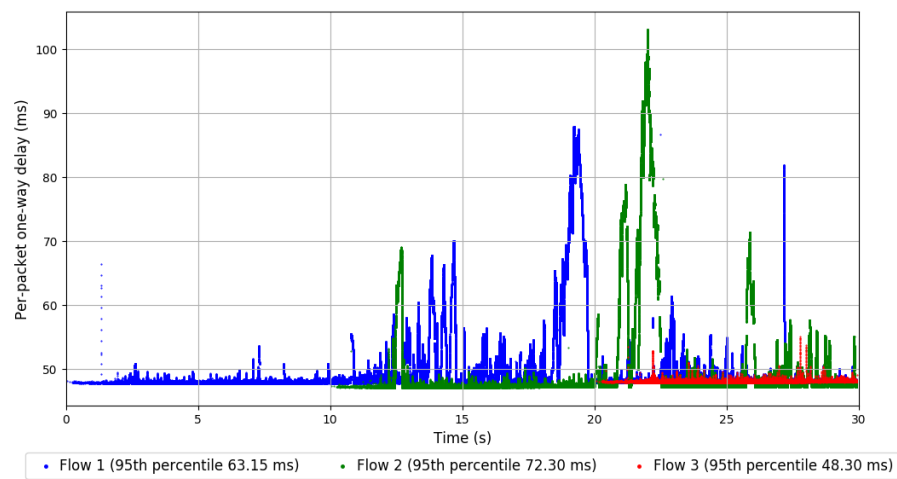
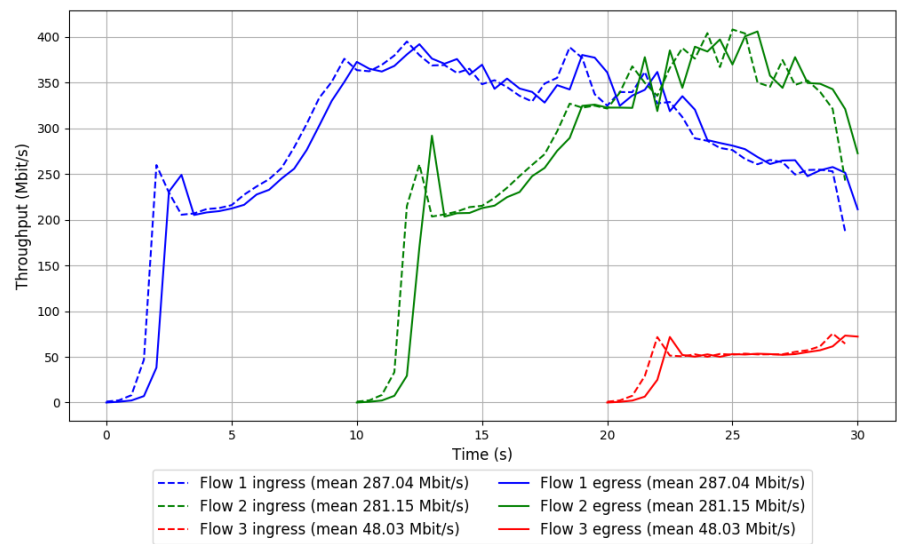


Run 3: Statistics of PCC-Vivace

Start at: 2019-02-12 18:08:03  
End at: 2019-02-12 18:08:33  
Local clock offset: 1.529 ms  
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2019-02-12 23:15:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 489.81 Mbit/s  
95th percentile per-packet one-way delay: 66.422 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 287.04 Mbit/s  
95th percentile per-packet one-way delay: 63.148 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 281.15 Mbit/s  
95th percentile per-packet one-way delay: 72.300 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 48.03 Mbit/s  
95th percentile per-packet one-way delay: 48.297 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

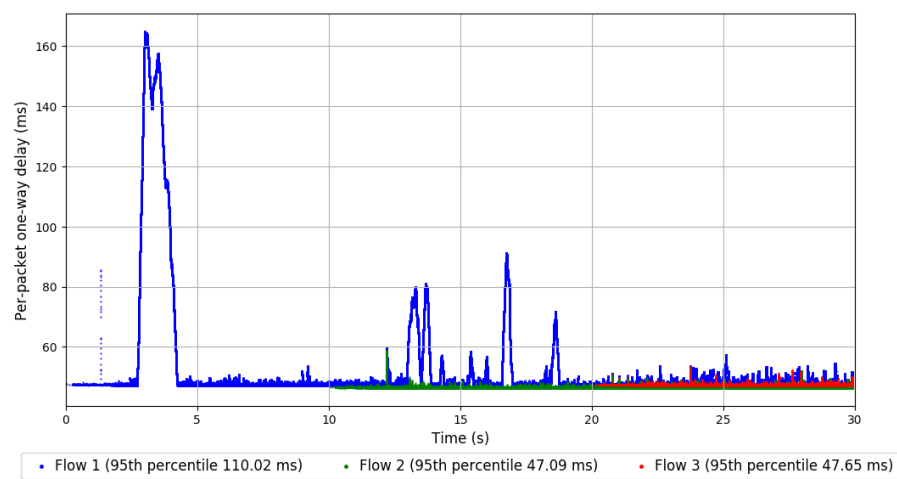
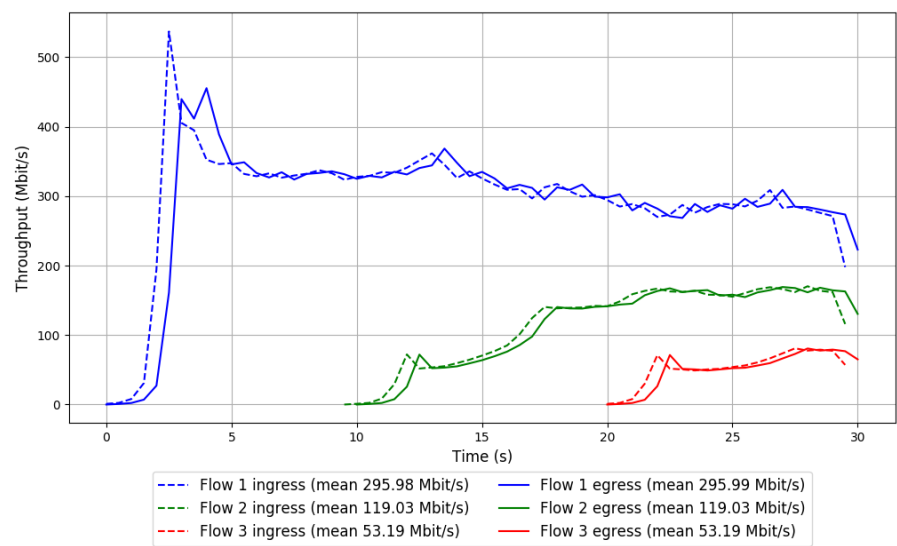


Run 4: Statistics of PCC-Vivace

Start at: 2019-02-12 18:46:55  
End at: 2019-02-12 18:47:25  
Local clock offset: 6.298 ms  
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2019-02-12 23:15:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 392.74 Mbit/s  
95th percentile per-packet one-way delay: 82.510 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 295.99 Mbit/s  
95th percentile per-packet one-way delay: 110.024 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 119.03 Mbit/s  
95th percentile per-packet one-way delay: 47.094 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 53.19 Mbit/s  
95th percentile per-packet one-way delay: 47.648 ms  
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

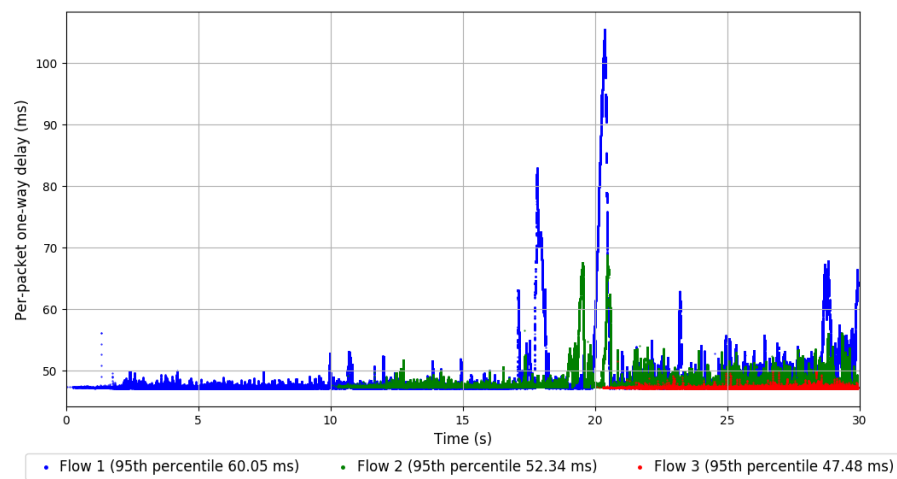
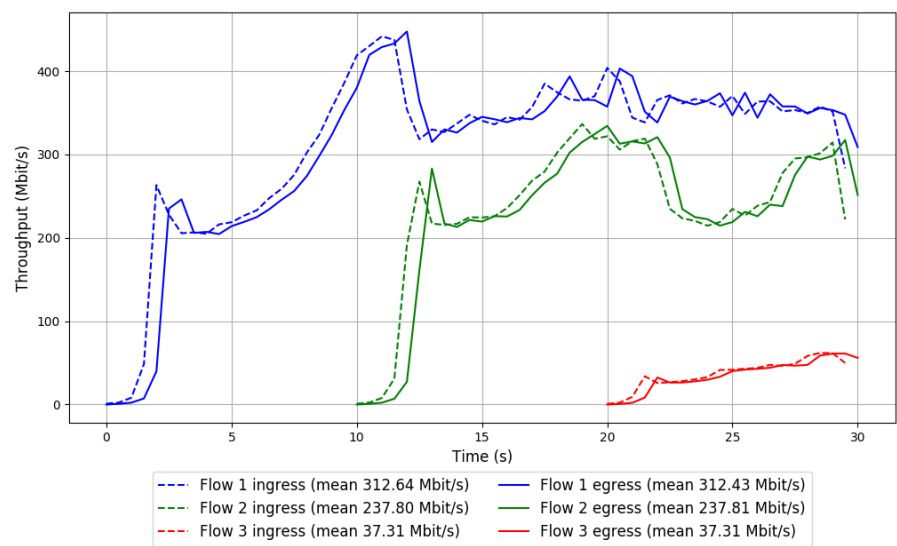


Run 5: Statistics of PCC-Vivace

Start at: 2019-02-12 19:26:06  
End at: 2019-02-12 19:26:36  
Local clock offset: 3.515 ms  
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2019-02-12 23:15:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 482.84 Mbit/s  
95th percentile per-packet one-way delay: 55.607 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 312.43 Mbit/s  
95th percentile per-packet one-way delay: 60.046 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 237.81 Mbit/s  
95th percentile per-packet one-way delay: 52.335 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 37.31 Mbit/s  
95th percentile per-packet one-way delay: 47.484 ms  
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link





Run 1: Statistics of WebRTC media

Start at: 2019-02-12 16:59:40

End at: 2019-02-12 17:00:10

Local clock offset: -0.192 ms

Remote clock offset: -0.1 ms

# Below is generated by plot.py at 2019-02-12 23:15:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.80 Mbit/s

95th percentile per-packet one-way delay: 47.756 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 47.584 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.36 Mbit/s

95th percentile per-packet one-way delay: 47.840 ms

Loss rate: 0.00%

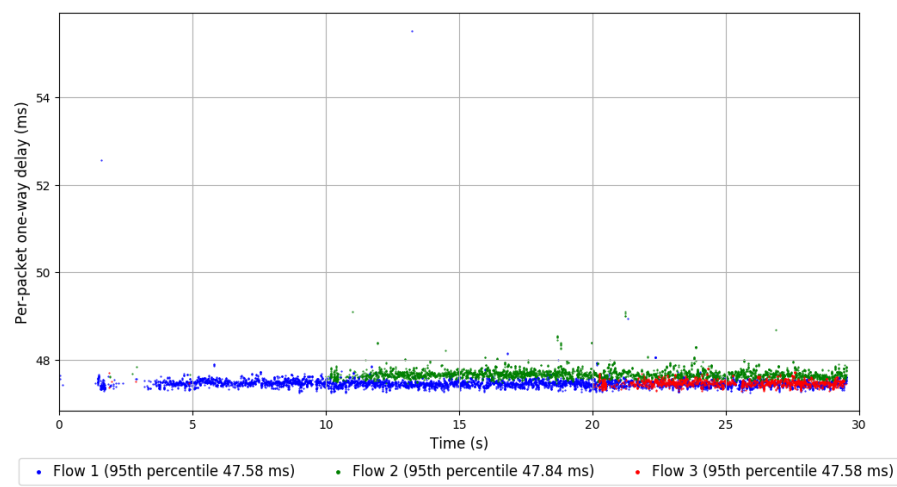
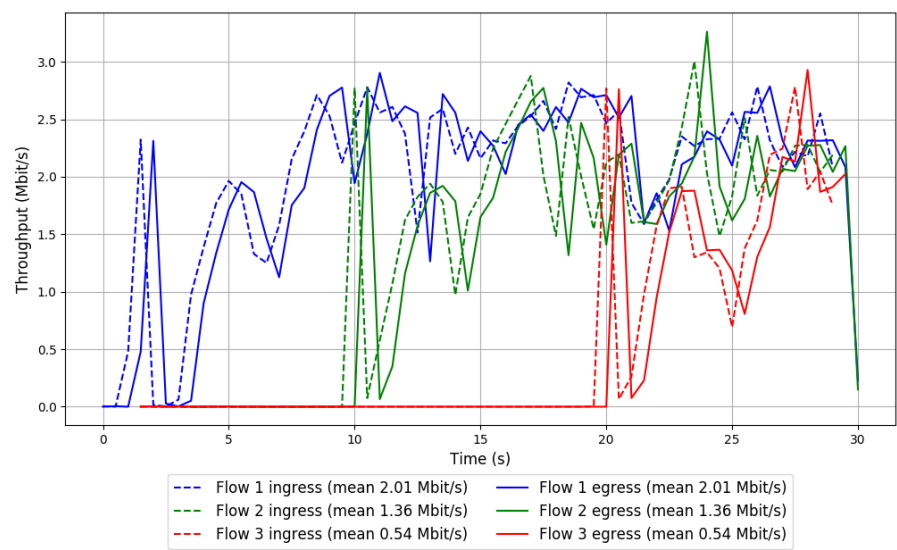
-- Flow 3:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 47.583 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

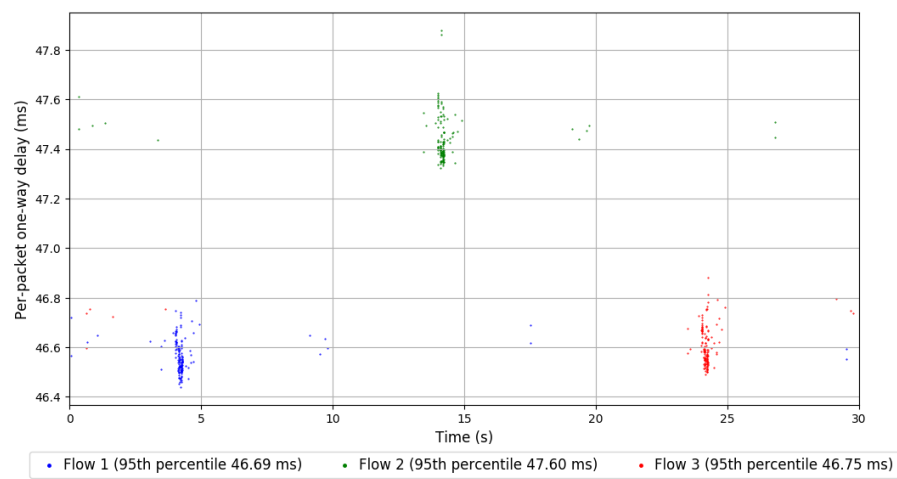
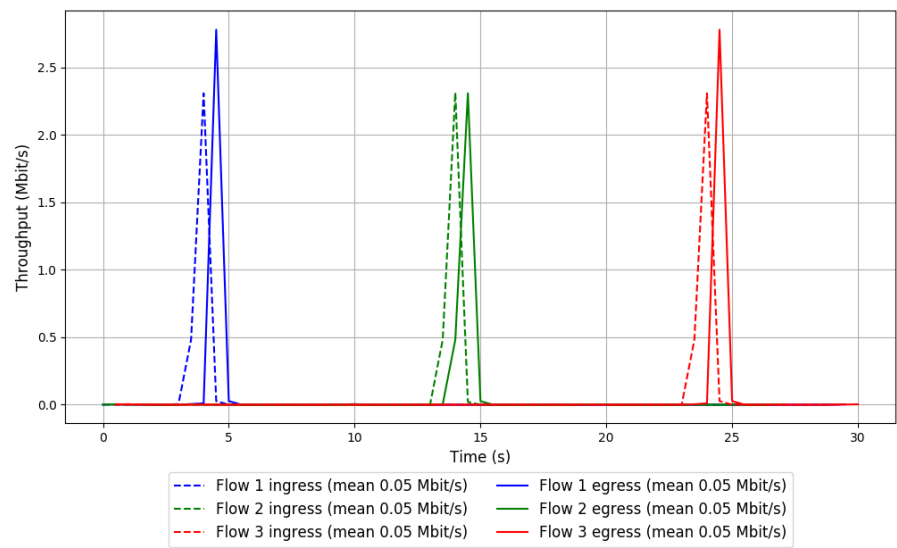


Run 2: Statistics of WebRTC media

Start at: 2019-02-12 17:35:35  
End at: 2019-02-12 17:36:05  
Local clock offset: -0.079 ms  
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2019-02-12 23:15:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 47.531 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 46.690 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 47.600 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 46.754 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

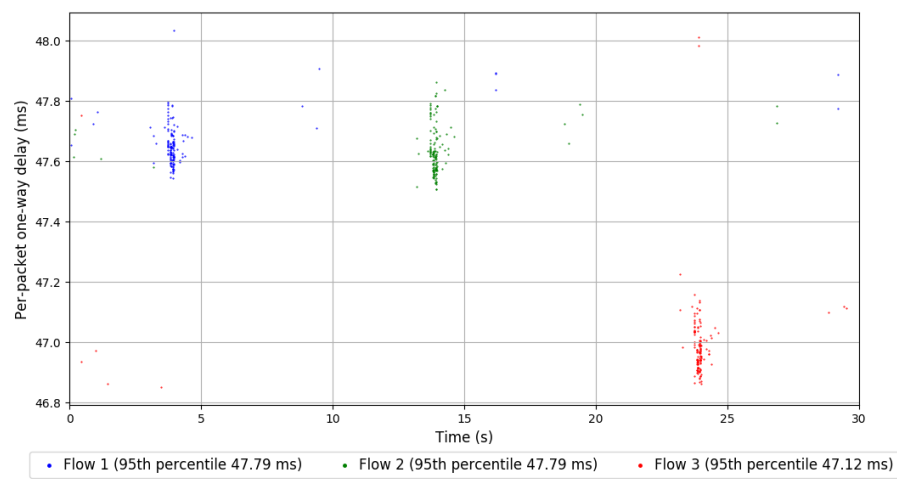
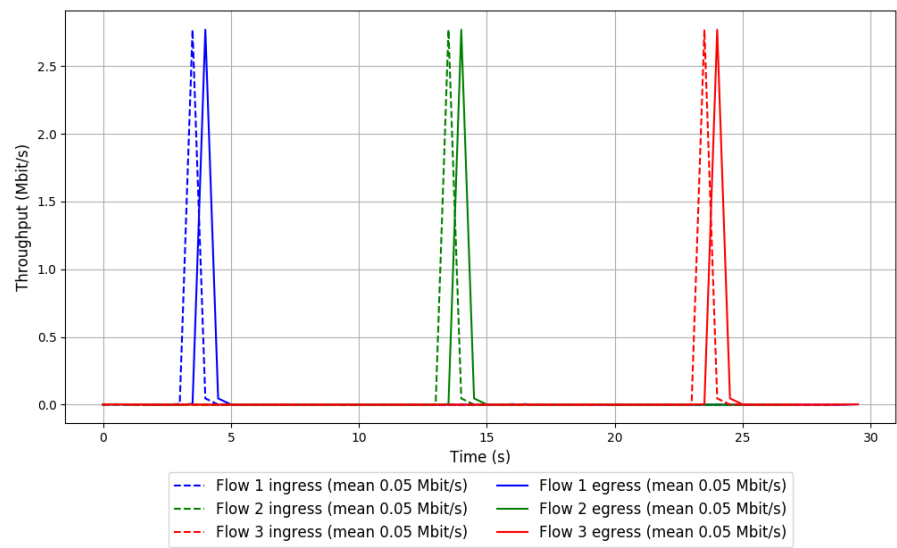


Run 3: Statistics of WebRTC media

Start at: 2019-02-12 18:12:14  
End at: 2019-02-12 18:12:44  
Local clock offset: 3.871 ms  
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2019-02-12 23:15:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 47.784 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 47.792 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 47.787 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 47.119 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

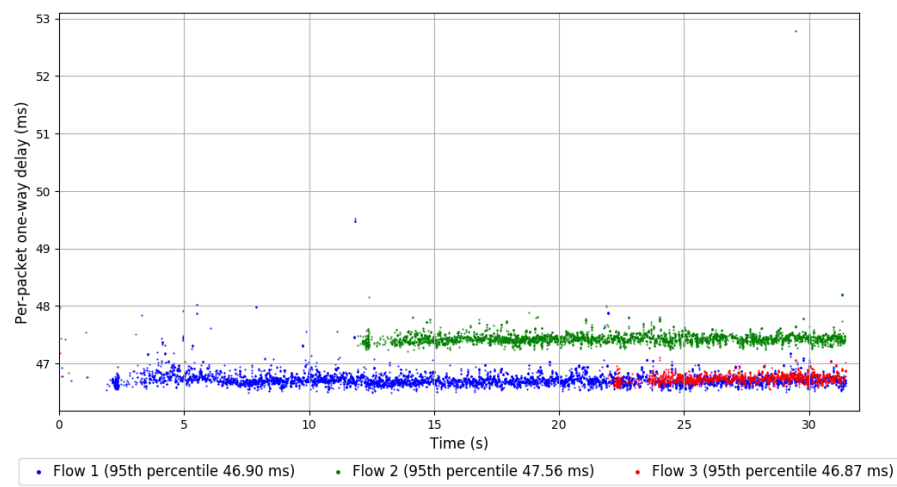
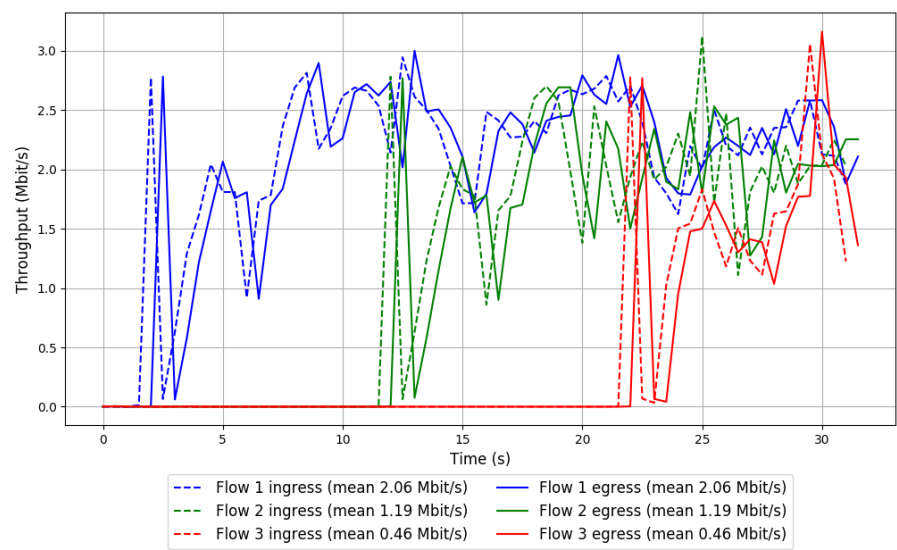


Run 4: Statistics of WebRTC media

Start at: 2019-02-12 18:50:57  
End at: 2019-02-12 18:51:27  
Local clock offset: 6.477 ms  
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2019-02-12 23:15:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.71 Mbit/s  
95th percentile per-packet one-way delay: 47.500 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.06 Mbit/s  
95th percentile per-packet one-way delay: 46.904 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 1.19 Mbit/s  
95th percentile per-packet one-way delay: 47.564 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.46 Mbit/s  
95th percentile per-packet one-way delay: 46.865 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-02-12 19:30:12  
End at: 2019-02-12 19:30:42  
Local clock offset: 3.691 ms  
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2019-02-12 23:15:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 47.559 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 47.472 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 47.735 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 47.499 ms  
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

